

**Northeastern Association of Business, Economics and
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HISTORY AND PURPOSE OF NABET

The Northeastern Association of Business, Economics and Technology is in its thirty-ninth year of existence. It was formerly known as APUBEF, the Association of Pennsylvania University Business and Economics Faculty. It was founded by a group of economics and business professors from the fourteen state universities comprising the Pennsylvania System of Higher Education. The goal was to provide a platform for sharing and encouraging scholarly work among the business faculty of the fourteen state universities. As a result of their efforts, the organization has sponsored an academic conference each year for the past 39 years.

The fundamental goal of NABET/APUBEF has been to benefit the business faculty of the colleges/universities in Pennsylvania and surrounding states. Since 2006 NABET has been regional in scope.

At the 39th Annual Meeting, the scholarly work of authors from nine states and the countries of India and Norway representing 61 colleges and universities were presented.

At NABET, we encourage conference presenters to complete their papers and submit them for publication in the Peer-Reviewed Proceedings. Of the 89 papers/workshops/discussion panels presented at the 39th Annual Meeting, the following pages contain those papers that were completed by the authors and submitted to the Proceedings editors. Each paper has gone through a thorough review/edit process. *The Official Conference Program* of the 39th Annual Meeting including the abstracts of each paper that was presented at the conference is also included.

The founders also established a referred journal, The Journal of Business, Economics and Technology (formerly the Pennsylvania Journal of Business and Economics and the Northeastern Journal of Business, Economics and Technology). The Journal applies a double blind review process and is listed in Cabell's Directory. It is published at least once each year, and has a devoted editorial staff supported by an excellent corps of reviewers.

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ADVISEMENT EFFECTIVENESS IN ENGAGING STUDENTS IN SELF-REFLECTION AND PERSONAL DEVELOPMENT

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ABSTRACT

This article discusses how LaGuardia Community College (LAGCC) presents the opportunity for faculty to build a strong connection with students through the advisement process. The process includes the role of the faculty member in creating a deeper level understanding of the self-assessment through advisement practices in the First Year Seminar (FYS) courses. Students in the FYS are able to assess themselves after the systematic approach of the integrative advisement process. Faculty not only learn about their students but also help them to graduate on time by staging the developmental and prescriptive advisement. The article describes the scaffolding approach, where students are able to familiarize themselves systematically with their major, career choice, academic goals, transfer, and graduation plan. Students completed a survey in the FYS courses where faculty members can analyze the students' perception on the advisement process. This article aims to demonstrate the integrative pedagogy and practice to approach the whole student, in cultivating the self-reflection and personal development through the advisement effectiveness.

INTRODUCTION

Students need proper guidance from educators in enhancing their ability to become a successful student. According to Tschannen-Moran et. al (2013), students are more committed to their academic role when they are being nurtured (p.155). They are able to understand the importance of academic achievement, if the institution can make them feel welcomed and encouraged. Educators at LaGuardia Community College (LAGCC) are aware of their students' needs in accomplishing their academic achievements. Hence, the First Year Seminar (FYS) aims to facilitate successful transition of Business discipline students so that the students can get the opportunity in developing a sense of belonging and Habits of Mind (HOM) to succeed intellectually and competently. Students are also facilitated in enhancing their essential academic skills that consequently helps the students to remain active in the college environment and strengthen awareness to use advisement resources, including ePortfolio, Blackboard, CUNY First, eCareer, and Degree Audit. This paper will provide a framework of an advisement process in fostering the students' personal development.

DISCIPLINE BASED FIRST YEAR SEMINAR (FYS)

Students often find the first year experience very stressful which leads students to easily drop out of college (Cengage learning, 2016). Thus, the intense guidance from educators can shape up a better and richer experience for the students in their first year to become successful students. In the FYS courses, the students are being facilitated to assess themselves using one of the robust pedagogical tools, ePortfolio. The embedded advising is appropriate in guiding them to identify and realize their goals based on realistic choices and commitment that they are able to cultivate through self-assessment. Using the developmental model, faculty members can easily help the students to understand their responsibility so that they can remain committed throughout their journey at the institution. Lowenstein (2005) described the developmental advising as superior choice because it creates a connection with the students and faculty through which students can remain engaged and are aware of their educational needs and goals to become successful in the college (p.67). The students enjoy the developmental advising stage as it is a two directional responsibility where students can play an active rather than a passive role. Because the developmental advising stage is student centered, it creates an interactive environment where students can develop cognitive facets in addition to the intellectual constraint.

IN THE CLASSROOM

FYS are able to use the ePortfolio tool in completing the "Understanding Myself" section, which enabled them to explore thoroughly about themselves. Upon completion of the Understanding Myself, they are able to reflect on their academic and career goals while establishing academic values. Faculty implement such a systematic approach in advising the students as it provides the faculty an opportunity to apprehend the students observantly. The advisement practices facilitate the faculty and students to make a strong connection between them so that students are able to demonstrate their learning and familiarize themselves systematically with their major, career choice, academic goals, transfer, and graduation plan. Such staged activities remind of Crookston (1972), when he stated "Teaching includes

any experience in the learning community in which teacher and student interact that contributes to individual, group, or community growth and development and can be evaluated” (p.5). In other words, advisement is considered as teaching as it encompasses the interaction and communication. The reciprocal and mutual contribution of students and faculty in clarifying the academic essentials promote personal development. Thus, advisement effectiveness fosters the FYS students to achieve a better comprehension of their goals, and philosophy of a holistic First Year Experience. Students are able to learn from their peers in addition to individual and group advisement. They can easily recognize the potential ePortfolio offers, where they can easily stockpile the learning experience and perceive the personal development.

DEVELOPMENTAL ADVISEMENT AND ITS EFFECTIVENESS

In the FYS, instructors implement a systematic approach to advise the students. The advisement practice facilitate the faculty and students to make a strong connection between them which enable the students to demonstrate their learning and familiarize themselves systematically with their major, career choice, academic goals, transfer option, and graduation plan. Students are able to nurture themselves when an activity like “Understanding Myself” provide them the opportunity to set the academic goals, career goals, and life goals. FYS students learn to share their academic and life goals and how the collective students’ experience in this course contributed to the students’ personal development in understanding himself/herself. Students get the opportunity to learn from their peers in addition to one on one and group advisement. Students are asked to utilize the ePortfolio tool to cultivate their learning experiences. Thus, advisement effectiveness fosters the FYS students to achieve a better understanding of their goals, and philosophy of a holistic First Year Experience.

SURVEY

The advisement model encouraged students to interact with their instructors and peers. The purpose of this advisement model was to explore the effectiveness and examine the students’ personal development and retention. The faculty administers a survey in the FYS classes to gain a better understanding on the students’ personal development in remaining committed. Based on the advisement satisfaction question from spring, 2016 semester, “To what degree are you satisfied with academic advising at this college”, below are some of the students’ comments: “I am satisfied with the college and its faculty for their help”. “Overall, I am satisfied with the academic advising in LaGuardia. The advisors care for each student academically”. “I am satisfied with the help I have received from my advisor. Also regarding to my major it has helped me a lot”. “Everyone is there to help at any moment. Professors consistently emphasize on office hours available for help if needed”. “Academic Advising help me choose the courses that I have to take for the next semester. It was really helpful”.

CONCLUSION

Students’ self-assessing technique helps them to understand the purpose of academic success, which has an impact on the retention. FYS students are guided in reflecting upon themselves that enable them to identify their academic needs in nurturing their personal development. They are able to make a strong correlation with the institutions. Hence, the sense of belonging with the institution provides them with a holistic understanding on the curriculum and what it means to be a successful student. Accordingly, students are able to harvest learning and feel motivated and encouraged to graduate on time. Thus, advisement effectiveness fosters the FYS students to achieve a better understanding of their goals, and philosophy of a holistic First Year Experience.

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TEACHING PEDAGOGY OF TIME MANAGEMENT AND PERSONAL BUDGET PLANNING IN THE FIRST YEAR SEMINAR FOR BUSINESS

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ABSTRACT

Two of the primary components of FYS Course for Business Discipline are Time Management and Budget Planning. Presenters will share their integrative pedagogy and practice to approach the connection between Time Management and Budget planning through a series of unique and interconnected assignments and practices that pave the way to effective and efficient time and budget planning for students.

For many students this course provides the first exposure to practical steps toward getting the best use of time by actually timing their everyday activities. By creating a series of their own daily and monthly budgets, students are provided the opportunity to learn about the gap between what they thought they spend on their monthly expenses compared to what they actually spend and subsequently be mindful of the causes of the variance. Presenters will also share their unique follow up assignments, course activity and students' work.

INTRODUCTION

Students in Business majors look up to the instructors in The First Year Seminar as their business mentors and advisors. Students seek guidance from the educators in how to succeed in the business world as they would in college. Students seek to gain meaningful knowledge about various financial topics as they perceive it as a profitable tool in the business world. The President of the United States' Advisory Council on Financial Literacy has defined Financial Literacy as "The ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being" (Schwab et al., 2008).

The 2014 Council for Economic Education Survey of the States found that only 17 states in the country mandate financial literacy education, and only six states require testing of financial management skills before students can graduate from high school (Council for Economic Education, 2014).

LaGuardia Community College ("College"), an urban, open-access, high-enrollment, two-year college in Queens, New York, is home to one of the most ethnically diverse student populations in the world. In addition to having basic skills reading, writing, and mathematics, and ESL needs, many of the College's immigrant students are faced with financial decisions (i.e., paying for their education, supporting their families, saving for their future, etc.). According to the College's 2015 Institutional Profile, 60.7% of students living with their parents have Family Income of less than \$25,000. That number is 78.5% for students living away from their parents (Dickmeyer, Gau, Lenchner, Weintraub, & Zhu, 2015). Many of the College's students are thus faced with significant financial need as they enter the College. Additionally, New York State does not require financial literacy education in high schools thereby reducing students' ability to tackle complex financial issues that could affect them for years to come.

TIME MANAGEMENT

As business and accounting faculty, our classes are structured to place students in the role of accountants and managers for a company. In that role, students identify, record, and communicate information that is useful for decision makers. In the FYS course, we introduce the time management topic through a series of questions that mandate answers by students. For example, "Do you always seem to have more tasks than time to complete them", "Does the lack of time stress you" and "Do you make excuses for not completing assignments". (Feldman, Robert 2014). Students are encouraged to answer the questions individually and then, in groups. In addition, students are asked to develop and maintain a weekly schedule, a "Master to Do List" and utilize the timers in their smart devices as helpful tools to improve their awareness of time. As we meet weekly for the class, we dedicate fifteen minutes to assess how students managed their time in the previous week and how they monitor the development of their time management skills.

BUDGET PLANNING

Students are also introduced to the topic of “Budgeting and Personal Finance “through self-assessment questions. For example. “Do I know how much Cash do I have in my Pocket now “, “ Do I count the change I’m given by cashiers in stores and restaurants “ and “ Do I look for discount coupons and special promotions before shopping or dinning out “. As Money matters much for Business major students. We encourage students to develop “Good Money Habits “. Students are encouraged to create a weekly budget and get in the habit of “Sticking to the Budget “. Each student is given a title as a treasurer of “ME” company. Students will change and revise their own personal budget as the course goes by. Also, we provide the opportunity for students to reflect on their performance as a group. As students share their experiences, they gain a learning experience of how to create and stick to a realistic budget within their means. Further, students’ exposure to financial resources provides an opportunity for continued learning. Students learn how to manage the costs and the limited resources to achieve the goal.

CLASSROOM PRACTICE: MANAGE TIME AND MONEY

Students in FYS classes have access to a multi-section portfolio. Students are encouraged to write about what they learned and practiced in time management and personal budgeting. Further, in class, we practice the role of CEO and CFO of a company facing various challenges. For example, if the cost of labor is increasing and the revenues are decreasing. We seek the answer to the question “What would you do if you are the CEO of the company? “. Students are encouraged to research different alternatives to save the company. As students work in groups, they learn to communicate with each other as they would in a workplace. Students discuss key financial terms (e.g., gross income, disposable income, spending, savings, income taxes, etc.). This serves as a primer for the students and as a way for the instructor to gauge students’ prior knowledge about personal finance. The conversation then moves on to exploring key concepts relating to student loan and credit card interest and payment calculations, saving for retirement, and investing in stocks and bonds. Students are then engaged in a conversation about setting realistic financial goals, steps to take when life disrupts their plans, and available resources they can leverage to support their goals.

CONCLUSION

Based on the results of students individual assessment to their time and money, and the review of students’ reflections, we believe that the integration of these two topics financial literacy module in the FYS can be utilized as a tool for student engagement in their own development, as well as their empowerment to make positive financial decisions in their various contexts.

Students’ self-assessing technique helps them to value time and money. Students are guided in reflecting upon themselves that enable them to explore and identify their financial needs. They are able to make strong correlation with the business world. Hence, the sense of belonging with the financial world provides them a holistic understanding on their curriculum and what it means to be successful business people. Accordingly, students are able to harvest learning and felt motivated and encouraged to practice the role of CFO and CEO of the company of “ ME “ which contribute to a higher motivation level in college and beyond.

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AN INTEGRATED APPROACH TO MEASURING THE ECONOMIC AND SOCIAL IMPACT OF INVESTMENT IN SMALL NGOS IN WEST BENGAL, INDIA

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ABSTRACT

This paper describes the results of a study of the economic and social impact of investment in, and the operations of, two women's empowerment non-governmental organizations (NGOs) in rural villages in West Bengal, India. Baseline measurements and initial statistical analysis of data collected show evidence of positive social and economic impact and therefore, program success, but economic impact is not quantifiable in all cases. From an accountant's perspective, an opportunity exists to provide relevant stakeholders with meaningful training and tools to measure the relative return (social as well as financial) on investment in programs. We propose combining methods inspired by Christensen's Jobs-To-Be-Done framework, Brest et al.'s Expected Return formula, and concepts from Kaplan and Norton's Balanced Scorecard to develop a practical means for small NGOs to measure relative impact and allocate limited resources. The researchers plan to formally apply this methodology within the subject NGOs beginning in January 2017, identify factors supporting successful outcomes, and develop ways to improve outcomes or increase the probability of success. ("Applying a multi-faceted strategy for measuring the impact of investment in small women's empowerment NGOs in West Bengal, India")

INTRODUCTION

Measuring the impact of social charitable activities is a critical goal for large public as well as private philanthropic organizations such as the Bill & Melinda Gates Foundation (www.gatesfoundation.org, 2016; Tuan, 2008). Large charitable groups often have equally large budgets to support formal processes for measuring and reporting inputs, output, and performance for their contributors and other stakeholders. In contrast, in the developing world, a majority of the on-the-ground philanthropic activities are carried out by small to medium non-governmental organizations (NGOs) with limited resources and unsophisticated accounting and reporting practices. For the purpose of this paper, we define a small NGO as a group with an annual budget of \$1 million or less.

In India, an NGO boom has created one NGO for every 600 people (The Times of India, 2014), with a majority of these organizations funded by small donors who believe in the cause and/or the person running the NGO. In such organizations, impact or performance is often reported in terms of individual and group success stories that are anecdotal rather than quantifiable. A critical challenge for this type of organization is to present convincing evidence that the effort of the NGO itself is the cause of social or economic improvement, as general societal improvement/changes also influence impact data. Impact also has different meanings to different stakeholders, and there are varying methods for measuring performance from the perspectives of various stakeholders (e.g., NGO managers, donors, and individual participants). Reporting social and economic impact is organizational self-legitimization, necessary to build or maintain public trust and stakeholder loyalty (Nicholls, 2009).

Deeper understanding of performance and the impact of investments in small NGOs through detailed long-term measurements and related accounting practices are generally outside the scope of these organizations due to limited resources; these activities are time consuming, prohibitively expensive, and the skills and resources needed for such tasks are often absent. Accounting is often confused with accountability; organizations with sophisticated accounting systems are not necessarily perceived by stakeholders accountable (Goddard & Assad, 2005). An alternative approach is needed to meaningfully assess the success of these organizations in terms of direct and indirect impact. The question to answer is whether a program has a meaningful and measurable impact on a few key outcomes, and if so, find a way to somehow quantify this impact.

With these goals in mind, we chose to study the functions, activities, and accounting practices of two small NGOs with more than 35 years of operating experience in West Bengal. The study included visits to the NGOs and their villages, interviews and observation of lives and habits of the locals, survey questions administered to participants in the NGOs' women's empowerment programs, and discussions with NGO management and other stakeholders.

SUBJECT NGOS

The two NGOs studied are Sabuj Sangha (<http://sabujsangha.org/>) and NISTHA (<http://nishthausa.org/>), located in West Bengal, India. Both organizations were established in 1974, with similar philanthropic missions, but with different strategies and programs to achieve their goals.

Sabuj Sangha is the larger of the two subject NGOs, with the following mission statement: “Our Mission is the sustainable development of marginalised and vulnerable people to improve quality of life through empowerment, education, information, infrastructure development, healthcare provision and economic self-reliance through convergence of services provided by local self-governments” (<http://sabujsangha.org/>). Sabuj Sangha’s 2014-2015 audited financials (most recent comparable statements available) show a total operating budget of 33 million rupees or \$495,000 (approx.) covering programs in the areas of livelihood and women’s empowerment, health and nutrition, education and child protection, water, sanitation and hygiene, and environment and disaster response. We focused on the organizations women’s empowerment programs, with activities focused on encouraging and enabling women to generate their own income and become empowered socially and economically. Through its Sabuj Jeevan Deep Prakash Program, Sabuj Sangha has formed over 600 Self-Help Groups (SHGs) involving over 10,000 women, empowering them and promoting gender equality, increasing their access to credit, and increasing their participation in sustainable development activities.

Similarly, NISTHA’s mission is centered on the desire to empower women through education, opportunity and self-reliance. NISTHA’s 2013-14 audited financials (<http://nishthausa.org/>) show a total operating budget of 26 million rupees or \$395,000 covering programs in the more focused areas of women and girl empowerment, health and hygiene, legal advocacy, water resource installation and maintenance, vocational support, and education for sustainable agriculture. We focused on NISTHA’s women’s groups that promote female empowerment, raise awareness of social issues, provide education, and develop livelihood security.

The key differences in the two groups are their size and the focus of their activities. NISTHA’s primary focus has been on social education of women of all ages, to change culture and behaviors, fight poverty, and improve the lives of the poor through the empowerment of women. Sabuj Sangha, on the other hand, focuses on the well-tested methods of creating self-help groups and providing micro-financing as approaches to fighting poverty and improving village life for women. From a review of 2013-2014 financial statements, fifty-five percent of Sabuj Sangha’s total budget is used to fund programs, with 34% and 11% spent on personnel and administration, respectively (<http://sabujsangha.org/>). NISTHA expends 70% of its annual budget on programs, with 26% on personnel and only 4% on administration (<http://nishthausa.org/>). It is well recognized that improving health and education are pivotal to providing the extreme poor with an opportunity to increase their income potential and rise out of poverty. The combined resources of governments, NGOs, and public-private collaborations in poor regions of India drive the long-term strategy to fight poverty. Both NGOs in this study invested more than 70% of their 2013-14 program funds on targeted health and education improvement initiatives as a means to improve the lives of the poor.

SURVEY METHODOLOGY AND RESULTS

In the first stage of this study, surveys were administered and interviews were conducted with 172 female participants in Sabuj Sangha’s and NISTHA’s women’s empowerment programs between October and December 2014. Three primary groups comprised of three different age ranges of women were surveyed and will be the focus of the remainder of this study. The youngest group of respondents were members of NISTHA’s Youth Nari Bahini (n = 63; average age 18), followed by NISTHA’s Mahilamandal Bahini (n = 77; average age 34), and Sabuj Sangha’s Nandakumarpur Village SHG (n = 32; average age 43). The women’s groups surveyed from NISTHA represented 15 different villages in West Bengal, while the group from Sabuj Sangha was comprised of women from the same village. Questionnaires and interviews/observations were designed to gauge critical responses related to women’s health, education, income, and their relative importance within their families.

Overall observations based on surveys and interviews indicate positive results (impact) from the specific efforts of the NGOs with regard to health and sanitation. It is likely that these data partially benefitted from general improvement in health conditions in the region. Questions related to family income and savings yielded limited results. It was clear that serious challenges exist to measure and monitor basic income, expenses, and savings information due to widespread financial illiteracy among youth and adults. As this is one of the roadblocks in social accounting for the

extreme poor, several organizations have developed communication guidelines and handbooks to aid and support SHGs in this area (<http://www.ruralfinanceandinvestment.org/>). A key recommendation is that organizations employ the services of reasonably-educated locals to help them manage basic income, expense, and loan records, and to help develop accurate and timely bookkeeping and accounting procedures. Teaching is often done with pictures, and calculations are often based on 10s only to simplify the math. This information provides insight into ways to help participants estimate income and expenses based on real life events and examples (e.g., how many crops per season). It also points to the opportunity to implement modern data management software to improve the accounting processes utilized by NGO management.

Survey data and interviews of village women revealed a dramatic generational improvement in education level, from largely elementary education of parents to high school, college, and beyond for young adults. This shift in education among the younger generation is consistent with trends in the developing world including India. If children with higher literacy levels than their parents are introduced to basic financial training for daily life at an early age, they can help with their parents' and families' financial management. Higher levels of education, later marriage age, and increased sense of value within the family are desirable trends that emerged from the survey data, which represents the impact of the NGOs' impact on empowerment, confidence, and attitudes of women.

NISTHA'S YOUTH NARI BAHINI

Sixty-three young women who are active members of NISTHA's Youth Nari Bahini (YB) were surveyed in the fall of 2014. See Table 1. All were single, with an average age of 18 years. Some had been a member of this cohort since 2004, while others joined as recently as 2013. The average length of time in the cohort was seven years. Fifteen worked and earned money (e.g., embroidery, farming, tutoring); 48 did not work. Five had assumed various leadership roles in the YB, while 58 had no leadership experience. These women could not report or had no concept of their family income. One hundred percent saw improvements over the past five years in health and sanitation. Forty-two of the women were in high school or had completed high school, while 21 were in a bachelor's program. Twenty-seven percent of the women desired a bachelor's degree; the remainder desired a master's degree. Sixty-one percent of their mothers had received a primary education only, while 39 percent had no education at all. The average age their mothers married was 14 years, while their average desired marriage age is 25. All reported an increase in their importance in their families; 98 percent responded that they were not important at all before the YB, and 98 percent responded being very important after participating in the YB. This increase is statistically significant at a 95% confidence interval using a Wilcoxon Signed Rank Test of the difference between the median values of a non-normally distributed sample. Overall, the results of the survey support the conclusion that the youth NB has met some of its program goals and these successes, when combined with other factors have made a significant positive impact on the lives of its members. The results also reveal a critical need to provide these young women with financial awareness training so that they can better understand the economic significance of improvements in their lives.

NISTHA'S MAHILAMANDAL BAHINI

Seventy-seven women who are active members of NISTHA's Mahilamandal Bahini (MB) answered the same questionnaire administered to the younger women of NB. See Table 1. All were married, with an average age of 34 years. Average cohort membership was 5 years, with membership as early as 1997 and as recent as 2014. Forty-seven women (61 percent) worked and earned money (e.g., embroidery, hand crafted goods, agriculture, housekeeping, tutoring, retail), and they reported an average income of 2,950 rupees per month before the MB, and 4,123 rupees after joining. Sixteen women reported holding leadership roles within the MB at some time. All reported benefits from joining the MB beyond health and sanitation, but only 57 percent said it helped increase their household income. Only one member had a bachelor's degree (a teacher), two had high school educations, 36 had secondary education, 21 had primary only, and 17 had received no formal education. These older women's mothers had even less education (65 percent had no education, 30 percent primary education). They desired more education for their daughters rather than for themselves. The average age at which their mothers married was 12 years, theirs was 15, and the minimum marriage age desired for their daughters is 22. MB members did not report as great an increase in importance in the family as a result of their cohort membership as the younger women, with 45 percent responding a change from not important to very important. However, this increase is statistically significant at a 95% confidence interval using a Wilcoxon Signed Rank Test of the difference between the median values of a non-normally distributed sample. The results of the survey show that MB membership has improved the lives of its members, and also reveal

an opportunity to focus MB program activities on improving adult education and instilling the importance of business/entrepreneurship training and education's link to meaningful and economically lucrative work.

SABUJ SANGHA'S NANDAKUMARPUR VILLAGE SHG

Thirty-two members of Sabuj Sangha's Nandakumarpur Village SHG (NV) responded to the survey administered in November 2014. See Table 1. The overall results were similar to those of the MB, but this cohort of women has been together much longer, and they all reside in the same village. All are married, with an average age of 43, and with most of them being members of this cohort since age 30. Seventy-five percent worked and earned money (e.g., poultry and other farming, retail, healthcare, housekeeping, positions at Sabuj Sangha). Some could not quantify income before and after belonging to NV, but 20 women were able to provide financial data. The mean monthly income of these individuals rose from 193 to 1,990 rupees per month, a statistically significant increase tested using a Paired T-Test at a 95% confidence interval ($p = 0.000$). Eight women (25 percent) reported holding leadership positions within the group at some time. Education levels were generally lower, with 8 having no formal education, 13 with primary only, 9 with secondary, and 2 with high school educations. As with the women of MB, they had more education than their mothers, and desired higher education for their daughters rather than themselves. The average at which age their mothers married was 11, theirs was 18 (ranging from 12-22), and they desired their daughters to marry at 21 or older. A little over half reported being only somewhat important to the family before the NV, with 72 percent responding that they were now very important. This increase in status is statistically significant at only a 94.9% confidence interval using the Wilcoxon Signed Rank Test of the difference between the median values of a non-normally distributed sample. Their common village membership, average age, the length of time they have been in this SHG can account for the types and levels of income, leadership, and education opportunities these women have been exposed to. Again, the results obtained from this group show the success of the NV, as most were unaware of their family income before joining, but now are aware; many attribute their increase in importance in the family to having their own income. Some attribute their success in reaching goals to financing received from the group.

The descriptive data above provide yet more anecdotal evidence that the NGOs studied contributed to an overall positive impact on the lives of female participants. We found significant changes in health and sanitation practices, increases in levels of education attained, importance of women in the family, decline in marriage age, and an increase in income or employment corresponding with membership in women's empowerment groups. But these results do not provide evidence that the efforts of the NGOs are the primary cause of improvement for women, as general societal improvement and changes also influence the results. To better measure and somehow quantify the impact of NGOs, we cannot ignore the other stakeholders in the organization that also expect some return as a result of their efforts or involvement in NGOs.

Taking the common threads of both NGOs' missions, we find themes of empowerment, education, information, opportunity, income and economic self-reliance. We propose within these themes to measure the impact of investment in educational programs, as education is at the root of the overall goals. In particular, we will look at basic financial education for women and girls, and business/entrepreneurship training for working adults in order to achieve the goals and fulfill the organizations' missions.

Table 1. Characteristics of Women Sampled

| Characteristic | YB | | MB | | NV | | Total | |
|----------------------------------------|-----------|------------|-----------|------------|-----------|------------|------------|------------|
| Sample Size | 63 | | 77 | | 32 | | 172 | |
| Mean Age | 18 yrs. | | 34 yrs. | | 43 yrs. | | n/a | |
| Mean membership | 7 yrs. | | 5 yrs. | | 13 yrs. | | n/a | |
| Marital Status | Single | | Married | | Married | | n/a | |
| Mean desired marriage age | 25 | | 22 | | 21 | | n/a | |
| Mean marriage age | n/a | | 15 | | 18 | | n/a | |
| Mean marriage age of mother | 14 | | 12 | | 11 | | n/a | |
| | n | % | n | % | n | % | n | % |
| Employment Status | | | | | | | | |
| Working and Earning | 15 | 24% | 47 | 61% | 24 | 75% | 86 | 50% |
| Not Working | <u>48</u> | <u>76%</u> | <u>30</u> | <u>39%</u> | <u>8</u> | <u>25%</u> | <u>86</u> | <u>50%</u> |
| Total | 63 | 100% | 77 | 100% | 32 | 100% | 172 | 100% |
| Highest Level of Education | | | | | | | | |
| Bachelor's | 21 | 33% | 1 | 1% | - | - | 22 | 13% |
| High School | 42 | 67% | 2 | 3% | 2 | 6% | 46 | 27% |
| Secondary | - | - | 36 | 47% | 9 | 28% | 45 | 26% |
| Primary | - | - | 21 | 27% | 13 | 41% | 34 | 20% |
| None | <u>-</u> | <u>-</u> | <u>17</u> | <u>22%</u> | <u>8</u> | <u>25%</u> | <u>25</u> | <u>14%</u> |
| Total | 63 | 100% | 77 | 100% | 32 | 100% | 172 | 100% |
| Mother's Level of Education | | | | | | | | |
| Bachelor's | - | - | - | - | - | - | - | - |
| High School | - | - | - | - | 1 | 3% | 1 | 1% |
| Secondary | - | - | 5 | 6% | 1 | 3% | 6 | 3% |
| Primary | 38 | 60% | 22 | 29% | 7 | 22% | 67 | 39% |
| None | <u>25</u> | <u>40%</u> | <u>50</u> | <u>65%</u> | <u>23</u> | <u>72%</u> | <u>98</u> | <u>57%</u> |
| Total | 63 | 100% | 77 | 100% | 32 | 100% | 172 | 100% |
| Importance in Family Before Membership | | | | | | | | |
| Not at all | 61 | 96% | 51 | 66% | 15 | 47% | 127 | 74% |
| Somewhat | 1 | 2% | 24 | 31% | 17 | 53% | 42 | 24% |
| Very | <u>1</u> | <u>2%</u> | <u>2</u> | <u>3%</u> | <u>-</u> | <u>-</u> | <u>3</u> | <u>2%</u> |
| Total | 63 | 100% | 77 | 100% | 32 | 100% | 172 | 100% |
| Importance in Family After Membership | | | | | | | | |
| Not at all | 1 | 2% | 1 | 1% | 3 | 9% | 5 | 3% |
| Somewhat | 1 | 2% | 25 | 33% | 6 | 19% | 32 | 19% |
| Very | <u>61</u> | <u>96%</u> | <u>51</u> | <u>66%</u> | <u>23</u> | <u>72%</u> | <u>135</u> | <u>78%</u> |
| Total | 63 | 100% | 77 | 100% | 32 | 100% | 172 | 100% |

DEFINING AND MEASURING IMPACT, AN INTEGRATED APPROACH

Measuring the impact of social programs and evaluating the social return on investment of programs in NGOs requires significant and often prohibitive demands on an organization's resources (Sept et al., 2011). In order to be meaningful, attempts to measure return must be narrowly focused and consistent with the organization's goals, resources, and objectives. The first step of choosing an evaluation method is to clarify what questions need to be answered for each specific group of stakeholders. We can assume that the NGO management and donors are the most important stakeholders in the project eco-system – they are the decision makers and influencers critical for project survival. Management must continuously allocate their limited resources to activities that justify the effort and investment, and then demonstrate some type of output. Their decision-making process is often guided by the demands of the donors (e.g., donors may want to fund specific education initiatives) and/or local government policies (e.g., improvements in education or sanitation), and the success of a program is measured generally (e.g., number children in early education programs or number of new toilets built). While there is societal value in such data in the short and long-term, accountants have little or no role in these measurements. We propose an integrated approach to measuring financial and non-financial performance (impact) of individual programs, thus providing a means for allocating limited resources.

“JOB TO BE DONE”

Impact has different meanings to different stakeholders (e.g., decision makers, influencers, and users) of an NGO and its programs. Using Harvard Professor Clayton Christensen's marketing theory “Job to Be Done” (JTBD) (Christensen et al., 2007), we can ask the question: which “job” would be most important to NGOs with limited resources in order to earn the highest return on social investment? Table 2 outlines some of the critical stakeholders in NGO project eco-systems and examples of the “jobs” that they want to get done within the goals and bounds of these projects. For example, the primary focus for NGO management and donors (the decision makers and influencers) is to show improvement in the targeted sectors (e.g., education, sanitation, income, etc.) on a yearly basis to ensure continuity of programs and to show long-term positive results of their activities. Most NGO projects, for practical reasons, are driven by the JTBD demands of the NGO management and donors, and therefore, the project focus and desired outcome are those that satisfy these primary stakeholders. In this study, we began by evaluating the JTBD expectations of a sample of beneficiaries/users (adult and young women). However, considering all the primary stakeholders is important when identifying opportunities to improve impact and estimate return on social investment. Each “job” needs to be translated into a measurable goal or benefit derived from an NGO project.

Table 2. Stakeholders, their Roles, and examples of the “Job To Be Done” in the Project Eco-system

| Stakeholders in the Eco-system | NGO Management | Donors | Village Adults | Village Youth |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Role of Stakeholders | Decision Makers | Influencers | Beneficiaries/Users | Beneficiaries/Users |
| Job To Be Done (JTBD) example | “Show improvements in targeted sectors (e.g., education, income etc.) on a yearly basis and ensure program continuity for the long term” | “Help me make a difference in the world – something I cannot do on my own; channel my donations effectively” | “Show me opportunities to increase my family income, to provide for basic family needs and improve my children's futures” | “Keep me in school through support to my family and community, and show me how to support myself, my family, and improve my future” |

EXPECTED RETURN ON SOCIAL INVESTMENT

While the Jobs to Be Done approach comes from innovation marketing, the William and Flora Hewlett Foundation's Expected Return methodology (Tuan, 2008) provides an approach with its roots in accounting and finance that estimates the potential impact of a philanthropic program at the time it is approved for funding, rather than evaluating performance after the fact. Expected return is calculated based on a measurable benefit and a known cost. Brest et. al (2009) provide examples of how foundations apply this type of cost-benefit analysis when making funding decisions, and Brest (2012) applies the original formula created for the Hewlett foundation to investment programs where the likelihood of success is either small or difficult to quantify.

The expected return calculation can be represented by the following simple equation:

$$\text{Expected Return} = \text{Benefit} \times \text{Likelihood of Success} / \text{Cost} \text{ (Brest, 2012)}$$

If we adapt this formula to the multiple stakeholders in the small NGOs identified earlier, we find that the different stakeholders measure benefits differently (financially or non-financially), and accordingly, expected return will be expressed differently. Identifying benefit in terms of expected financial or social output or performance is challenging, and in most cases will be based on a combination of historical data and expected results. Estimating the probability of success may be even more difficult. Both measures can be based on previous research and previous results, but will be subject to risk of strategic inaccuracy and external conditions. Cost can be measured in terms of the stakeholder's actual contribution or income forgone; for the NGO this amount should include direct program costs and overhead; for the donor, it would be the amount donated, while the cost to users may be more difficult to quantify. The resulting expected return will be expressed in a rate that can be applied to the overall benefit for each stakeholder.

BALANCED SCORECARD FOR A SMALL NGO

Each stakeholder should be able to identify at least one measurable goal or benefit derived from an NGO project. When we look at the JTBD from the perspectives of the primary stakeholders, we need to dig into each job and identify specific measurable goals and the strategies necessary to achieve them. For this type of analysis, we turn to the management and accounting theory of the Balanced Scorecard for our framework. The Balanced Scorecard strategic method of measuring and managing organizations' performance (Kaplan, 2001) integrates four perspectives: financial, customer, internal business processes, and learning and growth. The scorecard balances external, internal, objective, and subjective measures to help identify performance drivers (causes) and resulting measures (effects). When adapted and applied to not-for-profit organizations, the Balanced Scorecard has provided a strategically sound method for measuring and improving operational success (Hartnett & Matan, 2011; Martello et. al, 2008; Ronchetti, 2006; Zimmerman, 2004). When we consider the application of the concepts of the Balanced Scorecard to the women's empowerment programs and their educational mission at Nishtha and Sabuj Sangha, we can identify the perspectives and some of the possible outcomes, measures, targets, and strategic initiatives of each See Table 3. This framework will assist in the development of meaningful measures of performance, both in financial, non-financial and relative terms, and allow us to apply the expected return formula to the goals of both internal and external stakeholders.

CONCLUSION AND FUTURE APPLICATIONS OF THE INTEGRATED APPROACH

By blending and then applying the innovation marketing concepts from the JTBD, adapting the not-for-profit accounting and finance-based formula for expected return, and utilizing the strategic management perspectives of the Balanced Scorecard, small NGOs will be better equipped to measure and enhance performance and thus return on social investment. Lowering costs is an obvious way to increase return on investment, and reducing overhead allocations which include outside accounting services is possible if management is trained in and commits to adopting this blended approach. By examining the measures of performance valuable to each stakeholder, NGOs can also focus on increasing overall value or performance of programs. Increasing the probability of success is also critical, and NGOs can develop strategies such as being selective among participants or intervening when participation drops. This process should help NGOs identify the factors they can control and areas to target to increase return. NGOs are aware that projects with the highest probability of success are those with external factors contributing to or even driving their accomplishment. For example, a program that encourages financial entrepreneurship education and training for young women would be complemented by the government-wide push for higher education for girls and women. Other contributing factors such as later marriage age and increase in importance within the family would also increase the

probability of success of an educational program. In many cases the outcomes of programs are not realized for years, so NGOs must measure impact in terms of estimated return on social investment as progress is made toward the ultimate outcome. In the event that a stakeholder must choose among alternative investments, this integrated approach to measuring impact can provide a ranking of programs by estimated return, and provide NGOs with further insight into areas that need attention. Given that a program that has some organized financial and social impact data compiled or available, we can demonstrate that small NGOs and their stakeholders will have access to information that will not only help them measure performance but improve it in the future.

Table 3. Balanced Scorecard Adapted to Nishtha and Sabuj Sangha

| Perspectives | Outcomes/Targets | Measures | NGO Strategic Initiatives |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Financial (Manager) | Meet program goals of donors and financial goals of org | Expected return Surplus or deficit | Allocate funding, modify programs, monitor costs, measure performance |
| Customer (Donor) | Meet social goal that donor/foundation cannot do alone | Expected return Program success stories | Match foundations and individuals with programs to fund |
| Customer (Client) | Provide a convenient way to increase income or improve quality of life for self/family | Expected return Increase in monthly income Reduce burden on family | Encourage/increase participation in/ completion of programs |
| Internal Business Process (Manager) | Effective and efficient delivery of service Continuously improve services Develop comprehensive information system | Surplus or deficit Increase/decrease in funding and new donors/programs | Develop a better way to measure performance and allocate limited resources |
| Learning and Growth (Manager) | Improve internal measurement and internal/external reporting processes | Components of expected return | Train staff to measure performance |

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STATE AND FEDERAL LEGISLATIVE EFFORTS TO INCENTIVIZE HOMEOWNERS TO REDUCE FOSSIL FUEL CONSUMPTION

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ABSTRACT

In the past decade there has been increasing concern about the impact of the use of fossil fuel on environmental air quality and climate. This paper will explore the current national and state legislative attempts to encourage the homeowner to embrace various activities to reduce fossil fuel usage in the homestead. Since federal tax subsidies for residential wind and fuel cells end at the end of 2016, the paper will focus upon the remaining solar voltaic and solar hot water subsidies and calculate the present value benefit per average solar hour of the federal tax subsidies and different state regulatory efforts relating to solar. This study will also explore the cost/benefit in various states of the state and federal incentives along with a critical analysis of the assumptions behind the analysis.

INTRODUCTION

On December 22, 1975, President Gerald Ford signed into law the Energy Policy and Conservation Act that established the Strategic Oil Reserve and imposed upon car manufacturers a minimum fleet gasoline mileage requirement in response to the OPEC's oil embargo of 1973-1974. On April 18, 1977, President Jimmy Carter addressed the nation sitting by his fireplace in his sweater. He spoke of America's dependence upon OPEC for oil and urged the country to conserve on their use of energy. The next year, Congress passed the National Energy Act that among other things established tax credits to incentivize Americans to use non-fossil fuel energy alternatives such as wind and solar power and purchase more fossil fuel efficient automobiles.

Since the Carter Presidency, there have been numerous additional legislations attempting to conserve energy and develop energy independence. Interestingly, most of the federal tax incentives will end in December 2016. The only remaining incentives are for solar and home insulation. This paper will explore the economic cost/benefit to the homeowner of using solar electric power in various regions throughout the United States.

Solar Hot Water

Solar hot water systems may be classified into two types. In climates where water can freeze outdoors, a closed-loop system is the preferred system. Closed-loop systems have solar heated water pipes that contain an anti-freeze liquid circulating into a heat-exchanger within the hot water storage tank. Open systems circulate the solar heated water directly into the hot water storage tank. Closed loop systems are significantly more costly than open systems and may not be economically viable. However, the good news is that the cost of solar panels has decreased to a level that to provide hot water simply requires an extra kilowatt or two of capacity to provide the power needed to heat the hot water. Even without any state or federal subsidies, the payback period for the additional capacity is typically under three years. Open loop direct systems have a similar payback period but are limited to areas where the minimum temperatures do not drop below freezing for more than a few hours.

LEGISLATIVE EFFORTS

Federal

The primary mechanism for encouraging homeowner adoption of energy savings are tax credits. These credits take two forms. First there is a credit of 10 percent of the cost of energy improvements up to a limit of \$1500 and energy property up to an overall credit of \$500. Energy property includes qualifying energy-efficient windows, doors, and skylights. Second is a tax credit of 30% of the cost of alternative energy power generating equipment such as solar, wind, and fuel cells and solar water home hot water systems. However, this tax credit will end in 2016 for all equipment other than solar power and hot water systems. Under current tax law, solar power and hot water credits will be phased out beginning in 2019 when the credit is reduced to 26% and will end in 2021 when the credit is reduced 22%.

State

State efforts to encourage the reduction of the reliance upon fossil fuels are widespread and use various direct and indirect incentives.

Permitting

Some states have been reluctant to issue permits for the new construction or expansion of fossil fuel and nuclear generation. As a result, some power companies have provided incentives for homeowners to reduce their power consumption so that the companies do not need to purchase power from other producers in order to meet the increasing demand for electricity. These incentives include differential rates for peak and off-peak power usage, and payments to the homeowner for energy improvements.

RENEWABLE PORTFOLIO STANDARDS

Renewal Portfolio Standards are state requirements that electric utility companies must generate or purchase a particular percentage of the power they sell from renewable sources such as wind or solar. Rather than developing alternative energy generation on their own or purchasing power generated by other utilities from alternative energy, some utilities have found it more economic to offer subsidies to homeowners to generate the power required by the portfolio standards. Currently, thirty states have renewable portfolio standards with ten states specifically requiring that solar power be a part of the standard. Typically, the portfolio standard has a long term goal with increasing periodic annual portfolio requirements until that long term goal is achieved.

Net Metering

One of the most important incentives to the homeowner's adoption of the production of solar power is a state net metering program. In a net metering program, the utility company is required to purchase any surplus power generated by the homeowner's solar electric system. This required purchase can be used to offset the homeowner's power bill. This is particularly important to the homeowner in that the homeowner's solar system does not produce power after sundown. In order to meet the power needs at night, the homeowner must store the surplus power generated during the daytime (usually in batteries) or rely upon the purchase of power during the nighttime. When net metering is available, the homeowner may, in effect, use the utility grid as a battery bank. In the most simplistic terms, the electric meter runs backward during times of excess production. In addition, net metering generally is computed on an annual basis so that the surplus power generated during the longer summer months may be used to offset the lower power generated during the winter when the days are shorter.

Currently net metering is available in 39 states with three states seriously contemplating joining that list. Eighteen of the states require the utilities to purchase the solar power generated at retail. This is the most favorable arrangement for the homeowner. In these states, the per kilowatt hour revenue for the surplus power sold to the utility exactly offsets the per kilowatt hour costs of the power consumed when the solar power system does not produce enough to meet the needs of the household. In another eighteen states, if the homeowner has still produced surplus power at the end of the year, the utility company is only required to purchase the unused surplus power at a significantly lower rate that reflects their internal costs of production. However the power generated throughout the year is sold back to the utility at retail to the extent that the homeowner has drawn from the grid. Thus, the monthly usage from the grid is exactly offset by a like surplus production from the homeowner. Any surplus above that amount used during the month is carried over to the next month until the end of the year when the homeowner is paid for the remaining surplus at the reduced rate. The three additional states have net metering programs where the end of the year surplus is either given back to the utility or is carried into the following year.

INTERCONNECTION STANDARDS

Homeowners in states that do not have state-wide standards for connecting their solar systems to the utility grid face a daunting challenge connecting. It is not uncommon in states without state standards for utilities to place interconnection requirements that hinder or even preclude the process. Fortunately, all but 16 states have

interconnection standards. In a few of the states that have standards, larger systems have either more stringent standards or no standards for larger systems but most homeowner systems will be under the size limit.

TAXATION ISSUES

Solar Tax Credits

State tax credits are obviously not available for states that do not charge a state income tax. Nor are the helpful if states do not offer a tax credit. Currently only ten states offer a tax credit for the purchase of solar systems. Unfortunately seven of these states are in the process of phasing out their tax credits.

Solar Rebates

Currently 29 states offer some level of rebates for the homeowner who installs a solar system. Unfortunately many of the states have reduced their rebate programs or are in the process of phasing them out as more and more homeowners take advantage of solar power. Even though states may not offer rebates or have phased out rebates, local governments or local utilities sometimes have rebate programs. In the case of utility rebates, these are usually driven by their desire to fulfill alternative energy production quotas or by their desire to avoid large investments needed to expand production capacity.

Performance Payments

A performance payment pays the homeowner a production bonus based upon the power generated. Generally, these payments are made in lieu of using net metering. For most home buyers in most states, the performance payment is often less than the savings from a net metering program. However, depending upon the need for the local utility to meet their Renewable Portfolio Standard, the performance payments can be very large, significantly exceeding the benefits of the net metering program.

Property Tax Exemptions

Solar systems can significantly increase the value of a property by as much as twenty times the value of the energy savings on the utility bill. If the increase in property value is taxed, the annual property tax bill increase can significantly reduce the economic benefits to the homeowner and decrease the likelihood a property owner would install a solar system. Twenty two states offer a solar system property tax exemption.

Sales Tax Exemption

Currently twenty four states offer sales tax exemptions on the purchase of solar systems and sometimes other energy improvements. This exemption reduces the effective cost of solar systems by at least the amount of the state sales tax. In communities that charge an additional sales tax within the state that offers the tax exemption, the savings are even greater.

METHODOLOGY

To get an idea on the cost-benefit of a solar photovoltaic system, three states were selected in each of seven regions in the United States. The selected states were as follows:

Northeast
Pennsylvania
Massachusetts
New York

Southeast
Florida
North Carolina
Alabama

North Central

Ohio
Illinois
Minnesota

South Central

Texas
Louisiana
Arkansas

North Mountain

Montana
Idaho
Nebraska

South Mountain

Arizona
Colorado
New Mexico

Pacific

California
Washington
Oregon

The states were chosen from each of seven regions of the country. Three states were chosen from each region. Data for each state were collected including the state laws on solar power, utility subsidies and requirements to connect to the utility's transmission lines, average costs of insurance, property tax rates, prices of solar systems, etc.

For the purposes of this study a 10 KW photovoltaic system was used to calculate the costs and benefits of a grid-connected system. The system price did not include any reserve battery power. A 10 KW system was chosen as the minimum system that would at least meet most of the needs of the average user in the selected states. In practice homeowners may wish to choose a different size system to optimize their needs.

The system costs, expected production, electric bill savings, revenue from the production of surplus power, if any, tax and production incentives, and the costs of insurance and property taxes when applicable were analyzed to compute the homeowner's internal rate of return over the 25 year warranted life of the solar system.

The results are as follows:

| Region | IRR |
|------------------|------------|
| Northeast | |
| Pennsylvania | 7.90% |
| Massachusetts | 22.01% |
| New York | 9.56% |
| Southeast | |
| Florida | 6.04% |
| North Carolina | 7.75% |
| Alabama | -2.07% |

North Central

| | |
|-----------|--------|
| Ohio | 4.28% |
| Illinois | 2.72% |
| Minnesota | 11.72% |

South Central

| | |
|-----------|-------|
| Texas | 3.65% |
| Louisiana | 8.41% |
| Arkansas | 3.97% |

North Mountain

| | |
|----------|--------|
| Montana | 1.58% |
| Idaho | -5.00% |
| Nebraska | 1.86% |

South Mountain

| | |
|------------|--------|
| Arizona | 10.73% |
| Colorado | 6.03% |
| New Mexico | 16.54% |

Pacific

| | |
|------------|--------|
| California | 11.03% |
| Washington | 21.44% |
| Oregon | 25.01% |

It is interesting that the rates of return were not significantly impacted by the region of the country. While solar hours per day would normally be expected to be significantly higher in the Southern regions of the country, foggy, showy, or rainy weather can significantly reduce the solar hours.

FACTORS INFLUENCING THE RATE OF RETURN**Orientation and Angle of the Solar Panels**

Solar power production itself is influenced by solar panel orientation, angle of the panel, and the presence of any things that would obstruct the sun's contact with the panel. Ideally, the solar panel should face south free from any obstructions like trees or structures to maximize the amount of sunlight that contacts the panels. Likewise, the panels should be mounted at an optimal angle to again optimize the solar radiation striking the panel. One of more challenging problems with a fixed mount system is choosing the optimal angle. In the summer, the sun shines more directly overhead while in the winter, the sun may only rise a little over the horizon. (In parts of Alaska, the sun never gets above the horizon for significant periods of time in the winter. This is known as Dark Winter.) For this study, it is presumed that the homeowner has an optimal location to mount the solar system.

DIRECT AND INDIRECT SUBSIDIES

Indirect

Indirect subsidies create an environment that encourages market forces to achieve the desired outcome. For example, in order to reduce America's dependence upon fossil fuels, some state governments have passed legislation that requires electrical utilities to produce a percentage of their output from renewable alternative such as wind, water, solar. In areas where there is not sufficient wind, or sufficient slope in the terrain to build hydro-electric, solar becomes the more likely source. Commercial solar production is not without its technical challenges and many utilities have found it more economic to forego potential revenue and subsidize homeowners to install solar systems—thereby achieving their renewable production quota. Some states have even gone as far as developing a marketplace that allows production to be transferred to another utility provider, sometime even across state lines.

Another indirect subsidy sometimes used by the state is the regulation of interconnection requirements or fees required by utilities when the homeowner wishes to connect to the grid through the transmission lines of the local utility. In states lacking a renewable production portfolio requirement, utilities have little economic incentive to have homeowners connect to their transmission lines, especially if there is already a mandate to allow net metering. Utilities argue that homeowners who sell their production at retail, are not paying for the administrative and maintenance costs of the transmission lines. The counter argument is that there are social gains in reduced pollution and increased public health from the homeowner's solar production and that the utilities are not compensating the public for the pollution and public health costs imposed by the utilities use of fossil or nuclear fuel. The use of their transmission lines at no additional costs is therefore appropriate.

Direct Subsidies

Many direct subsidies involve providing financial assistance to the homeowners in their installation of a solar system. This assistance can be in the form of a direct grant, a direct loan, forgoing property tax or sales tax, or a tax credit against state income tax liabilities.

Of the 21 states selected, only three states did not offer some form of net metering. Net metering is critical to the success of a solar system. With net metering, the homeowner can use the grid as an inexpensive "battery bank." Otherwise, when adequate sunlight is not available, the homeowner would have to draw power from the grid or store the surplus power generated during the day in a large battery bank. Two of the three states without net metering, Idaho and Alabama had the only negative internal rates of return. Only Texas was able to show a small rate of return (3.65%).

Texas has a higher number of solar hours per day allowing more production. Even states with poor direct subsidies can successfully implement a successful solar initiative with net metering and a small renewable portfolio requirement. Ohio, Arkansas, and Illinois are good examples. Arkansas has only a modest net metering program where the homeowner must give the utility any unused production at the end of the year and it has an hour less sunlight than Texas. However, it has a slightly higher rate of return because of net metering.

CONCLUSIONS

An analysis of the results suggests that solar power investments for the homeowner make economic sense in most states. Only in the North Mountain states and the few states that have little regulatory support for homeowner adoption of solar power does the investment in solar make little economic sense.

It should be noted that this study did not quantify the economic benefits to the public from reduced dependence upon fossil fuels or reduced environmental hazards from fossil fuel usage and the resulting health benefits. Also, the study does not quantify the insurance value of locking in electrical costs for the next 25 years.

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COMPARING AND CONTRASTING SYSTEMS ANALYSIS METHODOLOGIES WITH DATA ANALYTIC FRAMEWORKS

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ABSTRACT

The design of data analytic solutions is often done using well-defined methodologies similar to those used in traditional systems analysis and design (SA&D). The major element of each of those methodologies is that it is a process composed of a set of related tasks that must be completed in a specific order, regardless of the size or scope of the project. It is the purpose of this paper to compare and contrast traditional SA&D methodologies with those of data analytic solutions, in terms of their steps, to find optimal practices so as to develop a hybrid methodology that features the best of both frameworks.

INTRODUCTION

Systems Analysis and Design (SA&D) is a methodology used in the construction of information systems. The most important aspect of SA&D is that it is a process, and that process is composed of sub-processes or stages that are performed in their ordered sequence for the development of a new system regardless of its size or complexity. It is a venerable and well-vetted framework which elevates information systems development to that of an engineering science instead of an *ad hoc* art.

Given SA&Ds history, as with most long-lived methodologies, there are a number competing models that compose the process of system development. The traditional waterfall model is the most common of these methodologies; this is linear model with little to no feedback between stages. Other systems analysis development methods that are used include Prototyping and the Spiral model. Of late, new agile methods, such as SCRUM, RAD (Rapid Application Development), and Extreme Programming (XP) have become more popular with software development professionals.

By contrast, and yet in parallel, there are three popular methodologies proposed for the development of analytics and analytic systems. These were developed to make the analysis of data and development of analytic systems more science- than art-like, as well. The three most popular methodologies for analytics are KDD (Knowledge Discovery in Databases), CRISP-DM (Cross-Industry Standard Process for Data Mining), and SEMMA (Sample, Explore, Modify, Model, Assess).

In this paper, we seek to compare the methodologies of the three analytic methods with that of the PADIM of the SA&D framework.

DATA ANALYTIC MODELS

Knowledge Discovery in Databases (KDD) was first proposed by Fayyad, Piatetsky-Shapiro, and Smyth in 1996. This method was introduced to address “the need to scale up human analysis capabilities to handling the large number of bytes [of data]” (Fayyad et al., 1996) that is collected. Fayyad et al. (1996) pointed out that manual probing of a data set is “slow, expensive, and highly subjective” and, in many cases impractical. The authors viewed KDD as a “process of discovering useful knowledge from data” where data mining is one step in the process.

The CRISP-DM methodology was developed by a consortium of firms, led by DaimlerChrysler (then Daimler-Benz), from 1996 through 1999. The process model was tested extensively over a number different industries; “CRISP-DM succeeds because it is soundly based on the practical, real-world experience of how people conduct data mining projects” (Chapman, et al., 2000). The basics of the CRISP-DM methodology are shown in Figure 1, from Chapman, et al. (2000).

[illegible]

Of the three methodologies, the most widely used methods is CRISP-DM (Piatetsky, 2014); a 2014 survey (similar to an equivalent poll taken in 2007) showed that CRISP-DM was used by a majority of data analytics professionals. In 2014, 43% of analytics professionals used CRISP-DM as their primary development methodology. SEMMA, used by 8.5% of analytics professionals and KDD, used by 7.5%, were also included in this survey. The most interesting facet of this survey was the number of analytics professionals using some type of “home-grown” methodology. The danger in this is the lack of repeatability and consistency from project to project.

There has been previous work on the comparison of the three aforementioned models for the development of analytic systems. Azevedo and Santos (2008) and Safique and Qaiser (2014) both provide a cursory comparison of the three methodologies in terms of stages and main activities. The work of Safique and Qaiser (2014) produced Table 1 shown below. The authors matched the nine steps process of KDD to the six steps process of CRISP-DM to the five steps in SEMMA. This table shows the equivalent activities that are performed over the three techniques.

Table 1: Comparing Data Analytic Methodologies

| DM Process Models | KDD | CRISP-DM | SEMMA |
|-------------------|----------------------------------------------|------------------------|------------|
| # of Steps | 9 | 6 | 5 |
| Name of Steps | Developing & Understanding the Application | Business Understanding | ----- |
| | Creating a Target Data Set | Data Understanding | Sample |
| | Data Cleaning & Pre-Processing | | Explore |
| | Data Transformation | Data Preparation | Modify |
| | Choosing the Suitable Data Mining Task | Modeling | Model |
| | Choosing the Suitable Data Mining Algorithm | | |
| | Employing the Suitable Data Mining Algorithm | | |
| | Interpreting Data Mined Patterns | Evaluation | Assessment |
| | Using Discovered Knowledge | Deployment | ----- |

Each of the steps within each framework is self-explanatory, and the reader is directed towards the aforementioned citations for further explanation, if necessary. It can be seen that the SEMMA model is less complete than the other two in that it does not provide for understanding the business/application, nor does it allow for the deployment of use of the fruit of the exercise. It can also be seen that the KDD is more detailed in its definition of the steps. Finally, it should be seen that the CRISP-DM framework is less detailed than KDD, yet more thorough than SEMMA, and can be considered a link between the two others. The purpose of the remainder of this paper will be to map the steps of the methodologies to that of the systems analysis and design. In particular, since the CRISP-DM methodology maps best between the three frameworks, and is the most popular, the mapping will be between CRISP-DM and the systems analysis and design models.

COMPARING DATA ANALYTIC TO SYSTEMS ANALYSIS MODELS

While there are many textbooks written to explain the elements of SA&D, in this case planning, analysis, design, implementation, and maintenance, and the reader is referred to a few (Kendall & Kendall, 2005; Valacich, George, & Hoffer, 2012) if the reader is completely new to this area, for completeness, convenience, and the purpose of the following comparison, a short explanation of each is given here.

Planning involves the selection of the many proposals for development of systems within an organization based on their return on investment, anticipated impact, and feasibility. This phase also includes the development of a plan for proceeding in the development of the proposed information system; it concludes with the construction of a project plan. The analysis component involves seeing what is currently being done/implemented in a current operating system (even if it is currently a manual process) as well as the inquiry into the requirements for the new system. The development phase involves the design of the system to meet the needs of the requirements. The implementation stage involves physically implementing the system, as per the design, and making sure the systems work, as per the requirements. This stage works in parallel with the users to make sure they know how to use the system. Finally, maintenance involves making small changes/enhancements as needed to the new system due to requests and regulation requirements.

The ultimate purpose of this paper is to compare and contrast SA&D with the data analytic framework. As mentioned previously, the comparison with PADIM to the steps of CRISP-DM are laid out in the following table, with a description of their parallel nature, or lack thereof, to follow.

Table 2: Comparing Methodologies

| SA&D | CRISP-DM |
|-----------------|----------------------------------------|
| Planning | Business Understanding |
| Analysis | Data Understanding Data Preparation |
| Design | Modeling Evaluation |
| Implementation | Deployment |
| Maintenance | ? |

It is observable that two steps of the CRISP-DM model map to a single element of the SA&D phases, and a single phase in the SA&D model does not map to any of the steps in CRISP-DM. The following sections will examine those mappings.

Planning == Business Understanding

Much like the objective of the planning phase in SA&D, the primary objective of the business understanding phase is to allow "the data analyst to thoroughly understand, from a business perspective, what the customer really wants to accomplish" (Chapman, et al., 2000, p.14). This corresponds with one of the major activities of the planning phase in SA&D, determining the likelihood that the organization's information systems department is able to develop a system that will solve the problem or exploit the opportunity and determine whether the costs of developing the system outweigh the benefits it could provide (Valacich, George, & Hoffer, 2012).

According to Chapman, et al. (2000), the CRISP-DM methodology includes four major tasks that are undertaken in the business understanding phase: (1) determination of the business objectives, (2) situation assessment, (3) determination of the goals of the data mining efforts, and (4) the development of a project plan. Documents developed during the planning phase the outline the business objectives and the final step in the planning phase of SA&D is the development of a project plan (Valacich, George, & Hoffer, 2012).

Analysis == Data Understanding + Data Preparation

In terms of data understanding, the two methodologies are similar in their need to understand what the data/information is and how it can be converted to other data/information. For SA&D, a significant portion of the analysis stage involves—or should involve—the users of the system. This is done via interviews, surveys, observation, etc., to see what is currently being done. A similar process is done in CRISP-DM, in that the data sources need to be explored to see what data is available.

Finally, in terms of data preparation, there is a parallel process in both methodologies, albeit different in form. For CRISP-DM, since the eventual models will greatly depend on raw data, much effort is spent on extracting data from many sources, making sure the data is correct and consistent. This step within data analytic frameworks is often known as extract, translate, and load (ETL). For SA&D, this step can be translated to compiling the interviews, surveys, etc., from the data understanding step into a single repository so that it can be referred to during the remaining steps.

Design == Modeling + Evaluation

Both models follow the same process on these steps, as well, although the models themselves are very different. Whereas the CRISP-DM involves mathematical and statistical models, the SA&D uses Entity-relationship diagrams (ERD), data-flow diagrams (DFD), etc., to abstractly develop the solution to the needed requirements.

In terms of evaluation, again, both use this step, but in different ways. The CRISP-DM uses cross-validation methods, statistical measure of best fit, etc., whereas the SA&D uses methods to compare the solution with the requirements abstractly through the designers themselves, and/or, with the users of the system. While there are many theoretical models to compare the design with the requirements within SA&D, none of them are widespread. This, too, is an area that can be further explored.

Implementation == Deployment

Again, both models follow a step which involves using the system that was designed. While the CRISP-DM model indicates many of the steps, the SA&D implementation stage is both an art and a science on how to best introduce the system to new users, and the CRISP-DM model can gain a significant boost to its productivity by considering all of these elements. For example, the idea of installation which involves how a system can be introduced (direct, parallel, phased, etc.) should be followed by CRISP-DM, as well as the documenting of the system and the training of the users.

Maintenance

While SA&D processes always involve the idea of the need for maintenance for a system due to small incremental future requests from users and/or regulators, this step is missing from the CRISP-DM. This is a mistake. When a system is developed with an eye to future changes, then that system is designed general enough to allow for minor changes. If it is not, then small changes often necessitate the need for a completely new system or model. Consequently, it is suggested that maintenance be considered within data analytic models to allow for the continued and efficient use of a system for an extended period of time.

CONCLUSION AND FUTURE DIRECTIONS

It can be seen that there is a mapping between those data analytic models and the traditional systems analysis one. By doing the comparison, it is shown that there are elements missing from the analytics models, namely, maintenance. Additionally, the CRISP-DM model can gain a great deal by including many of the elements in its deployment stage from the SA&D implementation stage—and in some areas, vice-versa.

The roles for personnel, much like the business stakeholder and the technical stakeholder in SA&D, need to be further developed and detailed. In the analytics process, roles like the business stakeholder and the “quant”, a term defined by Davenport (2013), exist. This discussion of roles was first addressed by Pomykalski (2015).

Since the CRISP-DM model may be improved upon using some of the concepts of SA&D, it is suggested that a new data analytics model be considered, an extended release of CRISP-DM, which incorporates those additional elements for a more thorough framework. Further work on a paper involving this new model, as well as a textbook to teach it to data/information science students, is underway.

Finally, as briefly mentioned in the introduction to this paper, the steps involved with the sub-processes, or rather the interaction between them, for example, the Waterfall Model where there is no feedback between steps, should also be considered as a further enhancement of a data analytic process and is also the subject of future research.

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COMPARATIVE ANALYSIS OF ANTI-INDEMNITY STATUTES

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ABSTRACT

The enforcement of contractual indemnification clauses in business relationships needs to be considered in light of state anti-indemnity statutes. Contractual indemnification clauses and additional insured coverages are interpreted to determine whether the contractual provisions violate certain legislative mandates. So long as the contractual provisions do not purport to indemnify a company for its own acts of negligence, courts are reluctant to bar enforcement of contractual indemnification provisions. The use of contractual indemnification clauses and additional insured coverages are a customary practice in the private and public sectors including businesses and governmental agencies. Companies utilize contractual indemnification clauses and additional insured coverages to shift responsibilities from one party to another party and provide a contractual limitation of liability. Contractual indemnification clauses and additional insured coverages by companies present a particular uncertainty because of recent anti-indemnity legislation. According to a survey of anti-indemnity statutes by the Foundation of the American Subcontractors Association, Inc. (2013) and related case law, such reform legislation has been approved in many states. Prior research to examine the variances in the provisions associated with anti-indemnity legislation within the United States has been limited. To address this gap in the literature, this paper will examine anti-indemnity legislative trends including third party indemnity, limitation of liability, partial fault, and contract interpretation.

INTRODUCTION

This paper presents a literature review and critique of the various aspects of indemnification agreement policy legislation in the construction context to understand the emerging anti-indemnification practice trends. The paper is limited to an analysis of contractual indemnity. Under existing broad form contractual indemnity provisions, parties attempt to limit their liabilities. In response to this practice, a majority of states have enacted anti-indemnity statutes. The primary purpose of these legislative initiatives is to further public policy by promoting safety in construction projects by holding each party to the contract accountable for injuries caused by its own negligence (*Tucker v R.A. Hanson Co.*, 1992). In addition, these statutes are intended to protect construction workers and future occupants of a building by ensuring that all parties are held financially liable for their own negligence (*Tucker v R.A. Hanson Co.*, 1992).

Contractors and subcontractors face several dilemmas in the performance of their work which involves disputes over the terms of the construction agreements. Therefore, the states have issued anti-indemnity statutes in an effort to eliminate confusion and to clarify the construction industry standards. The courts are often called upon to provide interpretations of these provisions. The consequences for contractors and subcontractors will be addressed in this paper.

In an attempt to reverse these construction industry practices, many states have passed legislation to afford certain business activities the protection from requirements to indemnify another party to the contract against liability for injuries caused by the other party. State jurisdictions have enacted anti-indemnity legislation in an effort to preclude an owner from requiring a contracting party to indemnify them from the owner's own negligence (*Chrysler Corporation v Merrell & Garaguso*, 2002). This study evaluates the various state statutes and summarizes the similarities and differences of the anti-indemnification laws that have been adopted by the states. This paper attempts to examine important aspects of the anti-indemnification statutes by state legislatures and propose further provisions to augment the standard model for the construction, moving, demolition and excavation industries.

EXISTING REGULATORY PROCESS

In the construction industry, similar to other commercial settings, parties are entitled to freely engage in commerce.

Freedom to Contract

Courts in general attempt to construe contracts as written. Under Alabama law, the parties are free to contract to whatever standard they please (*MAC East, LLC v Shoney's LLC*, 2008) and indemnity agreements between private parties are generally valid (*Lloyd Noland Found., Inc. v Tenet Healthcare Corp.*, 2008).

According to a basic tenet of contract law, the contracting parties can make as good a deal or as bad a deal as they see fit (*Rodrigues v DePasquale Building & Realty Co.*, 2007). Nevada has not adopted an anti-indemnity statute. The Supreme Court of Nevada recognizes that parties have great freedom in allocating indemnification responsibilities between one another (*Reyburn Lawn & Landscape Designers, Inc. v Plaster Development Co, Inc.*, 2011).

Any attempt to impair the freedom to contract between the parties needs to have a statutory basis. Unless prohibited by a statute or a violation of public policy, parties to an agreement are free to contract on any terms in the agreement without impairment of that right (*Porubiansky v Emory Univ.*, 1980). The Georgia Supreme Court has acknowledged a contract condition but the doctrine is conditional. A party may contract away liability to the other party for the consequences of his own negligence without contravening public policy, except when such an agreement is prohibited by statute (*Lanier at McEver, L.P.v Planners & Engineers Collaborative, Inc.*2008).

Express Negligence Doctrine

A court may follow the express negligence doctrine to interpret an indemnity provision in a construction agreement. In order to enforce an indemnity provision, the Supreme Court of Nevada requires that the construction agreement must clearly express an intent to indemnify a party against its own negligence (*Reyburn Lawn & Landscape Designers, Inc. v Plaster Development Co, Inc.*, 2011).

If a dispute should arise over the interpretation of a term, contracts are generally construed to effectuate the intentions of the parties (*Public Service Company of Colorado v United Cable Television of Jeffoco, Inc.*, 1992). Under established contract law principles, when determining whether the words of a contract are unambiguous, the contractual language is given its plain, ordinary and usual meaning (*Rodrigues v DePasquale Building & Realty Co.*, 2007). For interpreting disputed contractual language in Pennsylvania, the court determines the intent of the parties from the express language of the agreement (*Westmoreland Opportunity Fund, L.L.C. v Zappala*, 2013).

Rule of Strict Construction

In an indemnity contract dispute, the courts will apply the rule of strict construction (*Public Service Company of Colorado v United Cable Television of Jeffoco, Inc.*, 1992). A party will not be held harmless for their own negligent acts, unless the specific and unambiguous intent of the parties is to shift liability to the non-negligent party (*DiLonardo v Gilbane Building Co.*, 1975). Similar to other jurisdictions, the anti-indemnity statute in Rhode Island (R.I. Stat. 6-34.1) deviates from this court interpretation. The anti-indemnification statute in Rhode Island (R.I. Stat. 6-34.1) was enacted in response to the decision of the court which had previously upheld the indemnity agreement format (*Beerworth*, 2010).

Court Power to Void Contracts

Courts have power to void contracts. However, the power of the court to void a contract for finding its terms to be contrary to public policy is a very delicate and undefined power which is only exercised in cases free from doubt (*Porubiansky v Emory Univ.*, 1980). The Georgia legislature has enacted an anti-indemnity statute (*Georgia Statute, O.C.G.A. 13-8-2*). Therefore, the Georgia Supreme Court prohibited an indemnity contract in which the construction party attempted to shift its third-party liability for its sole negligence to another contractor. The court ruled that no matter how savvy the parties or how high the damages cap, the contract was unenforceable (*Lanier at McEver, L.P.v Planners & Engineers Collaborative, Inc.*, 2008).

Third Party Beneficiaries

Members of the general public, employees of the contractor and subcontractor and others have an interest in the performance of a construction project. In the event of an injury directly related to the construction project, the courts may be called upon to render a decision in the dispute involving a member of a protected class of persons. Under Arkansas law, the court will presume that parties contract only for themselves and a contract will not be construed as having been made for the benefit of third parties (*Little Rock Wastewater Util. v Moyer*, 1995). If there is substantial evidence of a clear intention to benefit a third party, the court will render a determination that a contract is actionable by the third party (*Cherry v Tanda, Inc.*, 1997). An injured person does not need to be named in the

construction contract, if the person is a member of a class of persons sufficiently described or designated in the contract (Cherry v Tanda, Inc., 1997).

CURRENT BUSINESS PRACTICES

In the traditional commercial context, parties may enter into an indemnity agreement in which the parties agree that the obligation will rest on one party to make good a loss or damage the other party has incurred (Rossmoor Sanitation, Inc. v Pylon, Inc., 1975). In the absence of statutory prohibitions, parties are free to negotiate and contract for indemnification of risks associated with construction projects (Echeverria & Zimmerman, 2014). According to an indemnity provision, the promisor agrees to protect the promisee by reason of liability to a third party (Dade County School Board v Radio Station WQBA, 1999). As a general rule, a party can protect oneself by contract from liability for the consequences of one's own negligent acts (Smith v Seaboard Coast Line R.R., 1981). Contractors often attempt to adopt these business practices to model traditional commercial transactions which apply standard contract clauses and provisions.

Risk Shifting Methods

An insurance procurement clause in the construction contract is designed as a risk shifting technique. Construction companies may have the ability to circumvent the anti-indemnity statutes through the inclusion of insurance procurement provisions in the subcontract for legitimate business reasons (Beerworth, 2010). The Supreme Court of Georgia stated that the parties may avoid violating the Georgia anti-indemnity statute (Georgia Statute, O.C.G.A. 13-8-2) if their agreement includes an insurance clause which shifts the risk of loss to an insurer no matter who is at fault (Lanier at McEver, L.P.v Planners & Engineers Collaborative, Inc.2008).

Because these clauses may be considered onerous, some states have moved to limit their application (Gonzalez, 2015). The Oklahoma anti-indemnity statute (Okla. St. 15-221c) states that a construction contract that requires an entity or that entity's insurer to indemnify or insure another entity against liability which arises out of the negligence of the indemnitee is void and unenforceable as against public policy. The United States District Court held that most anti-indemnification statutes allow the reallocation of risk to an indemnitor's insurer; however, the court ruled that the Oklahoma statute did not draw this distinction and held the insurance clause unenforceable (Tyson Foods, Inc. v Routh Enterprises, Inc., 2015).

PRIOR RECOURSE TO JUDICIAL INTERVENTION

Courts have examined the enforceability of indemnification agreements in the construction industry under contract common law that was in effect prior to the enactment of anti-indemnification statutes. Texas courts have developed practices to preclude the parties from expanding the scope of an indemnification agreement beyond the terms stated in the construction contract or to parties not specifically designated in the contract (E.J. Smith Construction Company v Travelers Casualty & Surety Company, 2016). In an earlier case, United States v Seckinger (1970), the Supreme Court expressed that a construction contract should not authorize a party to recover for its own negligence especially in situations where there is a vast disparity in bargaining power between the parties.

Element of Intent

Courts have also been guided by general principles which have evolved concerning the interpretation of contractual provisions suggesting that the mutual intention of the parties needs to be expressed with clarity (United States v Seckinger, 1970). If contested, the indemnity provision is construed by the court based on the intentions of the parties (Dade County School Board v Radio Station WQBA, 1999). In the construction of indemnity contracts, Michigan courts attempt to enforce them so as to effectuate the intentions of the parties considering the circumstances surrounding the contract and the situation of the parties (Zurich Ins. Co. v CCR & Co., 1997).

FEATURES OF ANTI-INDEMNIFICATION REFORM LEGISLATION

Numerous anti-indemnification laws have been enacted by state government. The anti-indemnification statutes establish exemptions from traditional contract laws. These jurisdictions limit the enforceability of certain indemnification agreements (E.J. Smith Construction Company v Travelers Casualty & Surety Company, 2016).

Under the full indemnification agreement or broad form indemnity, the subcontractor is obligated to indemnify the contractor for all liabilities regardless of fault (Beerworth, 2010; Mehta, 1996). Under the partial indemnification agreement or limited form indemnity, the subcontractor is only required to indemnify the contractor for losses attributable to its own negligence (Beerworth, 2010; Mehta, 1996). Recognizing that subcontractors needed protection from the full indemnification type agreements, the states have enacted anti-indemnification statutes (Bitzer, 2008). The anti-indemnification statutes have many similarities and also unique specific provisions. In this paper, the statutory differences are documented for comparative analysis.

Core Factors

The anti-indemnification statutes typically prohibit a contractual provision in the construction agreement which requires the nonnegligent subcontractor to indemnify the negligent contractor. The indemnitor is the party to a construction contract that is required to provide indemnification or additional insured status to another party to the construction contract or to a third party (Texas Ins. Code 151.001). These statutes identify many reasons for the adoption of anti-indemnification policies including the numerous attempts by builders in the construction industry to exploit their bargaining power and coerce subcontractors to agree to full indemnification agreements (Bitzer, 2008).

Statutory Purpose

Courts have recognized the statutory purpose of the anti-indemnification legislation. In the United States District Court for the District of New Mexico, the opinion notes that the New Mexico anti-indemnity statute furthers public policy by promoting safety in construction projects and protecting construction workers and future occupants of a building (First Mercury Insurance Company v Cincinnati Insurance Company, 2016). The anti-indemnity statute ensures that all parties involved in construction projects know that they will be held financially liable for their own acts of negligence (Tucker v Hanson, 1992). The purpose of the Georgia anti-indemnity statute (Georgia Statute, O.C.G.A. 13-8-2, 2016) is to prevent a building contractor, subcontractor or owner from contracting away liability for accidents caused solely by the person's negligence (Smith v Seaboard Coast Line R.R., 1981).

Other statutes target specific concerns. The Louisiana Oilfield Indemnity Act (1985) attempts to address the inequity which is foisted on certain contractors by the defense or indemnity provisions.

Scope of Operation

The scope of operation for the anti-indemnification statutes varies by jurisdiction. The Louisiana Oilfield Indemnity Act (1985) pertains to wells for oil, gas, or water, or drilling for minerals which occur in a solid, liquid, gaseous, or other state, but has no application to public utilities, the forestry industry or the sulphur industry.

Design Professionals

The Michigan legislature (MCL 691.991) extends the anti-indemnity statute provision to contracts with architects, professional engineers, landscape architects and professional surveyors. Recently, the Georgia anti-indemnity statute (Georgia Statute, O.C.G.A. 13-8-2, 2016) was amended to extend the scope of the law to be applied to contracts for engineering, architectural or land surveying services that require one party to indemnify the other party to the contract. The Georgia Supreme Court ruled that engineers cannot be held harmless or be indemnified per se for their sole negligence (Lanier at McEver, L.P.v Planners & Engineers Collaborative, Inc., 2008).

Public Contracting Requirements

Some laws address public contracting requirements in which a public agency has a direct contract with a construction contractor. In the California statute (Cal. Civil Code 2782.05), the anti-indemnity provision does not apply to the contractor or the construction manager obligation to indemnify a public agency against any claim arising from the alleged active negligence of the public agency.

Public Policy Rationale

Most of the anti-indemnification statutes indicate that construction-related indemnity agreements are contrary to public policy. When a court rules on the validity of a contract, the contract cannot be said to be contrary to public policy unless the state legislative body has declared it to be so (*Porubiansky v Emory Univ.*, 1980). Other jurisdictions have endorsed the public policy rationale in case law. In the case *Madsen v Wyo. River Trips, Inc.* (1999), the court cited numerous cases that support the public policy rationale.

Limitation of Coverage

The anti-indemnification statutes limit the coverage of an indemnity clause in a construction contract. Many states will not enforce a provision that suggests that the subcontractor will indemnify the contractor for the contractor's negligence (*Miletsky*, 2009).

Partial Indemnification Provision

Partial indemnification provisions may be enforceable by the court where both a general contractor and its subcontractor are joint tortfeasors (*Brooks v Judlau Contractors, Inc.* 869 N.Y.S. 2d 366, 2008). Such a partial indemnification provision does not violate New York General Obligations Law 5-322.1.

According to the Georgia anti-indemnity statute (Georgia Statute, O.C.G.A. 13-8-2, 2016), only agreements where the subcontractor agrees to indemnify the contractor against the contractor's sole negligence is unenforceable (*Doerler*, 2016). Therefore, a contractor who is only partially at fault can seek indemnification for its partial negligence from the subcontractor (*Doerler*, 2016).

The Georgia anti-indemnity statute (Georgia Statute, O.C.G.A. 13-8-2, 2016) under Subsection (c) prohibits an architect, engineer or land surveyor from seeking indemnification for its fault and only permits indemnification for that portion of damages caused by the other party's wrongful conduct (*Doerler*, 2016).

Insurance Savings Provision

The courts are requested to determine the rights and enforceability of liability insurance coverage. Many states have adopted an insurance savings provision as part of the anti-indemnification statute. The Delaware anti-indemnity statute (Del.Code Ann. 6-2704a) precludes contractual indemnification by one party to a construction contract for the negligence of another party. However, under Del. Code Ann. 6-2704(b), nothing in the anti-indemnity statute renders an insurance policy unenforceable which insures against losses or damages from any cause. In the case, *Chrysler Corporation v Merrell & Garaguso* (2001), the court addressed the interplay of the two sections of the statute finding that there is no legislative statement of purpose explaining the meaning of the anti-indemnity provision and its relationship to the insurance savings provision (*Chrysler Corporation v Merrell & Garaguso*, 2001). Therefore, the court relieved the contractor of any direct obligation to indemnify the negligent owner, but enabled the negligent owner to assert its rights against the contractor's insurance policy under the contractual obligation of the contractor to purchase insurance for the benefit of the owner (*Chrysler Corporation v Merrell & Garaguso*, 2001).

A similar insurance savings provision is also included in the Maryland anti-indemnity statute (Md. Code Ann. 5-401) which enforces the validity of any insurance contract, workers' compensation or any other agreement issued by an insurer. The insurance savings provision in the Wisconsin statute (Wis. Stat. 895.447) applies to any insurance contract or worker's compensation plan.

The Rhode Island statute (R.I.6-34.1) does not contain an insurance savings provision. Therefore, the Rhode Island anti-indemnity statute does not appear to place any restrictions on the transactional risk transfer to liability insurers (*Beerworth*, 2010).

Other state statutes may contain provisions which prohibit additional named insured endorsements, or any other form of insurance protection which would frustrate or circumvent the provisions of the anti-indemnity law (*Louisiana Oilfield Indemnity Act*, 1986). In the case *Babineaux v McBroom* (1987), the court invalidated an agreement which

required one party to procure certain designated insurance policies that named the responsible party as an additional insured because the agreement would frustrate the purposes of the Louisiana anti-indemnity statute.

Limits on Overreaching

In the context of a construction contract, there may be a tendency for a party with superior bargaining power to seek indemnification from its subcontractors (Loulakis & McLaughlin, 2013). In the case *Engineering & Construction Innovations, Inc. v L.H. Bolduc Co., Inc.* (2013), the court interpreted the Minnesota statute, Minn. Stat. 337.02, to render an indemnification agreement to be unenforceable unless the wrongful act or omission was attributable to the negligence of the promisor.

Non Adoption

A minority of jurisdictions have not adopted anti-indemnity statutes in the construction industry. The states of Nevada, Alabama, Maine, North Dakota, Vermont, Wyoming and the District of Columbia have not enacted an anti-indemnity provision. These states permit indemnification provisions in construction contracts.

Statutory Interpretation

A statute is ambiguous if it is reasonably susceptible to more than one interpretation (*Engineering & Construction Innovations, Inc. v L.H. Bolduc Co., Inc.*, 2013).

The Minnesota anti-indemnity statute was considered by the court for statutory interpretation. Statutory interpretation begins with a determination of whether the language in the statute is ambiguous and is reasonably susceptible to more than one interpretation (*Target Corp. v All Jersey Janitorial Service*, 2013). The United States District Court for the District of Minnesota determined that the Minnesota anti-indemnity statute (Minn. Stat. 337.01) was unambiguous and did not extend the scope of the rule to a housekeeping services contract.

Wrap-up Commercial Insurance

The anti-indemnification provisions do not apply to wrap-up insurance programs in some jurisdictions. Wrap-up insurance programs or consolidated insurance programs generally provide insurance coverage for all contractors, subcontractors and their employees working on the construction project (*Liberty Mut. Ins. Co. v Louisiana Ins. Rating Commission*, 1997). In the California statute (Cal. Civil Code 2782.05), the anti-indemnity provisions do not apply to any wrap-up insurance policy or program.

Exculpatory Clause in a Construction Contract

Although indemnity provisions may be interpreted favorably under common law rules in other business contexts, the anti-indemnity statutes in the construction industry change this common law practice. Applying the Georgia anti-indemnity statute (Georgia Statute, O.C.G.A. 13-8-2, 2016), contracts relating to the construction or maintenance of buildings are strictly construed by the courts and viewed as a violation of public policy, and void and unenforceable (*Smith v Seaboard Coast Line R.R.*, 1981).

Exception to the General Prohibition

State laws may contain provisions to carve out exceptions to the general prohibition intended by the anti-indemnification statutes. In connection with contracts between the government and the private sector, special rules may apply. According to the Minnesota anti-indemnity statute (Minn. Stat. 337.02), a governmental entity may agree to indemnify a contractor directly with respect to strict liability under environmental laws.

The Rhode Island statute (R.I. Gen. Laws 6-34.1) stipulates that a contract is not principally for the construction to real property if the contract is a partnership agreement, the contract provides for a loan or the contract is for the management of real property.

DISCUSSION

The existing anti-indemnification statutory and regulatory framework creates a dilemma for the administrative agency, the contractor, the subcontractor, the liability insurers and other third party stakeholders. The state agencies are responsible for enforcing the provisions of anti-indemnification statutes.

Contractors have broad discretion to select and hire subcontractors. The contractor may for a legitimate reason attempt to shift the risk of liability and loss to another party. The contractor may be concerned about the hidden costs associated with claims for damages.

The anti-indemnification statutes vary from jurisdiction to jurisdiction. Statewide variations in the statutes may create inefficiencies in regulating construction activities. If large corporations are confronted with a patchwork of differing state laws, the construction industry may forum shop for the more favorable jurisdictions to bid on projects. From a different perspective, numerous major businesses and organizations have voluntarily implemented their own policies removing onerous indemnity provisions.

The anti-indemnification statutes provide an opportunity for all parties in the construction industry to maintain high standards of care (Bitzer, 2008).

Third party stakeholders may have valid reasons to hold contractors accountable for negligent performance. This potential threat of litigation claims creates a dilemma for contractors conducting business with commercial insurance coverage. When the contractor and the subcontractor both maintain certain insurance coverage, coverage disputes may occur between the two insurers over whether a party has a duty to cover or indemnify the other party. Then, the court may be called upon to determine if the provisions in an insurance policy are contrary to anti-indemnity laws (First Mercury Insurance Company v Cincinnati Insurance Company, 2016). If the provisions in the indemnity agreement are contrary to the statute, the court can refuse to enforce the contract or limit application of the indemnity term (First Mercury Insurance Company v Cincinnati Insurance Company, 2016).

Subcontractors expect to receive fair treatment in the negotiation process for building contracts. When subcontractors apply for contracts, the subcontractors want to be afforded just and fair measures and practices for screening and identifying eligibility for the project. However, subcontractors may also need to take proactive steps to mitigate the effects of the powerful contractor.

Anti-indemnification legislation needs to encompass a balanced approach which takes into consideration the various perspectives of the interested parties. The state statutes need to incorporate the broad range of perspectives in order to reconcile these competing interests. To resolve the differences in objectives, the federal government could adopt a uniform anti-indemnification law which creates a consistent framework for compliance and enforcement by the parties.

However, most anti-indemnification statutes are created by local legislative bodies, and interpreted and enforced by local jurisdictions. Delegating oversight responsibilities to a federal agency may be cumbersome and difficult to administer. Currently, injured third parties experience long delays for the courts to address their complaints and the long waits may cause individuals with valid claims of overly broad policies to bypass the court process and seek arbitration.

Risk Management Considerations

Companies are concerned about the level of risk associated with construction projects. Research has found that the anti-indemnification statutes provide public protection against injury to property, injury to persons, design defects and other losses. In addition, research has shown that anti-indemnification statutes limit the ability of contractors to shift the risk of liability to the subcontractor. The anti-indemnity statutes may influence the venue for the disposition of disputes. Since the law on the issue of indemnity can be very different in different states, the choice of law clause in a construction contract may indicate the law which the contractor favors to govern any dispute (Kelley, 2013).

IMPLICATIONS, LIMITATIONS AND EMERGING TRENDS

According to industry best practices, contractors may develop narrowly targeted written screening policies and practices for checking subcontractor qualifications which consider the nature of the construction project, the skill of the subcontractor's workers, and frequency of injuries and accident rates.

The research findings of this study demonstrate that blanket anti-indemnification practices are no longer being viewed as acceptable. The numerous state guidelines suggest that the individualized assessment of the responsible parties is required.

The array of insurance regulations in light of recent anti-indemnity legislation have contributed to the ongoing confusion in the construction industry (Gonzalez, 2015). Insurance contracts have increased in complexity with hundreds of various standardized forms to address various forms of coverage (Gonzalez, 2015). These variations in risk transfer agreements will make the determination of intent of the parties much more difficult to interpret.

The scope of the anti-indemnification statutes affect construction industry practices at all levels of business. Companies that screen subcontractors should review their prior performance record on past projects. Questions related to experience, qualifications, and other relevant capabilities should be discussed with the subcontractors to reduce the potential for future loss, damage or injury liability. Project descriptions and essential requirements should be identified and reviewed, as well as the specific risks associated with the specific project. Offer letters and other standardized correspondence should be reviewed and modified as necessary to comply with the anti-indemnification statutes. Any conditions of contractual risk transfer should be clearly identified in the correspondence so that the subcontractor is better informed of company policies.

While contracts governing construction projects may require subcontractors to purchase insurance naming owners and general contractors as an additional insured under the subcontractor's insurance policy, various state legislative initiatives are banning certain parties from requiring these additional insured coverage features (Gonzalez, 2015). However, the availability of wrap-up insurance programs which insure the property owner, the general contractor and the subcontractors may offer a viable solution to the many disputes that can arise on a construction project with many commercial insurance policies for each of the individual companies.

FUTURE CONSIDERATION AND CONCLUSION

The anti-indemnification statutes are necessary to foster safeguards which protect the public from negligent services. The legislative initiatives are intended to prevent parties from the unjustified shifting of risks and exempting contractors from their basic responsibilities. Since the passage of anti-indemnification legislation in various jurisdictions, the research findings demonstrate a trend for contractors to remove the broad form indemnification requirements in contractual agreements.

Most anti-indemnification statutes preserve the contractor's freedom of contract principles to address other essential elements such as price, payment terms, project materials, performance standards, scope of work, specifications, change orders, insurance requirements, work product, warranties and default provisions. The anti-indemnification statutes afford the opportunity for the parties to negotiate in a transparent environment in which the contractor and the subcontractor are equally accountable for their actions.

The governmental policies are designed to encourage competition in the construction industry, but data needs to be analyzed to determine if the anti-indemnification statutes hamper competition by discouraging the entry of new competitors into the marketplace. Future research needs to investigate whether the reform measures create additional cost to construction services. We need to study whether the policies hasten the removal of poor performers from the marketplace. Research is needed to verify that the anti-indemnity statutes are an effective tool to prevent the insulation of the responsible parties from being accountable to third parties for their actions.

In future research, data may be forthcoming from the jurisdictions that have enacted the anti-indemnification statutes which measure the effectiveness of these statutes and changes in business practices. Studies may demonstrate that the reform measures may have a substantial impact on performance improvement. Research may consider whether the

anti-indemnification statutes promote competition in the construction industry. Another area for investigation is the possibility of extending anti-indemnity provisions to other essential services which have an element of high risk.

The business community and other stakeholders have a vested interest in the success of these progressive policies to assist a large segment of the construction industry in achieving a fair and equitable access to gainful construction opportunities.

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RECOVERY, RECESSION AND RECOVERY 1933-42

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ABSTRACT

There has been renewed interest in the 1937-8 recession because analysts have mentioned that a Fed engineered increase in interest rates in 2016-7 might stop the 2009-16 recovery much as the 1937-8 recession interrupted the Great Depression recovery. There is interest in finding out whom or what caused the 1937-8 recession. Milton Friedman blamed the Fed for doubling reserve requirements and also said that the Treasury was equally to blame for its gold sterilization program. More recently Irwin came to the conclusion that gold sterilization was the main culprit. Velde finds that the sterilization of gold halted the growth of the monetary base in 1937 and that the effect of the reserve requirement increases was probable but less clear. Calomiris, Mason, and Wheelock find that the Fed, responsibility was minimal. None of these articles mention inventories being a significant problem. Meltzer said it was too small to be a major factor.. Our inventory data are not only for 1935-8 but for accumulations in front of all post WWII recessions It indicates that an inventory bubble was a problem. We also analyze monthly bank reserves in 1935-37 along with expectations expressed by the Fed in the Federal Reserve Bulletin. The banks did not behave as the Fed expected. We believe the Treasury was responsible for half of the money stock decline, the Fed 30%, and other factors 20%. 1934-42 and 2008-16 have major features in common: high excess reserves, zero bound short term interest rates, and a Fed worried that the excess reserves might cause inflation. The 1936-7 solution caused trouble and the new solution also has problems.

INTRODUCTION

Before the Great Depression the balanced budget was financial orthodoxy embraced by both Democrats and Republicans although Alexander Hamilton had the idea that a national debt (from deficit spending) "if it is not excessive, will be to us a national blessing". Both Hoover and Roosevelt campaigned on a balanced budget plank in 1932. But the horrible state of the economy had forced Hoover to run a deficit in 1932 as tax receipts fell sharply and the poverty of 1933-5 led Roosevelt to increase both spending on goods and services along with relief or welfare. The relative prosperity of 1936 led Roosevelt to think that the economy was strong enough to go back to a balanced budget plank in the 1936 election. The budget was balanced in the first three quarters of 1937 but the vicious decline of 4Q37-1Q38 converted him to Keynesian thought. With the popularity of Paul Samuelson's Economics text Keynesian thought became standard and in the early 1960s there was talk of "fine tuning" the economy. Then, the Great Inflation 1965-79 arrived.

Not forgetting the misery of the times the 1930s were spectacular. The changes in money, fiscal policy, sales, production, and inventories far exceeded anything since WWII. The recoveries and recessions are textbook cases. Simulative monetary and fiscal policies led to recoveries as they should and restrictive policies contributed to the recession of 1937-8 along with a business boom and bust cycle (to be echoed by the dot.com stock and real estate bubbles of the 2000s).

There has been renewed interest in the recession of 1937-8 due to a fear that projected Fed interest rate increases might stop the 2009-16 recovery much as monetary restraint contributed to the 1937-8 recession. Curiously, three modern analyses of 1937-8 (Irwin of Dartmouth, Velde of the Chicago Fed, Wheelock of the St. Louis Fed) plus Friedman and Meltzer missed a key cause of the recession, an inventory and capital spending bubble.

An unusual feature of 1934-42 is that short term interest rates were near zero accompanied by huge bank excess reserves, similar to the current 2008-16 period. There have been discussions about a liquidity trap and that monetary policy was ineffective but the double digit growth of money in the two recoveries (1934-2Q36, 2Q38-1940) indicates there was no trap. The Epilog relates the 1930s to 2006-16 and the current situation including a deliberate shutdown of the money multiplier process with interest on excess reserves to "sterilize" increases in the monetary base compared to the Treasury's "sterilization" of gold in 1937.

FIRST RECOVERY FROM THE GREAT DEPRESSION

The downward plunge of the Great Depression ended with the Bank Holiday of March 6, 1933 when a series of massive bank runs forced the new President, Franklin Roosevelt, to close all banks in the country. Gradually they were reopened. On June 16th the Banking Act of 1933 was passed establishing the FDIC (Federal Deposit Insurance Corp.), separating commercial banking from investment banking (also known as Glass-Steagall), and authorizing the Fed the power to set ceilings on savings and checking accounts (Regulation Q). The following table gives a quick overview of what happened next.

Table 1: Summary Statistics

| Dates | GNPbg | M1 | G | txrq | Inv | Equip | Struc | COL | WPI | FHWI | P |
|-------|--------|--------|-------|------|-------|-------|-------|------|------|------|-------|
| Dc33 | 222.05 | 19.636 | 43.99 | 7.95 | -5.13 | 5.64 | 5.87 | 2332 | 2131 | 1638 | 26.17 |
| Dc34 | 237.16 | 22.596 | 49.13 | 8.21 | -5.90 | 7.03 | 5.79 | 2412 | 2299 | 1781 | 27.61 |
| Dc35 | 274.58 | 26.751 | 51.17 | 8.31 | 1.54 | 11.59 | 7.77 | 2503 | 2420 | 1811 | 27.89 |
| Je36 | 293.20 | 29.294 | 58.14 | 7.55 | 6.95 | 12.62 | 7.49 | 2523 | 2375 | 1846 | 27.67 |
| Dc36 | 311.58 | 30.459 | 58.39 | 6.93 | 5.89 | 15.19 | 9.79 | 2576 | 2481 | 1880 | 28.40 |
| Mr37 | 310.53 | 30.672 | 55.55 | 10.4 | 8.77 | 16.23 | 10.34 | 2620 | 2600 | 1939 | 29.17 |
| Je37 | 318.41 | 30.197 | 55.22 | 10.0 | 8.76 | 16.25 | 13.68 | 2660 | 2626 | 2090 | 29.44 |
| Sp37 | 317.21 | 29.779 | 55.61 | 10.5 | 11.62 | 16.41 | 10.76 | 2673 | 2628 | 2140 | 29.62 |
| Dc37 | 294.46 | 28.760 | 56.60 | 10.8 | -2.71 | 12.59 | 9.39 | 2671 | 2504 | 2148 | 28.97 |
| Mr38 | 282.02 | 29.274 | 59.40 | 12.9 | -5.04 | 10.49 | 9.31 | 2609 | 2404 | 2134 | 28.75 |
| Je38 | 286.48 | 28.857 | 60.44 | 10.4 | -3.32 | 9.37 | 7.79 | 2600 | 2351 | 2154 | 28.61 |
| Dc38 | 315.35 | 31.410 | 61.63 | 9.43 | 0.86 | 12.04 | 9.12 | 2572 | 2321 | 2141 | 28.58 |

| Dates | Ggnp | gM1 | Pinfl | U% |
|---------|--------|--------|-------|---------------|
| D34/D33 | 6.80 | 15.07 | 5.50 | 20.44 / 21.07 |
| D35/D34 | 15.78 | 18.39 | 1.01 | 16.44 / 20.44 |
| J36/D35 | 14.02 | 19.92 | -1.57 | 14.85 / 16.44 |
| D36/J36 | 12.93 | 8.11 | 5.35 | 12.78 / 14.85 |
| M37/D36 | -1.34 | 2.83 | 11.29 | 11.73 / 12.78 |
| J37/M37 | 10.54 | -6.05 | 3.75 | 11.50 / 11.73 |
| S37/J37 | -1.50 | -5.42 | 2.47 | 11.63 / 11.50 |
| D37/S37 | -25.75 | -13.00 | -8.49 | 15.91 / 11.63 |
| M38/D37 | -15.86 | 7.34 | -3.00 | 18.49 / 15.91 |
| J38/M38 | 6.48 | -5.58 | -1.93 | 20.00 / 18.49 |
| D38/J38 | 21.17 | 18.48 | -.21 | 16.36 / 20.00 |
| D40 | | | | 10.85 |

Data Notes: GNPbg is real GNP from Balke-Gordon,; M1 is money stock currency held by the public plus demand (checking) deposits from Robert Rasche of the St. Louis Fed; G is real government spending from Balke-Gordon, txrq is a tax rate index from Figure 5 in "The Recession of 1937 - A Cautionary Tale" by Francois Velde of the Chicago Fed equal to Velde taxes as a percent of GNP; the next three are from Balke-Gordon - Real business investment in inventories, equipment, and non-residential structures; the Cost of Living, Wholesale Price Index, and Factory Hourly Wage Index are from the Survey of Current Business (quarterly totals). P is the GNP deflator from Balke Gordon. g denotes annual growth rates. **U is the unemployment rate from FRED series M0892AUSM156SNBR.**

Quick Observations

Spurred by double digit money growth and government spending the economy grew strongly until the recession of 1937-8. During the first recovery period of December 1933 to June 1936 (prior to the inventory and capital spending boom) the unemployment rate dropped from 21.07% to 14.85%. The right side of Table 1 shows the inventory bubble and capital spending boom and the accompanying inflation starting in the last half of 1936. Bubbles still occur as those in the 1999 stock market and 2005-6 housing bubbles know. The last four columns show the rise in prices and that the Wagner Act led to substantial wage increases.

Growth of the money stock slowed due to Treasury and Federal Reserve actions and then turned negative. The decline in money was more severe than any since 1920-1 and 1929-33. Government spending fell and the tax rate rose in 1937 which meant that fiscal policy was negative also. The three components of business investment (inventories, equipment, and structures) declined sharply in the recession and unemployment jumped back to 20%. The 1937-8 recession was far more severe than any since. The second recovery began in the last half of 1938.

The decline in the money stock has been the subject of some inquiry and we believe that the gold sterilization of 1937 was the major factor reinforced by the unexpected response of the banks to the increase of reserve requirements in 1937. The requirement increase of August 1936 was appropriate in light of the inflation of the last half of 1936 and first half of 1937, but the two hikes in 1937 following the start of the Treasury's gold sequestration (sterilization) were overkill.

Historical Timeline 1935-6

1935 was a strong recovery year. Real GNP was up 8.74% (Balke-Gordon) along with money growth of 18.38%. Unemployment dropped 4% from 20.44% to 16.44%. On March 16, 1935 Hitler announced Germany would rearm in violation of the treaty of Versailles. Legislatively in the US, four significant acts were passed in 1935: The Wagner or National Labor Relations Act (July 5).

This act established the right of collective bargaining by unions. The AFL (American Federation of Labor) was a bit slow getting started. On Nov 9 the activist John L. Lewis started the CIO (Congress of Industrial Organizations) with the goal organizing industries and raising wages. The first big battle was the famous GM "Sitdown Strike" beginning Dec 30, 1936.

The Social Security Act (Aug. 14)

The act called for substantial tax increases in 1937 which contributed to the fiscal tightening of that year and perhaps to the recession of 1937-8.

The Banking Act of 1935 (Aug 23)

The act authorized the Fed to double reserve requirements from the levels set in the 1917 Amendment to the Federal Reserve Act. Excess reserves of the banks had risen to levels that alarmed the Federal Reserve and the Fed wanted a tool to control them. See Table 105 in Banking and Monetary Statistics 1914-41 and Exhibit 1. On November 21, 1935 the Federal Advisory Council (Jan 1936 Federal Reserve Bulletin, p. 6) noted that "The constant pressure of the very large excess reserves of the member banks creating a plethora of the available supply of bank credit has a very distinct tendency to foster and encourage speculative activity, increase prices, and raise the living cost of the population. - - to obviate the probability of an undue and dangerous credit inflation, it is desirable - - to eliminate or - - greatly reduce the excess reserves now being carried in the system. See Exhibit 1. In 1935 the COL, WPI, and FHVI indexes rose 3.77%, 5.26%, and 1.86% respectively.

Technical Note

Here is the maturity distribution of the Fed's portfolio of securities July 1936 (p 342 BMS): d = days, m = months, y = years. \$millions:

| | | | | | | | |
|-------|-------|--------|-------|------|------|-----|--------------------------|
| Total | 0-90d | 91d-6m | 6m-1y | 1-2y | 2-5y | 5+y | Excess Reserves of Banks |
| 2430 | 279 | 303 | 346 | 376 | 801 | 325 | 2907 |

Even if the Fed sold its entire portfolio of securities to the banks, the banks still would have had excess reserves of \$477m, eleven times the excess reserves of 1929. This is a reason why the Fed restricted credit by raising the reserve requirement rather than conducting an open market sale of its securities. The Fed has a similar problem today (2016)

with excess reserves 20+ times as large as the Fed's holding of short term securities. Now it is using a new tool to "lock up" excess reserves, IOER, interest on excess reserves.

The Aug 30 Revenue Act

The act raised taxes of people in the \$50,000 tax bracket and up. Loopholes were closed by the Revenue Act of 1937. As part of Roosevelt's effort to balance the budget. On March 7, 1936 Hitler sent troops into the Rhineland which had been demilitarized.

1936 INVENTORIES AND INFLATION

In the first half 1936 (1H36) real GNP grew at a 14.02% annual rate compared to the 11.20% rate for 1934-5 (Balke data). The unemployment rate fell to 14.85% from 16.44%. Inflation was tame with a little boost in the factory wage rate, due to the effects of the Wagner Act. Inventories grew at a \$2.01 billion rate down from a \$3.17 rate in 1935 (Balke). On June 22 the Revenue Act of 1936 was signed. The main feature was a tax on undistributed profits.

Roosevelt who had campaigned on a balanced budget platform in 1932 was beginning to think that the economy was strong enough for a return to a balanced budget. This was a modest start to the fiscal restraint that would hit in 1937. Bank excess reserves, which so irritated the Fed as an inflation threat, actually fell (BMS p. 396). The excess reserve ratio (excess reserves divided by demand deposits) dropped from .1394 in Jan 1936 to .1083 in June (Table 11). It appears that the banks had accumulated more than enough precautionary reserves and trimmed them back a bit. Nevertheless, in July 1936 the Fed announced that it would raise the reserve requirement by 50% effective Aug. 16, 1936.

Here is the Fed's reasoning from p. 613 of the August 1936 Federal Reserve Bulletin:

The problems raised by these (excess) reserves have long been under consideration by the Board of Governors. In order to change a part of the excess reserves into required reserves and thus to eliminate the possibility - - of an injurious credit expansion, the Board on July 14 decided - under the Banking Act of 1935 - to raise member bank reserve requirements." Here is where the Fed makes a mistaken assumption: "The part of the excess reserves thus eliminated is SUPERFLUOUS (our capitals) for all present and prospective needs of commerce, industry, and agriculture and can be absorbed at this time without affecting money rates and WITHOUT RESTRICTIVE INFLUENCE on member banks - -. It does not constitute a reversal of the easy money policy which has been pursued by the System since the beginning of the depression". To see that the Fed's assumption that excess reserves were superfluous was wrong go to Chart 6 and the graph of excess reserves. If the excess reserves had been superfluous the excess reserve ratio should have remained at its new lower level following the green line. But instead excess reserves rose following the red line segment. The same thing happened again after the Feb 1937 increase and again after the May 1937 increase. See Meltzer's comments in Exhibit 6a.

Something else unusual was happening during this period. Exhibit 1 shows that the 3 month Treasury Bill rate (i3mo) dropped to near zero in 1933 and remained there into WWII. Short rates going to zero or near zero (the Zero Bound ZB) and staying there for years was a new phenomenon. New York call rates, the closest approximation to default risk free 3 month TBills, were 4.93%, 1.09%, 1.88%, 4.25% in 1893-6 (a depression), and 7.91%, 1.92%, 2.71%, 2.88% in 1907-10 (a severe recession). Usually interest rates drop in a recession or depression but then bounce back in the recovery. 1934-42 was different. Short rates went down and stayed down. Exhibit 9 shows a second zero bound episode during 2008-16. We think that the huge overhang of excess reserves drives short rates toward zero. John Taylor saw Exhibits 1, 9, and 10 and agreed (at the House Subcommittee on Money and Trade Rayburn Rm 2128 May 17, 2016). Exhibit 10 shows a similar situation in Japan 2002-10. There is the implication that if we want interest rates to return to "normal" 1954-2007 behavior we have to get rid of the "excess" excess reserves. Some think that the payment of interest on excess reserves will solve the problem. We do not think it is that simple See the enclosed comments by Nobel economist John Taylor (see Exhibit 1a).

Another feature of the time is that the yield curve did not invert in front of the 1937-8 recession. In "normal" times recessions are usually preceded by inversions. But this is not the case in Zero Bound economies.

The second half of 1936 (2H36) brought continuing growth of the economy at an annual rate of 12.93% with unemployment dropping to 12.78%. There probably was a onetime boost from the payment of the \$1.7 billion

Veterans' bonus to WWI soldiers. Inventories rose \$5.07 billion, more than double the pace of the first half. Balke inflation was 5.35% in 2H36 versus -1.57% in the first half. An average of the COL, WPI, and FHWI measures was 5.72% in 2H36 versus .53%. It turns out the Fed was correct about its fear of inflation but for the wrong reason. Prices were going up due to a booming economy with inventory accumulation, strong monetary growth and government spending, not because of wild lending by the banks. For 1933-36, loans of all banks were in \$ bil. 22.054, 20.439, 20.302, 21.359, hardly a wild lending spree. See BMS, p.18. Indeed, the banks started to replenish their depleted reserves after the August reserve requirement increase. See Chart 6. The Fed's action was appropriate given the inflation of 2H36 but it was only the first step. The money stock growth rate in 2H36 was 8.11% down from 19.92% in the first half, partly due to the bank increase in excess reserves after the requirement increase which lowered the money multiplier (Table 9). While reserve requirement management was unorthodox and untested some slowdown of the 1H36 money stock growth rate of 19.92% was warranted. But, then came the triple barreled overkill in early 1937.

Overkill

Three policies were developed in 2H36 that would help to crash the economy in 1937. The first started with the Fed and its reserve requirement increase in August 1936. There would be two more increases in 1937. The second was Roosevelt's intent to balance the budget which he announced in a speech in Pittsburgh Oct 1, 1936 (FDR Address at Forbes Field) and actually started with the June 22 Revenue Act of 1936 raising taxes on undistributed profits. Taxes went up and spending went down substantially in 1937. See Tables 1 and 6. The third and most severe blow was the sterilization of gold inflows by the Treasury which reduced the 1936-37 growth rate of the monetary base from 10.91% without sterilization to 2.45%. See Table 9. The combined actions against inflation and the desire for "normalcy" were overkill on top of an inventory-capital spending bubble.

On the Labor Front, as a consequence of the Wagner Act union organizing began with some violence and mixed results. Example: The AFL had been trying to organize the Remington Rand Typewriter Company unsuccessfully since 1934. In May 1936 a strike marked by much violence began and lasted into 1937, with company resistance continuing into 1940. A turning point was the famous "Sitdown Strike" at General Motors, Flint, Michigan plant which began on December 30, 1936. Labor began to win better wages and working conditions. Table 7 shows huge wage rate gains in 1937 until 4Q37 when the economy started a spectacular crash.

At this point we leave the historical narrative to examine the inventory capital spending bubble in detail. Then Fiscal Policy Effects, Inflation, and the Decline in the Money Stock. After these are studied we return to the narrative and the second recovery which began in 1938, perhaps on April 15, 1938 when Roosevelt forced the Fed to rescind its May 1937 reserve requirement increase. So much for the Fed's independence.

ANALYTICAL SECTION: CAUSES OF THE 1937-8 RECESSION

The Inventory and Capital Spending Boom

Except for one line in Kindleberger (Keynesianism vs Monetarism and Other Essays) we have not found anyone saying that inventories were the major factor in the 1937-8 recession much less calling the inventory accumulation of 1936-7 a bubble. Inventories can grow for two reasons. One is in anticipation of increasing sales, the other is an unintended increase due to a sales decrease. From 2Q30 through 2Q33 Balke-Gordon show 13 straight quarters of inventory liquidation while real GNP fell 30%. This was followed by more liquidation in 4 of the next 6 quarters to the end of 1934. Inventories then rose 10 out of the next 11 quarters as the economy recovered. Business spending on equipment and structures rose along with inventories but equipment topped out in early 1937 and structures in 2Q37 indicating slower sales expectations. The huge inventory accumulation of 3Q37 in light of falling equipment and structures investment was almost certainly involuntary as GNP growth stopped and then collapsed in 4Q37-1Q38. To examine the severity of the 1936-7 inventory increase it is compared to the inventory accumulations in front of all recessions (and the depression) from 1920. See Table 3 below.

The Beginning of the Boom

1934 real GNP was up 7.64% over 1933, 1935 was up 8.76%, and the first half of 1936 up another 14.02% (annual rate). From these figures it can be assumed that confidence was coming back. Even the banks which had been building a hoard of excess reserves pared back their holdings in the first half of 1936. With business booming business began

spending on equipment, structures, and inventories. GNP was up at a rate of 12.93% in the second half of 1936. Things were looking good, probably too good.

Quarterly observations are needed to describe the inventory boom but unfortunately the National Income and Product Accounts prior to 1939 are available only on an annual basis. Fortunately, there are three quarterly inventory series available. The first is from the Dun and Bradstreet (D&B) and Commerce report on the bottom of Chart 2. The second is Barger's Quarterly Revised NIPA Data:1921-41 on the internet. The third is Balke and Gordon's interpolations of the 1972 price base NIPA series. All three series are reported in Table 2. The ^ means change, it should be a delta; bg is Balke-Gordon; BInvst is business investment in equipment, structures, and inventories. SumInvbg is the cumulative sum of Balke-Gordon inventories beginning in 1Q35. InvAccm is accumulated Balke-Gordon inventory beginning in 2Q36 following the decumulation of 1Q36.

Table 2: Inventories and Capital Spending 1935-9

| Time. | D&B | ChgD&B | ^Barger | ^Invbg | Equip | Struc | BInvst | GNPbg | SumInvbg | InvAccm | |
|-------|-------|--------|---------|--------|-------|-------|--------|--------|----------|-----------------|---|
| 1Q35 | 98.5 | 0.1 | 0.060 | 4.75 | 8.75 | 5.30 | 18.80 | 252.31 | | 4.75 | . |
| 2Q35 | 98.0 | -.5 | -.588 | 2.89 | 8.63 | 6.60 | | 18.12 | 253.14 | 7.64 | . |
| 3Q35 | 97.3 | -.7 | 0.108 | 3.47 | 9.22 | 5.65 | | 18.34 | 260.14 | 11.11 | . |
| 4Q35 | 100.0 | 2.7 | 1.392 | 1.54 | 11.59 | 7.77 | 20.90 | 274.58 | 12.65 | | . |
| 1Q36 | 102.0 | 2.0 | 0.592 | -2.93 | 11.72 | 7.91 | 16.70 | 275.90 | 9.72 | | . |
| 2Q36 | 103.7 | 1.7 | 1.612 | 6.95 | 12.62 | 7.49 | 27.06 | 293.20 | 16.67 | 6.95 | . |
| 3Q36 | 106.0 | 2.3 | 1.796 | 4.25 | 14.11 | 8.69 | 27.05 | 301.59 | 20.92 | 11.20 | . |
| 4Q36 | 108.5 | 2.5 | 3.620 | 5.89 | 15.19 | 9.79 | 30.87 | 311.58 | 26.81 | | . |
| 17.09 | | | | | | | | | | | . |
| 1Q37 | 116.5 | 8.0 | 1.356 | 8.77 | 16.23 | 10.34 | 35.34 | 310.53 | 35.58 | 25.86 | . |
| Time. | D&B | ChgD&B | ^Barger | ^Invbg | Equip | Struc | BInvst | GNPbg | SumInvbg | InvAccm | |
| 2Q37 | 121.7 | 5.2 | 2.752 | 8.76 | 16.2 | 13.68 | 38.69 | 318.41 | 44.34 | 34.62 | . |
| 3Q37 | 127.0 | 5.3 | 5.356 | 11.62 | 16.41 | 10.76 | 38.79 | 317.21 | 55.96 | 46.24 | . |
| 4Q37 | 126.0 | -1.0 | -.708 | -2.71 | 12.59 | 9.39 | 19.27 | 294.46 | 53.25 | | . |
| 1Q38 | 120.0 | -6.0 | -1.432 | -5.04 | 10.49 | 9.31 | 14.76 | 282.02 | 48.21 | | . |
| 2Q38 | 116.8 | -3.2 | -2.136 | -3.32 | 9.37 | 7.79 | 13.84 | 286.48 | 44.89 | | . |
| 3Q38 | 118.0 | 1.2 | -2.260 | -2.44 | 10.80 | 8.65 | 17.01 | 303.22 | 42.45 | 301.05 | . |
| 4Q38 | 121.1 | 3.1 | -.732 | 0.86 | 12.04 | 9.12 | 22.02 | 315.35 | 43.31 | Avg. FinalSales | . |
| 1Q39 | 123.0 | 1.9 | 0.200 | -.28 | 11.37 | 9.65 | 20.74 | 312.34 | 43.03 | 15.36 | . |
| 2Q39 | 120.2 | -2.8 | -.508 | -2.68 | 10.56 | 9.42 | 17.30 | 307.79 | 40.35 | | . |
| 3Q39 | 121.5 | 1.3 | 0.504 | -.14 | 12.16 | 8.72 | 20.74 | 319.32 | 40.21 | 15.13% | . |
| 4Q39 | 127.4 | 5.9 | 1.652 | 8.75 | 14.95 | 9.49 | 33.19 | 339.96 | 48.96 | | . |

The bottom of Chart 2 shows the Dun & Bradstreet and Commerce estimate of the volume of inventories including the "bubble" peaking in 3Q37. The problem we have now is verifying that Chart 2 shows a bubble and not just an ordinary accumulation. Column 10 is the cumulative total of Column 5, inventory changes as measured by Balke-Gordon (^Invbg). The cumulative inventory series (SumInvbg) is plotted in the bottom of Chart 3. It has the same general shape as the D&B graph. The circled dots come from the annual data in the NIPA Supplement of 1929-76. The top graph comes from the Barger data of Column 4. The next question is whether this is an ordinary cycle or more extreme. To show that the 2Q36-3Q37 inventory accumulation was a bubble we compare it to accumulations in front of other recessions 1920-2009.

Comparing inventory accumulation before the 1937-8 recession to those of other recessions: 1920-2009.

The last column of Table 2 shows the inventory accumulation before the 1937-8 recession starting after the prior decumulation (the -2.93 of 1Q36) or three years. The total accumulation was 46.24 billion for 2Q36 to 3Q37 before liquidation started in 4Q37. Final sales in 3Q37 were 317.21 - 11.62 = 301.05. The inventory build was 46.24 or 15.36% of sales. This accumulation is far greater than any other recession including 1928-9 in front of the Great Depression.

Balke and Gordon have quarterly data back to 1919 so we can use the same procedure for all recessions beginning with the recession of 1920-1 and ending with that of 2008-9. Table 3 shows the results. The 1969-70 recession is missing because there were no negatives around it (prior negative was 1Q61, post negative was 1Q75) and the inventory/final sales ratio in Table 5.11 of the 1929-76 Statistical Tables was constant 1967-3Q69 indicating no undue accumulation. The accumulation in front of the 1974-5 recession begins in 1Q71 at the end of the 1969-70 recession when the 4Q70 change was a minimal 1.3 billion (annual rate). The inventory accumulation of 1936-7 relative to final sales (FS) is far greater than all other recessions and those coming closest (1957-8, 1974-5, 1980) took twice as long to build.

Table 3: Pre-Recession Inventory Accumulations

| Date | Accum | Period | #ofQtrs | AvgFS | %ofFS | Source |
|------|-------|-----------|---------|---------|--------|---------------------------------|
| 20-1 | 10.03 | 2Q20-3Q20 | 2 | 209.25 | 4.79% | Balke 1972 base |
| 23-4 | 1.14 | 3Q23-3Q23 | 1 | 252.25 | 0.45% | Balke Gordon inventory data pre |
| 1927 | 6.42 | 4Q26-1Q27 | 2 | 292.76 | 2.19% | 1929 has problems of too much |
| 29on | 23.25 | 2Q29-1Q30 | 4 | 306.95 | 7.57% | negativity. Google "Barger's |
| 37-8 | 46.24 | 2Q36-3Q37 | 6 | 301.05 | 15.36% | Revised Quarterly NIPA Data |
| 48-9 | 24.60 | 4Q47-4Q48 | 5 | 482.00 | 5.10% | 1921-41" - Inventory Issues for |
| 53-4 | 23.50 | 3Q52-3Q53 | 5 | 613.36 | 3.83% | an explanation. |
| 57-8 | 63.30 | 4Q54-3Q57 | 12 | 664.88 | 9.52% | |
| 1960 | 53.20 | 3Q58-3Q60 | 9 | 715.33 | 7.44% | |
| 74-5 | 133.2 | 1Q72-4Q74 | 12 | 1317.3 | 10.11% | |
| 1980 | 148.7 | 1Q77-3Q79 | 11 | 1409.7 | 10.55% | |
| 81-2 | 45.20 | 1Q81-4Q81 | 4 | 1500.8 | 3.01% | Balke 1972 base |
| 1990 | 333.3 | 4Q87-3Q90 | 12 | 6102.8 | 5.46% | NIPA 1992 base |
| 00-1 | 740.9 | 1Q98-4Q00 | 12 | 8661.0 | 8.55% | NIPA 1992 base |
| 08-9 | 685.8 | 1Q05-4Q07 | 12 | 14517.8 | 4.72% | NIPA 1995 base |

Inventory/Sales Ratios

A second test is to examine what happened to inventory/sales (I/S) ratios which for 1936-38 can be backtracked from Commerce data in the 1929-76 SCB National Income Supplement (see FRASER). Table 4 shows the data surrounding the 1937-8 recession. 4th quarter numbers come from Commerce data, the other quarters from interpolating with Balke-Gordon inventory changes. ΔINV is at an annual rate so divide by 4 to get the quarterly change in the INV column. FS1 is final sales = GNP - ΔINV .

There are two measures of the Inventory/Sales ratio. $I/FS1/4$ is inventory divided by final sales where final sales equal GNP minus the change in inventory. Since inventories are more closely associated with the sale of goods rather than services $I/FS-Svcs/4$ is inventory divided by final sales minus services.

Table 4: I/S Ratios 1936-8

| Time | INV | rGNPbg | ΔINV | FS1 | $I/FS1/4$ | Svcs | $I/FS-Svcs/4$ |
|------|-------|--------|--------------|--------|-----------|--------|---------------|
| 1Q36 | 76.73 | 275.90 | -2.93 | 278.83 | 1.1007 | 119.38 | 1.9249 |
| 2Q36 | 78.55 | 293.20 | 6.95 | 286.25 | 1.0976 | 119.40 | 1.8831 |
| 3Q36 | 79.67 | 301.59 | 4.25 | 297.34 | 1.0718 | 122.29 | 1.8206 |
| 4Q36 | 81.20 | 311.58 | 5.89 | 305.69 | 1.0625 | 126.37 | 1.8112 |
| 1Q37 | 83.30 | 310.53 | 8.77 | 301.76 | 1.1042 | 123.54 | 1.8636 |
| 2Q37 | 85.40 | 318.41 | 8.76 | 309.65 | 1.1032 | 122.00 | 1.8204 |
| 3Q37 | 88.20 | 317.21 | 11.62 | 305.59 | 1.1545 | 120.10 | 1.9012 |
| 4Q37 | 87.50 | 294.46 | -2.71 | 297.17 | 1.1778 | 123.13 | 2.0110 |
| 1Q38 | 86.20 | 282.02 | -5.04 | 287.06 | 1.2011 | 125.81 | 2.1383 |
| 2Q38 | 85.34 | 286.48 | -3.22 | 289.80 | 1.1779 | 124.37 | 2.0635 |
| 3Q38 | 84.70 | 303.22 | -2.44 | 305.66 | 1.1084 | 126.57 | 1.8918 |
| 4Q38 | 84.90 | 315.35 | .86 | 314.49 | 1.0798 | 128.16 | 1.8226 |

From 4Q36 to 1Q38 the simple I/S ratio rose 13.04%, and 18.05% subtracting out services (as Commerce does post WWII). Just how exceptional these numbers are is shown in Table 5. Table 5 compares these numbers to those of all the post-WWII recessions. Two recessions have double entries with an alternate accumulation starting date. NIPA Statistical Tables have the raw I/S data as noted in the table below.

Table 5: Increase (^) in I/S Ratios 1937-8 and All Post WWII Recessions

| Time . Period | Qtrs | ChgI/S1 | Period . Qtrs . | ChgI/Sadj |
|----------------|------|---------|-----------------|--------------------------------|
| 37-8 4Q36-1Q38 | 5 | 13.04% | 4Q36-1Q38 5 | 18.05% Table 4 above |
| 48-9 2Q48-1Q49 | 1 | 1.00% | 2Q48-1Q49 3 | 1.43% Table 5.11 NIPA 1929-76. |
| 53-4 1Q53-3Q53 | 2 | 0.69% | 1Q53-3Q53 2 | 0.87% " |
| 57-8 3Q55-1Q58 | 10 | 2.60% | 3Q55-1Q58 10 | 3.01% " |
| 57-8 1Q57-1Q58 | 4 | 0.78% | 1Q57-1Q58 4 | 0.88% " |
| 1960 1Q59-3Q60 | 6 | 2.53% | 1Q59-3Q60 6 | 3.06% " |
| 1960 3Q59-3Q60 | 4 | 2.28% | 3Q59-3Q60 4 | 2.74% " |
| MINI 4Q65-1Q67 | 5 | 5.81% | 4Q65-1Q67 5 | 6.73% " |
| 69-0 3Q68-2Q70 | 7 | 4.82% | 3Q68-2Q70 7 | 4.24% " |
| 74-5 1Q73-4Q74 | 7 | 9.85% | 1Q73-4Q74 7 | 10.80% " |
| 1980 4Q79-2Q80 | 2 | 2.09% | 4Q79-2Q80 2 | 2.20% Tbl 5.8.6A NIPA Web |
| 81-2 1Q81-4Q81 | 3 | 3.47% | 4Q80-1Q82 5 | 4.73% " |
| 90-1 1Q90-1Q91 | 4 | 1.11% | 1Q90-1Q91 4 | 2.52% " |
| 00-1 1Q00-4Q00 | 3 | 1.18% | 1Q00-4Q00 3 | 1.17% Tbl 5.8.6B NIPA Web |
| 08-9 2Q08-1Q09 | 3 | 2.36% | 2Q08-4Q08 2 | 2.89% " |

I/S1 is Inventory/Final Sales where Final Sales = GNP - the change in inventory. I/Sadj is inventory/Final Sales where Final Sales = GNP - Services - inventory change taken from the NIPA tables indicated. All the post WWII numbers come from NIPA tables.

CONCLUSION

Velde (The Recession of 1937: A Cautionary Tale); Irwin (Gold Sterilization and the Recession of 1937-8); and Calomiris, Mason, and Wheelock (Did Doubling Reserve Requirements Cause the Recession of 1937-8?) do not mention inventories in their analyses. Meltzer p. 527-8 said that inventories were not a major factor in the recession of 1937-8. Given the above statistics we disagree. If there ever has been an inventory bubble 1936-7 would be it (1920-1 bears more investigation). The following GNP statements (from Balke) show the changes of the heart of the recession, the last quarter of 1937 and the first of 1938. Inventory liquidation accounts for 47.34% of the decline in GNP and business investment 68.29%. On a final sales basis mentioned by Meltzer the business spending decline was 129.68% of the decline in final sales and inventory accounted for 89.91%.

Real Gnp Statements 3Q37-1Q38

| Item | 3Q37 | 1Q38 | Change | %ofGNP | %ofFS |
|----------|--------|--------|--------|----------|----------|
| GNP | 317.21 | 282.02 | -35.19 | -100.00% | |
| C | 219.53 | 211.06 | -8.47 | -24.07% | |
| Gds&Svc | 190.50 | 190.01 | -2.49 | | |
| Durables | 20.23 | 15.25 | -4.98 | | |
| ResStruc | 6.80 | 5.80 | -1.00 | | |
| I | 38.79 | 14.76 | -24.03 | -68.29% | -129.68% |
| Equip | 16.41 | 10.49 | -5.92 | | |
| Struc | 10.76 | 9.31 | -1.45 | | |
| Invtry | 11.62 | -5.04 | -16.66 | -47.34 | -89.91% |
| G | 55.61 | 59.40 | 3.79 | 10.77% | |
| X-M | .83 | 2.81 | 1.98 | 5.63 | |
| Misc | 2.45 | -6.01 | -8.46 | -24.04% | |
| Note:FS | 305.59 | 287.06 | -18.53 | | -100.00% |

FISCAL POLICY EFFECTS

Per the FDR Library online, Roosevelt believed in balancing the budget but had deficit spending in 1933-6 due to the severity of the depression. In 1936 he felt the economy was strong enough to have a balanced budget. Velde shows a graph of government spending and taxes. Table 6 has quarterly corporate, indirect, and social security tax data from Barger ("Barger's Revised Quarterly NIPA Data 1921-41"). Personal income taxes are estimated from Barger's personal income series times the implied tax rate from annual personal income taxes in Table 3.4 of the 1929-76 NIPA Statistical Tables. Year totals (TOT) come from the 1929-76 tables. The tax series is deflated with the Balke-Gordon deflator and compared to their real government spending on goods and services series.

Table 6: Taxes and Government Spending on Goods and Services

| Date | PersInc | TxRate | PersTx | CorpTx | Indirect | SSecTx | TotTx | Tx72 | G72bg | G-Tx. (deficit) |
|------|---------|--------|--------|--------|----------|--------|-------|-------|-------|-----------------|
| 1Q35 | 56932 | .0305 | 1736 | 824 | 8132 | 304 | 10996 | 39.51 | 48.57 | 9.06 |
| 2Q35 | 59632 | .0309 | 1842 | 812 | 8272 | 320 | 11246 | 40.31 | 48.84 | 8.53 |
| 3Q35 | 60700 | .0313 | 1900 | 932 | 8328 | 336 | 11496 | 41.29 | 49.52 | 8.23 |
| 4Q35 | 62000 | .0317 | 1965 | 1292 | 8240 | 376 | 11873 | 42.57 | 51.37 | 8.60 |
| TOT | 59816 | .0311 | 1860 | 951 | 8217 | 333 | 11361 | | | |
| 1Q36 | 63300 | .0321 | 2032 | 1168 | 8264 | 428 | 11892 | 42.72 | 56.53 | 13.81 |
| 2Q36 | 68632 | .0325 | 2230 | 1324 | 8404 | 532 | 12490 | 45.14 | 58.14 | 13.00 |
| 3Q36 | 70768 | .0329 | 2328 | 1480 | 9032 | 724 | 13564 | 48.29 | 58.69 | 10.40 |
| 4Q36 | 71100 | .0333 | 2368 | 1676 | 8868 | 1024 | 13936 | 47.17 | 58.39 | 11.22 |
| TOT | 68300 | .0327 | 2233 | 1409 | 8690 | 598 | 12930 | | | |
| 1Q37 | 73100 | .0382 | 2792 | 1716 | 8920 | 1396 | 14824 | 50.82 | 55.55 | 4.73 |
| 2Q37 | 75900 | .0388 | 2945 | 1676 | 9084 | 1688 | 15393 | 52.29 | 55.22 | 2.93 |
| 2Q37 | 75632 | .0394 | 2980 | 1584 | 9448 | 1932 | 15944 | 54.00 | 55.61 | 1.61 |
| 4Q37 | 71532 | .0400 | 2961 | 1072 | 9100 | 1944 | 14977 | 51.70 | 56.60 | 4.90 |
| TOT | 74041 | .0391 | 2895 | 1502 | 9183 | 1800 | 15380 | | | |
| 1Q38 | 68368 | .0406 | 2776 | 888 | 8824 | 1908 | 14396 | 50.07 | 59.40 | 9.33 |
| 2Q38 | 67168 | .0412 | 2767 | 688 | 8920 | 1916 | 14291 | 49.95 | 60.44 | 10.49 |
| 3Q38 | 68232 | .0418 | 2852 | 1060 | 9372 | 1980 | 15264 | 53.18 | 61.05 | 7.87 |
| 4Q38 | 69400 | .0424 | 2942 | 1524 | 9156 | 2048 | 15670 | 54.83 | 61.63 | 6.80 |
| TOT | 68292 | .0415 | 2834 | 1028 | 9182 | 1977 | 15022 | | | |

At the same time money growth was slowing due to gold sterilization and reserve requirement increases the Federal and State and Local budget went from a deficit of \$11.22 billion (1972 dollars) in 4Q36 to a near balance of \$1.61 billion in 3Q37, a decline of \$9.61 billion. Keynesians would conclude that the slowdown of the first 3 quarters of 1937 was due to this fiscal restraint. Monetarists would say it was due to the slowing of money growth. We believe that the Andersen-Jordan (1968) studies at the St. Louis Fed and others showed that money has a stronger effect but that is an issue for another time. A similar analysis of the federal budget alone shows a decline of \$9.14 billion (3% of GNP) for 4Q36 to 3Q37 almost identical to the comprehensive government budget. See the 1940 Biennial Supplement to the SCB on FRASER.

Irwin cites Brown estimating the fiscal decline at 2.5% of GNP as does Romer (The Lessons of 1937). Velde's Table 8 estimates 8.3%. We stay with the 3% Federal effect.

THE 1936-7 INFLATION

In 1934 and 1935 commercial banks began to accumulate extraordinarily high holdings of excess reserves (See Exhibit 1). There was a fear that if these reserves were lent out they could start an inflationary boom. Required reserves had been fixed in the 1913 Federal Reserve Act and the 1917 Amendment. To stop a potential inflation the Fed wanted the ability to raise reserve requirements to freeze the excess reserves if the need arose. Accordingly, the Banking Act of 1935 (August 23) included a section giving the Fed the ability to double reserve requirements from the then fixed level. No action was taken immediately but the new tool would be used and cause an argument that exists even now.

Meltzer Vol. 1 p. 495-6 notes that the Fed made little effort to understand why banks were building their excess reserves and that their estimates of potential credit expansion were exaggerated. One reason for high holdings of cash was the near zero interest rate on safe short term securities such as Treasury Bills. At annual rates of say .10% the interest might not even cover administrative costs. And if interest rates did rise there could be the possibility of capital loss. Also, banks had been through a horrible experience 1930-33 when the Fed, created as the lender of last resort, failed utterly during the waves of bank runs from 4Q30 through 1Q33 when the banking system collapsed. A bank solution was to hold large precautionary balances of cash as self-insurance against potential future crises.

At this point quarterly observations are needed to track the inflation problem. Table 7 shows the quarterly behavior of the COL, WPI, and FHWI indexes that were available to the Fed at the time (quarterly inflation measures of NIPA data would not be available until December 1958 in the Survey of Current Business, and then only back to 1950). The table is in 3 sections. The top part is pre inflation. The middle shows the inflation problem of 3Q36 through 3Q37. The bottom shows how the recession of 1937-8 killed inflation along with a lot of jobs. The inflation begins an irregular increase in mid-1936. In the first quarter of 1937 inflation is significant with the COL up at an annual rate of 7.01%, the WPI up 20.61%, and the FHWI up 13.16 on its way to 34.98% in the second quarter (probably due to the success of the "Sitdown Strike" (which organized GM after some bloody events and labor wins at other companies).

Table 7: iInflation Measures and Real GNP

| Time . | COL | Yoy . | Qtr .. | WPI . | Yoy . | Qtr .. | FHWI . | Yoy . | Qtr .. | GNPbg . | gGNPbg | Comment |
|--------|------|-------|--------|-------|-------|--------|--------|-------|--------|---------|--------|-------------------|
| 1Q35 | 2452 | 4.34 | 6.80 | 2377 | 8.29 | 14.28 | 1786 | 6.75 | 1.13 | 252.31 | 28.11 | |
| 2Q35 | 2480 | 4.69 | 4.65 | 2401 | 8.35 | 4.10 | 1796 | 2.45 | 2.26 | 253.14 | 1.32 | |
| 3Q35 | 2475 | 3.21 | -.80 | 2406 | 5.16 | 0.84 | 1804 | 2.09 | 1.79 | 260.14 | 11.53 | Wagner Act |
| 4Q35 | 2503 | 3.77 | 4.60 | 2420 | 5.26 | 2.35 | 1811 | 1.68 | 1.56 | 274.58 | 24.12 | |
| 1Q36 | 2506 | 2.20 | 0.48 | 2408 | 1.30 | -1.97 | 1827 | 2.30 | 3.58 | 275.90 | 1.94 | |
| 2Q36 | 2523 | 1.73 | 2.74 | 2375 | -1.08 | -5.87 | 1846 | 2.78 | 4.23 | 293.20 | 27.54 | Remington Strike |
| 3Q36 | 2567 | 3.72 | 7.16 | 2437 | 1.29 | 10.86 | 1853 | 2.72 | 1.53 | 301.59 | 11.95 | |
| 4Q36 | 2576 | 2.92 | 1.41 | 2481 | 2.52 | 7.42 | 1880 | 3.81 | 5.96 | 311.58 | 13.92 | |
| 1Q37 | 2620 | 4.55 | 7.01 | 2600 | 7.97 | 20.61 | 1939 | 6.13 | 13.16 | 310.53 | -1.34 | GM Sitdown Strike |
| 2Q37 | 2660 | 5.43 | 6.75 | 2626 | 10.57 | 4.06 | 2090 | 13.22 | 34.98 | 318.41 | 10.54 | |
| 3Q37 | 2673 | 4.13 | 1.97 | 2628 | 7.84 | 0.30 | 2140 | 15.49 | 9.92 | 317.21 | -1.50 | |
| 4Q37 | 2671 | 3.69 | -.30 | 2504 | 0.93 | -17.6 | 2148 | 14.26 | 1.50 | 294.46 | -25.75 | |
| 1Q38 | 2609 | -.42 | -8.97 | 2404 | -7.54 | -15.0 | 2134 | 10.06 | -2.58 | 282.02 | -15.86 | |
| 2Q38 | 2600 | -2.26 | -1.37 | 2351 | -10.5 | -8.55 | 2154 | 3.06 | 3.80 | 286.48 | 6.48 | |
| 3Q38 | 2583 | -3.37 | -2.59 | 2352 | -10.5 | 0.17 | 2138 | -.09 | -2.94 | 303.22 | 25.50 | |
| 4Q38 | 2572 | -3.71 | -1.69 | 2321 | -7.3 | -5.17 | 2141 | -.33 | 0.56 | 315.55 | 16.99 | |

Notes: Yoy = year over year growth rate %, Qtr = quarterly growth rate, GNPbg is real GNP 1972 prices from Balke-Gordon, gGNPbg = quarterly growth rate of Balke-Gordon real GNP.

INFLATION IN 1935-7

The right hand column in Table 7 shows very strong economic growth in the first recovery from the depression bottom (the second recovery follows the 1937-38 recession). In "normal" times such strong growth would be expected to cause inflation. As it turns out, perhaps counter to the Phillips Curve Theory (high unemployment implies low inflation) the table shows that there was a mild inflation despite the high unemployment. See Exhibit 8 below for notable observations off the Phillips Curve. For the six quarters of 1935 and the first half of 1936 the Cost of Living inflation averaged 3.08%. Factory wages did not keep pace, averaging 2.43%, perhaps due to the labor surplus. Wholesale price inflation was volatile averaging 2.29%.

The fear of inflation and the growing level of excess reserves led to discussions of raising reserve requirements in the fall of 1935 and spring of 1936 even though inflation was mild up to that time. Bothered by the excess reserves on July 14 the Fed decided to raise reserve requirements by 50% effective August 16 (Meltzer p. 502) even though there was no apparent inflation (due to data gathering and reporting delays). But in fact inflation was starting. With some

volatility, COL inflation rose to 4.28% in the last half of 1936, WPI inflation went to 9.14%, and wage inflation to 3.75%.

Note: From 4Q34 to 2Q36 Balke-Gordon's GNP deflator went from 27.61 to 27.67, an annual rate of only .145%. The rate for the second half of 1936 was 5.35% and would be 11.29% in the first quarter of 1937.

Given the inflation of the last half of 1936 and the first half of 1937 the increase of reserve requirements in August (with a month's warning to avoid catching some banks in an awkward position) was lucky. Now multiple events unfold along with a controversy. The controversy is an argument over whether the doubling of reserve requirements by the Fed which lowered the growth rate of the money stock caused the great recession of 1937-8. There are a number of candidates for blame for the recession. We have already found the inventory and capital spending bubble. Fiscal tightening occurred as the social security tax was slated to begin in 1937 along with the undistributed profits tax and reduced government spending (see Table 1 and also Velde's Figures 4-5. Growth of the M1 money stock (Robert Rasche version from the St. Louis Fed) dropped from a rate of 13.86% in 1936 to -5.58% in 1937, due to the sequestration of gold and additional reserve requirement increases. The combination of bloated inventories (47%), fiscal restraint (3%), and monetary restraint put the economy into recession. We estimate that the gold sequestration program of the Treasury accounted for 25%, the Fed 15%, and other factors 10% as found in the next section.

The one good thing about the recession of 1937-8 was that it showed that a recession could get rid of inflation, although at the cost of increased unemployment. Measures of inflation (see the bottom section of Table 7) turn negative in 4Q37-1Q38 although labor costs became sticky on the downside due to the new power of organized labor. 43 years later Paul Volcker would need the two back to back recessions of 1980 and 1981-2 to get rid of the inflation of 1970s. Apparently we have not yet learned of another way to get rid of inflation.

THE 1937 DECLINE OF THE MONEY STOCK

Most recessions are preceded and/or accompanied by declines in the money stock. There were large declines in the money stock in front of the Great Depression, and the recession of 1937-8. The mini-depression of 1920-1 was complicated by the end of WWI and the 1918-19 recession (analogous to 1945 after WWII). There were declines in money growth rates in front of the recessions of 1923-4, 27, 48-9, 53-4, 57-8, 60, the slowdown of 1Q67, 69-70, 74-5, 80, 81-2, and 90-1. 2001 is a strange recession with virtually no GNP drop and 2008-9 is a special case of derivatives fraud (as evidenced by the huge fines paid by the big banks). A detailed view of money declines and recessions is in Appendix B.

To find out how the money stock changes we need some basic definitions and data. Money M equals currency held by the public Cp plus bank deposits held by the public Dp ($M = C_p + D_p$). The monetary base Ba is currency held by the public and currency (in cash or on deposit with the Fed) held by banks. Currency held by banks plus deposits at the Fed are bank reserves R ($Ba = C_p + R$). Reserves are divided into two categories: required reserves Rr and excess reserves Re ($R = R_r + R_e$). Required reserves are cash balances (or deposits at the Fed) that banks must keep according to Regulation D of the Fed.. Excess reserves are cash balances held by banks that are used to meet depositor withdrawals or to make new loans or increase old loans. Because until 2008 there was no interest paid on excess reserves the banks in normal times tried to keep excess reserves as low as possible. But the 1930s were not normal as we shall see. Here is a list of monetary variables and their values.

Bottom section: The Federal Reserve gathered Rr and Re data for member banks but not state banks. Accordingly, there are three categories of reserves: required reserves of member banks (Rrmem), excess reserves of member banks (Remem), and total reserves of state banks (Rstate). The required reserve index went up 50% in 1936 and doubled its 1935 value in May37. Roosevelt got the Fed to lower it a bit in April 1938. See BMS p. 400. NDpmem is net demand deposits for required reserve calculations BMS p. 65, 75. An estimate of Dpstate is Dp -NDpmem.

Table 8A: Basic Monetary Data

| Date | M | Cp | Dp* | CIC | Rmem | Ba | Cp | R | Rstate | . |
|------|--------|-------|--------|-------|-------|--------|-------|-------|--------|---|
| D/35 | 26.751 | 4.964 | 21.787 | 5.695 | 5.716 | 11.411 | 4.964 | 6.447 | .731 | . |
| D/36 | 30.459 | 5.558 | 24.901 | 6.365 | 6.665 | 13.030 | 5.558 | 7.472 | .807 | . |
| D/37 | 28.760 | 5.619 | 23.141 | 6.420 | 6.879 | 13.299 | 5.619 | 7.680 | .801 | . |

D/38 31.410 5.699 25.711 6.690 8.745 15.435 5.699 9.736 .991 .

| Date | Rrmem | Remem | Rstate | R | Rrindex | NDpmmem | Dpstate |
|------|-------|-------|--------|-------|---------|---------|---------|
| D/35 | 2.733 | 2.983 | .731 | 6.447 | 1.00 | 18.801 | 2.986 |
| D/36 | 4.619 | 2.046 | .807 | 7.472 | 1.50 | 21.647 | 3.254 |
| D/37 | 5.808 | 1.071 | .801 | 7.680 | 2.00 | 20.387 | 2.754 |
| D/38 | 5.520 | 3.225 | .991 | 9.736 | 1.77 | 22.293 | 3.418 |

*Dp=M-Cp, M and Cp from Rasche. CIC BMS p. 414, Rmem, Rrmem, Remem BMS p. 396.

NDpmmem BMS p. 75

There are two problems indicated in the table and we have a choice of data sources. Banking and Monetary Statistics 1914-41 does not give the monetary base directly nor total bank reserves. A problem is that there are two categories of banks, national banks that are members of the Federal Reserve System (Rmem) and state chartered banks (Rstate). The Fed gathered data on the member banks but not the state banks. It turns out that currency in circulation (CIC) is currency held by the public plus reserves held by the state banks. So, we can calculate the monetary base $Ba = CIC + Rmem$. Then we can subtract Cp from Ba to find total reserves of both member and state banks (R). Note: we could have used the St. Louis Source Base on FRED but when we subtract Cp from it we get weird numbers for state bank reserves. Accordingly, we use Gavin's CIC approach (Understanding Recent Changes in the Monetary Base) method to calculate the base.

The next step is integrating these variables into a money stock equation. Friedman has a formula on p. 788 of "A Monetary History of the U.S." but Brunner and Meltzer have the same formula in simpler format. The Brunner-Meltzer formula is $M = (1+k/k+r)Ba$ where $(1+k/k+r)$ is the money multiplier (m). See Appendix C for a derivation.

Ba is the monetary base, k is the currency/deposit ratio (Cp/Dp) basically determined by the payment habits of the public. k is generally stable after seasonal adjustment, it is destabilized by panics when people try to cash their deposits. r is the reserve ratio R/Dp. r can be split into rr, the required reserve ratio (Rr/Dp) and re, the excess reserve ratio (Re/Dp). rr is controlled by the Fed and re by the banks. Rstate is reserve ratio of state banks, which had about 1/7 of deposits and were a minor factor. The following table has the basic elements of the Brunner-Meltzer function:

Table 8B: Monetary Data for Brunner-Meltzer

| Date | M | Ba | $m = 1+k/k+r$ | k | r | k+r |
|------|--------|--------|---------------|--------|--------|--------|
| D/35 | 26.751 | 11.411 | 2.3443 | .22784 | .29591 | .52375 |
| D/36 | 30.459 | 13.030 | 2.3376 | .22320 | .30007 | .52327 |
| D/37 | 28.760 | 13.299 | 2.1626 | .24282 | .33188 | .57470 |
| D/38 | 31.410 | 15.435 | 2.0350 | .22166 | .37867 | .60033 |

| Date | rrmem | remem | rstate | r | .1254Rrindex |
|------|--------|--------|--------|--------|--------------|
| D/35 | .12544 | .13692 | .03355 | .29591 | .1254 |
| D/36 | .18549 | .08217 | .03241 | .30007 | .1881 |
| D/37 | .25098 | .04628 | .03461 | .33187 | .2508 |
| D/38 | .21469 | .12543 | .03854 | .37866 | .2195 |

Analyzing the money stock decline is a multi-stage operation. The first task is to find out what happened to the monetary base Ba which was affected by the Treasury's sterilization of gold and is the main topic of Irwin's paper (Gold Sterilization and the Recession of 1937-8). A second is to find out why the multiplier fell. The multiplier is a function of the currency/deposit ratio k and the reserve ratio r. Task 3 is to find out how changes in k affected the multiplier and then the influence of r. Finally r is the sum of the excess reserve ratio re and the required reserve ratio rr. The last step is finding out what happened to re as the result of the increases in rr. The Fed thought the banks would do nothing as their excess reserves were forcibly transferred to required reserves. The banks had another idea.

BACKGROUND: ORIGINS OF FISCAL AND MONETARY RESTRAINT

Why did Roosevelt, the Fed, and the Treasury do what they did in 1936-7? As noted the Fed had been concerned about the buildup of excess reserves in the banking system as early as 1934, fearing that it had lost control of bank credit. So, they successfully lobbied for the power to increase reserve requirements. In 1936 the economy was booming and

in August the Fed raised the reserve requirement 50%. It was a fortunate move because inflation appeared in the last half of 1936. In a sense the Fed raised the requirements for the wrong reason. The fear was that the banks would use their excess reserves to go on a lending spree and unleash an inflationary boom. That did not happen. Loans of all banks 1933-6 were 22.054, 20.439, 20.302, and 21.359 billion, The ratio of loans to GNP was .395, .313, .280, and .258 indicating that loans were dropping relative to GNP, THE OPPOSITE OF THE FED FEAR. It turns out that business was able to finance itself during the 1930's. See the Sources and Uses analysis of Appendix D. The boom of 1936-7 had other roots: the inventory boom and money growth averaging 15.76% from Dec. 1933 to Dec. 1936, fiscal stimulus, and wage pressures from the Wagner Act. Note: Inflation of about 4% was enough to provoke President Nixon to impose wage and price controls in August 1971. Inflation in the last half of 1936 and the first quarter of 1937 was worse. Also as noted, Roosevelt at the time believed in a balanced budget and in 1936 thought the economy was strong enough for balance. Government spending was slated to be cut in 1937 along with tax increases and the new social security tax.

In late December 1936 the Treasury began its effort against inflation by sterilizing gold inflows as explained below. Then on March 1 and May 1, 1937 the Fed completed the doubling of reserve requirements. These actions along with the inventory bubble were enough to cause a giant recession.

THE GOLD STERILIZATION PROJECT HISTORY

In April 1933 President Roosevelt by executive order made the holding of gold and gold contracts illegal. Except for jewelry and collectibles gold was to be sold to the U.S Treasury at \$20.67/oz. On January 30, 1934 gold was revalued to \$35/oz from \$20.67. At the time there was a requirement that U.S currency be backed 40% by gold. The \$35 price attracted gold from abroad and increased production which was bought by the Treasury for cash. This increased the monetary base and the gold ratio backing the base. *Chart 4 from Figure 3 in Irwin "Gold Sterilization and the Recession of 1937-8" shows the monthly gold stock 1935-9 (tinted yellow) along with the monetary base in red.*

Sterilization.

Page 537 of Banking and Monetary Statistics has the monthly gold inflow figures generating the gold stock line in Chart 4. Page 515 has the sterilized balances marked as inactive gold. The inflow was \$74 million in December. Normally the Treasury would pay \$74 million in cash for that gold, increasing the monetary base by \$74 million. But in December the Treasury sold \$26 million of bonds to the public taking cash back from the public and banks so that the net increase of cash to the monetary base was only \$48 million. Essentially the Treasury deactivated or froze or sequestered \$26 million of the gold stock (see the column called "inactive gold" on p. 515 of BMS). In other words deactivation or freezing is sterilization. In January the gross gold stock went up \$100 million but by selling \$100 million of bonds the active or non-sterilized gold stock did not go up. So, in January 1937 the active gold stock was \$126 million below the gross gold stock. The sterilization continued through October, flattened to April 1938, and then reversed. See Figure 2 in Irwin. *The green line of Chart 4 traces the active gold stock which is the gold component of the monetary base.* Sterilization caused the growth of the base in 1937 to be slower than it would have been otherwise. This contributed to slower growth of the money stock. See Table 9 which connects gold to the base and money stock quarterly 1936-9.

Chart 5 is a duplication of Chart 4 with two modifications. The first modification is the *blue line which tracks increases in the monetary base that would have occurred if sterilization had not happened.* Graphically the bottom cross hatched area measuring the sterilization gap was added to the red line giving an estimate of what the base would have been if the Treasury had not conducted the sterilization operation.

The second modification is the plot of the required reserve ratio index at the bottom of the main graph. The index starts at a starting index value of 12. On August 15, 1936 the index went to 18 reflecting the 50% increase in reserve requirements. A second increase effective March 1, 1937 raised the index to 21 (75% above the original level) and the doubling to an index level of 24 was done on May 1, 1937. Under political pressure of the 4Q37-1Q38 nosedive of the economy which some called "the Roosevelt Recession" Roosevelt pressured the Fed to rescind the May 1, 1937 reserve requirement increase in April 1938. So much for "Fed independence".

GOLD AND SOURCES AND USES OF THE MONETARY BASE

Gold sterilization began in December 1936 and the money stock bottomed in December 1937. In 1936 the money stock grew 12.98% As measured by the change in natural logarithms (more about that later). In 1937 the money stock dropped from \$30459m to \$28760m, -5.57% or -5.74% using the change in natural logarithms. The 1936-7 growth rate drop was -18.72% (12.98% to -5.74%), far greater than anything before or since except 1920-1 and 1929-33. The question is: who or what caused the decline? Gold sterilization is at the heart of the decline.

Table 9 contains the data for Chart 5 and shows the sources of the monetary base. GG from BMS p. 537 is the gross gold stock, the **yellow line of Chart 5**. STRL is the amount of gold sterilized from p. 515 of BMS. STRL is subtracted from GG to get AuBa, the amount of **gold in the monetary base, the green line in Chart 5**. MISC is other items in the base found by the next item (including open market sales of securities), Ba minus AuBa.

Ba is found directly from its uses (see W. T. Gavin St. Louis Fed Review 03/09 "Understanding recent Changes in the Monetary Base"); the sum of currency in circulation (CIC from p. 414 in MBS) and member bank reserves at the Fed (Rmem from p. 396 MBS). Total reserves (Rtot) of both member banks and nonmember banks equal the base minus currency held by the public (Cp from Rasche). Deposits (Dp) and the money stock (M) also are from Rasche. The blue line of Chart 5 is hypothetical. It measures what the base would have been if the Treasury had not conducted the sterilization operation. It is found by adding the strl column to the ba column.

Table 9: STERILIZATION DATA: Sources and Uses of the Base

| Date . | GG - | STRL = | AuBa + MISC = | Ba = | CIC + Rmem | Cp = | Rtot | m | M |
|--------|-------|--------|---------------|-------|------------|------|------|--------|---------|
| 1Q35 | 8567 | 0 | 8567 1380 | 9977 | 5525 4452 | 4793 | 5184 | 2.4098 | 24043 . |
| 2Q35 | 9116 | 0 | 9116 1449 | 10559 | 5580 4979 | 4793 | 5766 | 2.3643 | 24965 . |
| 3Q35 | 9368 | 0 | 9368 1500 | 10868 | 5625 5243 | 4884 | 5984 | 2.4033 | 26120 . |
| 4Q35 | 10125 | 0 | 10125 1286 | 11411 | 5695 5716 | 4964 | 6447 | 2.3443 | 26751 . |
| 1Q36 | 10184 | 0 | 10184 1141 | 11325 | 5905 5420 | 5105 | 6220 | 2.4093 | 27285 . |
| 2Q36 | 10608 | 0 | 10608 996 | 11604 | 6120 5484 | 5347 | 6257 | 2.5245 | 29294 . |
| 3Q36 | 10845 | 0 | 10845 1735 | 12580 | 6235 6345 | 5367 | 7213 | 2.3711 | 29828 . |
| 4Q36 | 11258 | nil | 11258 1772 | 13030 | 6365 6665 | 5558 | 7472 | 2.3376 | 30459 . |
| 1Q37 | 11574 | 343 | 11231 1903 | 13134 | 6430 6704 | 5569 | 7565 | 2.3353 | 30672 . |
| 2Q37 | 12318 | 1087 | 11231 2142 | 13373 | 6495 6878 | 5599 | 7774 | 2.2581 | 30197 . |
| 3Q37 | 12741 | 1209 | 11532 1857 | 13309 | 6535 6854 | 5699 | 7610 | 2.2375 | 29779 . |
| 4Q37 | 12760 | 1228 | 11532 1767 | 13299 | 6420 6879 | 5619 | 7680 | 2.1626 | 28760 . |
| 1Q38 | 12795 | 1183 | 11612 2104 | 13716 | 6390 7326 | 5558 | 8158 | 2.1343 | 29274 . |
| 2Q38 | 12963 | 510 | 12453 1920 | 14373 | 6495 7878 | 5518 | 8855 | 2.0077 | 28857 . |
| 3Q38 | 13760 | 354 | 13406 1335 | 14741 | 6545 8196 | 5629 | 9122 | 2.0524 | 30255 . |
| 4Q38 | 14512 | 0 | 14512 923 | 15435 | 6690 8745 | 5699 | 9736 | 2.0350 | 31410 . |

Declines in Money, the Base, and the Multiplier

The following lines calculate the growth rates of Ba, m, and M using the natural log method (the change in natural logs approximates % changes). gBa is the growth rate of the base, etc. The growth rate of M dropped from 12.98% in 1936 to -5.74% in 1937, a total drop of -18.72%. 11.23% of that drop came from a drop in the growth rate of the base and 7.49% from the drop in m. Or, on a percentage basis 60% of the drop in M came from the drop in the growth rate of the base and 40% from the drop in m:

| Date . | Ba x m = | M | lnBa + ln m = | lnM | gBa + | gm = | gM . |
|--------|--------------|-------|---------------|--------|---------|--------|----------|
| 4Q35 | 11411 2.3443 | 26751 | 2.4346 .8520 | 3.2866 | | | |
| 4Q36 | 13030 2.3376 | 30459 | 2.5673 .8491 | 3.4164 | 13.27% | -.29% | 12.98% . |
| 4Q37 | 13299 2.1626 | 28760 | 2.5877 .7713 | 3.3590 | 2.04% | -7.78% | -5.74% . |
| Change | | | | | -11.23% | -7.49% | -18.72% |

Now there are two more tasks. There are two factors that caused the growth of the base to decline; the sterilization, and other factors lumped into a miscellaneous category. Finding how much of the decline in M was due to the

sterilization and how much to miscellaneous is Task 1. The second task is finding out how k and r made the multiplier drop.

Task 1. What would the growth rate of M have been if there had been no sterilization and no drop in the multiplier. The answer will find the influence of miscellaneous factors. Two changes are needed in the 4Q37 line to answer this question. Add back the 1228 sterilized in 4Q37 to the base of 13299 to get an adjusted base of 14527, and keep m at 2.3376 which would have made M 33958 in 4Q37. Now we have a new mini-table (the 4Q35 line is omitted because it does not change and is no longer needed). Under these assumptions the growth of the money stock would have dropped only 2.11% instead of 18.72%. At this point the growth decline of 18.72% breaks down as follows: 2.11% due to miscellaneous, 7.49% due to the decline in m, and 9.12% due to the sterilization (miscellaneous and sterilization add to 11.23%).

| Date | Ba | x | m | = | M | lnBa | + | ln m | = | lnM | gBa | + | gm | = | gM |
|--------|-------|---|--------|---|-------|--------|-------|--------|---|--------|--------|---|--------|---|--------|
| 4Q36 | 13030 | | 2.3376 | | 30459 | 2.5673 | .8491 | 3.4164 | | 13.27% | -.29% | | 12.98% | | |
| 4Q37 | 14527 | | 2.3376 | | 33958 | 2.6760 | .8491 | 3.5251 | | 10.87% | .00% | | 10.87% | | |
| Change | | | | | | | | | | | -2.40% | | .29% | | -2.11% |

Task 2: Why did m drop from 2.3376 to 2.1626? The simple Brunner-Meltzer multiplier m is $1+k/k+r$ where k is the currency/deposit ratio C_p/D_p , and r is the reserve ratio R/D_p . Table 8 contains the data for calculating k and r. The multiplier $(1+k/k+r)$ is inversely related to both k and r and both rose from 1936 to 1937. The question is how much of the decrease in m was due to k and how much to r.

Table 10: Calculating k and r

| Date | Cp | Dp | R | k | r | $1+k/k+r$ | = | m |
|-----------|-------|-------|------|--------|--------|----------------|---|--------|
| 4Q36 | 5558 | 24901 | 7472 | .22320 | .30007 | 1.22320/.52327 | = | 2.3376 |
| 4Q37 | 5619 | 23141 | 7680 | .24282 | .33188 | 1.24282/.57470 | = | 2.1626 |
| Increase: | ----- | | | .01962 | .03181 | | | -.1750 |

Because $1+k/k+r$ is a complex term we use the differential equation $\Delta m = \frac{dm}{dr} \Delta r + \frac{dm}{dk} \Delta k$ to find the relative influences of k and r. Δ is supposed to be a delta. To solve this we need the derivatives dm/dr and dm/dk . $dm/dr = 1+k/(k+r)^2$ and $dm/dk = 1-r/(k+r)^2$ where Δ is now an exponent indicator. Using average values for k and r, $dm/dr = 4.058$ and $dm/dk = 2.270$. The differential equation is now $\Delta m = 4.058 \times .03181 + 2.270 \times .01962 = .12908 + .04540 = .17448$. $.12908/.17448 = 73.98\%$ of the change in m due to the increase in r, and 26.02% due to k which is controlled by the public, 26.02% of the m change of 7.49% is 1.95% due to k and the public. The remaining 5.54% is due to the rise in r.

The Stage 2 breakdown of what caused the decline in M growth is as follows:

| | | | | |
|-------|----|---------|----------------------------------------------|---|
| 2.11 | or | 11.27% | due to gold and miscellaneous | . |
| 9.12 | or | 48.72% | due to sterilization by the Treasury | . |
| 1.95 | or | 10.42% | due to k controlled by the public | . |
| 5.54 | or | 29.59% | due to r controlled by the Fed and the banks | . |
| 18.72 | or | 100.00% | | |

Why did r Rise in 1937?

Table 11 is an expanded monthly version of Table 8B. We need monthly data in 1935-7 to try to understand the behavior of the excess reserve ratio and the bank reaction to the Fed's attempts to reduce the excess reserves of its member banks. State nonmember banks are a separate category outside the Fed system. The member excess reserve ratio $remem = Remem/D_p$, the member required ratio $rmem = Rmem/D_p$, the member total reserve ratio $rmem = remem + rmem$. The state bank reserve ratio $rstate = Rstate/D_p$. The reserve ratio for all banks $r = rmem + rstate$. There are two required reserve indexes. The base rate to Aug 1936 is 1.00 when it was raised by 50% to 1.50 (since it happened in mid-month the Aug. index is 1.25). The second version is scaled to the required reserve ratio of member banks allowing an estimate of the size of measurement error and other factors such as shifts from one category to another. The last two columns adjust contain series of excess reserves adjusted for changes in the reserve requirements and show bank reactions to those increases. Timing is important which is why 1935-8 is done monthly.

Adjustments. The simple thought is that if rr goes up say .03 re will go down .03. As an example of what else happens let us look at the May 1, 1937 increase in reserve requirements. The mini table shows April and May figures with an adjustment line. Required reserves went up .0329 but re went down only .0244. Something else happened. To find out let us assume the rr increase came in April rather than May. Total reserves r would still be .2732 but rr would increase by the ratio 2.00/1.75 to .2411. Note: the three rr ratio increases were 1.50/1.00 1.75/1.50 2.00/1.75 which when multiplied out double the rr. Subtracting rr from r (.2411 from .2732) gives an re value of .0321. From April to May the banks did not let their excess reserve ratio drop by the full amount of the rr increase but partially replenished the reserves taken away by .0377-.0321 or .0056.

| Date | re | rr | r |
|-----------|-------|-------|-----------------------------------------------|
| April | .0621 | .2110 | .2732 (doesn't add because of rounding error) |
| April adj | .0321 | .2411 | .2732 |
| May | .0377 | .2439 | .2816 |

Table 11: Reserve Ratio Data

| Date | remem | rr11 | rr12 | rrmem | rmem | rstate | r | ^remem | Cumulative |
|-------|--------|-------|--------|--------|--------|--------|-------|--------|-------------|
| 1Q34 | .0861 | 1.00 | .1230 | .1233 | .2094 | .0481 | .2575 | | For Chart 6 |
| 2Q34 | .1035 | 1.00 | .1230 | .1293 | .2329 | .0447 | .2776 | | |
| 3Q34 | .1022 | 1.00 | .1230 | .1277 | .2299 | .0400 | .2700 | | |
| 4Q34 | .0974 | 1.00 | .1230 | .1275 | .2249 | .0408 | .2657 | | |
| Ja35 | .1085 | 1.00 | .1230 | .1237 | .2322 | .0385 | .2707 | | |
| Fb35 | .1156 | 1.00 | .1230 | .1222 | .2377 | .0370 | .2747 | .0071 | .0071 |
| Mr35 | .1073 | 1.00 | .1230 | .1241 | .2313 | .0380 | .2693 | -.0083 | -.0012 |
| Ap35 | .1035 | 1.00 | .1230 | .1231 | .2266 | .0384 | .2650 | -.0038 | -.0050 |
| My35 | .1169 | 1.00 | .1230 | .1256 | .2419 | .0398 | .2817 | .0134 | .0084 |
| Jn35 | .1209 | 1.00 | .1230 | .1260 | .2468 | .0390 | .2858 | .0040 | .0124 |
| Jl35 | .1168 | 1.00 | .1230 | .1266 | .2433 | .0402 | .2836 | -.0041 | .0083 |
| Au35 | .1268 | 1.00 | .1230 | .1248 | .2516 | .0378 | .2894 | .0100 | .0183 |
| Sp35 | .1238 | 1.00 | .1230 | .1231 | .2469 | .0349 | .2818 | -.0030 | .0153 |
| Date | remem | rr11 | rr12 | rrmem | rmem | rstate | r | ^remem | Cumulative |
| Oc35 | .1310 | 1.00 | .1230 | .1231 | .2541 | .0335 | .2876 | .0072 | .0225 |
| Nv35 | .1390 | 1.00 | .1230 | .1224 | .2614 | .0325 | .2939 | .0080 | .0305 |
| Dc35 | .1369 | 1.00 | .1230 | .1254 | .2624 | .0336 | .2959 | -.0021 | .0284 |
| Ja36 | .1394 | 1.00 | .1230 | .1262 | .2656 | .0347 | .3003 | .0025 | .0309 |
| Fb36 | .1370 | 1.00 | .1230 | .1249 | .2619 | .0345 | .2964 | -.0024 | .0285 |
| Mr36 | .1196 | 1.00 | .1230 | .1248 | .2444 | .0361 | .2805 | -.0174 | .0111 |
| Ap36 | .1104 | 1.00 | .1230 | .1227 | .2330 | .0369 | .2700 | -.0092 | .0019 |
| My36 | .1191 | 1.00 | .1230 | .1207 | .2398 | .0362 | .2760 | .0087 | .0106 |
| Jn36 | .1083 | 1.00 | .1230 | .1207 | .2290 | .0323 | .2613 | -.0108 | -.0002 |
| Jl36 | .1205 | 1.00 | .1230 | .1224 | .2429 | .0378 | .2807 | .0122 | .0120 |
| Au36a | .1333a | 1.00a | .1230a | .1239a | .2572a | | | .0128 | .0248 |
| Au36 | .1023 | 1.25 | .1538 | .1549 | .2572 | .0382 | .2954 | ----- | |
| Au36a | .0713a | 1.50a | .1845a | .1859a | .2572a | | | | |
| Sp36 | .0757 | 1.50 | .1845 | .1837 | .2594 | .0355 | .2949 | .0044 | .0044 |
| Oc36 | .0838 | 1.50 | .1845 | .1866 | .2704 | .0350 | .3054 | .0081 | .0125 |
| Nv36 | .0903 | 1.50 | .1845 | .1858 | .2761 | .0339 | .3100 | .0065 | .0190 |
| Dc36 | .0822 | 1.50 | .1845 | .1853 | .2677 | .0324 | .3001 | -.0081 | .0109 |
| Ja37 | .0849 | 1.50 | .1845 | .1874 | .2724 | .0348 | .3071 | .0027 | .0136 |
| Fb37 | .0864 | 1.50 | .1845 | .1845 | .2709 | .0344 | .3052 | .0015 | .0151 |
| Fb37a | .0556a | 1.75a | .2153a | .2153a | .2709a | | | ----- | |
| Mr37 | .0546 | 1.75 | .2153 | .2124 | .2671 | .0343 | .3014 | -.0010 | -.0010 |
| Ap37 | .0621 | 1.75 | .2153 | .2110 | .2732 | .0337 | .3069 | .0075 | .0065 |
| Ap37a | .0321a | 2.00a | .2460a | .2411a | .2732a | | | ----- | |
| My37 | .0377 | 2.00 | .2460 | .2439 | .2816 | .0362 | .3178 | .0056 | .0056 |
| Jn37 | .0356 | 2.00 | .2460 | .2440 | .2796 | .0364 | .3160 | -.0021 | .0035 |
| Jl37 | .0358 | 2.00 | .2460 | .2436 | .2794 | .0360 | .3154 | .0002 | .0037 |
| Au37 | .0309 | 2.00 | .2460 | .2456 | .2765 | .0346 | .3110 | -.0049 | -.0012 |

| Date | remem | rr11 | rr12 | rrmem | rmem | rstate | r | ^remem | Cumulative |
|-------|--------|-------|--------|--------|--------|--------|-------|--------|------------|
| Sp37 | .0374 | 2.00 | .2460 | .2473 | .2846 | .0347 | .3193 | .0065 | .0053 |
| Oc37 | .0443 | 2.00 | .2460 | .2511 | .2954 | .0351 | .3305 | .0069 | .0122 |
| Nv37 | .0473 | 2.00 | .2460 | .2491 | .2964 | .0343 | .3307 | .0030 | .0152 |
| Dc37 | .0463 | 2.00 | .2460 | .2510 | .2973 | .0346 | .3319 | -.0010 | .0142 |
| Ja38 | .0578 | 2.00 | .2460 | .2490 | .3069 | .0355 | .3424 | .0115 | .0258 |
| Fb38 | .0595 | 2.00 | .2460 | .2463 | .3057 | .0352 | .3409 | .0017 | .0275 |
| Mr38 | .0643 | 2.00 | .2460 | .2447 | .3089 | .0351 | .3440 | .0048 | .0323 |
| Ap38a | .0732a | 2.00a | .2460a | .2435a | .3167a | | | .0089 | .0412 |
| Ap38 | .0878 | 1.88 | .2120 | .2289 | .3167 | .0383 | .3550 | | |
| Ap38a | .1024a | 1.76a | .2165a | .2143a | .3167a | | | | |
| My38 | .1088 | 1.76 | .2165 | .2181 | .3269 | .0397 | .3666 | .0064 | .0064 |
| Jn38 | .1183 | 1.76 | .2165 | .2192 | .3374 | .0420 | .3794 | .0095 | .0159 |
| Il38 | .1281 | 1.76 | .2165 | .2176 | .3456 | .0407 | .3863 | .0098 | .0257 |
| Au38 | .1218 | 1.76 | .2165 | .2120 | .3333 | .0401 | .3734 | -.0063 | .0194 |
| Sp38 | .1186 | 1.76 | .2165 | .2142 | .3328 | .0372 | .3800 | -.0032 | .0162 |
| Oc38 | .1258 | 1.76 | .2165 | .2163 | .3421 | .0385 | .3806 | .0072 | .0234 |
| Nv38 | .1283 | 1.76 | .2165 | .2135 | .3417 | .0384 | .3801 | .0025 | .0259 |
| Dc38 | .1255 | 1.76 | .2165 | .2147 | .3401 | .0385 | .3787 | -.0028 | .0231 |

Technical note: The actual rrmem column does not match the rr index (rr12) exactly because the reserve requirements are not uniform across different classes of banks. Requirements on time and demand deposits are quite different, and rates on so-called central reserve city banks, reserve city banks, and country banks differ also differ (see BMS p. 400). As deposits shift from one category to another the actual required reserve ratio (rr in Table 11) deviates slightly from the required reserve ratio index (rr12 Index in Table 11).

BEHAVIOR OF REQUIRED AND EXCESS RESERVES

Chart 6 has a graph of the excess reserve ratio from Table 11 which has some interesting features. Two key questions are how did the Fed expect the banks to respond to reserve requirement increases and why didn't the banks behave as the Fed expected. What the Fed expected is reported in the Federal Reserve Bulletins of the time. Why the banks behaved differently is more complex.

Federal Reserve Expectations.

As the Fed saw excess reserves and the excess reserve ratio grow to unprecedented levels in 1934-5 it feared that it would lose control of the money and credit markets. The fear was that the banks would start lending the excess reserves and start an inflationary boom. To prevent this the Fed in 1935 lobbied for the power to double reserve requirements and got that power in the Banking Act of August 23, 1935. We have already quoted the Fed statement (p. 613 August FR Bulletin) that it considered the high level of excess reserves to be "superfluous". The May 1937 Bulletin p. 377 continues the argument for raising the reserve requirement: "this action was taken for the purpose of removing from the credit base a large volume of UNNECESSARY (our capitals) reserves - - constituting the basis of a possible injurious credit expansion. So long as member banks had a volume of reserves far in excess of legal requirements, the customary instruments of credit policy, open market operations and discount rates, were wholly ineffective". It was a matter of control. The Fed felt that it had lost power and wanted that power back. However, the banks didn't see it that way and resumed their efforts to replenish their depleted reserves.

From the statements above it is clear that the Fed had the idea that the large excess reserve balances were "superfluous" and "unnecessary" and that raising the reserve requirements would have little or no restrictive effect. See the key plot of Chart 6, the segmented red colored line of the excess reserve ratio, re. The discontinuities are caused by the three required reserve increases of Aug 16, 1936, Mar 1, 1937, and May 1, 1937, and the April 15, 1938 decrease. If the Fed's idea that "excess" excess reserves were truly "excess", or superfluous, or unnecessary, re should not have increased after the requirement changes but remained level as shown by the horizontal green lines. But each time the Fed raised the requirements the banks increased their reserves in an attempt to replenish the excess reserves taken away. See the Meltzer p. 521 comment in Exhibit 6A. The replenishments are marked in yellow in Chart 6. It is clear that the Fed's forecast of the bank response to the increases in rr was wrong.

Part of the problem was the lack of knowledge and understanding on the part of the Fed of why the banks wanted high levels of excess reserves. From Meltzer p. 495, "There is no evidence of a study by the Board or reserve banks to understand why banks held large excess reserves. The Board appears to have made no effort to understand or explain this puzzle. - - All Federal Reserve discussions at the time treated excess reserves as a redundant surplus. There is remarkably little academic study of excess reserves. The best work Frost (JPE 1966: The Banks Demand for Excess Reserves) attributes the increase in excess reserves to risk and the prevailing low level of opportunity cost (on such as TBills - our comment)". Because the Fed did not seem to try to understand why the banks did what they did and made faulty forecasts of bank behavior it should take most of the blame for the rise of r in 1937. An interesting description of the byplay between the Treasury and the Fed and various officials including President Roosevelt is in Meltzer p. 507-21.

Appendix E contains thoughts about why the banks held such large excess reserves in the 1930s along with some speculation about the Zero Bound problem of 2016.

Adjustments and Lags

The Fed can adjust the monetary base almost instantaneously through open market operations. Individuals can adjust their currency/deposit ratio quickly at an ATM, or in those days at a teller window. Bank reserves management is a more complex portfolio decision procedure involving deposit flows not under bank control, loan opportunities and repayment schedules, and securities operations. Decisions may be subject to committee approval which takes time. If reserves are not at the optimal level they tend to move to the optimal target range with a lag.

The following is our guess regarding the excess reserve behavior of the banks during this period.. The inventory theoretic approach suggests the following scenario. The banks built up their precautionary excess reserves gradually in 1934-5, peaking at a ratio of .1394 in January 1936 (Table 11). We think they overshot their re target slightly (which we think was a band from about .11 to .13). The ratio then dropped to .1083 in June 1936. On July 14 the Fed announced that it was going to increase reserve requirements by 50% on August 16th eliminating a substantial portion of the bank inventory of excess reserves. In response the banks began to replenish their excess reserves. See Chart 6. The process was repeated after the March and May rr increases. And even after the rr cut in April 1938 the banks continued toward the estimated target range of .11 to .13.

Adjustments. Perhaps warned by the July 14, 1936 Fed announcement of the intent to raise reserve requirements re rose to .1205 in July. In August the reserve requirement jumped 50% (25% for August since the increase came mid month). August required reserves then were 125% higher than they would have been if rr had not been raised rr would have been .1239 instead of the actual .1549, and re .1333 instead of the actual .1023. While it appears that re dropped from .1205 in July to .1023 in August, if there is an adjustment for the increase in rr is made re actually rose by .0128. Then adjusting August to the same requirements of September we find that re rose .0044 in September.

The right hand column of Table 11 shows the announcement and change effects increased re by .0368 in July-August 1936, and another .0151 until the second requirement on March 1, 1937. The two month rise in re was .0065 after this second increase and .0412 after the Third increase of May 1, 1937. These four increases in re total .0996, enough to cause the money multiplier to drop 22.6% over the June 1936 - March 1938 period while the Fed expected the change to be zero.

Given the inflation situation of 2H36 we believe that the August rr increase was justified although it was an unorthodox and untested procedure. With a similar inflation situation in 1971, Nixon imposed wage and price controls. In December 1936 the Treasury began the sterilization of gold inflows which, from the analysis above, accounted for about half of the 1937 decline in the money stock growth rate. If blame is going to be assigned for the money stock growth rate decline, the bulk of it has to go to the Treasury. But then, using a football term, the Fed piled on with its March and May 1937 rr increases.

There may be some relevance to today (March 2016). The banks have some \$2.33 (May 12, 2016) trillion of excess reserves as a result of the 2008 bailout and QE stimulus programs. Once again there is the possibility that the Fed has lost control of the money and credit markets. Does the Fed truly understand the impact of its new tool, interest on excess reserves which is as untested as the freedom to double reserve requirements was in 1935?

SUMMARY: CAUSES OF THE 1937-8 RECESSION

We estimated that 47% of the recession decline came from the inventory bubble and 3% from budget balancing. Of the remaining 50% caused by the plunge in money growth about half came from the gold sterilization program of the Treasury, 30% from the increase in the reserve ratio, 10% from the increase in k, and 10% from gold flows and miscellaneous. In a table:

| Cause | % | Responsibility |
|---------------------------|-----|---------------------|
| Inventory Bubble | 47% | Business Management |
| Fiscal Restraint | 3% | Roosevelt |
| Gold Sterilization | 25% | Treasury |
| Gold and Miscellaneous | 5% | |
| Public Hoarding Cash (k) | 5% | The Public |
| Increase in Reserve Ratio | 15% | The Federal Reserve |

1937: FINANCIAL INDICATORS

The 1937-8 recession is unusual in two respects. Most recessions are preceded by an inverted yield curve in which short term interest rates are higher than long term rates. Data from the BMS comparing 3-6 month Treasuries to long term Treasuries shows there were inversions in front of the 1920-1 and 1929 downturns. Oct. 1923 missed by .18% and Oct. 1926 by .10%. See Table 12. Post WWII using FRED data and comparing the 3mo TBill rate to that of the 10yr Treasury there were inversions in front of 7 recessions except 1948-9 when rates were still being pegged, 1953-4, and 1990. Inversions were missed by .17% before the 1957-8 recession and .20% before 1960. Net tally: 9 inversions, 4 within .20%, and 2 misses (not counting 1948-9). Table 12 shows quarterly interest rates 1933-41.

Table 12: Interest Rates, Bond and Stock Prices 1933-41

| Date | i3mo | i10yr | iAaa | iBaa | rpBaa | BPLT | S&P | EPS | P/E |
|------|------|-------|------|------|-------|-------|-------|------|-------|
| 1Q33 | .53* | 3.42 | 4.68 | 8.91 | 5.49 | 91.8 | 6.23 | .304 | 20.49 |
| 2Q33 | .27 | 3.21 | 4.46 | 7.07 | 3.86 | 94.3 | 10.39 | .311 | 33.41 |
| 3Q33 | .10 | 3.19 | 4.36 | 7.27 | 4.08 | 94.5 | 10.58 | .377 | 28.06 |
| 4Q33 | .70 | 3.53 | 4.50 | 7.75 | 4.22 | 90.5 | 9.97 | .440 | 22.66 |
| | | | | | | | | | |
| 1Q34 | .24 | 3.20 | 4.13 | 6.26 | 3.06 | 94.4 | 10.74 | .53 | 20.26 |
| 2Q34 | .15 | 2.98 | 3.93 | 6.06 | 3.08 | 97.1 | 9.94 | .55 | 18.07 |
| 3Q34 | .21 | 3.20 | 3.96 | 6.57 | 3.37 | 94.4 | 8.88 | .49 | 18.12 |
| 4Q34 | .23 | 3.01 | 3.54 | 6.23 | 3.22 | 96.7 | 9.26 | .49 | 18.90 |
| | | | | | | | | | |
| 1Q35 | .15 | 2.77 | 3.67 | 6.20 | 3.43 | 99.7 | 8.41 | .54 | 15.57 |
| 2Q35 | .15 | 2.72 | 3.61 | 5.77 | 3.05 | 100.4 | 10.12 | .61 | 16.59 |
| 3Q35 | .20 | 2.85 | 3.59 | 5.53 | 2.68 | 98.7 | 11.61 | .67 | 17.33 |
| 4Q35 | .15 | 2.83 | 3.44 | 5.30 | 2.47 | 99.0 | 13.04 | .76 | 17.16 |
| 1Q36 | .20 | 2.71 | 3.29 | 4.85 | 2.14 | 100.5 | 14.86 | .79 | 18.81 |
| 2Q36 | .20 | 2.66 | 3.24 | 4.90 | 2.24 | 101.2 | 14.69 | .88 | 16.69 |
| 3Q36 | .16 | 2.60 | 3.18 | 4.62 | 2.02 | 102.0 | 16.05 | .94 | 17.07 |
| 4Q36 | .12 | 2.51 | 3.10 | 4.53 | 2.02 | 103.1 | 17.06 | 1.02 | 16.73 |
| 1Q37 | .38 | 2.60 | 3.32 | 4.68 | 2.08 | 102.0 | 18.09 | 1.11 | 16.30 |
| 2Q37 | .36 | 2.76 | 3.28 | 4.93 | 2.17 | 99.9 | 15.64 | 1.17 | 13.37 |
| 3Q37 | .31 | 2.77 | 3.28 | 5.16 | 2.39 | 99.7 | 14.37 | 1.22 | 11.78 |
| 4Q37 | .11 | 2.67 | 3.21 | 5.73 | 3.06 | 101.0 | 11.02 | 1.13 | 9.75 |
| Date | i3mo | i10yr | iAaa | iBaa | rpBaa | BPLT | S&P | EPS | P/E |
| 1Q38 | .08 | 2.64 | 3.22 | 6.30 | 3.66 | 101.4 | 10.31 | .97 | 10.63 |
| 2Q38 | .05 | 2.52 | 3.26 | 6.25 | 3.73 | 103.0 | 10.21 | .77 | 13.26 |
| 3Q38 | .08 | 2.58 | 3.21 | 5.65 | 3.07 | 102.2 | 11.75 | .62 | 18.95 |
| 4Q38 | .03 | 2.49 | 3.08 | 5.27 | 2.78 | 103.4 | 12.69 | .64 | 19.83 |

*Avg of Feb April BMS p.460. Mar 1933 (2.28) distorted by the Bank holiday.

i3mo is the interest rate on the 3 month TBill (FRED), i10yr the rate on 10 year Treasuries (FRED), iAaa and iBaa the rates on Moody's Aaa and Baa rated corporate bonds (FRED). rpBaa is the default risk premium on Baa bonds = iBaa - i10yr. BPLT is the bond price of long term Treasuries (BMS). The S&P 500 Index, its earnings per share and P/E ratio are from Standard and Poor's historical records (Carnegie Library of Pittsburgh).

The i3mo and i10yr columns show that the yield curve did not come close to inverting. We believe the reason is that the high level of excess reserves kept short term Treasury yields near zero. Note: we have a similar situation (near zero TBill rates, huge excess reserves from 2009-16). Again, the yield curve indicator may not work. Also with respect to the current situation of 2016, it will be interesting to find out if the Fed's projected use of IOER (interest on excess reserves) will invert the yield curve and if that causes a recession.

Another pattern that occurs frequently is a decline in bond prices (and increase in yield) about 12-24 months before a recession followed by a stock market decline and then a recession. About this behavior the economist Paul Samuelson made the famous comment, "The stock market has predicted 9 of the last 5 recessions". But in this case the bond price sequence shows no significant bond market decline ahead of the recession. Note: there was a bond market decline of 8.86% that started 17 months before the 1Q67 slowdown, a decline of 22.97% 15 months before the 1969-70 recession, and 15.97% 18 months in front of the 1974-5 recession followed by stock market declines of 16.62%, 28.89%, and 52.89% about a year before the subsequent economic downturn. There was a stock market decline of 21.69% (1Q34 to 1Q35) but that started more than 3 years and ended more than 2 years ahead of the 1937-8 recession.

A third pattern often occurring before a recession can be "three steps and a stumble", a rule invented by the analyst Edson Gould. If the Fed raises interest rates (or reserve requirements or margin requirements) three times in a row the stock market and economy are apt to stumble. Gould's idea worked regarding 1937-8 given the three successive reserve requirement increases. But we believe the gold sterilization by the Treasury was even more powerful as explained above.

RESUMING THE HISTORICAL TIME LINE

We left the historical narrative at the end of 1936 to investigate the causes of the Recession of 1936-7 which we think ended symbolically when the Fed rescinded its May 1937 reserve requirement increase on April 15, 1938 under "suggestions" by the President.

Background Data

Table 13a shows the quarterly performance of the economy 1936-8 including fiscal and monetary variables and financial markets. Since inventory behavior played a major role in the recession Table 13b continues with data on interrelationships between sales, inventories, production, and pricing (with observations from Planning Production, Inventories, and Workforce - Documents by Holt, Modigliani, Muth, and Simon in Appendix E).

Table 13a: Economic Performance 1936-8

| Date | GNP | gGNP | Infl | ^Inv | FS | gFS | G | gM | Equip | U% |
|------|--------|--------|-------|-------|--------|--------|-------|--------|-------|-------|
| 1Q36 | 275.90 | 1.94 | -0.72 | -2.93 | 278.83 | 8.76 | 56.53 | 8.22 | 11.72 | 14.86 |
| 2Q36 | 293.20 | 27.54 | -2.42 | 6.95 | 286.25 | 11.08 | 58.14 | 2.87 | 12.62 | 14.85 |
| 3Q36 | 301.59 | 11.95 | 6.21 | 4.25 | 297.34 | 16.42 | 58.69 | 7.49 | 14.11 | 13.31 |
| 4Q36 | 311.58 | 13.92 | 4.49 | 5.89 | 305.69 | 11.72 | 58.39 | 8.73 | 15.19 | 12.78 |
| 1Q37 | 310.53 | -1.34 | 11.29 | 8.77 | 301.76 | -5.04 | 55.55 | 2.83 | 16.23 | 11.73 |
| 2Q37 | 318.41 | 10.54 | 3.75 | 8.76 | 309.65 | 10.88 | 55.22 | -6.06 | 16.25 | 11.50 |
| 3Q37 | 317.21 | -1.50 | 2.47 | 11.62 | 305.59 | -5.14 | 55.61 | -5.42 | 16.41 | 11.63 |
| 4Q37 | 294.46 | -25.75 | -8.49 | -2.71 | 297.17 | -10.57 | 56.60 | -13.00 | 12.59 | 15.91 |

| | | | | | | | | | | |
|------|--------|--------|-------|-------|--------|--------|-------|-------|-------|-------|
| 1Q38 | 282.02 | -15.86 | -3.00 | -5.04 | 287.06 | -12.93 | 59.40 | 7.35 | 10.49 | 8.49 |
| 2Q38 | 286.48 | 6.48 | -1.93 | -3.32 | 289.80 | 3.87 | 60.44 | -5.58 | 9.37 | 20.00 |
| 3Q38 | 303.22 | 25.50 | 1.26 | -2.44 | 305.66 | 23.75 | 61.05 | 20.83 | 10.80 | 18.60 |
| 4Q38 | 315.35 | 16.99 | -1.66 | 0.86 | 314.49 | 12.07 | 61.63 | 16.17 | 12.04 | 16.36 |

Table 13b: Sales, Inventory, Production Data 1936-8

| Date | ^Equip | I/S | ^FS | gFS% | ^Inv | IndP | ^IndP | WPI | P72 | Infl72 |
|------|--------|--------|--------|--------|-------|--------|--------|-------|--------------|--------|
| 1Q36 | 0.13n | 1.101h | 5.79 | 8.75 | -2.93 | 164.18 | -2.29 | 41.42 | 27.84 | -.72 |
| 2Q36 | 0.90 | 1.075 | 7.42 | 11.08 | 6.95 | 177.87 | 13.69 | 40.85 | 27.67 | -.242 |
| 3Q36 | 1.49 | 1.072 | 11.09 | 16.42 | 4.25 | 187.70 | 9.83 | 41.92 | 28.09 | .621 |
| 4Q36 | 1.08 | 1.063 | 8.35 | 11.72 | 5.89 | 199.26 | 11.56 | 42.67 | 28.40 | .449 |
| 1Q37 | 1.04 | 1.104h | -3.93 | -5.04 | 8.77 | 207.95 | 8.69 | 44.72 | 29.17 | .1129 |
| 2Q37 | 0.02n | 1.103h | 7.89 | 10.88 | 8.76 | 211.64 | 3.69 | 45.17 | 29.44 | .375 |
| 3Q37 | 0.16n | 1.155H | -4.06 | -5.14 | 11.62 | 208.20 | -3.44 | 45.20 | 29.62 | .247 |
| Date | ^Equip | I/S | ^FS | gFS% | ^Inv | IndP | ^IndP | WPI | P72 | Infl72 |
| 4Q37 | -3.82N | 1.178H | -8.42 | -10.57 | -2.71 | 170.8 | -37.38 | 42.72 | 28.97 | -.849 |
| 1Q38 | -2.10N | 1.201H | -10.11 | -12.93 | -5.04 | 150.25 | -20.57 | 41.35 | 28.75 | -.300 |
| 2Q38 | -1.12N | 1.178H | 2.74 | 3.87 | -3.32 | 145.25 | -5.00 | 40.44 | 28.61 | -.193 |
| 3Q38 | 1.43 | 1.108h | 15.86 | 23.75 | -2.44 | 160.33 | 15.08 | 41.45 | 28.70 | .126 |
| 4Q38 | 1.24 | 1.080 | 8.83 | 12.06 | 0.86 | 178.52 | 18.19 | 40.08 | 28.58 | -.166 |

Note: IndP is the quarterly total (divided by 12.2 for scale) of industrial production from FRED. Side note: Unemployment compensation under the Social Security Act was trivial in 1936-7 (\$.131 and \$2.13 million) and \$.393 and \$.435 billion in 1938-9) in current dollars. Stat Abstract of the U.S. 1943 p.176. I/S from Table 4. The WPI came from the SCB.

1Q37. In the first three quarters of 1937 the economy topped out under the fiscal and monetary restraint programs with unemployment averaging 11.62%. In the first quarter of 1937 the Treasury's sterilization program halted the growth of the monetary base (Charts 4, 5) and M rose only 2.83%, down from double digits in 1936. Government spending took a sharp drop of \$2.84 billion and taxes were up \$3.65 (see Table 6). If government spending hadn't dropped (and taxes increased) GNP would have shown a modest gain. The inventory rise of \$8.77 billion (adjusted for inflation) was higher than the previous record of \$8.35 in 3Q29. Real GNP dipped at an annual rate of 1.34%, Final Sales down 5.04% due to the bulge in inventories. Inflation peaked in double digits.

2Q37. While GNP and FS bounced back by \$7.88 and \$7.89 billion respectively, first quarter results were penalized by about \$6 billion due to the fiscal restraint. Adjusting, GNP and FS were up only a bit over 2%. Inventories tied the record increase of the first quarter but inflation dropped to 3.75% probably due price cuts by business realizing that inventories were becoming excessive. The I/S ratio remained high and equipment purchases flattened to \$16.25 from \$16.23 billion, showing negative confidence. These negative indicators led to a slowing of industrial production growth. The increase in industrial production dropped to 3.69 from 8.69 in the first quarter. Money growth dropped again to -6.06% as the Treasury continued sterilization, reinforced by the May 1 reserve requirement increase.

3Q37. Now an upside down version of the HMMS Chart 7 scenario begins (Appendix F). With fiscal and monetary tightness continuing final sales declined \$4.06 billion. Production fell slightly but not as much as final sales so inventories soared by a record 11.62 billion. The I/S ratio also soared. Clearly this was accumulation of the involuntary type. A surprise is that wholesale prices (SCB) did not drop. But an NBER index on FRED (Index of Wholesale Prices for United States). does decline from 11.375 for 2Q37 to 11.000 for 3Q37, an annual rate of -12.55%. August 23, Japan invades China. Balke has monthly production and inventory statistics at the end of his data base. Here are his monthly figures for manufacturing for the last half of 1937 and first quarter of 1938.

| Date | Jn | Jl | Au | Sp | Oc | Nv | Dc | Ja | Fb | Mr | . |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| Produc | 139 | 139 | 135 | 129 | 120 | 104 | 98 | 87 | 88 | 90 | . |
| Sales | 137 | 138 | 133 | 126 | 120 | 106 | 104 | 89 | 89 | 93 | . |
| Inven | 128 | 129 | 131 | 134 | 134 | 132 | 126 | 124 | 123 | 120 | . |

The table shows how sales falling faster than production cuts led to an involuntary increase in inventory in 3Q37. In order to reduce inventories business had to make monster production cuts in 4Q37 and 1Q38 (Table 13b). Also the wholesale price index, the Balke-Gordon GNP deflator, and the cost of living index (Table 13a and mini table) all show a declining price level. Recessions are one way to get rid of inflation as Paul Volcker verified in 1980-1982. Why did sales start falling originally? From the post 1929-33 record drop in money stock growth along with Roosevelt's political effort to balance the budget.

4Q37. The GNP and industrial production drops of 25.75% and 54.69% at compounded annual rates were worse than any single quarter in the 1929-33 decline. The mini table above shows the race to the bottom in manufacturing as the drop in production exceeding that of final sales which were down 10.57%. Of the \$22.75 drop in real GNP at an annual rate of 25.75%, \$14.33 came from the drop in inventories from \$11.62 to minus \$2.71, a drop of \$3.82 in equipment, and a decrease of \$1.37 in nonresidential structures. The total drop in business investment was \$19.52 billion of the \$22.75 GNP drop, or 85.80%. Even though inventories were being liquidated the I/S ratio rose to 1.178 due to the sharp drop in sales S. The money stock continued its drop at a -13.00% pace. Unemployment compensation was nil as unemployment rose 4% to 15.91%. Government spending ticked up as Roosevelt realized his mistake. Spending would be up in 1938.

1Q38: Data problem. Balke-Gordon have the basic C+I+G components which should add to GNP. The components add correctly for 4Q37. But they do not for 1Q38. 1Q38 real GNP is 282.02 but the components add to 288.03. Looking at all components it is clear that the Balke Gordon consumption of non-durables and services (NDS) account is out of line, down to 190.01 from 191.30 or only .67%, while down nominally 7.59%. Barger's analogous figures are -2.71% and -3.68%. Barger's personal income measure is down 4.42% and if adjusted to disposable personal income probably down 6% due to the imposition of the social security tax and the \$50,000 bracket income tax increase. The trouble seems to be with the Balke nondurable goods and services price deflator which has the following strange ping pong pattern 4Q36-4Q39: 30 29 31 30 31 29 30 29 30 29 30 29 30. Using Barger's 2.71% decline scaled to Balke-Gordon's 1972 base the Balke NDS estimate of 190.01 is changed to 186.12. This not the only mistake in Balke-Gordon. Others appear in 1939 and 1941.

1Q38. The HMMS model shows that adjustments tend to continue with a lag. The GNP drop continued down \$12.44 billion or at a -15.86% annual rate. Industrial production was down at a rate of -40.14%. Inventory accumulation was a negative -\$5.04 billion compared to -\$2.71 a drop of \$2.33, equipment down another -\$2.10, and structures essentially flat at -\$0.08. The drop in total business investment spending accounted for \$4.51 of the \$12.44 GNP drop. After adjusting for B-G's strange nondurables and services number consumer spending accounted for \$7.90 of the drop. Chart 2 shows the large increase in unemployment as production plunged which lowered income and consumption. Fiscal policy turned positive as on a crudely estimated adjusted basis the new unemployment compensation program began at an estimated level of \$1 billion. Table 13a shows that government spending on goods and services increased by \$2.80 billion and the ill-advised undistributed profits tax was suspended. The money stock stopped its plunge and increased at a rate of 7.35%. With favorable fiscal and monetary policy and the ending of the inventory liquidation cycle the economy stopped its downward plunge. On March 12 Hitler took over Austria as U.S. unemployment hit 18.49%. On April 24, the **German Party demanded autonomy from Czechoslovakia**.

2Q38: Business cycle note. Using Balke GNP data in 4Q1907 GNP dropped at a -20.39% rate followed by a second decline of 21.45% and then a pause. As Wesley Mitchell of the NBER noted business cycles have their own individual characteristics. But there is a pattern that tends to repeat. After two back to back severe declines there tends to be a pause. The following table shows numerous examples including 1937-8. 2Q38 was such a pause.

Table 14: GNP Pauses After Back to Back declines

| Date | PriorQ | Declines | | Pause | |
|------|--------|----------|--------|--------|-------------|
| 3Q07 | -4.30 | -20.39 | -21.45 | 1.04.. | |
| 2Q14 | 0.70 | -8.81 | -16.89 | 3.46 | . |
| 3Q18 | 10.13 | -15.16 | -22.84 | -1.75 | . |
| 2Q27 | 2.44 | -6.10 | -7.41 | 3.10 | . |
| 2Q30 | -2.25 | -18.17 | -17.29 | 0.84 | 7.17 -14.80 |
| 3Q37 | -1.50 | -25.75 | -15.86 | 6.48 | 25.50 16.99 |

| | | | | | | |
|--------|------|------|-------|------|------------------------|---|
| 3Q57 | 4.0 | -4.0 | -10.0 | 2.6 | NIPA Table 1.1.1 | . |
| 3Q81 | 4.7 | -4.6 | -6.5 | 2.2 | | . |
| 3Q90 | 0.1 | -3.4 | -1.9 | 3.1 | | . |
| 3Q08 | -1.9 | -8.2 | - 5.4 | -.05 | | . |
| 2.5Q53 | 1.6 | -5.2 | -4.8 | 0.0 | Combined half quarters | . |
| 2Q38. | | | | | | |

The National Bureau of Economic Research says the recession ended in June 1938. From the St. Louis Fed industrial production bottomed in May and June's index was down 12.66% annual rate from March. On the positive side both Balke and Barger show GNP increases of 6.48% and 3.35% respectively in 2Q38. Inventories declined but at a lesser rate than in the first quarter. The key to the GNP gain was the increase in final sales of \$2.74 billion or 3.87%. Fiscal policy remained positive.

The monetary base increased at a 20.58% rate as sterilization was reversed (Table 9) but the money multiplier dropped sharply because the reserve ratio jumped sharply (Table 11 and Chart 6). Roosevelt was unhappy with the recession named after him and put pressure on the Fed to rescind the last reserve requirement increase which it did on April 15, 1938. Normally this would encourage expansion of the money stock. However, as noted in the discussion of Chart 6 banks increased their excess reserves by more than the amount released by the decrease in required reserves in an effort to get their precautionary reserves back to the estimated target of Chart 6. Part of the reason for bank caution might be from a feeling of "here we go again" since the two quarter decline of 37-8 was even worse than that of 1930 and that the pause of 1931 was not sustained. The net result of the increase in the base and the decrease in the multiplier was a decline in M growth of 5.58%. April 24 the Sudeten party demands autonomy from Czechoslovakia. Unemployment peaked at 20%.

3Q38. Breakout: Similarity and difference to 1931. Table 14 shows the back to back large GNP declines of 1930 averaging 17.66% which then levelled off in 1Q31 and had a small rise in 2Q31. Then the economy collapsed into a true Great Depression. In 4Q37 and 1Q38 GNP fell at an even faster average rate of 20.95%, paused in 2Q38, and then took off at a rate of 25.50% followed by 16.99% in 4Q38 starting the second recovery. The obvious question is why did the economy collapse after the pause in early 1931 but roar back after the pause of 2Q38?

The simple quick answer is that in 1931 fiscal and monetary policy remained negative and the Fed continued to let banks fail after the first wave of failures in 4Q30. Money growth rates in 1931 were -2.04%, -12.86%, -7.98%, and -22.53%. In 1938 both fiscal and monetary policy turned positive. In the last two quarters of 1938 money grew at 20.83% and 16.17%. Roosevelt reversed the restrictive balanced budget policy by increasing government spending on goods and services, started unemployment insurance payments, and eliminating the ill-advised undistributed profits tax. On the monetary side Roosevelt's recovery speech of April 14 included the Treasury reversal of the sterilization program and reversal of the May 1, 1937 reserve requirement increase (May 1935 Federal Reserve Bulletin p. 343). As a result of the stimulus the economy took off in 3Q38 with GNP growth at a rate of 25.50%, and up another 16.99% in 4Q38. The economy was into the second recovery. Unemployment dropped from 20% to 18.60. %. On Sept 30, Britain and France signed the Munich Agreement ceding the Sudetenland to Germany. On Oct 1, Chamberlain back in Britain declared "peace in our time."

Note: A Classic Recession with Similar Timing to 1969-70

The Recession of 1937-8 has many features in common with the 1953-4 recession, the slowdown of 1Q67, and the recessions of 1969-70, 1974-5, 1980, and 1981-2. All featured monetary restraint to combat inflation with varying degrees of success. Except for size differences these recessions have a similar timeline starting with a concern about inflation and using monetary restraint. Table 15 shows the similarities between 1937-8 and 1969-70.

Table 15: Some Key Variables of the 1937-8 and 1969-70 Recessions

| Date | g GNP | gM | G | U | Infl | Date | gGNP | gm. | G | U | Infl |
|------|-------|-------|-------|-------|------|------|------|------|--------|-----|------|
| Dc35 | 15.78 | 18.39 | 51.17 | 16.44 | 1.01 | Dc67 | 3.20 | 7.21 | 252.37 | 3.7 | 2.96 |

| | | | | | | | | | | | |
|------|--------|--------|-------|-------|-------|------|-------|------|---------|-----|------|
| Jn36 | 14.02 | 19.92 | 58.14 | 14.85 | -1.57 | Jn68 | 5.56 | 6.84 | 260.97 | 3.7 | 5.11 |
| Dc36 | 12.93 | 8.11 | 58.39 | 12.78 | 5.35 | Dc68 | 2.91 | 8.79 | 261.20 | 3.4 | 4.73 |
| Jn37 | 4.43 | -1.71* | 55.22 | 11.50 | 7.46 | Jn69 | 3.28 | 3.17 | 259.25* | 3.5 | 4.96 |
| Sp37 | -1.50 | -5.42 | 55.61 | 11.63 | 2.47 | Sp69 | 1.17 | 1.60 | 256.95 | 3.7 | 3.25 |
| Dc37 | -25.50 | -13.00 | 56.60 | 15.91 | -8.49 | Dc69 | -2.31 | 3.61 | 254.98 | 3.7 | 2.60 |
| Mr38 | -15.46 | 7.34 | 59.40 | 18.49 | -3.00 | Mr70 | -1.54 | 3.58 | 252.80 | 4.4 | 2.89 |
| Jn38 | 6.48 | - | 5.58 | 60.44 | 20.00 | Jn70 | 0.63 | 3.75 | 249.66 | 4.9 | 5.35 |
| Dc38 | 21.17 | 18.48 | 61.63 | 16.36 | -21 | Sp70 | 3.88 | 6.66 | 252.89 | 5.4 | 3.20 |

Quarterly Inventory Rate: 3.16 2.01 5.07 8.77 11.62 -2.71 -5.05 -3.32 -0.79

Quarterly Inventory Rate: 12.20 8.80 9.20 11.75 13.70 7.00 2.10 5.00 3.95

*The Fed's first reserve requirement increase / Johnson 10% tax surcharge.

The red vertical lines in Table 15 (to be inserted) show the recessionary drop in GNP preceded by a drop in money growth along with fiscal restraint. The unemployment rate rises and inflation drops. The 1937-8 recession was strong enough to eliminate the 1936-7 inflation with overkill. 1969-70 was the second try at defeating the Great Inflation of the 1960s and 70s.

Changing Thoughts from the 1937-8 Recession

Both parties campaigned on a balanced budget plank in the election of 1932. But given the horrible situation at the bottom of the Great Depression in 1933 Roosevelt began deficit spending various government programs such as the Civilian Conservation Corps, TVA, Works Projects Administration, etc. as advocated by economists such as John Maynard Keynes. A popular explanation was the programs were "pump priming". The double digit growth of the first recovery (1933-6) led Roosevelt to the idea that the economy was strong enough to go back to a balanced budget plank in the 1936 platform. Table 3.2 in NIPA shows the federal deficit of receipts minus expenditures for 1936-39 as -3.6, -.2, -1.8, -2.5 (current dollars billions). From the June 1938 Federal Reserve Bulletin p 523 the deficit in 4Q37 was .362 billion so the federal budget ran a surplus in the first 3 quarters.

The recession (called Roosevelt's Recession by some) changed his opinion about the balanced budget and he essentially became a Keynesian advocating deficit spending. Paul Samuelson who wrote a bestselling text starting in 1948, Walter Heller (advisor to Kennedy), and Gardner Ackley (advisor to Johnson) kept Keynesian thought along with the Phillips Curve (a tradeoff of unemployment and inflation). At one point economists in the 1960s were confident enough to talk about "fine tuning" the economy. Keynesian thought was predominant through the 1960s until inflation opened the door to the monetarist thoughts of Friedman. Brunner-Meltzer and analysts at the St. Louis Federal Reserve. Robert L. Hetzel has a good discussion of "The Monetarist - Keynesian Debate and the Phillips Curve" (Second quarter 2013 issue of the Economic Quarterly of the Federal Reserve Bank of Richmond).

The Phillips Curve is a supposedly reliable theoretical relation between inflation (Infl) and unemployment (U) popularized in the 1960s by Paul Samuelson and Robert Solow. [Chart 7 shows the Phillips curve](#) for the 1960s. It seemed to work and was part of the reason for confidence then that the economy could be "fine-tuned". But things fell apart in the 1970s. The green dot shows the "stagflation" year 1977 (Infl 6.20% U 7.05%). The red dot shows that inflation with high unemployment had occurred before in 2H36-1H37 (Infl 6.40% U 12.60%). Google "Phillips Curve - Federal Reserve Bank of Richmond (J. M. Lacker)" for an explanation of what went wrong. Note: At her March 16, 2016 press conference Janet Yellen was asked if she believed in the Phillips Curve. She said yes.

The severe recession and money stock decline of 1937-8 got rid of the 1936-7 inflation. Half-hearted measures based on interest rate management in 1966, 1969, and 1974 along with wage and price controls in 1971 failed. Paul Volcker finally put together back to back recessions in 1980 and 1981-2 and abandoned interest rate management in favor of controlling the money stock to subdue the Great Inflation. The question is: Can we get rid of inflation if it occurs again without a recession? If Volcker had known a painless method presumably he would have used it. Do we know more now than Volcker in 1982?

The Zero Bound and High Excess Reserves

1934-42 and 2008-2016 have two common features. Short term interest rates were near zero, the so-called Zero Bound (ZB), and excess reserves were abnormally high. For more than 8 years from 1934 to interest rate pegging in 1942 the

3mo TBill rate was near zero except for a blip in 1937. Excess reserves which in normal times are substantially less than .1% of deposits averaged more than 10%. We have had a similar situation from late 2008 to 2016.

Some observations. The zero bound is stable since both events have lasted 8 years. St. Louis Fed President James Bullard has an interesting article with a theoretical argument why ZB economies can persist (as they have) for years. We believe that it is the large overhang of excess reserves that keeps short term interest rates near zero.

THE SECOND RECOVERY: 2Q38-4Q41

There is a popular misconception that the economy came out of the Great Depression only because World War II happened. If true it is a sad commentary on our ability to manage economic affairs - that we need war to restore prosperity. But also if true it is an argument that Roosevelt's fiscal spending should have been even larger before the war and that Keynes was correct that massive government spending can get an economy out of a depression. To get some perspective on the effect of money and government spending on the economy Table 16 summarizes basic features of both the first recovery (1934-2Q37) and the second recovery (2Q38-4Q41). Both recoveries are subdivided into two periods. The first stage of the first recovery is from 4Q33 through 2Q36. Then from 2Q36 through 2Q37 there is the inventory and inflation boom. The second recovery also has two periods. The first is from the end of the 1937-8 recession in 2Q38 to the end of 1940, then 1941 featuring a boom in government spending as it became more likely that the U.S. would become actively involved in WWII.

Sources of data for Table 16: M1 from Rasche (St Louis Fed), Balke-Gordon, NIPA Statistical Tables 1929-46, 1929-54, and 1929-76, Barger's Revised NIPA 1921-41, and Biennial Supplements to the Survey of Current Business (SCB). There is a problem measuring quarterly government spending prior to 1947. Balke has combined government spending on goods and services (federal, state, and local but no subtotals). Also, Balke does not have transfers (social security, unemployment compensation etc.). Barger has three series that Balke does not have: separate accounts for federal purchases of goods and services and state and local purchases of goods and services and total transfers (combined federal plus state and local). Unfortunately, Barger does not separate federal transfers from state and local transfers. To get total federal spending (goods and purchases plus transfers) we use federal expenditures available in the biennial supplements to the Survey of Current Business (SCB).

Unfortunately, there are two errors in the Balke data that should be fixed. One is that Balke has obviously wrong numbers for government spending in 1941. Both real and nominal spending drop in 4Q41. The second is that the Balke figures show a phantom recession in 1Q39-2Q39 with real GNP dropping 2.40% (down 3.67% and 5.70% annual rates). This drop is larger than that of the recessions of 1960, 1969-0, 1990-1 and 2001. Yet there is no mention of such a recession neither by the NBER nor in the general literature. There is a ready fix for both problems.

Commerce published its first quarterly estimates of nominal GNP and components in the March 1943 SCB covering 1939-42. Barger used the 1929-46 NIPA Supplement to the SCB for quarterly nominal GNP data. There was an update in the 1929-53 supplement with insignificant revisions. Because the 1941 problem affects the discussion below we fix it now.

The first three columns show nominal measures of government spending. Barger and Commerce are the same because Barger knew about the Commerce numbers and used them. For 1940 all three series are similar. But the Balke numbers for 1941 are wildly different. Balke's number for 4Q41 shows a decline (marked with an exclamation point). The last column has federal expenditures less interest expense, debt repayments, and unemployment compensation from the 1942 Biennial Supplement to the SCB. The middle column has Balke's G deflator which appears to be ok. It is used to get the real values for G for Table 16.

| Date | nBalke | nBarger | n1929-46 | Gdefl | rBalke | rBarger | r1929-53 | FdGdsSvcs . |
|------|--------|---------|----------|-------|--------|---------|----------|-------------|
| 1Q40 | 13.36 | 13.40 | 13.4 | .2136 | 62.52 | 62.73 | 62.7 | -. |
| 2Q40 | 13.50 | 13.30 | 13.3 | .2145 | 62.94 | 62.00 | 62.00 | |
| 3Q40 | 13.99 | 13.50 | 13.5 | .2163 | 64.70 | 62.41 | 62.4 | |
| 4Q40 | 15.83 | 15.60 | 15.6 | .2236 | 70.81 | 69.77 | 69.77 | |

| | | | | | | | | |
|------|--------|-------|------|-------|--------|--------|--------|---------|
| 1Q41 | 22.90 | 18.70 | 18.7 | .2429 | 94.27 | 76.99 | 76.99 | |
| 2Q41 | 25.42 | 21.30 | 21.3 | .2539 | 100.09 | 83.89 | 83.89 | |
| 3Q41 | 26.14 | 26.00 | 26.0 | .2598 | 100.63 | 100.08 | 100.08 | 17.81 . |
| 4Q41 | 25.30! | 32.80 | 32.8 | .2634 | 96.08! | 124.53 | 124.53 | 23.04 . |

Labels for Table 16: GNPr is real GNP from Balke, Pdefl is the GNP deflator, M1 from Rasche, Gr real government spending on goods and services from Balke. , FdGdsSvcs is federal expenditures minus interest on the debt, debt repayment and unemployment compensation from p.75 of the 1942 biennial supplements to the SCB, Transfers TrB are from Barger's revised quarterly NIPA 1921-41, deflated by Balke's G deflator. Barger's 1921-41 series links to the 1929-46 NIPA Supplement to the SCB. TotB is the total spending ratio Gr+Tr/GNPr.

In the bottom section gGNP is the growth rate of GNP over the time period indicated, Infl the inflation rate, and gM, gG, and gTrB growth rates as indicated. gGFB is the Barger growth of federal purchases of goods and services, gSLB Barger's growth of state and local purchases, and gGB growth of Barger G plus SL analogous to Balke's Gr..1928-32, 1960, and 1976 data marked H are for historical perspective.

Table 16: First Recovery 4Q33-2Q37, Second Recovery 2Q38-4Q41

| Date . | GNPr . | Pdefl . | M1 . | Gr | Gr/GNPr | FdEx | FEx/GNP | TrB | Tr/GNP | TotB | U% |
|----------------------------------------------------------------|--------|---------|---------|--------|---------|--------|---------|--------|--------|-------|--------|
| Historical Perspective | | | | | | | | | | | |
| 4Q28H | 302.80 | 32.75 | 25.557* | 39.02 | .1289 | 17.31 | .0572 | 4.18 | .0138 | .1427 | n.a. |
| 4Q31H | 249.14 | 27.73 | 21.645 | 46.45 | .1864 | 20.06 | .0805 | 9.59 | .0385 | .2249 | 19.10 |
| 4Q32H | 219.12 | 24.90 | 20.160 | 44.17 | .2016 | 26.34 | .1202 | 7.56 | .0345 | .2361 | 25.20 |
| First Recovery | | | | | | | | | | | |
| 4Q33 | 222.05 | 26.17 | 19.636 | 43.99 | .1981 | 22.53 | .1015 | 7.34 | .0331 | .2312 | 21.07 |
| 4Q34 | 237.16 | 27.61 | 22.596 | 49.13 | .2072 | 31.00 | .1307 | 7.66 | .0323 | .2395 | 20.44 |
| 4Q35 | 274.58 | 27.89 | 26.751 | 51.17 | .1864 | 36.15 | .1317 | 11.04 | .0402 | .2266 | 16.44 |
| 2Q36 | 293.20 | 27.67 | 29.294 | 58.14 | .1983 | 36.06 | .1230 | 13.53 | .0461 | .2444 | 14.85 |
| 2Q37 | 318.41 | 29.44 | 30.197 | 55.22 | .1734 | 36.15 | .1135 | 9.17 | .0288 | .2022 | 12.78 |
| Second Recovery | | | | | | | | | | | |
| 2Q38 | 286.48 | 28.61 | 28.857 | 60.44 | .2110 | 35.11# | .1226 | 10.17 | .0355 | .2465 | 20.00 |
| 3Q38 | 303.22 | 28.70 | 30.255 | 61.05 | .2013 | 38.93 | .1284 | 11.17 | .0368 | .2382 | 18.60 |
| 4Q38 | 315.35 | 28.58 | 31.410 | 61.63 | .1954 | 41.13 | .1304 | 11.42 | .0362 | .2316 | 16.36? |
| 1Q39 | 312.34 | 28.36 | 31.720 | 62.49 | .2001 | 39.11 | .1252 | 12.12 | .0388 | .2389 | 17.19 |
| 2Q39 | 307.79 | 28.19 | 32.303 | 63.01 | .2047 | 43.81 | .1423 | 11.69 | .0380 | .2427 | 16.29 |
| 3Q39 | 319.32 | 28.30 | 34.788 | 63.40 | .1985 | 42.94 | .1345 | 11.73 | .0367 | .2353 | 15.22 |
| 4Q39 | 339.96 | 28.87 | 35.758 | 63.50 | .1868 | 37.53 | .1104 | 11.20 | .0329 | .2197 | 15.19 |
| 1Q40 | 330.14 | 28.92 | 37.340 | 62.52 | .1893 | 42.19 | .1278 | 12.64 | .0383 | .2277 | 15.66 |
| 2Q40 | 334.66 | 28.93 | 38.554 | 62.94 | .1881 | 44.31 | .1324 | 13.05 | .0390 | .2271 | 14.96 |
| 3Q40 | 348.32 | 28.97 | 39.650 | 64.70 | .1857 | 42.46 | .1219 | 12.48 | .0358 | .2216 | 12.55 |
| 4Q40 | 363.54 | 29.41 | 41.611 | 70.81 | .1948 | 51.44 | .1415 | 11.63 | .0320 | .2268 | 10.85 |
| 1Q41 | 371.18 | 29.81 | 44.086 | 76.99 | .2074 | 59.21 | .1595 | 11.12 | .0300 | .2385 | 9.10 |
| 2Q41 | 391.93 | 30.71 | 44.950 | 83.89 | .2140 | 63.12 | .1610 | 10.24 | .0261 | .2412 | 5.66 |
| 3Q41 | 412.57 | 31.85 | 46.746 | 100.08 | .2426 | 74.61 | .1808 | 10.01 | .0243 | .2659 | 3.43 |
| 4Q41 | 426.38 | 32.55 | 47.561 | 124.53 | .2921 | 98.82 | .2318 | 9.87 | .0231 | .3161 | 3.58 |
| .Historical Perspective | | | | | | | | | | | |
| 1Q42 | 441.54 | 33.55 | 50.046 | 144.38 | .3270 | 103.70 | .2349 | 10.86 | .0246 | .3516 | |
| 2Q42 | 446.44 | 34.18 | 52.541 | 193.78 | .4341 | 143.24 | .3208 | 9.94 | .0223 | .4564 | |
| 3Q42 | 466.52 | 34.53 | 57.005 | 244.09 | .5232 | 188.91 | .4049 | 9.48 | .0203 | .5435 | |
| 4Q42 | 492.72 | 35.02 | 61.480 | 274.88 | .5579 | 214.96 | .4363 | 9.00 | .0183 | .5762 | |
| 4Q60H | 732.10 | | | 175.40 | .2396 | 139.82 | .1910 | 48.37 | .0661 | .3057 | 6.40 |
| Yr76H | 1300.4 | | | 266.80 | .2052 | 268.59 | .2065 | 137.73 | .1059 | .3111 | 7.40 |
| U% Interwar data from Fed of St. Louis series m0892ausm156snbr | | | | | | | | | | | |

Growth Rates

| Dates | gGNP | Infl | gM | gG | gFdEx | gTrB | gGFB | gSLB | gGB |
|-----------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| 4Q33-2Q36 | 11.76 | 2.25 | 17.35 | 11.80 | 20.70 | 27.71 | 32.37 | 1.99 | 11.47 |
| 2Q36-2Q37 | 8.60 | 6.40 | 3.08 | -5.02 | 0..25 | -32.22 | -.27 | -5.30 | -4.23 |
| 2Q38-4Q40 | 10.00 | 1.11 | 15.77 | 6.54 | 16.51 | 5.51 | 19.17 | 1.63 | 9.19 |
| 4Q40-4Q41 | 17.29 | 10.68 | 14.35 | 76.40 | 92.11 | -15.13 | 171.01 | -14.02 | 78.49 |
| 4Q41-4Q42 | 15.56 | 15.56 | 29.27 | 124.72 | 117.53 | -8.81 | 253.42 | -8.77 | 125.47 |

*Jan 1929 when Rasche series starts. #Average of volatile numbers.

Powered by the double digit growth of money and government spending GNP rose at an 11.76% compounded rate in the first 4Q33-2Q36 recovery. Barger's combined government purchase of goods and services growth of 11.47% consisted of federal spending up 32.37% while state and local spending was up at a rate of only 1.99%.

Unemployment dropped 6.22% from 21.07% to 14.85%. The second recovery from 2Q38 to 4Q40 was almost a repeat of the first. Unemployment dropped 9.15% from 20.00% to 10.85%. Real GNP was up at a 10.00% rate with money growth of 15.77%. Somewhat surprisingly, given Roosevelt's unhappiness with the balanced budget attempt in 1937, fiscal spending was less expansive than in the first recovery. All six of the government spending growth rates in the second recovery are lower than in the first. On a per cent of GNP basis Balke's good and services Gr/GNPr ratio averaged .1976 in the first recovery and .1960 in the second. Transfers also were the same. Inflation of 1.11% was a non-factor.

What this means is that the second recovery was strong and well under way before wwii spending started. Of course the increased defense spending of 1941 accelerated the process. As monetarists we believe that the strong growth of the money stock in the second recovery was as important as government spending. In another paper, we do some statistical regression analysis regarding the relative power of money versus government spending.

Historical Perspective. During the 1920s government spending was quite small. In the 4th quarter of 1928 (Calvin Coolidge) total government spending federal, state and local was 14.27% of GNP (1.38% transfers, 12.89% on goods and services). Federal expenditures were 5.72%. In the last two years of the unfortunate Herbert Hoover, 1931 and 1932, government spending averaged 23.05% (3.65% transfers, 19.40% goods and services). Many conservatives have called Franklin Roosevelt a "big spender" but from Table 16 and Balke's tables government spending on goods and services averaged 19.77% in the first recovery, and 19.60% in the second, almost identical to Hoover's last two years. Transfers were 3.79% and 3.63% respectively compared to Hoover's 3.65%. Roosevelt's totals were 23.56% and 23.23%. On this basis Hoover and Roosevelt were tied.

The question might be raised as to why the economy declined under Hoover and rose under Roosevelt. A major difference was that under Hoover the money stock collapsed, under Roosevelt it grew in double digits except during the Recession of 1937-8 discussed above. An apparently little known fact from the December 1937 Federal Reserve Bulletin p. 1222-4 Tables 25-27 is that Hoover started the Reconstruction Finance Corp in January 1932. Then the RFC made more loans to the failing bank system than did the Federal Reserve which was founded in 1913 to be the bank "lender of last resort". The Fed had failed to do its job. Hoover finally had the right idea but it was too little too late. Roosevelt kept the RFC which lasted well into the Eisenhower Administration to 1957.

In 4Q60 at the end of the Eisenhower administration government spending on goods and services was 23.96% of GNP with another 6.61% for transfers, a total of 30.57%. Roosevelt's maximum 1933-40 before the war effect was 24.65%. The big gain in transfers was due to the popularity of social security.

In 1976 at the end of the Nixon-Ford administration government spending on goods and services was 20.52% with transfer spending at 10.59% for a total of 31.11%. The major increase in transfer spending started with Lyndon Johnson's "War on Poverty".

From NIPA Tables 1.1.6 and 2.1 on the net: 1988 figures for Reagan 34.29% (24.72% + 9.47%). 1992 figures for Bush I: 35.82% (24.41% + 11.44%). 2008 figures for Bush II: 33.48% (20.19% + 13.29%). 2015 figures for Obama: 32.33% (17.49% + 14.84%). It is difficult to tell the spending conservatives from the liberals despite the political rhetoric. Compared to these people Roosevelt at 24.65% seems to be quite conservative.

Timeline of the Recovery

2H38. The reversal of the balanced budget attempt, the resumption of strong money growth and lower inventories led to the strong rebound in the second half of 1938. Growth as measured by Balke for the last half of 1938 was 21.17% Barger's estimate is 22.21%. Hitler took over the Sudetenland under the Munich Agreement.

1H39. The Balke data of Table 16 shows 4Q38 real GNP of 315.35 then 312.34 down at an annual rate of 3.76%, then down to 307.79 down another 5.70%. The drop from 315.35 to 307.79 of 2.40% is larger than the recessions of 1960, 1969-70, 1990-1 and 2001. But there is no recession of 1939 in the literature. Once again we have a data problem and look to the Commerce Department statistics in the 1929-46 and 1929-53 SCB supplements for corrections. Table 17 shows Balke versus Barger and the 1929-46 and 1929-53 supplements.

The first 4 columns are nominal GNP from the 1929-46 Supplement, the 1929-53 Supplement, Barger, and Balke. rBarger is Barger's real GNP 1939 base which is changed to the 1972 base in the next column to make it comparable to Balke in the last column.

Table 17: Correcting 1938-9 GNP

| Date | 1946 | 1953 | Barger | Balke | rBarger | rBarger72 | rBalke | |
|------|------|------|--------|-------|---------|-----------|--------|---|
| 1Q38 | | | 81.64 | 81.08 | 79.35 | 279.11 | 282.02 | . |
| 2Q38 | | | 81.47 | 81.96 | 80.00 | 281.42 | 286.48 | . |
| 3Q38 | | | 84.05 | 87.03 | 83.35 | 293.16 | 303.22 | . |
| 4Q38 | | | 88.54 | 90.13 | 88.59 | 311.10 | 315.35 | . |
| 1Q39 | 87.1 | 88.8 | 87.34 | 88.59 | 87.50 | 307.75 | 312.34 | . |
| 2Q39 | 88.9 | 89.1 | 88.43 | 86.76 | 89.28 | 314.03 | 307.79 | . |
| 3Q39 | 91.1 | 92.6 | 91.26 | 90.37 | 91.40 | 321.96 | 319.32 | . |
| 4Q39 | 94.6 | 93.9 | 94.77 | 98.15 | 93.52 | 328.38 | 339.96 | . |
| 1Q40 | 96.9 | 97.3 | 97.68 | 95.49 | 95.49 | 339.52 | 330.14 | . |

The last 5 columns all show a modest drop in GNP in the first quarter of 1939. But only Balke shows a decline in 2Q39. Given the NBER indication of no recession we think Commerce and Barger are more accurate than Balke regarding 2Q39. Commerce and Barger show steady gains into 1940. Balke shows an 11.06% annual rate drop in 1Q40 larger than the 9.03% drop in the quick recession of 1980. But there is no mention in the SCB of the recession of 1940. Again we prefer the Commerce-Barger data.

2H39: July and August were good months and steel was up to 61% of capacity up from 55% in July. Steel would be a key measure of activity and capacity constraints in coming months and was followed closely by the SCB. The key event was Germany's invasion of Poland on September 1, 1939 which started WWII in Europe. There was a production inventory boomlet. Prices jumped (as they would in 1950 when the Korean War started) but settled back by 1Q40.

1H40: Activity slowed from the 1939 boomlet. Steel dropped from 85% of capacity in January to 65% at the end of February (March SCB). On April 9 Germany invaded Norway and Denmark. Then France, Belgium, Holland on May 10. On June 25 France surrendered and on the same day the Revenue Act of 1940 was passed raising taxes by about 10%. Steel back to 86% at the end of June. GNP inflation in the first half of 1940 was a modest .083% (annual rate).

2H40: Steel to 91% in August. On October 8 the Second Revenue Act of 1940 was passed taxing "excess profits" with complicated rules. Table 16 shows a sharp increase in government spending on goods (defense) and services - the Gr column - and that the increase was from federal spending - the FdEx column. Money growth was 16.49%. The Dec SCB mentions that some capacity problems appeared (an October Commerce report) especially in strategic metals. Steel in November rose to 96% of capacity. A Roosevelt speech on Dec. 29 talked about future sacrifices and that there must be "stability of prices". The Balke GNP deflator was up at a rate of 6.22% in the 4th quarter up from only 0.55% in the third. The 4th quarter inflation, developing capacity constraints, and increase in government spending marked the change to a war preparation economy in 1941. This ends the pre-war stage of the second recovery.

Transition: In times of war prices can indicate changes in demand quickly. Government is expected to increase demand and consumers try to beat the expected price rises. Before the surprise of the Korean War starting June 25, 1950 the CPI inflation was -.50% in the first half of 1950. In 3Q50 it was 9.97%. WWII was less of a surprise. Table 18 shows the price rises and inflation for the CPI and for consumer non-durable goods and services from both Barger and Balke. Yoy is year over year inflation, Qtr is the quarterly rate. There are no quarterly deflators for 1942-6. WarEx is war expenditures from the July 1947 Supplement to the SCB.

Table 18: Inflation 1939-41

| Date | QTRcpi | QTRbarger | QTRbalke | WarEx | YOYcpi | YOYbarger | YOYbalke |
|------|--------|-----------|----------|-------|--------|-----------|----------|
| 1Q39 | -2.82 | 0.56 | -14.0.. | 0.3 | | | |
| 2Q39 | -3.76 | -4.21 | 8.54 | 0.3 | | | |
| 3Q39 | 2.93 | 4.60 | -2.89 | 0.3 | | | |
| 4Q39 | 2.91 | 3.13 | 6.59 | 0.4 | -0.2 | 0.97 | -1.08 |
| 1Q40 | -0.94 | 1.11 | --0.66 | 0.4 | 0.24 | 1.11 | 2.75 |
| 2Q40 | 1.90 | 0.32 | -1.71 | 0.4 | 1.69 | 2.2 | 0.23 |
| 3Q40 | -0.94 | -0.20 | 8.76 | 0.5 | 0.72 | 1.09 | 3.32 |
| 4Q40 | 0.95 | -1.18 | -11.6 | 0.9 | 0.24 | 0.02 | -1.43 |
| 1Q41 | 2.88 | 4.51 | 24.91 | 1.9 | 1.19 | 0.84 | 4.39 |
| 2Q41 | 9.79 | 8.16 | -4.1 | 2.7 | 3.09 | 2.76 | 3.75 |
| 3Q41 | 12.52 | 21.37 | 24.92 | 3.8 | 6.43 | 7.91 | 7.23 |
| 4Q41 | 14.11 | 18.44 | 8.09 | 5.4 | 9.74 | 12.91 | 12.77 |

The quarterly measures of inflation show the wartime inflation beginning in the first quarter of 1941 along with a big jump in defense spending. On a year over year basis Balke agrees with the first four columns and the CPI and Barger show inflation beginning in 2Q41. The Balke quarterly numbers are quite unstable suggesting that the data be reworked (and Barger as well).

1941 Overview: The major feature of 1941 was the increase in government purchases of goods and services of 76.40%. State and local spending was down by 14% as state and local spending was cut slightly to make more room for the increased federal spending on war preparations. Transfers which were about 1/9th the size of government purchases were down 15% as unemployment compensation and associated items dropped as the unemployment rate fell from 10.49% in January to 3.58% in December (see FRED: Unemployment Rate in United States). Managing strategic materials and production bottlenecks became a major task. Scarcities led to price increases which in turn led to price "guidance" and control. On July 30 Roosevelt sent a bill to Congress about restraining prices.

Factory hourly wage rates (Dept. of Labor 90 industries) were .683 in December 1940 and by quarters in 1941: .697, .738, .758, and .787 up 15.23%. The GNP deflator shows quarterly inflation of 5.55%, 12.63%, 15.70%, 9.09%, and 10.68% for the year.

The recession of 1937-8 was a setback to labor but the recovery gave labor some negotiating power back. The December 1941 SCB mentions that more workers were involved in stoppages than any year since 1919. Joel Seidman lists "Six Significant Strikes of 1941": the January-April Allis Chalmers strike (turbines, generators, electric motors, etc.) settled with the help of the Office of Production Management, the March Bethlehem Steel strike, the April bituminous coal strike, the June North American Aviation strike, the August Federal Shipbuilding strike, and the August Detroit Transit strike. Despite the strikes GNP was up strongly throughout the year.

1Q41: The Lend-lease program for Britain added to war material demand. Steel went to 97% of capacity. Aluminum was put on allocation by the Office of Production Management - Priorities Division. Price controls on aluminum and zinc scrap. A list of 218 critical items released.

2Q41: April strikes caused a dip in industrial output. The Office of Price Administration was created. Allocations of critical materials shifted to defense over civilian use. Steel prices set to return average costs to producers. Magnesium, nickel, tungsten, copper under allocation.

3Q41: On July 30 Roosevelt sent the Emergency Price Control Bill of 1941 to Congress (not passed until 1942). The Revenue Act of 1941 raising taxes was passed on September 20.

4Q41: Barger's growth rate for 1941 (4Q41/4Q40) was 16.76%, Balke 17.29%. The Pearl Harbor attack ended preparation for war, we were in it.

Unfinished Business

Congress did not pass the Emergency Price Control Act of 1941. But with the U.S. at war Congress passed the Price Control Act of 1942 on January 30, 1942.

ZERO BOUND SHORT TERM INTEREST RATES 1934-42, 2008-16

The 1934-1942 period may be the closest analogy to the current 2008-2016 zero bound ZB economy. From 1934 to 1942 until interest rates were pegged by the Treasury and the Fed in WWII, short term interest rates were near zero. See Exhibits 1 and 9. We have had a similar period of short term interest rates near zero (the zero bound or ZB) 2008-2016. A question is why and is there any common behavior of the two periods. **Exhibits 10 and 11 show a similar problem in Japan.**

Page 87 of Mishkin and Eakins (Financial Markets & Institutions 6th Ed) has a graph of inflation and the 3 month TBill rate showing a strong relation. The top part of Exhibit 12 shows an internet version 1954-2008 when the economy was presumably "normal". It is a graphical version of the Fisher Effect: $ir = in - infl$ (the real rate of interest is the nominal rate minus the rate of inflation). Or $in = infl + ir$. The relation between nominal rates and inflation is not perfect because ir is affected by the state of the economy. See Mishkin p. 89 showing that interest rates tend to decline in recessions. Also, rates are affected by changes in the money stock. See former Fed Chairman William McC Martin's "Punch Bowl Theory" discussed in the next chapter and former Fed Chairman Paul Volcker's "Saturday Night Massacre" of the bond market Oct. 6, 1979 in Chapter 7.

The top plot of Exhibit 12 holds when the economy is in a so-called "normal" state. But we have two 8 year periods when the economy was at the zero bound of short term interest rates: 1934=42 and 2008-2016. The bottom plot shows the relation of 3mo TBill rates (from FRED) to inflation (from Balke's GNP deflator) for the 1934-42 period. Data in Table 19. The middle plot shows the TBill rate from FRED versus inflation (GNP deflator Table 1.1.4 NIPA BEA).

Table 19: The Zero Bound Problem

| Date | i3mo | Infl | Date | i3mo | Infl |
|------|------|-------|------|------|------|
| 1Q34 | .24 | 10.64 | 1Q08 | 1.26 | 2.31 |
| 2Q34 | .15 | 4.55 | 2Q08 | 1.86 | 1.78 |
| 3Q34 | .21 | 7.11 | 3Q08 | 1.13 | 2.77 |
| 4Q34 | .23 | 0.00 | 4Q08 | .03 | .75 |
| 1Q35 | .15 | 4.12 | 1Q09 | .21 | .97 |
| 2Q35 | .15 | 0.14 | 2Q09 | .18 | -.62 |
| 3Q35 | .20 | -0.86 | 3Q09 | .12 | -.03 |
| 4Q35 | .15 | 0.72 | 4Q09 | .05 | 1.21 |
| 1Q36 | .20 | -0.72 | 1Q10 | .15 | 1.34 |
| 2Q36 | .20 | -2.42 | 2Q10 | .12 | 1.86 |
| 3Q36 | .16 | 6.21 | 3Q10 | .15 | 1.85 |
| 4Q36 | .12 | 4.49 | 4Q10 | .14 | 2.06 |
| 1Q37 | .38 | 11.29 | 1Q11 | .10 | 1.76 |
| 2Q37 | .36 | 3.75 | 2Q11 | .04 | 3.01 |
| 3Q37 | .31 | 2.47 | 3Q11 | .01 | 2.35 |
| 4Q37 | .11 | -8.49 | 4Q11 | .01 | .55 |

| | | | | | |
|------|-----|-------|------|-----|------|
| 1Q38 | .08 | -3.00 | 1Q12 | .08 | 2.15 |
| 2Q38 | .05 | -1.93 | 2Q12 | .09 | 1.79 |
| 3Q38 | .08 | 1.26 | 3Q12 | .11 | 2.37 |
| 4Q38 | .03 | -1.66 | 4Q12 | .07 | 1.49 |
| 1Q39 | .03 | -3.04 | 1Q13 | .09 | 1.50 |
| 2Q39 | .03 | -2.33 | 2Q13 | .05 | 1.10 |
| 3Q39 | .14 | 1.57 | 3Q13 | .02 | 2.00 |
| 4Q39 | .04 | 8.30 | 4Q13 | .07 | 1.79 |
| 1Q40 | .02 | 0.69 | 1Q14 | .05 | 1.49 |
| 2Q40 | .10 | 0.14 | 2Q14 | .04 | 2.23 |
| 3Q40 | .05 | 0.55 | 3Q14 | .02 | 1.59 |
| 4Q40 | .02 | 6.22 | 4Q14 | .03 | .12 |
| 1Q41 | .11 | 5.55 | 1Q15 | .03 | .11 |
| 2Q41 | .12 | 12.63 | 2Q15 | .02 | 2.12 |
| 3Q41 | .10 | 15.70 | 3Q15 | .02 | 1.32 |
| 4Q41 | .33 | 9.09 | 4Q15 | .23 | .88 |
| 1Q42 | .25 | 12.87 | 1Q16 | .29 | .74 |
| 2Q42 | .37 | 7.73 | 2Q16 | | |
| 3Q42 | .38 | 4.16 | | | |

Two questions are: Why have the zero bound episodes lasted so long; and what is the mechanism that that causes the zero bound condition to last indefinitely?

In the Sep/Oct 2010 issue of the Federal Reserve Bank of St. Louis Review St. Louis Fed president James Bullard wrote an article (Seven Faces of "The Peril") that mentions that there are two possible long run states of the economy. See **Exhibit 1a**. Avoiding the use of the term "normal" the conventional state of the economy is one characterized by the top graph in Exhibit 12. The other long run state is characterized by short term rates of interest at the zero bound, the bottom and middle plots of Exhibit 12. Bullard presents a theoretical model that generates the two states and compares U. S. performance to that of Japan 2002-2010. He came to the two stated idea through theory. We come to it by observation of **Exhibits 1, and 9-12**.

The second question is what mechanism keeps the zero bound in place. We believe it is "excess" excess reserves. The zero bound started in 1934 just when excess reserves jumped to \$1.375 billion in March from \$.891 billion the month before and a mere \$.055 billion average of the "normal" year 1930. The zero bound in 2008 began from August with the TBill rate at 1.72% and excess reserves at \$2 billion to December when the TBill rate crashed to .03% as excess reserves rose to \$767 billion (now \$2.330 trillion). Exhibit 10 shows a history of the TBill rate versus the excess reserve ratio. Exhibits 10 and 11 show a similar pattern for Japan 2002-2006.

What makes the zero bound state of the economy stable, in our opinion, is a dual problem. At a near zero short term rate that does not cover administrative costs and the miniscule possibility of a capital loss banks do not find it worthwhile to invest their excess reserves. And on the other side the huge overhang of potential buying power keeps rates near zero. Nobel economist John Taylor agrees with us. We met him at the May 17, 2016 House Subcommittee on Money and Trade meeting and showed him the excess reserves and interest rate graphs plus Bullard's paper.

Exhibit 1a shows excerpts from Taylor's testimony. His full transcript is available by googling (Interest on Reserves and the Fed's Balance Sheet John B. Taylor May 17, 2016). He, along with George Selgin of the Cato Institute, believe that in the long run we should return to using open market operations as the main Fed policy tool. Daniel Thornton, retired from the St. Louis Fed, also agrees. Google (Requiem for QE Daniel L. Thornton pdf).

The Biggest Change in Fed Operating Policy since the 1951 "Accord".

On June 22, 2016 the chairman of the House Financial Services Committee Jeb Hensarling asked Janet Yellen if the IOER (interest on excess reserves) procedure was going to supplant open market operations (OMO) on a permanent basis. Yellen refused to answer. Repeated attempts to get an answer by Hensarling failed. While Taylor, Selgin, Thornton, and we all oppose changing from OMO to IOER WE BELIEVE THAT YELLEN'S REFUSAL TO ANSWER MEANS THAT THE FED INTENDS TO SWITCH TO IOER FROM OMO. This will be the most

significant change in Fed operating procedure since the 1951 "Accord" which established the Fed's power to conduct open market operations. Prior to the "Accord" the Fed had been ordered by the Treasury during WWII and after to peg the 3mo TBill rate at 3/8% and the 10 year Treasury bond at 2 1/2%.

There is additional evidence that the Fed intends to use IOER on a permanent basis. The 2009 NY Fed paper by Todd Keister and James McAndrews (Google - Why Are Banks Holding So Many Excess Reserves?) describes the reasons for the procedure change backed up by Keister's May 17 testimony (Google - Interest on Reserves Todd Keister May 17, 2016 Financial Services Committee). These articles make it clear that the Fed thinks IOER is better than OMO.

Opposition to IOER. The Taylor opposition is in Exhibit 12. Thornton does not like specific market control and allocation schemes. Our opposition is a version of Thornton. We think IOER is an inverse version of the ill-advised Regulation Q. Reg Q was an artificial price control ceiling on the rates banks could pay on saving accounts (a ceiling on the liability side of bank balance sheets). IOER is an artificial price floor on the rates banks will charge on loans (a floor on the asset side of bank balance sheets). Reg Q distorted savings flows and caused "credit crunches" and led to the creation of money market funds which helped bring down the S&Ls and imperiled banks until the banks were "rescued" by the 1982 Garn-StGermain Act which essentially loosened Reg Q and paved the way for its extinction in 1986. We think that an "administered" rate (Taylor's term) or "dictated" rate (our term) on bank loans will cause similar mischief.

Also, Keister and Dudley (NY Fed President) say that IOER interest will filter down to savers in the form of higher passbook and CD savings rates. We have doubts about that. With huge excess reserves in excess of lending opportunities why should the banks compete for deposits by paying higher rates on savings? Why not just keep the IOER as pure profit? History may tell who is correct.

SUMMARY

Apparently the Fed has changed its operating procedure from OMO to IOER with no intent of returning to OMO. If so, this is the biggest change in operating procedure since the Accord of 1951. From Hensarling's question and Yellen's non answer Congress has not been informed of this change. Given that the Fed is a "creature of Congress" Congress should be informed. As mentioned there is opposition to IOER. At least the issue should be debated.

Note: Keynesians would argue that restrictive balanced budget fiscal policy led to the 1930-33 decline. While Roosevelt campaigned in 1932 on a balanced budget plank the poverty of 1933 led to the Tennessee Valley Authority, Civilian Conservation Corps, Civil Works Admin, Agriculture Adjustment Act, and Public Works Admin in 1933 among others followed by the Works Projects Admin and the WWI Veterans Bonus presumably helping the 1933-6 recovery. Of course the money stock was growing at double digit rates at the same time. Then under Roosevelt's effort to balance the budget as pledged in the 1936 campaign along with the Treasury's sterilization program and reserve requirement increase caused the 1937-8 recession and abandoning the balanced budget idea led to the recovery. In general during the whole Great Depression episode fiscal and monetary policy moved together so it was difficult to assign responsibility. **Friedman in his 1959 paper proposed to pay interest on all reserves. The key creator of IOR appears to be Marvin Goodfriend (then at the Federal Reserve Bank of Richmond) who got the basic idea from Friedman. Google "Marvin Goodfriend Interest on Reserves and Monetary Policy 2002.**

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APPENDIX A: DATA SOURCES

Economic Data: The main source of quarterly economic data is Balke and Gordon available on Googling "Appendix B Historical Data Balke Gordon". B&G's series are interpolations of annual data from the National Income & Product Accounts of the United States, 1929-76 Statistical Tables. Recognizing the tremendous effort they put forth in generating their tables there are some errors such as the government spending numbers for 1941, the phantom recession of 1939, and the consumption error of 1Q38 among others yet to be discovered. As a backup Harold Barger has a revised set of quarterly data. Google "Barger's Revised Quarterly NIPA Data: 1921-41". Barger has some category detail not available in B&G. Also he has National income and personal income not available in B&G. Also Barger's tables merge into the quarterly 1939-46 GNP and National Income tables (Tables 43 and 41) in the National Income and Product Statistics of the United States 1929-46 prepared by the National Income Division of the Department of Commerce.

Other series are available on the internet "BEA National Economic Accounts" Interactive Tables. Also, the Survey of Current Business, the Federal Reserve Bulletin, Biennial Supplement to the Survey of Current Business available on the St. Louis Fed FRASER data base. Various articles cited also contribute data as noted.

Monetary Data: The quarterly M1 money stock comes from "Monetary Aggregates Robert Rasche St Louis Fed", which also has currency held by the public Cp. Deposits then are M1 - Cp. Reserves, Currency in Circulation, Gold, Gold sterilization, and time deposits data come from "Banking and Monetary Statistics 1914-41" posted by the St. Louis Fed. Also data from the Federal Reserve Bulletin.

.Note: Keynesians would argue that restrictive balanced budget fiscal policy led to the 1930-33 decline. While Roosevelt campaigned in 1932 on a balanced budget plank the poverty of 1933 led to the Tennessee Valley Authority, Civilian Conservation Corps, Civil Works Admin, Agriculture Adjustment Act, and Public Works Admin in 1933 among others followed by the Works Projects Admin and the WWI Veterans Bonus presumably helping the 1933-6 recovery. Of course the money stock was growing at double digit rates at the same time. Then under Roosevelt's effort to balance the budget as pledged in the 1936 campaign along with the Treasury's sterilization program and reserve requirement increase caused the 1937-8 recession and abandoning the balanced budget idea led to the recovery. In general during the whole Great Depression episode fiscal and monetary policy moved together so it was difficult to assign responsibility.

Note: Veterans Bonus

The excess reserve ratio jumped to .1205 in July 1936 back to march and May levels. Two things happened in July. The Fed announced a 50% increase in reserve requirements would be in effect on August 16, 1936. Forewarned the banks started to rebuild their reserve inventory. The second factor was the \$1.76 billion veterans' bonus. Hausman (2012 The Case of the 1936 Veterans Bonus p. 10) estimates that \$1.2b was spent in June and July, and another \$.2b in the next 4 months. No estimate of how much was deposited in banks. Weekly reporting banks in BMS show no increase in savings accounts (\$5.051b in May to \$5.070 in October). But Dp went from \$23.509b to \$24.382b up \$.873b. However, Dp was up \$1.722b in the 5 months preceding, and \$.721b after, so there does not seem to be a major effect. Hausman p. 45 estimates 4.47% went into savings which would be \$79 million.

Note: Labor Effects

Labor had two effects: Rising wages contributed to cost push inflation; and higher labor costs reduced the rate of return on new projects lowering the demand for plant and equipment with a planning lag.

APPENDIX B: MONEY GROWTH RATE DECLINES AND RECESSIONS

The first line in the table covers the money decline associated with the 1937-8 recession. The first two columns identify the event and the dates of the money stock decline (some declines are positive; they will show a decline in money stock growth). The decline in M1 December 1936 to December 1937 was 5.58%. The third column shows the decline of 5.58% (M1 from Balke 1919-28, Rasche 1929-59, FRED 1960-84, M2 subsequently due to the demise of Regulation Q and the payment of interest on demand deposits). Column 4 shows the growth rate of money two years before the slowdown (18.36%) and Column 5 the growth rate in the year preceding the slowdown (13.87%). ΔgM in

Column 6 is Column 5 minus Column 3 showing the drop in growth contributing to the recession. The drop from 13.87% to -5.58% is 19.45%. Column 7 is the real GNP decline.

During the 1929-33 GNP decline the economy attempted to right itself as 1Q and 2Q31 real GNP rose slightly. The entry for 29-0 is for this first stage of the Great Depression decline. If the declines are taken to 1Q33 the drop in M1 is 31.63% and the drop in GNP 36.24%.

PERCENT MONEY DECLINE OF RECESSIONS

| DateOfDecline | Decline | gPrior2Yrs | ^gM | GNPDecline | |
|------------------|---------|------------|--------|------------|---------|
| 37-8 D/37-D/38 | -5.58% | 18.36% | 13.87% | -19.45% | -11.43% |
| 23-4 1Q23-1Q24 | 0.77% | 8.85% | 9.09% | -8.32 | -3.07% |
| 1927 4Q25-4Q26 | -2.07% | 8.13% | 5.95% | =8.02 | -3.21% |
| 29-0 10/29-10/30 | -11.17% | 0.31% | 2.11% | -13.28 | -17.17% |
| 48-9 1/48-1/49 | -2.55% | 6.71% | 3.67% | -6.22 | -1.50% |
| 53-4 4/53-4/54 | 0.17% | 5.44% | 3.66% | -3.49 | -3.24% |
| 57-8 1/57-1/58 | -0.97% | 2.00% | 0.91% | -1.88 | -3.25% |
| 1960 8/59-6/60 | -1.13% | 4.18%* | 4.53% | -5.67 | -1.28% |
| 66-7 1/66-1/67 | 1.66% | 4.55% | 5.23% | -3.57 | 0.11% |
| 69-0 2/69-2/70 | 2.86% | 6.76% | 7.90% | -5.04 | -0.97% |
| 74-5 3/74-1/75 | 3.82% | 9.30% | 4.89% | -1.07 | -4.88% |
| 1980 8/80-5/80 | 2.12%# | 8.47% | 8.35% | -6.23 | -2.34% |
| 81-2 7/81-7/82 | 4.94% | n/a | 8.36% | -3.42 | -2.96% |
| 90-1 D/90-D/91 | 3.75% | 5.72% | 5.47% | -1.72 | -1.32% |

*7mos, runs into the 1957-8 recession. #1.58% for 9 mos, 2.12% annual rate

For most recessions the format is the decline in money growth over the year preceding the recession, the money slowdown column. Next is money growth in the two years preceding the slowdown. ^gm is the drop in money growth from the preceding year to the slowdown year.

The 1980 recession is unusually short and sharp. The money stock growth drop started when Paul Volcker became Chairman of the Fed in August 1979.

The n/a for the 1981-2 recession runs into the recession of 1980.

APPENDIX C: DERIVATION OF BRUNNER-MELTZER FORMULA

$M = C_p + D_p$. $B_a = C_p + R$. Divide the M equation by the B_a equation and multiply through by B_a .

$$M = [(C_p + D_p)/(C_p + R)] B_a$$

Divide the numerator and denominator by D_p

$$M = [(C_p/D_p) + (D_p/D_p) / (C_p/D_p + r/D_p)] B_a$$

Substitute $k = C_p/D_p$, $1 = D_p/D_p$, $r = R/D_p$

$$M = [k + 1 / k + r] B_a$$

See Friedman "A Monetary History of the United States" p. 788

APPENDIX D: DEMAND FOR EXCESS RESERVES

Most money and banking texts of the 1970s mention the transactions, speculative, and precautionary motives for holding money which also should be relevant to bank holdings of excess reserves. We suspect that the main motive for accumulating excess reserves was precautionary born of the bank runs and failures of 1930-33. The Fed had failed

in its founding role of "lender of last resort" so the banks felt they had to self-insure themselves. We are looking for the author who said more or less, "Bankers were scared out of their wits by the bank runs and failures of the Great Depression which led them to be overly cautious and keep large precautionary reserves" (analogous to a buffer stock of inventory).

There is another train of thought that begins in 1952 with William Baumol who wrote "The Transactions Demand for Cash: An Inventory Theoretic Approach". Optimal cash holdings were basically determined by the opportunity cost of interest and "brokerage" fees (transactions and administrative costs). Then came other models such as Miller and Orr (A Model of the Demand for Money by Firms QJE 1966), and Frost. In general optimal inventories of goods or cash are inversely related to interest rates and positively related to brokerage-administrative costs and the variance of inflows and outflows.

APPENDIX E: SALES, PRODUCTION, INVENTORIES, PRICING (HMMS)

HMMS Inventory and Production Dynamics.

In a world where sales fluctuate there is a tradeoff between inventory costs and production change costs. Much of HMMS is about how to jointly minimize inventory cost (storage, interest, insurance, obsolescence, etc.) and production change costs (hiring and firing, training, setup, overtime, etc.). From p. 329 pricing can be involved, "prices could be lowered when inventories are high - - and rose when inventories are low and the factory is working on (expensive) overtime". In general (but HMMS show exceptions) when inventories are high there is a tendency to lower production and lower prices reluctantly. If low, production is raised and perhaps prices also.

A feature of HMMS p. 159-62 is the series of four graphs showing the inventory and production responses to step and impulse increases in sales and how they differ when the change in sales is anticipated versus when the change is a surprise. Chart 7 shows the case of an unanticipated impulse increase. An important observation is that when the system is destabilized things that normally move together may move in opposite directions and that it can take some time for it to return to equilibrium. As will be seen, an upside down version of Chart 7 explains much of what happened in the recession.

The first two columns of Table 13b help estimate whether the economy is in approximate equilibrium. Purchases of equipment are a type of confidence index. Unlike inventory which is a residual and can grow or shrink depending on demand, equipment is under the control of business management. Slowing or negative growth indicates a lack of confidence which tends to lead to a slowing of production. The letter n after the number in the ^Equip column indicates that confidence is negative and a capital N is severely negative. The inventory/sales I/S ratio is a well-known indicator of the state of inventories compiled in the national income and product accounts. High levels should lead to slower production. The letter h means the ratio is high and a capital H means the ratio is exceptionally high. The trigger for trouble usually is a decline in final sales FS which is in column 4 of Table 13b.

IOER: A RADICAL CHANGE IN FED OPERATING PROCEDURE

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ABSTRACT

For 57 years, from the "Accord" of 1951 which freed the Fed from pegging interest rates on Treasury securities to help WWII financing and after, to 2008 the main tool of Fed control was open market operations (OMO). As a result of the banking crisis of 2008 the Fed was authorized to pay interest on bank reserves (IOR) (bank cash and equivalents) on Oct 3, 2008 as part of the Emergency Stabilization Act. The subsequent bailout quantitative easings (QEs) have caused two problems: bank excess reserves have gone from \$2 billion in 2006 to \$2.3 trillion currently. This huge hoard has driven short term interest rates to near zero (the zero bound ZB). The QEs also have distorted the Fed's balance sheet so that it cannot eliminate the huge hoard of excess reserves causing the zero bound. So at the moment, the only way the Fed can raise short term rates is by paying interest on excess reserves (IOER) which sets a floor on the federal funds and bank loan rates. This paper traces the history of IOR and its component IOER. There is some opposition to IOER and we believe that IOER will have unintended consequences.

INTRODUCTION

On May 17, 2016 we (Carlson and Lackman) attended the House Subcommittee on Money and Trade meeting in DC. We met and talked with panelists John Taylor (Nobel Stanford, creator of the Taylor Rule), George Selgin of Cato, and Todd Keister of Rutgers (formerly researcher at the NY Fed). The topic was the Fed's balance sheet and IOER. Taylor and Selgin are for a return to open market operations once the Fed's balance sheet problems are corrected. Keister is pro IOER permanently.

On June 22, 2016 Janet Yellen testified before the House Financial Services Committee. Chairman Jeb Hensarling asked her if IOER was going to supplant OMO. She dodged and refused to answer. Twice. Then he asked about the original intent of IOER and where the idea came from. The best she did was to say "Ask Don Kohn" (former vice Chair of the Fed). A major goal of this paper is to answer Hensarling's questions.

Technical Note: A Brief Description of Money, the Monetary Base, and OMO. The simple money stock M is currency held by the public C_p plus bank deposits D_p . $M = C_p + D_p$. The monetary base B_a is currency held by the public plus currency held by commercial banks. Currency held by the banks is called reserves R . $B_a = C_p + R$. For ancient reasons going back to the 1800s banks are required to hold a percentage of reserves against deposits. These are called required reserves R_r . Additional reserves held by banks are called excess reserves R_e . Hence $R = R_r + R_e$. The appendix explains the Friedman-Brunner-Meltzer money stock formula that relates M and the base: $M = mB_a$ where m is the money multiplier. In turn the money multiplier is $m = 1 + c/c + r$ where c is the currency/deposit ratio $c = C_p/D_p$, and r is the reserve ratio $r = R/D_p$. The reserve ratio can be partitioned into the required reserve ratio rr and excess reserve ratio re : $r = rr + re$. The final money stock formula is $M = (1 + c/c + rr + re)B_a$.

The currency/deposit ratio c is basically a function of the public's spending and payment habits. It is stable in the absence of financial panics. rr is determined by the Federal Reserve's Regulation D. It changes rarely and is not a significant factor in monetary policy (especially following its overuse in 1936-7). In what we now call the "old normal" period of 1951-2008 re was generally as close to zero as possible (averaging below .003). The reason is that during this period short term interest rates were positive and since excess reserves then earned no interest the banks had an opportunity cost incentive to invest all the funds available. The easiest safe investment would be in 3 month Treasury Bills (TBills), 1 month Bills, and overnight loans to other banks in a market called federal funds. In the "old normal" the money multiplier was stable with re near zero.

OPEN MARKET OPERATIONS

The monetary base B_a (Friedman calls it "high powered money") is controlled by open market operations. It is simple. To increase B_a the Fed buys securities [usually short term Treasuries like 3 mo TBills, but it can buy longer bonds, government agency securities, and in the bailout even mortgage backed securities (MBS)] from the public and banks and pays for them with legal tender currency base money. To decrease B_a the Fed sells securities to the

public and banks and receives base money in return. In this way the Fed can control Ba and the money stock. But there is a by-product. Open market operations also affect interest rates.

OMO and Interest Rates

First we have to recognize that that bond prices and interest rates are inversely related (ignoring variable rate securities). Suppose we buy a 1 year TBill for \$960. We get back \$1000 in a year which means we got \$04 interest on \$960 or 4.17%. Suppose we bought it at a higher price, say \$980. Now our return is lower at 20/980 or 2.04%. When the Fed buys securities in an open market purchase the effect is to push securities prices up which lowers the yield. Open market sales tend to push prices down (such as when Carl Icahn sold his Apple stock) and yields up.

The relation of OMO to interest rates is not as strong as the relation of OMO to Ba. The reason is that there are other things that affect domestic interest rates such as foreign interest rate changes, inflation, and the oil crises from 1973 to 1990. Example, in the late 1970s the Fed expanded the base but interest rates went up, not down. The reason was that the public thought that the monetary expansion was inflationary and raised interest rates to compensate. But in the very short run the relation is strong which is why the Fed is so concerned with the overnight federal funds rate.

THE PRE-CRISIS ORIGIN OF IOER 1959-2004

Credit goes to Todd Keister for help with this section. His bibliography and Skype conversation gave us the sources of the IOER idea. Briefly, Milton Friedman presented the idea of interest on reserves (IOR) in his 1959 book "A Program for Monetary Stability" Fordham University Press. Friedman comments are in Exhibit 1. Then Marvin Goodfriend of the Richmond Fed modified Friedman's idea in his 2002 article "Interest on Reserves and Monetary Policy" Federal Reserve Bank of Richmond. From his language (see Exhibit 2) it seems clear that he is the inventor of the IOER control concept. Exhibit 3 contains the 2004 comments of Don Kohn. Permission to pay IOER was granted in the Financial Services Act of 2006 and slated to go into effect in 2011.

Friedman Comments

See Exhibit 1. Comment (a) from page 74 shows that Friedman did advocate the payment of interest on reserves but with the proviso (b) that the interest rate be set by the market rather than by Fed edict as recommended by Goodfriend (see Exhibit 2). Comment (c) shows Friedman's dislike of government control and that market solutions should be preferred. Comment (d) shows his objection to Regulation Q as price fixing and now we know that Q was a big mistake. The relevance is that IOER is an upside down version of Q: Q was a dictated ceiling on savings on the liability side of bank balance sheets, IOER is a dictated floor on bank loans on the asset side of the balance sheet. We believe both concepts are price fixing of specific markets. Q caused major problems and had to be repealed. Since IOER has been at nearly insignificant low levels so far we do not yet know what will happen when it goes to say 5.0% from the current 0.5%. In comment (e) Friedman fully endorses OMO as the preferred method of conducting monetary policy, an opinion backed by Taylor and Selgin (see Exhibit 4).

Goodfriend Comments

See Exhibit 2. Comment (a) gives credit to Friedman but instead of letting the IOR rate be determined by the market, IOR and IOER would be set by the Fed as a policy instrument. Now things get interesting. To implement IOER it is necessary to create huge commercial bank excess reserves large enough to drive short term rates, especially the fed funds rate, to zero (the zero bound or ZB). This would be done by purchasing huge amounts of securities in the open market as described in comment (b1). Simultaneously the Fed would set the IORR and IOER rates as in comment (b2). This would set a floor under bank loan rates, why would a bank lend at a rate lower than the risk free IOER rate? In Goodfriend's example a bank would not lend at 4% to a risky borrower when it can get a risk free 5% on its excess reserves. Comments (c1) and (c2) conclude that IOER would replace OMO as the operating procedure.

Since the steps recommended by Goodfriend have been done already Yellen should have answered Jeb Hensarling with, "Yes, IOER is here now and supplanting OMO". The next logical question would be to ask if this is a permanent change as advocated by Keister (see his May 17 testimony on the internet, and his article with James McAndrews "Why Are Banks Holding So Many Excess Reserves" 2009 New York Federal Reserve Staff Report). On the other hand Taylor and Selgin want to return to OMO after the Fed's balance sheet is repaired from the damage done by the

QE bailouts. The difficulty is that repairing the Fed's balance sheet is a giant problem. There are solutions but we do not think there is the political will.

Kohn Comments

See Exhibit 3. The most relevant comment is that the Fed saw no immediate need to implement IOER (2004) but that it would be a handy addition to the monetary toolkit. Clearly, IOER was not a high priority item for the Fed. It was authorized in the Financial Services Act of 2006, but not slated to go into effect until 2011.

ECONOMIC THEORY

Different Long Run Stable States of the Economy

In 2010 James Bullard, president of the St. Louis Fed, published an article in their Review (Seven Faces of the Peril) with the key concept in Exhibit 5. Bullard showed that there could be two long run equilibrium states of the economy. The first is what we now call the "old normal" economy of 1953-2007 featuring positive short term interest rates and minimal excess reserves. The reason excess reserves were so low, generally less than .003 of deposits is that excess reserves during this period earned no interest and incurred the opportunity cost of investing in safe short term instruments such as T-bills and fed funds. Why keep excess reserves when the bank could earn interest on these instruments? The second is what we call the "zero bound" or "ZB" economy. The ZB economy has very large excess reserves, large enough to drive short term rates to zero or near zero. At such low rates the opportunity cost of holding excess reserves is zero as described in Goodfriend's article (also in John Taylor's comments of Exhibit 4).

It turns out that the U.S. economy has been in the ZB state twice: from 1934 to 1942 (after which the Treasury caused the Fed to peg the prices and yields of Treasury Bills Notes, and Bonds - see Appendix A), and from 2008 to now. Exhibit 6 shows excess reserves and T-bill rates 1934-42 with the zero bound lasting 8+ years. Exhibit 7 shows the same quantities for 2008-15 (about 7.4 years) at which point the Fed raised the IOER rate from .25% to .50%. Exhibit 8 shows the excess reserve ratio re (re is excess reserves divided by bank deposits), the 3mo T-bill rate ($i3mo$), and the fed funds rate (iff) for selected years 1929-2016. The table and graphs show when the excess reserve ratio is high in a "normal economy" (above .02) short rates are near zero and the economy is in the ZB state, when short rates are high the opportunity cost drives re to low values below .02. Since Bullard's paper mentioned Japan as also having a ZB state we constructed Exhibit 9 to see if Japan's behavior was similar to that of the U.S. It was.

A POSSIBLE THIRD STATE OF THE ECONOMY

The IOER Economy

Exhibit 9 for Japan ends in 2010, the date of Bullard's paper. In the Japanese ZB period from mid-2001 to mid-2006 the Japanese call rate (their key short term rate) went to zero as expected. In November 2008 Japan started an IOER of .10% (small, but large enough to be detected). After a bout of "normalcy" (re near zero and the call rate positive - mid 2006 to mid-2008) the Japanese economy once again returned to a ZB type state in late 2008. Except that this time the call rate did not go back to zero, it went to .10%, the IOER rate. Which is what Goodfriend's analysis predicted. Presumably, if the Bank of Japan (BOJ) had set the IOER rate at .30% the call rate would have settled there. On the right hand side of Exhibit 9 is the note "IOER rate".

Exhibit 10 extends the Japanese analysis from 2010 to early 2016. Two interesting things happen in this graph. First, the call rate gradually slipped below the IOER rate. The floor may have had a hole or leak. Then on Feb. 16, 2016 the BOJ instituted a negative rate of .10% on new incremental excess reserves (the rate on legacy reserves already existing was unchanged). The call rate gyrated lower. There is an article by Bowman, Gagnon, and Leahy (Interest on excess Reserves: The Experience of Foreign Central Banks - Staff of the BOG of the Fed) indicating that if some players in the short term market are ineligible for IOER there can be "leakage". At the moment an IOER economy looks like the ZB economy with a higher short term interest rate.

The ZB Disconnect Between Inflation and Short Rates

Mishkin and Eakins have a graph of inflation versus the T-bill rate in their financial markets text, the top of Exhibit 11 is a similar version from the internet. It shows a graphical version of the Fisher Effect equation relating nominal interest rates, real interest rates, and inflation: $ir = in - infl$ (if you get 4% on a savings account and the inflation rate is 3% then your real rate is 1%). Or: $in = ir + infl$ [the exact function is $(1+in) = (1+ir)(1+infl)$]. There is a strong but not perfect relation between in and $infl$. Now look at the bottom graph which is in versus $infl$ during the 1934-42 ZB period. There is virtually no relation; the Fisher Effect disappears in a ZB economy. The middle graph shows the 2008-2015 ZB period. We suspect that the same will happen in an IOER economy.

The significance of this is that linkages that existed in the "old normal" economy may not exist in the IOER economy. In particular, hawks who want to raise interest rates seem to think that all we have to do is raise the IOER rate to raise the fed funds rate and we will be back to normality. Maybe an increase in IOER-fed funds will drag T-bill, CP, and savings rates along. But maybe not.

THE CRISIS OF 2008 ESTABLISHED IOER

The Goodfriend plan had two parts: creating huge excess reserves at the commercial banks driving short term rates to zero or near zero, the ZB economy. Then IOER could be used to set the fed funds rate. The bank bailouts of 2008 in response to the Crisis of 2008 created the ZB condition (see Exhibit 7). On Oct 3, 2008 after the Lehman Bros failure of September 15 the Emergency Stabilization Act authorized the use of IOER as part of the bailout. Goodfriend's two steps were completed and IOER became the method of managing the fed funds rate (along with repos and reverse repos but IOER is the main instrument). Classical open market operations are no longer used because of the balance sheet problem.

The Fed's Balance Sheet Problem

In normal times the Fed has had a balance sheet capable of conducting the open market operations that it wanted to execute with 3 exceptions. Milton Friedman (1959) mentions that when the Fed started in 1914 it did not have enough securities in its portfolio to sell to reduce the monetary base and fight WWI inflation. The second episode cited by Friedman was in the mid-1930s. The third is the current situation. We show three situations: the problem of July 1936, the normal situation of December 2006, and the current situation September 21, 2016. Then we present Friedman's solutions. d = days, yr = year(s), Re = excess reserves. \$ in billions. MBS = mortgage backed securities.

The Problem of July 1936: Fed's Securities Holdings vs Re of \$2.907

The Fed's Securities holdings were:

| 0-90d | 90d-1yr | 1-5yr | 5+yr | Total | |
|-------|---------|-------|------|-------|----------------|
| .279 | .649 | 1.177 | .325 | 2.430 | U.S.Treasuries |

In the mid 1930s the Fed considered the excess reserves of \$2 to \$3 billion to be excessive (Re at the end of 1931 was a mere \$60 million). The perceived threat was that the banks would start lending these funds expanding the money multiplier, money, credit, and starting an inflationary boom. The conventional way to get rid of the excess reserves would have been to sell securities from the Fed's portfolio to lower the excess reserves of the banks. But as can be seen from Fed Securities holdings in July, 1936 even if the Fed had sold everything that it had the Fed total of \$2.430 was smaller than the bank Re holdings of \$2.907 (another problem was that selling long term securities would crash the bond market). Friedman noted this situation and said in 1959 that it would not occur again (he was wrong because it did happen again courtesy of the 2008-9 crisis). But if it did there were two solutions.

One was to allow the Fed to issue its own securities (we would call them FBills analogous to T-bills). The other was to coordinate with the Treasury. See Exhibit 12.

The actual solution to "sterilize" (an expression used by Keister) or freeze the excess reserves used by the Fed was to double the reserve requirement which contributed to the recession of 1937-8.

The "Normal" Distribution of Securities Holdings: December 2006. Re = 1.863

| 0-15d | 16-90d | 91d-1yr | 1-5yr | 5-10yr | 10+yr | Total | |
|-------|--------|---------|-------|--------|-------|-------|-----------------|
| 41 | 181 | 185 | 224 | 68 | 80 | 779 | U.S. Treasuries |

Note that the short term 0-90 day holdings of the Fed (\$222 billion) are 119 times as large as the excess reserves of the banks, more than sufficient to remove any "excess" excess reserves.

The Current Situation September 21, 2016. Release H.4.1. Re = 2270

| 0-15d | 16-90d | 91d-1yr | 1-5yr | 5-10yr | 10+yr | Total | |
|-------|--------|---------|-------|--------|-------|-------|-----------------|
| 7 | 35 | 160 | 1214 | 443 | 2381 | 4240 | Total |
| 7 | 31 | 151 | 1209 | 431 | 635 | 2464 | U.S. Treasuries |
| 0 | 4 | 9 | 4 | 0 | 2 | 19 | U.S. Agencies |
| 0 | 0 | 0 | 1 | 12 | 1744 | 1757 | MBS |

The 2008-9 bank bailout and subsequent quantitative easings sent bank excess reserves soaring to \$2.270 trillion (an astonishing 1218 times the 2006 level) and distorted the Fed's balance sheet with an enormous amount of long term debt (with some possible quality questions, apparently the Fed will not allow an audit of the \$1.757 trillion of mortgage backed securities), and trivial short term holdings. Bank excess reserves are 11.24 (2270/202) times as large as the Fed's 0-1yr holdings. Even if the Fed sold everything under 10 years (\$1859) to the banks, excess reserves would still be \$411 billion, 200 times the "normal" level of about \$2 billion. With this balance sheet open market operations are futile (which is exactly what Goodfriend wanted in order to establish the IOER system).

We cannot go back to the "old normality" unless the "excess" excess reserves are eliminated. And the only way to do that is with the Friedman suggestions mentioned by Hilsenrath in Exhibit 12. The chance of this happening currently is near zero. Congress apparently has to authorize the issuance of FBills (not likely since the Treasury probably will not like competition with T-bills).

PROBLEMS WITH PRICE FIXING: REG Q AND IOER

Milton Friedman (Exhibit 1d) said that the price ceilings on savings (done through Regulation Q) were a case of price fixing. Reg Q was a ceiling on commercial bank savings rates on the liability side of the bank balance sheet. IOER is an upside down version of Reg Q. IOER rates set a floor on commercial bank lending rates on the asset side of the bank balance sheet. Reg Q caused a huge amount of mischief and changed the structure of the financial sector; with disintermediation leading to NOWs (negotiable orders of withdrawal, the establishment of money market funds (MMFs), the 1982 Garn St. Germain Act to save the banks from the onslaught of the MMFs, the demise of the savings and loans (S&Ls), and a series of credit crunches. Ultimately Reg Q had to be repealed in 1986, 27 years after Friedman's warning. Now the Fed is going to try another version of price fixing with IOER.

Review of Reg Q Problems

The following diagrams give a quick view of the effects and damage caused by Reg.Q. The triggering events were inflation driving T-bill and commercial paper (CP) rates above the savings rates allowed by Reg Q. The Fed could have set the Q rates above the T-bill and CP rates but it did not. The full story is in Meltzer Vol 2 Part 1.

Exhibit Q1 came from the St Louis Fed. It shows disintermediation when the T-bill and CP rates went above the constrained savings rates. Disintermediation was the process of sophisticated savers withdrawing their savings from the banks and S&Ls and buying T-bills and CP to get the higher yields. There were tiny problems in 1955 and 1962. Exhibit Q1 shows a minor disintermediation in latter 1966 and then the major credit crunch of 1969-70 which forced the Fed to yield to market forces in January and June 1970.

Exhibit Q2 is a flow chart showing the flow of savings being directed from banks, S&Ls, and credit unions to the free unregulated T-bill and CP markets (interest rate differences exaggerated for illustration). The term "credit crunch" comes from bank customers hurt by the disintermediation. The withdrawals from the banks etc. meant that they had relatively less funds to lend and since lendable funds were scarce the banks could raise their loan rates. Fewer funds at higher rates "crunched" bank borrowers such as home loans, personal loans, small business loans, mortgages, student loans, etc. Large creditworthy firms such as GE had no problems since they just shifted their financing needs

to the CP and bond markets which expanded with the funds withdrawn from the banks. Indeed, these firms benefited as their weaker competitors did not have the credit ratings to tap the CP market and had to pay high rates from the banks or even were shut out of financing altogether.

Exhibit Q3 shows the profitability of the banks during the 1969-70 credit crunch. The slightly lower volume of loans was more than offset by the higher interest rates charged and loan profit soared. The banks loved Reg Q at this point. Legal note: if there had been no Reg Q and banks had colluded to pay artificially low rates on savings they would have been prosecuted under antitrust laws. Reg Q allowed the banks to engage in government sponsored anticompetitive behavior. This shows why it is so hard to get rid of bad law and regulations. Some participants such as the banks in this case benefit from bad regulation. They hire lobbyist and fight fiercely to keep their advantage. But Q had destabilized the financial sector as the next exhibit shows and the banks changed their mind.

Exhibit Q4 shows the path of bank deposits over the long run. The final stage was the explosive growth of the MMFs. Starting in 1979 the lightly regulated MMFs took huge amounts of deposits from the banks. The banks had to be rescued by the 1982 Garn St. Germain Act which allowed MMDAs (money market deposit accounts), a big hole in Reg Q. Problems remained until the elimination of Q in 1986.

The practice of lending long and borrowing short also played a major role in the demise of the S&Ls and some banks during this time, and also was a factor in the demise of the investment banks in 2008 and even the original money market fund (the Reserve Fund) but this is another topic.

What can we expect from IOER price fixing?

So far IOER rates have been very low. What we need is to have IOER rates in say the 3% area to really find out what happens. Let us go back to Q for an example. Suppose the market rate for savings is 2% and the Reg Q rate is 3%. In this situation Q is nonbinding and should have no effect. But if Q is 3% and other rates 5% then we have disintermediation. Analogously, if the market loan rate is 3% and IOER rate 2% the IOER rate is nonbinding and should have no effect. Therefore, for IOER to have an effect it must be higher than the relevant market bank loan rate (fed funds). In other words an effective IOER rate will force bank loan rates above what they would be otherwise. Some bank borrowers will be priced out of the market by the higher rates, others unable to escape to the CP market will pay higher rates. This is what happened in the Reg Q credit crunches. From an antitrust standpoint if there was no IOER and banks colluded to raise bank loan rates they would be prosecuted for antitrust activity.

The Effective Federal Funds Volume

The market for federal funds is an auxiliary market that began in the 1920s, ceased in the 1930s when banks had huge excess reserves and in WWII and after to 1951 when the Fed and Treasury pegged interest rates. If the fed funds market did not exist banks could get funds from the Fed's discount window or sell their holdings of T-bills held as secondary reserves. Current average volume from the FRED data base is about \$70 billion. It is a relatively small market compared to T-bills and commercial paper (\$1300 and \$1027 outstanding as of 2015). The question we have is whether the fed funds market is a tail trying to wag the dog. Or, will the T-bill and CP rates follow the IOER rate or go their own way. If the Fed wants to control interest rates it knows how because it did it in WWII and after to 1951.

Example of pegging the 3mo T-bill rate at .38% as the Fed did in WWII. See Banking and Monetary Statistics 1941-70 p. 693 and Exhibit 13. If the Fed wants to control interest rates it can use the proven WWII method. The Fed offered to buy or sell T-bills at a price of \$999.06. Interest was $.94/999.06 = .0009408$. Compound this four periods to get the annual rate of .00377 or .38%. This is a proven procedure because it was done. And it will bring the CP rate along with it.

New York Fed president William Dudley predicted that as the IOER rate rose, bank savings interest rates would rise. We are not sure about this. Banks may understand that competing for deposits is a near zero sum game and choose to let IOER payments drop to the bottom line as pure pretax profit. IOER will have zero expenses since the Fed will credit the bank automatically.

CONCLUSION

We have the answers to the Hensarling questions. The history of IOER and that it is in place now. The huge amount of "excess" excess reserves and the maldistribution of assets on the Fed balance sheet (legacy of the QEs) make ordinary open market operations (favored by Friedman, Taylor, Selgin, Thornton, and us) ineffective. See Thornton (Requiem for QE). Accordingly, it seems that the only option is to use IOER to manage monetary policy (along with assists from repos and reverse repos).

We disagree. If we are going to fix short term interest rates and get back to the old normal we prefer to fix the rate on a major instrument, 3 month T-bills rather than on a relatively small auxiliary instrument such as fed funds. We know that we can peg the T-bill rate because we have done it before. It is a proven effective method. The instructions are in Exhibit 13.

Suppose the T-bill rate is fixed at say .50% which is where the IOER rate is now and put the IOER back to zero. Now the banks would have a motive to swap their \$2.270 trillion of cash equivalents earning zero for T-bills earning .50%. Where would the T-bills come from? The Treasury and its continuing financing of the deficit. And the Fed could swap its longer term Treasuries back to the Treasury in exchange for T-bills which then would go to the banks in exchange for the "excess" excess reserves hence fixing the balance sheet problem.

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FREE PRICING OR CARRY-OVER SPOTLIGHTING? AN EMPIRICAL INVESTIGATION ON AMAZON APP MARKET

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ABSTRACT

In this study, we examine the effect of free pricing and the carry-over effect of high visibility on App sales when those two marketing strategies are simultaneously employed toward a single App. Specifically, we utilize Amazon's Free App of the Day (FAD) as a natural experiment that combines both free pricing and high visibility in one promotion. FAD spotlights a single App daily and makes it available free of charge during that day. By analyzing the real-market data crawled from Amazon, we find that free pricing and spotlighting are indeed effective to promote sales simultaneously. We also find evidence that the spotlighting carries over to the post promotion, even when the corresponding App is no longer in the direct spotlight. Online user reviews continue flooding into those previous FAD Apps, which helps increase the product visibility on the market. Such a carry-over spotlighting can lead to even greater sales, when this flood of online user reviews can be generated more gradually and slowly during the post promotion.

INTRODUCTION

Mobile Apps have created an increasingly large and profitable market. More than half of the top start-ups are mobile App developers (Dow Jones VentureSource and The Wall Street Journal, 2016). Based on the Pyze report from Singh (2016), users install 37 Apps on average in their phones, and use 12 Apps daily. Undoubtedly, this emerging market has produced thousands of quality jobs and successful stories of entrepreneurship. On the other hand, the competition in this market is increasingly intensive and brutal: 4 million Apps are currently available in the market; more than 200k Apps were added to Apple App store in the second quarter of 2016. This market competition limits the profitability of App developers: over 70% of them make less than \$5,000 per month. As a result, there is a strong market need of App developers to promote their products and attract more customers. Accordingly, various marketing strategies are resorted to in mobile App market, aiming to promote Apps through different pricing models, digital advertisements, Word-of-Mouth (WOM) through online user reviews, and others. Among these strategies, two marketing practices are particularly interesting. Many App developers offer their paid App, free of charge, during a promotional campaign. In addition, App developers are willing to pay to have their Apps spotlighted as featured products on a front page at a specific marketplace or at a third-party App discussion website.

Despite of these marketing practices, little is known with rigorous empirical evidence regarding 1) how effective it is for a particular App to adopt both free pricing and spotlighting simultaneously; 2) how the promotional effort impacts online WOM in the post promotional period in a carry-over fashion. The answers to these questions can help App developers, marketers, and App hosting websites to effectively design App marketing strategies. For example, if visibility-related promotion largely outweighs the free pricing in affecting App sales, it would be a waste of resources to employ both of them at the same time. More interestingly, if the carry-over effect of visibility-related promotion exists, App developers can foresee a greater return in App sales than expected.

To answer the above questions, we choose Amazon App market to empirically analyze the sales impact of free pricing and the sales impact of high visibility in the post promotion, when both of them are applied towards the Apps simultaneously. In particular, we are fortunate to find a natural experiment on Amazon that allows its listed Apps to adopt both free pricing and enhancing high visibility in one single promotion. In 2015, Amazon offered "Free App of the Day" (FAD) promotion to spotlight one single paid App every day and lower down its original price to zero. Each day, Amazon highlights the FAD App in the noticeable center of Amazon App entry page. The following screen shot in Figure 1 shows an example of this promotion. Therefore, we are able to comprise a daily panel data set of 34 Apps over the period that starts from each App's FAD promotion date as Day 1 through Day 10, so that 9-day post promotion for each App is captured. The data was collected daily and automatically by a self-programmed web crawler.

By conducting descriptive analysis and rigorous regression modeling, we find evidence that both free pricing and spotlighting are effective to influence App sales when they are offered at the same time towards one single App. More importantly, spotlighting has a carry-over effect in the post promotion when the previous FAD App is no longer in the direct spotlight. In particular, we find that spotlighting from the promotion will continue attracting a flood of online customers at the early stage of post promotion to discuss the App by leaving a lot more reviews online, relative to the

late stage of post promotion. Over time, such impact will be washed out and the number of reviews will eventually lower down to a stable level. The carry-over effect will be more significant with a gradual and slower flood of user reviews into the post promotion.

Figure 1 Amazon Free App of the Day (FAD)



In the following section, we describe our specific research context, data collection, and key variables. Empirical analysis is followed to explain descriptive statistics, introduce regression model, and interpret results. Finally, conclusions, limitations and future research are briefly discussed.

DATA

Context and Data Collection

Amazon launches its App Store for android operating system in March 2011. It opened with a small collection of Android apps of around 3,800. As of 2015, Amazon App Store for Android has grown to approximately 300,000 apps. Many developers have decided to also sell their apps at Amazon App Store in addition to Google Play, in hopes of more exposure to their customer and higher sales. In addition, Amazon has an extensive customer review community, which hosts product quality information generated by customers themselves. In particular, customers can give Apps reviews by an overall rating in a 5-star rating system and also detailed comments. Amazon summarizes the reviews for each App by an average rating and the total number of reviews, and readily lists this information near the App title. This review community is informative and especially useful for customers to make purchase/download decisions, given the experience goods nature of Apps and extremely overwhelming App offerings. As a step further to promote Apps, Amazon also launched the aforementioned FAD promotion to highlight one single paid app in a day and make it free-of-charge.

This gives us a perfect context where we can test a marketing strategy that combines both spotlighting and free pricing simultaneously. In this type of context, it can be difficult to differentiate those two effects that are offered together. However, this particular Amazon FAD context provides a natural experiment that allows us to successfully separate them after intentionally collecting reviews data and price change in post promotion. First, we kept tracking the reviews of those previously FAD promoted Apps after the promotion. We use the distribution of daily number of reviews to capture the spotlighting effect carried over from the FAD promotion. Second, we observed that some Apps have finished their FAD promotion, however, are still kept for free of charge for another few days, normally two or three days. This gives us the opportunity to statistically test the free pricing effect by utilizing such price variation in the regression model when the direct spotlight is over. Given the experience good nature of mobile App, we believe our findings can also provide some implications to other experience goods, such as books, music and software, in online market (Zhou & Duan, 2012).

We conducted daily collection over totally 34 Apps that have gone through the FAD promotion during the time period of 06/04/2015~07/23/2015. For each App, we collected its data starting from the FAD promotion date, named as Day 1, and continued the data collection daily over the same App for the following nine days, until Day 10. To automate the daily data collection, we developed a java-based web crawler that automatically parses the App page from Amazon App Store and saves the data into files. Specifically, the web crawler runs daily to track the old Apps that have finished FAD promotion yet still within 10 days, and add the new FAD promoted App. In particular, for each app being collected in that day, we collected the App's sales rank, listed price, total number of reviews, average rating, the number of reviews for each rating level (i.e. 5-star, 4-star, etc.), App size, developer, released date, Amazon sequence identification number, version, URL, and many other App characteristics. We summarize all of the variables used in this study in the following table 1. Some variables are calculated based on the collected data, e.g. *SkewDaily_i* and *KurtDdaily_i*, which will be explained further in the next sub-section.

Table 1 Variable Descriptions

| Variables | Descriptions |
|------------------------|----------------------------------------------------------|
| i | App i ($i=1,\dots,34$) |
| t | Day t ($t=1,\dots,10$) |
| $SalesRank_{i,t}$ | Sales rank of App i at day t |
| $NumReviews_{i,t}$ | Total number of reviews App i receives at day t |
| $AverageRating_{i,t}$ | Average ratings of App i at day t |
| $VarianceRating_{i,t}$ | Rating variance of reviews of App i at day t |
| $Age_{i,t}$ | Days since Amazon has released App i by day t |
| $AppPrice_{i,t}$ | Price offered by Amazon for App i at day t |
| $Day_{i,t}$ | Days since App i was Free App of the Day |
| $SkewDaily_i$ | Skewness of daily number of reviews of App i by Day 10 |
| $KurtDdaily_i$ | Kurtosis of daily number of reviews of App i by Day 10 |
| $AppSize_{i,t}$ | The size of the downloadable App i at day t |

The following table summarizes the descriptive statistics of those 34 collected Apps. We find a large variance in all the measures, which indicates a good coverage of Apps at different stages of product life cycle and with different market shares.

Table 2 Descriptive Statistics

| | Min | Max | Mean | SD |
|------------------------|------|--------|-------|-------|
| $SalesRank_{i,t}$ | 1 | 10273 | 1156 | 1556 |
| $NumReviews_{i,t}$ | 4 | 3950 | 518 | 910 |
| $AppPrice_{i,t}$ | 0.00 | 7.99 | 2.10 | 1.54 |
| $AverageRating_{i,t}$ | 2.60 | 4.70 | 3.95 | 0.46 |
| $VarianceRating_{i,t}$ | 0.47 | 3.32 | 1.62 | 0.59 |
| $Age_{i,t}(MB)$ | 81 | 1579 | 714 | 445 |
| $AppSize_{i,t}$ | 0.15 | 240.10 | 43.37 | 53.17 |

Key Variables

This study attempts to investigate the impact of free pricing promotion and carry-over spotlighting on online App sales. As an alternative to the inaccessible true transaction data, we use Amazon sales rank as the proxy for Amazon sales. The Pareto relationship between Amazon sales and sales rank has been well established and widely applied in prior studies (Brynjolfsson, Hu, & Smith, 2003; Chevalier & Mayzlin, 2004; Ghose & Sundrararajan, 2005; Gu, Park, & Konana, 2012). Similarly, we use Amazon sales rank ($SalesRank_{i,t}$) with a negative log transformation ($-\ln(SalesRank_{i,t})$) to approximately measure the log value of actual sales. It is notable that the collected rank data on the FAD promotion date is in the category of Free Apps, whereas the collected rank data in the rest dates is in the category of Paid Apps. It is not reasonable to compare ranks in two different ranking systems. Therefore, we only keep the data for each app since Day 2 through Day 10.

One of our key independent variables is ($AppPrice_{i,t} - AppPrice_{i,1}$), where $t > 1$. It measures the difference of App price ($AppPrice_{i,t}$) at Day t during the post promotion (i.e. $t > 1$) and the App price on the promotion date ($AppPrice_{i,1}$) (i.e. $t = 0$) to test the free pricing effect. In this FAD promotion, $AppPrice_{i,1}$ is actually equal to 0, but we still keep it in the presentation of this term to be more meaningful. In terms of measuring the carry-over spotlighting, we introduce two measures: skewness of the daily number of reviews over 9 days for each app ($SkewDaily_i$), and kurtosis of the daily number of reviews over 9 days for each app ($KurtDdaily_i$). According to the statistic definition and attributes of skewness, a positive $SkewDaily_i$ implies a right skewed distribution of daily number of reviews, while a negative $SkewDaily_i$ implies a left skewed distribution. The skewness, therefore, captures when there is a flood of user reviews into the App post promotion. We find a positive skewness for each of our 34 Apps, indicating the flood of user reviews does occur and it occurs at the early stage of post promotion. This is not surprising and rather consistent with our expectations. The promoted App was in the direct spotlight on the date of FAD promotion, therefore, the spotlight carries over to receive a lot more daily reviews at the beginning of the post promotion. Gradually such spotlighting effect will be washed out and the visibility will go lower to its normal status as the time passes. Similarly, the statistic attributes of kurtosis determine that a larger value of $KurtDdaily_i$ implies a sharper skewness in the distribution of daily number of reviews. In other words, $KurtDdaily_i$ capture the intensiveness or the velocity of the flood of user reviews caused by the carry-over spotlighting. On the contrary to $SkewDaily_i$, Apps in our sample seem to have some variation in the sharpness of the distribution. Therefore, we will leave to our following regression model to more rigorously explain this variable.

Table 3 Skewness and Kurtosis of the Distribution of Daily Number of Reviews

| | Min | Max | Mean | SD |
|----------------|-------|------|------|------|
| $SkewDaily_i$ | 0.31 | 2.83 | 1.82 | 0.72 |
| $KurtDdaily_i$ | -1.55 | 8.24 | 3.40 | 3.13 |

EMPIRICAL ANALYSIS

Descriptive Analysis

In order to investigate the sales impact of free pricing and carry-over spotlighting from FAD promotion, we first try to explore the data descriptively. In particular, we look into the distribution of average ranks of all 34 Apps over 9 days since Day 2 in Figure 1, the average daily number of reviews and also the average rating of all apps over 9 days and over 10 days in Figure 2 and Figure 3 respectively.

It is very interesting to observe a decreasing trend in average rank in Figure 2, which implies an increasing sales trend, at the beginning of post promotion. Please note the larger values of sales rank means lower sales. This provides some preliminary evidence that the FAD promotion, which combines free pricing and spotlighting, does carry over to the post promotion. The rank starts to become larger, which indicates less sales, as time passes through the post promotion. This may imply that the carry-over effect is washed out by time. Figure 3 provides some potential explanations to interpret the fluctuation of sales rank. Combined with the positive skewness explained in the previous section, the daily number of reviews tends to be flooding into the App at the beginning of post promotion and gradually lower to a stable level. This paves the ground for us to test the impact of the occurring timing and velocity of user reviews caused by spotlighting from FAD promotion. In addition, Figure 4 shows that when there are carry-over effect existing at the beginning stage of post promotion, online customers tend to be more tolerant in giving ratings. This highlights the importance of controlling for the ratings in statistical analysis. We will continue exploring such carry-over effect by developing a rigorous regression model in the following sub-section to identify influencing factors.

Figure 2 Average Rank over 9 days

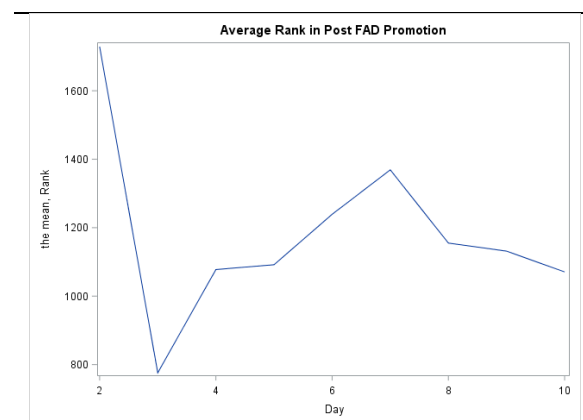


Figure 3 Average Daily Number of Reviews over 9 days

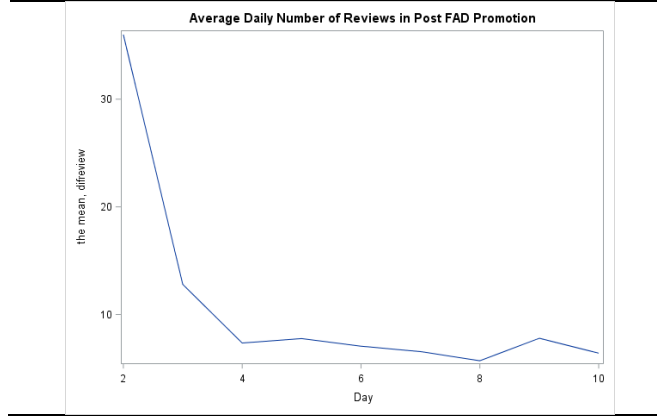
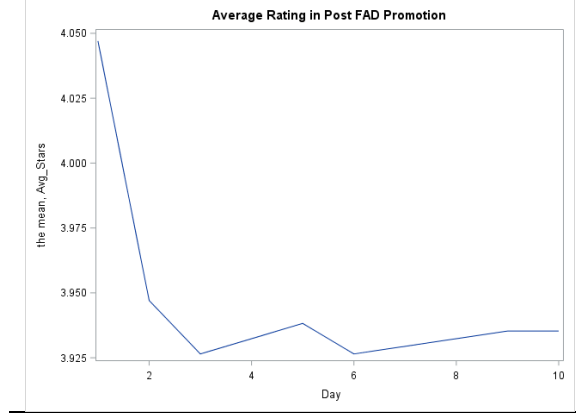


Figure 4 Average Rating over 10 Days



Regression Model

Based on our observations in descriptive analysis and our key variables, we construct the following panel-data model with App-fixed effect and time-fixed effect:

$$\begin{aligned}
 & -\ln(\text{SalesRank}_{i,t}) \\
 &= \beta_0 + \beta_1 * (\text{AppPrice}_{i,t} - \text{AppPrice}_{i,1}) + \beta_2 \text{SkewDaily}_i + \beta_3 \text{KurtDaily}_i \\
 &+ \beta_4 \ln(\text{NumberReviews}_{i,t}) + \beta_5 \text{AverageRating}_{i,t} + \beta_6 \text{VarianceRating}_{i,t} + \beta_7 \text{Day}_{i,t} \\
 &+ \beta_7 \text{Age}_{i,t} + \beta_7 \text{AppSize}_{i,t} + \mu_i + \rho_t + \varepsilon_{i,t}
 \end{aligned}$$

As explained earlier, we use $-\ln(\text{SalesRank}_{i,t})$ as the dependent variable to proxy the negative log value of Amazon sales rank of product i at day t . Given the negative log linear relationship between the sales rank and sales, this model can estimate the sales impact of independent variables. We first include the difference of current App price and the App price on the date of FAD promotion, $(\text{AppPrice}_{i,t} - \text{AppPrice}_{i,1})$, to test the free pricing effect, as explained earlier. Again, $\text{AppPrice}_{i,1}$ is equal to 0. Some Apps were off the direct spotlight after the FAD promotion is over, however, still keep the zero pricing for another few days. This gives the model enough data variation to estimate the coefficient on this term (β_1). In addition, once the App has been put back to its original price, its price doesn't change during the rest of data collection period. Therefore, this price difference is either zero, or the same to price discount at the FAD promotion date. Accordingly, a negative (β_1) would imply a significant positive free pricing effect of FAD promotion.

We also include SkewDaily_i and KurtDaily_i to capture the carry-over spotlighting effect in the post promotion. Customers are shown to share their experiences online for self-enhancement (Dichter, 1966; Hennig-Thurau, Gwinner,

Walsh, & Gremler, 2004). Self-enhancement is defined as users' emotional desires to gain attention and enhance their images among others (Dichter, 1966; Hennig-Thurau et al., 2004; Sundaram, Mitra, & Webster, 1998). Hennig-Thurau et al. (2004) empirically verified that self-enhancement has a significant impact on the number of comments in online opinion platforms. Although FAD promotion puts the corresponding App in the direct spotlight only in one single day, it is reasonable to expect some carry-over spotlight even after the promotion is over. Customers would take the App's participation in FAD as a popularity indicator of this App on the market, as they would expect online customers in the review community have noticed this App through FAD. Also not all the Apps have the chance to be in FAD. By writing reviews on those directly spotlighted App, online customers may perceive a greater potential to get others to read their feedback and thus be more likely to project themselves as intelligent shoppers. Therefore, we use the fluctuations in daily number of reviews, measured by *SkewDaily_i* and *KurtDaily_i*, to capture the carry-over spotlight. Skewness is a commonly used statistic to measure how the distribution is skewed left or right with a relatively long tail on right or left. An increase in *SkewDaily_i* hence indicates a more right skewed distribution of daily number of reviews, which shows the flood of user reviews due to carry-over spotlight occurs during early post promotion relative to the late post promotion. As a result, a negative coefficient (β_2) on *SkewDaily_i* would imply that it is beneficial to App sales if the flood of user reviews would occur in the late stage of post promotion, else being equal; and vice versa.

In addition, *KurtDaily_i*, which measures the sharpness of such a skewed distribution of daily number of user reviews, is included to capture the intensiveness or velocity of the flood of user reviews. An increase in *KurtDaily_i* means a sharper skewness of the distribution, which can be further interpreted as a higher intensiveness or a higher velocity of the flood of user reviews carried over from the direct spotlight in FAD promotion. Therefore, a negative coefficient (β_3) on *KurtDaily_i* would imply that, a lower velocity of the flood of user reviews, indicating a gradual and slower carry-over spotlighting effect in the post promotion, can lead to greater App sales, else being equal; and vice versa.

Following previous studies, we also include several other control variables. We add *NumberReviews_{i,t}* with a log transformation ($\ln(\text{NumberReviews}_{i,t})$) to represent the total number of user reviews the App *i* receives by week *t*. Its coefficient β_4 thus controls for the impact of high visibility caused by the total number of user reviews (Liu, 2006). The underlying argument is that if there are more customers talking about the product online, more likely others would also notice it in online market. This can also help us to separate the carry-over spotlighting effect from the general sales effect of WOM volume, the latter of which has been widely studied in the literature (Zhou & Duan, 2016). Average review rating and the variance of ratings for the App *i* are also included to control for the effect of signaling product quality from review ratings (Zhu & Zhang, 2010). *Day_{i,t}* measures the number of days since the FAD promotion, as it is expected to see a diluted carry-over promotion effect along the post promotion. In addition, to control for the product diffusion process, we followed the literature to include product age *Age_{i,t}* (Duan, Gu, & Whinston, 2009). *AppSize_{i,t}* is also adopted to control for the potential effect of App size on customers' download decisions. Finally, we include App-fixed effects μ_i and time-fixed effects ρ_t to control for time-invariant product heterogeneity, such as App' idiosyncratic characteristics and intrinsic quality, and other omitted time-variant variables, such as market demand shocks, respectively (Duan, Gu, & Whinston, 2008).

RESULTS

We run the above regression model towards our panel data set using Generalized Linear Model with two-way fixed effects. The estimation results are summarized in the following table.

Table 4 Regression Estimation Results

| | Mean | SD |
|-------------------------------------|----------|------|
| <i>AppPrice_{i,t}</i> | -0.40*** | 0.06 |
| <i>SkewDaily_i</i> | -0.19* | 0.11 |
| <i>KurtDaily_i</i> | -0.09** | 0.05 |
| <i>Ln(NumReviews_{i,t})</i> | 0.59*** | 0.08 |
| <i>AverageRating_{i,t}</i> | 2.06*** | 0.40 |
| <i>VarianceRating_{i,t}</i> | 1.17*** | 0.30 |

| | | |
|----------------------------------------------|------------|--------|
| $Day_{i,t}$ | -0.11* | 0.03 |
| $Age_{i,t}$ | -0.0004*** | 0.0002 |
| $AppSize_{i,t}$ | 0.01*** | 0.002 |
| $R^2=0.45$ | | |
| * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ | | |

We also checked the potential endogeneity issue by Hausman test. Its result rejects the hypothesis that there is a correlation between independent variables with the error term. Therefore, we feel confident about the robustness of the above estimation results. As we expected, the coefficient on $(AppPrice_{i,t} - AppPrice_{i,1})$ is significantly negative. This implies that free pricing has a positive impact on App sales. We also find significantly negative coefficients on both $SkewDaily_i$ and $KurtDdaily_i$. This provides evidence that a larger value of skewness and kurtosis, which indicates a more right-skewed and sharper-topped distribution of daily number of reviews in post promotion period, can lead to lower post-promotion App sales. In other words, it is more beneficial if the spotlighting can carry over to a longer time period, with more gradual and slower flood of the resulted user reviews, given the same total number of reviews. In terms of control variables, we also find that their coefficients are reasonable in our context. Due to the page limit, we won't be able to elaborate here, however, more explanations are available upon request.

CONCLUSIONS AND FUTURE RESEARCH

In this study, we utilize Amazon FAD promotion as a natural experiment to investigate the sales impact of free pricing and carry-over spotlighting that are employed simultaneously towards one single App. We find confirmative evidence that both free pricing and spotlighting are effective in App market. Moreover, the spotlighting will carry over into post promotion to continuously affect App sales. Online user reviews will keep flooding into the App at the early stage of post promotion and eventually lower to a stable level over time. When those user reviews, that which are increased by carry-over spotlighting, are gradually and slowly generated, the carry-over spotlighting can lead to even greater sales.

It is noticeable that Amazon doesn't offer FAD anymore. Instead, it broadens the FAD program to Amazon Underground by expanding one single paid App to hundreds of paid Apps. All those Apps in Underground are offered free of charge. It would be interesting to continue this research by using data collected from the Amazon Underground. The spotlighting effect could be less significant as compared to FAD, however, it is reasonable to still expect it exist. After all, those hundreds of Apps in Amazon Underground only account for a small portion of the available Apps in the market.

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REEXAMINING THE EFFECT OF RISK ATTITUDES ON FIRM SURVIVAL: THE ROLES OF ENDOGENOUS RISK PREFERENCES AND SAMPLE SELECTION

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ABSTRACT

This paper illustrates how commonly used measures of risk preferences can lead to biased inferences regarding risk attitudes and firm survival. When risk attitudes are elicited only from current entrepreneurs, the measures are subject to a selection bias which excludes unsuccessful entrepreneurs. When the risk attitudes are collected after entrepreneurial entry, the risk preferences will endogenously reflect the realized success of the business. We illustrate that prior findings of an inverted U-shaped relationship between willingness to take risk and firm survival probability are a result of these biases. Selecting on entrepreneurial success causes an upward bias in measured effects of risk aversion on firm success, while endogenous *ex post* measures of risk aversion bias the measured effect toward zero. Correcting for these two sources of bias, we find that less risk averse entrepreneurs are more likely to survive, a result consistent with experimental findings.

INTRODUCTION

Risk preferences will influence any choice with uncertain outcomes including occupational, educational, or investment decisions. A common theoretical prediction is that the least risk-averse individuals will be the most likely to choose entrepreneurship over wage employment. Empirical tests of the theory have utilized various measures of risk preferences into their econometric investigations of entrepreneurial choices under uncertainty. For examples, Van Praag and Cramer (2001), Cramer et al. (2002), Ekelund et al. (2005), Kan and Tsai (2006), and Ahn (2009) examine the relationship between measured risk attitudes and business startups. Similarly, Bonin et al. (2007) investigate the relationship between risk attitudes and the variation in earnings across occupations. Caliendo et al. (2010) examine the relationship between risk attitudes and firm survival. All these studies used measures of risk aversion collected after the occupational or entrepreneurial decision had been made.¹

The problem with using *ex post* measured risk preferences of existing entrepreneurs is that stated risk preferences may change with the relative success of the venture. Entrepreneurs whose ventures have performed better than market expectations may become less risk averse while those who have experienced more modest success may become more cautious over time. If measured risk preferences change with success, use of endogenously measured risk preferences to predict firm performance or survival will bias results. Compelling evidence that risk preferences adapt to experience has been reported by Malmendier et al. (2011) and Malmendier and Nagel (2011) who found that people who experienced the Great Depression have persistently higher levels of risk aversion while investors who experience higher stock market returns or managers who believe their firm is undervalued relative to performance demonstrate greater willingness to take on risk.

Another problem with using measured risk preferences of existing entrepreneurs is that most ventures fail. National statistics for the U.S. show that one-third of ventures fail within two years and two-thirds within six years (Knaup and Piazza, 2007), a pattern similar to that of other countries (Mata and Portugal, 1994; Disney et al., 2003). Any sample of risk preferences of existing entrepreneurs will select out the risk preferences of the failed entrepreneurs. The majority of existing entrepreneurs have beat the odds and, as a result, may express less aversion while those whose ventures failed will be found among the group of nonentrepreneurs and will likely express more cautious attitudes toward taking risks.

This selection problem will also bias the realized returns to entrepreneurship, restricting the group to the atypically successful. When analysis of firm success is based on a sample of existing firms (Evans, 1987; Doms et al., 1995; Cefis and Marsili, 2005; Caliendo et al., 2010), the relationship between firm tenure and firm exits will be distorted. For example, Evans (1987) shows a U-shaped relationship between firm survival and firm age, whereas Cefis and

¹ Harrison et al. (2005) find no significant change in measured risk aversion over a six-month span with 31 subjects. Andersen et al. (2008), using 97 Danish adults from experiments, also found that while optimistic perceptions of personal security tend to reduce risk aversion, no other demographic characteristic was correlated with variation in risk attitudes over a 17-month time period. But, the problem with these studies is to use relatively short time spans.

Marsili (2005) observe an inverted U-shaped relation. Consequently, there are two sources of bias in measuring the effect of risk preferences on firm entry or performance, the bias due to endogenous risk preferences and the bias due to missing unsuccessful entrepreneurs.

This paper illustrates how endogenously measured risk preferences and selection of surviving firms can bias the effect of risk attitudes on firm survival using data from the National Longitudinal Survey of Youth 1979 (NLSY79) and the Panel Study of Income Dynamics (PSID). These data show that risk preferences do change as success changes. These data show that using *ex post* measured risk preferences and including only current entrepreneurs in the analysis bias the estimated effect of risk preferences on entrepreneurial success. When the analysis includes measures of risk preferences that predate occupational choice and when the sample includes all entrepreneurs in a cohort rather than just the surviving ones, there is strong and consistent evidence that it is the least risk averse entrepreneurs that have the most success..

The rest of this paper is organized as follows. The following section illustrates what happens to observed risk attitudes and measured entrepreneurial success when risk preferences are measured after entrepreneurial decision is made and when the sample of surviving ventures are used, using two periods of model. In section 3, we describe the methodology and data used. Section 4 provides evidence that risk preferences change as economic circumstances change. In section 5, we replicate the previous study by incorporating both endogeneity of risk attitudes and a sample of surviving firms. We then illustrate how results change when we correct for only endogeneity, correct for only selection, and correct for both. Section 6 concludes.

AN ILLUSTRATION OF THE PROBLEM

We illustrate the role of endogenous risk preferences and selection on empirical analysis using a stylized two period model of sector choice. Each entrepreneur faces an expected present value of profit from entering their best entrepreneurial venture, π_{i0} which has a variance σ_{i0} . The opportunity cost of becoming an entrepreneur is to work for a known wage with present value W_{i0} . Individual i will choose to be an entrepreneur if expected utility from entrepreneurship exceeds that from wage work, $U_{i0}^e = U(\varphi_i + \pi_{i0} + \gamma_{i0}) > U_{i0}^w = U(W_{i0})$, where φ_i is the non-pecuniary value of the individual's tastes for directing others rather than taking direction, and γ_{i0} is the disutility attached to uncertainty about entrepreneurial earnings converted into pecuniary terms. Note that $\gamma_{i0} < 0$ so that larger values of γ_{i0} imply less risk aversion or greater risk acceptance.

At period 0, all agents have the same expectations regarding the profitability of entrepreneurial ventures with a variance equal to σ_i . We specify the disutility from the variance of entrepreneurial earnings by $\gamma_{i0} = \gamma_i(\sigma_i)$, where $\frac{d\gamma_i}{d\sigma_i} < 0$ so that individuals get disutility from higher variance of entrepreneurial earnings. By period 1, individual i has acquired additional information on the profitability of the enterprise so that the present value is π_{i1} . To reflect the observed result that individuals experiencing negative realizations of risky decisions become more risk averse, we specify the disutility from the variance of earnings as $\gamma_i\left(\sigma_i \cdot \frac{\pi_{i0}}{\pi_{i1}}\right)$ so that the disutility from the variance in anticipated entrepreneurial earnings falls when $\pi_{i1} > \pi_{i0}$. For those whose realized profits are smaller than anticipated at time 0, $\pi_{i1} < \pi_{i0}$ and aversion to the variance in entrepreneurial earnings increases.

Now consider evaluating the relationship between observed risk preferences and entrepreneurial status in period 1. The individuals remaining as entrepreneurs will be those for whom $U\left(\varphi_i + \pi_{i1} + \gamma_i\left(\sigma_i \cdot \frac{\pi_{i0}}{\pi_{i1}}\right)\right) > U(W_{i0})$, while those who exit entrepreneurship will be the ones for whom realized profits are sufficiently lower than expected to drive $U\left(\varphi_i + \pi_{i1} + \gamma_i\left(\sigma_i \cdot \frac{\pi_{i0}}{\pi_{i1}}\right)\right) < U(W_{i0})$. The expected value of the disutility to earnings variance for those remaining in entrepreneurship will be

$$E\left[\gamma_i\left(\sigma_i \cdot \frac{\pi_{i0}}{\pi_{i1}}\right) \middle| \left[U\left(\varphi_i + \pi_{i1} + \gamma_i\left(\sigma_i \cdot \frac{\pi_{i0}}{\pi_{i1}}\right)\right) > U(W_{i0})\right]\right] > E\left[\gamma_i(\sigma_i) \middle| \left[U(\varphi_i + \pi_{i0} + \gamma_i(\sigma_i)) > U(W_{i0})\right]\right]$$

and so surviving entrepreneurs have lower measured risk aversion over time. Meanwhile, their less successful counterparts switch into wage work. For them, realized disutility to earnings variance will be

$\gamma_i \left(\left(\sigma_i \cdot \frac{\pi_{i0}}{\pi_{i1}} \right) | [\pi_{i1} < \pi_{i0}] \right) < \gamma_i(\sigma_i)$ and so they become more risk averse as a result of their bad draws on entrepreneurial profit. Moreover, $E \left[(\pi_{i1} | \left[U \left(\varphi_i + \pi_{i1} + \gamma_i \left(\sigma_i \cdot \frac{\pi_{i0}}{\pi_{i1}} \right) \right) > U(W_{i0}) \right] \right) \right] > E \left[\pi_{i0} | \left[U(\varphi_i + \pi_{i0} + \gamma_i(\sigma_i)) > U(W_{i0}) \right] \right]$

In other words, the expected value of entrepreneurial profit rises conditional on remaining in entrepreneurship because their negative draws on profit cause unsuccessful entrepreneurs to exit.

This simple model illustrates what happens to observed risk preferences and measured entrepreneurial success when one does not measure risk preferences before the entrepreneurial decision is made and when the sample of entrepreneurs is restricted to surviving ventures. In this example, all entrepreneurs started with the same risk preferences, but that is surely not true. If success in the venture depends on *ex ante* risk preferences, the distribution of risk preferences for surviving entrepreneurs will not reflect the universe of all entrepreneurs due to an additional selection bias related to nonrandom sorting on risk aversion.

The Caliendo et al. (2010) study measuring the effect of risk preferences on firm survival used a data set that may be open to the type of selection and endogenous preference biases we illustrate. The authors collected a sample of German entrepreneurs in business from 2000 to 2005 and then tracked the firms' survival and exit over subsequent years. Their sample included existing firms in that time period which means it focused disproportionately on the decisions of firms that have already managed to survive many years prior to the survey and would have excluded their peers that had already perished. In addition, risk attitudes in their study were measured in 2004, and so they would reflect the degree of success experienced by the entrepreneurs after entry. Using this selected sample with endogenous risk attitudes, Caliendo et al. (2010) found an inverse U-shaped relationship between willingness to take risk and firm survival probability. Those with intermediate risk attitudes had the highest probability of survival compared to entrepreneurs with low or high risk attitudes. We will show that this finding can be a consequence of including endogenous risk preferences and sample selection conditioned on entrepreneurial success.

METHODOLOGY AND DATA

To test the impact of risk attitudes on firm failure, we employ a hazard regression. The hazard rate at which spells are completed at duration t_i conditional on surviving up to t_i is defined as

$$h(t_i) = \frac{f(t_i)}{1 - F(t_i)} = \frac{f(t_i)}{S(t_i)}$$

where $F(t_i)$ is the probability that the firm exits at t_i and the associated probability density function is $f(t_i)$; $S(t_i)$ is the probability that the firm survives until time t_i . Assuming the survival time t_i has a Weibull distribution, and guided by the model in the previous section, the hazard function at time t_i for an individual i is given by

$$h(t_i, \beta, \delta | \gamma_i, \varphi_i, \pi_i) = \exp \left(a_i^* \beta + \sum_{j=2}^4 \delta_{ij} \gamma_{ij} \right) p t_i^{p-1}$$

where p is an ancillary shape parameter to be estimated from the data, $\gamma_{ij}, j = 2, 3, 4$ are dichotomous measures of risk attitudes indicating progressively lower levels of risk aversion with unwillingness to take on any risk as the reference category ($j=1$), and a_i^* is composed of human capital and other socioeconomic variables that are expected to affect the entrepreneur's nonpecuniary (φ_i) and pecuniary (π_i) expected returns to entrepreneurship relative to wage work. In particular, we include education, previous labor market experience, age, and parental self-employment/management experience that affect his pecuniary cost of time and marital status and number of children that affect the nonpecuniary cost of time. Additional controls include regional and industry dummies to account for sectoral and regional macroeconomic conditions.

We use firm survival as our measure of firm success. The year of entrepreneurial entry is identified when self-employment is reported in year t but not in any of the years preceding t . The exit year is measured as the middle year between the last reported self-employment year and the year of new employment status due to the biennial survey. We require a common window of time over which to judge a venture's survival. Two-thirds of U.S. firms close within 6 years of entry and firms that survive at least 6 years have performed well above average (Mata and Portugal, 1994; Audretsch and Mahmood, 1995; Disney et al., 2003; Knaup and Piazza, 2007). In this vein, we define entrepreneurial

survival as remaining in business at least 6 years after startup and business failure as closing the business within the first 6 years. Note that an alternative measure of firm success would be to use reported firm profits or household income, both of which would measure the capitalized value of the firm with considerable measurement error. However, firm exits are good signals of low firm profitability.² For sensitivity analysis, we alternate the time windows defining survival with 4 years and 8 years but the results are not sensitive to the alternative time.

Although we control for entrepreneurs' observed characteristics, there may be unobserved factors that affect the entrepreneurial survival or failure. Hence, we employ a frailty model that accounts for the presence of unobserved heterogeneity among individuals. The log-likelihood function can be written as:

$$L(\beta, \delta, \theta | a_i^*, \gamma_i) = \sum_{i=1}^n \{d_i \ln f_{\theta}(t_i, \beta, \delta, \theta) + (1 - d_i) \ln S_{\theta}(t_i, \beta, \delta, \theta)\}$$

where d is a binary indicator defined such that $d=1$ if the entrepreneur exited from his business and 0 otherwise; θ is the variance of frailty, which can be estimated from the data.

The data for the analysis is drawn from the National Longitudinal Survey of Youth 1979 (NLSY79). Entry cohort is collected from the years 1994 to 2002. The survival and exit rates by entry cohort are summarized in Table 1. Average exit rate varies from 49% to 69% across entry cohorts. The 2000 entry cohort has the lowest exit rate while the 1994 entry cohort has the highest exit rate. Overall, 57% of the self-employed exited their business within six years of startup, close to the 65% exit rate reported in national analyses of firm survival.

The NLSY79 offers a consistently designed life time income gamble questions to respondents in 1993, 2002, 2004, and 2006. In the hypothetical gamble questions, the individual is asked to choose between a safe job paying a fixed income and a risky job that will double the 'safe' income or else pay only a fraction of the 'safe' income with 50% chance. Responses to the series of income gamble questions are used to elicit measures of risk attitudes. Degree of risk attitudes is measured by the degree to which the respondent is willing to accept downside risk, measured by the amount that could be reduced.

EVIDENCE THAT RISK PREFERENCES VARY WITH ECONOMIC CIRCUMSTANCE

This subsection investigates whether risk preferences are stable over time or if they respond to economic circumstances. To explore the transitory economic factors that alter measured risk attitudes, we must control for any underlying differences in tastes for risk across individuals. That suggests using a fixed-effects regression that will control for unobservable individual tastes and all other time-invariant factors. In our first specification, we use a risk aversion index ranging from the (1) least risk averse to (4) most risk averse as the dependent variable. However, it is possible that measures of degree of risk preferences are nonlinear. To allow for that possibility, we also estimate an ordered probit model allowing for a random individual effect and correcting for clustering on the repeated individual observations at the level of the individual.

Risk attitudes are elicited on four different waves (1993, 2002, 2004, and 2006) of the NLSY79. Hence, our sample for the analysis includes all respondents who answered the risk questions in at least two years between 1993 and 2006 and who have complete information on demographics.

Table 2 reports estimation results using various model specifications. Regardless of specification, changing economic circumstances do influence risk attitudes. Focusing on the fixed-effects specification, risk aversion increases with net family income at a decreasing rate with peak risk aversion at \$307 thousand. In other words, household become increasingly risk averse as income rises for virtually the entire range of household income.

² Seventy-two percent of the exiting entrepreneurs in our sample reported zero profit shortly before business closure. The percentage rises to 95% at the time of exit. On the other hand, only 22% of surviving entrepreneurs reported zero profit (possibly negative profit) after 5 years from entry. The median profit is \$11,384 for surviving firms after 5 years and zero for exiting firms. Therefore, exits in our sample seem driven by true failure compared to surviving firms.

A one standard deviation increase in time out of the labor force also increases risk aversion by 1.4%. Among those who are currently employed, a one standard deviation increase in weeks of the current employment spell raises risk aversion by 1.6%. For the unemployed, a one standard deviation increase in the length of the unemployment spell lowers risk aversion by 0.5%. Individuals are more responsive to current spells than accumulated labor market experience. A 52 week current employment spell raises risk aversion 3 times more than one year of accumulated work experience.

The results indicate that risk attitudes are endogenous to economic circumstances. The use of *ex post* collected risk attitudes or risk attitudes collected from surviving entrepreneurs will bias labor market outcomes regarding occupational choice, earnings, or entrepreneurship.

BIAS FROM ENDOGENEITY OF RISK ATTITUDES AND SAMPLE SELECTION

Having shown that measured risk preferences change with economic success, we now show how the use of endogenous risk attitudes and selected samples of entrepreneurs affect the relationship between risk preferences and firm success. We then illustrate how results change when we correct for only endogeneity, correct for only selection, and correct for both. The estimates in Table 3 are designed to illustrate the types of findings from previous studies. The sample is selected on surviving firms as of 2002, meaning that many firms have already failed. Risk preferences are elicited in 2002, 2004, and 2006, all after the firm's success is well established.

We use various specifications to insure that our results are robust to different assumptions about the nature of the error terms and individual unobserved heterogeneity. The first column includes only the risk attitudes as a regressor. Individual human capital and demographic variables are added in the second column. If we select an inappropriate baseline hazard function, unreliable estimates can result (Heckman and Singer, 1984). Hence, in the third column we use a semiparametric Cox proportional hazard model which requires no assumption about the baseline hazard function for the robustness check. The last column adds controls for industry dummies using the frailty hazard model. Technically these measures are endogenous as the entrepreneur picks the sector at the time of entry, and so these sectoral dummies should be excluded. Nevertheless, they are commonly found to affect firm survival (Taylor, 1999) due to sector specific shocks that may differently affect profitability for firms in the same cohort.

We add a control for firm tenure along with other individual characteristics for the last three specifications. We use the lowest risk acceptance category as the base category. Thus the results indicate how probability of firm failure changes as willingness to accept risk increases compared to those who are the most risk averse. For brevity, we report only the estimates of risk attitudes in the four specifications. The results are reported in terms of implied hazard ratio: i.e., the proportional shift in the failure hazard function due to one unit change of the covariate, holding fixed all other factors including the unobserved frailty. We also illustrate the pattern of exit hazard rates at different levels of risk acceptance, evaluated at the mean values of the explanatory variables and using the coefficients in Column 2.

When we use the risk attitudes measured in 2002, the hazard ratio for firm exit is higher for all entrepreneurs who express more tolerance for risk than the most risk averse group. There is only modest evidence of a U-shaped pattern. When risk attitudes are measured in 2004 and 2006, we get a much clearer U-shaped relationship between risk attitudes and exit probability, consistent with Caliendo et al. (2010). The hazard ratio drops initially at modest levels of risk acceptance and then rises. A common result across all three measured risk preferences is that the least risk averse are the most likely to fail.

The following subsections will show how the results change when we correct for only endogeneity, correct for only selection, and correct for both.

BIAS FROM SELECTION OF SURVIVING FIRMS

First, we correct only for endogenous risk preferences by using measured risk attitudes in 1993, the earliest measure available which in the NLSY79. About 26% of the entrepreneurs who were in business as of 2002 started their business before 1993 and were dropped. This ensures that we will only include entrepreneurs for whom we have an exogenous risk measure. The results are reported in Panel A of Table 4. The U-shaped relationship still appears although the difference is statistically significant only for risk acceptance level 3. Initially hazard ratio falls up to the risk acceptance level 3 and then rises again. When we replace the risk dummies with the ordinal risk acceptance index and its squared

term, the U-shaped relationship between risk attitudes and hazard rates of exit is confirmed and all the coefficients are significant.

BIAS FROM ENDOGENEITY OF RISK ATTITUDES

Now we use the entire cohort of entering entrepreneurs rather than a sample of surviving firms. This corrects for the sample selection problem. All entrepreneurs who started their businesses in 1994, 1996, 1998, 2000, and 2002 are included.³ Analyzing business survival from startup is particularly important because it enables us to avoid left-censored entrepreneurial spells that have already selected out the most prone to failure. Setting a common starting point also insures that all firms in the same cohort are subject to the same macroeconomic environment. To address the issue of bias resulting from the endogenous risk attitudes measured after the respondent has already been in business, we employ risk attitudes measured in 2002 and 2004 which means all of the measured risk attitudes are responding to the firm's degree of success. The results are reported in Panel B of Table 4. Across all the specifications, there is an initial drop in the probability of failure as risk acceptance increases and then an increase. However, none of the coefficients is statistically significant so we cannot reject the hypothesis of no relationship between measured risk preferences and firm success. As a result, correcting only for sample selection weakens the case for a U-shaped relationship.

CORRECTING FOR BOTH ENDOGENEITY OF RISK ATTITUDES AND SAMPLE SELECTION

In this subsection, we re-estimate our frailty hazard regression by correcting for both the endogeneity and the sample selection. We do this by considering the universe of all entrepreneurs initiating a business in a given year and we use risk attitudes measured before the year of entry. The results are reported in Panel C of Table 4.⁴ There is no evidence of a U-shaped relationship between risk preferences and firm failure as reported by Caliendo et al. (2010). Instead, the hazard rate for firm exit drops monotonically as willingness to accept risk increases. Focusing on the second specification, those with risk acceptance levels 2, 3, and 4 have 23%, 36%, and 46% lower exit hazard rates than the most risk averse entrepreneurs.

In Table 5 we re-estimate the relationship between risk acceptance and probability of firm exit using various specifications. In column 1, we replace the risk dummies with the ordinal risk acceptance index. We find that the hazard of firm exit falls significantly as risk acceptance increases. The results in column 2 reject the hypothesis that this relationship is nonlinear as the quadratic term is not significantly different from zero. In columns (3) and (4), we replace the ordinal risk acceptance index with the estimate of the inverse of the Arrow-Pratt coefficient of constant relative risk aversion computed using the responses to the risk acceptance questions. The inverse Arrow-Pratt coefficient increases with risk tolerance. The results show that less risk averse entrepreneurs are more likely to survive in their business, and again we cannot reject that the relationship is monotonic.

Figure 2 shows the predicted hazard ratio with respect to risk attitudes, evaluated at the mean values of explanatory variables. Unlike the patterns in Figure 1, probability of failure falls monotonically as willingness to accept risk increases. Moreover, the least risk averse are the least likely to fail, exactly opposite the conclusion derived when endogenous risk preferences and selected samples are employed. The U-shaped relationship between risk preferences and failure found in earlier studies is indeed a consequence of bias resulting from both endogenously measured risk attitudes and sample selection of surviving firms.

For sensitivity analyses, we first alternate the time window over which to judge a venture's survival and failure with 4 years and 8 years. The results are reported in Table 6. The main estimation results based on 6 years are redisplayed in the first rows of Table 6 for reference. The monotonically negative relationship between risk attitudes and hazard of failure holds up for both the windows of 4 years and 8 years although the estimates based on 4 years lose precision.⁵

³ The NLSY79 conducted survey annually from 1979 through 1994 and biennially thereafter. Due to the biennial survey over the period we are interested in, we assume that the startup is in an even year.

⁴ The full estimates are reported in Appendix 1. The significant estimates of variance of frailty θ and the shape parameter p suggest that the Cox model is misspecified, although none of our qualitative conclusions is sensitive to the specification choice.

⁵ When we test for the linear and quadratic functional form assumptions, the quadratic term is rejected. Only the

Next, we estimate the hazard regression model using entrepreneurial entry cohorts from 1999, 2001, 2003, and 2005 waves of the Panel Study of Income Dynamics (PSID). The results are reported in Table 7. The PSID provides similar risk questions as in the NLSY79 but it asked more hypothetical gambling questions.⁶ This gives six risk attitude categories instead of the four categories that were present in the NLSY79. Specifications are identical to those in Panel C of Table 3 using the NLSY79. Panel A of Table 7 shows the result using risk attitude dummies. As before, the base category is the lowest risk acceptance category. The hazard ratio goes up and down as risk acceptance level increases. However, the difference is statistically significant only for those with risk acceptance level 5 who have a lower exit probability relative to the base category.

In Panel B of Table 7, we consolidate the responses to the risk questions into three categories. Clearly, in comparison to the base category, those with willingness to take higher risks have a lower exit probability. Again, we do not observe the nonlinear U-shaped relationship. Instead, the hazard ratio drops progressively as willingness to take risk rises, consistent with the result from NLSY79. In Panel C, we replace the risk attitude dummies with the ordinal risk acceptance index. The hazard rate falls as willing to take risk increases and all the coefficients are statistically significant. When we add a quadratic term in the risk index to the regression as shown in Panel D, none of the coefficients is statistically significant, which suggests that the linear specification in the risk index is sufficient. This confirms a monotonically negative relationship between willingness to accept risk and exit hazard rates. The results are not sensitive to alternative time windows defining survival.⁷

To sum up, after correcting for two sources of bias—endogeneity of risk measures and sample selection, the non-monotonic U-shaped relationship between risk attitudes and exit probability disappears. Instead, we find that less risk averse entrepreneurs are more likely to survive, a result consistent with experimental findings that less risk averse individuals are those who have higher cognitive ability (Frederick, 2005; Benjamin et al., 2006; Dohmen et al., 2010). Recently, Taylor (2013) finds that the positive correlation between risk tolerance and cognitive ability is prominent in the hypothetical settings of measuring risk attitudes which is used for our analysis. In this vein, one possible explanation for our result is that those with greater entrepreneurial ability have greater willingness to take risk and thus have higher survival probability.

CONCLUSION

This study shows that endogenously measured risk attitudes and selection of surviving firms can bias the correlation between risk attitudes and firm survival. When risk attitudes are elicited only from current entrepreneurs, the measures are subject to a selection bias which unsuccessful entrepreneurs are excluded. When the risk attitudes are collected after entrepreneurial entry, the risk preferences will endogenously reflect the realized success of the business. A previous study using both endogenously measured risk attitudes and selected sample shows an inverted U-shaped relationship between willingness to take risk and firm survival probability. But, when we correct for these two, the non-monotonic relation disappears. Instead, we find that less risk averse entrepreneurs are more likely to survive, a result consistent with experimental findings that show a positive relationship between cognitive ability and risk preferences. Selection bias that results from inappropriately excluding unsuccessful entrepreneurs appears to bias upward coefficients on risk attitudes. Endogenously elicited risk aversion biases the estimates toward zero. One should be cautious about the two sources of bias—endogenously measured risk attitudes and sample selection to explain correlation between risk attitudes and firm survival. Our results imply that the two sources of bias can cloud any result regarding labor market decisions or outcomes.

linear specification is statistically significant.

⁶ PSID offers the lifetime income gamble questions to respondents in 1996 only.

⁷ The results are upon request.

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TABLE 1

Survival and exit rates by firm entry cohort (NLSY79): 1994-2002.

| Firm Success Group | Firm cohort birth year and age range of entrepreneurs | | | | | Total |
|----------------------|-------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|---------------|
| | 1994 Age 29-37 | 1996 Age 31-39 | 1998 Age 33-41 | 2000 Age 35-43 | 2002 Age 37-45 | |
| Survived 6+ years | 31 (31%) | 63 (43%) | 44 (43%) | 34 (51%) | 56 (47%) | 228 (43%) |
| Exited before year 6 | 68 (69%) | 84 (57%) | 59 (57%) | 33 (49%) | 62 (53%) | 306 (57%) |
| Total | 99 (100%) | 147 (100%) | 103 (100%) | 67 (100%) | 118 (100%) | 534 (100%) |

Note: Number of observations is reported with percentage in parenthesis. Survival is measured based on at least 6 continuous years in business.

TABLE 2

Effects of recent and cumulative economic circumstances stated risk aversion.

| | Linear Regression | Ordered Probit | |
|---------------------------------------------|--------------------|---------------------|---------------------|
| | Fixed effects | Random effects | Clustering |
| <i><u>Time-varying economic factors</u></i> | | | |
| Family income/100,000 | 0.135** (2.46) | 0.117** (2.46) | 0.088** (2.06) |
| (Family income/100,000) squared | -0.022* (1.86) | -0.031*** (2.91) | -0.029*** (3.04) |
| Recent weeks employed | 0.001*** (3.83) | 0.002*** (6.23) | 0.002*** (6.43) |
| Recent weeks unemployed | -0.001** (2.03) | -0.002*** (3.46) | -0.002*** (3.71) |
| Recent weeks out of labor force | 0.002*** (3.33) | 0.002*** (5.14) | 0.002*** (5.49) |
| Labor market experience (in years) | 0.012** (1.98) | 0.014*** (5.68) | 0.012*** (5.42) |
| State unemployment rate | 0.0002 (0.38) | 0.0003 (0.56) | 0.0003 (0.65) |
| <i><u>Non-economic controls</u></i> | | | |
| Age | 0.042* (1.96) | 0.035 (1.53) | 0.029 (1.36) |
| Age squared | -0.0005* (1.74) | -0.0004 (1.33) | -0.0003 (1.16) |
| Education (in years) | -0.026 (1.27) | -0.010* (1.94) | -0.007* (1.66) |
| Number of children | -0.0001 (0.01) | 0.011 (1.24) | 0.010 (1.26) |
| Married | 0.056* (1.73) | 0.100*** (3.88) | 0.099*** (4.23) |
| Male | | -0.216*** (8.88) | -0.187*** (9.12) |
| White | | 0.027 (1.05) | 0.022 (0.98) |
| Constant | 2.043*** (4.36) | | |
| R^2 | 0.46 | | |
| 1- R^2 (within variance %) | 54% | | |
| Total observation (n) | 21,706 | 21,706 | 21,706 |
| Cut1 | | 0.016 [0.438] | 0.028 [0.395] |
| Cut2 | | 0.603 [0.438] | 0.522 [0.395] |
| Cut3 | | 1.003 [0.438] | 0.858 [0.395] |

Note: t -statistics are in parentheses. Standard errors are in brackets. */**/***/ significant at 10%/5%/1%

TABLE 3

Estimated effect of willingness to accept risk on failure hazard rate: use of endogenous risk attitudes and selected sample of surviving entrepreneurs as of 2002.

| | (1) Frailty hazard | (2) Frailty hazard | (3) Cox proportional | (4) Frailty hazard | Sample size |
|------------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------|
| <i><u>2002 Risk attitude dummies</u></i> | | | | | |
| Risk acceptance level =2 | 1.992 ^b (2.28) | 1.772 ^c (1.88) | 1.327 (1.48) | 1.692 ^c (1.69) | 641 |
| Risk acceptance level =3 | 1.848 ^b (2.37) | 1.310 (1.02) | 1.157 (0.87) | 1.269 (0.88) | |
| Risk acceptance level =4 | 1.934 (2.79) ^a | 1.441 (1.47) | 1.230 (1.35) | 1.495 (1.57) | |
| <i><u>2004 Risk attitude dummies</u></i> | | | | | |
| Risk acceptance level =2 | 0.699 (1.29) | 0.588 ^c (1.85) | 0.748 (1.57) | 0.595 ^c (1.77) | 637 |
| Risk acceptance level =3 | 1.094 (0.31) | 1.146 (0.45) | 1.091 (0.46) | 1.214 (0.62) | |
| Risk acceptance level =4 | 1.187 (0.73) | 1.138 (0.53) | 1.089 (0.57) | 1.163 (0.61) | |
| <i><u>2006 Risk attitude dummies</u></i> | | | | | |
| Risk acceptance level =2 | 0.787 (0.66) | 0.861 (0.41) | 0.914 (0.37) | 0.827 (0.50) | 641 |
| Risk acceptance level =3 | 1.900 ^b (2.16) | 1.430 (1.18) | 1.197 (0.95) | 1.517 (1.33) | |
| Risk acceptance level =4 | 2.464 ^a (4.04) | 2.166 ^a (3.41) | 1.499 ^a (2.93) | 2.309 ^a (3.55) | |

Note: The Risk index varies from 1: most risk averse to 4: least risk averse. t- statistics reported in parenthesis. ^{a/b/c} significance level at 1%/5%/10%. Control variables include education, previous labor market experience, age, parental self-employment or management experience, marital status, number of children, region, and industry dummies.

TABLE 4

Estimated effect of willingness to accept risk on failure hazard rate: correcting for selection on entrepreneurial success, correcting for endogenous risk measures, and correcting for both.

| | (1) Frailty hazard | (2) Frailty hazard | (3) Cox proportional | (4) Frailty hazard | Sample size |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------|
| Panel A: Use of ex ante measured risk preferences and selected sample of all surviving entrepreneurs as of 2002 | | | | | |
| <i>1993 risk attitude dummies</i> | | | | | |
| Risk acceptance level =2 | 0.607 (1.43) | 0.906 (0.27) | 0.941 (0.26) | 0.981 (0.05) | 486 |
| Risk acceptance level =3 | 0.532 ^b (2.22) | 0.593 ^c (1.78) | 0.738 (1.62) | 0.600 ^c (1.71) | |
| Risk acceptance level =4 | 0.978 (0.09) | 1.202 (0.74) | 1.114 (0.71) | 1.186 (0.67) | |
| Ordinal risk index93 | 0.238 ^b (2.56) | 0.321 ^b (1.97) | 0.512 ^c (1.81) | 0.349 ^c (1.79) | |
| Ordinal Risk index93 squared | 1.329 ^b (2.52) | 1.266 ^b (2.01) | 1.149 ^c (1.86) | 1.243 ^c (1.82) | |
| Panel B: Use of endogenous risk preferences measured after entrepreneurial entry for firms born in 1994, 1996, 1998, 2000, and 2002 | | | | | |
| <i>2002 risks attitude dummies</i> | | | | | |
| Risk acceptance level =2 | 0.708 (1.05) | 0.756 (0.82) | 0.866 (0.69) | 0.789 (0.69) | 516 |
| Risk acceptance level =3 | 1.012 (0.04) | 1.013 (0.05) | 1.001 (0.00) | 1.050 (0.17) | |
| Risk acceptance level =4 | 0.924 (0.31) | 0.769 (0.99) | 0.880 (0.80) | 0.802 (0.83) | |
| Ordinal risk index02 | 0.775 (0.47) | 0.992 (0.11) | 0.984 (0.05) | 1.054 (0.09) | |
| Ordinal risk index02 squared | 1.051 (0.44) | 0.988 (0.11) | 0.996 (0.05) | 0.978 (0.18) | |
| Ordinal risk index04 | 0.819 (0.38) | 0.943 (0.11) | 0.969 (0.06) | 1.008 (0.02) | |
| Ordinal risk index04 squared | 1.050 (0.45) | 1.017 (0.15) | 1.010 (0.08) | 1.001 (0.02) | |
| Panel C: Use of ex ante measured risk preferences 1993 for firms born in 1994, 1996, 1998, 2000, and 2002 | | | | | |
| Risk acceptance level =2 | 0.77 (0.83) | 0.77 (0.79) | 0.87 (0.68) | 0.79 (0.70) | 534 |
| Risk acceptance level =3 | 0.64 (1.74) ^c | 0.64 (1.72) ^c | 0.79 (1.48) | 0.67 (1.50) | |
| Risk acceptance level =4 | 0.57 (2.38) ^b | 0.54 (2.46) ^b | 0.74 (2.03) ^b | 0.56 (2.29) ^b | |

Note:.. The Risk index varies from 1: most risk averse to 4: least risk averse. t- statistics reported in parenthesis. ^{a/b/c} significance level at 1%/5%/10%. See A1 for a full list of included explanatory variables.

TABLE 5

Use of ex ante measured risk preferences and entry cohorts: Linear and quadratic specifications

| | (1) | (2) | (3) | (4) |
|-----------------------------------------|------------------------------|-----------------|------------------------------|------------------------------|
| Ordinal Risk index93 | 0.812 ^a (2.61) | 0.727 (0.61) | | |
| Ordinal Risk index93 squared | | 1.023 (0.21) | | |
| Inverse Arrow-Pratt coefficient | | | 0.919 ^b (2.09) | 0.428 ^c (1.71) |
| Inverse Arrow-Pratt coefficient squared | | | | 1.129 (1.55) |
| Control variables | Yes | yes | yes | yes |

Note: The same control variables and specifications as those in Table A1 are used. ^{a/b/c} significance level at 1%/5%/10%. t- statistics reported in parenthesis.

TABLE 6

Sensitivity analysis by alternating time windows defining survival.

| Risk acceptance index | (1) Frailty hazard | (2) Frailty hazard | (3) Cox proportional | (4) Frailty hazard | Sample size |
|---------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------|
| <i>Main estimation: 6 year period</i> | | | | | |
| Risk acceptance level =2 | 0.77 (0.83) | 0.77 (0.79) | 0.87 (0.68) | 0.79 (0.70) | 534 |
| Risk acceptance level =3 | 0.64 (1.74) ^c | 0.64 (1.72) ^c | 0.79 (1.48) | 0.67 (1.50) | |
| Risk acceptance level =4 | 0.57 (2.38) ^b | 0.54 (2.46) ^b | 0.74 (2.03) ^b | 0.56 (2.29) ^b | |
| <i>4 year period</i> | | | | | |
| Risk acceptance level =2 | 1.077 (0.22) | 1.030 (0.09) | 1.025 (0.12) | 1.085 (0.24) | 625 |
| Risk acceptance level =3 | 0.855 (0.59) | 0.832 (0.67) | 0.907 (0.61) | 0.852 (0.58) | |
| Risk acceptance level =4 | 0.786 (0.98) | 0.725 (1.26) | 0.862 (1.00) | 0.744 (1.16) | |
| <i>8 year period</i> | | | | | |
| Risk acceptance level =2 | 1.066 (0.20) | 0.989 (0.03) | 1.007 (0.03) | 1.011 (0.03) | 416 |
| Risk acceptance level =3 | 0.583 ^b (1.98) | 0.607 ^c (1.74) | 0.776 (1.44) | 0.648 (1.48) | |
| Risk acceptance level =4 | 0.590 ^b (2.16) | 0.525 ^b (2.03) | 0.725 ^b (2.03) | 0.518 ^b (2.47) | |

Note: t- statistics reported in parenthesis. ^{a/b/c} significance level at 1%/5%/10%. ^d:

TABLE 7

Sensitivity analysis by alternating data set, PSID based on exogenous risk measures and entry cohorts.

| Risk acceptance index | (1) Frailty hazard | (2) Frailty hazard | (3) Cox proportional | (4) Frailty hazard | Sample size |
|-----------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------|
| Panel A: Risk attitude dummies; Base = risk acceptance level =1 | | | | | |
| Risk acceptance level =2 | 1.141 (0.44) | 1.121 (0.36) | 1.004 (0.02) | 1.095 (0.28) | 296 |
| Risk acceptance level =3 | 1.095 (0.29) | 1.123 (0.36) | 1.033 (0.15) | 1.171 (0.49) | |
| Risk acceptance level =4 | 0.640 (1.39) | 0.706 (1.03) | 0.855 (0.69) | 0.681 (1.10) | |
| Risk acceptance level =5 | 0.328 ^a (2.79) | 0.394 ^b (2.24) | 0.597 ^c (1.74) | 0.413 ^b (2.10) | |
| Risk acceptance level =6 | 0.787 (0.54) | 0.876 (0.29) | 0.944 (0.19) | 0.924 (0.17) | |
| Panel B: Consolidation of risk attitude dummies; Base = risk acceptance levels =1 or 2 | | | | | |
| Willingness to take: | | | | | |
| Medium risk (risk3+risk4) | 0.763 (1.15) | 0.824 (0.79) | 0.933 (0.44) | 0.931 (0.74) | 296 |
| High risk (risk5+risk6) | 0.433 ^a (2.86) | 0.481 ^b (2.40) | 0.714 (1.63) | 0.501 ^b (2.23) | |
| Panel C: Replace risk dummies with ordinal risk acceptance index varying between 1 to 6 | | | | | |
| Ordinal risk index | 0.834 ^a (2.68) | 0.862 ^b (2.07) | 0.935 (1.40) | 0.867 ^c (1.95) | 296 |
| Panel D: Include quadratic term of ordinal six risk acceptance index | | | | | |
| Ordinal risk index | 0.903 (0.34) | 0.930 (0.23) | 0.956 (0.22) | 0.891 (0.36) | 296 |
| Ordinal risk index squared | 0.987 (0.28) | 0.988 (0.25) | 0.997 (0.11) | 0.996 (0.09) | |

Note: t- statistics reported in parenthesis. ^{a/b/c} significance level at 1%/5%/10%.

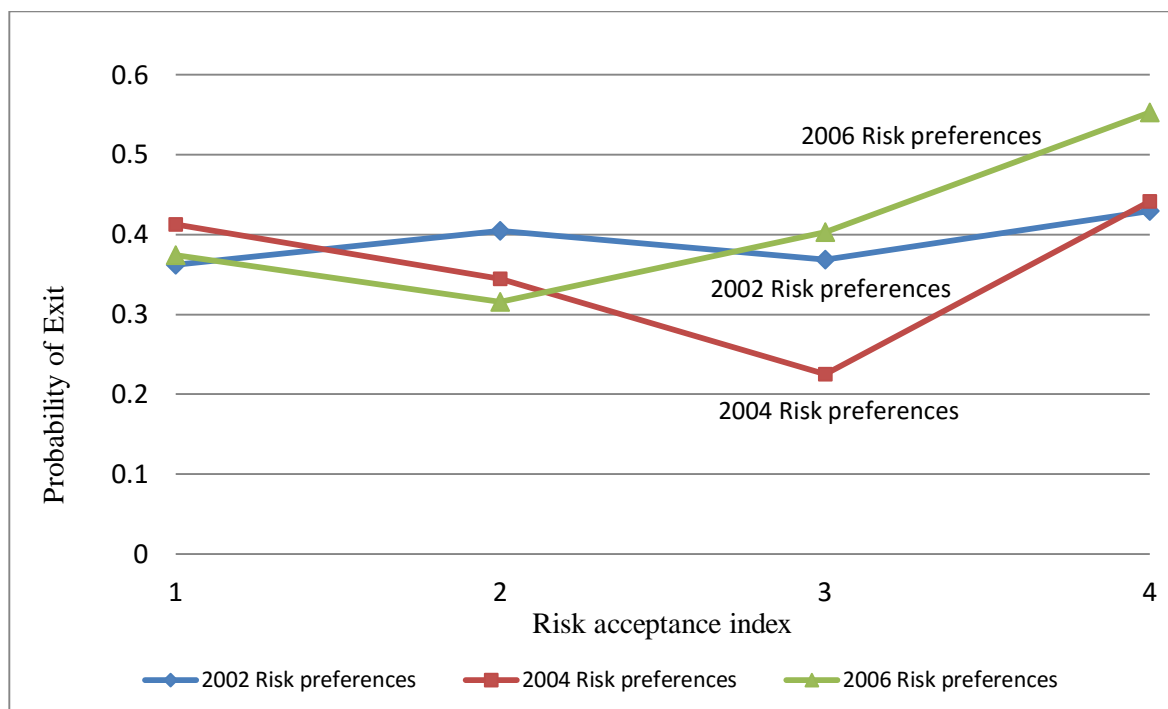


Fig. 1. Risk preferences and probability of firm exit, selected data and endogenous risk preferences

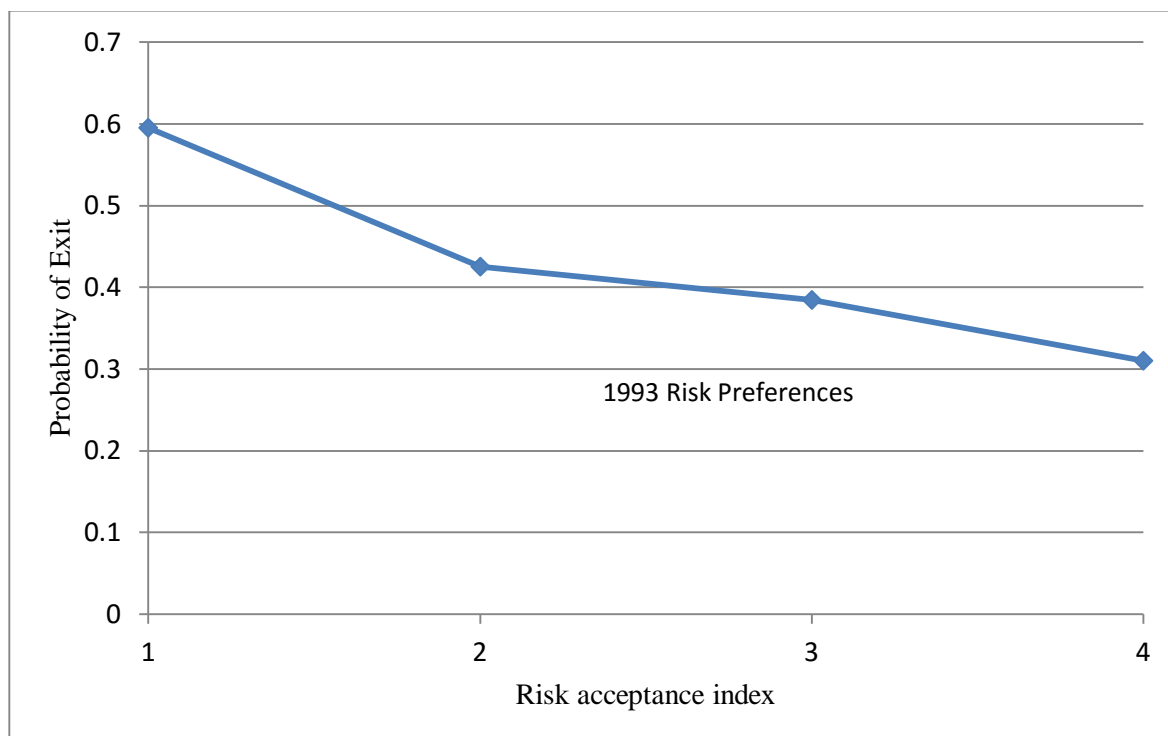


Fig. 2. Risk preferences and probability of firm exit, complete sample and *ex ante* risk preferences

Table A.1
Regressions Explaining Probability of Failure from Frailty Hazard and Cox.

| | (1) Frailty Hazard | (2) Frailty Hazard | (3) Cox proportional | (4) Frailty Hazard |
|------------------------------------------------|--------------------------------|--------------------------------|---------------------------|--------------------------------|
| Risk acceptance level 2 | 0.768 (0.83) | 0.768 (0.79) | 0.872 (0.68) | 0.791 (0.70) |
| Risk acceptance level 3 | 0.645 (1.74) ^c | 0.637 (1.72) ^c | 0.791 (1.48) | 0.673 (1.50) |
| Risk acceptance level 4 | 0.568 (2.38) ^b | 0.539 (2.46) ^a | 0.737 (2.03) ^b | 0.561(2.29) ^b |
| Previous Labor market experience (in years) | | 0.915 (3.94) ^a | 0.957 (3.36) ^a | 0.920 (3.69) ^a |
| Education | | 1.189 (0.73) | 1.109 (0.66) | 1.178 (0.69) |
| Education squared | | 0.996 (0.46) | 0.997 (0.48) | 0.996 (0.48) |
| Male | | 0.707 (1.55) | 0.823 (1.45) | 0.878 (0.49) |
| Married, spouse present | | 0.866 (0.63) | 0.927 (0.56) | 0.825 (0.84) |
| Number of Kids | | 0.870 (1.65) ^c | 0.931 (1.41) | 0.866 (1.67) ^c |
| White | | 1.211 (0.81) | 1.093(0.63) | 1.200 (0.77) |
| Age | | 0.317 (2.15) ^b | 0.579 (1.72) ^c | 0.290 (2.31) ^b |
| Age squared | | 1.016 (2.13) ^b | 1.007 (1.71) ^c | 1.017 (2.28) ^b |
| Urban | | 1.259 (0.97) | 1.108 (0.72) | 1.277 (1.02) |
| Father-proprietor | | 0.777 (0.75) | 0.903 (0.49) | 0.794 (0.68) |
| Mother-proprietor | | 0.443 (1.09) | 0.600 (1.00) | 0.467 (1.01) |
| Entry cohort dummies | Yes | Yes | Yes | Yes |
| 4 region dummies | | Yes | Yes | Yes |
| Industry dummies | | | | Yes |
| θ (frailty variance) | 6.81 [2.85] ^a | 7.59[3.72] ^b | | 7.38 [3.65] ^b |
| p (ancillary parameter) | 1.93 [0.16] ^a | 2.02 [0.17] ^a | | 2.02 [0.18] ^a |
| Log likelihood | -644.24 | -623.58 | -1836.08 | -620.96 |
| LR test for $\theta = 0$ | $\overline{\chi^2}(1)=33.50^a$ | $\overline{\chi^2}(1)=27.04^a$ | | $\overline{\chi^2}(1)=26.94^a$ |

Note: Hazard ratios are exponentiated coefficients. t-statistics are reported in parentheses. Standard errors are in brackets. ^{a/b/c} significance level at 1%/5%/10%.

INTEGRATING A LIBERAL ARTS PERSPECTIVE INTO SCHOOL OF BUSINESS MARKETING COURSES

Rita Dynan, La Salle University

ABSTRACT

There is criticism about the higher education system in the United States. Although most college students are required to take some liberal arts courses, studies have shown minimal improvement in liberal arts skills (writing and critical thinking) through 4 years of college. Business school curriculum which rarely includes elements of liberal arts learning has also been criticized for being too narrowly focused on business and technical skills. This is a problem because teaching students how to write clearly and think critically are considered primary academic goals of a college education. The problem is not just academic; business professionals have identified a lack of needed writing and critical thinking skills among entry level and mid-level job candidates.

This paper will describe how a written assignment in business courses addresses limited learning in college by requiring students to write in-depth and think critically about their topic. The assigned project requires students to write original marketing content on a blog they create for a grade. The assignment is used to add a liberal arts perspective to business school marketing courses which would typically not require intensive writing and deep thinking.

INTRODUCTION

Teaching college students, regardless of major, how to think critically and write clearly through liberal arts courses is a common goal of colleges and universities. Although most college students are required to take some liberal arts courses, the skills acquired through this learning are not adequate for competing for professional level jobs. In a research study of higher education in the United States, findings show that college students can finish degree requirements in four years of college without learning liberal arts skills of writing clearly and thinking critically (Arum & Roksa, 2011). The authors describe most college students as “academically adrift” (p. 121) because they are not developing the high level of cognitive skills that college students should master by graduation. This is problematic because writing clearly and thinking critically are important to college students’ employment prospects. Corporate hiring managers have expressed their concern over limited learning on college campuses and say they are dissatisfied with the quality of U.S. undergraduate education. Corporate hiring managers articulate their concern through surveys and say a small percentage of graduates excel in the skills they need: 16% excel in written communication and 28% excel in critical thinking/problem solving. (Arum & Roksa, 2011). Survey results of corporate managers reflect the same sentiments as those discovered by Arum and Roksa (2011). The Wall Street Journal recently reported that a National Association of Colleges and Universities (NACE) survey of employers defined traits that matter most in job candidates: teamwork, clear writing, problem solving aptitude, and strong oral communications skills. (Anders, 2016). In a Career Advisory Board Job Preparedness survey, findings show that good written communication skills present the biggest gap between what hiring managers are looking for in new hires and what candidates have to offer (Career Advisory Board Survey, 2014). According to the Career Advisory board (2014) the gap exists among both the entry level and mid-level candidates. Since these skills corporations are looking for cannot easily be determined through a resume, candidates need to be prepared for the tasks they may be asked to complete during the interview process (Feintzeig, 2016). According to Feintzeig (2016) an emerging trend of “blind hiring” where firms focus on abilities rather than a resume is not uncommon. Some examples of interview challenges candidates have been asked to do include writing a marketing blog post for a technical product, writing a software program, and creating an Instagram campaign for a vodka brand (Feintzeig, 2016).

Research on business education shows evidence of similar concerns: there is evidence that many business majors are not trained to be integrative thinkers and that business courses lack a mastery of the liberal arts skills required to succeed in business (Colby, Erlich, Sullivan & Dolle, 2011). This study found that most writing assignments in business school courses focus primarily on building analytical thinking skills and lack a more comprehensive liberal arts perspective with the intention of building skill in reflective reasoning and the ability to consider multiple points of view (Colby et al., 2011).

Assigning a blog project as proposed in this paper can be structured to directly address the gap in skills between writing and critical thinking skills in demand in the workplace and writing and critical thinking skills of most business majors. Colby et al. (2011) provided some solutions for graded assignments that give business students more practice

with writing in addition to a liberal learning perspective that requires students to reflect and be more deeply engaged in writing the content for the assignment. The authors recommend “writing as inquiry” (p. 104) assignments that require the student to formulate questions that encourage the reader to reflect on the content of the writing and give the student some expertise in “deep and creative inquiry” (p.105). Guidelines for this kind of writing can be inserted into an assignment rubric (see Table 1) requiring that blog posts formulate an important question that gives the student a chance to reflect on their topic and encourage the reader to be fully engaged in their topic. The rubric can also require that the question be significant with the intention of providing a better understanding of the information/issue. Colby et al., (2011) admits that this kind of writing is not realistically going to be used frequently in business assignments, but they believe that if it used frequently enough the students still benefit by building expertise in this kind of critical thinking.

The goal for the student is to have a blog that demonstrates writing, analytical thinking and reflective thinking skills combined with some expertise in the field of marketing.

THE ASSIGNMENT

The primary liberal learning activity of a blog assignment is writing. Students are required to write blog posts that clearly communicate their personal reflections, ideas, insights and opinions about the blog topic.

There is an element of analytical thinking in the assignment because it requires that the blog content be relevant to topics and concepts in the course (Advertising, New Product Development and Marketing Management (capstone)). Supplemental course content in the form of current business news related to the course, marketing research, data and trend reports is posted on Twitter and Pinterest. The student can choose among thousands of posts as inspiration for the creation of six graded blog posts. The assignment requires students to reflect on the supplemental course content and then create six insightful blog posts with analysis, reflections and opinions about the articles or research they have read. For three of the blog posts, students must ask an important question that arises from their concern, analysis or interpretation of the issues in the blog post as recommended by Colby et al., (2011). The rubric for the assignment (see Table 1) is very detailed and specific to critical thinking skills. The rubric can help students understand the criteria for evaluating their blog posts as well as teach them how to write more clearly and to think more deeply about their topic.

Students create a blog on Tumblr, a microblogging and social networking website, because it is easy to use and easy to share. Tumblr gives them easy access to their content and gives hiring managers easy access if writing samples are required for interviewing. A benefit to the student of having a blog on Tumblr is that the student can easily add blog posts after completing the course.

The goal for the student is to have a blog that demonstrates skill with writing and an ability to think critically. Students are encouraged to present content and writing that demonstrates they have good ideas, can analyze information and can effectively communicate in writing.

A benefit of adding liberal learning activities like this to business courses is that business students consider an assignment like this a refreshing break from quantitative and technical course requirements. The blog assignment becomes an opportunity to produce something creative and demonstrate creative skills relevant to many highly creative marketing professions such as advertising, new product development, product design, user experience, web design and social media marketing.

Students like doing this assignment. They routinely comment on course evaluations that they enjoyed creating a blog. The blog assignment is an individual effort and is considered a break from team oriented projects. The assignment also provides an opportunity to submit a substantial individual assignment in addition to providing an opportunity to be creative as an individual.

CONCLUSION

The blog assignment can be used to accomplish several learning objectives: 1) integrate a liberal learning activity into school of business courses 2) enhance competitive advantage of students entering the job market by improving their critical thinking and writing skills 3) provide students with a writing sample for prospective employers 4) apply course concepts to real world business issues and problems.

The rubric gives students very specific criteria related to liberal learning. It clearly explains how blog posts will be graded and what is expected for a high grade. Additionally, the rubric teaches students how to write with in-depth engagement and how to demonstrate they have good insights and ideas.

The outcomes of this assignment are impressive. Since the grade allocation for the assignment is 20% of the course grade, all students complete the assignment. The project meets the objective of getting students to practice writing and be more prepared for challenges they may face interviewing. Most of the students can apply the course concepts in their blog posts and engage in an interesting discussion about current marketing issues and news. Most of the students can ask rhetorical questions that encourage the reader to reflect on the question. A few students do not meet minimum requirements for the assignment and a few exceptional students exceed the requirements of the assignment and become highly engaged in the blog posts and demonstrate a very high level of thought and creativity.

There is anecdotal evidence that the blog is being used as a writing sample by students and hiring managers in the interview process and that students are being offered internships and jobs based on positive reaction to the student blogs. However, there is an opportunity to conduct an exploratory study among corporate leaders in the Philadelphia area to study the usefulness of the blog assignment. It would be valuable to know how the blogs are being used by interviewers and how to make the requirements of the assignment relevant to the changing needs of hiring managers.

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Table 1

Marketing Strategy Blog Grading Rubric

| | F - Poor | C - Fair | B - Average | A - Excellent |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Quality of content (application and engagement)</p> <p>35%</p> | The blog posts are unfocused and display no evidence of student engagement with the topic. | The blog posts are mostly descriptive, or provide a summary, and little application to Marketing Strategy concepts is evident. Few connections are made between ideas. The posts reflect passing engagement with the topic. | The blog posts are reasonably focused and some application to Marketing Strategy concepts is evident. Fewer connections are made between ideas, and though new insights are offered, they are not fully developed. The posts reflect moderate engagement with the topic. | Blog posts are focused and coherently apply article content to Marketing Strategy concepts in all posts. Postings provide comprehensive insight, understanding, and reflective thought about the topic. The posts consider multiple perspectives when appropriate. The posts reflect in-depth engagement with the topic. |
| <p>Quality of content (support)</p> <p>30%</p> | Postings present no specific viewpoint and no supporting examples or links to websites or documents are provided, or the links selected are of poor quality and do not add any value to the information presented. | Postings present a specific viewpoint but lack supporting examples or links to websites or documents. Not all links enhance the information presented. | Postings present a specific viewpoint that is substantiated by supporting examples and links to websites or documents, but not all links enhance the information presented. | Postings present a focused and cohesive viewpoint that is substantiated by effective supporting examples or links to relevant, up-to-date websites or documents that enhance the information presented. |
| <p>Quality of content (inquiry)</p> <p>35%</p> | None of the blog posts clearly formulate a genuine question that arises from concern, analysis of the information or issues, or interpretation of the information discussed in the posts. | One blog post clearly formulates a genuine question that arises from concern, analysis of the information or issues, or interpretation of the information discussed in the posts. The question is significant and if addressed effectively by the brand discussed in the post, the brand will have a better understanding of the issue/information/concern | Two blog posts clearly formulate a genuine question that arises from concern, analysis of the information or issues, or interpretation of the information discussed in the posts. The question is significant and if addressed effectively by the brand discussed in the post, the brand will have a better understanding of the issue/information/concern. | Three blog posts clearly formulate a genuine question that arises from concern, analysis of the information or issues, or interpretation of the information discussed in the posts. The question is significant and if addressed effectively by the brand discussed in the post, the brand will have a better understanding of the issue/information/concern. |

LONG-RUN GROWTH AND ECONOMIC POLICY IN CAMEROON: A COINTEGRATION ANALYSIS

Elkanah Faux, Bowie State University

ABSTRACT

This study investigates the impact of economic policy on long-term growth in Cameroon. The study isolates growth that results from accumulation of factors from that resulting from the quality of those factors, which in turn depends on government policies and human capital accumulation. This is critical in guiding the implementation of medium and long-term growth strategies of the country. In order to achieve this, we employed econometric techniques on time series data for the period from 1978 to 2014. The study covered a period of time when Cameroon's economic performance was mixed: a decline, then some recovery, albeit sluggish since the mid-1990s, hence the need to disentangle the contribution of policies to growth from that arising from factor accumulation. Before estimating the growth equation, the characteristics of the data was examined to determine whether the data was stationary or not, and also to determine the order of integration. The results from the error correction model show that capital is a robust determinant of economic growth in Cameroon. The results further reveal that higher levels of inflation rates are harmful to economic growth in the country. These results suggest the need for prudent policies especially well implemented macroeconomic policies that can positively affect economic growth in Cameroon.

INTRODUCTION

This study analyses the determinants of economic growth in Cameroon using the recent theory of endogenous growth spurred by the works of Romer (1986) and Lucas (1988). According to this theory, economic growth can be affected by economic policy which contrasts sharply with the Solow-Swan neoclassical model in which long term growth depends on exogenous technical progress and therefore invariant to policy (Solow 1956; Swan 1956). The extent to which economic policy contributes to output growth depends on country specific features especially within the African context, where growth was found to be considerably unstable than country characteristics (Easterly, 1993).

Following the endogenous growth theory, we attribute long-term economic growth not only to factor accumulation but also to the productivity of factors, which are drawn by efficiency gains in the use of factors and technological progress. In addition to economic policy, the quality and quantity of human capital can contribute significantly to economic growth. Human capital tends to improve the quality of labour and productivity of labour, which in turn engenders economic growth. Economic policies and the quality of institutions on the other hand, affect the efficacy of resource use; contribute to growth in total factor productivity thus contributing to sustainable growth. Total factor productivity is simply a catch-all variable that captures all influences on changes in output for given levels of factor inputs. The productivity concept incorporates factors such as technical progress, efficient allocation of resources, institutions and economic policies. This study is an attempt to disentangle economic growth into its constituent parts. An Estimation of the influence of these factors can provide valuable insights on the influence of economic policy on output growth in Cameroon.

Economic growth in Cameroon has been quite uneven since independence in 1960 beginning with a period of rapid growth, followed by a decline between the mid-1980s and mid-1990s and a resurgence of growth since 1995. The economic policies implemented to address prevailing economic problems have differed depending on the economic circumstances. While these economic policies were implemented with the belief that good policy could be decisive for growth, the policies being promoted during the crisis and adjustment decade from 1986-1995, were inspired by the Bretton-Woods institutions, with its emphasis on market-oriented economic policies, openness to foreign trade, and minimal government restrictions. This study is an attempt to determine the extent to which these policies affect economic growth in Cameroon. The result from this study should suggest guidelines that promote output growth and development.

Thus the central objective of this study is to investigate the impact of economic policy on long-term growth in Cameroon. Specifically, the study seeks to (1) examine the relationship between economic policy and economic growth in Cameroon. (2) Investigate the impact of human capital on economic growth and (3) suggest appropriate policies that enhance the efficiency of government policies in promoting economic growth in Cameroon. In trying to investigate what drives long-term economic growth, it is necessary to isolate growth that results from accumulation of factors from that resulting from the quality of factors, which in turn depends on government policies and human capital accumulation. This is critical in guiding the implementation of medium and long-term growth strategy of the country.

Cameroon's Economic Performance

Cameroon's economic performance during most of the 1970s and up to the mid-1980s was impressive. Output growth during this period was boosted by exports of agricultural products and petroleum. GDP growth was estimated at 7 percent per annum on average and was propelled and sustained by an investment of 25 percent of GDP. The economic decline that began in 1986 was accompanied by sharp declines in public revenue and expenditure. Budget imbalances became severe and inflation rose reaching 10 percent. Domestic savings and investments plummeted with investment flooring to 13.3 percent of GDP in 1992. The nominal exchange rate could not adjust to meet up with the appreciation of real exchange rate. This in addition to the deterioration in the terms of trade contributed to unsustainable external payment position. The degradation in both the internal and external equilibriums in addition to structural constraints led to an unprecedented decline in GDP growth.

Table 1: Macroeconomic Indicators of Cameroon: Selected Years

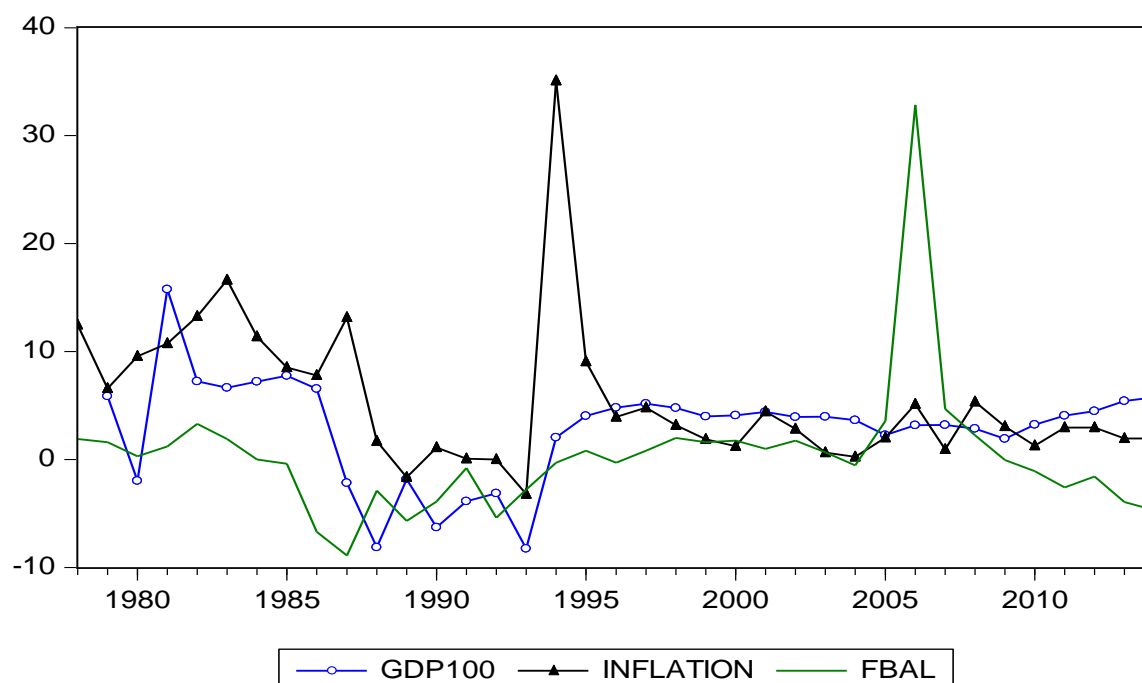
| Indicator | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2012 | 2014 |
|-------------------------------------------------------------------|------|------|------|------|------|------|------|------|
| Current account balance (% of GDP) | -6.9 | -4.9 | 1.0 | -2.3 | -3.0 | -3.6 | -3.6 | -2.2 |
| Debt service (% of exports of goods, services and primary income) | 11.9 | 13.0 | 17.2 | 12.4 | 10.0 | 0.9 | 1.7 | |
| Domestic credit to private sector (% of GDP) | 22.9 | 26.4 | 8.2 | 8.2 | 9.9 | 12.5 | 14.1 | 15.6 |
| Domestic credit provided by financial sector (% of GDP) | 22.2 | 30.9 | 17.5 | 14.4 | 13.8 | 10.3 | 14.4 | 16.3 |
| Exports of goods and services (annual % growth) | 8.9 | -9.8 | 13.9 | 1.0 | 1.4 | 7.8 | -1.3 | 10.0 |
| Exports of goods and services (% of GDP) | 33.4 | 20.2 | 23.6 | 23.3 | 20.5 | 17.3 | 18.8 | 21.7 |
| GDP growth (annual %) | 8.1 | -6.1 | 4.1 | 4.2 | 2.3 | 3.3 | 4.6 | 5.9 |
| Gross capital formation (% of GDP) | 24.9 | 17.8 | 13.3 | 16.7 | 19.1 | 19.0 | 19.4 | 20.7 |
| Gross capital formation (annual % growth) | 11.7 | 1.5 | -6.1 | 9.2 | 0.6 | 5.6 | 1.9 | 13.5 |
| Inflation, GDP deflator (annual %) | 11.2 | 1.6 | 8.6 | 2.9 | 2.6 | 2.6 | 3.0 | 2.4 |
| Inflation, consumer prices (annual %) | 8.5 | 1.1 | 9.1 | 1.2 | 2.0 | 1.3 | 2.9 | 1.9 |
| Interest payments on external debt (% of GNI) | 2.3 | 2.3 | 2.6 | 3.3 | 1.5 | 0.2 | 0.2 | 0.5 |

Sources: World Bank World Development Indicators 2016

In order to correct both internal and external imbalances, Cameroon implemented measures to restrain aggregate demand, which engendered cutbacks in investment expenditures, and this contributed to declines in investment and saving rates. Because of the failure of the internal adjustment measures to correct the imbalances, Cameroon supported by the World Bank and the IMF implemented structural adjustment and stabilization programmes that emphasized increases in medium and long term growth. Despite these policies, the imbalances widened as Cameroon's exports remained less competitive relative to those of her major trading partners due to the overvaluation of the local currency, the CFA franc.

However, the CFA franc was devalued in 1994 and trade and fiscal reforms implemented within the Central African Economic and Monetary Community (CEMAC), helped in restoring macroeconomic stability. This has contributed to a steady growth in output. The real annual growth of GDP is estimated at the rate of 4.5 percent and real per capita GDP growth averaged 1.6 percent annually in 1998-2000. Fiscal surpluses averaged 5.9 percent of GDP per year and were mostly devoted to external debt service. Inflation has stabilized at an average of 2 percent and external terms of trade recovered thus improving the external economic environment. For example, the current account deficit of balance of payments was only 3.2 percent of GDP in 1998-2000 due to the recovery of exports.

Figure 1. Evolution of GDP, Inflation and Fiscal balance



In spite of this progress, the period 1994 to mid-1996 was not very successful for Cameroon's stabilization and adjustment efforts. Thus an enhanced structural adjustment facility was put in place in 1997 as an attempt to surmount these problems. These reforms which focus essentially on macroeconomic stability, tax policy, bank sector restructuring and administrative reforms encompass policy determinants of growth. However, reforms in sectors such as education, health, governance and government decentralization are inadequate and may hinder sustainable output growth. The implementation of the structural reforms under the Enhanced Structural Adjustment Facility (ESAF) has led to improved macroeconomic performance. Real GDP growth rate averaged 3.5 percent per annum between 1995 and 2010 and 4 to 5 percent since 2010 and this contrasts sharply with the negative growth rates of the previous decade. In order to promote macroeconomic stability, the fiscal position was strengthened through improved revenue mobilisation and prudent expenditure policies. Besides, significant progress has been made in improving governance and developing government auxiliary accounts.

Cameroon's institutions and Human capital development

The advances made so far in the reform efforts have been overshadowed by weaknesses in governance and inadequate attention to education and health services. Besides, accountability and transparency in public sector resource use is insufficient. Corruption is on the rise and high transaction costs in the use of public resources are a hindrance to efficiency in the public sector. The regulatory framework and investment climate are less conducive to the development of the private sector and output growth.

In order to foster and sustain its medium-term growth, Cameroon has resolved to implement new generation economic and social reforms - strengthening human resources, improving the institutional framework, reform of the legal and judiciary system to protect property rights and enforce contracts, improve competitiveness by creating a business friendly environment and implement policies that promote private sector development and good governance. All these policies are gradually being implemented as the government pursue its goal to transform the country into an emerging economy by 2035.

Contribution of Economic Policy to Growth

Recent development in the growth literature emphasizes that economic conditions and the implementation of appropriate macroeconomic policies can influence long-term growth rates. This revival of the growth literature focuses

on endogenous growth models. A hallmark of the new literature is the demonstration that distortions and policy interventions that can be shown to have no real effect on long-term growth can affect steady state growth rate in endogenous growth models. The role attributed to government policy in the Solow-Swan framework is to ensure that the market works well with rapid adjustment of prices. This implies that any deviation of the warranted rate of growth from the natural rate of growth would quickly be corrected through the necessary changes in capital output ratio². This tends to be associated with minimum level of government interventions, which creates no price rigidities in the economy. The rapid growth of East Asian economies since the mid 1960s are attributed to a combination of determinants including human and physical capital, openness to foreign trade and foreign direct investment, effective government policies that accompany technological progress and factor accumulation (World Bank 1993).

Output growth has been defined as a function of capital and labour weighted at the respective factor shares in value added. Abramovitz (1956) and Solow (1956) identified that part of output growth that was not associated with growth in factor inputs to be the result of a residual that accounts for the difference in the growth of output and the contribution of inputs. This residual referred to as total factor productivity (TFP) or the Solow residual captures several variables including institutions and economic policies. The latter enhances the efficiency of inputs and alters the endogenous rate of technological change that can boost productivity growth (Easterly and Levine 2002). This study is not concerned with the polemics that surrounds the interpretation of total factor productivity but regards it as a residual that explains changes in output growth arising not from factor accumulation but also from the efficacy with which resources are used which depends essentially on government economic policies.

The relevance of considering the growth effect of economic policies should be predicted on the basic proposition that policy matters for the long run growth of the economy. This is an alternative to the neoclassical growth theory of Solow-Swan in which long-run growth is determined by exogenous technological progress and productivity and therefore invariant to policy. Beginning with fiscal policy, expansionary fiscal policies can significantly affect both the level of output and also per capita growth rate. Fiscal policy responses are often directed to fiscal dimensions such as high unemployment, inadequate domestic savings, severe budget deficits and public debt burdens, and looming crisis in the financing of health care systems and education. Policy debates have been focused on issues relating the appropriate scope, nature and conduct of fiscal policy within the context of limiting macroeconomic instability in the short run and fostering growth in the long run.

Opinion on effect of openness on growth has been quite divided. Trade liberalization sceptics like Krugman (1994) and Rodrik (1995) have argued that the effect of openness on growth is indeed doubtful. This viewpoint contrasts sharply with earlier persuasive support for growth effect of openness led by the pioneers of the new endogenous theories of growth (Romer 1986 and Lucas 1988). Barro and Sa-i-Martin (1995) and Edwards (1997) have argued that countries opened to the rest of the world have greater capacities to absorb technological advances. They maintained that, innovation taking place in advanced nations are easily imitated by countries that are open to foreign trade. Rodrik (1995) attribute the doubtful evidence to poor measure of the indicator of trade regime, which he argued is often confused with macroeconomic aspects of the policy regime.

The role of human capital in economic growth is well expounded in the growth literature. Although it is a relatively new formulation, it has been shown that human capital creates knowledge, which affects productivity and consequently economic growth. A number of economists have presented models that allow for significant effect of human capital on output growth (Uzawa 1965, Lucas 1988, Romer 1989). These models highlight the role of human capital and education in particular in enhancing the productivity of both the recipients of such capital and that of the society. Endogenous growth models suggest that government policies to promote education and human capital formation can have large impact on long-run economic growth, which should be taken into account by policy makers. Education facilitates the acquisition of new skills and knowledge that increase productivity and output. Besides, investment in human capital has benefits that are external to the individual. Because these benefits accrue to the society as a whole, such investment will lead to increasing returns to scale.

Based on the recent endogenous growth models that output growth and economic policies are positively correlated,

² The growth rate is dictated by the natural growth rate, which depends in turn on the growth of labour supply and technical change. Labour supply is principally a function of the growth of the population and technical change that may result from fortunate discoveries and inventions.

several studies have been conducted to determine how economic policies can influence output growth. Fischer (1993) studied the effects of macroeconomic indicators such as inflation rate, budget surplus or deficit and black market exchange premium on growth. His results indicated that each of these variables is individually significantly correlated with growth thus showing a positive link between growth and macroeconomic stability. The author defined a stable macroeconomic framework as one in which the macroeconomic policy environment is conducive to growth.

Recent evidence on the link between government expenditure and growth are mixed. Devarajan, Swaroop and Zou (1996) considered a sample of developing countries from 1970 to 1990. They found no positive or significant relationship between growth and the level of public expenditures. In contrast, they found a positive relationship between public consumption expenditures as measured by current outlays as a share of total expenditures and growth. These authors also found an inverse relation between public investment and growth suggesting therefore that governments may have been misallocating expenditures in favour of capital expenditures rather than outlays on sectors such as infrastructure. Barro (1997) arrived at a similar conclusion when he found that government consumption expenditure calculated by deducting defence and education expenditures from general consumption measured in proportion of GDP negatively correlated with growth.

As regards the effect of human capital on growth, Barro and Sala-i-Martin (1995) found a positive impact on growth of public spending on education. They interpreted the result to mean the growth effect of improved quality in human capital. Tanzi (1995) argues that public spending on education increases a country's ability to absorb technology from abroad and invest in new technologies. Amin (1998) studied the growth effects of fiscal policies in Cameroon and found that productive government spending enhances the efficiency and productivity of the private sector. He identified education, health and infrastructure as the sectors on which public spending crowd in private investment and thus growth. These results contrasted sharply with findings from cross-country regressions by Levine and Renelt (1992) that there was no robust correlation between public spending on education and growth.

De Gregorio (1993) Barro (1997), Kormendi and Meguire (1985) found a negative but significant relationship between the level of inflation, variability of inflation and growth in Latin America has equally found a negative but smaller effect of inflation on growth. Levine and Renelt (1992), after controlling for physical and human capital accumulation rates, that inflation rate is not significantly related to per capital output growth. This result could not be different because the authors controlled for capital accumulation on which inflation operates. Haslag (1997) however fails to find any evidence that shows a significant correlation between inflation and output growth.

In a study of private investment and endogenous growth in Cameroon, Dhaneshwar (1997) found that results that hold with cross-country data also hold for Cameroon. A specific finding from this is that, an increase in private investment/GDP ratio raises real GDP by 0.8 percent point. However, the effect of changes in government investment, although positive, is not strongly robust. The study concludes that as increases in private investment stimulate growth, government should formulate and implement appropriate policies that encourage private sector investment and growth. Acknowledging the role of human capital, the study suggests that a reallocation of government expenditure to investment in education and health would help raise human capital and contribute to growth. These conclusions have been supported by later results by Amin (1998) and by Dhaneshwar's whose study included control variables such as government size, monetary policy, terms of trade and external debt, which were found to be statically insignificant.

McKinnon (1973) and Shaw (1973) argued that financial repression, and in particular depressed interest rates cause a slowdown in growth rates via low savings rates and inefficient allocation of investments. Easterly and Wetzel (1989) found negative real interest rates to be highly distortionary and has a significantly negative effect on growth. This suggests that policies to remove distortions in the financial markets are likely to raise long-run rate of growth.

Different authors have used various indicators to measure trade liberalization. Sachs and Warner (1995) for example classified 117 countries as either open or close. They did this by employing a series of trade related indicators- tariffs, quotas coverage, black market premium, the existence of export marketing boards to construct a composite index which is an improvement over previous attempts. However, this indicator considers a country to be either opened or closed and does not allow for intermediate situations where countries are neither totally opened nor totally closed. Levine and Renelt (1992) argued that the black market premium for foreign exchange is a good proxy for the overall degree of intermediate situations.

This study unlike previous studies focuses on the role of economic policy on economic growth in Cameroon. The

study comes up at a time when Cameroon's economic performance has improved though sluggishly since the mid-1990s. This study provides the need to disentangle the contribution of policies to growth from that arising from factor accumulation.

METHODOLOGY

The Growth Model

Economic growth occurs from the accumulation of factor inputs and the rate of growth of aggregate productivity of these factors (TFP). TFP is an unexplained residual that captures technological change, improvements in institutions and the country's economic policies. An estimation of the TFP allows us to identify the channels through which economic policies affect growth. While human capital may influence total factor productivity (A), it may also enter the production function directly as a third input. Consequently, we augment the Cobb-Douglas production function by incorporating human capital. This is aimed at capturing the effects of human capital on the aggregate productivity of factors (Mankiw et al. 1992; Lucas 1998).

Following the proposed model by Nehru and Dharieswar (1993), and a specification of total factor productivity to policy variables by Ndiaye (1998), we estimate a function of growth rate derived from the Cobb-Douglas production and the logarithmic form of the production function. We equally estimate the elasticities of factors and the growth rate of aggregate productivity of factors for Cameroon for the period from 1980 to 2014.

The starting point for our analysis is the aggregate production function augmented to include human capital as follows:

$$Y_t = F(K_t, L_t, H_t, A_t) \quad (1)$$

where Y denotes real aggregate output or income, K represents physical capital, L is labour or number of workers, H is human capital and A is an overall efficiency factor that does not only include technology but also the quality of government economic policies⁸. Aggregate output is produced through a constant return to scale Cobb-Douglas production function as follows:

$$Y_t = A_t K_t^\alpha L_t^\beta H_t^\delta, \text{ with } \alpha + \beta + \delta = 1 \quad (2)$$

In the above specification, output is derived from four factors including human capital. Human capital is a key determinant of labour productivity as it creates knowledge, facilitates the absorption of new technology, and increases innovations. The framework allows the decomposition of economic growth into separate contributions from the variables expressed in the right hand side of equation (1). Taking logarithm of the Cobb-Douglas production function yields:

$$\log Y_t = \log A_t + \alpha \log K_t + \beta \log L_t + \delta \log H_t \quad (3)$$

⁸ Human capital is incorporated in the production function on the assumption that worker productivity can grow without bound in the absence of technical progress. Also, based on the theory of endogenous growth, it is hypothesized that technological progress with growth rate expressed as $G_A = \Delta \log A_t$, is driven by economic policies and also the average level of human capital.

Total factor productivity (A) or the Solow residual is assumed to grow according to the following function:

$$A_t = A_0 e^{\sum \theta_{Xit}} \quad (4)$$

where x is a vector of growth rates for the X_{it}^9 variables and θ is a vector of coefficients related to x . Applying a logarithmic transformation to (4) and expressing the growth rate x as $\Delta \log x$, yields,

$$\log A_t = \log A_0 + \theta_1 \Delta \log X_{1t} + \theta_2 \Delta \log X_{2t} + \dots + \theta_n \Delta \log X_{nt} + \eta_t \quad (5)$$

Substituting equation (5) into equation (3), we obtain an expression for aggregate output or income as follows,

$$\log Y_t = \log A_0 + \alpha \log K_t + \beta \log L_t + \delta H_t + \theta_1 \Delta \log X_{1t} + \dots + \theta_n \Delta \log X_{nt} + \eta_t \quad (6)$$

Given that $\Delta \log X_{i,t} = f(\log X_{i,t})$, equation (6) can be rewritten as follows,

$$\log Y_t = \log A_0 + \alpha \log K_t + \beta \log L_t + \delta \log H_t + \omega_1 \log X_{1t} + \dots + \omega_n \log X_{nt} + \eta_t \quad (7)$$

Generally, changes in the logarithm of X ($\Delta \log X_{it}$) are interpreted as the effects of policies and institutions on the aggregate productivity of factors. The above specification forms the basis of our empirical analysis and thus has important implications on the roles of factor accumulation, human capital, institutions and economic policy for output growth.

DATA SOURCES AND VARIABLE DEFINITION

Data Sources

The data that has been used for this study have been drawn from country reports and other useful publications on the country, the National Institute of Statistics, the World Bank and IMF databases. In the absence of data on current labour force participation rates in production, labour force is assumed to be the active population and is constant over time. The capital stock variable was measured as the gross capital formation.

Definition of Variables

In the following table, we define the variables used in the estimating the growth equation.

| | | |
|---------|---|------------------------------------------------------------------------------|
| RGDP | = | Real GDP (a measure of output) |
| CAP | = | Gross capital formation is used as a proxy for physical capital accumulation |
| LAB | = | Labour force growth (Economically active pop.) |
| Exports | = | Exports of goods and services |
| Fbal | = | Fiscal balance |
| HCAP | = | Human capital measured by education expenditure |
| CBAL | = | Current account balance |
| INFL | = | Inflation rate |

⁹ X_{it} comprises variables such as inflation rate, government expenditure as a share of GDP, fiscal balance, b current account balances and all other economic and institutional variables embodied in A .

Empirical Results

In this study, we examine a set of factors that determine long-term economic growth in Cameroon using data ranging from 1978 to 2014. The productivity of factors into the production function is assumed to be captured by total factor productivity, which in turn depends on exogenous factors such as economic policy, and the quality and quantity of human capital available in the country. Human capital tends to improve the quality of labour and the productivity of labour, which in turn engender economic growth. Given the paucity of data on human capital development, secondary enrolment was used as a proxy variable for human capital. Furthermore, the study retains current account balance, inflation and interest rate as measures of economic policy and export of goods and services as a control for openness. Gross capital formation was taken as a proxy for capital input.

Before estimating the model, it is of interest to examine the time series properties of the data. The stationarity of the variables is determined using the testing strategies recommended by Perron (1988). The unit root hypothesis is tested using the Augmented-Dickey-Fuller (ADF) test, which is equivalent to running the following set of regressions for each of the variables.

$$\Delta X_t = \beta + \lambda t + \alpha X_{t-1} + \sum_{i=1}^k \delta \Delta X_{t-i} + \varepsilon_t \quad (8)$$

where X_t is the relevant time series, β is a constant, λt is time trend and ε is the residual error term. The test is performed separately for each level variable as well as on its difference with the aim of establishing the order of integration. The lag length (K) in the ADF regression is selected using the Schwartz criterion.

Unit root test

Before the estimation of our growth equation, the characteristics of the data need to be examined. This is done to determine whether the data is stationary, that is, whether it has unit roots and also the order of integration. The tests used are the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) tests. The results indicate that RGDP, and LAB both have unit roots and are therefore non-stationary. They are integrated of order the rest of the variables are integrated of order zero according to ADF and Phillips Perron tests. Using both tests, we can see that all of variables are stationary after first difference implying the absence of unit roots. The results of the unit root tests are presented in the following table.

Test Results for Unit Roots

| Variables | Augmented Dickey-Fuller (ADF) | | Phillips-Perron (PP) | |
|-----------|-------------------------------|------------------|----------------------|------------------|
| | Level | First Difference | Level | First Difference |
| lnGDP | -2.612 | -10.584* | -3.48 | -10.126* |
| lnK | -2.57 | -6.295* | -3.747 | -9.874* |
| lnLAB | -2.806 | -6.488* | -2.804 | -6.504* |
| HCAP | -2.829 | -5.819** | -2.260 | -8.294* |
| INF | -3.809 | -8.809* | -3.809 | -9.451* |
| Exports | -2.196 | -5.778* | -2.260 | -5.783* |
| Fbal | -3.906 | -8.118* | -3.894 | -11.917* |
| CBAL | -4.222 | -8.587* | -4.189 | -17.274* |

Note: *Indicates significance at 1%, **Indicates significance at 5%, *** Indicates significance at 10%

The ADF and the Phillips Perron tests for the first difference rejects the hypothesis of non-stationarity at the 5 % level for level for all variables. Given this evidence, it is logical to treat all variables as integrated of order one, or I (1) in accordance with the model.

Cointegration Test

Given the non-stationary variables, we investigate if these variables are cointegrated or have any long-term relationship. We do this by adopting the Johansen Procedure and particularly the trace test. Using the Johansen method, we test whether there is a long term relationship between RGDP, Capital, labor force, and human capital. The test is conducted with the assumption of linear deterministic trend in the data series. The trace test shown in the following table indicates that there are 2 cointegration equations of cointegration at 5%. In effect, on the 'none' column of the following table, the trace is greater than the critical values at 5% implying that the series are cointegrated.

Table 2: Cointegration analysis: Assumption of Linear deterministic trend

| H ₀ | Eigenvalue | Likelihood (Trace Test) | ratio | 5 Percent critical value | Hypothesized number of CE(s) |
|----------------|------------|----------------------------|-------|-----------------------------|---------------------------------|
| $r = 0$ | 0.716 | 85.703 | | 47.856 | None* |
| $r \leq 1$ | 0.574 | 42.953 | | 29.797 | At most 1* |
| $r \leq 2$ | 0.275 | 13.962 | | 15.495 | At most 2 |
| $r \leq 3$ | 0.085 | 3.024 | | 3.842 | At most 3 |

Note: *, **, and *** imply the variables are statistically at 1%, 5%, 10%, respectively

Engle and Granger (1987) have shown that any cointegrated series has an error correction specification. The error correction model can lead to a better understanding of the nature of any non-stationarity among the different component series and can also improve longer term forecasting. It ties the variables together in the long run and they cannot move apart too far over time. Table 4 below shows the summary results of the error correction model for Cameroon.

Table 4: ECM Estimates of GDP Growth for Cameroon. Dependent Variable is LnRGDP

| Variable | Coefficient | t-statistic | Prob. |
|---------------------------------------------------|-------------------------|-----------------------|-----------|
| D(LNCP) | 0.168823 | 8.780012 | 0.0000 |
| D(LNLAB) | -3.291177 | -2.222767 | 0.0355 |
| D(LNEXPORTS) | 0.020712 | 0.802253 | 0.4300 |
| D(INFLATION) | -0.001363 | -3.134137 | 0.0044 |
| D(FBAL) | 0.000493 | 0.976629 | 0.3381 |
| D(CBAL) | -0.000230 | -0.137255 | 0.8919 |
| D(HCAP) | 0.928584 | 1.416028 | 0.1691 |
| DUM | -0.012834 | -1.423641 | 0.1669 |
| U(-1) | -1.179052 | -6.722050 | 0.0000 |
| C | -0.015402 | -1.163761 | 0.2555 |
| R-squared | 0.871944 | Mean dependent var | -2.92E-05 |
| Adjusted R-squared | 0.825843 | S.D. dependent var | 0.047757 |
| S.E. of regression | 0.019930 | Akaike info criterion | -4.758243 |
| Sum squared resid | 0.009930 | Schwarz criterion | -4.313858 |
| Log likelihood | 93.26926 | Hannan-Quinn criter. | -4.604841 |
| F-statistic | 18.91406 | Durbin-Watson stat | 2.138707 |
| Prob(F-statistic) | 0.000000 | | |
| Normality Test (Jarque Bera) | 0.872 | Probability | 0.647 |
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | Obs*R-squared =11.58502 | Prob. Chi-Square(9) | 0.2377 |

As the results indicate, a policy variable such as inflation is an important determinants of economic growth in Cameroon. The coefficient of inflation is negative and significant indicating that an increase in inflation will dampen GDP growth. The results also reveal that capital stock is positively and significantly related to long term economic growth. This finding is quite realistic and supports the theoretical postulation that capital accumulation is critical for

economic growth in Cameroon which like other countries of its economic strength lack access to foreign capital markets. As we can infer from the results, a short increase of capital stock by 1 percent causes GDP to rise by 16.8 percent. Similarly, a 1 percent short run increase in inflation causes RGDP to decrease by 0.13 percent. The rest of the variables are not significantly related to real output growth.

The findings also show labor factor has a significant on growth although this impact is negative perhaps due to the saturated labor market. As least expected, the effect of human capital on GDP growth is not significant but remains positive highlighting the fact that higher spending on education can boost human capital formation which in tend can improve growth outcomes. The non-significance of this variable could also be explained by the fact that the type of investment undertaken works though a feedback mechanism such that there is no significant direct impact. The error correction model is significant and have the expected negative sign and a coefficient of -1.179 indicating that the error correction term converges to equilibrium at the speed of 11.8 percent.

CONCLUSION

In this paper, we have employed econometric techniques beginning with time series analysis to determine the impact of economic policy on economic growth in Cameroon. In particular, we examine the stability of long run growth in Cameroon. We perform the test by ADF and PP and then a cointegration test is conducted and the error correction model is estimated. The study finds two interesting results. First, capital stock and economic growth are positively related. Second, higher levels of inflation rates are harmful to economic growth. The policy implications are that although some level of inflation is needed for growth, keeping it steady and low could lead to faster economic growth in Cameroon. Also policies that increase current account balance could significantly promote output growth.

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AN EMPIRICAL INVESTIGATION THAT DETERMINES WHETHER THE HOUSE MONEY EFFECT EXPLAINS TAXPAYER BEHAVIOR

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ABSTRACT

This study furthers our understanding of taxpayer behavior by introducing an alternative theory that might provide a better explanation of taxpayer behavior than prospect theory: the house money effect. Prospect theory posits that taxpayers in a refund situation act conservatively. The house money effect suggests that taxpayers expecting to receive a refund act aggressively up to the point where the potential exists to eliminate the refund, at which point taxpayers become conservative. The theory is that the refund is viewed as a gain, and thus taxpayers are playing with “house money” as long as the gain (refund) is not eliminated. The expectation to receive a refund can be created two ways: from a preliminarily determined current year tax position, and from a prior year’s tax position. Both tax positions will be tested.

INTRODUCTION

This research study seeks to further our understanding of taxpayer compliance behavior when a taxpayer is faced with the decision whether or not to take an ambiguous deduction. Behavior is one of the factors identified by the Internal Revenue Service (IRS) that determine taxpayer compliance in the United States. Since the introduction of prospect theory in 1979, studies, either using it to explain taxpayer behavior or testing it in a tax context, have shown mixed results [Jackson and Spicer, 1986; Schadewald, 1989; Schepanski and Kelsey, 1990; White, Harrison and Harrel, 1993; Schepanski and Shearer, 1995; Schisler, 1996; Copeland and Cuccia, 2002]. The primary purpose of this study is to introduce an alternative theory that might provide a better explanation: the house money effect.

In the seminal article that introduces prospect theory, Kahneman and Tversky (1979) posit that individuals use a neutral point as a basis of comparison when evaluating potential outcomes, or prospects. Kahneman and Tversky suggest that the neutral point should be assigned an arbitrary value of zero. Potential outcomes that are greater than the neutral point, called a reference point, are positive and are viewed as gains, while outcomes less than the reference point are negative and are viewed as losses. According to prospect theory, gains cause individuals to act conservatively, while losses cause individuals to act aggressively. In this particular article, we will only focus on gains.

In the seminal article that introduces the house money effect, Thaler (1990) suggests that prior gains and losses can influence decision-makers in ways that violate the tenets of prospect theory. Thaler’s article did not involve research in a tax context. In a tax context, the house money effect contradicts prospect theory by suggesting that taxpayers in a refund (gain) situation are risk-seeking up to the point where the potential exists to eliminate the refund. At that point, the house money effect becomes congruent with prospect theory, which is taxpayers become risk averse.

To test our premise that the house money effect influences taxpayer behavior, we used two different tax positions, prior years’ experience and a preliminarily determined current year tax position, to determine how they are viewed by taxpayers, and how they influence decisions. Integral to the house money effect is the presence of a prior gain. Prior years’ experience may create expectations that represent the prior gain upon which the house money effect is based. For example, if a taxpayer has received refunds in the past, all things being equal, the taxpayer could be expecting to receive a refund this year of about the same amount. The house money effect suggests that this expected refund is “found” money, and, thus, represents a gain. On the other hand, prospect theory suggests this expected refund may be viewed as a reference point, a neutral point assigned the arbitrary value of zero, as opposed to a gain. According to prospect theory, the taxpayer would have to receive a current year refund greater than the expected amount in order to feel as though he/she has experienced a gain.

The second tax position tested in this study is a preliminarily determined current year tax position. Anecdotal evidence suggests that taxpayers often compute their preliminary current year tax position (refund or tax due) before deciding whether or not to act aggressively by either taking an additional deduction, or underreporting income. In addition to prior years’ experience, the current year tax position where a refund is expected may also represent the prior gain upon

which the house money effect is based. But, the current year tax position may represent a reference point instead. Schadeewald (1989) and Schepanski and Shearer (1995) determined that a preliminarily determined current year tax position is not a taxpayer reference point, adding credibility to the argument that an initially computed current year tax position may be viewed as a gain or loss.

The house money effect has been shown to apply in non-tax contexts (Thaler and Johnson, 1990; Battalio, Kagel, and Jiranyakul, 1990; Sullivan, and Kida, 1995). However, the theory has not yet been tested in a tax context. By testing for the applicability of this theory, this study will seek to provide a richer understanding of taxpayer compliance behavior.

TAXPAYER COMPLIANCE

The United States (U.S.) tax system differs from the systems of most (if not all) other countries in that it is a voluntary system, which means that U.S. taxpayers determine the amount of income reported and deductions taken on their own tax returns. As a result, the success of the federal individual income tax system is dependent on voluntary taxpayer compliance. However, the IRS has estimated that 54 percent of individual taxpayers have engaged in some form of noncompliance [White, et al., 1993]. Revenue losses from noncompliance by individual taxpayers were estimated to range from \$93.2 to \$95.3 billion as far back as 1992 [IRS, 1996].

These revenue losses are based on income taxpayers legally received. Other forms of noncompliance -- for example, by those who fail to pay the income tax that they report, and/or by those who receive illegal income -- push the "noncompliance tax gap" considerably higher [Roth, Scholz and Witte, 1989]. As congress continues to trim the IRS budget, understanding behavior that makes taxpayers more or less compliant is more critical than ever.

When searching for explanations of taxpayer behavior, tax researchers and tax administrators tend to focus on environmental factors. Perhaps this is because environmental factors are often readily available and can be relatively easy to quantify. Indeed, some environmental factors (e.g., age, gender, income level, income source, and occupation) appear on income tax returns. However, the IRS Research Division's list of compliance factors also included a few psychological factors, defined by the IRS as those variables that are "cognitive, psychiatric, behavioral, etc." [IRS, 1978, Section F42.1-1]. Psychological factors are considered by the IRS to be a potential complement to environmental factors for determining reasons for taxpayer noncompliance. This study will attempt to further our understanding of psychological factors by attempting to determine if the house money effect can explain taxpayer behavior.

RESEARCH QUESTION

Integral to identifying psychological compliance factors is being able to explain taxpayer behavior. Historically, expected utility theory was thought to describe decision-making behavior under risk, including a taxpayer's behavior. The theory suggests that given a decision involving risk, if the expected values of the payoffs are equal, a risk-taking person would take the risk, while a risk-averse person would not. Kahneman and Tversky (1979) introduced prospect theory as an extension of expected utility theory. They suggested that an individual's risk propensity does not determine risk-taking behavior, rather the expectations of the decision-maker determine this behavior. Specifically, individuals use a psychological variable known as a reference point as a basis of comparison in order to determine whether a decision involves either a gain or a loss. Those conditioned to expect a gain act conservatively and do not take a risk.

Although prospect theory suggests that prior gains and prior losses could be an individual's reference point, that is, the basis upon which current outcomes are evaluated, the theory does not address how prior gains and prior losses influence risk-taking decisions when those gains and losses are not reference points. It has been demonstrated in non-tax studies that prospect theory is not always descriptive when prior gains and prior losses are experienced (Thaler and Johnson, 1990, Battalio, Kagel, and Jiranyakul, 1990 and Sullivan and Kida, 1995). These studies demonstrate that the house money effect can be the descriptive theory that explains behavior in certain contexts. This study will seek to determine if the house money effect better explains taxpayer behavior in a tax context. Therefore, this study addresses the following research question:

In a refund situation, does the house money effect provide a better explanation of taxpayer compliance behavior than prospect theory?

EXPECTED UTILITY THEORY AND PROSPECT THEORY

In this chapter, expected utility theory is discussed, but only briefly, as this body of research is well established. Prospect theory is discussed as an extension of expected utility theory. Then, the house money effect, is introduced. This theory has not yet been tested in a tax context.

Von Neumann and Morgenstern (1944) are generally credited with authoring the seminal article introducing expected utility theory as it exists today. Expected utility models are concerned with choices among risky prospects. Expected utility theory states that a decision maker calculates the overall expected utility value of each prospect and chooses the alternative that maximizes the mathematical expectation of the individual's gain or utility [von Neumann and Morgenstern, 1944 and Friedman and Savage, 1948]. Overall expected utility of a prospect is the sum of the utilities associated with all possible outcomes, weighted by the probability that each outcome will occur. The model, originally stated by von Neumann and Morgenstern (1944) and restated by Schoemaker (1982), is:

$$E(u) = p_1u(x_1) + p_2u(x_2) + \dots + p_nu(x_n)$$

where:

| | | |
|--------|---|-----------------------------------------------------------|
| $E(u)$ | = | Overall expected utility of the prospect |
| p | = | Probability of occurrence (where $\sum_{i=1}^n p_i = 1$) |
| u | = | Utility |
| x | = | The outcome |
| n | = | The number of outcomes or prospects |

Thaler (1980) adds to the model by positing that the utility function is defined over an individual's final wealth state (final asset position). That is, Thaler adds the individual's initial wealth to the model as follows:

$$E(u) = p_1u(w + x_1) + p_2u(w + x_2) + \dots + p_nu(w + x_n)$$

where:

w = The individual's initial wealth state before making the risky decision.

Kahneman and Tversky (1979) published the seminal article introducing prospect theory as an extension of expected utility theory. Since then, many articles have been published either evaluating prospect theory, or using it in a study [Elliott and Archibald, 1989, Frisch, 1993 and Gregory, Lichtenstein and MacGregor, 1993].

Prospect theory involves three significant philosophical departures from expected utility theory. The first deals with how individuals process or code information. The second and third deal with the two functions that prospect theory uses to characterize choices: the value function and the decision weight function [Thaler and Johnson, 1990].

Expected utility theory suggests that making a decision is a two step process: evaluating alternatives (evaluation phase) and selecting the option with the highest expected utility (decision phase). Prospect theory modifies the process by adding a step (or phase) before the evaluation phase. Specifically, prospect theory suggests an editing phase that frames the acts, outcomes, and contingencies [Tversky and Kahneman, 1981]. In general, framing describes the manner in which information is communicated. This phase is needed because research has demonstrated that individuals respond differently to alternative descriptions of the same problem [Frisch, 1993]. Hence, an imperfection among decision-makers exists when information is processed.

In the editing phase, the decision-maker organizes and reformulates the options so as to simplify the subsequent evaluation phase. As part of this process, Kahneman and Tversky (1979) suggest that decision-makers frame outcomes as gains and losses relative to some neutral reference point, rather than as final states of wealth. A reference point is the mental anchor or zero point around which decision alternatives are presented [Gregory, Lichtenstein, and MacGregor, 1993]. That is, the reference point is used by a decision-maker as a basis of comparison when evaluating decision alternatives. However, the location of the reference point, and therefore, the perceived gain or loss, can be affected by both the way the decision is framed and the expectations of the decision-maker [Kahneman and Tversky, 1979].

The second significant departure from expected utility theory, prospect theory's value function, replaces the utility function of expected utility theory. Prospect theory suggests that value is assigned to changes in wealth or welfare, that is, gains and losses, rather than to final wealth states (Kahneman and Tversky, 1979). Through a series of surveys given to university students and faculty, Kahneman and Tversky (1979) determined that people tend to be risk averse in a gain situation. Therefore, those in a gain situation would rather take a certain gain to minimize their downside risk and avoid the risk of reducing their current asset position.

The third significant departure from expected utility theory involves the treatment of probabilities. In expected utility theory, utility is determined by multiplying an uncertain outcome by its probability of occurrence. However, determining the probability of occurrence is not an exact science. Kahneman and Tversky (1979) suggest that the value of an outcome is not only multiplied by its probability of occurrence, but also by a decision weight that is unique to each decision maker and subjectively inferred from choices between prospects.

The decision weight, Π , is attached to the probability, p , to give an overall probability, $\Pi(p)$. The hypothesized properties of $\Pi(p)$ are such that large and intermediate probabilities are underweighted ($\Pi(p) < p$), while small probabilities are overweighted ($\Pi(p) > p$). For example, Tversky and Kahneman (1986) suggest the purchase of a lottery ticket illustrates a situation where the weighting function overweights the probability of occurrence. The probability of winning the lottery is extremely low, yet many people buy lottery tickets. Why? Because the decision weight, Π , is high enough to offset the very low probability, p , making the purchase of a lottery ticket desirable. Further, the decision weighting function is not well behaved at extremely high or extremely low probabilities and, therefore, is discontinuous at its endpoints. As a result, according to prospect theory, decision alternatives involving very low probabilities may be disregarded and decision alternatives involving very high probabilities may be treated as certain [Tversky and Kahneman, 1981].

PROSPECT THEORY MODEL

The prospect theory model extends the expected utility theory model primarily by adding the decision weight. To illustrate the model, consider a prospect that yields outcome x with probability p , and outcome y with probability $1 - p$. There are values, v , associated with the outcomes, and decision weights, Π , associated with the probabilities, such that the overall value of the prospect, V , is defined as [Tversky and Kahneman, 1981]:

$$V = \Pi(p) v(x) + \Pi(1 - p) v(y) \quad (1)$$

According to prospect theory, this model applies when x and y are of opposite signs (either $x \geq 0 \geq y$ or $y \geq 0 \geq x$) [Thaler and Johnson, 1990]. For example, assume that a person is faced with the following decision:

- a) keep the status quo and wager nothing, or
- b) take a gamble where there is a 50% chance of winning \$40 and a 50% chance of losing \$40.

Using the model, the overall value, V , of choosing the gamble is:

$$\Pi(.5)v(40) + \Pi(.5)v(-40)$$

The decision-maker could put this in words as: I have a 50% chance to gain \$40 and a 50% chance to lose \$40.

However, when outcome x and outcome y are of the same sign, the model changes. In this case, "prospects are segregated into two components: (1) the riskless component, i.e., the minimum gain or loss that is certain to be obtained or paid; and (2) the risky component, i.e., the additional gain or loss that is actually at stake" [Kahneman and Tversky, 1979, page 276]. So, if either $x > y > 0$ or $x < y < 0$, then:

$$V = v(y) + \Pi(p) [v(x) - v(y)] \quad (2)$$

For example, assume that a person is faced with the following decision:

- a) wager nothing and receive a certain \$100, or
- b) take a gamble where there is a 50% chance of winning an additional \$40, i.e., receiving \$140, and a 50% chance of losing \$40, i.e., receiving \$60.

Using the model, the overall value, V , of choosing the gamble is:

$$v(60) + \Pi(.5) [v(140) - v(60)]$$

The decision-maker could put this in words as: If I accept this gamble, I win \$60 for sure, plus I have a 50% chance to increase my gain from \$60 to \$140 [Thaler and Johnson, 1990].

To summarize, whether equation (1) or equation (2) above applies to a decision is determined by the signs of outcome x and outcome y , which are determined by the location of the decision-maker's reference point. Using this example, is the decision-maker's reference point the status quo (current cash position), or has it shifted to incorporate the \$100 gain? If the reference point is the status quo, then outcome x and outcome y are of the same sign and model (2) applies. However, if the reference point has shifted to incorporate the \$100 gain, then outcome x and outcome y are of different signs and model (1) applies. Model (2) is the basis for alternative theories such as the house money effect, which will be discussed later in this chapter.

EMPIRICAL TESTING OF PROSPECT THEORY IN A TAX CONTEXT

Overall, taxpayer compliance studies have demonstrated inconsistent support for prospect theory. Most of the initial studies provide little or weak support for the predictions of prospect theory as it applies to tax evasion [Robben, et al., 1990], while later studies provide some support for prospect theory [White, Harrison and Harrel, 1993; Schepanski and Shearer, 1995].

A reason for inconsistent results when either testing or using prospect theory in a tax context may be for methodological reasons, as discussed, or it may be that prospect theory does not fully describe taxpayer behavior. Refunds from prior years may influence current year compliance decisions. When the current year's withholding position is determined to be the taxpayer's reference point, as demonstrated in some studies [Chang and Schultz, 1990; White, Harrison, and Harrell, 1993; Dusenbury, 1994; Schepanski and Shearer, 1995], prior years' experience is not considered by prospect theory because the theory does not explicitly deal with multiple reference points. However, Copeland and Cuccia (2002), showed prior years' experience to be a reference point. The next section introduces the house money effect, to challenge prospect theory as an explanation of taxpayer behavior.

ALTERNATIVE DESCRIPTIVE THEORY

What happens to prospect theory framework when prior gains or losses are involved? Using a previous example, but stating the facts in a different way, assume that an individual has just won \$100. Now, that person is faced with the following decision:

- a) keeping the status quo and wagering nothing, or
- b) taking a gamble where there is a 50% chance of winning \$40 and a 50% chance of losing \$40.

Given the two models introduced in section 2.3.5, the model that applies is determined by how the decision is viewed. This decision can be viewed in one of two ways:

- 1) Model (1) -- as a gamble where there is a 50% chance of winning \$40 and a 50% chance of losing \$40, or
- 2) Model (2) -- as a gamble where there is a 50% chance of winning \$140 and a 50% chance of winning \$60.

The question is whether or not the individual incorporates the prior \$100 gain into the current decision. In scenario 1), the gain is not considered when making the decision. In scenario 2), the prior gain is incorporated into the decision-maker's mental account and therefore is considered when making the decision.

Kahneman and Tversky recognized this issue both when originally formulating prospect theory and in their subsequent research. Interestingly, they did not come to a conclusion. They proposed "that people generally evaluate acts in terms of a minimal account, which includes only the direct consequences of the act" [Tversky and Kahneman 1981, page 456]. This statement suggests that prior outcomes do not affect subsequent decisions, and the decision above would be encoded into an individual's mental account as in 1). However, Tversky and Kahneman recognize the other possibility by stating "there are situations in which the outcomes of an act affect the balance in an account that was previously set up by a related act. In these cases, the decision at hand may be evaluated in terms of a more inclusive account, as in the case of the bettor who views the last race in the context of earlier losses. More generally, a sunk-cost effect arises when a decision is referred to an existing account ..." [Tversky and Kahneman 1981, page 457]. This second quote from Tversky and Kahneman suggests that prior outcomes do affect subsequent decisions in certain circumstances, and the decision above would be encoded into an individual's mental account as in 2). Therefore, in general, how prior outcomes influence a decision remains an open issue. It should be noted that in a tax context, Copeland and Cuccia (2002), discussed later, have demonstrated that prior years' experience acts as a referent for taxpayers when making a compliance decision.

THE HOUSE MONEY EFFECT

Thaler and Johnson (1990) found that in certain decision contexts, a prior gain is considered when making a current decision as explained by model (2) in section 2.4.1. Thaler and Johnson performed an experiment and found that a prior gain actually increased the majority of subjects' willingness to take a risk, rather than make them risk averse as predicted by prospect theory. Thaler and Johnson labeled this phenomenon the house money effect. Specifically, they theorize that after a gain, "subsequent losses that are smaller than the original gain can be integrated with the prior gain, thus mitigating the influence of loss aversion and facilitating risk-seeking" (page 657). For example, a gambler at a casino who bets no more than the amount previously won that evening feels like he or she is not gambling his or her own money, but instead is gambling using the house's money. Gamblers use the phrase "gambling while ahead" [Thaler and Johnson 1990, page 657] to describe this situation. The individual in this situation tends to be risk-seeking. The idea is that until the winnings are depleted, losses are mentally coded as reductions in gains, not as losses.

Sullivan and Kida (1995) tested for the presence of both prospect theory and the house money effect in a corporate investment decision-making context when they determined the risk-taking propensity of corporate investment managers. Two groups of subjects were each given four scenarios, two scenarios involving prior gains and two scenarios involving prior losses. One group of subjects was given a decision set that did not use the words "prior gain" or "prior loss", while the other group of subjects was given a decision set that did use the words "prior gain" or "prior loss". Results from the group without the prior gain/loss terminology supported prospect theory because managers with prior gains acted conservatively while managers with prior losses acted aggressively. However, when the words "prior gain" were added to the scenario, significantly more subjects chose to be risk seeking, supporting house money effect principles. Further, more subjects were risk seeking when the decision did not involve the risk of eliminating the gain than when the decision did involve the risk of eliminating the gain. However, results from the group with the gain/loss terminology did not completely support the house money effect because the majority of subjects were still risk averse.

A finding by Battalio, Kagel, and Jiranyakul (1990) enhances understanding of the house money effect. The researchers gave subjects \$30 at the beginning of the experiment. When faced with the gamble that involved winning an additional \$10, or losing \$10 from the original \$30 endowment, sixty percent of the subjects were risk seeking. However, when faced with the gamble that involved winning an additional \$20, or losing \$20 from the original \$30 endowment, only forty-three percent of the subjects were risk seeking. These results suggest that the house money effect may diminish as the amount of the potential loss approaches the initial endowment.

The house money effect has not yet been tested in a tax context. Schadewald (1989) and Schepanski and Kelsey (1990) both tested how aggressively an individual taxpayer would behave in a refund (gain) condition, but only with the potential of eliminating the entire refund. On the other hand, Schepanski and Shearer (1995) tested the level of aggressiveness when there is a chance of only reducing the refund. In order to test for the presence of the house money effect, at least two scenarios must be involved: one with the chance to eliminate the refund, the other with the chance of only reducing the refund.

Even though Schisler (1996) did not test for the presence of the house money effect, the study supported house money effect principles in a tax context. Schisler performed a study to determine if taxpayers follow the advice of an experienced tax practitioner. Not surprisingly, results showed that taxpayers do follow the advice of an experienced tax practitioner. Further, in Schisler's control group where no advice was given to subjects, the majority of subjects in the refund condition acted aggressively, supporting the house money effect principle that taxpayers in a refund condition act aggressively up to a point. The Schisler results should be interpreted with caution because the expected value of the aggressive choice in Schisler's case could not be determined since subjects were not given a probability of IRS disallowance. Instead, subjects were only told that there was either a high or low probability of IRS disallowance. Contrary to expectations, subjects in the high probability scenario acted more aggressively than subjects in the low probability scenario.

HOUSE MONEY EFFECT HYPOTHESIS DEVELOPMENT

Expected utility theory states that, assuming the expected values of the payoffs are equal, an individual who is risk seeking will take a risk, while an individual who is risk averse will avoid taking a risk. In a tax context, risk-seeking behavior is demonstrated by being aggressive, either by taking an additional deduction or by underreporting income. According to prospect theory, an individual who has experienced a refund will be risk averse, and act conservatively either by not taking the additional deduction or by not underreporting income. The house money effect contradicts prospect theory by theorizing that an individual who has experienced a prior refund will act aggressively up to the point the risk involves the potential to eliminate the refund. At that point, the house money effect becomes congruent with prospect theory and suggests that an individual will become conservative and not take a risk.

The house money effect suggests that prior refunds viewed as prior gains create expectations that influence current behavior, but is silent as to when those refunds need to be recognized. Those expectations could be based on a preliminarily computed refund position in the current year, or on refunds received in prior years. For example, a taxpayer who expects to receive a refund in the current year based on prior years' experience might act aggressively even before determining the current year tax position. Another possibility is that taxpayers view prior years' experience as a reference point (Copeland and Cuccia, 2002).

Studies have demonstrated that prospect theory is not always descriptive when prior refunds are involved. Suggesting that the house money effect might better explain taxpayer behavior when prior refunds are present, the first hypothesis, stated in alternative form, is:

- H₁: When taking a deduction does not involve the risk of eliminating a refund (either prior years' refunds or a preliminarily determined current year refund), subjects will be aggressive, and when the deduction does involve the risk of eliminating a refund, subjects will be conservative.

TAX POSITION HYPOTHESIS DEVELOPMENT

A secondary objective of this study is to determine whether the existence of prior refunds can influence an individual taxpayer's tendency to be aggressive when making a compliance decision. A prior refund position can be incorporated into a decision-maker's cognitive process. But how is the refund incorporated? The house money effect suggests that taxpayers recognize a prior refund as a prior gain. Prospect theory suggests that in a tax context, a prior refund position could be a reference point.

Until recently, extant literature had not determined that either an initially computed current year tax position or prior years' experience influenced a taxpayer's compliance decision. Copeland and Cuccia (2002) recently demonstrated that taxpayers use at least two reference points when making a compliance decision: prior years' experience and current withholding position. Prospect theory does not address the existence of multiple reference points. Therefore, the shape of the prospect theory curve when multiple reference points exist remains an open issue.

When examining the Copeland and Cuccia study, two issues should be noted. First, the researchers gave their subjects a case that was biased towards the subjects responding aggressively. That is, the expected value of the aggressive option was greater than the conservative option, creating an incentive for subjects to respond aggressively. Subjects could have chosen the aggressive option because it had the higher expected value. Therefore, Copeland and Cuccia cannot conclusively conclude which theory is supported by their study.

Second, only subjects who had included Schedule A, C, or E on their three previous tax returns, and were willing to provide the researchers with copies of Form 1040 from the subjects' three previous tax returns, were allowed to participate. Tax returns contain sensitive information for many taxpayers. Given the sensitive nature of the information, many individuals are not willing to divulge the information on their prior year tax returns, let alone their actual returns, limiting generalizability of the results to those taxpayers that are willing to divulge their tax return information.

How the initially computed current year tax position influences current year decisions is still an open issue. Both Schadeewald (1989) and Schepanski and Shearer (1995) found that this position does not act as a taxpayer reference point. Kirchler and Maciejovsky (2001) found that accrual basis taxpayers use an initially computed current year tax

position as a reference point, but that cash basis taxpayers do not. Anecdotal evidence suggests that the vast majority of individual taxpayers in the United States are cash basis taxpayers. Therefore, these results suggest that an initially computed current year tax position is not a reference point for most individual taxpayers. It should be noted that the Kirchler and Maciejovsky study has limited generalizability in the United States because the study was performed in Austria using the rules and regulations of the Austrian tax code. However, the results from these three studies add credibility to the argument that cash basis taxpayers view an initially computed current year tax position as something other than a reference point, possibly as a prior gain or loss.

The house money effect does not put a time limit on when the prior gain or loss must occur in order to influence a current decision. Although the period over which either theory has influence has not yet been tested, it could be argued that the closer the prior event is to the current decision, the more significant the theory's influence. That is, the house money and breakeven effects could diminish with the passage of time. This idea is supported by Copeland and Cuccia (2002). That study found that the influence of the current year reference point is greater than the influence of the prior years' experience because taxpayers adapt to their current filing scenario. Therefore, it is expected that the initially computed current year tax position has greater influence over a compliance decision than prior years' experience, assuming that prior years' experience is viewed as a prior gain or loss. Positing that one or both of these two tax positions influences a compliance decision, and that the influence of the initially computed current year tax position is greater, the second hypothesis, stated in alternative form, is:

- H₂: In the refund domain, the preliminarily computed current year tax position, in the absence of prior years' experience, influences a taxpayer to be more aggressive than prior years' experience, in the absence of a preliminarily computed current year tax position.

SELECTION OF SUBJECTS

Different theories could apply when describing the behavior of different groups of taxpayers. Results in White, Harrison and Harrell (1993) showed that experienced taxpayers, represented as Professional MBA students, engaged in more aggressive behavior than novice taxpayers, represented as undergraduate business students. The majority of taxpayers in the United States have at least a few years of taxpaying experience. As a result, the target population of interest in this study is experienced taxpayers. However, defining "experienced" taxpayer can be arbitrary. Therefore, similar to the White et al. study, a convenience sample of students taking a variety of graduate-level courses will be selected.

Subjects will be told that their responses will be confidential. In addition, emphasis will be added that the subjects are not doing anything illegal. If a subject believes they are being asked to do something illegal, then they would most likely automatically respond conservatively.

RESEARCH DESIGN

In most prior empirical studies involving taxpayer behavior, subjects have completed a case study in an experimental setting. In order to achieve a high degree of internal validity, this study also involves an experiment where subjects complete a case study. Each case will require the subject to make a tax compliance decision for two independent hypothetical scenarios. Specifically, the subject will be asked whether or not he/she would take an ambiguous deduction, and to identify the strength of his/her conviction about this decision. Because the deduction is ambiguous, taking it is seen as an aggressive position. Likewise, not taking the deduction results in a certain outcome and is considered to be the conservative position.

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THE ECONOMIC GROWTH IN PERU AND THE ECONOMIC STRUGGLES OF ZIMBABWE

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ABSTRACT

Zimbabwe experienced a lost decade starting with the year 2000, and Peru suffered through a lost Decade in the 1980s. These lost decades demonstrated are denoted by a decline in gross domestic product (GDP) and periods of hyperinflation. Peru has recovered and has led South America with strong economic growth starting with the year 2000 (including the global economic crises 2007-2009). Zimbabwe continued to struggle throughout these same years. Peru is a developing economy with a limited global presence but with an economic growth of 9 percent in 2007 (the largest growth rate in the world during the global economic crises) whereas Zimbabwe has continued to struggle with a negative growth rate of 14 percent in 2008. Peru has continued this growth at an average rate of 5.7% during the period 2009-2015 (OECD, p. 17). This paper provides the argument that the well-managed informal economy of Peru using microfinance to provide funding provides a solid base for their economic growth. The reliance on foreign capital inflows and the lack of a dependable informal economy has hindered the economic growth of Zimbabwe.

INTRODUCTION

The Peruvian economy struggled in the 1980's and the 1990's because of inflationary pressures and a lack of a consistent economic strategy. There was a reversal as Vera & Wong (2013) stated, "Over the period 2002 - 2012, the Peruvian economy almost doubled in size". The economy of Zimbabwe grew in the 1980s and started to struggle in the mid-1990s. It has continued to struggle and has not experienced the growth identified in Peru. "Zimbabwe's economy remains in a fragile state, with an unsustainably high external debt and massive deindustrialisation and informalisation" (African Development Bank Group (AFDB) Zimbabwe Economic Outlook, 2014).

It is interesting to note that these countries changed their governmental structures in 1980. Peru elected a president in 1980 after 12 years of military rule and Zimbabwe gained independence from Britain in 1980 after more than a hundred years of colonial rule. The contrast of these two countries after the government change was significant in part caused by the reliance of Zimbabwe on the global economy as compared to a local approach used in Peru.

The global economy was strong from the 1990's to 2007 but this economic growth was reversed because of the global economic crises that lasted through 2012. Peru has not only maintained a strong economy but the country has also decreased poverty rates by half since 201 to a level of 24% in 2013 (OECD, p. 48). The economic downturn was not as severe in many of the developing nations including Peru but Zimbabwe experienced severe hyperinflation at this time and a negative GDP growth rate.

The microfinance industry in Peru is a significant part of the reason for the economic growth in Peru during the global recession. It may also have been added by what is described as the informal economy that is less dependent on global economic trends. As the global economy grew between 2000 and 2007, Zimbabwe was experiencing the worst economic performance in the history of the country. This was measured by a cumulative 50% decline in the gross domestic product caused by a broad-based economic decline in the country's key sectors including agriculture, manufacturing, mining, and services (AFDB, 2014).

Peru has had an economic recovery during the last decade caused by a reversal of factors from the 1990's that caused an inflationary economy with problems throughout many of the sectors of their economy. The hyperinflation rate in Peru was as high as 7,650% in 1990 and has leveled to an inflation target of the current 1 to 3% (Orrego, 2015). Peru has experienced a growing economy from 2002 to the present because of their ability to control inflation and stabilize the economy. The long term forecast for Peru is strong although the ability to double the GDP as Peru accomplished from 2002 to 2012 is unsustainable. Peru has been able to maintain a 3% annual growth of their gross domestic product through 2015 and into 2016 (CreditCorp 4Q15, 2015).

As the global economy grew between 2000 and 2007, Zimbabwe was experiencing the worst economic performance in the history of the country to the extent that studies note the period 2000 to 2008 as the "lost decade" (AFDB 2014). Studies attribute a number of causes for the lost decade characterized by a sustained and broad-based economic decline as the country's key sectors including agriculture, manufacturing, mining, and services shrunk significantly (AFDB,

2014). Between 2000 and 2008, there was a cumulative decline of nearly 50 percent in real GDP growth. The inflation rate increased substantially from 2000, reaching triple figures in 2006. It then moved to severe hyperinflation in 2007 before peaking at five hundred billion percent at the end of 2008 (AFDB, 2014). Studies note that one of the causes of the lost decade was the “concomitant loss of support from the international community and foreign capital flight following the land redistribution program of 1999” (AFDB, 2014).

The demand for microfinance services in Zimbabwe increased as the macroeconomic performance deteriorated. The industry however faced many challenges that hampered its growth and ability to provide adequate support to the small scale enterprises. The government’s role in supporting the poor through microfinance services was minimal and the lack of a supportive legal framework hindered the development of the microfinance industry.

The recovery for Zimbabwe started in 2009 with the adoption of a multicurrency approach and removal of price controls on basic commodities. This dual currency approach is still used in both Zimbabwe and Peru as a type of hedge against the potential for hyperinflation returning to their economies.

This paper makes a contribution to the literature on microfinance and sustainable development by comparing the impact of microfinance and domestic investment strategies between the Peruvian long term economic outlook and the economic status of Zimbabwe. We argue that an emphasis on microfinance can be a basis for growth not only for alleviating poverty among the unbankable but can also become a strong basis for a country’s sustainable economic growth and development. The Peruvian economy has demonstrated the use of microenterprises as a tool to maintain economic performance during a global crises. We argue that the contrast between the emerging market economy of Peru and the emerging market economy of Zimbabwe is due to the reliance on globalization using NGO’s for micro-financing in Zimbabwe while Peru maintained a local economy with the use of microfinance and the informal economy.

METHODOLOGY

This paper will look at the role of the microfinance and domestic investment strategies in the comparison of the Peruvian long term economic outlook compared with the economic status of Zimbabwe. Peru is one of the leaders in the microfinance industry with many of the Peruvian banks competing for market share in this lending industry. Zimbabwe relies on the non-governmental organizations (NGOs) for their micro-lending and the formal economy including corporations. The reliance on corporations and NGOs creates an economy that is volatile during global economic pressures. Peru has demonstrated how the use of microfinance may be able to stabilize an economy during a global recession.

A case study research methodology was used to obtain the data for this study. The information was obtained by the authors spending time in Peru (Gallagher, May 2013, May 2015, and May 2016) and Zimbabwe (Muzorewa). The study used direct observations, unstructured interviews and document review to obtain the data. Information was gathered from unstructured interviews with executives from MFIs, NGOs and international organizations based in Zimbabwe and Peru. The authors attended lectures and visited companies along with the US Embassy and was hosted in Peru by Universidad Peruana de Ciencias (UPC). The professors at UPC provided lectures and examples of the Peruvian economy and the economic statistics. Data was also obtained from public reports published by the World Bank, African Development Bank, and the United Nations.

MICROFINANCING IN PERU

The Peruvian economy has demonstrated the use of microenterprises as a potential to maintain economic performance during a global crises. The Peruvian economy is still in the development stage with almost 60% of the total employees participating in the informal economy (World Bank, 2015). Dischner & Gabriel (2009) stated, “The Peruvian microfinance market is one of the most dynamic, well developed in the world” (p.1). This is a strategic competitive disadvantage when the global economy is thriving but the advantage of the informal economy is that these businesses do not experience the volatility created by the reliance on multinational corporations during a global economic crisis.

The microenterprises in Peru accomplish this performance by participating in the “informal” economy. The informal economy is made up of various factors that cause participants to operate outside the banking system and the tax requirements of a “formal” enterprise. The Worldbank (2015) describes the informal economy as activities and

income that are partially or fully outside government regulation, taxation, and observation. According to the presentation to the DeSales University on our visit May, 2015, this informal economy was created (in part) by the Chicha Culture moving from the rural areas because of the threat of the Shining Path terrorist organizations in this region. These indigenous people were not welcome in Lima, Peru and survived by creating an informal economic sector that still exists in Peru.

The microfinance industry has been a part of the economic development in Peru and strategies are being developed to bring these businesses to the formal economy. The cost of capital is low in countries where there is an established economy based on entities with accounting controls and established markets. The risk rate of return for start-ups is higher and in the case of microenterprises it may be extremely costly. The more established economies have a low percentage of the workforce participating in the informal economy. The informal economy is made up of various factors that cause participants to operate outside the banking systems and the tax requirements of a “formal” enterprise. During our May, 2016 visit we were quoted with percentages that ranged from 50% of the economy to 70% of the economy for the informal sector. According to the World Bank (2014), the average for 104 countries was 33% with a range of 3% (Canada) to 67% (Bolivia and Georgia) (2013). The more established economies have a low percentage of the workforce participating in the informal economy. These percentages are not changing in Peru even with more Peruvians becoming part of the middle class with estimates quoted during our trip of 55% to 22% during the previous 10 years of economic performance.

One of the benefits of this strategy is that the enterprises will become eligible for lower interest loans through the formal banking sector. The cost of capital is low in countries where there is an established economy based on entities with accounting controls and established markets. The risk rate of return for start-ups is higher and in the case of microenterprises it may be extremely costly. Another cause of the reliance on microfinance is the lack of use of financial statement reporting for taxation and accounting. Many of the businesses not participating in the formal economy are also not part of the banking or taxation systems. Even though the interest rates are high in the micro-financing industry these rates include management advisory services and the informal market is not subjected to many of the taxes paid by multinational corporations operating in Peru.

Efforts are also being made to increase the use of the formal banking services. The current banking penetration in Peru is 5.3 branches per 100,000 people. This ranks at the bottom with Nicaragua for all the Latin American countries (Creditcorp, 2013). According to Ricardo Pelaez (Senior Commercial Officer at the US Embassy in Peru), the interest rate charged by MiBanco and other micro lending institutions in Peru may be as high as 60% because these loans require a high amount of due diligence (2015). The banks and other microfinance lenders also act as both bank and accountant to develop the business plans for these small enterprises. The microfinance industry is starting to develop in Peru led by CreditCorp who has a substantial stake in the microfinance business because of the acquisitions of Edyficar and MiBanco. CreditCorp acquired MiBanco through its subsidiary Edyficar on February 10, 2014 (GlobeNewswire, 2/10/2014).

This merger has demonstrated excellent results in this business function. It has the potential to “formalize” these businesses which is an important part of the strategy for the government of Peru. The interest rates on these types of loans has fallen to 18% as a result of the incorporation of the segment to the Creditcorp banking umbrella. This is supported by several statistics obtained from the annual report of Creditcorp for the year ending December 31, 2015. The combined entity MiBanco/Edyficar is in first place in the microbusiness segment with a portfolio of 2,322 million nuevos soles in loans and 513,083 customers (about 4,500 soles per loan).

The method of market penetration may be through the use of mobile phone technology rather than the typical online banking. Only 15% of Peruvians have internet access, 30% use the financial systems, but 80% have mobile phones. “The mobile or electronic wallet is a product introduced by Banco de Credito del Peru (BCP) to increase banking penetration on a basic level” (Creditcorp, 2013). The strategy in Peru is to provide access to banking services for these microenterprises allowing the businesses to access loans at a more reasonable interest rate. The interest rate for micro-loans is higher than the small business loans available in Peru. The informal economy using the new technologies would be able to interact with the formal economy through the use of technology. Clients are also paying their loans and receiving loan proceeds through a system that is similar to prepaid debit cards that is used for transactions in developed economies.

The challenge for Peru and the banking system within the country is to maintain the results of the informal economy and to transform this sector to a formal system using loans from banks and paying taxes to help the country of Peru develop basic services throughout all parts of the country. The results of the “formalizing” of the Peruvian economy would allow these businesses to grow into a small and medium business entity (SME). The SMEs would be incorporated into the tax and health care systems.

The strategy is to provide a framework for these businesses to grow into small businesses that have access to banking and governmental services. This movement to the formal economy has been hindered by the culture of the people. While visiting in Peru we heard many of the locals state, “The law in Peru is only a suggestion”. The people we met in Peru discussed many of the cultural preferences in Peru that include a strong work ethic but a reluctance to rely on the government and the legal system. The informal economy has created many opportunities for the current generation of Peruvians. One of the outcomes is the ability to provide their children with the opportunity for a formal education to become tax paying citizens of Peru.

MICROFINANCING IN ZIMBABWE

Following independence in 1980, Zimbabwe embraced the Micro Finance Platform (MFP) as a mechanism for poverty alleviation and economic empowerment for the masses who had been marginalized during the colonial period. Thus microfinance was touted as the framework that would be used for personal and economic empowerment by providing capital to the 60% of the population of Zimbabwe who lived in poverty, did not have access to formal banking services and were considered unbankable (UNDP, 2014). Zimbabwe like the UN and the rest of the world hoped that making small loans to these unbankable, especially the women, would help start up enterprises that would grow into thriving business thereby lifting their owners out of poverty. These enterprises would then grow into SME and eventually expand into large formal enterprises creating employment and feeding into a strong flourishing Zimbabwe economy (UNDP, 2014).

With a favorable international community outlook and the noted positive transformative capacity of MFP donors and Non-governmental organizations (NGO's) capital flowed into Zimbabwe to establish MFIs. The Grameen Bank MFP group-based lending model was adopted in most instances. The group-lending model of micro- financing is where borrowers are organized into small groups or cooperatives and individuals make regular cyclical monetary contributions into a savings pool. Small-scale loans for income-generation activities are then made to the group members who do not have to provide material collateral. The other group member's savings accounts act as collateral. Thus they run a revolving loan funds so as to remain sustainable. Such a model helps mitigate delinquency problems as peer pressure is used to ensure that repayments are made ([Schurmann](#), et. al 2009).

Early models of MFP were successful and as GDP grew in the early 1980s, poverty levels declined from 60% to mid-40% in the early 1990s (UNDP 2014, World Bank 2014). As the economic performance declined in the 1990s, so did the real per capita income, falling sharply from about US\$644 in 1990 to \$433 in 2006 and to an estimated \$338 in 2008. (UNDP 2014, World Bank 2014). Financial liberalization following the Economic Structural Adjustment Program (ESAP) era (1991-1995) led to, among other things, an increase in interest rates (Moyo, 1999). This posed a threat to micro-credit activities in the country. As the real per capita income declined, incidences of poverty increased from 42 percent in 1995 to 63 percent in 2003 and is currently estimated to be over 70 percent (Klinkhamer, 2009, UNDP 2014, World Bank 2014). In 1980, Zimbabwe had the tenth highest gross national income (GNI) per capita in Sub-Saharan Africa, but by 2005 it ranked 34th out of the 48 Sub-Saharan countries. (Klinkhamer, 2009; Robin, Harpe, & Mandivenga, 2002; UNDP 2014; World Bank Development Statistics, 2014).

The HIV/AIDS pandemic exacerbates the situation as an estimated 1.2 million people, nearly 10 percent of the population, live with HIV/AIDS in Zimbabwe (Klinkhamer, 2009, UNDP 2014, World Bank 2014). Dealing with HIV/AIDS negatively affected borrowers. It diverted resources from income generating processes to mere consumption as borrowers used the funds from the enterprises to take care of the sick and dying family members. This in turn led to higher loan default rates as clients failed to make loan installment payments in a timely manner. Studies also note a decrease in the number of borrowers seeking loans for fear that caring for sick family members would impact their ability to service the loans. Lending groups were also negatively impacted by the departure or death of group members (Mago, 2013).

Unfortunately the poor macroeconomic environment prevented the businesses from gaining the adequate scale economies necessary for continued growth and expansion. The micro and small enterprises were mostly owner managed with an average of 3 employees. The enterprises paid low average wages often insufficient for workers to live on (Chimhowu et.al, 2009, pp. 21-34, Klinkhamer, 2009). The earnings were not enough to lift the owners out of poverty relegating them to mere subsistence existence. Thus poverty levels increased with at least 72% of the 13.3 million people in Zimbabwe living below the international poverty line of \$1.25 per day per person in purchasing power parity (PPP) terms (UNDP 2014; World Bank Development Statistics, 2014).

Microfinance in Zimbabwe has faced many challenges including hyperinflation and acute foreign currency shortages between 2000 and 2009, periods of drought, high unemployment levels, high incidences of poverty and a decline in real incomes and standard of living. As the economic crisis in Zimbabwe worsened, the demand for microfinance services increased, as people were now relying on the informal sector for a living (AFDB 2014, Klinkhamer, 2009, Mago, 2013).

In 2005 there were 213 registered microfinance institutions. That number grew to 209 in 2007 but fell drastically to almost zero in 2008 as the hyperinflation decimated the institutions' balance sheets (RBZ 2014). The number of licensed MFI has grown following the economic stability introduced by the adoption of a multicurrency regime in 2009 (RBZ 2014). As of the end of March 2014 there are 153 microfinance institutions (MFIs) in Zimbabwe (RBZ 2013).

Studies note that the microfinance sector in Zimbabwe has been operating without a policy for decades (Mago, 2013). The lack of a supportive legal framework hampered the development of the microfinance industry. The combination of a high demand for microfinance services and the lack of a proper legal framework enabled the exploitation of the vulnerable poor. Private moneylenders became exploitative monopolists who systematically squeezed the poor by charging high exorbitant interest rates (Armendariz de Aghion and Morduch, 2005:27). There was also poor management of donor funds by some organizations that acted as conduits that received money from the donors but did not pass it on to the poor people in the informal sector.

The government also tried to play a role in supporting the poor with microfinance services. The government provides small loans in kind especially for agricultural purposes (Mago, 2013). The program however was negatively impacted by drought making it difficult for the farmers to repay their loans. The default rate on these loans is also extremely high due to poor governance and poor risk management systems among other factors. The programs also became too politicized to be effective. Some formal banks have also tried to expand into microfinance by setting up micro enterprise finance division within their organizations (Mago, 2013).

In August 2013, a new Microfinance Act was introduced to regulate and strengthen the microfinance institutions (Mangudya, 2014) prior to August 2013, the microfinance institutions were regulated by the Moneylending and Rates of Interest Act also under the supervision of the Reserve Bank. The new Microfinance Act seeks to strengthen the consumer protection framework by requiring among other things, mandatory full disclosure of the terms and conditions of their services (Mangudya, 20114). Currently, the MFI industry is dominated by ten microfinance institutions which control 83.76% of the market share in terms of total loans. The general liquidity constraints of the economy have a negative impact on the MFI's ability to provide loans. The high interest rates also hinder loan consumption as the high interest rates leads to high default rates. As at March 31, 2014 the total loan portfolio is close to \$170 million serving about 199,000 clients (RBZ 2014), however, loan delinquency levels are high. Other challenges for this sector include weak corporate governance and weak risk management systems (RBZ 2014).

With a weak economy, high unemployment and an increasing rate of poverty there seems to be a market for microfinance services in Zimbabwe and this sector seeks to play a crucial role in the building of an inclusive financial systems for inclusive economic growth and development. A serious question however that needs to be examined is whether the microfinance industry in Zimbabwe will be an instrument for economic growth through poverty alleviation? The majority of the loans as at the end of March 2014 are salary based consumer loans (72%) and only about 28% of the loans are for economic production (RBZ 2014). To mitigate the high default rate, salary based loans are granted provided the loan recipient has a job whereby the employer withholds the loan installment which is paid directly to the loan provider. The purpose of the microfinance loan industry in Zimbabwe may be more of a consumer basis whereas Peru has a microfinance structure aimed at growing the informal businesses. Thus one marked difference in the market for micro-finance in Zimbabwe is the reliance on these loans for consumer goods while the

Peruvian micro-lending industry is using these loans for businesses. “Peru ranks number 1 in the annual Economist Intelligence Unit survey of world’s best business environments for micro lending” (Schmall, 2010).

DOMESTIC INVESTMENT PERFORMANCE IN PERU

The domestic investment performance in Peru and Zimbabwe is not as well developed as it should be in order to create a sustainable economy. The Peruvian economy is based on the informal economy. The advantage to businesses in Peru is that they may be eligible for bank loans rather than the micro-lending rates in effect in Peru. The cost of capital for a business in the informal economy is higher than the cost of capital for businesses working within the formal banking structure. The micro finance industry in Peru has experienced a competitive environment with the multinational company CreditCorp using their micro finance sector Edyficar to establish a significant market share for small loans. Edyficar has since been purchased by MiBanco. MiBanco functions as a type of finance company specializing in micro loans.

The Small Business Network of the Americas (SBNA) was created to provide access to finance for small and medium size entities. “SBNA offers the opportunity for financial institutions and investors to find high quality investments and expand lending to SMEs” (Small Business Networks of the Americas). The SBNA has also established a website (laidea.us) with resources such as an SME toolkit to start your own business (SME Toolkit: Start Your Own Business).

Infrastructure in Peru may also aid domestic investment. The infrastructure in Peru is growing and may experience some of the same problems as the “Celtic Tiger” in Ireland and the growing pains of Eastern Europe after the expansion of the European Union to twenty five countries. One example of the development of the Peruvian infrastructure is the Chinchero Airport Project. “The project involves the design, construction, financing, administration, operation, maintenance and exploitation of the new International Airport of Chinchero (Cusco). Estimated investment amount: US\$ 420 million. Estimated investment amount: US\$ 420 million” (UK Trade and Investment, 2012). Several projects in Peru are joint ventures with private companies in a program called, “Works for Taxes” (Trapunsky, 2014).

“The long-term global slowdown is projected to 2025 and will be driven largely by structural transformations in the emerging economies. As China, India, Brazil, and others mature from rapid, investment-intensive ‘catch-up’ growth to a more balanced model, the structural ‘speed limits’ of their economies are likely to decline, bringing down global growth despite the recovery we expect in advanced economies after 2013” (Conference Board, 2013).

The maturing of the Peruvian economy has a potential to create economic pressures to become a global economy. This will allow growth and create economic prosperity. The scale created may cause problems when the next global crisis materializes. The smaller economies will experience this crisis and may not have the scale to manage these economic problems. This phenomenon was evident in Ireland when the “Celtic Tiger” was tamed. The Irish economy experienced phenomenal growth but when the global economy turned the citizens were not prepared for this downturn. The European Union (EU) has also experienced “growing pains” after the expansion of the EU to twenty-five countries. The rise and fall of the “Celtic Tiger” is another example of a small economy basing their economic development on a global strategy. The Irish housing industry was hit hard during the global economic crisis; however, the Peruvian housing market was not affected by the global economic crisis because of the strong domestic economy fueled by the micro-loans.

DOMESTIC INVESTMENT PERFORMANCE IN ZIMBABWE

Zimbabwe’s poor growth performance is also a result of a low rate of domestic investment. During the period 1980-89 gross domestic investment averaged about 18 percent of GDP and 19 percent during 1990- 1999 but fell drastically to about 3 percent of GDP in the period 2000-2006 (AFDB 2014, UNDP 2014, World Bank Statistics 2012). These investment rates are below the average of about 19 percent of GDP for low income Sub-Saharan Africa. Studies note that these levels of investment are not adequate to maintain the existing stock of capital let alone for the expansion of the productive base (AFDB 2014, UNDP 2014 World Bank Statistics).

As the global economy grew between 2000 and 2007, Zimbabwe was experiencing the worst economic performance in the history of the country to the extent that studies note the period 2000 to 2008 as the “lost decade” (AFDB 2014). Studies attribute a number of causes for the “lost decade”. While the international community seemed to have tolerated the poor economic policy environment, the economic mismanagement and poor governance, they did not tolerate the

government's fast-tracked land reform program in 1999. Following the land redistribution program there was the concomitant loss of support from the international community and capital flight resulting in lowering the domestic investment rate further (AFDB, 2014). This resulted in a sustained and broad-based economic decline as the country's key sectors agriculture, manufacturing, mining, and services shrunk significantly (AFDB, 2014).

Between 2000 and 2008, there was a cumulative decline of nearly 50 percent in real GDP growth. Inflation rate increased substantially from 2000, reaching triple figures in 2006. It then moved to severe hyperinflation in 2007 before peaking at five hundred billion percent at the end of 2008 (AFDB, 2014).

Inflation was fueled by years of money creation to finance public expenditures and quasi-fiscal spending by the Reserve Bank of Zimbabwe (RBZ, 2014, AFDB, 2014, World Bank, 2014). Sustained high inflation contributed to real output contraction prompting the government to institute price controls. The widespread controls of producer and retail prices accentuated shortages of most consumer items leading to severe shortages of basic consumer products. Expropriation of farm land and resettlement in communal and commercial agriculture exacerbated the decline in food output (AFDB 2014, World Bank, 2014).

DISCUSSION AND CONCLUSION

This paper provides for a comparison of the growth of Peru as compared to the struggles of Zimbabwe. Both of these countries are considered developing economies. Peru and other Latin American countries experienced rapid inflation and economic turbulence. Zimbabwe and other countries in Africa have many of the same problems as the Latin American countries. Peru was able to stabilize and grow their economic development by use of a well-defined and structured micro-finance industry fueling a vibrant informal economy. The economic conditions in Peru are not defined by the global economic indicators.

Mayer-Schonberger & Cukier (2013) states, "the typical economic indicators are based on a "handful of strong (or weak) signals" (p. 47). The contributions of the informal economy are not identified in these economic projections. The paradigm for economic decision making is different in the mature economies as compared to the developing economies. "There's always a large amount of missing data" (Mayer-Schonberger, & Cukier, p. 47) when analyzing countries that have a large percentage of their economics in the informal and small business sectors. The still developing countries were not affected by this crisis as severely as the mature economies because the economic framework is not based on the measurements that are formally recognized. One of the reasons was the reliance in many developing countries on the informal economy. Portes, Castells, & Benton (1989) state, "the growth (and decline) of the informal economy has an inverse relationship to the changes in the formal economy" (p. 25). The reliance on the informal economy mitigates the effects of a global crisis on the small and medium size entities (SME's) and the large multinational firms reducing their employment. Furthermore, the informal organizations have the capacity to grow into SME's *and* eventually to large firms able to participate in the formal sector.

The developing countries may look at the global economy and the global economic crises and develop a strategy that will propel their economies to a higher level without many of the risk factors caused by unsustainable global economic growth. One risk factor evident in Zimbabwe as compared with Peru was the reliance of Zimbabwe on foreign investment. The high levels of foreign capital inflows masked an unsustainably poor economic policy environment that existed in Zimbabwe. The question of whether globalization is a prudent economic policy within developing nations continues to be asked with a mixed response. The use of micro-financing ideas is an important consideration for developing countries. Peru has developed a model that has worked even during the global economic crises. The challenge is the ability to maintain this economic advantage as the economy matures.

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THE BAIT AND SWITCH: A STUDY OF WORKFORCE HIRING PRACTICES

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ABSTRACT

College students struggle to acquire appropriate career opportunities upon graduation. This study explores data collected from hiring managers about the entry-level employment process including information about the time and the costs associated with locating a new hire. The contents within highlight specific recommendations and implications including new opportunities, such as the use of artificial intelligence (AI) like IBM's Watson. The use of AI in the new hire process may improve opportunities by cutting costs, eliminating redundancy, improving accuracy, and reducing time commitments. This research also supports the need for a networked workforce and higher education system in Pennsylvania. These solutions could help to reduce society's dependence on job boards; which offer students little hope of finding a job and might be considered an invasion of privacy.

INTRODUCTION

The Internet has simplified the task of applying for jobs, changing the process for hiring managers significantly (Autor, 2001). Although easy to accomplish, the job application process for the candidate is very time consuming. College students for example, spend numerous hours filling out job applications online for an endless number of job boards, some of which are developed to merely collect student information with no intention to offer jobs. For instance, web-scraping services collect job postings, company profiles, job descriptions, and employee profiles from job ads and job boards (Carnevale, Jayasundera, & Repnikov, 2014). There are also companies that exist just to create job boards. For example, Jobboard Finder operates 948 job boards in more than 178 countries. The company's goal is to prompt businesses to post jobs on site for a fee; however, Jobboard Finder places focus more on the business hiring than on helping candidates secure a job.

Job boards are flooded with unverifiable data completed by job hopeful candidates making them inefficient with unreliable data quality (Muthoni & Kahonge, 2015). This process creates more noise for the hiring manager, and it creates a greater opportunity for adverse candidate selection (Autor, 2001). Hiring managers receive countless résumés for entry-level positions and are forced to review volumes of data to select one candidate who best fits the job. The experience for the hiring manager needs to be simplified, and overall information verification must be employed to improve the process.

In addition to improved data quality, employers need a more efficient screening process. Résumé content frequently lacks information about personality and cultural fit within an organization (Arnulf, Tegner, & Larssen, 2010). If hiring managers could gain this insight about individual applicants, they may find more success selecting the best candidates.

To complicate the hiring process even further most organizations are now using the career lattice approach to management. It allows multiple paths to advancement permitting managers to be promoted through the ranks from vertical and horizontal positions, until they reach the desired position (Bruch, 2004). Therefore, creating a path to leadership for new employees becomes very complex. In the past, individuals were trained and mentored for management positions (Cochran, 1960). Many companies now look outside of the organization for leadership and cultural change because organizations have a growing need for incremental innovation to sustain an organization (Rao & Drazin, 2002). A growing need for outside innovation encourages companies to turn to job boards, at which point, job boards can bait the companies into utilizing the services.

Companies seeking access to qualified talent are easy prey because they pursue job boards with access to the greatest number of candidates. Behaghel, Crepon, and Le Barbanchon (2014) studied firms that accepted anonymized résumés compared with firms that reviewed named résumés. The results indicated that minority groups were hired less often in the named résumé groups. Therefore, it is important to consider these issues and the needs of the hiring managers as new technologies are developed to match candidates with jobs.

Watson Personality Insights, an IBM product, is now using artificial intelligence (AI) to link individuals with jobs. The use of AI in the new hire process may improve opportunities by cutting costs, eliminating redundancy, improving accuracy, and reducing time commitments. The IBM product uses case-based logic to set up situations in the workplace that will help to identify a suitable candidate (developerWorks, 2016). The incorporation of AI into the

hiring process should be adopted slowly. As this product searches for solutions, it will look at the personalities of the case creator. This installation may incorporate personality traits that match the leadership of the firm which then may limit the diversity and innovation that is needed desperately by firms (Hewlett, Marshall, & Sherbin, 2013).

CURRENT ISSUE IN WORKFORCE HIRING

As data becomes available, it changes the world in unimaginable ways. IBM reports that 2.5 quintillion bytes of information are generated on the Internet each day. Few of these data are useful because it often lacks organization and validity.

Most states have adopted a system of tracking workforce and higher education data together. According to SHEEO (2016) states use either federated models, where the data remains with the agency and then data marts reveal answers to specific industry questions or the states use data warehouses. Data warehouses work by storing agency data together in one place and responses are generated by pulling information from the system, as needed (Armstrong & Whitfield, 2016). Both formats help create a secure and validated network of workforce and higher education data. However, the disconnect between the data and industry remains. The state of Pennsylvania is one of only six states that does not have an effective system of integrating workforce and higher education data (Armstrong & Whitfield, 2016). Because Pennsylvania is lagging in this data initiative, it can study tracking systems of the developed states to build a more sophisticated design that adds access to industry through a secure job board initiative.

The United States is showing interest in privacy and security issues, and society should understand the importance of guarding personal information (Solove, 2016). The Apple case is a prime example of a shift from easy access to more secure personalized, approval based access to information. Apple (2016), like many technology companies, believes sharing information with government is not wise, but if the anonymity of the end-user could be protected the businesses might see the value added.

Information about the impact of Internet privacy and security laws is lacking. For example, it is unclear under the law if the 4th amendment protects society from government surveillance and data gathering (Solove, 2016). Lawmakers need to develop laws that enhance security and privacy in the virtual world reflecting parameters that affect the technical evolution of society. Until these laws are developed, society is left vulnerable.

RESULTS

This study was developed to understand the needs of the workforce in Northeastern Pennsylvania (NEPA) to develop a system that creates a secure validated network of student data that will connect students with jobs and provide federally required student outcomes data to colleges. Working with the Institute of Public Policy and a regional SHRM chapter, hiring managers were surveyed about hiring practices for new employees and interns. Hiring managers' interest by major can be found below figure 1.1. Online resources managers used to find applicants are featured in figure 1.2. The study yielded 96 responses. The questions in the survey were designed to gain a comprehensible understanding of the current recruitment process for students entering the workforce. Currently colleges have a special interest in student outcomes data due to new federal regulations. Colleges and universities are now responsible for tracking student outcomes including graduation rates and job placement (Department of Education, 2015).

Figure 1.1: Hiring managers' interest by major

| | |
|-----|----------------|
| 42% | Business |
| 21% | Communications |
| 23% | Healthcare |
| 10% | Engineering |
| 4% | Other Majors |

Hiring agents in this study spent an average of \$150-\$600 per job posting to find qualified talent for entry-level positions. The companies also spent an average of 127 hours dedicated to the hiring process for each entry-level position. One quarter of the hiring managers were also seeking candidates for internships.

Common themes emerged when hiring managers were asked the question: "Why do you feel colleges should be more involved in the process of career placement for graduates". The themes encompass a better experience for students, the community and businesses involved.

Figure 1.2: Online resources managers used to find applicants

| |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I feel Colleges can play a role in steering candidates to potential employers based on leadership capabilities, degrees, cultural fits, and past co-ops or internships |
| I believe everyone should have the opportunity and the outreach of a college would enable more job and career decisions |
| The (University name) had a fabulous Office of Career Services. With the student teachers I have had from other universities, they do not have the same opportunity. |
| Students invest an incredible sum of money to attain a degree, I think colleges have an onus to help make it pay off as much as possible. |
| Why just take them to the door without helping them enter it? |
| I had a great experience at the (University name) Office of Career Services, but not all colleges are like (University name). |
| Yes, because not all students are equipped at same level with how to approach job search(es). |
| When colleges help to link students to careers and interface with the employers, it might help to ensure that the curriculum is meeting the needs of the workplace. |
| I think by having more involvement, a college representative will have a more informed idea on what an employer is looking for in a candidate. |
| I honestly believe that they are more than willing to take the kids and parents money so they should follow through the education process and be more willing to help the graduates find work in their field. |
| Why not, After graduation, I see weak résumés and poor interview skills. College doesn't prepare graduates for job seeking. |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| I do, but most colleges do a very poor job with even skill set around interviewing and what businesses expect from employees. Many new grads have no idea what they are getting into. | |
| Career placement helps keep the graduates in NEPA, which will improve our communities. | |
| It betters a community if we educate and try to place well-educated people within the community. Business would be more invested in helping the colleges and more involved. | |
| because we don't utilize their talents | |
| Today's employers mostly need well-educated employees. | |
| LinkedIn | 13% |
| JobGateway | 22% |
| Indeed | 25% |
| Other Job Boards | 40% |

It is important to note that this small sampling of hiring managers reported using more than 20 different job boards in addition to the sites mentioned above. This information highlights the importance of finding a method of streamlining the process for business and more importantly for students. Businesses that continue to post in multiple locations use valuable resources including money and time. As the number of job boards continue to increase, company grown internal hiring boards compound the process of matching appropriate candidates for jobs.

DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

Personal information collected on the internet allows an arena where organizations can quickly develop profiles on individuals. This process according to Doyle (2012) can eventually limit employment opportunities to only those individuals that most closely match the career profile. Once these profiles are established, it is clear to see that they may lead to limited diversity and innovation within organizations (Hewlett, Marshall, & Sherbin, 2013). Diversity and innovation are the two factors shown to provide the most opportunity for competitive advantage in the digital age. As new systems are developed, including the inclusion of AI design, it is crucially important to understand the impacts of diversity and innovation. Case-based logic must find a solution and must incorporate these factors in order for the AI to be effective in making hiring decisions.

As systems are developed, it is also important to consider methods of collaboration that do not impact privacy and security. Colleges and schools are in the best position to manage individual profiles because they have no interest in selling student data for profit. If a student network can be created, aggregate data could be shared with government and industry allowing personal information to be shared with businesses upon request of the end-user. According to hiring managers in this study, the system works best with the inclusion of colleges in the hiring process. Based on this study, industry feels that colleges should be more responsible for connections to business.

The federal government now requires access to student career data as part of the Integrated Postsecondary Education Data System (IPEDS) reporting (NCES, 2015). There are almost 100 non-profit organizations working on the Data Quality Campaign (2015). Most of these organizations are operating independently to reach data compliance for the sole purpose of gaining access to reliable data for decision-making. This may present opportunity to collaborate with the existing network including JobGateway, which is a Pennsylvania-sponsored site that offers a job board free to employers. Integrating a system like JobGateway, in a network with high schools and colleges would compile and present profile/application data and job postings in a manner that protects student identity.

If reporting systems could be linked in a secure validated way, businesses would have greater access to qualified talent resulting in less confusion on the part of the employer regarding job board effectiveness, because essentially, one networked job board would be used throughout the country. Education stakeholders including high schools and

colleges, could manage the personal profile data for students into perpetuity, providing education institutions a better understanding for program and curriculum development. Students could then manage personal access to their record, disseminating their selected information, to employers they are most interested in. This would diminish the time needed to create an application, because all information would be on the profile, like the common application they utilized when applying to colleges.

In addition, hiring managers would benefit, as well, due to streamlined access with one system providing information on a multitude of talent. An essential feature this network would offer is the organization and validation of information before the application evaluation begins. The process of connecting schools to the workforce has been initiated throughout the country, and it is time for Pennsylvania to step up and present a solution that provides valid, aggregate career and education data for decision-making and hiring practices and above all else, privacy and security of personal candidate data.

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LOWER DIVISION COURSES AS PREDICTORS OF PERFORMANCE IN A SENIOR LEVEL STRATEGIC MANAGEMENT COURSE

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ABSTRACT

Many Colleges of Business are selective in who they admit into their degree programs. This selectivity is often due to a desire to have those students who are admitted successfully complete the program. While a number of different screening mechanisms might be employed, a common screening mechanism is to use performance in either all or a preselected set of freshman and/or sophomore courses as the screening mechanism.

Due to the use of this method, the validity and efficacy of this mechanism through to senior level courses should be of interest to policy makers. In an investigation of how well performance in freshman and sophomore courses translates into performance in later courses, this paper examines how well performance in a senior-level capstone Strategic Management course can be predicted by performance in required freshman and sophomore courses. Among the results it was surprisingly found that the need to take a refresher mathematics course (college algebra) was a significant predictor of performance.

INTRODUCTION

Student performance has been examined in various ways in the literature. Simpson and Sumrall (1979) examined student performance in finance courses by examining the determinants of test scores in finance courses. Expanding on that research, Berry and Farragher (1987), Liesz and Reyes (1989), Ely and Hittle, (1990), Paulsen and Gentry (1995), Chan et al. (1996), Cooley and Heck (1996), Sen et al. (1997), Chan et al. (1997), Didia and Hasnat, (1998), and Nofsinger and Petry (1999), all explored differing aspects of student performance in introductory finance courses. Extending that work, Rubash (1994), and Trine and Schellenger (1999), investigated performance in higher level and graduate level finance courses.

In Economics, Kim (1976), Becker (1983), Borg et al. (1989), Park (1990), Watts and Bosshardt (1991), and Kara et al. (2009), investigated performance in principles courses. Additionally, Spector and Mazzeo (1980), Raimondo et al (1990), and Yang and Raehsler (2005) investigated performance in intermediate macro economics.

Gender has been a focus in the Accounting literature with studies undertaken by Mutchler et al. (1987), Lipe (1989), Tyson (1989), Dorian and Bouillon (1991), Ravenscroft and Buckless (1992) and, Rayburn and Rayburn (1999). Johns et al (2005) examined student performance in a sophomore accounting course and others such as Murphy and Stanga (1994), and Graves et al (1993) have studied such topics as CPA exams or income tax courses.

Differing studies of student performance in Operations Management (OM) have been performed in the past. Desai and Inman (1994), Morris (1997) and Peters et al (2002) explored the possibility of a decline in quantitative ability and an increase in mathematics anxiety of students. As a response to these problems, Griffin (1997) suggested an integrative approach to teaching OM which would connect various areas and build students' confidence in their ability as problem solvers. Peters et al (2002), used t-tests and Pearson correlation techniques to examine the role of homework in overall student performance. Surprisingly, they found that homework did not improve student performance in an OM course.

Raehsler et al (2012), studied student performance in OM based on students' choice of major, gender, overall GPA, and two composite variables Comp1 and Comp2. The two composite variables consisted of the students grades in two groups of courses which were separated based on whether they were perceived by the authors as being more qualitative or quantitative courses. They found that overall GPA and Major were significant predictors of performance while Gender and their a priori groupings of courses Comp1 and Comp2 were not significant. Subsequently, Johns (2015) found that some courses, which composed Comp1 and Comp2, were significant predictors of performance in OM if they were considered individually as opposed to being grouped with other predetermined courses.

Differing from the previously described research, this paper explores the role of using required freshman and sophomore courses as "gatekeepers" or barriers-to-entry, to restrict access to junior and senior level business courses. Because many Colleges of Business require students to enroll in a number of foundation courses, the successful completion of which, often with a minimum required grade point average (GPA) or grade in each course, allows the

student to then access junior and senior level courses and/or declare a business major; how well performance in these courses carries through to the completion of the course of study should be of interest. This paper investigates how well performance in certain required foundation courses, plus selected other courses, predicts performance in Bsad490, a senior level capstone strategic management course, a course which is often taken two or more years after the completion of many of the foundation courses. As part of the analysis, it examines how the need for one or more remedial or refresher mathematics courses predicts future student performance. It is of interest to know whether or not the need for one or more remedial math courses is an indicator that a student may be a lower performing student for their entire college career or, if the successful completion of any required remedial mathematics courses fully compensates for any beginning mathematics deficiency.

EXPERIMENTAL DESIGN

This study uses an ordered probit model to determine the significant predictors of student performance. The ordered probit model is a great improvement over the more commonly used t-test (difference between two numerical means), ANOVA (difference between several numerical means), ordinary regression (continuous dependent variable), and the multi-category logit or probit (predict two or several unrelated categories) models used in many earlier studies. The advantage of the ordered probit model is that it can adequately address student performance that has been categorized into letter grades of A, B, C, & D. It is an improvement over the binary logit or probit model which was used by Spector and Mazzeo (1980) which can only separate student performance into the binary results of pass and fail. The ordered probit model allows the dependent variable, in this case letter grades in Bsad490 (Strategic Management), to be ordinal in nature. The data are ordinal in nature because the same scale may not be applied to every letter grade. For instance, while a B might be from 80 to 89.99 (10 points) a C might range from 67 to 79.99 (13 points) with similar variations for other possible grades. In this study, the data were classified as $Y=3$ if the student received an A, and 2, 1, & 0 were used if the student received a B, C, or D, respectively. Failing grades were not considered in this study because any student who failed any of these courses would have had to repeat the course(s) and there was no method which would allow for the collection of failing grades that were replaced with passing grades.

The data were collected in a public university in a rural setting with an enrollment of approximately 6,000 students over a 16 year period. The College of Business Administration at this university has an enrollment that has varied between 700 and 900 students over the course of this study. The College of Business Administration offers eight different academic majors that lead to a Bachelor of Science in Business Administration (BSBA) degree. The eight majors are accounting, economics, finance, human resource management, international business, management, marketing, and real estate. The data were collected across all majors. The college is accredited at both the undergraduate and master's level by the Association to Advance Collegiate Schools of Business International (AACSB International).

Due to the size of the sample gathered, only the grades of students who had complete records were used which resulted in a sample size of $n=982$. Employing an ordered probit model the following explanatory variables were examined: Math050 (basic algebra), Math110 (college algebra), and Gender, (as binary variables yes or no, male or female); then English111 (freshman English), and the required freshman and sophomore courses for all business majors Math131 (applied finite math), Math232 (business calculus), Econ211 (macro Economics), Econ212 (micro Economics), Actg251 (financial accounting), Actg252 (managerial accounting), Econ221 (business statistics I), Econ222 (business statistics II), Cis217 (applications of microcomputers), and Bsad240 (legal environment of business) as ordinal variables. The dependent variable, also an ordinal variable, is input as Bsad490, the college's designation for the multidisciplinary, capstone, strategic management course. The explanatory variables were then used to predict the probabilities of receiving different letter grades in Bsad490 as shown below in equation 1.

$$\begin{aligned}
y^* &= x'\beta + \varepsilon \\
&= \beta_0 + \beta_1 \text{Gender}_i + \beta_2 \text{Math050}_i + \beta_3 \text{Math110}_i + \beta_4 \text{Eng111}_i + \beta_5 \text{Math131}_i \\
&\quad + \beta_6 \text{Math232}_i + \beta_7 \text{Econ211}_i + \beta_8 \text{Econ212}_i + \beta_9 \text{Actg251}_i + \beta_{10} \text{Actg252}_i \\
&\quad + \beta_{11} \text{Econ221}_i + \beta_{12} \text{Econ222}_i + \beta_{13} \text{Cis217}_i + \beta_{14} \text{Bsad240}_i \\
&\quad + \beta_e \dots \dots \dots (1)
\end{aligned}$$

Where;

- y_i^* = unobserved Strategic Management grade,
- y_i = letter grade for Strategic Management,
- $y_i = 0$ if $y^* \leq 0$, indicating the student received a letter grade D,
- $y_i = 1$ if $0 \leq y^* < \mu_1$, indicating the student received a letter grade C,
- $y_i = 2$ if $\mu_1 \leq y^* < \mu_2$, indicating the student received a letter grade B,
- $y_i = 3$ if $\mu_2 \leq y^*$, indicating the student received a letter grade A, and
- μ_1 , and μ_2 , and are jointly estimated threshold values which determine the letter grade a student is expected to receive.

HYPOTHESES

Based on the above design the following hypotheses were tested:

- H1 Performance in required freshmen and sophomore business courses is a significant predictor of performance in a senior-level capstone Strategic Management course.*
- H2 Gender is not a significant predictor of performance.*
- H3 Freshman and sophomore courses which are qualitative in nature, Bsad240, Eng111, Cis217, and Econ211, will be better predictors of performance in a senior-level capstone Strategic Management course than will freshmen and sophomore level courses which are non-qualitative in nature.*
- H4 Students who need to take additional math courses, Math050 and/or Math110, are able to close any gap that exists between themselves and the other students by successfully completing one or both of these mathematics courses.*

ANALYSIS

The initial results of the analysis, as shown in Table 1, is that performance in freshman and sophomore level courses is a significant predictor ($p=.000$) of performance in Bsad490 with a scaled $R^2=.204$ and $n=982$. As shown by Estrella (1998), scaled r-squared is a better measure of goodness of fit than the McFadden r-squared due to its consistency in interpretation. Furthermore, the estimated coefficients of the two threshold variables (μ_1 , and μ_2 , or four minus two categories) are all statistically significant which indicates that the use of a four category ordered probit model is appropriate.

| Table 1 COMPLETE MODEL FOR ALL STUDENTS | | | | |
|--------------------------------------------|-----------------------|----------------|-------------|---------|
| Parameter | Estimated Coefficient | Standard Error | T-Statistic | P-Value |
| C | -0.255766 | 0.265258 | -0.964214 | [.335] |
| Math050YN | -0.044297 | 0.141508 | -0.313037 | [.754] |
| Econ221Grade | 0.016678 | 0.050255 | 0.331864 | [.740] |
| Math131Grade | 0.033674 | 0.055995 | 0.60137 | [.548] |

| | | | | |
|--------------|-----------|----------|----------|--------|
| Gender | 0.07313 | 0.075256 | 0.971747 | [.331] |
| Econ222Grade | 0.049761 | 0.046606 | 1.06769 | [.286] |
| Bsad240Grade | 0.064536 | 0.050765 | 1.27127 | [.204] |
| Math232Grade | 0.05512 | 0.050952 | 1.08179 | [.279] |
| Eng111Grade | 0.082413 | 0.048858 | 1.68678 | [.092] |
| Actg252Grade | 0.088818 | 0.049518 | 1.79365 | [.073] |
| Math110YN | -0.142600 | 0.079324 | -1.7977 | [.072] |
| Cis217Grade | 0.109298 | 0.04729 | 2.31123 | [.021] |
| Econ211Grade | 0.140902 | 0.055494 | 2.53906 | [.011] |
| Actg251Grade | 0.131114 | 0.05005 | 2.61966 | [.009] |
| Econ212Grade | 0.180577 | 0.05475 | 3.29818 | [.001] |
| μ_1 | 1.39145 | 0.10693 | 13.0127 | [.000] |
| μ_2 | 3.06536 | 0.117024 | 26.1943 | [.000] |

Reverse stepwise regression was performed to remove the non-significant predictors and to give a cleaner model which uses fewer variables. The data in Table 1 is ordered so that the predictors are listed from the top down to aid in understanding the order in which they were removed. One-at-a-time, the variables were removed from the model, after each variable was removed the model was recalculated to account for any multicollinearity between the variables that remained. Variables were removed in this order; Math050, Econ221, Math131, Gender, Econ222, Math232, Bsad240, which left the variables in Table 2 as the significant predictors of performance.

The results shown in Table 2 are that the model is a significant predictor of performance ($p=.000$) with $R^2=.197$ and $n=982$. As the reader can see in table 2, Math110YN is a significant predictor of performance.

| Table 2 REDUCED MODEL FOR ALL STUDENTS | | | | |
|---------------------------------------------------------|-----------------------|----------------|-------------|---------|
| Parameter | Estimated Coefficient | Standard Error | T-Statistic | P-Value |
| C | 0.058905 | 0.218690 | 0.269353 | [.788] |
| Math110YN | -0.181832 | 0.075055 | -2.42264 | [.015] |
| Eng111Grade | 0.107166 | 0.047829 | 2.24062 | [.025] |
| Econ211Grade | 0.165569 | 0.054301 | 3.04913 | [.002] |
| Econ212Grade | 0.200006 | 0.053030 | 3.77161 | [.000] |
| Actg251Grade | 0.155807 | 0.048168 | 3.23467 | [.001] |
| Actg252Grade | 0.096316 | 0.048922 | 1.96877 | [.049] |
| Cis217Grade | 0.147112 | 0.044629 | 3.29637 | [.001] |
| μ_1 | 1.39298 | 0.106999 | 13.0187 | [.000] |
| μ_2 | 3.05798 | 0.116942 | 26.1496 | [.000] |

Given the unexpected result that taking or not taking Math110 is a significant predictor of performance in Bsad490, an analysis was conducted to delve into the differences between the two groups of students. The data set was subsequently bifurcated into a dataset of students who had not taken Math110 ($n=556$) and a dataset of those students who had taken Math110 ($n=426$) and an Ordered Probit analysis was conducted separately on each data set. The analysis was the same as was done in the original analysis with the following changes: Math050 and Math110 as yes/no variables were removed from the did-not-take Math110 group's analysis (those students would not have taken either of those classes); and, Math110 was removed as a yes/no variable from the did take Math110 group's analysis and the letter grade earned in Math110 was inserted in its place.

The reverse stepwise analysis was then performed independently on both sets of data which resulted in the significant predictors shown in table 3. The results presented in the top portion of table 3 are significant with ($p=.000$) with $R^2=.187$ and $n=556$ while, the results in the bottom portion of table 3 are significant with ($p=.000$) with $R^2=.152$ and $n=426$.

What is interesting about the results is that while both populations have four significant predictors they only have one in common, the common predictor being the grade earned in Econ212, Microeconomics. Due to this common predictor, a marginal probability analysis was conducted to examine how grades earned in Econ212 influenced grades earned in Bsad490.

This analysis was conducted by restating equation 1 for each of the sets of significant predictors. As an example, equation 1 is restated as equation 2 for the model where students did not take Math110:

$$= \beta_0 + \beta_1 \text{Econ212}_i + \beta_2 \text{Actg251}_i + \beta_3 \text{Math232}_i + \beta_4 \text{Econ222}_i + \beta_e \dots \dots \dots (2)$$

Where, the mean student grade in each course can be found in table 3 which, when combined with estimated threshold variables of $\mu_1 = 1.22044$, and $\mu_2 = 2.79185$ can be used to calculate the probability that the average student will receive each of the four possible grades in Bsad490. This can be accomplished by substituting the above information into equations 3 thru 6 which are shown below.

$$\text{Prob } [y=0 \text{ or D}] = \Phi (-\beta' x) \dots \dots \dots (3)$$

$$\text{Prob } [y=1 \text{ or C}] = \Phi [\mu_1 - \beta' x] - \Phi [-\beta' x] \dots \dots \dots (4)$$

$$\text{Prob } [y=2 \text{ or B}] = \Phi [\mu_2 - \beta' x] - \Phi [\mu_1 - \beta' x] \dots \dots \dots (5)$$

$$\text{Prob } [y=3 \text{ or A}] = 1 - \Phi (\mu_3 - \beta' x) \dots \dots \dots (6)$$

With Φ in each formula representing the cumulative normal density function and $\beta' x$ is calculated as shown in equation 7 for the students who did not take Math110 using the information from Table 3. In equation 7 the numbers simply represent the estimated coefficient for each parameter multiplied by its mean.

$$\beta' x = .012169 * 1 + .306573 * 2.679856115 + .192781 * 2.839928058 + .192972 * 3.066546763 + .128431 * 2.928057554 = 2.187346 \dots \dots \dots (7)$$

| Table 3 REDUCED MODELS OF STUDENT GROUPS BASED ON TAKING/NOT TAKING MATH110 | | | | | |
|--------------------------------------------------------------------------------|-----------------------|----------------|-------------|---------|----------------|
| Results for students who did not take Math 110 | | | | | |
| Parameter | Estimated Coefficient | Standard Error | T-Statistic | P-Value | Mean |
| C | 0.012169 | 0.254292 | 0.047853 | [.962] | 1 |
| Econ212Grade | 0.306573 | 0.066657 | 4.59926 | [.000] | 2.679856115 |
| Actg251Grade | 0.192781 | 0.062550 | 3.08201 | [.002] | 2.839928058 |
| Math232Grade | 0.192972 | 0.065239 | 2.95790 | [.003] | 3.066546763 |
| Econ222Grade | 0.128431 | 0.060530 | 2.12177 | [.034] | 2.928057554 |
| μ_1 | 1.22044 | 0.136534 | 8.93876 | [.000] | |
| μ_2 | 2.79185 | 0.149316 | 18.6976 | [.000] | |
| Results for students who took Math 110 | | | | | |
| Parameter | Estimated Coefficient | Standard Error | T-Statistic | P-Value | Parameter Mean |
| C | 0.202808 | 0.307796 | 0.658904 | [.510] | 1 |
| Econ212Grade | 0.198989 | 0.075542 | 2.63415 | [.008] | 2.352112676 |
| Actg252Grade | 0.158750 | 0.070482 | 2.25235 | [.024] | 2.758215962 |
| Eng111Grade | 0.187731 | 0.069060 | 2.71838 | [.007] | 2.985915493 |
| Econ211Grade | 0.292945 | 0.083766 | 3.49718 | [.000] | 2.460093897 |
| μ_1 | 1.57812 | 0.169332 | 9.31969 | [.000] | |
| μ_2 | 3.35972 | 0.185429 | 18.1186 | [.000] | |

Using the value of $\beta' x$ as found in equation 7, the probability of the average student from the group which did not take Math110 receiving any letter grade in Strategic Management can be calculated using formulas 3 thru 6. For example, the probability that the average student will receive a "B" in Bsad490 is: $\text{Prob } [y=2 \text{ or B}] = \Phi [2.79185 - 2.187346] - \Phi [1.22044 - 2.187346] = 0.534$ or 53.4%.

Following from the above, the marginal effect of an increase in a student's Econ212Grade, from D to C to B to A, on the probability of earning each of the possible grades (D, C, B, and A) in Strategic Management was calculated. The results of these calculations are shown in Table 4.

The top-left quarter of table 4 shows the probabilities that a student will make a D, C, B, or A in Bsad490 based on whether or not that student took Math110 given that the student made an A in Econ212. As the reader can see, the probability that the student who did not take Math110 will make an A is .503 while the probability that the student who did take Math110 will make an A is .260. Thus, a student who did not take Math110 is 24.3% (.243) more like to make an A than a student who did not take Math110. This comparison was then completed for all of the possible combinations and is shown in table 5.

| Table 4 | | | | | | |
|------------------------------------------------------------------------|---|------------------|---------------|----------------------------------|---|------------------|
| EXPECTED PERFORMANCE IN BSAD490 BASED ON PERFORMANCE IN ECON212 | | | | | | |
| Students who made an A in Econ212 | | | | Students who made a B in Econ212 | | |
| Expected Grade in Bsad490 | | Without Math 110 | With Math 110 | Expected Grade in Bsad490 | | Without Math 110 |
| | D | 0.003 | 0.003 | | D | 0.006 |
| | C | 0.054 | 0.124 | | C | 0.095 |
| | B | 0.440 | 0.612 | | B | 0.516 |
| | A | 0.503 | 0.260 | | A | 0.383 |
| Students who made a C in Econ212 | | | | Students who made a D in Econ212 | | |
| Expected Grade in Bsad490 | | Without Math 110 | With Math 110 | Expected Grade in Bsad490 | | Without Math 110 |
| | D | 0.014 | 0.010 | | D | 0.030 |
| | C | 0.152 | 0.219 | | C | 0.225 |
| | B | 0.560 | 0.622 | | B | 0.564 |
| | A | 0.273 | 0.149 | | A | 0.181 |

As the reader can see, the student who did not take Math110 is more likely to make an A in Bsad490 than the student who did not take Math110, no matter which grade was made in Econ212. Furthermore, this superior performance is so large that it translates into the students who did take Math110 earning more B's and C's due to their counterparts earning the majority of the A's. With respect to the lowest grades, earning a D in Bsad490, the students who did not take Math110 and were so dominant in making A's were also, strangely enough, slightly more likely to make a D in Bsad490. However, this difference is tiny as the students who did not take Math110 are only expected to make .013 or 1.3% more D's.

| Table 5 | | | | | |
|-------------------------------------------------------------------------------|---|-------------------------|--------|--------|--------|
| DIFFERENCE IN EXPECTED BSAD490 GRADES BASED ON GRADE EARNED IN ECON212 | | | | | |
| <i>(Without Math110 - With Math110)</i> | | | | | |
| | | Grade Earned in Econ212 | | | |
| Expected Grade in Bsad490 | | D | C | B | A |
| | D | 0.013 | 0.004 | 0.000 | -0.001 |
| | C | -0.052 | -0.067 | -0.072 | -0.069 |
| | B | -0.034 | -0.061 | -0.111 | -0.173 |
| | A | 0.073 | 0.124 | 0.183 | 0.243 |

EXPERIMENTAL RESULTS

H1: Is strongly supported by the results. The original models shown in tables 1 & 2, are statistically significant with a scaled R^2 of .204 and $p=.000$ for the first model, and with an R^2 of .197 with $p=.000$ for the second. The two models for the bifurcated data shown in table 3 are also statistically significant with R^2 of .187 and $p=.000$ and R^2 of .152 and $p=.000$ for the two models respectively. R^2 's of these sizes are high for social research leading to the conclusion that freshman and sophomore courses are significant predictors of future performance, even performance two and three (and perhaps more) years later.

H2: This hypothesis was strongly supported in that Gender was not found to be a significant predictor of performance.

H3: This hypothesis is not supported. Table 3 shows that the significant predictors for both student groups are almost totally the quantitative courses. With respect to the students who did not take Math110 the reader can see that two of the significant predictors, Math232 (business calculus), and Econ222 (statistics II) are definitely quantitative courses while Econ212 (microeconomics) and Actg251 (financial accounting) are considered to be quantitative in nature.

With respect to the students who did take Math110, the significant predictors do change slightly toward being qualitative in nature but not enough to conclude that the courses as a group are qualitative in nature. Econ212, Actg252 (managerial accounting), and Econ211 (macroeconomics) are all three considered to be at least somewhat quantitative in nature while the remaining predictor, Eng111 is of course considered to be qualitative in nature. Because only one true qualitative course appears in either of the two sets of predictors, this hypothesis is not thought to be supported.

H4: While Math050 (remedial math) is not significant and dropped out of the model, Math110 is found to be significant predictor of performance. Since Math110 is coded into the model as a yes/no variable this means that students who took Math110 performed differently in Bsad490 than did students who did not take Math110. Further in-depth analysis of the role of Math110 revealed it to have a significant impact on grades earned in Bsad490. Given these results, this hypothesis is not supported and, in fact, with respect to the need to take Math110 the opposite of the initial hypothesis was found.

CONCLUSIONS

Restricting access to a senior level Strategic Management course based on performance in freshman and sophomore courses has been supported. Unexpectedly, it has also been shown that the need to take a refresher college algebra course differentiates the students in a way that carries through all the way through the students' senior year. The reason for this is unknown and is a subject for future investigation. Two possible explanations that come to mind are that these students are either weaker students overall and/or, they received a below average education through high school. Further investigation into this question is definitely warranted due to its effect on both admissions policies and remedial/refresher coursework.

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THE BEAUTY OF SOCIAL INFLUENCERS

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ABSTRACT

This paper presents a case study of an independently-owned makeup and beauty blog that successfully built a larger audience and extended its influence in the cosmetics and beauty market. The owner of the site wanted to enhance her profile as a product expert, reviewer, and influencer for brands in the industry. Her key decision issues focused on determining which content and media strategies would build the greatest number of subscribers, increase overall traffic levels, and raise her profile with both brands and consumers. The analysis illustrates how social media platforms can amplify a message to a larger audience, the importance of developing engaging content, and how to leverage the power of social influencers.

INTRODUCTION

Katy K. initiated her beauty blog titled, All in the Blush (AIB), in July 2012. She had recently earned a business degree with a concentration in marketing and with additional courses in fashion merchandising. Having interned or worked for companies such as American Apparel, Urban Outfitters, Hollister, Victoria's Secret and Marc Ecko, she had a passion for beauty and fashion products. Her new blog focused on providing beauty tips, reviewing new products, publishing news on the makeup and beauty industry, and providing how-to's for effective makeup techniques. She published the blog using WordPress software and a unique domain name. Her goals were to establish herself in the industry, obtain products for review, and ultimately turn her blog into a business by generating advertising revenue and partnerships with cosmetic companies.

The importance of social influence in consumer decision-making is recognized and has been referred to as a social feedback cycle (Evans, 2008). Reviews, ratings, and opinions shared across the web have supplanted traditional marketing communications in motivating consumers to buy a specific brand of product or service.

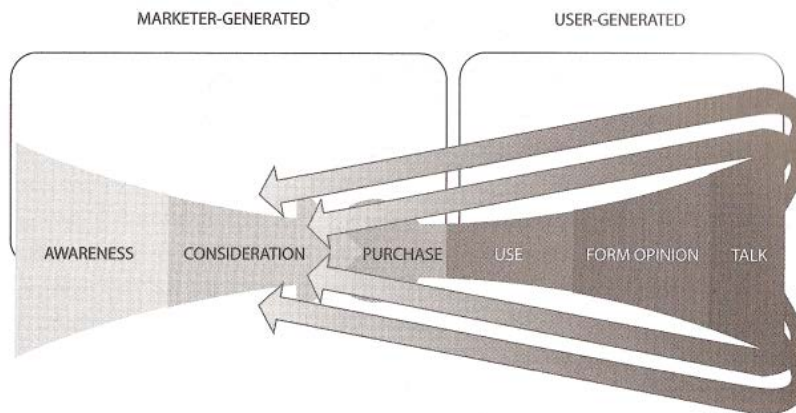


Figure 1. Social feedback cycle

In applying the social feedback model a key factor to consider is the credibility of the individuals communicating their opinions. Expertise and trustworthiness are two of the most important factors in establishing credibility (O'Keefe, 2002). Expertise is influenced by the knowledge, training, experience and skills of the communicator. Trustworthiness is connected to characteristics such as honesty, open-mindedness and fairness. Establishing expertise and trust is a major challenge in building an audience online. The web is full of sponsored content, fake news, and questionable sources. This makes the process of establishing authority for an individual blogger both essential and time consuming. It can be daunting for a new venture like AIB.

To understand how social networks can grow exponentially, we often reference Metcalfe's Law. In the early 1980's, Metcalfe hypothesized that the value of a network, expressed in connections, would be proportional to the square of the number of users on the network (Hendler & Goldbeck, 2008). While this explains how a social media network

can rapidly grow, it does not provide strategies for facilitating that growth. An examination of the specific content strategies used by influencers is necessary to better understand how to grow a social network.

CHANNEL AND CONTENT STRATEGIES

WordPress

The AIB website was constructed using the WordPress blog platform and hosted service. This program was chosen due to the professional format and options for customizing themes and site appearance. There is a large WordPress community available to help with technical questions. A brand name, “All in the Blush” was selected simply because of the blogger’s love of that type of product. A custom domain, allintheblush.com was acquired and mapped to the hosting service. Posts on the site initially consisted of product reviews, industry news, fashion and beauty events, and short tutorials on applying makeup products. In most cases, the products were provided at no charge by marketing staff at the cosmetic companies or through their PR representatives. To maintain her objectivity, the blogger included a disclaimer stating that “This post contains a product sent for consideration by PR.” By monitoring daily traffic levels, she identified which types of posts were most popular with readers. Top posts often attracted 1,500 – 2,000 daily views and included fashionable brands such as Kylie Jenner, Anastasia, and MAC.

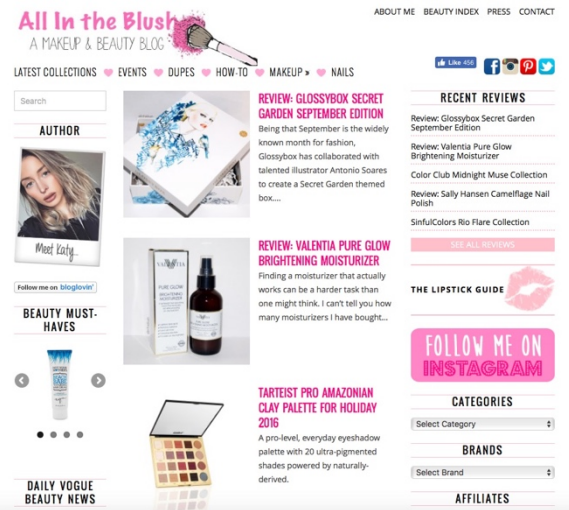


Figure 2: All in the Blush WordPress site

Announcements of special promotions and sales were added. Holiday gift guides were prepared showing which products might fit the season. For Valentine’s Day, the guide included date-night makeup choices. Other posts referenced events like Black Friday. As readership developed, advertisements from affiliates were also posted. The main affiliate partner was Shopstyle Collective (2016). This site lets influencers search for specific makeup products, identify the stores selling those products, and provides links to post on a blog site. When visitors click on the links and purchase products, a commission is paid to the blogger. This was the first attempt to generate advertising revenue on the AIB site and accomplish the goal of converting influence into income for the blogger. Links to other AIB social media sites were prominently displayed on the website.

Facebook

A Facebook account was set up using the AIB brand for consistency. All content was reposted from the WordPress blog. This channel was chosen based on its overall size and potential for building an audience. Facebook is the largest social media site and is visited by more than 70% of adult Internet users (Pew Research, 2015). The decision not to create unique content for Facebook was primarily based on the workload and other commitments for the blogger who was employed in marketing and public relations positions during the timeframe. From the beginning, it seemed that the AIB content was not connecting well with the audience on Facebook. There was only modest growth in likes and followers.



Figure 3. All in the Blush Facebook site

Twitter

Like Facebook, the original WordPress posts were fed into a branded Twitter account. The blogger knew this site had traditionally been popular among other millennials. Overall, the site attracts 23% of adult Internet users (Pew Research, 2015). The blogger did find that readership started gaining as other brands tweeted about their products and tagged AIB, including a link back to the original post.

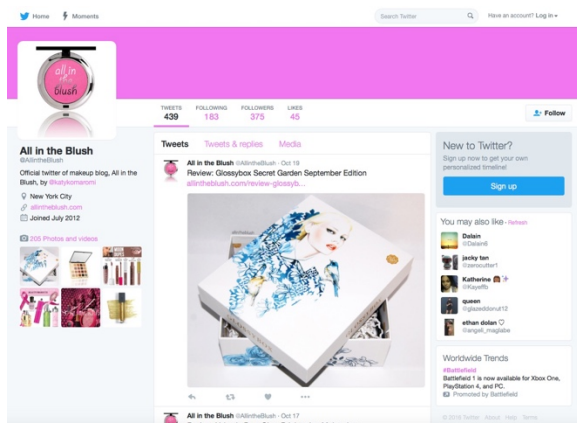


Figure 4. All in the Blush Twitter account

Instagram

This site was added in June, 2015 to broaden the audience for AIB. While newer than Twitter, it had become very popular among millennials with an audience skewed more heavily to females. Unlike Facebook and Twitter, the blogger developed original content for this site. This included swatches of lipstick and nail polish colors. Photos of new Kylie Jenner products were reposted and short posts announcing other new product releases were added. Most of the posts from the WordPress site were also converted to appear on Instagram. The process included copying the photo and headline from WordPress, creating an Instagram post, and adding 25-30 hashtags. These were researched in advance to identify the most popular hashtags used in beauty products and associated with photos. Other hashtags referenced popular Instagram accounts to encourage reposting.

The blogger noticed that her audience was growing on Instagram but her total followers began to stall at a level around 400. This is when she began to produce a unique type of content referred to as product dupes. A “dupe” is an alternative product from another brand that performs the same function. These duplicates can be lower-cost options or simply other comparable products from premium brands. One of the most popular makeup brands promoted through

Instagram and other social media sites is Kylie Cosmetics (2016), the celebrity brand associated with Kylie Jenner. Kylie Jenner is a fashion and beauty influencer especially among young women. She has a major presence on Instagram with 80 million followers. After her initial success selling Kylie Lip Kits, Jenner launched a full line of products. These are heavily promoted through social media and only sold online rather than in retail stores or through a hybrid distribution model. Each month, anticipation builds for a new product release which typically sells out within hours of launch. This creates a lot of unfilled demand for her newest products.

The process used by the blogger to prepare a dupe post included researching other brands, comparing color swatches, selecting duplicate products, and then assembling photos of the products on a branded template produced using Photoshop. This built a brand association with AIB for the specific style of dupe layouts. The posts were immediately popular and began to expand her followers on Instagram. She began producing dupe posts for other brands such as Jeffree Star and Anastasia Beverly Hills. Larger makeup accounts on Instagram began reposting these and crediting AIB. This helped establish her brand of specific dupe posts and make them popular across the site.

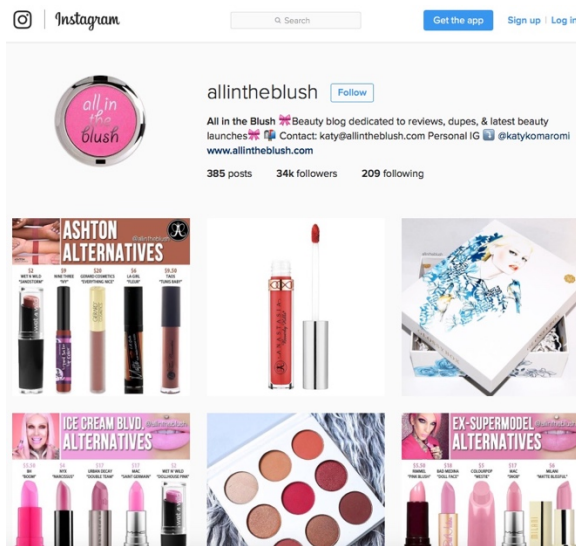


Figure 5. All in the Blush Instagram site

Cision

Cision (2016) is a software product used by PR firms to identify and connect with social influencers and to monitor the social media activity surrounding a brand. While working in the PR industry, the blogger searched the database for contacts within the beauty products industry. She identified two prominent accounts on Instagram, Makeup Slaves (1.3 million followers) and Slave 2 Beauty (1.9 million followers). She began to tag these sites in her posts. Some of these posts were then picked up and reposted by the two major influencer sites helping to grow AIB's audience.

The blogger also added herself and the AIB social media accounts to the database. This was an important step that raised awareness of her brand to marketers and PR practitioners. This exposure led to regular opportunities to review products which resulted in more unique and original content across her social media channels.

Other Strategies

The blogger attended product launches and beauty events in the New York market. Photos and summaries of these events would then be posted on her sites. She enhanced her profile within the beauty industry increasing the number of requests for her to review products and blog about brands.

SOCIAL INFLUENCE RESULTS

A review of activity on each of AIB's social media sites was conducted in October 2016, showing the following results were achieved.

WordPress

A total of 258,000 views were achieved from the launch date of the branded website. Page views in 2016 averaged 500 per day and 111 total comments were posted on the site. A positive trend line is evident in building the audience. This site remained an important home for the AIB brand although it was eclipsed by Instagram in building an audience. Efforts to generate revenue through affiliate advertising achieved very modest results and the goal of turning social influence into sustainable income had not been met at the time of review.

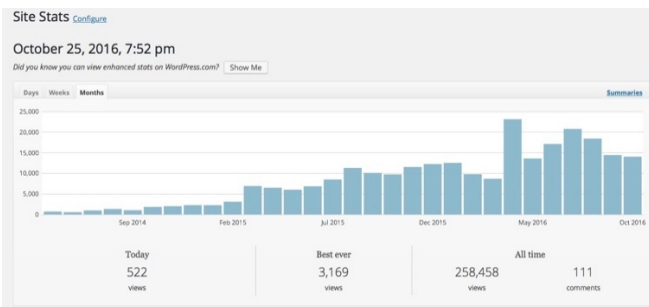


Figure 6. WordPress site visits 2014 - 2016

Facebook

This platform achieved only 420 followers. A snapshot of a recent 28-day period illustrates a lack of significant results. This site proved to be the least effective for AIB in building social influence. The blogger has speculated that millennials have left this site for others such as Instagram and Snapchat, as Facebook users increasingly include their parents and grandparents.

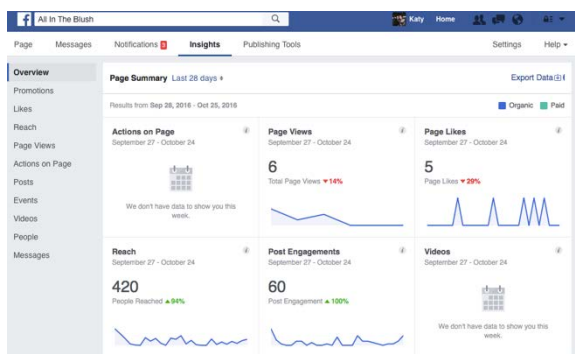


Figure 7. Facebook activity, Oct. 2016

Twitter

Results were better than Facebook on this site. In a comparable recent period, AIB achieved 335 impressions per day. The engagement rate averaged 1.8% although this metric could as high as 24% when Kylie Jenner content was posted.

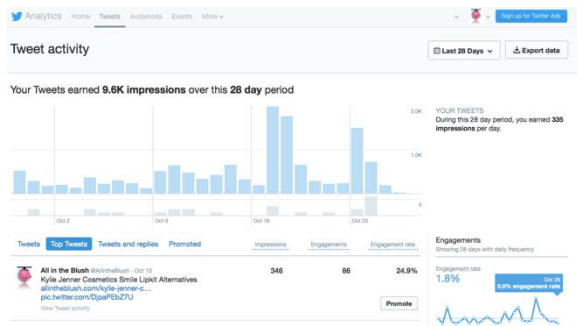


Figure 8. Twitter activity, Oct. 2016

Instagram

This channel was the most successful, achieving 34,500 followers in just over one year and growing steadily each month. It seems the content, channel, and audience were all a very good fit for AIB.



Figure 9. Instagram summary, Oct. 2016

The growth in Instagram followers was closely tied to posting Kylie Jenner product dupes and connecting to other social influencers' sites. For the first nine months of posting on Instagram total followers grew and then stagnated at around 400. In March 2016, the first Kylie Jenner dupe post on liquid lipstick went up. Shortly after that, the influential sites Makeup Slaves and Slave 2 Beauty began to be tagged in AIB photos and these sites reposted that content to their followers. AIB followers began to grow exponentially as the blogger continued to focus on the content that generated traffic, reposts, and new followers.

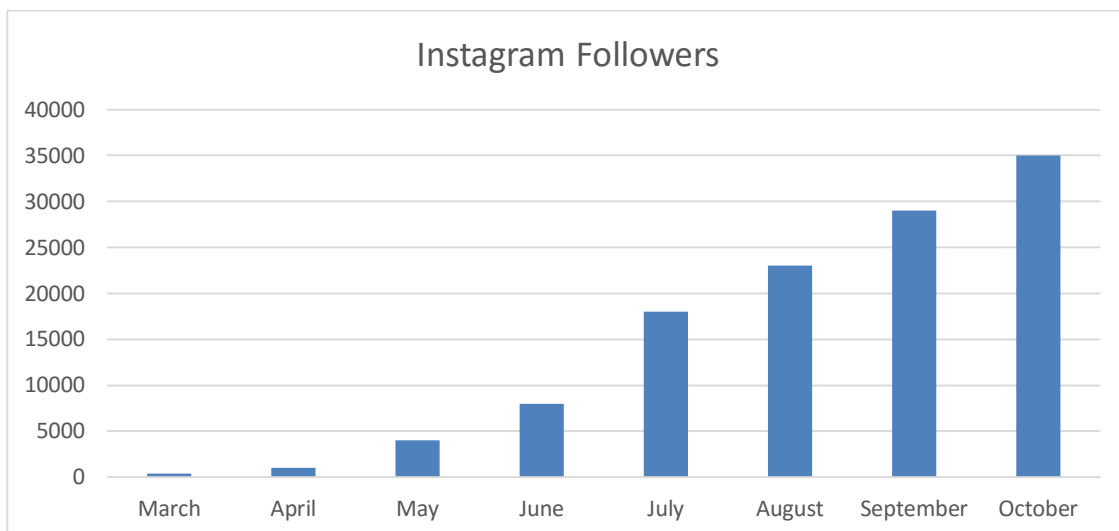


Figure 10. AIB Instagram followers, Mar. – Oct. 2016

CONCLUSION

The choice of social media channel is a key component in building an audience. Differences in demographics strongly influence content appeal and the size of the audience. For AIB, Instagram proved to be the most productive site and attracted an audience far beyond those on Facebook or Twitter. A review of site demographics indicates that Facebook is much larger than the other two social media sites in terms of users. The question remains how active would the target audience for AIB's content be on this platform. We can assume the primary audience would be young women in an age range of 18-34. We can see in Table 1 that Instagram attracts a young audience along with a high percentage of females (Pew Research, 2015).

| | % All Internet Users | % Internet users 18-29 | % Online Females |
|-----------|----------------------|------------------------|------------------|
| Facebook | 71% | 87% | 77% |
| Twitter | 23% | 37% | 21% |
| Instagram | 26% | 53% | 29% |

Table 1. Among online adults, percentage who use each social media site.

Connecting to social influencers can boost followers exponentially. For AIB, tagging content which was then reposted by Slaves 2 Beauty and Makeup Slaves provided immediate gains in Instagram followers. Identifying the most popular sites on each social media platform for a specific product category or market is an important strategy to accelerate growth. Being listed in the Cision database or other similar social media management programs greatly increases outreach from PR representatives to review products.

Producing engaging content is largely a matter of trial and error. For AIB, original content such as the product dupes and reviews connected the most with viewers. Content that references celebrities, in this case Kylie Jenner, can build a following. The product dupes and reviews of the popular Kylie Jenner line produced the greatest gains in Instagram followers. The blogger found that her original product posts, although time consuming, attracted much larger audiences than simply reposting content from other sources. Original content seems to matter.

Audience engagement remains challenging. Reposts, tagging, and sharing of content are achievable outcomes but the frequency of actual feedback and conversations is very low. For example, there were only 111 comments generated by 258,000 site visits on WordPress. The audience on social media appears to be far more interested in consumption than collaboration.

This case cannot provide a reference set of strategies that will apply in every scenario. It shows that building an audience and establishing credibility and trust is hard work and takes time. Fortunately for Katy, the blogger whose efforts were profiled, she accomplished her goal of becoming a social influencer and trusted authority for beauty products.

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OPERATING UNDER BUSINESS-LIKE PRINCIPLES IN SWEDEN: AN EXPLORATORY STUDY OF MUNICIPAL PUBLIC HOUSING COMPANIES' PRACTICE

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ABSTRACT

This exploratory study attempts to ascertain if *financial* observations paralleled the text in owner directives that suggested Municipal Housing Companies (MHCs) in Sweden have complied with the Public Municipal Housing Companies Act of 2011 (PMHCA 2011) requiring them to act in a business-like manner. Results are reported for 2 of the original 20 companies used in a sample suggesting MHCs were acting in a business-like manner as required by PMHCA 2011. Information for the study was obtained from the *Retriever Business* database, which included complete company financials for the period. Best straight lines were constructed through individual company data from 2003 to 2010 (pre-regulation) and 2010 to 2014 (post-regulation). A t-test of slope difference was used to indicate the significance of any change. Sample results suggest that the industry as a whole has adjusted overall to the business-like mandate. Some, however, have done better than others in making changes. Others have lagged behind to the extent that they have not changed at all. It is likely that future policy will reflect results such as developed herein, as well as industry practice and individual company goals.

INTRODUCTION

Swedish housing policy is at a turning point (Lind, 2014). The historical feeling among political parties has been that the country would not have social housing. That need elsewhere was covered adequately and affordably by Municipal Public Housing. Allowances were not made by income, but rather need, and public housing was universally accessible. The general consensus was the system worked well. Nevertheless, municipal companies, which for 50-60 years provided housing now find themselves operating under new guidelines. That is, Swedish Municipal Public Housing Companies must operate under “business-like principles” – by law. Czischke (2014, pp. 338-339) has described how this situation arose, citing the circumstances leading to the Public Municipal Housing Companies Act (PMHCA), which entered into force in 2011.

“In July 2002, the European Property Federation (EPC) lodged a complaint with the European Commission, objecting to the Swedish practice of allocating state aid to house well-off people. After a state inquiry and much debate, the Swedish parliament abolished public service compensation for Municipal Housing Companies (MHC) in order to maintain the principle of universal access (although the phasing of state subsidies for housing construction had begun in the early 1990s. ...The Municipal Housing Act, which entered into force on 1 January 2011, liberalized the sector and set out the objectives and ground rules for public housing companies. Their aim is to promote public benefit and the supply of housing for all kinds of people, and they *must operate under ‘business-like principles’* (emphasis added). ...Under the new legal framework, public companies should no longer apply the cost-rent principle but instead should charge market rents, including a certain profit margin. Furthermore, municipalities should require a market rate of return on investment, reflecting industry practice and level of risk”.

A recent study has been made of the impact of the 2011 regulation as it apparently affected owner directives of MHCs (Lindbergh & Wilson, 2016). In brief, observations on content from a random sample of companies' 2013 owner directives were compared with similar documents collected 10 years prior (2004) using commercially available software. Results suggested that statistically significant changes in directives had occurred and adaptation to the new regulation may already have started to take place at this relatively early date, which is consistent with Czische's suggestion (2014) that adaptation might take place over a period of time. The purpose of this paper, thus, is to ascertain if *financial* observations paralleled the verbiage in owner directives. As colorfully suggested (Lindbergh & Wilson, 2016), the outputs of the owner directives represented companies' ability to “talk the talk”. It remained to be seen if they really have learned to operate more like businesses. In other words, have they learned to “walk the walk” as affected by their financial performance? Thus, the research question being investigated here is the following:

Does a change in Municipal Housing Companies' business-like activities, as reflected in financial performance, occur as a consequence of the implementation of the Public Municipal Housing Companies Act of 2011 (PMHCA 2011)? The study is important because the Housing Companies Act intentionally set out to change practice in a system that had worked well for over half a century. Results therefore have implications for both state and municipal policy

makers as well as residents of Swedish public housing who must live with changes. Further, because the Swedish system tends to be held as a model, there are international implications as well.

BACKGROUND

Housing Policy in General

Pugh (2001) has summarized the importance of a housing policy. “Environmental and housing improvement has a dialectic in the economic, social, and political beyond anything planned in project design. It can both increase human capital, thereby adding to productivity, and significantly influence the way long-term social development is patterned in childrearing, in social education and in social interaction. Improved housing standards, and whole sector development, can facilitate and respond to long-term, progressive social development”. Put another way, there is very little in policy that housing does not touch and affect. As a result, there has been recent discourses on topics as different as Pugh’s (2001) comments on the evolution of housing policy in developing countries to the needs of millennials in London and New York (Marom & Carmon, 2015). The recent subprime crisis is a cruel reminder of the size and importance of the housing sector in not only a locality or country, but the world (*cf.* Taffin, 2014).

Housing in Sweden

The second wave of activity has come more recently and has been more concerned with practices in the system and not always with the activities of MHCs. Azasu (2012) conducted a survey of reward management practices in the Swedish real estate. Blomé (2012) discussed corporate social responsibility within the context of real estate management. The results indicated that social responsibility led to approximately 4.5 percent lower annual operating and maintenance costs, which of course tends to improve profitability. Lind and Blomé (2012) found slum lords in the system whose activities have gone on without retribution. Lind and Musingo (2012) looked at the importance of adapting maintenance planning to the specific characteristics of the real estate sector. Palm (2011, 2013) in the study of real estate companies found the majority of the companies tended to be customer oriented, and self-assessment of managers suggested they were satisfied with their results.

Most recently, interest has turned toward refurbishment – particularly with regard to improving energy efficiency. Lind, Annadotter, Bjork, Högberg and Af Klintberg (2014) reported on the renovation strategy of an MHC company in Stockholm. In addition to economic/ecological factors commonly considered in refurbishment, the company considered both social and technological sustainability in its approach. Similarly, Langlet, Bretzer, Sandoff, and Thynell (2014) conducted a study to identify factors that facilitate energy efficiency initiatives as well as those that constitute significant barriers to such initiatives. Renovation projects intended to improve energy efficiency in three Swedish cities examined drivers and barriers in building projects (the ClueE-project). Although results cannot be generalized, energy efficiency policies tended to be driven by locally driven ambitions, and national policies tended to legitimize the locally-anchored work.

The Current Status

Lind (2014) has recently written a current, complete and comprehensive description of housing in Sweden. (It is recognized that this chapter was written before the even more recent influx of immigrants into the State. That pressure on housing will just put more pressure on MHCs, which historically have been the first abodes for incoming persons). Statistics indicate that in 2010 (the most recent year of comprehensive information) there were around 4.5 million housing units in Sweden. Of these, 37% were rental units, 22% were cooperative apartments and 41% were owner-occupied single-family homes. MHCs owned 45% of rental units (or 20% of housing stock), which establishes the importance of these organizations in housing policy. Until PMHCA 2011, rents were negotiated between the local Union of Tenants and MHCs, which were also guidelines upon the private sector and thus further affected the importance of MHCs. Since PMHCA 2011, however, private landlords have been equal parties in negotiations and sign their own agreements with unions. Further, construction has lagged population growth, and thus, there has tended to be a shortage of housing units in the three major cities – Stockholm, Gothenburg and Malmö.

To make a long story short, it was concluded “The debate on housing policy is making it increasingly clear that a new model is needed. There is agreement that MHCs should no longer bear any special social responsibility, even though in practice many still do to a lesser degree. There is little new construction of affordable housing, which makes it

more and more difficult for outsiders to rent apartments in metropolitan areas. If housing allowances do not go hand-in-hand with new construction, then helping one household leads to problems for another household just above the support line. As house prices and apartment prices have not fallen, access to owner occupation remains difficult. There are indications of increased overcrowding and illegal subletting. It is becoming more and more obvious that a new programme for large-scale production of affordable housing is needed, but how this can be carried out is very much an open question” (Lind, 2014).

METHODOLOGY

Information for the study was obtained from the *Retriever Business* database. *Retriever Business* includes information on Swedish companies, including sole proprietorships. Information in this database is available, for example, on the organization, number of employees, contact information, board information and annual reports. It also includes group structures as well as complete financial statements for public companies. Company information is available both as searchable parameters and rechargeable pdfs, which goes back 10 years. In the database, one can search for companies in a particular industry, region or size and compare companies and industries. Search results can be exported to Excel for further processing and analysis. *Research Business* is a subsidiary of *Retriever*. *Retriever* is the Nordic Region’s leading supplier of media monitoring and tools for news research, media analysis and corporate information. *Retriever* is owned by *Tidningarnas Telegrambyrå* (TT), Sweden’s largest news agency and *Norsk Telegrambyrå* (NBT) the Norwegian press agency and wire service.

This study relates to the published results developed by Lindbergh and Wilson (2016) that involved a qualitative assessment of Owner’s Directives in a random sampling of Municipal Housing Companies. The salient results of that study are reproduced here in Table 1. A key is added here with the tabular data 1 that explains the nature of the entries although readers are referred to the original paper for more explicit descriptions and definitions. In essence, however, the authors were saying that except for coordination of activities, it appeared that companies in aggregate had responded to the directive – and had statistical information to support that observation. The conclusion was, “The study suggests that among the companies included in this sample, organizations have seriously addressed the 2010 mandate as far as the OD’s content goes. That is, they have learned to talk the talk” (Lindbergh & Wilson, 2016).

In addressing whether companies have likewise established financial results consistent with more businesslike practices, i.e., learned to walk the walk, this study was initiated. The financial information required to make this assessment came from the *Retriever* compendium of data for the 20 firms in the Lindbergh-Wilson (2016) study. This compendium provides the opportunity to scan 176 columns of information. Only a few of these, of course, related to statements that have been made concerning the possible businesslike nature of municipal public housing in Sweden. They were annual revenue (turnover), profitability, return on assets and solvency (solidity).

In this exploratory study, this information was digested for two companies, Båstadhem AB (BAB) and TranemoBostäder AB (TBAB), which are shown in Table 2. These two companies were selected on the basis of the number of pages included in their pre- and post-regulation owner directives (two and three pages respectively; see Table 1). Further, changes in perspectives were similar (10 to 14 for BAB and 9 to 13 for TBAB), although there were minor differences of the order of one citation each in individual categories.

Best straight lines were constructed through individual company data from 2003 to 2010 (pre-regulation) and 2010 to 2014 (post-regulation). A t-test of slope difference was used to indicate the significance of any change. These results are summarized in the next section.

**Table 1: Presence of information representing specific perspectives in Owner Directives
(from Lindbergh & Wilson, 2016)**

| | Pages | | Ideas | | Op./Dev. | | Social | | Ecological | | Financial | | Coord. | | Summary | |
|---------------------------|------------|------------|----------|----------|----------|----------|----------|----------|------------|----------|-----------|----------|----------|----------|-----------|-----------|
| PHC Name | 04 | 13 | 04 | 13 | 04 | 13 | 04 | 13 | 04 | 13 | 04 | 13 | 04 | 13 | 04 | 13 |
| Båstadhem AB | 2.0 | 3.0 | 2 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 10 | 14 |
| Bergsbostäder AB | 0.2 | 1.0 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 1 | 1 | 3 | 1 | 1 | 4 | 10 |
| BromöllaHem | 1.0 | 2.0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 2 | 3 | 3 | 3 | 11 |
| Falkenbergs Bostads AB | 2.0 | 2.5 | 3 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 14 | 15 |
| GotlandsHem | 2.0 | 2.0 | 2 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 3 | 3 | 7 | 7 |
| Hallefors Bostads AB | 2.5 | 6.0 | 1 | 2 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 3 | 3 | 3 | 4 | 12 |
| Harnösandshus | 5.0 | 4.0 | 3 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 10 | 14 |
| Hassleholmsbyggen | 3.0 | 4.0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 3 | 7 | 7 |
| Hebygårdar AB | 7.0 | 2.5 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 3 | 3 | 3 | 3 | 15 | 14 |
| Kumla Bostäder AB | 2.5 | 4.5 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 3 | 6 | 9 |
| LaholmsHem AB | 5.0 | 4.0 | 2 | 3 | 1 | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 6 | 18 |
| Ockerö Bostads AB | 1.0 | 2.0 | 2 | 2 | 2 | 3 | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 10 | 14 |
| SigtunaHem AB | 2.5 | 8.5 | 2 | 3 | 2 | 4 | 2 | 4 | 2 | 3 | 2 | 3 | 2 | 4 | 12 | 21 |
| Sollentunahem | 5.0 | 5.5 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 3 | 3 | 12 | 12 |
| Solvesborgshem AB | 2.5 | 3.5 | 0 | 3 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 3 | 3 | 3 | 3 | 16 |
| Strömstadsbyggen AB | 3.5 | 3.0 | 2 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 3 | 6 | 9 |
| Tanums Bostäder AB | 3.0 | 4.0 | 2 | 3 | 1 | 2 | 0 | 1 | 0 | 1 | 2 | 3 | 3 | 3 | 8 | 13 |
| TranemoBostäder AB | 2.0 | 3.0 | 2 | 2 | 1 | 3 | 0 | 1 | 0 | 1 | 3 | 3 | 3 | 3 | 9 | 13 |
| Vadstena Fastighets AB | 2.5 | 4.0 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 | 12 | 12 |
| Vallentuna Ösbyhus | 2.0 | 2.5 | 2 | 2 | 2 | 2 | 0 | 0 | 1 | 2 | 3 | 3 | 3 | 2 | 11 | 11 |
| Sum | 53.2 | 67.5 | 37 | 46 | 22 | 44 | 12 | 26 | 12 | 26 | 30 | 53 | 56 | 57 | 169 | 252 |
| t-test (1 tail) | 0.049 | | 0.008 | | 0.000 | | 0.014 | | 0.014 | | 0.000 | | 0.217 | | 0.000 | |

PHC Name Name of the Municipal Public Housing Company (MPH) in the sample.
Pages Number of pages in the Owner's Directive (ODs) for 2004 and 2013.
Ideas Comments on ideas of operation in the ODs 2004 and 2013.
Op./Dev. Comments on operations and development in the ODs 2004 and 2013.
Social Comments on social aspects of operation in the ODs 2004 and 2013.
Ecological Comments on ecological aspects of operation in the ODs 2004 and 2013.
Financial Comments on financial aspects of operation in the ODs 2004 and 2013.
Coord. Comments on coordination aspects of operation in the ODs 2004 and 2013.

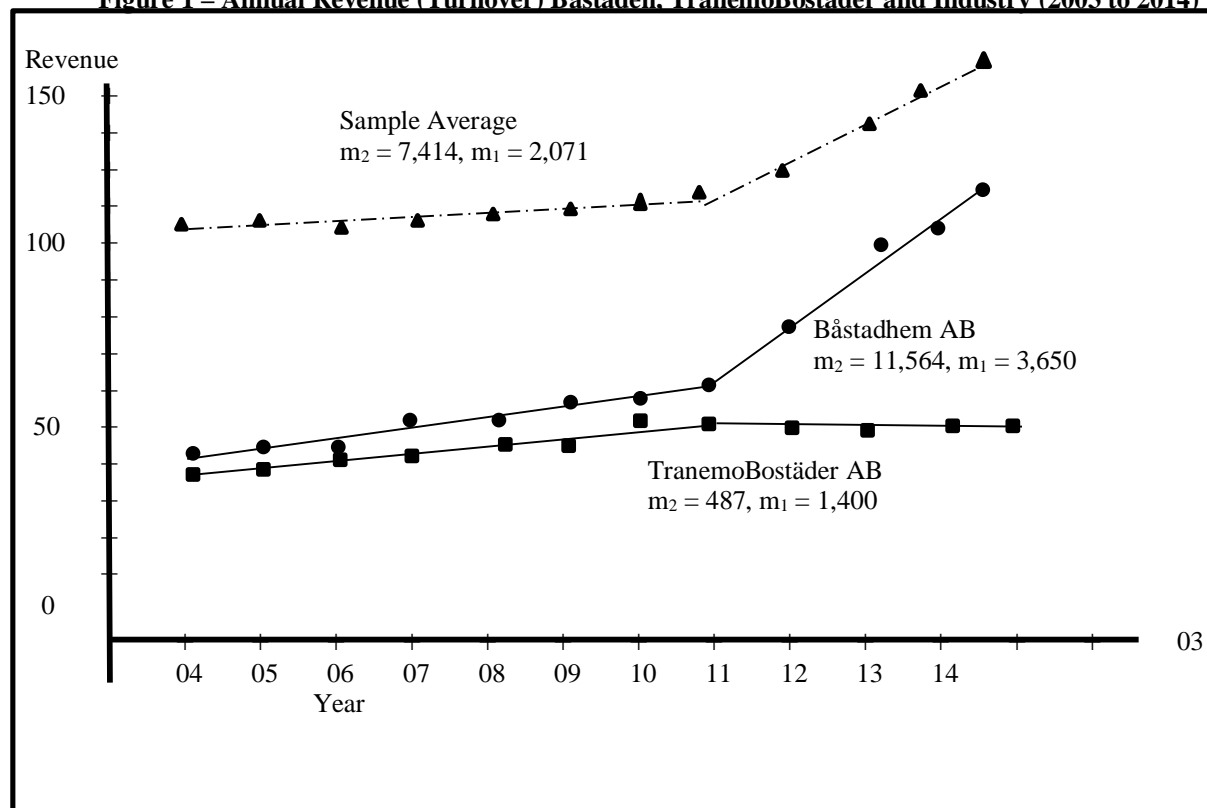
Table 2: Nature of Selected Information (Båstadhem AB and TranemoBostäder AB)

| Year | Båstadhem AB | | | | TranemoBostäder AB | | | |
|------|------------------|-------|-------------|------------|--------------------|-------|-------------|------------|
| | Revenue (MM SEK) | ROA % | Op Profit % | Solvency % | Revenue (MM SEK) | ROA % | Op Profit % | Solvency % |
| 2003 | 47,847 | 4.60 | 29.35 | 11.00 | 35,938 | 4.22 | 1.52 | 8.70 |
| 2004 | 51,839 | 4.31 | 26.05 | 11.40 | 37,821 | 4.30 | 4.65 | 9.03 |
| 2005 | 53,435 | 3.79 | 24.18 | 11.07 | 39,692 | 4.18 | 7.11 | 10.05 |
| 2006 | 56,926 | 3.69 | 25.92 | 10.00 | 40,887 | 2.74 | 1.79 | 9.50 |
| 2007 | 60,882 | 3.99 | 25.98 | 10.16 | 43,178 | 2.96 | -1.73 | 9.40 |
| 2008 | 65,161 | 3.92 | 24.56 | 10.39 | 43,084 | 3.00 | -4.55 | 10.53 |
| 2009 | 67,299 | 3.21 | 21.83 | 9.81 | 46,548 | 1.71 | 1.34 | 10.23 |
| 2010 | 75,015 | 2.99 | 20.63 | 9.81 | 44,726 | 0.98 | -0.54 | 10.52 |
| 2011 | 92,491 | 3.05 | 19.29 | 11.25 | 45,208 | 2.82 | 2.23 | 10.93 |
| 2012 | 101,872 | 2.92 | 19.89 | 11.26 | 46,486 | 0.65 | -5.35 | 9.14 |
| 2013 | 103,077 | 1.51 | 11.80 | 12.55 | 45,621 | -0.24 | -8.76 | 7.67 |
| 2014 | 127,544 | 3.78 | 24.03 | 16.42 | 47,004 | 2.78 | 2.83 | 7.34 |

OBSERVATIONS

Generally speaking, there was an apparent change in business practice among Swedish MHCs starting in 2011 – as indicated by overall industry results and most individual company results. This correlation is most apparent in viewing the results of revenue as a function of time as shown in Figure 1. The uppermost branch in that figure shows the overall performance of the average firm in the industry. Post-regulation, the regression slope (m_2) of revenue was 7,414 MM SEK per year. During the baseline period, 2003 to 2010, the slope (m_1) for the same sample was 2,071 MM SEK per year, a ratio (m_2/m_1) of 3.58. Put another way, the *rate* of increase in annual revenue for an average MHC in the industry was over 350 percent. (Emphasis is added here to “rate of increase”. That is, individual rents did not increase 350 percent, but they did increase at a more rapid rate than in the previous baseline period).

Figure 1 – Annual Revenue (Turnover) Båstaden, TranemoBostäder and Industry (2003 to 2014)

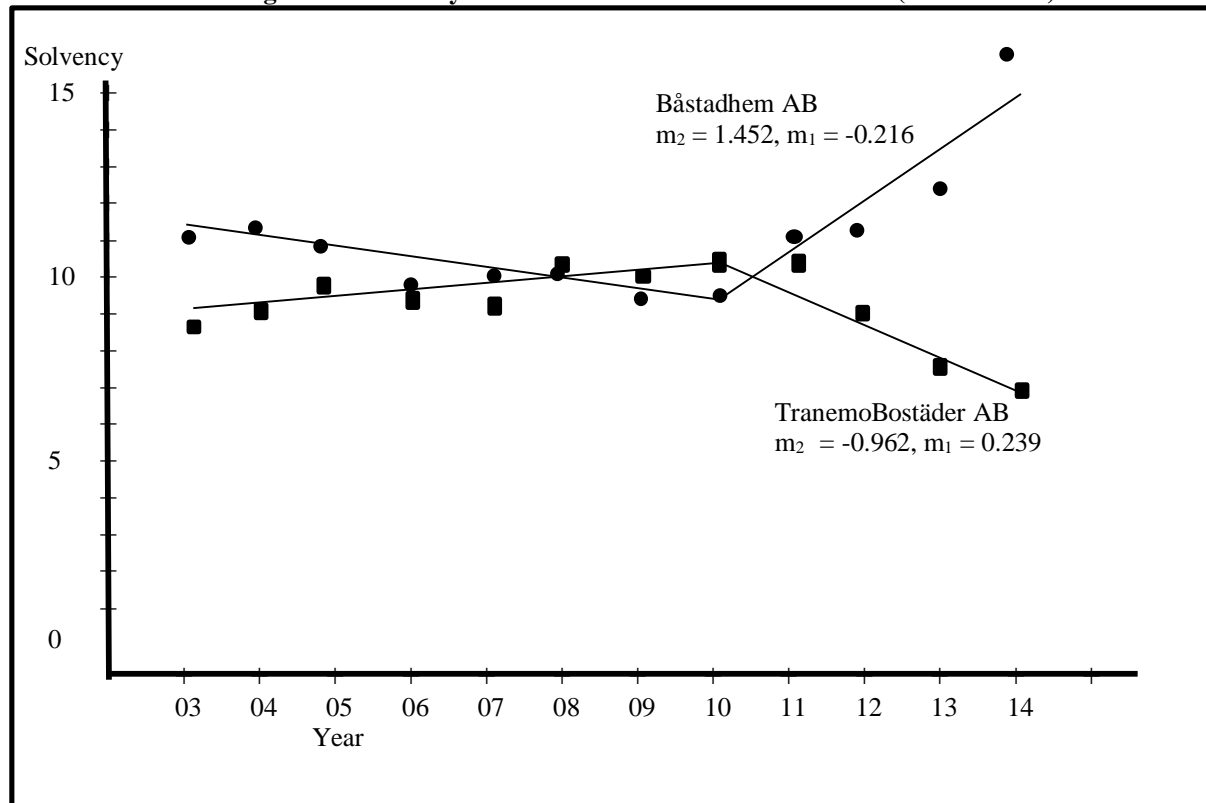


Not all companies, of course, experienced the same changes. This disparity is also shown in Figure 1 by the lower two branches. Båstaden AB's revenue grew at a rate greater than industry observations ($m_2 = 11,564$ compared to 7,414 for the industry); TranemoBostäder AB, on the other hand, grew at a much slower rate ($m_2 = 487$ compared to 7,414 for the industry). In fact, it appears that the growth in revenue *decreased* for TranemoBostäder post 2011 ($m_2 \sim 487$ compared to $m_1 \sim 1,400$ – see Figure 1). Each of these results was statistically significant at the 99 percent level (See Table 3). That is, progress in revenue growth for both MHCs changed significantly, as measured by t-tests, coincident with the implementation of PMHCA 2011 – in one case the trend in revenue growth was higher than the baseline (BAB), in the other case, growth slowed (TBAB).

Table 3 – Financial Comparison: Post to Pre for the Two Companies

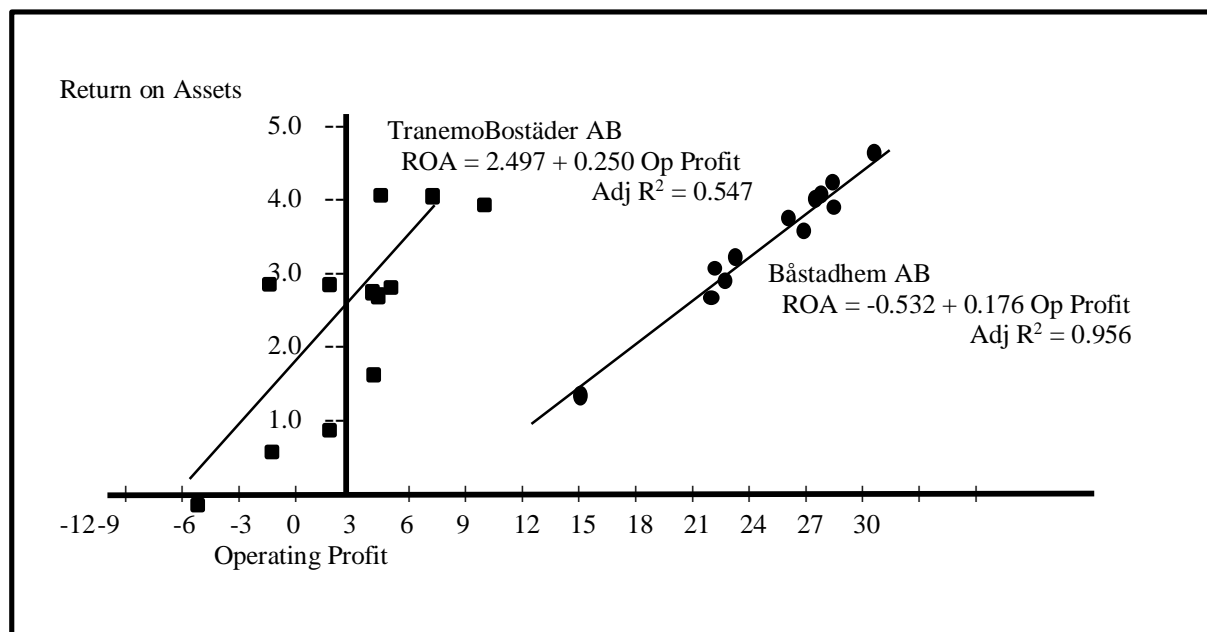
| Public Housing Co. | Revenue: Slopes | | | Solvency: Slopes | | |
|--------------------|-----------------|-------|--------|------------------|-------|--------|
| | Post | Pre | t-test | Post | Pre | t-test |
| Båstadhem AB | 11,564 | 3,650 | 4.02 | 1.45 | -0.22 | 4.34 |
| TranemoBostäder AB | 1,400 | 487 | 3.56 | -0.96 | 0.24 | 5.64 |
| SAMPLE AVERAGE | 7,414 | 2,071 | 7.44 | | | |

Likewise, there were major differences in solvency – even more so. Båstadhem’s rate changed and its solvency grew at about a rate of 150 percent of baseline. TranemoBostäder also changed, but its solvency decreased at a rate of about 100 percent of baseline (see Table 3 and Figure 2). These results were not anticipated.

Figure 2 – Solvency at Båstadhem and TranemoBostäder (2003 to 2014)

Before getting into the discussion of why solvency illustrated such disparate behavior for the two MHCs, and also to complete our observations, a note is made on return on assets. First, these operations are not high return on asset types of businesses. Neither company had a year during the 2003 to 2014 period in which they had an ROA greater than five percent. In fact, returns of more than four percent were unusual, rather returns of three to four percent were more common (see Table 2). Secondly, return on assets and operating profit tended to be linearly related (see Figure 3), suggesting perhaps that the asset base was rather constant over the period. Finally, Figure 3 illustrates quite clearly, that the two companies, BAB and TBAB, were much different in regards to where they operated in a ROA-Op Profit space. That is, TranemoBostäder spent nearly half the period (5 of 12 years) in which it had negative operating profits and thus had commensurately low ROAs; Båstadhem did markedly better – functioning in the 12 to 30 percent range, thus being consistently in the three to four percent ROA range.

Figure 3 – The Linear Relationship between Return on Assets and Operating Profit at Båstadhem and TranemoBostäder AB



DISCUSSION

The quote from Lord Kelvin goes something like this, “When you can measure what you are speaking about, and express it in numbers, you know something about it” (http://todayinsci.com/K/Kelvin_Lord/KelvinLord-Quotations.htm (Downloaded 3/4/2016)). The PMHCA 2011 suggested that Municipal Public Housing Companies should become more business-like in their activities. A qualitative study (Lindbergh & Wilson, 2016) suggested that was in the process of development. This study was initiated to determine if *financial* observations paralleled the qualitative study of Lindbergh and Wilson (2016). The exploratory portion of that study is reported here.

Because numbers are available, it can be seen clearly that the two companies selected for preliminary investigation illustrated very different behavior. One, Båstadhem AB, had the financial results that were expected. Its revenue curve followed typical industry observations with a “hockey stick” turn-up subsequent to implementation of PMHCA 2011. The anticipation was that once free of government introspection, companies would feel freer to raise rents, thereby increasing revenues, and indeed it appeared as the whole sector followed this pattern. TranemoBostäder AB turned out to be an outlier. Instead of being a hockey stick, it was more like wet spaghetti, i.e., post-implementation, it turned down instead of up. It is not known at this time how many other MHCs there might be in the sample with this behavior, but there cannot be many, else the industry behavior would be flatter.

Solvency results turned out to be even more extreme. Both MHCs had hockey stick behavior, but Båstadhem’s went up (the preferred, anticipated behavior); TranemoBostäder’s went down (the perilous path toward potential bankruptcy). One might ask, why are these observations important? At the very least, they illustrate that just the production of updated owner directives did not necessarily produce the anticipated financial changes for all companies, and solvency (def. Retained Earnings/Total Capital) is perhaps the critical parameter to investigate. At least in Sweden, it is the parameter of choice in making judgements on company solidity because it indicates a company’s abilities to meet obligations in the long run. Secondly, it reflects a situation that when industries are freed from government support, there may be winners and losers, i.e., the strong get stronger and the weak get weaker – perhaps even die. Unfortunately, TranemoBostäder may be going in that direction.

Along the way, we had a look at the firms’ business, at least the profitability end in terms of ROA and Operating Profit. The returns on investment seemed low for both firms, more so for TranemoBostäder than Båstadhem, but in the three to four percent range for even Båstadhem. One would wonder why anyone would borrow money to construct

rental properties when the returns on assets must be about equal to borrowing costs. It must be noted, however, that these are *municipal* companies. Consequently, they realistically function as a quasi-municipality organization. They borrow money through the municipality (probably at a good rate) and their performances are judged by the municipality, so for the services rendered, three or four percent may not be too bad.

Finally, the overall study is likely to be strengthened by these observations. Because a weak firm was uncovered, one wonders why it was weak and got weaker after PMHCA 2011 was implemented. It is known that the act provided not only for “increased business-like behavior, but also brought independent rental providers into rental negotiations. What impact might that have? Previously, negotiations with MHCs set the independent rental rates also. That could affect the financial health of an MHC in situations where independents pushed for lower rents. Further, municipal payouts were liberalized post-PMHCA 2011. MHCs have tended to be cash cows for municipalities; increasing the rate naturally would have an impact on solvency. Additionally, it is generally recognized that some MHCs do better than others based on location – larger cities being more solid than outliers. The factors behind that observation should be examined.

CONCLUSION

The purpose of an exploratory study is to determine better the nature of the final study. Originally, a study was planned that would relate changes in financial performance to known changes in Owner Directives. As a consequence of this exploratory study, it is now realized that the results of the anticipated study will be of the form

$$m_{\text{post}} - m_{\text{pre}} \sim \Delta X_{\text{OD}} + \Delta X_{\text{rent}} + \Delta X_{\text{payout}} + I_{\text{location}} + \dots$$

Where $m_{\text{post}} - m_{\text{pre}}$ represents the slope change post and pre implementation of the legislation. ΔX_{OD} represents the change in owner directives plus some other terms, the change in rent ΔX_{rent} , payout of the companies ΔX_{rent} and a dummy variable associated with the location of the MHC, ΔX_{rent} , plus the usual error terms.

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CAN IT BE DONE? TEACHING THE INTERNATIONAL, THE ADULT LEARNER, AND THE TRADITIONAL STUDENT IN ONE CLASSROOM?

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ABSTRACT

How do instructors effectively teach the increasingly diverse classroom? How is the level of rigor maintained for the international, the adult learner, and the traditional student in one classroom, while also attempting to manage the different needs of each group? The author presented her challenge of having classrooms filled with diverse groups of students: international, traditional and adult learners in one classroom. She shared her best practices in overcoming the challenges that each group had.

INTRODUCTION

Teaching in today's world is full of new and ever evolving challenges. In the past, teachers had to deal with issues like student sleep deprivation, passing notes to friends, or the occasional cheating or plagiarism. In today's world, however, the instructor now faces additional barriers to obtaining the student's full attention in class: technology, and the student's life. The students today are much different than ever before. When the author began teaching on a full-time basis, she initially thought that the "typical" college student was one who came from a two-parent family, would enroll in college full-time, and would take a full semester load of 15-18 credits. This "student" would get plenty of sleep and would treat their studies like it was their full-time job. Unfortunately, the author quickly learned these were not her students. According to U.S. Education Department data, about 40% of all college students are older than 25 years old. (Johnson, 2013) As a few years passed, the author noticed another drastic change in the classroom. It was now filled with three completely different populations of students: the international, the adult learner, and the traditional student.

WHO ARE WE TEACHING TODAY?

The International Student

The population of international students has been increasing at the author's small, private liberal arts college for the last few years. According to the National Center for Education Statistics, approximately three percent of undergraduate enrollments in the United States are international students. This number rises to ten percent for graduate enrollments in the US. One interesting note about this influx of international students is that about half of these international students are coming from China. (Lane and Kinser, 2013). The Chronicle of Higher Education reported data from the Institute of International Education and the growth rate of foreign students at American colleges rose ten percent from 2014-15. Unfortunately, this widespread growth is not occurring equally at all colleges and universities across the nation. As a matter of fact, only about ten percent of the colleges and universities accounted for 70% of the growth between the academic year 2005-06 and 2014-15. (Fischer, 2015).

At the author's college, the international growth has been well over ten percent since 2013. Most of that growth was from Saudi Arabia, through a King Abdullah scholarship program. Students in Saudi Arabia are paid to come to school in America as well as receive living stipend while studying abroad. The College has been focused on strengthening its infrastructure to better support the large influx of Saudi Arabian students to the campus. Colleges and Universities are advised to increase their academic and student support services to align with the increased growth from the international student sector. Benjamin Waxman, chief executive of Intead, a consulting firm for colleges on global marketing, said about colleges without a solid international support system, "It's like driving with only two tires on the car." (Fischer, 2015) In addition the author's college is now recruiting from other countries such as China and India.

The Adult Learner

Also known as the non-traditional student, the adult learner population is growing at a steady rate among colleges and universities in America. The National Center For Education Statistics (NCES) noted that "38% of the 2007 enrollment of more than 18 million college students were twenty-five years of age or older. (Ross-Gordon, 2011) It should be noted that there is some distinction between the terms "adult learner" and "non-traditional student". Some

literature notes that the adult learner is typically 25 years or older, while the term non-traditional student encompasses some more traits than simply age alone.

A 2002 NCES report noted seven characteristics that define the non-traditional student more broadly and they include: delaying entry to college by at least one year, having dependents, being a single parent, working full-time, being financially independent, attending college part-time, and not having a high school diploma. (Ross-Gordon, 2011). However, recent literature shows that the term “adult learner” is being utilized to focus on that population that is non-traditional but is also above the age of 25 years. For the purpose of this paper, the author will use the term adult learner as she will demonstrate that some of her “traditional” students are not so “traditional” after all and could possibly fit into the “non-traditional” mold which could confuse the reader.

Johnson (2013) introduced three non-traditional students that comprised a significant population of our students. The first college student interviewed was a “mother of four” who was struggling to balance parenting, paying her tuition, and keeping up her grades. (Johnson, 2013) A second student was “the veteran” who served his time and had hopes of using his G.I. Bill federal funding. (Johnson, 2013) Finally the author introduced the “young self-supporter”, who supported herself since turning 17. (Johnson, 2013)

The adult learner population is expected to grow by up to 28% by 2019, and most of this growth is derived from the adult learner’s need for a better salary to support them and their families. (Grabowski, Rush, Ragen, Fayard, Watkins-Lewis, 2016). A study by Levine in 1993 but noted in a recent literature review identified that adult learners have more of a “business mindset”. (Grabowski et al., 2016). These students are not as concerned with brand recognition of a college name as they are with the return they are getting for their investment in college. These students are now “shopping around” to find the best deal for their education so they can save money while still earning an education. (Grabowski et al., 2016).

A new term “environmental factors” has evolved in the literature review over the last few years and this term relates to the outside factors that affect a student’s performance in college. These factors include emotional support (or lack thereof) from family members, caring for family (children or parents), housing, family stability, employment demands, transportation to and from school, money, and transferring from two to four year schools. (Grabowski et al., 2016). Although the articles focus on these factors with regard to adult learners, the author will disclose that these factors are now affecting all three populations of students. The author adds that cultural and gender differences are a factor she observes in the classroom as well as the rise in academic accommodations being issued. So, the list of environmental factors is suspected to expand as the nature of the college student expands as well.

The Traditional Student

According to an article from the Washington Post, “Of the more than 20 million students enrolled at thousands of two and four-year colleges and universities across the nation, only about one-third fit [that] traditional description.” (Johnson, 2013) The article described how the current college student population is much different than from years past. According to the NCES, in the fall 2013, 88% of full-time undergraduate students were young adults (less than 25 years of age) at four-year institutions and 86% of full-time undergraduate students were young adults at two-year institutions. (NCES, 2016). The author will elaborate on this population throughout the paper.

The College Student Today

All of these students are a representation of the percentages of our current student population. They are juggling families. They are working full-time or part-time jobs. Some of these students are commuting great distances to get to class and some are taking the classes online so it will fit into their hectic schedules. As an instructor, the author quickly changed her perception of the “college student” and saw them as “college students with baggage”. It is important that instructors realize that these students are not coming to the classroom with a “free and clear mind” ready to learn. Instead, they are coming to class tired, overwhelmed, or with lists of things to that day or week on their mind.

Some students are also coming to class with documented disabilities. There are thousands of students who have a learning disability but wish to keep it a secret. (Krupnick, 2014) However, only approximately 25% of students who received help for the disabilities in high school will acknowledge they need the same assistance in college, according

to the National Center for Learning Disabilities. (Krupnick, 2014) College professors are now faced with yet another barrier to really reaching the student in the classroom. Academic accommodations are confidential pursuant to the federal Family Educational Rights and Privacy Act (FERPA), and thus professors are not in a position to have an open discussion with a student about their disability if it is not properly documented. These students are also at a larger risk of dropping out of a four-year college. According to the National Center for Special Education Research, only 34% complete a four-year degree within eight years of finishing high school. (Krupnick, 2014)

This paper is an illustration of a three-year experience the author had while adapting to this new classroom of college students. Her goal was to overcome the challenge of teaching the same class to three distinct populations who at first glance seemed quite different. The instructor had the additional challenge of quickly identifying the environmental factors coming into the classroom and addressing them. This paper illustrates the challenges and the process the author used to achieve success of these challenges in two of her classes. The author will note later in the paper that this is a process and she is still working on achieving that success in all of her courses.

THESE POPULATIONS: MORE ALIKE THAN WE THOUGHT

The author noted some key differences but mostly similarities in her classroom observations between the three groups over the three-year period (2013-2016) from that of her literature review. The literature notes that adult learners tend to only invest time in extracurricular activities that will enhance their educational experience, whereas the traditional students are more inclined to involve themselves in student clubs and organizations on campus. (Grabowski et al., 2016). The author ran a student club which met every other Wednesday evening and sometimes over a lunch hour during the week and her club's membership consisted of all three populations. The author's observations support the literature in this case.

The literature also noted that there is a higher number of traditional full-time students working while attending college. According a NCES report in May 2016, the Current Population Survey noted that 41% of full-time college students in the "traditional" or under age 25 status, were employed. (NCES, 2016). The author found this to be somewhat consistent with her observations of her students. Approximately 80% of her student population was employment in some manner, meaning these students were not only dealing with the demands of coursework, but also dealing with the demands of somewhat rigorous work schedules. One traditional student told the author she was routinely scheduled 35 hours per week for her "part-time" job while carrying a 16-credit course load.

Most students were observed over the three-year period as having to juggle many of the environmental factors listed earlier. The author observed traditional students who had to care for younger siblings, adult learners who had to travel for work for extended periods of time, and many students who were parents and had to miss class due to events occurring in their children's' lives. It is a more common characteristic listed in the literature that students are attempting to balance many roles while taking college courses. (Ross-Gordon, 2016)

Adult learners tend to prefer practical and results oriented learning instead of learning theory and the foundations for certain concepts. ("Eight Important Characteristics...", 2013) The author observed this to be true in her classroom but also found that both the traditional and international students also responded more positively to the more experiential lessons versus the theoretical lessons taught.

The expectations of the three populations are also evolving. Some instructors have said that students today feel entitled and that since they are paying for their education they should get the grade they pay for. The author found this to be somewhat true with the traditional and international students. Adult learners have high expectations but their expectations are more closely related to their return on investment. Adult learners want to learn the skills necessary to be successful in their career. ("Eight Important Characteristics...", 2013)

THE EMPLOYER EXPECTATIONS ARE THE SAME

The author found in her literature review that employers are looking for the same things from all graduates, regardless of which population they come from. This was no surprise to the author. Before entering academia full-time, the author spent 15 years as a hiring manager. According to the National Association of Colleges and Employers (NACE), employers are looking for graduates to have verbal communication skills in addition to being able to solve problems and make decisions. (<https://www.naceweb.org/press/faq.aspx>) A *Money Watch* article written by Lynn

O'Shaughnessy in April 2013, reviewed a survey of 318 employers was conducted by the Association of American Colleges. Of the employers interviewed, all companies had at least 25 employees and at least a quarter of new hires held either an associates or bachelors degree. (O'Shaughnessy, 2013) "[Ninety-three] percent of employers said that a demonstrated capacity to think critically, communicate clearly and solve complex problems is more important than a job candidate's undergraduate degree." (O'Shaughnessy, 2013)

When she started teaching, however, she found her college students were lacking in these skills: mainly the communication skills. She would tell her students, "I can teach you how to do the job, and I can teach you how to be a better communicator, but I cannot give you a personality or a work ethic." She felt fortunate being a new academician that had the opportunity to work in corporate America and saw first hand what employers were looking for in our college graduates. The students were excited about learning how to improve their professionalism skills. Over the years, the author saw that these skills were lacking across all three populations and so her work was far from over.

THE TEACHING CHALLENGE

In year one of the three-year period, the author's classes were starting to become more blended. The first real noticeable wave of international students started college. Adult learners were also requesting to take some day courses. The problem, however, was not so obvious, as it was not presented in every class. The spring semester of year one was when the problem became more pronounced. It was a Business Law course and it included all three populations of students. Aside from the difficulty of the material, the instructor realized that maintain the same level of rigor for all three groups was going to be a challenge in and of itself.

For example, the international students were not buying the textbook and would get up and leave throughout the class and they would not speak or participate in the class discussions. The traditional students were visibly intimidated by the other populations and thus would also not participate much in the class. The adult learners' expectations were so high that they were frustrated that the other students were not participating at the level they were participating.

In the fall term of the year two, the author had a Business Communications course and again the three populations were included in the roster. This course required the students to complete eight short writing assignments and present three oral presentations. The author was quite apprehensive thinking this was going to be a repeat of the spring term. The author had made some changes and as her rapport with the students grew, the challenges were still present. Students were still not purchasing textbooks and they wanted to use their phones during exam time. The communication skills were weak. The international students admitted they were afraid to speak up in class for fear of saying the words incorrectly. The adult learners felt as if they had to guide the younger students.

THE AHA! MOMENT

A quote by Neale Donald Walsch states, "Life begins at the end of your comfort zone". The author uses this quote frequently with her students as she believes this to be true. Most students wish to remain "comfortable" and therefore do not challenge themselves and grow professionally.

The author was teaching a weekend Negotiation course. Again the three populations were present and this terrified the author. Attendance was always an issue with international students, despite the author assigning points for attendance. However, this was a two-weekend course and the attendance was critical and the author communicated this explicitly to her students. Most responded well. The course required students to role-play many simulated negotiations over the two-week period. The author strategically mixed the groups so that one person from each population was represented in the role-play. During the course, the students had an opportunity to work with each member of the class at least once. There were many frustrating moments for the students as well as many moments where the students had to "jump outside of their comfort zone". The author believed that by playing a role of someone else seemed to help remove some of the fear of failure.

After each role-play simulation, the class would gather as a group and would debrief the simulation. After the first few debriefs, the students seemed to open up more and more about their feelings. The debrief sessions were becoming more and more effective. The lines of communication were open and the barriers between the three groups seemed to be dissolving right before the author's eyes.

RESULTS

The Negotiation course proved to be a turning point for the author. At the end of the two-week course, the students were hugging each other and thanking each for the valuable learning that took place during the role-playing simulations. They exchanged phone numbers and email addresses. It did not matter whether they were a traditional, international, or adult learner. It was a profound learning moment for the author.

Moving into the spring term of the third year, the author was teaching the Business Law course and this time the class was not only larger, but also had all populations present. This time, however, the author made some changes and implemented her best practices. The first thing she did was to have all students write down the vocabulary terms for each chapter. This was a vocabulary heavy course and so she gave a point value for having the students write down the definitions. Although tedious, the students valued this task and commented on the value of it on their course evaluations. This practice helped the students improve their test scores as well.

In addition, the author set clear and firm expectations at the beginning of the course and stuck to them. Some of the expectations were that each student had to have a textbook or at least access to it. Attendance was graded and so was participation. The syllabus was clear and there would be no late assignments accepted unless there was prior notice given to the author. The author would explain that the rules were important because once the student enters the real world, the student will experience similar expectations such as being on time for work. The author also slowed her speech during lectures as much as she could, and if she could not, she would rephrase or would have the students practice saying the tougher vocabulary words out loud.

The author impressed upon the students an environment where it was okay to be wrong in the classroom because that is when the best learning occurred. Students were no longer afraid to be wrong and participation increased from all three groups. The author would use class time to allow students from each population to share their perception and it was very beneficial for the other students to see different points of view. Again the students commented on their course evaluations that the diversity and learning about each other's experiences made the classroom experience more valuable.

The author learned some valuable lessons throughout the three-year period and is going to add to this research as it a very important topic at her institution. One of the most important lessons was for the author to get to know her students. By doing so she was able to build a level of trust and comfort for the student to be able to open up in the classroom. The students responded positively to this by not only offering unsolicited feedback to the author but also by reporting it on their course evaluations. The author stuck to her rules and remained firm with them. The students valued the structure and reported that on their course evaluations. Finally, the author became more involved with the academic services department on campus and formed an alliance for helping those students with extra challenging needs.

CONCLUSION

With each semester comes a new set of challenges, whether it be class size, or mixed populations, or a new Learning Management System. The author has realized that there is still much work to be done in attempting to maintain a high and consistent level of rigor in a mixed population course. The author realizes that most instructors are not in a position to devote the time necessary to uncover every need of every student, especially for those at larger institutions.

The author intends to continue her research on this topic but to include an added component of how the college or university infrastructure is organized. It will include areas such as providing welcoming environments, modeling programs that are working well, and improving faculty involvement. It was crucial at her college to rely on the infrastructure that was in place when experiencing these challenges. However, she and her college quickly realized that they could not implement policies for inclusions and accommodations fast enough to match the growth of the growing populations. The author hopes that this article will shine a ray of hope on the teacher that is trying to

over come some or all of the challenges mentioned in this paper and can benefit from utilizing some of her best practices to maintain a high and consistent level of rigor in their classrooms.

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OF MORAL PANICS & MILLENNIALS

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ABSTRACT

In this paper, we introduce the concept of a moral panic, widely applied in the sociology literature, to the accounting literature. We believe the concept is useful to accounting researchers as it can provide some theoretical underpinnings for the extensive media coverage and the public's reaction to matters that affect accounting research and accounting practice. To operationalize how moral panics develop, we use a subject that directly concerns all accounting educators – our students – the Millennials. We also suggest some other media events affecting accounting research and practice that might correctly be labeled as moral panics. We believe it is important for accounting researchers and practitioners to understand the moral panic concept and be able to identify possible moral panics in our field as the sociology literature repeatedly indicates that where a moral panic exists, resources and efforts are often misdirected and even wasted fighting a nonexistent demon.

INTRODUCTION

For the past four decades, the concept of moral panic has often been used to define social issues (See Young 1971; Cohen 1972; Hall, Critcher, Jefferson, Clarke, and Roberts 1978; Reiman and Levine 1995; Goode and Ben-Yehuda 2009). Using moral in the term implies that the issue at hand is seen as a threat to something held sacred by or fundamental to the society (Thompson 1998)—although Waiton (2008) argues that panics in modern society have become amoral as traditional values have given way to a panoply of public anxieties. Young (1971) coined the term while Cohen (1972) first presented an inclusive definition of a moral panic to depict the (over) reactions of the media, the public, and agents of social control to several relatively minor altercations in the 1960s between members of youth subcultures in the U.K. Per Cohen's (1972, 9) widely cited definition, a moral panic can occur when: "a condition, episode, person or group of persons emerges to become defined as a threat to societal values or interests; its nature is presented in a stylized and stereotypical fashion by the mass media; the moral barricades are manned by editors, bishops, politicians or other right thinking people; socially accredited experts pronounce their diagnoses and solutions; ways of coping are evolved or (more often) resorted to; the condition then disappears, submerges or deteriorates and becomes more visible. Sometimes the subject of the panic is quite novel and at other times it is something which has been in existence long enough, but suddenly appears in the limelight. Sometimes the panic passes over and is forgotten except in folklore and collective memory; at other times it has more serious and long lasting repercussion and might produce such changes as those in legal and social policy or even in the way society conceives itself".

Cohen's work was one of the first sociological studies to explore the power of the media to construct a deviant group (in this case rebellious working-class youth) in such a way as to generate sustained social concern and moral outrage (Feeley and Simon 2007).¹⁰ What piqued Cohen's interest was that the press reports regarding the incident were way overblown and actually seemed to serve as a catalyst for further incidents between the groups. Subsequent scholars have gone beyond Cohen's focus on wayward teenagers to apply the concept to more generalized manifestations of deviant and/or criminal behavior such as: Islamic terrorism (Odartey-Wellington 2009); Sex offenders (Maguire and Singer 2011; Fox 2013); Graffiti in New York City (Kramer 2010); The methamphetamine epidemic (Goode 2008); Hate crimes (Colomb and Dampousse 2004); Hyperactive children (Miller and Leger 2003); School shootings (Burns and Crawford 1999)¹¹.

In each of these works, the claimed moral panic involves an exaggeration or distortion in the media. Thus, the problem—or some aspect of it—is made out to be bigger or more significant than the evidence warrants; i.e., the alarm—even if the supposed peril is genuine—is disproportional to the threat (Goode and Ben-Yehuda 2009).¹²

¹⁰ David, Rohloff, Petley, and Hughes (2011) note that the concept's origins in the late 1960s and early 1970s came at a time when personal transgressions—especially behavior outside the bounds of traditional ideals of nation, family, community and enterprise—were seen by the establishment as a threat to the fabric of society.

¹¹ After reading Burns and Crawford, the cries of politicians and the media for "doing something about gun violence" in the wake of the recent school shootings in Connecticut creates a strong sense of *déjà vu*.

¹² According to Cohen (1972), the distortion may relate to the numbers of people taking part, the number involved in

While the moral panic concept frequently appears in the sociology/criminology literature, we found no mention of it in the accounting literature. We believe, however, the concept is potentially useful to accounting researchers as it may provide some theoretical underpinnings for the media coverage and public's reaction to matters that affect accountants and accounting educators such as the financial reporting scandals (e.g., Enron and WorldCom) that resulted in the Sarbanes-Oxley Act, the concerns over banking practices that gave us the Dodd-Frank bill, the furor over options backdating, and even the hyperbole surrounding the Millennial generation now populating our classrooms. In this paper, we provide an overview of the moral panic concept, note the actors involved in fomenting moral panics, and discuss the criteria typically used to identify an incident as a moral panic. To illustrate how moral panics develop, we take a subject that concerns accounting educators (our current students) and consider whether the voluminous literature claiming the Millennials are upon us, are different from preceding generations, require special handling, etc. fits the pattern of other avowed moral panics. If such a case can be made then the Millennials are, at their core, no different than the young people before them, given their stage of maturation, and the extensive non-academic literature is an exaggeration or distortion created by the media – a tempest in a teapot, if you like – and we as educators should focus our attention on the strengths and weakness of each of our students and not group them under a label which will only distract us from helping them each achieve their full potential.

THE MILLENNIALS AND GENERATIONAL RESEARCH CHALLENGES

The practitioner literature and popular press extensively discuss the Millennial generation, list its avowed traits, and offer suggestions to employers and educators for dealing with the challenges this generation presents (e.g., Howe and Strauss 2000, 2007; Randall 2010; Bannon, Ford, and Meltzer 2011; Papp and Matulich 2011; Williams, Beard, and Tanner 2011; Cozewith 2012).¹³ While it is widely accepted that this generation is significantly different from its X'er, Boomer, and Silent generation predecessors, there is little empirical support for this belief (Mastrolia and Willits, 2013). For some time, researching generations has been recognized as problematic (Mannheim 1952; Schaie 1965; Low, Yoon, Roberts, and Rounds 2005), the problem stemming from the linear relationship between age, period, and generation resulting in these variables inherently being interwoven (Yang and Land 2008), thus making it difficult to isolate a single variable's (e.g., generation) effect. An age effect results from physiological growth, progression through developmental stages, and experience accumulation. Period effects are due to the impact of major historical events on those experiencing them (e.g., various wars, the great depression, the advent of the digital age, JFK's assassination, the terror attacks of 9/11, the financial crisis/recession of the late 2000s, etc.). When persons of the same age cohort share period experiences a generational effect results, but isolating this effect (i.e., controlling period and age effects) is challenging (Kowske, Rasch, and Wiley 2010; Twenge 2010). While there are methodologies available that can unravel these entwined effects (Yang and Land 2008; Kowske et al. 2010), such designs require careful longitudinal studies that span several generations and few studies have been done that employ them. Thus, as Macky, Gardner and Forsyth (2008, 857) comment regarding reports of Millennial distinctives, "often such reports seem little more than overly generalized and oft repeated stereotypes based either on anecdotal evidence, or data not otherwise open to critical peer review."¹⁴

REPORTED CHARACTERISTICS OF THE MILLENNIAL GENERATION

The practitioner literature presumes that the Millennials are a distinct, relatively homogeneous, generational cohort and commonly ascribes some variation of the seven traits identified by Howe and Strauss (2000) to them:

- 1) Millennials are special and vital to their parents, the nation and the world.
- 2) They are sheltered, having been the focus of the most sweeping youth safety movement in American history.
- 3) They are confident and optimistic, proud of their generation's power and potential.

violence, and/or the resulting damage.

¹³ Various authors have labeled this generation—comprised of persons born approximately between 1980 and 2000—as Generation Y, Millennials, Nexters, and the Nexus Generation (Ng, Schweitzer, and Lyons 2010) as well as the Net Generation (Milliron 2008). We will use the Millennial label in this paper except when reviewing/citing papers that opt for the Generation Y tag.

¹⁴ Interestingly, the few academic papers that empirically examine the traits of the Millennials often rely on the same practitioner and popular press literatures to establish the generation's existence.

- 4) They are team-oriented, having been raised on sports teams and group learning.
- 5) They are achieving, the result of higher school standards and a national focus on education.
- 6) They are pressured and feel the need to excel.
- 7) They are conventional, rather than rebellious, believing that social rules can help.

Little effort is made to support this presumption empirically. Jorgensen (2003, 41) summarizes the problem this presents: “Significantly, the bulk of the generational data cited by popular writers is subjective, non-representative, makes use of single-point-of-time data and uses retrospective comparisons.” Thus, acting on such claims may be unwise. Much of the academic literature addressing some aspect of the “Millennial phenomenon” (while certainly less voluminous) is only marginally better as an analysis of the “Millennial literature” by Mastrolia and Willits (2013) indicates a clear disconnect between the confidence with which claims are made about Millennials as a distinct generation, the perceived differences between this generation and its predecessors, and the evidence for such claims.¹⁵ So in the absence of solid evidence, why are such assertions made and oft repeated?

Bennett, Maton, and Kervin (2008, 775), in a paper entitled, “The ‘Digital Natives’ Debate: A Critical Review of the Evidence,” explored the supporting evidence behind widespread claims regarding the “sophisticated technical skills” of the new generation of students entering the educational system. These researchers note that: “Grand claims are being made about the nature of this generational change and about the urgent necessity for educational reform in response. A sense of impending crisis pervades this debate. However, the actual situation is far from clear. . . . We argue that rather than being empirically and theoretically informed, the debate can be likened to an academic form of a moral panic”.

As one of the claims made regarding Millennials concerns their technological prowess (i.e., they are digital natives), Bennett et al. (2008) addressed one purported aspect of the “Millennial phenomenon.” As we noted earlier, evidence for the whole “Millennials are unique” hypothesis is not any more compelling than what Bennett et al. found concerning the existence of digital natives. So might the Millennial phenomenon writ large just be a form of moral panic as well?

MORAL PANIC

In this section, we draw on the extensive sociology/criminology literature to present the concept of a moral panic, three theories for why moral panics occur, the actors in a moral panic, and the five criteria that are generally believed to accompany moral panics.

Moral panic: The concept

Generally, moral panics occur when a particular group in society (e.g., a youth subculture, pedophiles, or, potentially, Millennials) is depicted in the media as embodying a threat to societal norms and values (i.e., the group poses a perceived threat to social order, public safety, or to the established way of life (Waiton 2008)). The attitudes and practices (and characteristics?) of the group are subjected to intense media focus, typically using sensationalist language which amplifies the apparent threat. So the “moral panic” idiom refers to the form of the public discourse rather than to an actual panic (Bennett et al. 2008) as an issue that concerns the public attains an eminence that exceeds the evidence in support of the phenomenon (Goode and Ben-Yehuda 2009); or as Arnold (1992) put it, a moral panic is a secular version of the witch hunt—one that pits us against the threatening them. Moreover, the panic may not really be about the folk devils (or their behavior) per se as much as about cultural strain and ambiguity caused by social change (Hunt 1997). For example, the three original accounts of moral panics (based on events during the “Golden Age” of the 1960s and 1970s) all reflect major structural and value changes in advanced industrial societies as refracted through the prism of youth (Young 2007). Commenting further on what makes moral panics in the twenty-first century special, Young (2007, 62) states: “There has been a radical shift in society from one which was comparatively stable in terms of work, family and community to one in which all three of these girders of ontological security have become unsteady, less substantial and frequently broken. It is where we have an increasingly insecure middle class and a large underclass of transient, insecure and grossly undervalued labour . . . If the moral panic upon entering the Golden Age was about a world of austerity and discipline slipping away, the moral panic *this* side of the

¹⁵ This should come as no surprise given the methodological challenges of generational research noted earlier.

Golden Age is of prosperity and security slipping away. It is a time of middle-class vertigo, of uncertainty, of a fear of falling”.

Might the “helicopter parenting” widely associated with the Millennial generation be a logical reaction to such middle-class anxieties?

Moral panics: Three theories

Scholars have proposed many theories for why moral panics occur. These theories might be arrayed along a continuum with elitism and grassroots as its endpoints with panics generated in the middle of society’s status and power hierarchy—i.e., those begun by the media or particular interest groups (some authors refer to these as moral entrepreneurs)—falling somewhere along it (Goode and Ben-Yehuda 2009).¹⁶ The most common approach by scholars to moral panics has been from an interest group perspective. Such groups—which have a stake in raising consciousness regarding some issue, demanding legislation or stricter law enforcement, etc.—could include professional associations, police departments, religious groups, educational organizations and so on (Goode and Ben-Yehuda 2009). For example, Jenkins (1992) identified charities, the police, and social workers as the groups who made claims about the sex abuse of children in the U.K., while Cohen (1972) particularly stressed the media itself as especially important in fomenting moral panics. Per Goode and Ben-Yehuda (2009, 67): “The central question asked by the interest-group model is . . . Who stands to gain? Material and ideological/moral gains have traditionally been separated; presumably, they represent two entirely separate motivations. Interest-group politics are usually thought of as cynical, self-serving, void of sincere conviction. In real life, such a separation is not always easy to make. Interest-group activists may sincerely believe that their efforts will advance a noble cause, one in which they sincerely believe. Advancing a moral and ideological cause almost inevitably entails advancing the status and material interests of the group who expresses or works for them, and advancing the status and material interests of a group or category may simultaneously advance its ideology and morality”.

And as Thompson (1998, 9) notes, “it would be wrong to assume that the motives of actors involved in generating a moral panic, such as journalists and other interested parties, is that of cynical manipulation for ulterior ends; they may genuinely believe what they say. (Although there might be a happy coincidence of principle and interest).” According to Goode and Ben-Yehuda (2009), the elite engineered theory is the orthodox Marxist approach that maintains that elites contrive moral panics to accrue some material or status advantage by engineering a panic from whole cloth or a trivial threat (typically one they care little about) in order to gain something valuable (or to further a political agenda (Hawdon 2001)) or to divert attention from matters that, if dealt with, would threaten their own interests. In other words, elite engineered theorists believe that the ruling elite can exploit public fears/concerns to achieve their own objective which is to continue to benefit from the status quo by taking the public’s mind off of society’s real problem: political and economic disparities (Reinarman and Levine, 1997; Hall et al. 1978). Such a theory presumes that elites have immense power as they dominate the media, heavily influence legislative bodies, control law enforcement, profoundly influence public opinion (Hawdon 2001), and control significant resources. For example, Beckett (1994, 444) demonstrates that public concern about street crime and drug use is not a function of those phenomena’s reported incidence, but rather is strongly associated with state initiatives which “may be seen as part of a ‘hegemonic project’ . . . aimed at rebuilding political consensus around opposition to the reform movements of the 1960s and to the subsequent expansion of the welfare state. Racially charged ‘social issues’ such as ‘street crime’ and drug use have played a central role in this project.” Other alleged instances of elite-engineered moral panics include the American drug panic of the 1980s (Hawdon 2001), the post-9/11 terrorism panic (Rothe and Muzzatti 2004), and the U.S. war on Iraq (Bonn 2011). Kong (2006, 103) even makes a case that Singapore created a moral panic over pop/rock music as part of the “ideological and strategic apparatus contributing to the state’s vision of a ‘nation’.”

Grassroots panics typically originate with the general public. “The concern the public feels is widespread, even if mistaken, and is touched off by a feeling that something of value to the society at large, or a wide swath of it, is under threat” (Goode and Ben-Yehuda 2009, 55). Thus, the media only rouses sentiments that already exist making this a bottom up instead of top down moral panic theory (Hunt 1997). Examples of avowed grassroots panics would include the American public’s attitude toward (1) nuclear power since the Three Mile Island accident, and (2) the use of illicit

¹⁶ Per Waiton (2008), moral panics are not exclusively a means used by the political right to move its agenda but have been created by those on the left as well.

psychoactive substances (e.g., LSD) (Goode and Ben-Yehuda 2009). But as Waiton (2008) notes, most studies of moral panics incorporate elements of all three theories as a panic cannot exist without some level of grassroots support but only becomes defined as a social problem when the issue is taken up by interest or elite groups. Or as Goode and Ben-Yehuda (2009,71) put it, “no moral panic is complete without an examination of all societal levels, from elites to the grassroots, and the full spectrum from ideology and morality at one pole, to crass status and material interests at the other.”

But unlike many of the avowed moral panics referred to earlier, some assert that panics can also be against the maintenance of the status quo. For example, Cohen (2011, 241) states that: “The rhetoric about climate change draws on the classic moral panic repertoire: disaster, apocalyptic predictions, warning of what might happen if nothing is done, placing the problem in wider terms (the future of the planet, no less). The climate change movement tends increasingly to construct any skepticism, doubt, qualification or disagreement as denial. And they mean not just the passive denial of indifference but also the active work of ‘denialists’. Sceptics are indeed folk devils: treated like retarded or crazy persons, people who just don’t get it—like flat earthers—or who are on the payroll of oil corporations. Some entrepreneurs have suggested that climate change denial should become a crime like Holocaust denial; deniers should be brought before a Nuremberg-style court and made responsible for the thousands of deaths that will happen if the global warming alarm is not heeded”.

And David et al. (2011) argue that some moral panics can be good; i.e., they concern issues that are legitimate topics about which concern should be expressed. Interestingly, McRobbie and Thornton (1995)—citing a failed effort to construct a moral panic over single mothers in the U.K.—argue that moral panics are more difficult to foment than they once were, suggesting that the proliferation of mass media and the attendant capacity of those demonized or marginalized to fight back have reduced the potential for moral panics. So in concluding this section on moral panic theory, we would note that one fact emerges from our review of the relevant literature: scholars are not of one accord when it comes to why they occur or whether when considering specific incidents one has occurred. There does, however, seem to be some general consensus regarding the actors in a typical moral panic and the criteria usually used to establish one’s occurrence as specified below.

Moral panics: The actors

In addition to the requisite “folk devils,” Cohen (1972) identifies five actors in the drama of moral panics—which Ungar (2001) claims have acquired a special affinity with youth-related issues. If the Millennial phenomenon is a form of moral panic, we should be able to identify the role each has played in creating it.

Folk Devils

A folk devil is the agent responsible for the threatening behavior and serves as the scapegoat for the anxieties of the community. Per Goode and Ben-Yehuda (2009, 27): “Once a category has been identified in the media as consisting of troublemakers, the supposed havoc-wreaking behavior of its members reported to the public, and their supposed stereotypical features litanized, the process of creating a new folk devil is complete; from then on, all mention of representatives of the new category revolves around their central, and exclusively negative, features, rendering them demonstrably stigmatized. All moral panics, by their very nature, identify, denounce, and attempt to root out folk devils”.

While some sectors of the population make better folk devils than others (e.g., drug dealers, terrorists, or child molesters), at times liberals, conservatives, members of various ethnic and/or religious groups, asylum seekers, illegal immigrants, etc. have been so demonized. Baerveldt, Bunkers, De Winter, and Kooistra (1998, 34) believe young people are logical candidates: “Since the Second World War, young people have been alternately praised and damned, with the former being the exception.” Each generation’s culture (music, slang, community focus—or lack of, etc.) is different (Twenge, Campbell, and Freeman 2012) which tends to unsettle the status quo and makes youth, in general, frequent folk devil candidates (Miller and Leger 2003). Moreover, while earlier panics tended to focus on a single group (e.g., drug addicts, teenagers who hung out in coffee bars), contemporary panics seem to catch many more people in their net (Thompson 1998); indeed, if the current hysteria over Millennials can be construed as a moral panic, an entire generation has been swept up. In other words, the moral panic is a special type of collective delusion and requires the folk devil, deviant, or villain as a crucial element onto whom public fears and fantasies are projected (Hunt 1997). While there are some supposedly threatening or dangerous situations/conditions that the public may fear

disproportionately to any measurable risk of harm (e.g., swine flu, nuclear energy, global warming), these lack the folk devil element and thus do not touch off moral panics (Goode and Ben-Yehuda 2009), although David et al. (2011) note that contemporary panics seem to have less need of folk devils.

The Press

Moral panics are characterized by disproportionality where the public perceives “the threat” as more substantial than a realistic appraisal could sustain (Waddington 1986). The press contributes (or possibly causes) this disproportionality by over-reporting (according “events” more importance than they deserve and overstating the seriousness of the event) and stereotyping. McRobbie and Thornton (1995) maintain that moral panics have become the way in which daily events are brought to the public’s attention, and the fear narrative is a staple of the entertainment news formats (Arnold 1992; Altheide 2009). Accordingly, sociologists tend to base claims that a moral panic has occurred by documenting media coverage of alarmist claims (e.g., Fox 2013) rather than the public’s response to exaggerated claims (Best 2000). On questions where audiences have little or no direct experience of the issue being presented to them in the media, the media have a unique capacity to foster disproportionate beliefs/fears in audiences and negative media portrayals that support existing opinion or experience are particularly powerful (Pearce and Charman 2011).

The media tend to focus on sensationalized stories or crime stories they know will pique the public’s interest (Katz 2011), e.g., child sex abuse (Fox 2013). In addition, “the media uses spectacle to generate points of view, perceptions, anxieties, aspirations, and strategies to strengthen or undermine support for specific education policies, practices, and ideologies” (Anderson 2007, 103). Thompson (1998) suggests that the exponential rise in media outlets (both in number and type) since the 1970s and the seeming rise in moral panic incidents since then are not coincidental. The moral panic concept has become widely used by the mass media (particularly in the U.K. (Best 2000) over the past 30 years which results in a paradox: while the media is often blamed for promoting/causing a moral panic, when the term is used in the media it is often in reports or editorials that challenge such efforts at social control (McRobbie and Thornton 1995; Altheide 2009).¹⁷ The media has always played a strategically important role in promoting social agendas which has grown exponentially with the advent of television and continues to grow in the Internet age (Anderson 2007).

The Public

For a moral panic to erupt there has to be some latent potential on the public’s part to react to a given issue; otherwise, media reports—no matter how hyperbolic—gain no traction. For example, the youth disturbances Cohen (1972) wrote about happened in the 1960s when much of the adult British population, having World War II and its deprivations still fresh in their minds, saw an affluent younger generation responding not with gratitude but with delinquency, disdain, and rebellion. In the minds of the older generation, the problem was that the younger generation had been indulged and coddled and needed—by a variety of means—to have their attitude adjusted (Goode and Ben-Yehuda 2009). So there was a concern on the public’s part about the behavior of British youth in the 1960s and a general level of hostility towards the groups engaging in the behavior in question (Mods and Rockers in Cohen’s case) which in turn proved fertile ground for the press reports which triggered the moral panic.

Law Enforcement or Other Agents of Social Control

Per Goode (2008, 39), “in addition to the press and the general public, the actions of the social control culture demonstrate that a moral panic is taking place. In no sector is this principle more clearly evident than public attitudes about what the police and the courts—law enforcement—ought to be doing about the perceived threat.” For example, Canadian authorities largely ignored a violent war between biker gangs over drug turf as long as the victims were bikers. But when a Hell’s Angels’ car bomb killed an innocent 11-year old which led to sensationalistic media

¹⁷ A study of the extent of news reports using the moral panic concept found it more compatible with print formats than television reports which may explain why the concept originated and is more widely used in the U.K. where the national dailies, and not only the tabloids, fight competitive battles by latching on to a single phenomenon (Morgan 1993). As Jacques (1993) notes when commenting on the national rather than regional nature of the U.K. press, “name an issue and it is more than likely that the newspapers have been responsible for making it happen.”

coverage, the police message changed from one of complacency to a crackdown on outlaw bikers (Katz 2011).

Politicians and Legislators

Authorities either play a central role in launching panics or are likely to join panics in process and derive some benefit from legitimizing and perhaps directing them (Ungar 2001). For example, legislators—wanting to be seen as also doing something thereby justifying their existence or enhancing their power/control—propose legislation to curb the threat or throw money at the problem even if the problem is based on false assumptions (as opposed to known facts) and fear (e.g., sex offender legislation, Maguire and Singer 2011) or the legislation is ill-conceived, inappropriate, and likely to be ineffective (Burns and Crawford 1999; Katz 2011).

Action Groups

At some point during a moral panic, action groups arise to cope with the newly existing threat; often group members have something to gain from rallying against a problem. Contemporary society has witnessed the increasing involvement of social movements, identity politics, and victim advocates within moral panics which are increasingly diverse in being both for and against the maintenance of the status quo (Cohen 2011).

To action groups we might add “expert’s comments” that are used by both the government and the media to legitimize the actions of the state and justify draconian solutions to social problems (Katz 2011) as experts testify to the existence of the threat (Miller and Leger 2003). A crisis is often created by appealing to scientific, rational, and neutral colloquies; thus, political advantage is gained not only through political argument, but by disseminating “objective” research put out by privately funded, ideologically driven think tanks that package reports in a manner that makes it easy for harried journalists to get their stories, complete with photos, from these sources (Haas 2007).

MORAL PANICS: THE CRITERIA

Five criteria are generally believed to accompany moral panics (Thompson 1998; Goode and Ben-Yehuda 2009) thus their presence is often used as evidence that one has occurred:

CONCERN

An increase in the level of concern about the potential detrimental consequences of a certain group’s actions for the rest of society that is verifiable through opinion polls, media attention, proposed legislation, and an increase in arrests/imprisonment, or increased activity related to social movements (Baerveldt et al. 1998). Ungar (2001) notes that research on moral panics infrequently draws on poll results or other direct behavioral evidence, which is often lacking or hard to come by, and instead researchers have finessed the problem by employing indirect and questionable indicators of public concern, most commonly coverage of the issue in the mass media. Moral panics usually generate anxiety that seems to be a reasonable response to those who perceive a very real and palpable threat and want something to be done about it.

Hostility

An increased level of hostility towards the group and the threat that they allegedly pose which divides them from their opponents into dichotomous categories of bad and good. So not only must there be some behavior seen as threatening to society's values, but a clearly identifiable segment of society must be responsible for the threat. This division of society into "us" and "them—the folk devils"—includes stereotyping the villains in this morality play of evil versus good (Cohen 1972).

Consensus

A consensus amongst a substantial part—or powerful elements—of society that a real danger is posed by the wrongdoing group members and their behavior. Consensus regarding the problem may grip members of a given group or community yet be lacking in the society as a whole.¹⁸ It is also important to keep in mind that in a complex society what constitutes a threat or crisis is rarely agreed upon universally.

Disproportion

Disproportionality has formed a central tenet in almost all conceptions of moral panics and in distinguishing them from legitimate public concerns (David et al. 2011). In other words, perceptions of the threat are considerably greater than any harm that may be substantiated by the available evidence. Further, the degree of disproportion of a given threat can only be determined by knowing its nature empirically. Despite the possibility of debate on how to determine harm, Baerveldt et al. (1998) contend that the concept of moral panic rests on disproportionality. By "perceptions of the threat," we mean that there is a belief among society's non-deviant members that a greater percentage of the population is engaged in the threatening behavior than actually is, or that the incurred harm exceeds that which has actually occurred. For example, Fritz and Altheide (1987) note that widely publicized claims regarding child abduction by strangers implies the problem is much bigger than available data indicates. Similarly, Burns and Crawford (1999) note that at the time of several widely publicized school shootings in the late 1990s, school shootings were not on the rise and a child's odds of being struck by lightning were greater than those of being killed at school.¹⁹ And Katz (2011) notes that during periods of panic, statistics can be manipulated or figures fabricated by claims makers to amplify the "problem" and increase the public's sense of fear—and the pressure brought to bear on authorities to do something. Since most often members of the public do not possess the ability or desire to address the problem on their own, they turn to government to deal with it. But disproportionality as a criterion remains problematic. For example, the existence of a moral panic is often determined by comparing evidence of concern as expressed by opinion polls or the volume of news reports with data regarding the underlying deviant behavior which seems logical but measures disproportionality indirectly (Baerveldt et al. 1998). Unfortunately, comparing trends does not indicate whether the level of concern is now too great or whether it was previously too little. Furthermore, the problem may be real and serious and thus rising levels of concern are justified. To illustrate, the number of references to financial reporting fraud increased dramatically around the time of the Enron et al. incidents but presume that such frauds measured as a percentage of public companies remained relatively unchanged. Does the increased press attention indicate a moral panic? Or was there previously too little attention paid to a real and ongoing problem?

Volatility

Concern about the threat erupts and disappears again within a short time. Goode and Ben-Yehuda (2009) indicate that (1) after the panic has run its course, some panics result in ongoing moral concern about the target behavior, while other moral panics merely vanish with the legal, cultural, moral, and social fabric of the society remaining what it was before the panic, and (2) whether it has a long-term impact or not, the degree of hostility generated during a moral panic tends to be temporally limited. The particular value of the moral panic theory resides in the cycles and stages which mark out its passage over a fairly intense and concentrated period of time (McRobbie 1996). But there seems

¹⁸ Note that some (e.g., Hall et al. 1978) posit public concern as just an expression of elite interests and thus not an essential element of a moral panic. Goode and Ben-Yehuda (2009) effectively refute this contention.

¹⁹ Per Anderson (2007), schools are safer than all other locations where children congregate including cars and homes.

to be some disagreement as to whether volatility is a requirement as Young (2007, 63) notes that the time of transient panic is long past as images of [folk devils] “visit us daily, the intensity dropping and peaking like tremors, but never vanishing nor presenting temporary relief.” And Waiton (2008) argues that in today’s risk society panics are ever present and that we are all in a panic about something.

Misdirectedness. Baerveldt et al. (1998) argue for adding a sixth criterion, misdirectedness, which might be summarized as believing that the standard solutions offered to the problem are really going to solve it. For example, we have waged a war on drugs for decades but still have a drug problem; going after “kiddie porn” does not cure pedophiles; we throw money at education yet still have diminishing test scores, etc.

ANALYSIS

Bennett et al.’s (2008) claim regarding the digital natives and moral panics is based on the following similarities between the “digital native debate” and the characteristics of a moral panic:

Dramatic language is employed that proclaims a profound change in the world and pronounces stark generational differences. Appeals to common sense coupled with anecdotal evidence are used to declare an emergency and call for urgent and fundamental change.

A number of dichotomies are established: e.g., between this generation and its predecessors, between those who are technically adept and those who are not, and those who believe in the digital native phenomenon and its skeptics—who are castigated as being in denial, out of touch, or without legitimate concerns (Tapscott 1998; Downes 2013).

They then note the implications of what they see as a debate built on anecdotes and hyperbole, but little solid evidence (783): Thus, “the language of moral panic and the divides established by commentators serve to close down debate, and in doing so allow unevidenced claims to proliferate. Not only does this limit the possibility for understanding the phenomenon, it may also alienate the very people being urged to change. Teachers, administrators and policymakers have every right to demand evidence and to expect that calls for change be based on well-founded and supported arguments. As is evident from the review in this paper, many of the arguments made to date about digital natives currently lack that support”.

But do these claims equally apply to Millennials in light of the actor list and criteria noted earlier? Bennett et al. opened the conversation and, in this paper, we illustrate the concept of a moral panic to the accounting literature, accounting researchers, and accounting educators using the Millennials who are so common (and so foreign) to all of us as an illustration of the concept rather than as an attempt to make a case that the hype surrounding the Millennials rises to that level.

MAPPING MILLENNIALS AGAINST MORAL PANIC ACTORS AND CRITERIA

Folk Devils

Given that folk devils are requisite actors in moral panics, can a case be made that Millennials play that role? Ungar (2008) argues that university students (certainly the subset of the Millennial generation from which accountants emerge) “make poor folk devils because they are not conventional deviants” (175), but then discusses an impending moral panic relating to the perceived lack of knowledge (i.e., ignorance) of university students in the U.S. and Canada—so apparently being seen as a different generation may be an adequate surrogate for more conventional deviance. One possibility concerning the qualification of Millennials as folk devils emerges from the following observation by David et al. (2011, 222): “Yet the concepts of deviance amplification and labeling, upon which the conception of moral panic theory grew, each suggest that those labeled as ‘deviant’ might come to resemble the very label with which they were being tagged. . . . the outsider/underdog, so labeled, pressed, limited and channeled, may well come to represent precisely the threat that the self-appointed defenders of decency sought to warn against in the first place. Thus, the initially irrational overreaction to a supposed threat may eventually become proportionate if those treated as folk devils do finally react in demonic fashion”.

So if Millennials are treated as though they are special (even though they are just another generation of young people), might they then come to believe that they are in fact special? The increased level of narcissism among this generation (Twenge and Campbell, 2009) suggests that as a possibility.

Speculating on the cause(s) of a moral panic about a “newly brutalized, out-of-control younger generation,”²⁰ Morrison (1994, p. 15) suggests that maybe it is because today’s parents recall their own childhoods as comparatively safe, free and unsupervised (remember life as depicted by *Leave it to Beaver*, *Father Knows Best* or the *Cosby Show*?) or maybe the panic results from an ancient hostility where we fear and envy children as our usurpers so again an entire generation is cast in the folk devil role. Conversely, Katz (2011) takes the traditional approach to folk devils by describing them as evildoers who deserve hostility from the public and severe punishment—a description that hardly applies to the entire Millennial generation, although the press has certainly presented individuals within the generation as evildoers. So the case that the hype surrounding this generation constitutes a moral panic is somewhat weak given that Millennials are not your typical deviants.²¹

The Press

As Levenson (2010, 263) notes, “[when] the media report generational differences . . . they always look to find artificially large differences between generations that can be reported as newsworthy.” A study of news reports using the moral panic concept discovered that children and teenagers were among the most common issues involved (Altheide 2009). And when works like *Millennials rising: The next great generation* (Howe and Strauss 2000) abound, the media (defined broadly) have certainly played the type of role in raising consciousness about Millennials one would expect to find in a moral panic.

The Public

Deal, Altman, and Rogelberg (2010) indicate that older people (primarily Boomers) complain that younger people (mostly Millennials) are difficult to interact with, entitled, have poor communication skills, and are overly service-focused, but that similar sentiments were expressed when the Boomers were young people. So it seems that whenever complaints are lodged against the young, they fall on fertile ground. As Krinsky (2008, 9) comments, “researchers have long recognized that moral panics help construct youth cultures not only as adults imagine them, but also as they are experienced by young people themselves.” On the other hand, we do not find the public in a particular uproar over Millennials, agitating for something to be done about “them,” etc. So while the public may concur with the notion that Millennials are “different” than preceding generations, it appears that the fear level typical of panics (moral or otherwise) is missing.

Law Enforcement

In the case of Millennials—not being quite the typical villain found in moral panics (e.g., drug dealers, pornographers, terrorists)—the agents of social change role falls to educators and employers as those charged with doing something about the threat posed to the status quo by these young people who do not want to “pay their dues,” feel entitled, etc. Not surprisingly, much of the “Millennial literature” consists of various recommendations for dealing with them and techniques for educators to adopt when trying to teach them (e.g., Howe and Strauss 2007; Wilson and Gerber 2008). We do not find cries to outlaw the offending behavior or to arrest and punish the evildoers found in most moral panics.

²⁰ The panic in question arose as a result of several heinous crimes committed in the U.K. by children, among them the abduction and murder of a child by two 11-year-olds.

²¹ Cohen (2002) suggests that folk devils [at least in panics occurring in the U.K.] belong to seven familiar clusters of social identity: 1) young, working class, violent males, 2) school violence, bullying and shoot-outs, 3) wrong drugs, used by wrong people at wrong places, 4) child abuse, satanic rituals and paedophile registers, 5) sex, violence and blaming the media, 6) welfare cheats and single mothers, and 7) refugees and asylum seekers. While certainly some Millennials fall into each of these categories, collectively the generation fits into none of them.

Politicians

In the U.S., most of the attention paid by politicians to the Millennial problem has centered on K-12 education with such actions taken as passage of the No Child Left Behind Act or the Education Department's Race to the Top grants. (There is nothing like U.S. students doing poorly on international math and science tests to get the attention of politicians and improving education is an easy bandwagon to climb on.) Interestingly, Anderson (2007) states that the No Child Left Behind legislation was based on media hype surrounding the Texas miracle—the assumption that test scores in Texas improved because of a high-stakes standardized testing program—that was later debunked.

Action Groups

One can certainly view the small army of consultants and authors of “dealing with Millennials” books as comprising the action groups in this case. The education lobby (to include teachers' unions) also seems to be a relevant action group.

CONCERN

Turning from the actors in a moral panic to the criteria for one, “concern” heads the list. For example, Katz (2011, p. 233) states that, “Public concern and fear in response to Outlaw Motorcycle Gangs can be observed when the media—television, newspapers, radio, magazines, the internet, and authors—bombarde the public with sensational, albeit horrifying accounts of the heinous crimes of Outlaw Motorcycle Gangs.” Would this statement be accurate if Millennials was used in place of Outlaw Motorcycle Gangs? We believe a case can be made that the parts of the statement regarding public concerns and media bombardment (which at times seems sensational) apply, but not the fear and crime elements. And much of the expressed concern deals with Millennials' readiness to reap the benefits of a traditional college education (Howe and Strauss 2007) and the impact of excessive efforts to enhance each child's self-esteem on their ability to function in a workforce where not everyone gets a trophy, results (output) matter more than effort (inputs), etc.

Hostility

While we can easily divide society into them (Millennials) and the rest of us, we believe it difficult to argue that the rest of us are hostile to Millennials collectively—unless having one's feathers ruffled every time the word like gets abused counts. Because Millennials are not the kind of deviants that overtly pose a threat to society's values, it is easy to see why this criterion is not met with respect to the Millennials.

Consensus

The consensus with Millennials seems to be that they are different than previous generations which thus requires an adjustment on the part of educators and employers who deal with them (Howe and Strauss 2007; Wilson and Gerber 2008). Note however, that there is a major difference between the typical moral panic and the furor over Millennials (or digital natives): in traditional moral panics, the cry is for the folk devils to change their behavior—by means of force or sanctions if necessary; with Millennials, the rest of society is being urged to change to accommodate them as though they are an immutable force. The overarching sense of danger (if there is one) may stem from the threat to competitiveness (and hence the economy) they pose.

Disproportion

In the case of Millennials, disproportion stems from a lack of compelling empirical evidence that this generation is significantly different than its predecessors despite all the press and media hype about them. Certainly the popular press and practitioner journals have published many articles about who the Millennials are and what “we” need to do about them, however the academic literature is sparse and generally not supportive of the Millennial generational cohort (Bennett et al. 2008; Mastrolia and Willits 2013). We believe this disproportionality of non-academic press reporting both in volume and recommendations as compared to the paucity of rigorous empirical studies documenting significant differences between this generation and its predecessors is one of the strongest indications that the hype surrounding the Millennials may actually be a moral panic.

Volatility

The arrival of the Millennials was announced with much fanfare over a decade ago, but as they are still very much with us, so too they are still being talked about; thus, the notion that moral panics typically are cyclical (i.e., they rise and then recede) does not seem to apply—unless one wants to argue that in the case of generations, the cycle is a rather long one and only diminishes when the next generation comes along.

Misdirectedness

Per Anderson (2007, 114), “Moral panics result in misdirected policies, wasteful spending, and counterproductive decisions by principals and teachers.” So if the hype on Millennials is a moral panic . . .

CONCLUSION AND IMPLICATIONS FOR ACCOUNTING RESEARCHERS AND EDUCATORS

Goode (2008, 39) states that: “An analysis of a moral panic addresses the central issue of our age—indeed, of history itself: a struggle for representational hegemony. More specifically, it represents, to quote Stanley Cohen (2002), “a battle between cultural representations.” All moral panics encompass claims and counterclaims by competing sectors of the society, each attempting to establish dominance over the others, to mark off boundaries in their own terms, as to where the respectable mainstream leaves off and the margins—the outsiders—begin. Then represents the folk devils and their minions and dupes, and us represents deserving victims—often, the society at large—members of the society who are threatened by folk devils. Moral panics are about locating evildoers, establishing the poisonous influence and iniquity of their actions, and rectifying the damage they’ve inflicted on the rest of us.”

With respect to Millennials, the us is employers and educators who are menaced by this generation who is said to threaten the way we teach our classes, run our businesses, etc. The question that needs to be addressed is whether the hype surrounding the Millennials is, in fact, a form of moral panic. If so, the threat posed by Millennials is likely overblown, the poisonous influence not a cause for great concern, and the damage inflicted on the adults that deal with them (i.e., the rest of us) relatively mild. Based on the dearth of sound empirical support for the Millennials as a cohort that is vastly different from their predecessors, we must confess that the current debate (or certainly elements of it) takes on the air of a classic moral panic, and not something—barring further study—that justifies the reactions indicated by much of the popular and practitioner literature. If we as educators are distracted by a moral panic, rather than an empirically proven phenomenon, we may fail in our mission to educate individual students by focusing our attention on a label created by the media and marketing profession. Additionally, in these financially challenging times, funds directed to solving a problem that is actually a moral panic may be poorly spent.

By bringing the moral panic concept to the accounting literature and operationalizing it with something we are all directly involved with at one level or another, we hope to make evident that other media events affecting accountants, the accounting profession, and accounting researchers might correctly be labeled moral panics thus understanding the phenomenon may help avoid inappropriate responses when they occur. For example, a few (granted, large) corporate frauds led to a media frenzy and the quick passage of the Sarbanes-Oxley Act of 2002 (SOX). Since that time, academic research has documented both costs and benefits of implementing SOX and after ten years, it is still not clear that SOX has had a net benefit to firms or that SOX was beneficial overall (Engel, Hayes, and Wang 2007; Leuz 2007; Zhang 2007; Ghosh and Pawlewicz 2009; Huang, Raghunandan, and Rama 2009; Vakkur, McAfee, and Kipperman 2010). Research has also indicated that some of the provisions may be misdirected in that they were solving problems that did not exist: for example, improving financial reporting quality by eliminating non-audit services performed by auditors (Gul, Jaggi, and Krishnan 2007; Srinidhi and Gul 2007; Callaghan, Parkash, and Singhal 2009; Ghosh, Kallapur, and Moon 2009). As a result, this quick legislation, perhaps prompted by a moral panic, has costly effects on innocent bystanders, wastes resources, and fails to solve the real problem (i.e., ethically challenged executives who misrepresent their companies’ financial positions and operating results).

Or take the financial crisis of 2007/08 which led to the Dodd-Frank Act as another potential example of an accounting-related moral panic. Brookings Institution economists Elliot and Baily (2009, 1) note that, “Major crises, such as the recent financial crisis, usually end up being understood by the public in terms of some simple narrative, which then heavily influences the choices politicians make. We believe there are three major story lines still vying for acceptance by the public and that whichever one comes to dominate could strongly affect public policy.

Narrative 1: It was the fault of the government, which encouraged a massive housing bubble and mishandled the ensuing crisis.

Narrative 2: It was Wall Street's fault, stemming from greed, arrogance, stupidity, and misaligned incentives, especially in compensation structures.

Narrative 3: 'Everyone' was at fault: Wall Street, the government, and our wider society. People in all types of institutions and as individuals became blasé about risk-taking and leverage, creating a bubble across a wide range of investments and countries."

Elliot and Bailly (2009, 1) went on to say that: "The authors believe that narrative 3 comes closest to the truth and that it matters whether that story line becomes accepted by the public. In our judgment, a well-designed program of regulatory reforms would fix the wide-spread problems in both the markets and in government regulation, or at least greatly improve the problems in both areas. In contrast, public acceptance of narrative 1 would lead to too little regulatory change or change of the wrong kind, while narrative 2 would likely encourage a stifling of markets without fixing the problems inherent in our regulatory structure. Our preferred narrative encourages a balanced and comprehensive set of changes."

Fast forward and consider what the White House web site has to say about the Dodd-Frank Act that was passed in 2010 in an attempt to prevent the recurrence of events that caused the 2008 financial crisis.

WALL STREET REFORM: THE DODD-FRANK ACT

In the fall of 2008, a financial crisis of a scale and severity not seen in generations left millions of Americans unemployed and resulted in trillions in lost wealth. Our broken financial regulatory system was a principal cause of that crisis. It was fragmented, antiquated, and allowed large parts of the financial system to operate with little or no oversight. And it allowed some irresponsible lenders to use hidden fees and fine print to take advantage of consumers.

To make sure that a crisis like this never happens again, President Obama signed the Dodd-Frank Wall Street Reform and Consumer Protection Act into law. The most far reaching Wall Street reform in history, Dodd-Frank will prevent the excessive risk-taking that led to the financial crisis. The law also provides common-sense protections for American families, creating new consumer watchdog to prevent mortgage companies and pay-day lenders from exploiting consumers. These new rules will build a safer, more stable financial system—one that provides a robust foundation for lasting economic growth and job creation.

So apparently, Bailly and Elliot's narrative 2 carried the day—at least with Congress and President Obama. Might a moral panic with Wall St. in the role of "folk devil" have been responsible for this outcome—which, if Elliot and Bailly are correct, appears to be misdirected?

In this age of instant communication and 24/7 (news) media, one does not have to look far to find incidents that to varying degrees might qualify as moral panics. Our objective in this paper has been to introduce the concept of a moral panic, widely applied in the sociology literature, to the accounting literature. We used the Millennials hype to illustrate how moral panics develop, as no accounting researcher, educator, or practitioner could have missed the voluminous non-academic literature instructing us on who the Millennials are and what we should do about them in our classrooms (and workplaces). We believe the concept of a moral panic is important to accounting researchers and educators because beyond just this one example of a (possible) moral panic are other events of interest to accountants that may, in fact, be labeled moral panics (e.g., corporate fraud and SOX, the financial crisis and Dodd-Frank). It is as true for accounting as for other disciplines that if a "media event" is actually a moral panic then we must be careful because the sociology literature has repeatedly indicated that where a moral panic exists, resources and efforts are often misdirected and even wasted fighting a nonexistent demon or a threat that is blown out of proportion.

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THE RELATIONSHIP BETWEEN AGGRESSIVE CORPORATE INCENTIVES AND FINANCIAL STATEMENT FRAUD

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ABSTRACT

Financial Statement Fraud is one of the biggest concerns for the auditors. I will mention Enron scandal to illustrate the magnitude of loss that causes to the investors, employees and other stakeholders of the company. It is everyone's hope that the world will not experience another Enron or another WorldCom. In response to the aforementioned accounting scandals The Sarbanes–Oxley Act of 2002 (Pub.L. 107–204, 116 Stat. 745, enacted July 30, 2002), also known as the "Public Company Accounting Reform and Investor Protection Act" (in the Senate) and "Corporate and Auditing Accountability and Responsibility Act" (in the House) and more commonly called Sarbanes–Oxley, Sarbox was passed and the purpose of this Act is to protect investors and regulate Public Accounting Firms.

INTRODUCTION

According to the GAAS Update Service, Volume 15, Issue 7 AU-C Section 240, *Consideration of Fraud in a Financial Statement Audit*, addresses the auditor's responsibilities related to fraud in a financial statement audit. Fraud is a broad legal concept. The distinguishing characteristic of fraud, which sets it apart from error, is that fraud is always intentional. AU-C Section 240 defines fraud in a financial statement context as: An intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception that results in a misstatement in financial statements that are the subject of an audit. Auditors are primarily concerned with fraud that materially misstates the financial statements.

Classical fraud theory has long explained the reasons that a single individual becomes involved in financial statement (or any type of) fraud. This theory suggests that there are three primary perceptions or cognitions that influence individuals' choices to engage in fraud. These three factors are often represented as a triangle and consist of perceived pressure, perceived opportunity, and rationalization (Sutherland 1949; Cressey 1953; Albrecht et al. 1981). This paper will explain in depth Financial Statement Fraud elements and particularly the relationship between fraud and aggressive incentives for higher executives. The paper will also explain the role of internal controls to prevent this type of fraud and how effective these controls are when higher management is motivated to commit fraud.

FINANCIAL STATEMENT FRAUD

The financial scandals of recent years have caused an increased interest from the academic and research community to study fraud and in particular financial statement fraud. Scandals at Enron, Tyco, WorldCom and other companies have created a loss of the confidence from the investors on the businesses. Our profession enjoys a sacred public trust and for more than one hundred years has served the public interest. Yet, in a short period of time, the stain from Enron's collapse has eroded our most important asset: Public Confidence. (Castellano and Melancon 2002, p. 1)

United States is not the only country that has experienced major financial and accounting scandals. Organizations in Asia, Europe and other parts of the world have been involved in accounting scandals. Notable cases include Parmalat (Italy), Harris Scarfe and HIH (Australia), SK Global (Korea), YGX (China), Livedoor Co. (Japan), Royal Ahold (Netherlands), Vivendi (France), and Satyam (India). The business community worldwide has experienced a syndrome of ethical breakdowns, including extremely costly financial statement frauds (Albrecht et al., 2014). Classical fraud theory has long explained the reasons that a single individual becomes involved in financial statement (or any type of) fraud. This theory suggests that there are three primary perceptions or cognitions that influence individuals' choices to engage in fraud. These three factors are often represented as a triangle and consist of perceived pressure, perceived opportunity, and rationalization (Albrecht et al. 2014, Sutherland 1949; Cressey 1953; Albrecht et al. 1981).

According to (Albrecht et al. 2014) The first element in the fraud triangle is that of pressure or motivation. Motivation refers to the forces within or external to a person that affect his or her direction, intensity, and persistence of behavior (Pinder 1998). At a very basic level, motivation starts with the desire to fulfill fundamental needs, such as food, shelter, recognition, financial means, etc. These desires lead to behaviors that the individual believes will result in the fulfillment of such needs. In financial statement fraud, the motivation or pressure experienced by the initial perpetrator is often related to the potential negative outcomes of reporting the firm's true financial

performance. Financial statements are used by shareholders to measure the performance of the firm versus expectations. The results have a significant influence on the company's stock price. Executives' job security and financial compensation are often dependent on maintaining strong financial performance and rising stock prices. Thus, top managers feel tremendous pressure to meet or exceed investors' expectations and may even consider using fraudulent means to do so.

The second element of the fraud triangle is that of opportunity. Perpetrators need to perceive that there is a realistic opportunity to commit the fraud without facing grave consequences. Opportunity is largely about perceiving that there is a method for perpetrating the fraud that is undetectable. A person that perceives a reasonable opportunity for fraud typically senses that he or she will not get caught, or it would be unlikely that any wrongdoing could be proven. If an individual perceives such an opportunity, he or she is much more likely to consider the possibility of initiating unethical actions. Of course, shareholders or boards of directors strive to reduce the perception of opportunity by implementing systems and controls (e.g., auditing procedures) that make it more difficult to perpetuate a fraud. However, some people, particularly executives with considerable authority, may suppose that they can manipulate and control their environment in a way that will reduce the likelihood of detection (Albercht et al. 2014).

Rationalization is the third element of the triangle. Most people are basically honest and have intentions to be ethical. Thus, even the consideration of committing fraudulent acts results in significant cognitive dissonance and negative affect (Aronson 1992; Festinger 1957). In order to overcome such dissonance, fraud perpetrators generally try to find a way to reconcile their unethical cognitions with their core values. As a result, they seek out excuses for their thoughts, intentions, and behaviors through logical justification so that they may convince themselves that they are not violating their moral standards (Tsang 2002). Typical excuses for financial statement fraud may include, "This is our only option," "Everybody is doing it," "It will only be short-term," or "It is in the best interest of the company, shareholders, or employees." Such rationalizations aim to reduce the perception of unethicality or to shift the balance of the equation to a more utilitarian "it may not be ideal, but it is for the greater good." (Albercht et al. 2014).

Analyzing the fraud triangle one of the most important elements that leads to fraud is motivation. There is a question that has been posed by academics and policy making agencies. The question is "Are aggressive incentive compensations a motivation for corporate management to commit fraud?"

RESEARCH SUPPORTING THE RELATIONSHIP BETWEEN AGGRESSIVE CORPORATE INCENTIVES AND FINANCIAL STATEMENT FRAUD

Equity-based compensation, primarily in the form of executive stock options, has become increasingly common among U.S. top executives in recent years. Using data derived from Hall and Liebman (1998) and Hall and Murphy (2002), Hall (2003) reports that, in 1984, fewer than half of the CEOs of publicly traded U.S. corporations were granted stock or stock options in a given year and equity-based compensation comprised less than 1% of total CEO pay for the median company. By 2001, equity-based compensation accounted for approximately two-thirds of total pay for the median firm. Furthermore, data reported in Murphy (1999) and Core and Guay (2002) indicate that, by the late 1990s, changes in the value of executive stock and stock options were as much as fifty times as large as annual changes in cash compensation (Denis et al. 2005).

The growth in the use of stock options in executive compensation has become increasingly controversial in recent years. Proponents argue that, because options link the compensation of CEOs with changes in shareholder wealth, options increase shareholder wealth by reducing agency problems. Detractors argue, however, that (i) the convexity of options gives managers the incentive to take excessive risk; (ii) the usefulness of stock options as incentive devices is mitigated by their limited downside risk and the tendency of companies to "reprice" underwater options; and (iii) they give managers the incentive to fraudulently manipulate the company's stock price in order to enhance the value of the options. (Denis et al. 2005).

Denis et al. 2005 conducted a research of over 358 companies in which there was an allegation of fraud and they could get data for the compensation. They find that CEOs of fraud firms have greater option-based compensation than their control firms, where option-based compensation is measured by the option intensity measure described above. In logistic regressions, the likelihood of fraud is positively related to option intensity. They interpret their findings as being consistent with the view that there is a dark side to incentive

compensation. That is, because increases in equity-based compensation increase the incentive for CEOs to maximize the company's stock price, the CEO has greater incentive to engage in fraudulent activities in order to accomplish this objective, however they caution that their findings should not be interpreted as an overall indictment of the use of equity incentives in executive compensation plans. There is a substantial body of research that supports the view that equity-based compensation provides top executives with financial incentives to increase the intrinsic value of their firm's shares. Their findings imply that these benefits of equity-based compensation must be balanced against the potential costs of increasing the incentive to commit fraud.

There are other recent studies that examine the incentive to misstate or misrepresent corporate earnings. Beneish (1999) studies 64 firms that are the targets of SEC enforcement actions. He finds that, relative to a control sample, CEOs of firms that overstate earnings are more likely to redeem stock appreciation rights during the period in which earnings are overstated. Johnson et al. (2003) examine a sample of 43 cases of corporate fraud. They find that fraud firms have significantly greater equity-based compensation than do executives at industry and size- matched control firms. Peng and Roell (2003) also find a significant association between options pay and the likelihood of litigation. However, their focus is on the link between option incentives and discretionary accruals. Finally, Burns and Kedia (in press) examine the association between accounting restatements and components of the chief executive's compensation package. Their focus is on the differences in the incentive to misstate earnings between options and other components of the compensation package, such as salary and bonus, long-term incentive plans, restricted stock, and equity ownership.

RESEARCH NOT SUPPORTING THE RELATIONSHIP BETWEEN AGGRESSIVE CORPORATE INCENTIVES AND FINANCIAL STATEMENT FRAUD

Based on what I have presented on this paper so far it is clear that there is a relationship between aggressive executive incentives and financial statement fraud, however there are other studies that find that there is not enough evidence to prove that this relationship exists.

Erickson et.al 2005 used a sample of 50 firms accused of accounting fraud by the SEC during this period (hereafter, the "fraud firms" or "fraud sample"). They compare the fraud firms with two samples of firms not accused of fraud. First, they compare the fraud firms with a matched sample of firms (hereafter, the "matched sample") in which they select two matched firms not accused of fraud, based on size, year, and industry, for each fraud firm. Second, they compare the fraud firms with an unmatched sample of firms consisting of all remaining firm-years (meaning all firm-years other than those of the 50 fraud firms) on ExecuComp (hereafter, the "unmatched sample").

They estimate a variety of equity incentive measures for the top five executives at each firm, focusing specifically on the expected change in value of the executives' stock and option portfolio to a 1% stock price change (hereafter, "sensitivity"). In univariate and multivariate analyses for the matched sample, they find no significant association between fraud and the "sensitivity" of equity holdings. In the unmatched sample, using logistic regression, they find significant associations between fraud and sensitivity when we include no control variables in the regression. However, these associations become insignificant when we include controls for corporate governance, the desire for external financing, financial performance, and firm size.

In additional analyses, they examine whether there is evidence that executives at firms accused of fraud systematically sell stock and exercise options during the period of the alleged fraud to a greater extent than executives in the matched and unmatched samples of control firms. We do not find significantly greater stock sales or option exercises by executives at fraud firms compared to nonfraud firms, regardless of whether the comparison is based on the matched sample or the unmatched sample.

There are other publications that have researched the relationship between compensation and financial statement fraud. Kedia (2003), Cheng and Warfield (2005), Ke (2002), and Gao and Shrieves (2002) examine the relation between compensation and earnings management measures (e.g., discretionary accruals, earnings that just meet or beat analysts' forecasts, small positive earnings announcements, etc.). Richardson, Tuna, and Wu [2003] and Efendi, Srivastav, and Swanson [2004] examine the relation between compensation and restatements, and Denis, Hanouna, and Sarin (2005) examine the relation between compensation and class action lawsuits.

Dechow, Sloan, and Sweeney (1996) examine the causes and consequences of firms subject to SEC enforcement actions

during the years 1982–1992. They find that firms subject to enforcement actions are more likely to have boards of directors dominated by management, a CEO who is also Chairman of the Board, a CEO who is also the firm's founder, no audit committee, and no outside blockholder. While not the focus of their study, Dechow, Sloan, and Sweeney (1996) find no significant evidence that sample firms had earnings-based bonus plans or that officers and directors made unusual amounts of stock sales during the manipulation period. Since the end of the sample of Dechow, Sloan, and Sweeney (1996) in 1992, stock-based compensation has come to dwarf earnings-based bonuses as a form of incentive compensation. We extend the work of Dechow, Sloan, and Sweeney (1996) by examining the effects of stock-based incentives (e.g., the sensitivity of stock options and stock held) on the propensity of executives to engage in alleged fraud. Beneish (1999) finds that managers of firms subject to AAERs are more likely to sell their own stock during periods in which the earnings management is taking place than are managers of control firms. In contrast to Dechow, Sloan, and Sweeney (1996), Beneish (1999) does not find evidence that managers are motivated to inflate earnings in advance of an equity issuance by the firm.

Recently, a number of working papers analyzing accounting fraud and executive compensation have appeared. Johnson, Ryan, and Tian (2005) find that executives of firms accused of fraud have greater unrestricted stock incentives to increase stock price than do executives of firms not accused of fraud. However, at the same time, and consistent with our results, they report that the fraud firms do not have greater incentives from vested stock options, unvested stock options, or restricted stock. Peng and Roell (2003) find that incentive pay in the form of options (but not restricted stock or base pay) increases the probability of private securities litigation. While we can also find a relation between equity incentives and alleged fraud under certain specifications, we find that the results are not robust to alternative specifications and inclusion of control variables. Thus, we conclude that there is no consistent evidence of a link between executive equity incentives and accounting fraud. Erickson et.al (2005)

EXPERTISE OF THE AUDITORS

The research seems to be inconclusive on whether a relationship exists between the aggressive incentive compensation and the financial statement fraud. Discovering financial statement fraud either because of the aggressive equity incentives or lack of internal controls is ultimately the auditor's job.

Jayaraman, Milbourn 2014 did a study that researched the effectiveness of the auditor's industry expertise as a mitigating factor to uncover financial statement misappropriation and fraud.

Jayaraman, Milbourn (2014) argue that incorporating it in a CEO contracting-financial misreporting framework is likely to shed light on the preceding inconsistent findings. Following the auditing literature, we use auditor industry expertise to capture the effectiveness of auditing and examine how it affects the association between CEO equity incentives and financial misreporting. First, we replicate the positive association between CEO equity incentives, defined as delta, the sensitivity of the CEO's equity portfolio to the stock price, and the likelihood of misreporting, based on the comprehensive set of class action lawsuits identified by Dyck, Morse, and Zingales (2010).

Second, they condition their sample on whether the auditor is an industry expert and find that the positive association between misreporting and CEO incentives is concentrated in the subsample of non-industry-expert auditors. They are unable to detect any association between misreporting and CEO equity incentives in the subsample of auditors that are industry experts. Further, they uncover these results in both univariate, as well as multivariate tests, indicating that our inferences do not reflect selective inclusion or exclusion of control variables Jayaraman, Milbourn (2014)

Third, they verify that their inferences are robust to using the propensity score-based matching design suggested by Armstrong et al. (2010). They argue that using a propensity score design that achieves maximum variation in the variable of interest, while minimizing variation in the control variables, is a superior econometric approach to matching on the outcome variable. They concur and replicate their results by using the propensity score matching technique and confirm that there is no statistical association between the frequency of misreporting and CEO equity incentives in the full sample. However, when we split the sample based on auditor expertise, we again find that CEO equity incentives are associated with a higher frequency of misreporting—but only in the subsample of non-expert auditors. In the high auditor expertise subsample, they find that CEO incentives correlate with a *lower* frequency of misreporting. Overall, our results are robust to using alternative empirical methodologies and provide an economic rationale for the prior inconsistent

evidence between CEO equity incentives and financial misreporting.

An implication that emerges from the above tests is that effective auditing reduces the costs of granting equity-based incentives by deterring managers from manipulating financial statements. If that is true, then optimal contracting theories predict that these firms should grant more equity-based incentives to their CEOs. For example, Goldman and Sleazak (2006) examine how the potential for misreporting influences managerial equity-based incentives. They argue that while more equity incentives induce better strategic decisions and greater effort, they also encourage the manager to misreport performance to artificially inflate the stock price, especially if the misreporting is unlikely to be detected. Their model predicts that CEOs will be granted more equity incentives when misreporting is more likely to be detected. Our framework allows us to test this prediction. Jayaraman, Milbourn (2014)

They find strong evidence in favor of this optimal contracting story. Controlling for previously identified determinants of CEO incentives, firms audited by an industry expert grant their CEOs an average of 14 percent more equity incentives than those audited by a non-expert. These results are robust to additional sensitivity tests such as restricting the sample to Big 5 auditees, using alternative measures of both auditor expertise and equity-based incentives, and to including the top five executives rather than only the CEO. To further validate our inferences, we exploit variation across industries in the extent to which earnings matter for determining the stock price, and find that auditor expertise is positively associated with CEO incentives only in industries where earnings matter for stock price informativeness. Overall, these results are consistent with optimal contracting theories where equity-based incentives are, at least in part, granted by trading off the benefits of effort with the costs of financial misreporting.

Their study shows that detection mechanisms such as auditor expertise mitigate the effect of equity incentives on misreporting by limiting the ability of managers to misreport financial statements. Second, their evidence documents an important role for financial statement verification in the way managers are incentivized. While the economic consequences of auditing have focused on improvements to the information environment (Ball, Jayaraman, and Shivakumar 2012) and a lower cost of capital (Anderson, Mansi, and Reeb 2004; Pittman and Fortin 2004), their study broadens the role of auditing in the efficient functioning of firms. The link between auditor expertise and managerial incentives is an important one because CEO incentives have wide implications for managerial risk-taking (Coles, Daniel, and Naveen 2006) and the efficient functioning of corporate governance structures (Admati and Pfleiderer 2009; Edmans 2009; Bharath, Jayaraman, and Nagar 2013). Jayaraman, Milbourn (2014)

Several studies have examined the association between misreporting and CEO incentives. While this literature is burgeoning, the overall evidence is inconclusive. Armstrong et al. (2010) point out that the above view implicitly ignores the effect of actions by monitors in curbing the misreporting. Thus, even if one were to entertain the possibility that CEO incentives encourage misreporting, one would not necessarily observe a positive association *ex post* if there are mechanisms in place that would detect the misreporting. We argue that one reason for the mixed evidence owes to the lack of conditioning on these detection mechanisms that arguably mitigate the positive association between CEO equity incentives and misreporting. We follow the auditing literature and posit that auditor expertise is one such mechanism. Support for this claim comes from prior studies that provide evidence of the link between auditor industry expertise and the detection of misreporting.

Craswell, Francis, and Taylor (1995) and DeFond, Francis, and Wong (2000) find that industry specialists charge a higher price for audits, indicating that they produce higher-quality audits. Solomon, Shields, and Whittington (1999) find that auditors that are industry experts are more likely to detect financial reporting misstatements that are intentional and, hence, more egregious. Gunny, Krishnan, and Zhang (2007) find that auditors with industry expertise are less likely to be found deficient or severely deficient by the PCAOB (Public Company Accounting Oversight Board). Finally, Balsam, Krishnan, and Yang (2003) and Krishnan (2003) document that abnormal accruals are smaller for companies audited by industry experts, and Reichelt and Wang (2010) show that auditor industry expertise is associated with smaller income-increasing and income-decreasing abnormal accruals and a lower likelihood of meeting or beating analysts' earnings forecasts by one penny per share.

In conclusion, although the research on the relationship between aggressive incentives and financial statement

fraud is inconclusive at this point, the auditor's expertise is a mitigating factor to uncover financial statement fraud caused by aggressive incentives or other internal and external factors.

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HIGHLY IMPACTED: FOSTERING RETENTION AND STUDENT SUCCESS IN UNDERGRADUATE BUSINESS PROGRAMS

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ABSTRACT

As budgets tighten and applicant pools dwindle for colleges and universities, competition to attract students has heightened. How will the institution or business program hit its enrollment and hence, its budget targets? This question has become a growing concern, especially in the last five years; however, strategies leading to quality educational experiences also serve as key factors in improving the budgetary outlook for tuition-driven schools by retaining students and leading to student success. This article draws heavily on the recent decade of Kuh's student success research and publications to provide a framework for delivering a four-year business program in which students will persist at higher rates and reap the benefits of a value-added educational program that exhibits the five features discovered through the DEEP Project and integrates high-impact practices.

INTRODUCTION

As budgets tighten and the applicant pools dwindle for colleges and universities, competition to attract students has heightened. How will the institution or business program hit its enrollment and hence, its budget targets? This question has become a growing concern. Yes, being creative and addressing the needs of the target market for educational services is paramount, but just as important is the means by which the curriculum is developed and delivered to help students learn and reach graduation. Similar to business, where it's cheaper to retain an employee or customer than to replace one, student retention has grown in importance. While colleges and universities take pride and tout their quality curriculum, faculty, and facilities, successful strategies used to deliver a quality education have been proven to increase such indicators as graduation and retention rates as well. These strategies not only lead to quality education, but are key factors in improving the budgetary outlook for those tuition-driven schools by retaining students and leading to student success. Many, many studies have been done on what influences retention and student success with seminal works by Tinto (1987/1993), Astin (1984, 1993), Chickering and Gamson (1987), and Kuh, Kinzie, Schuh, and Associates (2005) as examples. This article draws heavily on the recent decade of Kuh's student success research and publications to provide a framework for delivering a four-year business program in which students persist at higher rates and reap the benefits of a value-added educational program that exhibits the five features discovered through the DEEP Project and integrates high-impact practices.

BACKGROUND

George Kuh (2005, 2008, 2013), a prolific researcher and writer on student success, continues to espouse the importance of student engagement situated in colleges that have the following five features:

- A living mission and lived educational philosophy
- An unshakeable focus on student learning
- Environments adapted for educational enrichment
- Clearly marked pathways to student success
- An improvement oriented ethos and shared responsibility for educational quality and student success (p.24).

These attributes were exhibited by strong-performing schools in the Documenting Effective Educational Practice (DEEP) project, a study done collaboratively by the National Survey of Student Engagement (NSSE) and the American Association for Higher Education (AAHE) (<http://nsse.indiana.edu/html/DEEPOverview.cfm>). Project DEEP included significant study of 20 schools' educationally effective practices and their NSSE results to help identify what Kuh and his colleagues call high-impact practices. Kuh's (2008) high-impact practices include first year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity/global learning, service learning/community-based learning, internships, and capstone courses. In addition to several books including *Student Success in College: Creating Conditions that Matter*, this research has produced several DEEP Practice Briefs that help institutions understand how key stakeholders, like faculty, department chairs, and campus leaders can play a role in spearheading or supporting initiatives that characterize a DEEPly successful program and ultimately, university by exhibiting the five features which integrate high-impact practices.

In any organization, success involves a coordinated effort of many individuals that permeates different organizational units and initiatives, but most importantly begins at the top with campus leaders (Kuh, 2005). Leadership must assure not only that the mission and vision emphasize student success, but that clear means exist by which to put these strategic statements into action. Kuh et al. (2005) indicates that student success will be supported with intentional curricular and co-curricular activities focused on student engagement; accountability through a designated leader, solid plan, and success measures; and processes, programs, and policies that promote implementation and continuous improvement. In order to truly exhibit the five features, institutions' mission and strategic actions must lead toward a focus on student learning, educationally-enriched environments, continuous improvement, and pathways that clearly acclimate students and delineate expectations.

At the academic department level, department chairs and faculty serve an obvious and important role. Schuh & Kuh (2005) suggest that department chairs must promote an environment that "subscribes to the proposition that every student can learn under the right conditions...and should remind faculty to meet students where they are" (p.2). Chairs can bring focus to student learning and educational enrichment through their support, encouragement, and participation in program activities that engage students. Chairs should encourage faculty to use active and collaborative learning, provide feedback, initiate frequent contact with advisees, create opportunities for informal interaction, organize learning communities, and support student leadership initiatives and peer teaching. Kinzie (2005) points out that senior faculty will complement the chairs efforts by teaching in lower-division courses and using pedagogies that involve active and applied learning strategies. Harkening back to Chickering and Gamson's (1987) Seven Principles for Good Practice in Undergraduate Education, the DEEP Practice Briefs still espouse that frequent contact between faculty and students, active learning, prompt and meaningful feedback, time on task, high expectations, and addressing diverse learning styles lead to educational excellence. In essence, many of the reasons cited by Kuh and colleagues for the success of high-impact practices are grounded in Chickering and Gamson's seven principles suggesting that a comprehensive approach to program development should include a careful integration of the high-impact practices with the seven principles. This integration not only includes what faculty do as instructors, but also as advisors. Faculty should initiate frequent interaction, including face-to-face and email conversations, and encourage students to participate in appropriate curricular and co-/extra-curricular activities by advising and mentoring students (De Sousa, 2005). The degree to which chairs and faculty embrace these practices and principles will influence the quality of the educational experience and outcomes.

Kuh et al. (2005) also suggest that department chairs and faculty consider ways to clarify expectations as well as seek location-based advantages. Clarifying expectations through such programs as orientation, first-year experience, early warning systems, advising, and program performance standards will help guide students and oftentimes increase their effort to meet expectations. In terms of leveraging location, programs can enhance experiences by looking for ways use local resources. Whether it is taking advantage of the natural resources, gathering spaces for student-student and student-faculty interaction, or leveraging community connections to find course embedded projects and internships, programs should seek out those opportunities to connect location to enhance the educational experience.

While certainly not new ideas, these practices continue to generate positive outcomes and should be woven into the strategic planning efforts of business programs or colleges in alignment with the institution's mission, vision, and initiatives. More nuanced research and practice continue regarding the influence of high-impact practices on student development, retention rates and graduation rates (Kuh, 2008, 2013; Brownell & Swaner, 2009, n.d.; Fink, 2016, 2013; Kilgo, Sheets, & Pascarella, 2015). Some research points to the varying degrees of which each high-impact practice may positively influence outcomes suggesting that active learning and undergraduate research produce significantly more positive outcomes than other practices; however, findings still advocate for the use of all of these practices (Kilgo, Sheets, & Pascarella, 2015).

UNDERGRADUATE, HIGH-IMPACT EXPERIENCE

With decades of research upon which to draw, the academic leaders at a small public institution have embraced all of these ideas by advocating that programs integrate high-impact practices to help achieve the institutions' mission of engaging students in real-world experiences, co-curricular activities, close personal interactions with faculty, and experiences that will challenge them. With the support of the academic leaders and support services, the Business Program (the Program) has developed a four-year academic plan that provides intentional curricular and co-curricular experiences throughout the entire undergraduate experience that address all of the high-impact practices; in essence,

they have developed a clear pathway to success with a robust orientation and first-year activities, clearly defined learning outcomes, course sequencing, curricular activities, and professional skills development planned in each of the four years for a typical undergraduate. This plan integrates the high-impact practices with good principles and brings a focus to student learning through pedagogy and advising processes.

Like Kuh suggests, the Program requires an orientation (both during the summer and the weekend before classes) which lays out expectations for college, the major, and the profession. As suggested by the DEEP Practice Briefs (Kinzie, 2005), the orientations give an opportunity for freshmen to interact with both faculty and upperclassmen in the major. In addition to the social aspect for freshmen, orientation provides opportunities for more senior students to assume a leadership role in the delivery of the orientation by co-facilitating the session, sharing their viewpoints, and answering student questions. Schuh and Kuh (2005) recommend providing opportunities for students to peer tutor and instruct. While the topics here are focused more on navigating college and the major really than research topics in the field, these student leaders are still mentoring the new freshmen.

Orientation is complemented by a first-year seminar course that is embedded in a learning community; thereby integrating two high-impact practices for first-year students. These initiatives receive significant support and attention at the University level in terms of requiring all programs to offer a one-to-three-credit freshmen seminar, establishing specific learning objectives for all freshmen seminar courses, and helping programs coordinate the learning communities with administrative support from a faculty coordinator and enrollment management staff. The freshmen seminar also marks the pathway to success with learning activities that help introduce students to college and the major. For example, the course will discuss registration and advising close to the time at which freshmen must engage in the process, and provides realistic expectations for career pathways in the profession.

A few weeks into the semester, the Program sponsors a student social for freshmen students. The social includes opportunities to mingle with faculty and upperclassmen, and usually includes a couple recent graduates who give brief remarks about success in and after college. The social has also traditionally been the event at which first-year students were paired with a junior/senior student mentor. Later in the fall and spring, the Program sponsors other events with successful business persons or alumni which include an opportunity to socialize afterwards.

While the freshmen year includes many opportunities to acclimate students and participate in curricular and co-curricular activities, the Program realized the sophomore year offered very little to students by way of social interaction and targeted co-curricular activities. As a result, the Programs initiated a young alumni panel which brought in recent, yet successful graduates who served as panelists and then mingled with students during the social time. Attendance at this event became a requirement of the major courses that are taken in the sophomore year.

The junior and senior years are ripe with opportunities to participate in high-impact practices, often experiencing more than one practice at a time. The Program offers opportunities for students to work on multiple collaborative projects some of which include undergraduate research, global learning, and community-based learning. For undergraduate research, several courses include research opportunities for which the results are presented at the day-long Celebration of Scholarship either as a poster or traditional presentation to members of the campus community. Collaborative, global learning has been embedded in two courses. One course included collaborative student work at each home site that was presented to an international partner via ITV technologies. The other course included an online component that grouped students from the home and partner site together to conduct research and jointly develop a paper summarizing that research. Furthermore, collaborative learning has been used in numerous community-based, course-embedded projects whereby students serve business needs and often solve real-world problems through projects in our management and marketing courses.

Junior and senior students also complete writing intensive courses, internships, and experiential learning hours with a business, but senior students have more targeted opportunities to participate in high-impact practices. Such activities as a networking event with regional business leaders, significant research and writing assignments, and various collaborative projects are embedded in the Senior Capstone Course. These students are afforded numerous opportunities to interact with successful professionals in the field and to hold leadership roles such as facilitating a panel discussion or organizing a program-sponsored fundraiser for a local organization.

With an eye towards continuous improvement, upperclassmen can be representatives on the Business Advisory Board, serve on committees, fill volunteer roles for initiatives like creating a Program newsletter and speaking at open house, or give input through the Student Advisory Board. These roles provide many students with opportunities to interact with peers, faculty, staff, administration, and business professionals, and provide feedback. The Program also pursues continuous improvement through its monthly meetings, but more so through its summer retreat when assessment data are reviewed, and plans/actions to improve student learning outcomes and Program outcomes are developed.

RESULTS AND CONCLUSION

Although planning and continuous improvement efforts have taken place for many years, a much different approach was needed most recently. Eight to 10 years ago, enrollments were robust and much less attention was paid to being student centered, discovering various ways to help students learn, and retaining students. After hitting peak enrollment in 2008, the Programs' headcount declined by 20 percent in three years. As the enrollment crunch became evident, much more attention was paid to identifying practices that would recruit and retain students. While enrollment was high in 2008, the second-year retention rates hovered around 50 percent. Even though the Program already included many high-impact practices for upperclassmen, neither the planning and improvement efforts nor the high-impact experiences focused on the first- and second-year students which seemed to bear out in the retention rates.

While the demographics have been challenging and more underprepared students attend the university, our Program's retention rates have steadily increased and enrollment stabilized outpacing projected enrollment targets. With the support of administration, the high-impact practices seem to be producing outcomes, as proclaimed by Kuh and compadres. The fall 2014 second-year retention rates for business reached 66 percent, a marked improvement over the fall 2008 rate.

However, high-impact practices only address part of the reasons why students do not persist. Regardless of how well planned the academic and educational activities are, the Program cannot overcome the looming financial issues students face to pay for college and personal issues that accompany today's student. While the student-centered learning, high-impact practices, and good principles can help improve retention and graduation rates, other factors like finances must also be addressed to influence even further the enrollment, retention, and graduation figures.

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STATS: WHAT DO STUDENTS NEED TO SUCCEED?

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ABSTRACT

After twenty years of teaching basic undergraduate business statistics, more students seem to be unsuccessful in their initial attempts at this core business course. This researcher observed increasing failure rates in this course, and discussions with other business statistics instructors in the same school indicate similar conclusions. The purpose of this research is to determine if other business schools are experiencing similar problems and, if so, investigate current literature to determine the causes of the problem and their recommended or implemented solutions. Students attempting basic business statistics should have a solid mathematics foundation based on common prerequisites of college-level algebra and calculus. Even if students' skills in these areas are minimal, most mathematical business statistics formulae are less complicated than those covered in a calculus course, and basic business calculators can solve the more complex formulae. Further, use of Excel, typically included in prerequisite MIS courses, should facilitate success of students. The use of findings from this research may enable instructors to improve students' success rates.

INTRODUCTION

According to the University of Alabama more than 380,000 students fail out of college (Pritcher, 2016). The school's Educational Development center lists 10 primary causes of failure, including poor high school preparation and failure to assume responsibility (Pritcher, 2016). Cherif, Adams, Movahedzadeh, Martyn, and Dunning (2014) similarly concluded that "too many students come to college without necessary preparation" (p.8). The authors also concluded that one of the academic skills missing in many students is critical thinking. Jaschik (2011) reported on actions taken in 2009 by one Pittsburgh, PA area community college to successfully reduce the 50% to 64% failure rate observed in 11 courses at that college.

The purpose of highlighting these acknowledgements of student failures in college courses, and possible causes for the failures, is to show that what this researcher observed in college statistics classes may not be a situation that is isolated to a school, a subject, or an instructor. Rather, the problem may be endemic, but perhaps impacting some college courses more significantly than others. In the research by Cherif, et al. (2014), one of their faculty respondents surveyed opted that K-12 education prepares students to pass standardized tests, but that education does not teach a student to think. Another respondent stated that in high school students were not pushed and, "did not develop the appetite for learning and the disciplines and skills required to succeed in an academic atmosphere" (p. 8). Therefore, when these same students move on to college, arguably, they may not have the skills required to successfully complete courses like statistics, which not only require students to solve equations, but to also determine which equations are the appropriate to a given scenario, complete a hypothesis testing methodology, calculate the results, and draw appropriate conclusions. Unlike in a high school mathematics course, statistics students must apply logic and critical thinking skills to successfully complete required coursework.

DISCUSSION OF FAILURE RATES

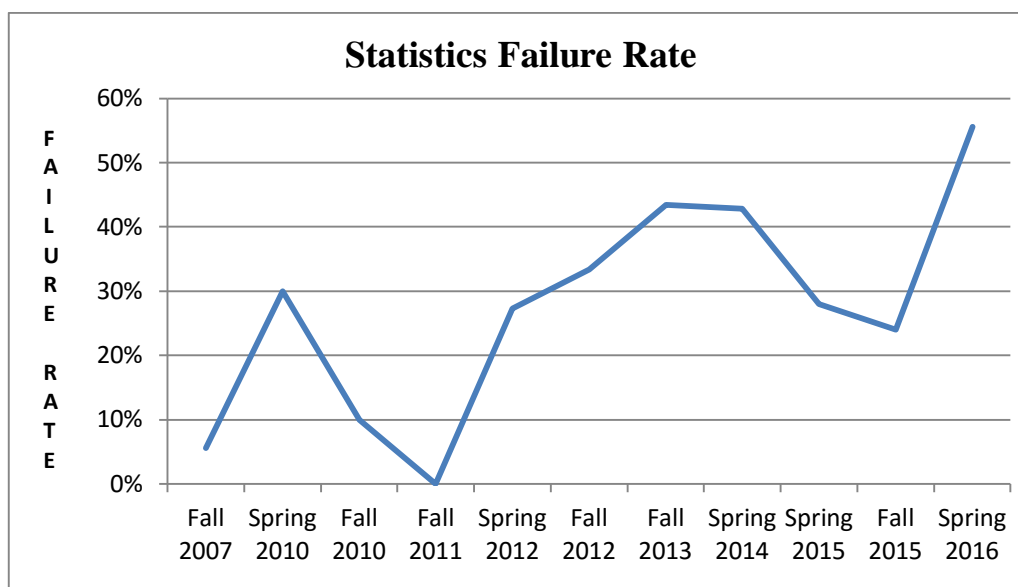
This researcher has taught college statistics courses since 1997 and between 1973 and 1976, taught statistics courses to mid-level US Air Force managers. Also, this researcher used statistical analysis techniques in the fields of maintenance analysis, management analysis, cost analysis, and budget analysis for over 20 years with the US Air Force and for another 14 years, in customer relationship management for a national retailer. Throughout these years of application and teaching, the statistical techniques have essentially remained unchanged. However, technology has significantly improved the speed and ease of calculations. In 1972, an analysis of variance F test may have taken four or more hours of work on a calculator and was prone to easily made errors in data entry and transcription. Today, the data for that same F test may be already be in an Excel spreadsheet or available for import into Excel. Then, the calculations can be completed in a few minutes by selecting the Excel data analysis options and highlighting the data. Even without a computer, a \$100 calculator can compute the statistics just as quickly, after the user spends a few minutes entering the data. Still, the mathematical part of the process is much faster and less error prone.

Therefore, technology should leave more time for an instructor to explain to the students the most important aspects of statistics – how to choose the correct technique, complete the testing procedure, interpret the results, and draw appropriate conclusions. For the students, the freedom from the tedium of pushing buttons, recording results, and checking the math should lower the anxiety over whether or not the mathematics are correct and allow them to better comprehend what the results mean.

In this researcher's most recent semester teaching business statistics, an unusually high percentage of students failed the class or did not earn a grade high enough to satisfy the prerequisite requirement for future courses in the business curriculum. In discussions with fellow instructors teaching other sections of the same course, each of them commented that they also had high failure rates. Some also commented that they felt the failure rate had been increasing for several semesters. Therefore, this researcher decided to review the failure rates of courses taught by this researcher. Available records were not complete for all the years taught by this researcher, but sufficient records were available, and surprising.

For the five available semesters between Fall 2007 and Spring 2016, the failure rate was 15.3%. For the six available semesters between Fall 2012 and Spring 2016, the failure rate increased to 35.7%, and the Spring 2016 failure rate of 55.6% was the highest for the 11 semesters examined. However, the Spring 2016 class was quite small, and an increase or decrease of just one student failure has a large impact on the failure rate. However, as Figure 1 shows, the failure rates for the most recent six semesters were consistently higher than the previous five semesters.

Figure 1



ARE STUDENTS PREPARED FOR COLLEGE?

A review of the existing literature disclosed that the phenomenon personally observed by this researcher was not limited to statistics courses nor to the researcher's institution. Rather, the literature indicated that the problem may be endemic.

Dr. Robert Pritcher at the University of Alabama stated that 380,000 students fail out of US colleges (Pritcher, 2016). Pritcher lists many reasons for failure, ranging from being poorly informed of workload, inappropriate choice of majors, and poor choice of schools, to psychological issues and failure to assume responsibility. These reasons may be beyond the capability of the school to address, at least in the short-term, but issues dealing with lack of academic preparation for and lack of skills required for college may be issues the higher education institution can remedy. In Pritcher's summary of the cause, *Lack of ability and/or poor high school preparation*, he suggests that new students may need remedial help to be successful in college.

Cherif, Adams, Movahedzadeh, Martyn, and Dunning (2014) research supports the contention that too many students come to college unprepared. Cherif et al. approached the research from the faculty member perspective, grouping the reasons for failure into three categories: student-related factors; life and socioeconomic issues; and failures in the educational institution. 38% of faculty respondents indicated that they felt the reason for student failure was *Not Ready for College*, within the student-related factors category. By far, this was the most frequent reason, being more than three times more frequent than the next highest rated reason. Faculty members elaborated on their choice of this reason, basically citing lack of high school academic preparation, reasoning skills, and poor study skills (Cherif et al., 2014).

In 2011 Scott Jaschik reported on a successful activity that Pittsburg-area community colleges undertook to improve student grades in courses with the highest failure rates. Failure rates in the top 11 courses with the highest failure rates ranged from 50% to 64% (Jaschik, 2011). Investigation into the causes for these high failure rates disclosed several somewhat administrative and non-instructional issues that were easily resolved. However, perhaps more germane to this researcher were some of the observations made during the investigation. First, although some of the issues discovered were new information to administrators, faculty teaching those classes were already aware of the issues. However, the information was not channeled up to administrators because the faculty were not previously questioned about the high failure rates. The second observation was an apparent relationship between high failure rates and low student evaluations of an instructor. However, the same instructor received high student evaluations in other courses, and other instructors teaching the same course scored higher student evaluations. This observation then led to swapping instructors and a subsequent improvement in student grades. Finally, for some courses, the investigators determined that the instructional format was inappropriate, and some courses switched from an online option to physical classroom only instruction.

Interestingly, this experience summarized by Jaschik determined the root causes of student failures to be more related to school policies and procedures, rather than inadequate student preparation for college level work. The results of corrective actions taken by this group of schools resulted in failure rates for individual courses being reduced from 57% to 29%, from 57% to 21% in another course, and from 53% to 27% in a third course (Jaschik, 2011).

STUDIES ON FAILURE IN STATISTICS EDUCATION

According to Hawkins (1990), a plenary speaker at the 1990 International Conference On Teaching Statistics (ICOTS), the UK Schools Council Project on Statistical Education stated to the Cockcroft Committee, “statistics is not just a set of techniques, it is an attitude of mind in approaching data... and ...it enables people to make decisions in the face of uncertainty” (p. 25). Hawkins postulated that statistics needs to be taught in a *practical* manner, emphasizing that *practical* is quite different from the more commonly used term, *applied*, and that many teachers lack practical experience and, thus, are unable to impart to students practical use of statistics. Hawkins further argues that the common expectation of statistics instructors that statistics students must be fluent in mathematics and calculus may actually be a negative to students’ understanding statistics because of the delay it imposes on students’ statistics education.

IMPROVING SUCCESS IN STATISTICS

In 2009 James Madison University acknowledged unacceptable failure rates in their Math 220 Elementary Statistics and Math 205 Introductory Calculus courses, and embarked on a project to reduce the failure rates in these courses. Prior to 2008, student failure rates in JMU’s MAT220 basic statistics course ranged between 24.0% and 29.2%, but by 2013, the school succeeded in reducing that failure rate to 14% (Brakke & Helpert, 2014). This dramatic turnaround resulted from four major actions taken by the school. First, the school believed that their current process of evaluating students’ preparedness to succeed in statistics was inadequate. Therefore, they designed a new student mathematics placement test that was more aligned with statistics than, previously, with calculus. Next, based on the results of this placement test, students lacking required skills to succeed in statistics were placed into a quantitative literacy course, as a prerequisite to MAT220. Then, once in the statistics course, classroom instruction was supplemented by open-source online homework. Finally, as an additional classroom supplement, statistics tutors were provided robust training to assist students seeking additional one-on-one guidance, and peer study leaders were utilized in the course.

The school took these explicit actions along with an effort to boost faculty enthusiasm and align faculty commitment to the goal of improving student success in statistics. Perhaps the most notable aspect of JMU’s approach is that it was more than just a single activity approach. Basically, the process involved identifying and working with at-risk students,

then ensuring that additional instructional resources were provided to all students.

CONCLUSION

College course failure rates are not isolated to specific disciplines or to specific schools. Similarly, the causes of high failure rates may be student-related, to include poor academic preparation and failure of students to assume responsibility, or institution-related, to include ineffective teaching techniques and inappropriate instructional format. Although the causes for excessive student failure may not be consistent across schools, the evidence shows that once the causes of the high failure rates are determined, schools can take action to improve the situation. Solutions must be tailored to address the underlying causes of excessive failure rates, rather than just the symptoms. Listening to those closest to the issue, the students and their instructors, may provide insights that to them were obvious, but insights that were not elevated to those in positions to properly address the problem.

Specific to statistics courses, the issue is neither a recent nor just a US phenomenon. More than 25 years ago, international educators questioned whether the way statistics was taught, applied v. practical, was appropriate. One US school determined that students lacked quantitative literacy, and their solution was to develop a program that included eliminating that deficiency and then providing ongoing academic support to students in statistics courses, resulting in significant decreases in failure rates. Again, the process identified the problem, determined the underlying causes, and then implemented a program, not a single action, to resolve the problem. At my school we have acknowledged that we have a problem, and we are beginning to identify some causes of the problem. Simultaneously, as we zero in on each cause, we are modifying our statistics courses and teaching methodologies and recommending curriculum changes to address coursework outside the business school. Although our process is not the same as that used by other schools, the literature showed that an individual school's solution must be one tailored to that institution.

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PERCEIVED COMPATIBILITY OF COURSE MANAGEMENT SYSTEM WITH TEACHING STYLE IS ASSOCIATED WITH DEPARTMENT, RANK, AND LENGTH OF USE IN HIGHER EDUCATION FACULTY

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ABSTRACT

The willingness of higher education faculty to complete training on the course management system (CMS) at their institutions has been positively associated with the perceived compatibility of the CMS with faculty teaching style. The objective of this analysis was to determine characteristics of faculty that are associated with perceived compatibility of the CMS with their teaching style. In a multivariate model, lower rank and longer length of use were positively associated with perceived CMS compatibility, and level of compatibility differed significantly by department. To increase CMS compatibility with teaching style, academic administrators could provide targeted training to those in higher ranks or who have limited experience with the CMS. Future researchers should determine why teaching using the CMS is perceived as more compatible in some departments compared to others.

INTRODUCTION

Ever since online course management systems (CMSs) have been implemented in higher education, authors have reported challenges to increasing faculty adoption of the CMS (Green, 2010). In the analysis of the 2015 Inside Higher Ed Survey of Faculty Attitudes on Technology, Straumsheim et al. (2015) reported that although the majority of faculty members agreed that the CMS improves teaching and learning, they have adopted it at low levels, with only 77% reporting using it to share a syllabus, 55% using it to record grades, and 44% using it to communicate with students. Although a survey found that most faculty do not teach exclusively online courses (Eagan et al., 2014), many institutions require use of their institutional CMS (Green, 2010). This is likely because studies have found it improves teaching and learning (Tsai and Talley, 2013; Yidana et al., 2013). Therefore, low CMS adoption can negatively affect the quality of teaching and learning at an institution. As a result, much effort has been made to better understand barriers to CMS adoption and develop ways to promote CMS adoption in faculty teaching both online and traditional courses.

Researchers have found that one barrier to adoption is lack of CMS training (deNoyelles et al., 2012; Goktas et al., 2009; Masalela, 2009; Smolin and Lawless, 2011). Although CMS training is generally universally offered at institutions with a CMS, studies show that faculty often do not attend training (Hassan, 2011; Hurtado et al., 2012; Pereira, 2015). Pereira and Wahi (2016) showed, in a recent analysis, that willingness to complete training on their institution's CMS was significantly associated with faculty perceptions of the compatibility of CMS use with their teaching style. However, there was a diversity of willingness to complete training on the CMS by faculty age and department. Pereira and Wahi's findings were not surprising, given that the literature also suggests that faculty perceptions of the compatibility of an educational technology affects their decisions to adopt the technology (Bennett and Bennett, 2003; Sayadian et al., 2009; Tabata and Johnsrud, 2008).

These results suggest that increasing the level of compatibility of faculty teaching style with the CMS would also increase their willingness to train on and adopt the CMS for teaching and learning. However, characteristics associated with higher education faculty members' perceived compatibility of teaching style with their institution's CMS are unknown.

This paper will first provide a review of the literature associated with (a) faculty willingness to adopt and complete training on educational technology and (b) impact of faculty compatibility perceptions on willingness to adopt and train on educational technology. Next, the research objective and methodological approach for the study will be described. Results will then be presented followed by a discussion, list of strengths and limitations, and recommendations for applying the study's results to increase faculty compatibility with the CMS as well as recommendations for future research.

LITERATURE REVIEW

Faculty Willingness to Adopt and Train on Educational Technology

Studies suggest that CMS use has the potential to increase higher education teaching and learning quality (Simon et al., 2013; Tsai and Talley, 2013; Yidana et al., 2013), and The 2015 Survey of Online Learning reported that over 71% of academic leaders rated online education learning outcomes as the same or superior to in-person instruction (Allen and Seaman, 2016). Similarly, Inside Higher Ed's 2015 Survey of university and college faculty and campus leaders indicated that most technology administrators and faculty believe that the use of instructional technology in the classroom results in somewhat or significantly improved student outcomes (Straumsheim et al., 2015).

Nonetheless, many faculty are slow to incorporate educational technology, including CMSs, into their instructional practices (Abrahams, 2010; Bothma and Cant, 2011; Unwin et al., 2010), and those who use it tend to use traditional teaching approaches as opposed to new instructional techniques (Ertmer and Ottenbreit-Leftwich, 2010; Straumsheim et al., 2015). For example, Straumsheim (2015) reported that while 77% of faculty "always" used a CMS to provide students with syllabus information, only 13% of instructors used a CMS to capture lectures. Also, although studies indicate that faculty who complete educational technology training are more likely to adopt the technology (deNoyelles et al., 2012; Kidd, 2010; McBride and Thompson, 2011; Porter, 2011; Potter and Rockinson-Szapkiw, 2012; Smolin and Lawless, 2011), they also report that many faculty do not complete such training (Hassan, 2011; Hurtado et al., 2012; Pereira, 2015).

Impact of Faculty Compatibility Perceptions on Training Completion and Educational Technology Adoption

Pereira and Wahi (2016) studied how faculty perceptions of the relative advantage, compatibility, complexity, trialability, and observability of their institution's CMS impacts their willingness to complete CMS training. They explored the effect of these perceptions [based on Rogers' (2003) Diffusion of Innovation theory] on faculty willingness to complete both online and in-person CMS training. Results of Pereira and Wahi's study demonstrated that, of the perceptions explored, only compatibility was significantly associated with willingness to complete training (both in-person and online), and this was a positive association.

Similarly, researchers have consistently found that faculty perceptions of the compatibility of an instructional technology with their teaching style impacts their adoption decisions. For example, Tabata and Johnsrud (2008) found that faculty who believe distance education is more compatible their working styles are more willing to teach distance education classes, and Ajjan and Hartshorne (2008) and Sayadian et al. (2009) suggested that faculty who perceive that web-based instruction is consistent with their instructional approaches and values are more likely to incorporate web-based instruction in their curricula. Other studies of the influence of perceived compatibility on IT adoption include research conducted by Sloep et al. (2006) and Bennett and Bennett (2003). Sloep et al. suggested that one reason that a higher education IT implementation failed was because faculty perceived that the IT had a low level of compatibility with their current practices. Bennett and Bennett suggested that demonstrating how educational technology aligns with the teaching values and philosophies of faculty encouraged them to use new technology. Additionally, in a study of general IT adoption, over many innovation categories, it was found that the compatibility attribute showed one of the greatest consistent significantly positive relationships (Tornatzky and Klein, 1982). This may be the reason why Asunka (2012) asserted that culture was the main factor why faculty did not adopt a CMS offered at a Ghanaian university in existence for five years.

Although faculty perceptions of incompatibility of CMS use with their teaching styles has been shown to negatively influence their willingness to complete training on the CMS as well as adopt it, prior researchers have not studied characteristics of faculty that are associated with the perception of a high degree of compatibility of teaching style with using their institution's CMS. This study, therefore, strives to fill this gap in the literature. Although many higher education institutions provide their faculty with CMSs (Green, 2010) and training on these systems (Meyer, 2014), many do not attend or complete the training (Hassan, 2011; Hurtado et al., 2012; Pereira, 2015). And in a recent study about the status of online education in the United States, it was reported that less than 30% of academic leaders indicated that their faculty perceive "value and legitimacy of online education" (Allen and Seaman, 2016, p. 2). These factors contribute to low faculty CMS adoption rates, and, consequently, missed opportunities to improve

the learning experiences of higher education students due to lack of use of educational technology that has been scientifically shown to improve the quality of teaching in learning.

RESEARCH OBJECTIVE

The objective of this research study was to determine characteristics of higher education faculty that are associated with perceived compatibility of using their institution's CMS with their teaching style and discern practices university administrators can implement to increase compatibility and, ultimately, improve CMS training completion and adoption rates.

MATERIAL AND METHODS

Study Population and Sampling

All 392 full-time and part-time faculty who taught undergraduate and graduate courses at Fitchburg State University (FSU) in Fitchburg, Massachusetts, a public university in the northeast United States (U.S.), were invited to participate in an anonymous, web-based survey in late 2014. Details of the survey have been published elsewhere (Pereira and Wahi, 2016). Briefly, the survey measured the following demographics: gender (male, female and other), age (in age groups), department (science, technology, engineering, and math [STEM], social science, economics, history, and political science [SEHP], education, communications, game design [ECG], and other departments including business administration, English studies, industrial technology, interdisciplinary studies, and nursing), rank (instructor, assistant professor, associate professor, and full professor [called "professor"]), and tenure status (full-time tenured, full-time tenure-track, full-time and part-time non-tenure-track). Regarding rank, at FSU, the instructor category can be assigned to full-time faculty, but is more typically designated to part-time and adjunct faculty. The survey also included questions on the number of years faculty used a CMS, their level of expertise, their perceptions of their institution's CMS, and their willingness to complete CMS training.

The survey questions that measured perceptions of the CMS were based on subscales developed by Keesee (2010) from the CMS Diffusion of Innovations Survey (CMS-DOIS) instrument. Perceptions of the relative advantage of adopting the CMS, compatibility of the CMS with teaching style, complexity of the CMS, trialability of the CMS, and observability of the CMS were measured using statements asking respondents to rate them on a 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = undecided/neutral, 4 = agree, and 5 = strongly agree. To score each subscale, the mean of the Likert scale questions were taken. A previous analysis found that only the compatibility score was associated with willingness of faculty to complete online or in-person training on the CMS (Pereira and Wahi, 2016). Therefore, only the compatibility scale was used in this analysis.

The questions that comprised the compatibility scale are listed in Table 1. The survey was administered during a two-week-period in October 2014.

Table 1
Survey Questions Used to Measure Faculty Perceptions of Compatibility with Course Management System

| Survey Question |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Based on my experiences with the Blackboard CMS, I think using the Blackboard CMS fits (would fit) well with my teaching style. |
| Based on my experiences with the Blackboard CMS, I think using the Blackboard CMS supports (would support) my philosophy of teaching. |
| Based on my experiences with the Blackboard CMS, I think using the Blackboard CMS is (would be) compatible with my students' needs. |
| Based on my experiences with the Blackboard CMS, I think using the Blackboard CMS is (would be) compatible with the resources I am currently using in my course(s). |
| Based on my experiences with the Blackboard CMS, I feel (would feel) comfortable using the Blackboard CMS. |

DATA COLLECTION

After obtaining approval from the appropriate Institutional Review Boards for the Protection of Human Subjects in Research (IRB), data were collected anonymously using a public link through SurveyMonkey (SurveyMonkey, 2015). Once ineligible responses were excluded, 102 surveys were used for data analysis, resulting in a response rate of 26%.

DATA ANALYSIS

After downloading the data from SurveyMonkey, subscales for the CMS-DOIS instrument were scored using SPSS (IBM SPSS, n.d.). The subscales were found to be internally consistent through a Cronbach's alpha analysis, and the value for compatibility was found to be 0.821, which is considered reliable.

The demographics gathered in the survey were considered as candidate predictors, and descriptive analysis was performed to compare summary statistics for compatibility scores by different demographic groups. For ordinal demographic groups, a linear test for trend was used, and for nominal ones, an analysis of variance (ANOVA) was used to test for differences in means. To assess the bivariate association between continuous variables and compatibility score, Pearson's correlation was used.

Next, using compatibility score as the dependent variable, ANOVA and linear regression models were developed using backward stepwise modeling, where all covariates were considered in the initial model, and the least statistically significant covariate was removed in each successive iteration. The alpha was set at 0.05, and the best fitting model was determined to have the highest adjusted r^2 with the fewest covariates.

RESULTS

Table 2 provides descriptive statistics for the faculty sample of $n=102$ with respect to categorical, demographic characteristics. Content within this table originally appeared in Pereira and Wahi (2016).

Table 2
Descriptive Statistics for Categorical, Demographic Variables

| Category | Levels | n (%) | Compatibility Score (<i>M</i> , <i>SD</i>) |
|---------------|-------------------------|-------------|-------------------------------------------------|
| All | All | 102, (100%) | 3.66 (.73) |
| Gender | Male | 48, (47%) | 3.71, (.66) |
| | Female | 46, (45%) | 3.67, (.75) |
| | Other | 8, (8%) | 3.38, (1.41) |
| | | | |
| Age Group | 20-39 years | 19, (19%) | 3.68, (.72) |
| | 40-49 years | 22, (22%) | 3.80, (.62) |
| | 50-59 years | 25, (25%) | 3.74, (.70) |
| | 60 + years | 21, (21%) | 3.56, (.78) |
| | Refused | 15, (15%) | 3.43, (.87) |
| Tenure Status | Full-time Tenured | 46, (45%) | 3.54, (.81) |
| | Full-time Tenure-track | 24, (24%) | 3.65, (.60) |
| | Full time and Part-time | 32, (31%) | 3.84, (.67) |
| | Non-tenure-track | | |
| Rank | Instructor | 27, (26%) | 3.95, (.65) |
| | Assistant Professor | 24, (24%) | 3.68, (.58) |
| | Associate Professor | 23, (23%) | 3.59, (.68) |
| | Professor | 28, (27%) | 3.42, (.87) |
| Department | STEM | 35, (34%) | 3.87, (.42) |
| | SEHP | 16, (16%) | 3.68, (.76) |
| | ECG | 15, (15%) | 3.41, (.67) |
| | Other | 36, (35%) | 3.56, (.73) |

Note: STEM = science, technology, engineering, and mathematics. SEHP = social science, economics, history, and political science. ECG = education, communication, and game design. Other includes business administration, English studies, industrial technology,

interdisciplinary studies, and nursing. This table is reprinted with permission from Pereira and Wahi (2016).

Table 2 indicates that the majority of categorical, demographic groups were similar with respect to mean compatibility scores. There was a trend for lower compatibility scores to be related to higher tenure status, which approached statistical significance (full-time and part-time non-tenure-track = 3.84, full-time tenure-track = 3.65, full-time tenured = 3.54, test for trend $p = 0.0973$). A significant trend was seen in rank, with mean compatibility scores decreasing as ranks increased (professor = 3.42, associate professor = 3.59, assistant professor = 3.68, instructor = 3.95, $p = 0.0202$).

Table 2 also shows that the mean compatibility score for females was slightly lower than for males (3.67 vs. 3.71), and the mean compatibility score for participants who did not reveal their gender (3.38) was considerably lower than the two other two groups, but there was not a significant difference between the means in these groups ($p = 0.364$). Except for participants in the 20-39 year old age range, whose mean compatibility score was less than participants in the 40-49 and 50-59 age groups, as age decreased, mean compatibility scores increased, but this trend was not significant (60+ years = 3.56, 50-59 years = 3.74, 40-49 years = 3.80, 20-39 years = 3.68, $p = 0.4708$). Faculty in the STEM departments conveyed the highest mean compatibility scores, trailed by faculty in the “other” and the ECG departments, but the means were not statistically significantly different (STEM = 3.87, SEHP = 3.68, ECG = 3.41, Other = 3.56, $p = 0.151$).

Overall, respondents used the CMS for a mean of 6.16 years (standard deviation [SD] = 4.22 years), and this was significantly positively correlated with compatibility score ($r = 0.370$, $p < 0.0001$). On a scale of 1 to 5, where respondents rated their level of expertise with the CMS (1 as lowest and 5 as highest), the mean rating was 3.26 (SD = 1.04). There was a statistically significant positive correlation between level of expertise and compatibility score ($r = 0.367$, $p < 0.0001$).

Tables 3 and 4 present the ANOVA and linear regression results for the dependent variable “perception of compatibility” with the CMS.

Table 3
Analysis of Variance for Predictors of Perceptions of Compatibility with CMS

| | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|-----|-------------|--------|------|
| Regression | 15.975 | 4 | 3.994 | 10.389 | .000 |
| Residual | 37.288 | 97 | 0.384 | | |
| Total | 53.263 | 101 | | | |

Note: Dependent variable measurement: Perceptions of faculty compatibility with CMS.

Table 4
Predictors of Compatibility

| Predictor | Beta (β) | t statistic | p-value |
|--------------------------|------------------|-------------|---------|
| Constant | 2.994 | 20.814 | .000 |
| Predictor variables | | | |
| Other Department | -.232 | -2.645 | .010 |
| Instructor Rank | .362 | 3.952 | .000 |
| Assistant Professor Rank | .266 | 2.783 | .006 |
| CMS Length of Use | .497 | 5.427 | .000 |

Note: Dependent variable is perceptions of faculty compatibility with CMS. Other departments include Business Administration, English Studies, Industrial Technology, Interdisciplinary Studies, and Nursing.

The ANOVA was statistically significant ($F = 10.389$ at 4 df, $p = 0.000$), so the model was interpreted. The best fit model included four predictor variables: the “other” department category (including business administration, English studies, industrial technology, interdisciplinary studies, and nursing), indicator variables for instructor and assistant professor ranks, and number of years faculty had used the CMS. The “other” department was significantly negatively associated with perceptions of compatibility with the CMS (standardized $\beta = -.232$, $p = 0.010$). The ranks of instructor (standardized $\beta = .362$, $p = 0.000$) and assistant professor (standardized $\beta = .266$, $p = 0.006$) were significantly positively associated with perceptions of compatibility with the CMS. Finally, the number of years faculty used the

CMS was significantly positively associated with their perceptions of compatibility with the CMS (standardized $\beta = .497, p = 0.000$).

DISCUSSION

This analysis found that the characteristics of higher education faculty members that are associated with perceived compatibility of using their institution's CMS with their teaching style are department, rank, and length of use. Those who were in the department classification "other" were less likely to find using the CMS compatible with their teaching style. Conversely, those with the rank of instructor or assistant professor were more likely to find using the CMS compatible with their teaching style. Finally, length of use was positively associated with finding the CMS compatible with faculty teaching style.

Those classified in the "other" department were in the following departments: interdisciplinary studies, nursing, business administration, English studies, and industrial technology. It was not possible to separate the various subgroups because of the way the question was asked in the survey. Compared to the STEM, SEHP, and ECG departmental categories, this classification was less likely to find the CMS compatible with faculty members' teaching styles. It is not immediately obvious why this is. Interdisciplinary Studies refers to a degree program that is custom-built for the student by integrating courses from several related fields. It may be that this program attracts faculty that are teaching topics that may not be amenable to using online approaches, but this is not documented.

Next, nursing has been the subject of several studies of online learning. A 2014 review by Button and colleagues found many challenges to adopting a CMS for nursing education (Button et al., 2014). The studies Button et al. (2014) reviewed that surveyed nursing faculty revealed challenges in both mastery of the technology, as well as logistical challenges such as having enough time to develop a course online. They found that faculty also expressed the need for training not only in use of the technological resources, but in how to deliver an online pedagogy. These issues may explain partly why this "other" group found adoption of the CMS for teaching less compatible with their teaching styles.

In regards to business administration, another group within the "other" category, Roberts, Walker, and Kelley (2007) surveyed accounting faculty in North Carolina, U.S. to understand the level to which they integrated technology within their introductory accounting curriculums. Although they did not ask accounting faculty about their use of a CMS specifically, Roberts et al. found that 90% had never used a video web-based system, 70.5% had never enabled and supported collaboration among students via web-based programs, 63.6% had never used prepackaged web-based notes, lectures, or tutorials, and 52.3% had never used personally designed web-based tests or quizzes. These findings suggest that use of a CMS was not compatible with their teaching style. On the other hand, it is not clear why faculty within the English studies and industrial technology departments did not find the CMS to be compatible with their teaching styles, and the authors could not find any studies of CMS compatibility or adoption in these departments.

Given that the 2013-2014 national U.S. survey on undergraduate faculty conducted by the Higher Education Research Institute at the University of California, Los Angeles revealed that instructors and assistant professors incorporate online discussion boards and online homework or virtual labs more frequently than professors and associate professors (Eagan et al., 2014), it is not particularly surprising that the lower ranks, instructor and assistant professor, would find the CMS more compatible with their teaching styles. Additionally, instructors and assistant professors tend to be younger, and may have received their post-secondary (and possibly high school) education using online resources. Because of this, they may find these resources more compatible with their own teaching styles.

Next, practically speaking, CMS adoption is compulsory at FSU, as it is at most colleges with a CMS (Green, 2010). Tenure is desired for those on tenure-track, and this may explain why assistant professors find the CMS more compatible with their teaching styles, as they are trying to become integrated in the institution and proceed along the tenure-track. Those in the instructor category include adjunct professors who are not on the tenure-track and are mostly part-time. These instructors often teach evening online classes. Therefore, because of the nature of their work, they are more likely to be adept with the CMS. Many of these people originally developed their classes on the CMS as they began as online classes. As such, they did not have to adapt their traditional class materials and activities to be compliant with online learning.

It is also not surprising that length of use was positively associated with perceived compatibility of the CMS. The

longer faculty use the CMS, the more compatible it becomes with their teaching style, likely due to their teaching style evolving over the course of adopting the CMS. This is supported by Keengwe et al. (2009) and Richardson (2007) who asserted that practice contributes to technology adoption. This may also be why Osika et al. (2009), who surveyed faculty in a urban university in the mid-western U.S. on their use of the university's CMS, found that faculty who were comfortable using other technologies (such as PowerPoint and word processing tools) in different work situations were more willing to use the CMS for instructional purposes. Similarly, a number of previous studies indicate that self-efficacy with technology effect faculty adoption of technology (Al-Senaidi et al., 2009; Ertmer and Ottenbreit-Leftwich, 2010; Onyia and Onyia, 2011).

STRENGTHS AND LIMITATIONS

Although the results of this study provide insight into the characteristics of higher education faculty that are associated with perceived compatibility of using their institution's CMS with their teaching style, it would be beneficial to replicate this study with other faculty and in other settings to compare the results. This is because while the results are potentially generalizable to faculty who teach at other state universities that operate in the U.S., particularly universities that teach undergraduates and graduates, have a faculty base like FSU, and offer a CMS, they may not be generalizable to other types of faculty and other settings. In addition, it is possible that the variables studied (faculty gender, age, tenure status, rank, department, CMS expertise level, and CMS length of use) are not the most optimal attributes to explain faculty perceived compatibility with the CMS in this population.

APPLICATIONS

The longer faculty used the CMS, the more compatible it became to their teaching style. Therefore, there is an urgency to get faculty to start using the CMS now. For that reason, a strategy that can be used by universities is to identify faculty currently not using the CMS, or using it at low levels, and encourage them to begin using it for teaching and learning. University administrators should facilitate basic CMS training sessions specifically suited for those that have never before used a CMS and may not be comfortable using technology in general.

Results of this study also revealed that faculty at higher ranks (professor and associate professor) perceive the CMS to be less compatible with their teaching styles than those at lower ranks (assistant professor and instructor). Therefore, higher education administrators should provide extra support to faculty at higher ranks to help them feel more comfortable using the CMS and find ways to incorporate it in ways that either match their existing teaching styles or enhance and improve upon their existing teaching styles. This support may be in the form of educational specialists who provide in-person, one-on-one training. This training should focus on pedagogical as well as technical topics.

FUTURE RESEARCH

Future research about CMS compatibility with faculty teaching style should consider studying other types of faculty in other settings, and consider measuring other predictors felt to influence faculty perceptions of compatibility of using their institution's CMS with their teaching style. In addition, future researchers should consider more in-depth study to better understand why faculty within particular departments felt the CMS was less compatible with their teaching styles. In particular, it is unclear as to why, in this study, faculty within the English studies and industrial technology departments did not find the CMS compatible with their teaching styles. Perhaps some topics are harder to teach online, in which case, these departments may need more support to develop appropriate strategies.

CONCLUSIONS AND SUMMARY

This study found that faculty department, rank, and length of CMS use were significant predictors of perception of CMS compatibility with faculty teaching style. Those in lower ranks and those having used the CMS longest found the CMS most compatible with their teaching styles, so to increase use of the CMS, it may be important for administration to support those in higher ranks or those who are new to the CMS with targeted training. Perceived compatibility with the CMS varied by department, so it may be worthwhile to determine departments that face more challenges using the CMS and to provide them with extra support. Future studies should also aim to develop a better understanding of predictors of perceived compatibility with teaching style of the CMS, and find ways of increasing compatibility perceptions in those who have difficulty adopting it.

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AUDITOR CHOICE AND THE CONSISTENCY OF BANK ACCOUNTING: ARE SOME AUDITORS STRICTER THAN OTHERS WHEN ASSESSING THE VALUE OF A BANK'S LOAN PORTFOLIO?

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ABSTRACT

This study contributes to the literature by answering the question of whether some auditors during the financial crisis were stricter than others when assessing the fair value of banks' held-for-investment loan portfolios. Fair-value disclosures of loan portfolios are important, as they can affect how investors view a bank's loan portfolio (and, by extension, a bank's overall risk and performance). Moreover, fair-value gaps could have a detrimental effect on banks' regulatory capital in the future, if the FASB eventually changes banks' accounting for loans held-for-investment and require them to carry these loans on their balance sheets at fair value instead of amortized historical cost. The findings contribute to the literature by shedding light on the role of the audit function in determining fair-value estimates of banks' loan portfolios.

INTRODUCTION

During the 2008-2010 financial crisis, banks and other financial institutions were overburdened with underperforming loans, most of which were reported at historical, amortized cost on their balance sheets.¹ Under the accounting standards at that time, and under current standards, banks are allowed to report their loan portfolios at historical amortized cost net of a loan loss reserves, so long as they have the intent and ability to hold those loans to maturity. These "held-for-investment" loans differed from "held-for-sale" loans, which must be reported on the balance sheet at the lower of cost or fair value, and for which changes in fair value are recognized in net income. Regardless of how loans are treated in the financial statements, SFAS 107, *Disclosures about Fair Value of Financial Instruments* (Financial Accounting Standards Board [FASB] 1991, now codified in ASC 825-10) requires banks to disclose the fair value of loans in the footnotes of their annual financial statements.

Many critics argue that had banks been required to recognize unrealized losses in their held-for-investment loan portfolios, their financial condition would have been much clearer to investors, and thus some of the shock of the crisis may have been averted. Others argue that the determination of fair value is inherently subjective, given that there are no active markets for most bank loans, and loan fair values must therefore be estimated, most often as exit values (the amount for which the loan could be sold), using a variety of inputs (Cantrell et al. 2014). This subjectivity calls into question the reliability and usefulness of loan fair-value estimates relative to historical cost measures.²

Those opposed to the recognition of fair value changes in banks' loan portfolios also argue that the financial crisis would have been much worse had banks been required to recognize the difference between the book value and fair value of held-for-investment loans, by further depressing earnings, and drastically reducing bank capital. During the financial crisis, many of the nation's banks found themselves carrying a majority of their assets at historical costs that exceeded estimates of their fair value, but were not required to recognize these fair-value gaps in net income.

For many of the nation's largest banks, moreover, these fair-value gaps were quite large. For example, as of 12/31/2008, Bank of America disclosed that the book value of its loans exceeded fair value by \$44.6 billion; Wells Fargo \$14.2 billion; and Regions Financial Corp. \$13.2 billion. There was much variability in these fair-value gaps, with many banks reporting fair value of loans within 1 percent of their book value (Weil 2009).

The role of auditors in valuing banks' held-for-investment loan portfolios has received much attention in the wake of the financial crisis. While the estimation of loan fair value is the responsibility of management, it is the responsibility of the external auditors to examine and attest to these estimations, and if necessary, challenge management when an estimate of fair value is believed to be inaccurate.³

In 2009, it was revealed in the financial press that banks audited by Deloitte and Ernst & Young (hereafter EY) reported larger differences between the disclosed fairvalue and book value of loans than did banks that were audited by other accounting firms (Rapoport, 2009). We surmise that these differences may be due to differences in audit quality among the Big-4 accounting firms. If loans currently reported as held-for- investment are eventually required to be reported on the balance sheet at fair value, auditors would play an influential role in the determination of bank regulatory capital.

The purpose of this study, therefore, is to examine the effects of a bank's choice of auditor on the difference between the book value and fair value of its loan portfolio, while controlling for the bank's relative financial condition. In doing so, we seek to answer the question of whether a bank's choice of auditor can influence the degree to which fair values differ from book values in its loan portfolio. We believe the financial crisis of 2008 presents a natural experiment to test this premise. Using a sample of the largest 100 U.S. bank holding companies as measured by total assets for the years 2007-2010, we examine the differences between banks' disclosed fair value and book value of loans as a function of auditor choice (Ernst & Young, Deloitte, KPMG, or PricewaterhouseCoopers), first using non-Big-4 auditors and then KPMG as the benchmark group.

Fair values of loans for banks with more risky loan portfolios may be more difficult to determine than those of banks that choose to carry a high-quality loan portfolio, and therefore, any observed auditor effect may be due to estimation error. Also, management of less healthy banks may have an incentive to understate unrealized losses in their loan portfolios (Beatty et al., 1995; Collins et al., 1995). Thus, in order to determine if an observed auditor effect is simply due to an audit firm having a less-healthy group of bank clients, we control for overall loan credit quality and bank regulatory risk. We further control for bank lending emphasis, as banks with a higher proportion of net assets in the form of loans may have a greater incentive to overstate the fair value of their loans. Lastly, we control for bank size, as bank size has been found to be positively associated with measurement error in the reported fair value of loans (Eccher et al., 1996).

Our study contributes to the literature by answering the question of whether some auditors during the financial crisis were stricter than others when assessing the fair value of banks' held-for-investment loan portfolios. Fair-value disclosures of loan portfolios are important, as they can affect how investors view a bank's loan portfolio (and, by extension, a bank's overall risk and performance). Moreover, fair-value gaps could have a detrimental effect on banks' regulatory capital in the future, if the FASB eventually changes banks' accounting for loans held-for-investment and require them to carry these loans on their balance sheets at fair value instead of amortized historical cost.^{4,5} Our findings contribute to the literature by shedding light on the role of the audit function in determining fair-value estimates of banks' loan portfolios.

PRIOR STUDIES AND HYPOTHESES

Audit quality and financial reporting

The observed fair-value gaps in banks' loan portfolios during the financial crisis may have been a function of auditor choice, since higher quality auditors may have been stricter with banks with regards to their estimates of loan fair values. The results of prior studies are consistent with the notion that auditor size (Big 6, 5, or 4 auditor) is associated with higher quality audits, and consequently higher earnings quality (as measured, typically, by the level of discretionary accruals). Becker et al. (1998) argues that Big-6 auditors' superior education and training enables them to better detect and curb earnings management, and thereby protect their professional reputations. Specifically, they find that the discretionary accruals of the clients of non-Big-6 audit firms are higher on average than the discretionary accruals reported by clients of Big-6 auditors. Francis et al. (1999) finds that although clients of Big-6 audit firms have higher total accruals, they report lower discretionary accruals, consistent with the assertion that Big-6 auditors constrain earnings management behavior. Krishnan (2003), moreover, argues that larger audit firms have greater resources and expertise with which to detect earnings management and have an incentive to protect their reputation due to their relatively large client base. Similarly, DeAngelo (1981) argues that audit quality is not independent of audit firm size, and that auditors with a larger client base have 'more to lose' and therefore resist clients' pressure to manage earnings.

While most prior studies of audit quality have focused on the differences between Big-4 and non-Big-4 audit firms, other studies have questioned the assumption of the homogeneity of audit quality among large audit firms. Buuren (2008) examines the assumption of homogeneity of audit quality (measured using an “Auditor Conservatism Ratio”) among and within large audit firms, and finds significant audit quality differences among large audit firms, primarily due to partner effects. Additionally, Wiebe (2008) finds PwC and EY clients were more compliant with goodwill disclosure requirements than KPMG and Deloitte clients.

Other studies have examined differences in audit quality within the largest audit firms. Francis and Yu (2009), for instance, consider the effects of Big-4 office size (as measured by fees from SEC registrants) on abnormal (discretionary) accruals. They find less aggressive earnings management behavior from clients in larger offices, and larger offices are more likely to issue going-concern opinions. Along the same lines of considering differences within the largest audit firms, Ittonen et al. (2013) examine the association between the gender of the firm’s audit engagement partner and abnormal accruals, and find that firms with female engagement partners are associated with smaller abnormal accruals. These studies suggest that factors that differ within (and perhaps among) the Big-4 audit firms can impact financial reporting behavior.

In the banking industry, auditor industry expertise has been shown to play a monitoring role in constraining managers’ ability to manage earnings (DeBoskey & Jiang, 2012). In theory, we might expect higher quality audits to be associated with larger fair-value gaps during the financial crisis, as auditors that are stricter with their clients would be less willing to accept managements’ overestimations (i.e., upwardly biased estimates) of loan fair values.

Prior studies of loan fair value versus book value

Most of the prior literature that examines loan fair values has focused on the value relevance of the fair value disclosures required by SFAS 107 (FASB 1991). These studies typically regress market value of equity divided by book value of equity on fair value versus book value differences of individual assets and liabilities, and have mixed results (Barth et al., 1996; Eccher et al., 1996; Nelson, 1996). Furthermore, they find evidence of measurement error and discretion in loan fair values (Barth et al., 1996; Eccher et al., 1996). In perhaps the most recent study of loan fair values, Cantrell et al. (2014) find that net historical loan costs is a better predictor of credit losses than reported loan fair value.

In a study that focuses on the reliability of banks’ fair value of their loan portfolios, Nissim (2003) finds that banks manage the disclosed fair value of their loan portfolio. He finds that the overstatement of loan fair values is negatively related to regulatory capital, asset growth, liquidity, and gross book value of loans, and positively related to the change in the rate of credit losses. These findings suggest that banks overstate fair value of loans to affect market assessment of their risk and performance. We contribute to this line of research by examining the effect of auditor choice (i.e., between individual Big-4 and non-Big-4, and among Big-4 firms) on differences between disclosed fair value and book value of loans during the 2008 financial crisis.

Hypotheses

Based on the above discussion, we test the following hypotheses:

H1: *Ceteris paribus*, the choice of a Big-4 auditor (PwC, KPMG, EY, or Deloitte) versus one of the non-Big-4 audit firms is associated with banks’ fair value gap for loans held for investment.

H2: *Ceteris paribus*, the choice of a Big-4 auditor (PwC, KPMG, EY, or Deloitte) is associated with banks’ fair value gap for loans held for investment

METHODOLOGY

Our sample period covers the years 2007-2010, and thus captures the period just before and after the financial crisis. We collect data on the top 100 U.S. bank holding companies (BHC) as measured by total assets.⁶ We obtain SFAS 107 disclosures of loan fair value and book value directly from each bank’s SEC filings (form 10-K). Data for our independent variables is obtained from the Consolidated Financial Statements for Holding Companies (FRY9C). The hand collected SFAS 107 disclosures were cross checked by each researcher for accuracy.

The dependent variable in our study is the difference between disclosed loan fair value and net historical cost, deflated by net historical cost (GAP_BV):

$$\text{GAP_BV} = \text{Fair-value gap} = (\text{Fair value of loans} - \text{Book value of loans}) / \text{Book value of loans}$$

Thus, when fair value is below book value, GAP_BV will be negative. A negative value is thus “bad” (i.e., fair value is less than book value) and a positive value is “good” (i.e., fair value is greater than book value). For audit firms whose clients have relatively more negative fair value gaps, *ceteris paribus*, that may be because they are stricter with their clients than other auditors when it comes to valuing their loan portfolios.

We use auditor indicator variables to determine the partial effect of audit firm choice on the fair-value gaps. We examine each of the Big-4 audit firms versus non-Big-4, using the entire sample (n=400), and a sample where fair-value gap is negative (n=180).⁷ We then restrict the sample to banks audited by the Big-4 only, and test for the partial effect of being audited by Deloitte, PwC, or EY, using KPMG as a benchmark (n=293).⁸ We then examine banks audited by the Big-4 only and where fair-value gap is negative (n=124). Lastly, we test for auditor effects using two separate samples: one from the crisis period (2008 and 2009) and one from the non-crisis period (2007 and 2010). The coefficients on our auditor indicator variables measure the difference in the fair value gap for each auditor, on average, holding all else constant. For example, if the coefficient on Deloitte is negative, that suggests that Deloitte clients will, on average, have a smaller (or more negative) fair value gap, holding all else constant. We interpret a more negative coefficient as an indication that the auditor is more stringent with its clients with regards to their assessment of the fair value of their loan portfolio.

Poor credit quality may give bank managers a reason to overstate fair value disclosures, and pressure auditors to accept these overstatements. To determine if differences between the disclosed fair value and book value of loans is due to differences in audit quality between Big-Four and non-Big-4 audit firms, or due to differences among Big-4 firms, or simply due to some banks having a lower quality loan portfolio, we control for the credit quality of a bank's loan portfolio. Consistent with Nissim (2003), we define credit quality as the sum of nonaccrual loans and loans over 90 days delinquent, but still accruing interest, divided by the book value of loans. Although nonperforming loans are considered relatively nondiscretionary, their measurement requires judgement and can vary across banks (Beaver et al., 1989; Griffin & Wallach, 1991). Thus, we partially control for the effects of management discretion by controlling for banks' nonperforming loans.

We also control for bank size, as larger banks are more likely to invest in less frequently traded assets or assets for which there is greater information asymmetry, resulting in greater measurement error in the estimation of their fair values (Nissim, 2003; Eccher et al., 1996). We use total assets as a measure of bank size.

Banks with a greater emphasis on lending in their operations would have a greater incentive to overstate the fair value of their loan portfolio, given that changes in the portfolio would have a greater impact on bank capital. We therefore control for lending emphasis, defined as the book value of loans divided by total assets. We further control for bank risk, using bank tier-1 capital ratio. The tier-1 capital ratio has been used in the prior literature as a proxy for balance sheet strength. We control for tier-1 capital ratio because we expect less healthy banks to be more likely to overstate loan fair values (Nissim, 2003; Jin et al., 2011). We also control for bank profitability, since management's incentive to overstate loan fair value estimates may be related to its incentive to manage earnings. We use return on assets (ROA) as a measure of bank profitability. Lastly, we control for the years 2008-2010, using 2007 (the pre-crisis year) as the benchmark. We test the following models:

$$\begin{aligned} \text{GAP_BV}_{j,t} = & \alpha_j + \beta_1 \text{PWC}_{j,t} + \beta_2 \text{E\&Y}_{j,t} + \beta_3 \text{DELOITTE}_{j,t} + \beta_4 \text{KPMG}_{j,t} + \\ & \beta_5 \text{QUALITY}_{j,t} + \beta_6 \text{TOTASSET}_{j,t} + \beta_7 \text{LENDEMP}_{j,t} + \beta_8 \text{TIER1RBR}_{j,t} \\ & + \beta_9 \text{ROA}_{j,t} + \beta_{10} \text{D2008}_j + \beta_{11} \text{D2009}_j + \beta_{12} \text{D2010}_j + e_{j,t} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{GAP_BV}_{j,t} = & \alpha_j + \beta_1 \text{PWC}_{j,t} + \beta_2 \text{E\&Y}_{j,t} + \beta_3 \text{DELOITTE}_{j,t} + \beta_4 \text{QUALITY}_{j,t} + \\ & \beta_5 \text{TOTASSET}_{j,t} + \beta_6 \text{LENDEMP}_{j,t} + \beta_7 \text{TIER1RBR}_{j,t} + \beta_8 \text{ROA}_{j,t} + \beta_9 \text{D2008}_j + \\ & \beta_{10} \text{D2009}_j + \beta_{11} \text{D2010}_j + e_{j,t} \end{aligned} \quad (2)$$

where $\text{GAP_BV}_{j,t}$ is banks' fair value gap for loans held for investment, defined as the difference between disclosed loan fair value and net historical cost, deflated by net historical cost; PWC, EY, DELOITTE and KPMG are separate auditor indicator variables; QUALITY is defined as the sum of nonaccrual loans and loans over 90 days delinquent, but still accruing interest, divided by the book value of loans; TOTASSET is bank total assets; LENDEMP is bank lending emphasis, defined as the book value of loans divided by total assets; TIER1RBR is the bank's tier 1 capital ratio; ROA is bank net income divided by total assets; and D2008-D2010 are year indicator variables, using 2007 as the benchmark.

RESULTS

Descriptive statistics

Descriptive statistics for the variables used in our analysis for the entire sample by year are reported in Table 1. We find large fair-value gaps during the financial crisis, with the largest gap of negative 16% of the book value of loans for both 2008 and 2009. The average fair-value gap for all 400 firm-year observations changes from a 2007 pre-crisis average of positive .70% to negative 1.24% in 2009. As expected, the average fair-value gap improves to negative .40% in 2010 as the crisis waned. These mean values mask the largest gaps in 2008 and 2009 that were approximately 16% of total loans for both years.

Total assets grew throughout the period analyzed, although at a slower rate during and after the financial crisis. The change in assets from 2007 to 2008 was much larger at 18.67% than the increases from 2008 to 2009 of 0.78% and from 2009 to 2010 of 2.56%. On the other hand, our proxy for a bank's lending emphasis, the book value of loans as a percentage of total assets, steadily contracted over the entire period, declining from 64% to 56%.

Not surprisingly we also see deterioration in the quality of bank loan portfolios. Our measure is the amount of non-accruing loans plus loans that are past due for 90 days or longer, divided by the book value of total loans. The deterioration continues throughout the period reviewed, with the highest ratio of 5.25% occurring in 2010. Earnings followed a similar intuitive pattern. In 2007, return on assets (ROA) was 0.96%, but fell to 0.03% in 2008 and to a negative -0.04% in 2009 before returning to a positive 0.37% in 2010.

Finally, we note that the tier-1, risk-based capital ratio steadily improved over the 2007–2010 period. This is not surprising either. As bank loan portfolios deteriorated, it was necessary to build up bank capital ratios to prevent excessive concern by bank depositors and other creditors. In addition, bank regulators were worried about bank failures and the impact on the federal safety net. Losses of the safety net are ultimately paid for by the country's taxpayers. The regulators primary response was to insist on banks raising more capital.

Table 1: Descriptive Statistics Years 2007-2010^a

| Variable (n=100) | 2007 | 2008 | 2009 | 2010 |
|---------------------|----------|----------|----------|----------|
| gap_bv | | | | |
| Mean | 0.007 | -0.0047 | -0.0124 | -0.004 |
| Std. Dev | 0.0111 | 0.0414 | 0.0365 | 0.0306 |
| Min | -0.0099 | -0.1581 | -0.156 | -0.1294 |
| Max | 0.0414 | 0.0649 | 0.0671 | 0.0646 |
| totasset | | | | |
| Mean | 8.53E+07 | 1.01E+08 | 1.02E+08 | 1.05E+08 |
| Std. Dev | 3.19E+08 | 3.61E+08 | 3.69E+08 | 3.79E+08 |
| Min | 846400 | 1496455 | 1634700 | 2090187 |
| Max | 2.19E+09 | 2.18E+09 | 2.23E+09 | 2.27E+09 |
| lendemp | | | | |
| Mean | 0.6401 | 0.6307 | 0.589 | 0.564 |
| Std. Dev | 0.1651 | 0.1673 | 0.1674 | 0.1606 |
| Min | 0.0446 | 0.0411 | 0.0516 | 0.0525 |
| Max | 0.8467 | 0.8726 | 0.9596 | 0.8176 |
| quality | | | | |
| Mean | 0.0128 | 0.027 | 0.0499 | 0.0525 |
| Std. Dev | 0.0261 | 0.0483 | 0.0863 | 0.0831 |
| Min | 0.0001 | 0 | 0.0025 | 0.0013 |
| Max | 0.2493 | 0.4567 | 0.8423 | 0.7758 |
| ROA | | | | |
| Mean | 0.0097 | 0.0003 | -0.0004 | 0.0037 |
| Std. Dev | 0.0041 | 0.0205 | 0.0166 | 0.0131 |
| Min | -0.0047 | -0.1618 | -0.0768 | -0.069 |
| Max | 0.0196 | 0.0178 | 0.0332 | 0.0195 |
| tier1rbr | | | | |
| Mean | 10.1439 | 11.7688 | 12.7913 | 13.8367 |
| Std. Dev | 2.0598 | 2.0212 | 2.5727 | 3.3046 |
| Min | 6.79 | 7.71 | 4.88 | 7.64 |
| Max | 18.46 | 20.25 | 20.76 | 30.98 |

^aGAP_BV is banks' fair value gap for loans held for investment, defined as the difference between disclosed loan fair value and net historical cost, deflated by net historical cost; TOTASSET is bank total assets; LENDEMP is bank lending emphasis, defined as the book value of loans divided by total assets; QUALITY is defined as the sum of nonaccrual loans and loans over 90 days delinquent but still accruing interest, divided by the book value of loans; ROA is bank net income divided by total assets; and TIER1RBR is the bank's tier 1 capital ratio.

Results for the full sample

Table 2 reports our main test results for Model 1 using the full sample (400 firm- year observations). We find that being audited by Deloitte results in more negative and statistically significant difference in the fair-value gap of bank loans relative to being audited by a non-Big-4 firm ($p=0.03$). The coefficient estimate for return on assets (ROA) is highly significant and positive ($p=0.000$), suggesting that better performing, more profitable banks

have healthier loan portfolios, or, alternatively, that they have better models for valuing their loans. The coefficient for total assets (TOTASSET) is also highly significant and negative ($p=0.000$), which is not surprising given that the largest banks had the most unfavorable fair-value gaps during the financial crisis. Our year 2009 indicator variable (D2009) is also statistically significant and negative ($p=0.02$), consistent with the expectation that banks' fair-value gaps would be more negative during the financial crisis. Thus, we find that banks' fair-value gaps are a function of auditor choice, while controlling for banks' relative size and financial health and performance.

Table 2 also reports the results of Model 1, but limits the sample to only observations for which the fair-value gap (GAP_BV) is negative ($n=180$).⁹ Although doing so reduces the sample to only 180 observations, Ramsey's (1969) Regression Specification Error Test (RESET), a general test for functional form misspecification, indicates that Model 2 is correctly specified.¹⁰ We again find that being audited by Deloitte is very significant and negative ($p=0.005$). We now find that being audited by EY is also statistically significant and negative ($p=0.04$). The coefficient estimate for return on assets (ROA) is again statistically significant (although much less so) and positive ($p=0.03$). Our year control variables for 2008 and 2009 are significant and negative. However, our measure of size

(TOTASSET) is no longer significant. These results suggest that among the population of banks with negative fair-value gaps, the negative gap is primarily a function of auditor choice, financial performance, and the financial crisis (year).

Table 2: Estimation Results Model 1^a

$$\begin{aligned} \text{GAP_BV}_{j,t} = & \alpha_j + \beta_1 \text{PWC}_{j,t} + \beta_2 \text{E\&Y}_{j,t} + \beta_3 \text{DELOITTE}_{j,t} + \beta_4 \text{KPMG}_{j,t} + \beta_5 \text{QUALITY}_{j,t} \\ & + \beta_6 \text{TOTASSET}_{j,t} + \beta_7 \text{LENDEMP}_{j,t} + \beta_8 \text{TIER1RBR}_{j,t} + \beta_9 \text{ROA}_{j,t} + \beta_{10} \text{D2008}_j \\ & + \beta_{11} \text{D2009}_j + \beta_{12} \text{D2010}_j + e_{j,t} \end{aligned}$$

| Variables | Full Sample | Full Sample (negative fair- value gap) |
|--------------------------------------------------------|----------------------------|-------------------------------------------|
| DELOITTE (auditor=Deloitte) | -.0155* (.0072) | -.0312** (.0108) |
| EY (auditor=EY) | -.0060 (.0044) | -.0141* (.0068) |
| KPMG (auditor=KPMG) | .0058 (.0039) | .0052 (.0064) |
| PwC (auditor=PwC) | .0058 (.0071) | .0110 (.0107) |
| QUALITY (loan quality) | -.0242 (.0272) | -.0028 (.0348) |
| TOTASSET (total assets) | -1.61e-11*** (4.99e-12) | -7.00e-12 (6.91e-12) |
| LENDEMP (lending emphasis) | -.0188 (.0116) | .0014 (.0200) |
| TIER1RBR(tier-1 ratio) | -.0010 (.0006) | -.0005 (.0010) |
| ROA (return on assets) | .5310*** (.1109) | .3084* (.1402) |
| D2008 (year 2008 indicator) | -.0049 (.0046) | -.0214* (.0087) |
| D2009 (year 2009 indicator) | -.0114* (.0048) | -.0183* (.0083) |
| D2010 (year 2010 indicator) | -.0045 (.0050) | -.0131 (.0086) |
| Number of observations | 400 | 180 |
| | R ² = 0.1260 | R ² = 0.1374 |
| F Statistic | F = 5.80*** | F = 3.38*** |
| RESET | F = 7.25*** | F = 2.39 |
| ^a Standard errors beneath the coefficients. | | |
| *significant at the 0.05 level; | | |
| **significant at the 0.01 level; | | |
| ***significant at the 0.001 level | | |

Results for the sample limited to banks audited by a Big-4 audit firm

Table 3 reports our main test results for Model 2, which restricts the sample to only banks audited by one of the Big-4 audit firms, using KPMG as a benchmark (n=293). We obtain similar results from this restricted sample. Deloitte and EY are both statistically significant and negative (p.=0.003 and 0.004 respectively), suggesting that relative to KPMG, Deloitte and EY are stricter with their bank clients.¹¹ Total assets (TOTASSET) and return on assets (ROA) are again highly significant, providing evidence that even when restricting our sample to banks audited by the Big-4, the fair-value gap still becomes more negative as a bank's total assets increase, and more positive as profitability increases.

Table 3 also reports the results of Model 2 while limiting the sample to only observations for which the fair-value gap (GAP_BV) is negative (n=124).¹² We find that limiting the sample to Big-4 auditors and negative fair-value gaps yields similar results, and that RESET again indicates that the model is correctly specified.¹³ Return on assets (ROA) and D2009 are no longer statistically significant. These results suggest that among

Big-4 client banks, negative fair-value gaps are no longer a function of financial performance, leaving only auditor choice and the financial crisis as critical determinants.

Table 3: Estimation Results Model 2 (sample Limited to Banks Audited by a Big-4 audit firm)^a

$$\text{GAP_BV}_{j,t} = \alpha_j + \beta_1 \text{PWC}_{j,t} + \beta_2 \text{E\&Y}_{j,t} + \beta_3 \text{DELOITTE}_{j,t} + \beta_4 \text{QUALITY}_{j,t} + \beta_5 \text{TOTASSET}_{j,t} + \beta_6 \text{LENDEMP}_{j,t} + \beta_7 \text{TIER1RBR}_{j,t} + \beta_8 \text{ROA}_{j,t} + \beta_9 \text{D2008}_j + \beta_{10} \text{D2009}_j + \beta_{11} \text{D2010}_j + e_{j,t}$$

| Variables | Audited by Big-4 firm only | Audited by Big-4 firm only (negative fair- value gap only) |
|--------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------|
| DELOITTE (auditor=Deloitte) | -.0218** (.0072) | -.0359** (.0117) |
| EY (auditor=EY) | -.0123** (.0042) | -.0201* (.0077) |
| PwC (auditor=PwC) | -.0006 (.0069) | .0065 (.0114) |
| QUALITY (loan quality) | -.0302 (.0288) | -.0254 (.0389) |
| TOTASSET (total assets) | -1.82e-11 *** (5.22e-12) | -9.19e-12 (7.85e-12) |
| LENDEMP (lending emphasis) | -.0349* (.0135) | -.0233 (.0274) |
| TIER1RBR (tier-1 ratio) ROA | -.0013 (.0008) | -.0004 (.0013) |
| (return on assets) D2008 (year | .4885*** (.1322) | .2054 (.1756) |
| 2008 indicator) D2009 (year | -.0085 (.0055) | -.0277* (.0118) |
| 2009 indicator) D2010 (year | -.0109 (.0058) | -.0153 (.0112) |
| 2010 indicator) | -.0037 (.0059) | -.0110 (.0115) |
| Number of observations | 293 | 124 |
| F Statistic | R ² = 0.1378 F = 5.24*** | R ² = 0.1468 F = 2.92** |
| RESET | F = 8.81*** | F = 2.22 |
| ^a Standard errors beneath the coefficients. | | |
| *significant at the 0.05 level; | | |
| **significant at the 0.01 level; | | |
| ***significant at the 0.001 level | | |

Results for the crisis versus non-crisis periods: Full sample

We conclude our analysis with a comparison of the results of Models 1 and 2 using separate samples for the crisis (2008 and 2009) and non-crisis (2007 and 2010) periods, with the non-crisis period serving as a falsification test. In doing so, we seek to answer the question of whether our results are similar between the crisis and non-crisis period, when the probability of a negative fair-value gap is likely very different. Tables 4 and 5 present the results of this analysis.

Table 4 presents the results of Model 1 for the crisis (2008 and 2009) and the non-crisis periods (2007 and 2010). For the crisis period, we obtain similar results to the results reported in Table 2. During the crisis period, being audited by Deloitte or EY results in a more negative fair-value gap, on average, relative to non-Big-4 audit firms. Not surprisingly, the coefficient on Deloitte is much larger than the coefficient reported in Table 2 (-0.0395 vs. -0.0155) and is highly significant. The coefficient for EY is also statistically significant and negative. Also not surprisingly, we find that lending emphasis (LENDEMP) is now statistically significant and negative, suggesting that during the crisis period, banks with a greater emphasis on lending had more negative fair-value gaps relative to banks with fewer loans. Looking at the results from the non-crisis period in Table 4, we see that only return on assets is statistically significant and positive. Apparently, size, auditor choice, and lending emphasis have no impact on loan fair-value gaps during the non-crisis years of 2007 and 2010.

Table 4: Estimation Results Model 1: Crisis (2008 & 2009) versus non-crisis (2007 & 2010) years^a

$$\begin{aligned} \text{GAP_BV}_{j,t} = & \alpha_j + \beta_1 \text{PWC}_{j,t} + \beta_2 \text{E\&Y}_{j,t} + \beta_3 \text{DELOITTE}_{j,t} + \beta_4 \text{KPMG}_{j,t} + \beta_5 \text{QUALITY}_{j,t} \\ & + \beta_6 \text{TOTASSET}_{j,t} + \beta_7 \text{LENDEMP}_{j,t} + \beta_8 \text{TIER1RBR}_{j,t} + \beta_9 \text{ROA}_{j,t} + \beta_{10} \text{D2008}_j \\ & + \beta_{11} \text{D2009}_j + \beta_{12} \text{D2010}_j + e_{j,t} \end{aligned}$$

| Variables | Crisis Period (2008 & 2009) | Non-Crisis Period (2007 & 2010) |
|--------------------------------------------------------|--------------------------------|------------------------------------|
| DELOITTE (auditor=Deloitte) | -.0395*** (.0120) | .0080 (.0075) |
| EY (auditor=EY) | -.0158* (.0074) | .0040 (.0047) |
| KPMG (auditor=KPMG) | .0071 (.0065) | .0049 (.0041) |
| PwC (auditor=PwC) | .0048 (.0119) | .0078 (.0074) |
| QUALITY (loan quality) | -.0580 (.0431) | .0131 (.0313) |
| TOTASSET (total assets) | -2.74e-11 *** (8.19e-12) | -4.88e-12 (5.27e-12) |
| LENDEMP (lending emphasis) | -.0480* (.0197) | .0067 (.0120) |
| TIER1RBR (tier-1 ratio) ROA | -.0021 (.0012) | -.00008 (.0006) |
| (return on assets) D2009 (year | .4596** (.1483) | .6671*** (.1847) |
| 2009 indicator) D2010 (year | -.0058 (.0052) | ----- ----- |
| 2010 indicator) | ----- ----- | -.0067 (.0041) |
| Number of observations | 200 | 200 |
| F Statistic | $R^2 = 0.1607$ F = 4.81*** | $R^2 = 0.0957$ F = 3.11** |
| RESET | F = 1.87 | F = 0.83 |
| ^a Standard errors beneath the coefficients. | | |
| *significant at the 0.05 level; | | |
| **significant at the 0.01 level; | | |
| ***significant at the 0.001 level | | |

Results for the crisis versus non-crisis periods: Banks audited by a Big-4 audit firm

Lastly, Table 5 presents the results of Model 2 for the crisis (2008 and 2009) and the non-crisis periods (2007 and 2010). Recall that Model 2 limits the sample to banks audited by one of the Big-4 auditors. Our results are similar to the results reported in Table 4. However, we now see much larger and more highly significant coefficients for Deloitte and EY, as well as for size (TOTASSET) and lending emphasis (LENDEMP). Interestingly, although still statistically significant, the coefficient on return on assets (ROA) is smaller. Results for the non-crisis period are very similar to those reported in Table 4 where only return on assets is statistically significant and positive. We

conclude that the effect of auditor choice is far more likely to impact banks' fair-value gaps during periods of financial turmoil than during periods of relative financial calm.

Table 5: Estimation Results Model 2 (sample limited to Banks Audited by a Big-4 audit firm): Crisis (2008 & 2009) versus non-crisis (2007 & 2010) years^a

$$\text{GAP_BV}_{j,t} = \alpha_j + \beta_1 \text{PWC}_{j,t} + \beta_2 \text{E\&Y}_{j,t} + \beta_3 \text{DELOITTE}_{j,t} + \beta_4 \text{QUALITY}_{j,t} + \beta_5 \text{TOTASSET}_{j,t} + \beta_6 \text{LENDEMP}_{j,t} + \beta_7 \text{TIER1RBR}_{j,t} + \beta_8 \text{ROA}_{j,t} + \beta_9 \text{D2008}_j + \beta_{10} \text{D2009}_j + \beta_{11} \text{D2010}_j + e_{j,t}$$

| Variables | Audited by Big- 4 firm only: Crisis Period (2008 & 2009) | Audited by Big-4 firm only: Non-Crisis Period (2007 & 2010) |
|--------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------|
| DELOITTE (auditor=Deloitte) | -.0476*** (.0120) | .0029 (.0073) |
| EY (auditor=EY) | -.0237*** (.0070) | -.0013 (.0043) |
| PwC (auditor=PwC) | -.0030 (.0117) | .0018 (.0070) |
| QUALITY (loan quality) | -.0726 (.0453) | .0179 (.0339) |
| TOTASSET (total assets) | -3.09e-11 *** (8.59e-12) | -6.16e-12 (5.38e-12) |
| LENDEMP (lending emphasis) | -.0731** (.0231) | -.0033 (.0135) |
| TIER1RBR (tier-1 ratio) ROA | -.0030 (.0016) | -.0003 (.0007) |
| (return on assets) D2009 (year | .3922* (.1717) | .6894** (.2505) |
| 2009 indicator) D2010 (year | -.0011 (.0063) | ----- ----- |
| 2010 indicator) | ----- ----- | -.0060 (.0047) |
| Number of observations | 146 | 147 |
| F Statistic | R ² = 0.1968 F = 4.95*** | R ² = 0.0545 F = 1.94* |
| RESET | F = 1.77 | F = 2.11 |
| ^a Standard errors beneath the coefficients. | | |
| *significant at the 0.05 level; | | |
| **significant at the 0.01 level; | | |
| ***significant at the 0.001 level | | |

SUMMARY, CONCLUSIONS AND LIMITATIONS

Are some auditors stricter than others when assessing the value of a bank holding company's loan portfolio? Using a sample of the 100 largest BHCs in the U.S. and a period of time that includes the financial turmoil of the most recent banking crisis, 2007- 2010, a time when the tension between BHCs and their auditors was most likely high, we find that the answer is yes.

Our results confirm the existence of large differences between the disclosed fair value and book value of loans during the financial crisis. As expected, we find that the average fair-value gap worsens after 2007, and then improves in 2010 as the crisis waned. In other words, and not surprisingly, we find a marked deterioration in the overall quality of banks' loan portfolios followed by significant improvement at the end of this period.

For our full sample, we find that being audited by Deloitte results in more negative (i.e., disclosed fair value is less than book value) and statistically significant difference in the fair-value gap of bank loans relative to being audited by a non-Big-4 firm. When limiting the sample to observations where the fair-value gap is negative, we again find that being audited by Deloitte results in a more negative and statistically significant fair-value gap. We obtain similar results when limiting our sample to only Big-4 auditors, using KPMG as a benchmark. When limiting the analysis to only banks audited by the Big-4, we find that being audited by either Deloitte or EY results in a more negative and statistically significant fair value gap, suggesting that relative to KPMG, Deloitte and EY are stricter with their bank clients when it comes to valuing their loan portfolios. We obtain similar results when limiting the sample to only banks audited by the Big-4 and having negative fair-value gaps.

Our results also establish the intuitive expectations that total assets (i.e. size), ROA (i.e. profitability), and the economic environment (i.e. the year) are important determinants of the fair-value gap. Finally, it should be noted that the entire issue of fair-value gaps will become much more important in the future if BHCs are ever required to fully recognize changes in these fair-value gaps in net income.

ENDNOTES

¹Loans reported at amortized cost make up a majority of bank assets. As of 3/31/2009, loans representing roughly two-thirds of total assets for the most of the 7,932 Federally insured banks in the U.S. were being reported at amortized cost (Rapaport 2010).

²Banks rely on internal models when estimating loan fair values. As Rolf Winkler stated in the *Wall Street Journal* in 2009: "Regions Financial carries its loans at 34% above fair value. Citigroup carries its loans at no premium. This could mean Regions faced bigger losses down the road, or it could mean Citi's fair-value calculation is too charitable. More likely, it means both." (Winkler 2009).

³Management has an incentive to upwardly bias the disclosed fair value of held-for-investment loans because users may use fair-value estimates to evaluate the bank's risk and performance. According to SFAS 107 (now ASC 825-10), "Information about fair value better enables investors, creditors, and other users to assess the consequences of an entity's investment and financing strategies, that is, to assess its performance. For example, information about fair value shows the effects of a decision to borrow using fixed-rate rather than floating-rate financial instruments or of a decision to invest in long-term rather than short-term instruments. Also, in a dynamic economy, information about fair value permits continuous reassessment of earlier decisions in light of current circumstances" (pg.11).

⁴It was reported during the financial crisis that if Regions Financial Corps' \$16.9 billion fair-value gap had been recognized on its balance sheet, regulatory Tier 1 capital would have been reduced by \$13 billion. Other banks would have also seen economically significant reductions in Tier 1 capital.

⁵In 2010, the FASB proposed that banks be required to report the fair value of loans on the balance sheet, with the changes in fair value flowing through other comprehensive income (FASB 2011). In 2013, the FASB decided to not change the existing requirements (FASB 2013). Most recently, the FASB has changed the way banks estimate their expected credit losses, moving from an incurred loss model to an expected loss model. Beginning in 2020, banks will

be required to immediately recognize all expected credit losses on their loan portfolios. Under this new impairment model, banks must still disclose the fair value of their loan portfolios (which will likely be different from the amount expected to be collected).

After 2020, we expect the role of the auditor to become even more important, as the new standard does not prescribe any methods to estimate current expected credit losses, but instead allows banks (and their auditors) to use considerable judgment in determining the appropriate methods for estimating expected credit losses and the fair value of their loan portfolios (FASB 2016(a); FASB 2016(b)).

⁶We believe this to be a very representative sample, given that the top 100 BHCs represent approximately 90% of total banking assets in the U.S.

⁷We initially examine the effect of a Big-4 vs. non-Big-4 auditor indicator variable (with controls) on banks' fair-value gaps. Results (untabulated) indicate no statistical significant difference between Big-4 (as a group) versus non-Big-4.

⁸We designate KPMG as the benchmark auditor because of KPMG's traditional status as the banking and financial industry's expert auditor (this is also consistent with prior studies; see Kanagaretnam et al. (2009) and Fields et al. (2004)). Furthermore, in our pooled sample, KPMG is the market leader with 37% of client observations (market shares of the other firms in our sample are as follows: EY, 23%; PwC, 8%; Deloitte, 6%; non-Big-4, 26%).

⁹The reduced sample consisting of only observations with a negative fair-value gap ($n=180$) is distributed across the years as follows: (2007) = 28; (2008) = 42; (2009) = 59; (2010) = 51. As expected, we see a greater number of banks with negative fair-value gaps during the height of the financial crisis.

¹⁰RESET adds polynomials in the OLS fitted values from the estimated model to detect general kinds of functional form misspecification (Wooldridge 2003, pg.293). A lack of statistical significance (non-significance) suggests that the model is correctly specified.

¹¹Rapoport (2009) speculated that the sharper declines in loan fair values for Deloitte and EY clients relative to other accounting firms may have been due to Deloitte and EY having a relatively less healthy group of bank clients. Our findings test this assumption empirically and suggest that this is not the case. Rather, our results suggest that audit policies with regards to valuing bank loan portfolios vary among the Big-4 auditors, further suggesting that Big-4 auditors may directly affect the strength of banks' regulatory capital.

¹²The reduced sample consisting of only observations from banks audited by the Big-4 and with a negative fair-value gap ($n=124$) is distributed across the years as follows: (2007) = 17; (2008) = 30; (2009) = 42; (2010) = 35.

¹³Recall that a lack of statistical significance (non-significance) suggests that the model is correctly specified.

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ENCOURAGING ATTENDANCE IN AN INFORMATION TECHNOLOGY COURSE

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ABSTRACT

Attendance is important to student success as it is believed to aid in content learning and retention. Research has shown student attendance was statistically significant in explaining student's performance. Despite the benefits regarding student attendance, poor student attendance still remains an issue. In the era where students are consumed by technology, the need to explore new ways of using technology for attendance and classroom monitoring is essential. This research study explores a well-known, validated and established electronic attendance and classroom monitoring application, SchoolVue. SchoolVue is a classroom management software which allows the instructor to interact with the student's computer. This research utilizes SchoolVue to explore the differences among information technology courses utilizing electronic attendance and classroom monitoring and those that do not. Implications from this research include enhancement in positive classroom accountability, positive student and teacher relationships, classroom retention, social intelligence, course enrollment, and discipline recruitment.

INTRODUCTION

Students who show up for class, actively listen and take notes have long time been studied as having positive attitudes toward education (Walbeek, 2004). As it is believed that class attendance aids in content learning and retention, finding methods to prevent grade attrition and enhance positive student engagement is a challenge most instructors face daily in higher education (Sheridan, 2012). Research has shown that student attendance is statistically significant in explaining student's performance (Arulampalam, Naylor, & Smith, 2012; Stance, 2006; Westerman, Perez-Batres, Coffey, & Prouder, 2011; Park & Kerr, 1990; Sheridan, 2012). Furthermore, incentives or (compulsory attendance policy) correlated to a percentage of the student's grade has been found to have a positive effect on student attendance and grades (Snyder, Lee-Partridge, Jarmoszko, Petkovic, & Donofrio, 2014). The consequences of lack of attendance, attention, and participation in a computer lab can have a myriad of consequences. One such consequence is the creation of a classroom environment that does not hold the student accountable, thus decreasing motivation. As such, many institutions encourage enhanced participation within computer labs. Smaller classroom sizes encourage and allow an enhanced relationship between the students and the teachers, thus stimulating the social intelligence and accountability of the student.

There is a limited amount of research on the effects of electronic classroom attendance and monitoring. The goal of this research is to investigate the effects of electronic attendance and monitoring and report instructor lessons learned from using electronic attendance and monitoring. This work has practical implications for higher education institutions, faculty, and computing degree programs by uncovering factors that can help assist with improving classroom accountability, student and teacher relationships, classroom retention, social intelligence, course enrollment, and discipline recruitment.

The remainder of this paper is structured as follows: Brief background/review of the literature, the methodology, results, and conclusion.

BACKGROUND/REVIEW OF LITERATURE

Classroom Attendance

Regular course attendance in a traditional classroom can demonstrate a student's dedication and motivation in their academic ambition. One of the primary responsibilities of a higher education instructor is to disseminate information to their students with the goal of knowledge attainment. The task of sharing knowledge can be difficult when students choose not to attend classes regularly. The link between class/course attendance and an instructor's attendance policy has been found to deter absences, reinforce learning outcomes, increase grades and personalize learning for smaller classes (Durfee, Loendorf, Richter, Geyer, & Munson, 2012). As the Generation Z student enters the college classroom, the question of the attributes the new generation brings to the classroom presents a new set of challenges for higher educational instructors that wish to maintain student's attendance within their courses.

The Z, iGen or Pluralist Generation has been found to be characterized as a tech-centered generation that is isolated from social familiarities of previous generations. As there is no clear definition of the membership age of Z generation, Robert Half staffing firm states that Generation Z is comprised of individuals born between the years of 1990 and 1999, whereas Schroeder (2015) and Kingston (2014) define Generation Z membership as individuals born between the years of 1995 to 2015. Although Generation Z's group is loosely defined within the literature, the generation's characteristics are somewhat similar. Primary personas indicate, "Gen Z's learn anywhere, anytime" (Marron 2015, p.124), due to their reliance on their digital devices. Understanding the emerging characteristics of this new generation can allow educators to track methods which are working and what practices can be integrated that may positively increase retention in the classroom.

Generation Z's Accountability

Generation Z members spend a significant part of their day socializing with friends and family in a digital form. They prefer to communicate in the classroom through e-mail and online discussion boards instead of face-to-face interactions and opt for webinars or online lectures instead of traditional presentations. Within the Z generation, there are different methods for a student to increase accountability. One method is connecting to the student by simply calling them by name. When a student is called by name there is a sense of accountability. Sleight and Ritzer (2001) indicate that showing interest in the student and knowing the students are common behaviors teachers can exhibit to develop rapport. As the professor shows interest and holds the student accountable for attendance, there is established data that supports the relationship between the students' attendance and the students' academic performance (Fjortoft, 2005).

Attendance of lectures and classroom/group discussions within a higher education setting can set the tone for the course and encourage student learning and participation (Termos, 2013). It is at times easy for a freshman to misjudge the repercussion of their actions when a class is missed. Although the assignments and material may be available on the college's platform, the student may miss valuable discussions that can leave the student questioning the content or the connection of the content to the testing material. The decision to set the expectations of an attendance policy provided as a percentage of a student's grade has been discussed widely in the profession with mixed results. Bugeja (2012) candidly explained his policy of attendance which includes the process the student must undertake to explain the absence truthfully. Professor Bugeja, does not require his students to sign in nor does he take attendance daily, he relies on student photos downloaded from the Registrar and identifies students that miss class frequently over time. While this is one method of instilling a sense of accountability in course attendance, this leaves the instructor with much of the burden.

Classroom Accountability

Issues in holding a student accountable for attendance and coursework are often a point of contention within the post-secondary classroom (Evertson, & Poole, 2003). Accountability is needed not only in the classroom for success, but prepares the student for the workforce. Tracking a student's attendance allows the instructor to determine if the student is understanding the content from the classroom lecture or if the student is not understanding the content due to lack of attendance. Positive accountability can also endorse a positive respect for attendance that will also be needed in the student's future career.

When the student is monitored, the student understands that a connection between the student and the instructor is created. With this connection, the student's screen can be shared at any moment within the class. The instructor has the ability to monitor and assist the student as they are working on a lab problem without leaving the front of the room, or use a student's problem as a sharable problem/resolution example.

Student's Social Intelligence

A simple definition of social intelligence as defined by Karl Albrech (2005) is "the ability to get along well with others and to get them to cooperate with you" (p.3). Social Intelligence is important at the student level and needs to be reinforced at an academic level. As many employers are looking for employees that have the social skill set to communicate effectively, problem solve and work well within a team; social intelligence should also be reinforced within the classroom (Pertegal-Felices, Castejón-Costa, & Jimeno-Morenilla, 2014). One method of reinforcing social

skills in the classroom is having the instructor elicit a relationship with the students to increase social intelligence awareness and growth.

Course Management System – Crosstec SchoolVue

SchoolVue, developed by Crosstec, is a course management system for the traditional classroom setting. It allows the instructor to monitor, manage, survey, instruct and take control of the students' computer. Instructor and students can also distribute and share files (Bloomsburg University, n.d.; Crosstec, n.d.). Additionally, SchoolVue allows the instructor to record and play back a student's and teacher's screen capture sessions.

Figure 1 shows SchoolVue's dashboard. The dashboard shows the various user-friendly features offered.

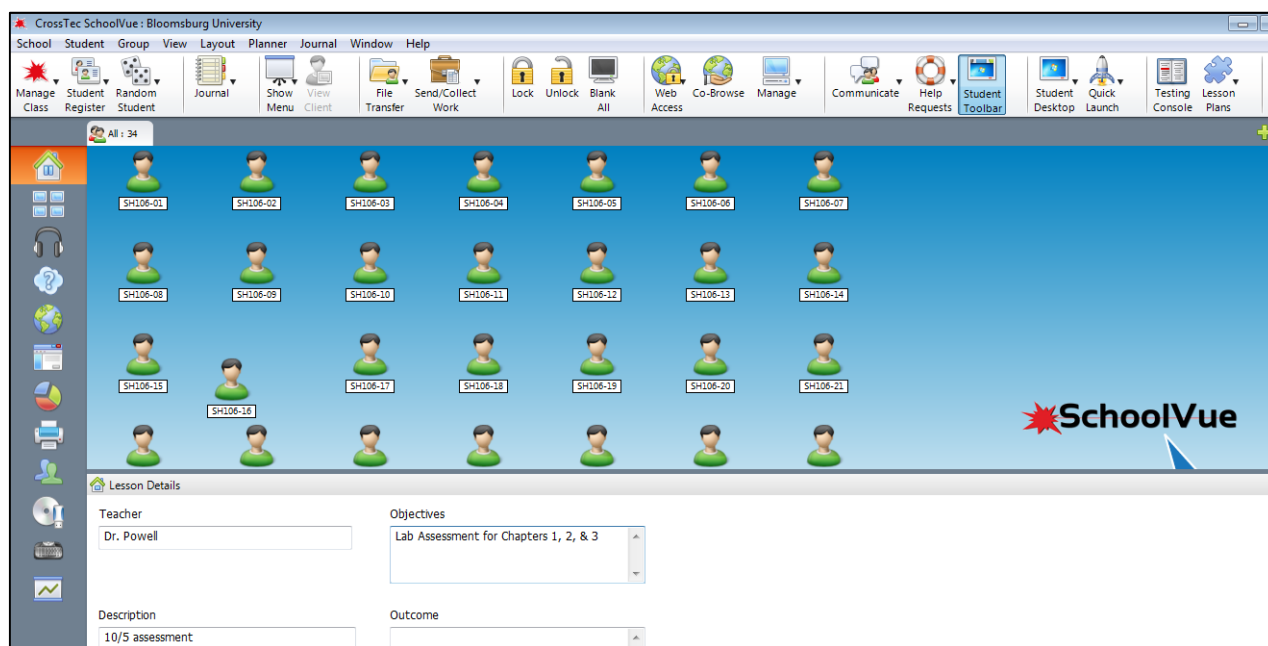


Figure 1: SchoolVue Dashboard

According to Richmond Systems (2009), SchoolVue has many benefits such as increased student time-on-task, policy control, enhanced classroom interaction and feedback, student engagement, and easily used multi-tasking capabilities. Today, there are several academic institutions within the public, private, ivy league or junior college that are using SchoolVue to better assist their faculty in the classroom. *Table 1* provides a sample list and overview of usage from various academic institutions.

Table 1: Sample List of Academic Institutions using SchoolVue

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Ivy League University | Columbia University –Biomedical Engineering |
| <i>Usage: http://bme.columbia.edu/files/seasdepts/biomedical-engineering/pdf-files/using_schoolvue_small.pdf</i> | |
| Junior College | Juliet Junior College |
| <i>Usage: http://www.jjc.edu/tech-training-development/Documents/intro-to-schoolvue.pdf</i> | |
| Private University | Hofstra University |
| <i>Usage: http://www.hofstra.edu/pdf/fcs_qs_schoolvue.pdf</i> | |
| Public University | Bloomsburg University of PA |
| <i>Usage: https://www.bloomu.edu/technology/schoolvue</i> | |

RESEARCH PURPOSE STATEMENT AND METHODOLOGY

The purpose of this research is to investigate the effects of electronic attendance and monitoring. The research question is:

- What are the lessons learned and/or instructor implications of using a course management system for electronic attendance and monitoring?

This study utilized SchoolVue to take attendance and monitor undergraduate students enrolled in 100- and 300-level information technology courses in a medium sized 4-year institution. Courses were traditional face-to-face information technology related courses held in a computer lab for a hands-on learning experience.

The courses consisted of fifty minute classes three times a week (Monday, Wednesday and Friday) for fourteen weeks. At the beginning of the semester, the instructors gave instructions and a brief overview about SchoolVue. They also explained that classroom attendance will be taken using SchoolVue. Consistently throughout the semester at the beginning of each class, the instructors would deploy SchoolVue. At that time, students individually signed in electronically into the course within SchoolVue using their first name and student identification number.

Additionally, the instructor would use SchoolVue to display student demonstrations, answer questions, and monitor classroom progress.

RESULTS/IMPLICATIONS

The instructors have observed additional implications from using SchoolVue for electronic attendance and monitoring. Specifically, it was observed that a ripple effect starting with enhancement in positive classroom accountability, positive student and teacher relationships, classroom retention, social intelligence, classroom retention, course enrollment, and ending with discipline recruitment. Figure 3 illustrates the ripple effect.

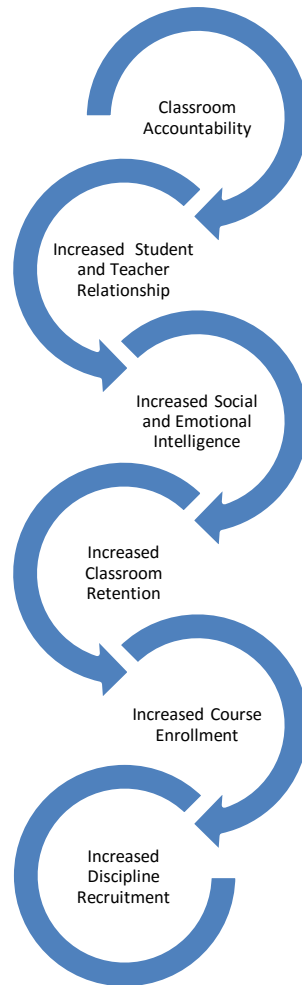


Figure 3: Implications of Electronic Attendance and Monitoring

Enhancement in positive classroom accountability

In order for student attendance and monitoring to occur, students must log-in. *Figure 4* shows the student registration/login screen. Once a student is logged into SchoolVue, the instructor is able to monitor and share the student's screen at any time within the class period. Thus, when using SchoolVue, the instructors noted an increase in classroom accountability. Specifically, ensuring that the students understand that not only their attendance is monitored, but that they can be called on within class to answer questions has often times led to an increased effort on the student's part. For example, when students are unprepared for class and are called upon, the instructor can clearly identify that the student may not have completed the proper preparation for the lab or lecture.

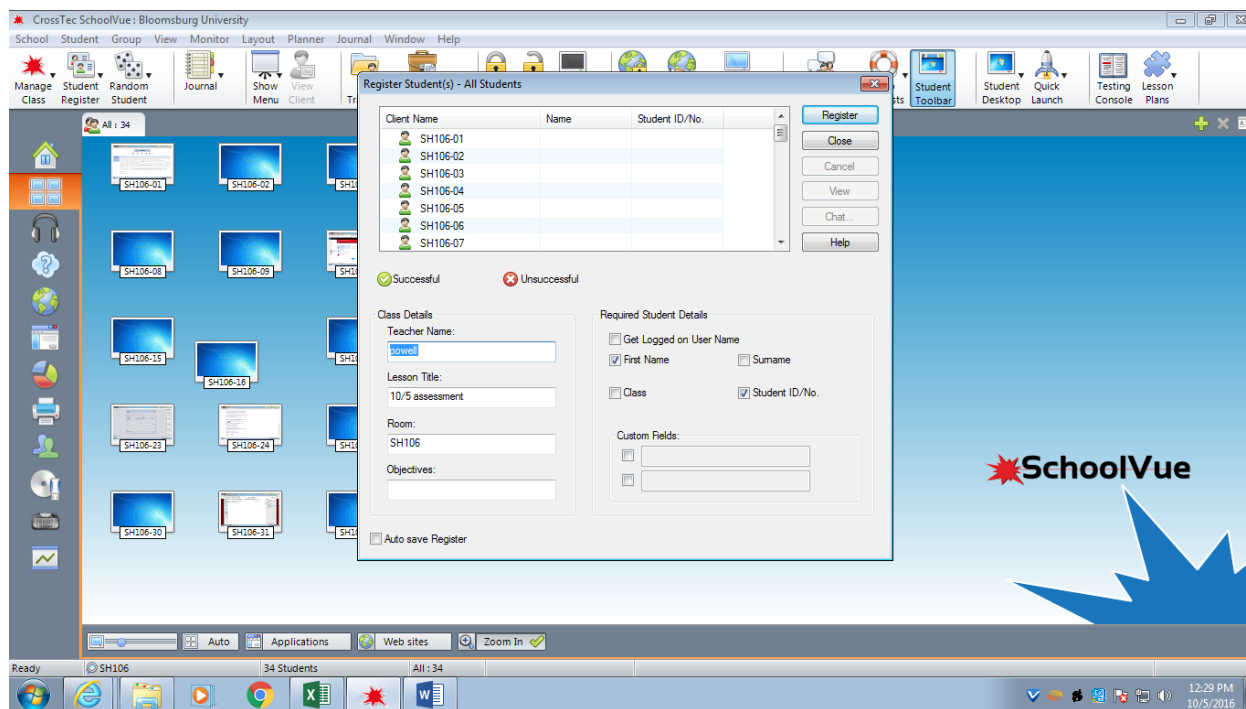


Figure 4: Student Registration/Login

Positive Student and Teacher Academic Relationships

Another benefit from electronic attendance and classroom monitoring using SchoolVue is the positive relationship it builds between the student and the instructor. SchoolVue makes it easy for the instructor to call on a student by their name. It seemed as if students felt comfortable that the instructor knew their name. Hence, students were not just a number; they were a contributing member of class with a name. Additionally, it was also noted that having the ability to call on a student by name has also refocused a distracted student. Figure 5 shows a seating chart by student's name.

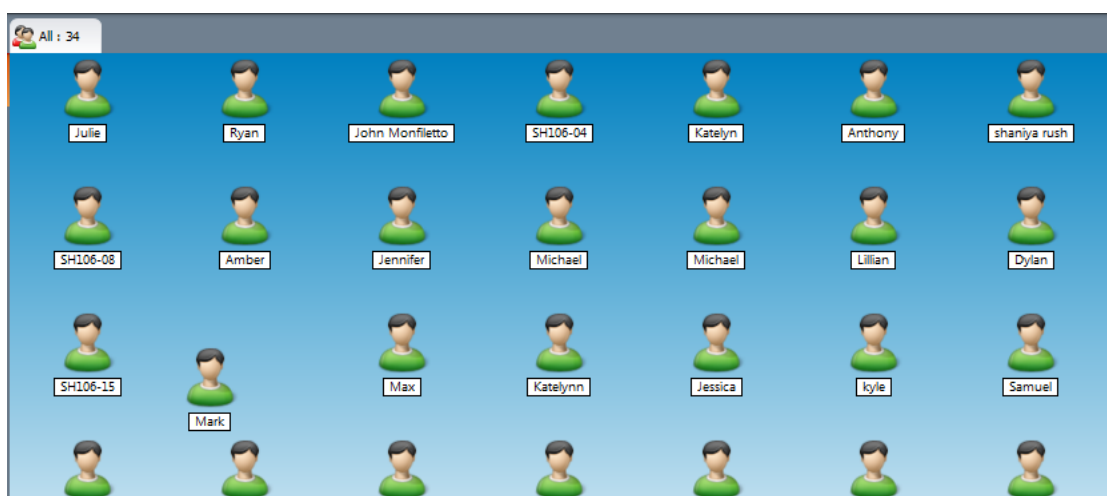


Figure 5: Seating Chart by Student Name

Additionally, the seating chart by student's name allowed the instructor to personally engage the students in questions posed within the lecture. Not waiting for volunteers not only saves time within the lecture, but also can strengthen content feedback.

However, it is important to note that there were a few minor problems found with the SchoolVue registration process which directly impacted the student and teacher relationship. Specifically, students were only allowed to register at the beginning of class. For example, should a student enter class late (after the registration was over), they did not have their name displayed on the screen and they didn't receive credit for their class attendance. As a result, this often made students upset with the Instructor as they claimed they were in attendance, and yet, the student's name was not listed in the registration log for that day.

Social and Emotional Intelligence

Additional benefits from using SchoolVue were observed with the student's social intelligence. Specifically, it seemed as if social intelligence was enhanced when the instructor called on a student by their first name. As a result, the student seemed more willing to engage in a respected conversation with the instructor and class.

As previously indicated, it was also observed that the student felt welcomed in the classroom environment. This helped the student to create an emotional tie of concern and understanding with the instructor. This is particularly evident when a student is having issues within the course. The instructor can call on the student to solicit assistance with the material, thus creating a bond through problem solving.

Classroom Retention

The ability to display a student's computer screen as an example within the lesson also encouraged active participation and preparedness on the student's part. When there is a lack of attendance within the class, there is a transparent display of computers missing from the roster and the screen. Observation of attendance patterns allowed the professor or lecturer to mentor students and track the student's dedication to the lesson. Hence, it was observed that the classroom retention rate increased. Figure 6 shows a snapshot of instructor monitoring.

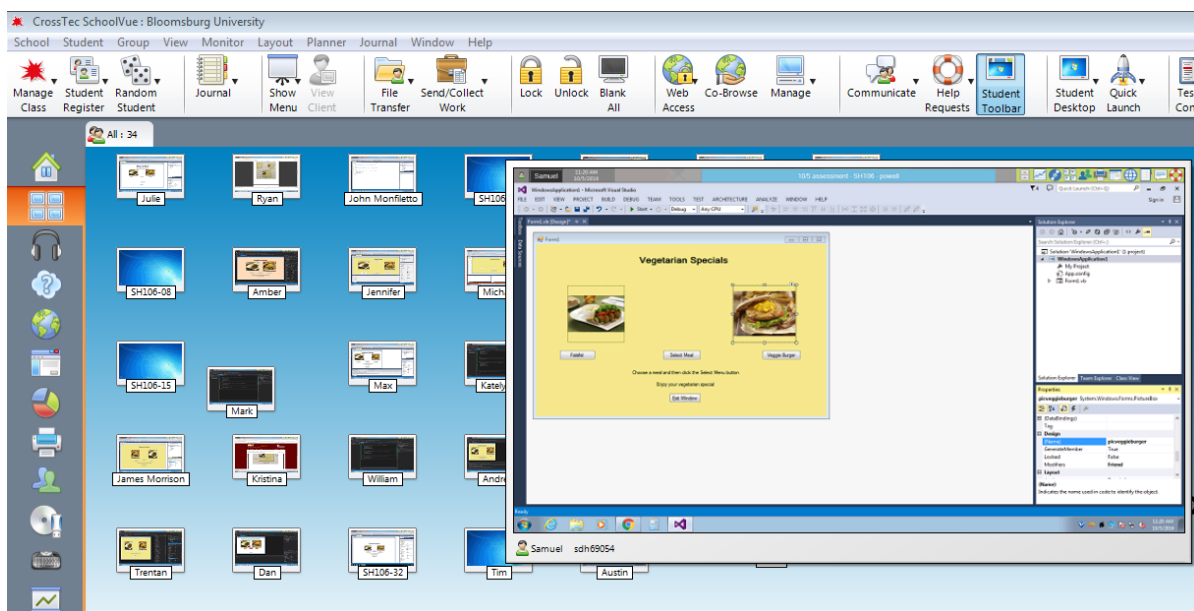


Figure 3: Instructor Monitoring of Student's Screen

Course Enrollment

The instructors also observed that students were learning and sharing with others inside and outside of class. As such, many students informed the instructor that they enjoyed their course and/or encouraged their friends to take their course next semester. Course enrollment increased the next semester, there were waiting lists, and several e-mails from students wanting to enroll in the courses.

Discipline Recruitment

Once students felt comfortable in a positive classroom environment, established a positive academic relationship with the instructor, and developed a social and emotional intelligence with the instructor. It was easy for the instructors to recognize information technology talent and encourage those talented students to major or minor within the Information Technology discipline.

CONCLUSION

Today, classroom attendance is becoming more and more essential as student's grades often depend upon it within hands-on information technology course. As such, many information technologies instructors are looking for ways to encourage classroom attendance and monitoring of students. This paper highlighted a course management tool that can be provide educators with an electronic attendance and classroom monitoring that helps to increase classroom attendance among the courses using electronic attendance. Additional implications also include enhancement in positive classroom accountability, positive student and teacher relationships, classroom retention, social intelligence, course enrollment, and discipline recruitment.

It is important to note that this study is not without limitations. This study had only a small amount of classes that utilize SchoolVue and made no attempt to control for variables that may impact student attendance. Additionally, due to the limited amount of courses and sections, this study did not analyze data for significance; only frequencies were measured. Future research may include furthering examination of larger amounts of courses, controlling for variables, examining data for significance, exploring implementations of additional electronic attendance and monitor tools, a comparison of tools, as well as, providing additional teaching resources regarding electronic attendance and class monitoring.

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READY. SET. GO!
ARE YOU READY FOR THE NEW TECHNOLOGICALLY-SAVVY STUDENTS??
ARE YOU SET TO BE ABLE TO WALK THE TALK??
WHAT ARE YOU WAITING FOR – GO!!
 Darrell Steckler, York College of Pennsylvania

ABSTRACT

Do you fail at Facebook? Are you all atwitter when discussing the Twittiverse? When someone mentions Pinterest, do you lose interest? Is Instagram some sort of new-fangled cereal to you? Does hearing of “Google Plus” make you wonder, “Plus what?” Wonder why so much is made of SnapChat, which you think of as just a brief conversation. Messenger, Vine, Foursquare, Swarm, YouTube, Tumblr, ooVoo, Tindr, LinkedIn, the list goes on. For our incoming students, these and others will be second nature to them. We need to have at least an understanding of what our students are using in their everyday lives. Can there be a way to pull them into the classroom conversations through our utilizing the very applications they are using today? Take a dip into the pool of social media, see how it is affecting your students in both positive and negative ways, and how the challenges Social Media presents can be handled.

SOCIAL APPLICATIONS AVAILABLE

There are more social applications available than could be addressed in any one resource. Many businesses are incorporating the use of social media into their advertising budgets to promote their brands, with most companies having a presence on Facebook at the very least. This paper will attempt to discuss the social applications that would most likely be implemented in a teaching environment, based on popularity.

The Top 20 Social Applications (based on number of users) are Listed Below:

| SOCIAL MEDIA | WHAT IS IT? | POSSIBLE AUDIENCE |
|--------------|------------------------|----------------------------------------------|
| Facebook | social networking | 1.59 B Users, 1M businesses using, 100M/yr |
| Twitter | 140 chars | 320M Users, 81% from mobile |
| LinkedIn | business connections | 400M+ users |
| Google + | social media | 418M users |
| YouTube | videos | 1B videos/day |
| Pinterest | digital bulletin board | 100M users, 80% Women |
| Instagram | pictures | 400M Monthly, 75M/day, owned by FB |
| Tumblr | Blogs | 420M users, 217M Blogs |
| Flickr | Image Hosting | 112M Users, 117 countries, 3.5M images daily |
| Reddit | Social News | 231M monthly users |
| Snapchat | Image Msgs | 100M daily users |
| WhatsApp | Cross-Platform Msg | 1B Users, owned by FB |
| Quora | Question and Answers | 80M monthly users |
| Vine | Video Sharing (6 sec) | 40M Users, owned by Twitter |
| Periscope | Live Video Streaming | 10M accounts, owned by Twitter |
| BizSugar | Small Business | |
| StumbleUpon | Discovery Engine | 25M Users |
| Delicious | Share web bookmarks | 5.3M Users |
| Digg | News aggregator | 11M Users |
| Viber | VOIP, IM | 600M Users, 230M Monthly |

(Maina, 2016)

TECHNOLOGICAL CHANGES COMING TO SOCIAL MEDIA

As professors who may be exploring the use of social media in our classrooms, we need to ensure a platform is chosen that is sustainable. Being aware of the social media technological trends will help you to make an informed decision and not be left behind. Some of the important trends that should be given attention are:

1. **Google Redefining**

How information is gathered, aggregated, and delivered back to paying consumers of that valuable profile data is a top priority. Search Engine Optimization (SEO) will take on even greater significance and value.

2. **Mobile**

20% of search traffic is coming from a mobile device such as a phone or tablet. Be aware that most of your students may be using mobile devices for accessing the social media technology you choose.

3. **Lean Startup**

What this means is companies may be rushing to get their sites accessible before they are fully functional, due to the rapidly changing nature of the competition. Deciding on a platform could be a problem if by picking something “new” and “cutting edge” you may also be selecting technology not quite ready for the pressure thousands of users could place on the application. Companies are accepting the problems from initially ‘buggy’ software to start building a customer base. Just do not be caught in the ‘new release every month’ problems that can create.

4. **SaaS Companies**

“Software As A Service” is like ‘renting’ the use of a software package. The guts and brains are on the company’s servers; you just get to use the technology by accessing their systems, while paying a monthly ‘fee’ for the service. The danger in these types of tools from startup companies rests in hoping they are still around next year. Due to the volatility of the marketplace and social media, many do not make it to profitability quick enough and go out of business.

5. **More Networks, More Acquisitions**

Do we need more?? But, they are coming. And, the smaller players will get swallowed up by the larger companies. Again, the object is to pick social media applications from companies that have staying power, have been viable entities for a while, and can be trusted to last through a whole semester or year!

6. **More Tools**

And, more and more new applications are created every day. If you do not get lost in the coolness of the newest thing and stick to the basics, you should be fine.

7. **Virtual Reality, Social Shopping, Facebook Live**

Some of these enhancements have already arrived. Virtual Reality has arrived with VR headsets being a hot item for these holidays. Speaking of shopping, gone are the days of scanning a bar code or QR Code to be directed to a company’s web site for a purchase. Direct purchasing will become the normal method of eCommerce. In November of 2015, Facebook reached 8 Billion video views per day, every day. And, now Facebook Live is here. People are already sharing their experiences with their Facebook friends. News channels were the first to use this technology, made possible when Facebook bought Oculus, a virtual reality company. In theory, if you use a Facebook page for your class, you could do a flipped classroom, with the students ‘attending’ lectures from home, the library, the dining hall, their dorm room, only coming in to a physical classroom for quizzes and exams.

SOCIAL MEDIA SKILLS GAP AND CUSTOMER SERVICE

Particularly at work, social media is creeping into our lives. Workplace social networks are exploding. Skype, Slack, and soon “Facebook at Work” are becoming commonplace in our work environment. Social tools are being used to streamline internal communications, help sales staff reach consumers, the now expected “Chat” button for customer service, and for marketing and advertising. However only 12 percent of the workforce feel that they use the tools effectively. Even millennials are challenged in using their perceived social media skills and applying them to the

business environment. This has resulted in corporate snafus and social media miss-steps. On the positive side, customer service has matured into a very helpful experience for consumers when a company uses social media wisely. Twitter now has a Direct Messages tool for customer service allowing companies and customers to contact each other directly and privately for solving issues. Facebook has launched Messenger Business and now has over 800 Million users.

USING SOCIAL MEDIA IN THE CLASSROOM

Most professors see the obsession of their students with social media to be annoying, bothersome, and an impediment to learning (Owens, 2014). Used properly and with careful thought, the problem of social media can be reframed as an opportunity (Owens, 2014), and used to bring the class into the conversation, engaging them even more in the learning process. Using one of the top 3 social media applications, Twitter, Instagram, and Facebook, instructors may see that being able to engage the students anytime, anywhere can be a better path to learning, although it can also be a double-edged sword, which we will address later.

Teachers should direct their classes to create professional accounts for their classroom work, separate from their online social accounts. A class account set up by the teacher should be professional, considering any security concerns students may have. Once the accounts are in place, teachers and students can discuss projects throughout the whole process and not have to wait for 'class time' for those discussions. Hashtags in Twitter or special groups on Facebook could allow for students to share their efforts and collaborate on team projects. Many instructors are using social media, but are relegating the students to a passive role, where they just log onto the blog or site, and read what is posted or view a video. There is no interaction between the students and none with the instructor. This is a missed opportunity for both. Truly engaging the students, holding an open discussion or debates, holding 'live' lectures, offering off-hours support for the students, all benefits of using social media to enrich the learning milieu.

Many institutions are already using social media technologies, such as Canvas, Blackboard, and Moodle for online grading and communication with students. This is another way in which the online feedback and communication fosters the relationship between faculty and students.

Social media applications have certain characteristics as identified by Mayfield (2008, p. 5): (1) social media encourages participation between contributors and viewers, (2) social media promotes openness in communication through voting, comments, and sharing, (3) social media advocates two-way conversations between multiple users rather than merely broadcasting information, (4) social media supports quick-forming communities, especially around a common interest, and (5) social media thrives on connectedness, bringing people together through common resources, links, sites, and media.

BENEFITS OF USING SOCIAL MEDIA IN THE CLASSROOM

Social media is being used by institutions of higher learning to communicate with both current and prospective students. Liz Sheets, Senior Consultant of Digital Strategy at TUNHEIM, says that social media is lightening the classroom atmosphere, and is following the relaxed work-world model.

In the case of a shy student who does not speak up in the classroom, who may be drowned out by the stronger personalities in that setting, they have been seen to blossom in the online classroom environment. The student finds their voice and can become a meaningful contributor to the discussions. These interactions will help increase their confidence and grow their self-worth.

A study was completed of first-year college students to determine why the drop-out rate was so high (Turner and Thompson, 2014). What was the biggest factor contributing to the success of students who completed their degrees? One of the critical components for success was the instructor-student relationship. It was determined that in a broad sense, students that developed an interactive relationship with the instructor increased their chances of academic success (Turner & Thompson, 2014).

15 years ago, a phrase was used by Marc Prensky (2001) calling the students of that era Digital Natives. They had grown up in a digital age, where cellphones and iPads were second nature to them. He labeled the older adults as Digital Immigrants (p. 1) coming to the technology or having it thrust upon them. Now many of those Digital Natives

are themselves teachers and are better prepared for the use of social media in the classrooms. But, there are still many Digital Immigrants teaching at most colleges and universities. What they need to realize is “today’s students are no longer the people our educational system was designed to teach” (Prensky, 2001, p. 1).

CAUTIONS AND DANGERS OF SOCIAL MEDIA USE IN THE CLASSROOM

Robust use of social media technologies requires an infrastructure that can handle the increased traffic. To support the new technologies schools must build and maintain a campus communications infrastructure capable of handling the ever-increasing use by students and faculty and the changing and always growing requirements of their technological demands (Lewis, 2015).

Instructors must be sure they understand the technology before they attempt to use it in a classroom setting. The value students place on any technology is in direct proportion to the instructor’s capability to use it (Toyama, 2015).

Also, social media is not always necessary in every class every time. There needs to be a relevance between the assignments and the task that is made clear to the students or it can seem like busy work to the students (Eyler, 2013).

Social media will not always improve learning. Jensen, Kummer, and Godoy (2015) compared two freshman biology classes with the same instructor, lectures, assignments, activities, and classrooms. The differences between the two classes were when and where students were given the lectures and application activities. For one class, the students watched the lectures online and had social media discussions with active learning activities happening in the classroom. The other class was traditionally taught with the lectures and learning only happening in a classroom. The academic performance of the students was not statistically different between these two classes based on their exam scores.

As mentioned before, the infrastructure, the resources needed, from a stable supply of electricity, to a supply of water for the cooling of the servers, need to be readily and easily attainable.

One of the biggest impediments is the fear of not being able to control the unofficial tweets or posts. If someone does something that is not flattering to the institution, it does not just go away. The incident can take on a life of its own and be amplified by social media. This was highlighted in the fall of 2013. University of Iowa student Samantha Goudie was arrested after trying to run out on the football field during a game. In jail, she blew a .341 blood alcohol content level, and tweeted about it under the handle @Vodka_Sam. Some of her tweets read: “Just went to jail. #yolo,” and “I’m going to get .341 tattooed on me because it is so epic.” Over the course of one weekend, Goudie’s drunken tweets bumped her Twitter following from around 200 followers to about 15,000. She was offered endorsements and talk show appearances, but did not cash in on her fame due to embarrassment. She now regrets the incident, but for that fall, Samantha and the University were the focus of an intense social media storm.

CONCLUSION

Even if students are tame with their social media usage, Chuck Wilson, CEO and Executive Director of the National Systems Contractors Association, cautions students to be aware of their saturation point, and know when enough is enough. “It blows your mind how soon [college students] know something, but we’re creating phone zombies,” he says. “Eye contact is rare. They are totally immersed in what they are doing on their iPhone, and are probably consumed by it.” If students don’t find the time to break away from their social media consumption, Wilson fears they will miss out on living their lives. “I’m worried that the kids who are phone zombies aren’t living their life,” he says. “They’re so addicted. If they don’t have face to face interactions, then they don’t seek it out.” If this happens, he says that social media will hurt college students in the long run. “They don’t have an emotional IQ,” he says. “They are years ahead technology-wise, but behind in interaction maturity.”

The key to using social media wisely in the classroom is keeping the focus on the student, rather than on technology. And always have the security of the students, and the sanctity of your institution first and foremost in your thoughts as you build out the social media presence for your courses.

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CROSS-CULTURAL PERCEPTIONS OF ETHICAL LEADERSHIP

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ABSTRACT

The purpose of this proposal is to investigate the perception among subordinates that there are perceived ethical differences among leaders in military and corporate cultures and that their ethical conduct is perceived to negatively influence productivity among subordinates in both corporate and military cultures. The proposal highlights examples of ethical flaws in both military and corporate cultures and contrasts the organizational climates of either culture. This proposal focuses on studying differences between perceptions of ethical leadership in both military and corporate cultures using the ethical leadership scale. The quantitative research design for this study will employ hard-copy and web-based questionnaire methodology for data collection. The dual method of data-collection is preferred to facilitate a quicker turn around time for a cross-section (cross-sectional survey method) of the population, sampling a representative population of military culture from both active and retired Navy-Marine Corps personnel, and for the corporate culture, current or former contract personnel from firms doing business with the department of defense. The data collected will be analyzed using a Mann-Whitney U Test to determine the difference between ethical perceptions of leaders in military and civilian cultures. A bivariate analysis of relationships between follower perceptions of unethical conduct and perceived reduced productivity among subordinates by type of organizational culture (military or civilian) will also be employed. Results of the study will address areas where future research should focus to enhance ethical training of leaders in both cultures and actions to prevent unethical behavior among leaders.

CROSS-CULTURAL PERCEPTIONS OF BUSINESS ETHICAL LEADERSHIP BEHAVIOR IN MILITARY AND CORPORATE CULTURES OF THE UNITED STATES OF AMERICA

The purpose of this proposal is to investigate among followers in both military and corporate cultures, how ethical values and ethical leadership in business are perceived in both military and corporate cultures of the United States of America. There is significant literature to suggest that both military and corporate cultures experience questionable judgment in ethical leadership and consequently, their conduct influences the productivity of their followers (Hilliard, 2013; Chun, Shin, Choi, & Kim, 2013). Though significant literature such as Toner (2013) suggests that military officials in top positions demonstrate unethical leadership values just as corporate executives do, there is little discussion on whether subordinates in the military perceive their leaders as unethical, with potential to impact perceived subordinates quality of work (productivity) in business. On the contrary, there are examples of unethical conduct in the department of defense's encounter of fraudulent contracting proceedings in corporate culture by companies that strategically process or administer contracts to defraud projects in support of military affairs (Rendon & Rendon, 2016). However, there is yet any evidence to suggest that perceived reduction in productivity among subordinates is a direct result of ethical perceptions of military and corporate leaders' ethical values.

To highlight the theory, there are ethical disparities in perceptions about what leaders can ethically do and how their conduct influences the perception of their followers about them. In addition, the study will address whether the perceptions held by subordinates about their leaders' ethical conduct has any impact on subordinate perceptions of productivity.

Military leaders, whether they are commanding officers of units, commanders of task forces or global theatre regions, have the obligation and are expected to remain disciplined and trusted to make sound decisions in the execution of their offices. However, it is not uncommon to often read of their conduct surrounding personal behavior or abuse of the office they serve by power misuse or lapses in judgment (Toner, 2013); a quantitative exploration of follower perceptions of military leaders' conduct is critical to understanding whether such conduct perceptions carry over to employee perceptions of their leaders in corporate organizations. Also, leadership in the corporate culture embodies specific set of rules that define ethical values to promote a positive, productive and thriving work environment, but may be defined differently under military culture where the rules of conduct and premise of ethical values are equally defined, but enforced under a different code of conduct (Toner, 2013; Barnes, 2014). Therefore, obtaining data from a population that perceives ethics from a civilian perspective will help define the perception of ethics in corporate culture and that in military culture.

Business leadership both globally and especially within the United States of America is replete with instances of unethical conduct and misguided judgment among business leaders in corporate culture (Weiss, 2014). Often, scandals and lapses in judgment among military leaders go unaddressed and may be construed as part of military culture, yet little is discussed regarding its influence among perceptions of subordinates and influence on corporate culture – whether the same values such as abstention from fraudulent conduct, adherence to and prevention of sexual harassment in organizations or protection of sexual assault victims in the work place and such leadership challenges bears reflection across military and corporate cultures. Also of value will be a reflection on how subordinates between both cultures perceive their leaders’ professional or personal conduct in light of the same ethical challenges encountered.

This study will investigate the use of the ethical leadership scale to test the ethical perceptions about leaders of low-to mid-management followers or former followers in both Navy - Marine Corps branches of the military and civilian department of defense contracting participants who form a cross-section of the military and corporate populace respectively.

The spectrum of ethics in both corporate and military cultures is broad and deeply entrenched in the perceptions or norms of those within the culture and are either expressed as values or as norms that form the basis of what becomes an organization’s culture; these behaviors, impressions or principles then transcend policies or regulations within the organizations and form the bedrock for defining culture, whether in the military or in corporate United States of America (Grojean, Resick, Dickson, & Smith, 2013; Hoffman, Frederick, & Schwartz, 2014; Farrell, Schwartz, Barnes, Amore, Dickerson, Kent, Larger, Lesser, Sheffield, & Silver, 2015). This proposal draws samples from both active and retired Navy-Marine Corps population of the military and business contracting firms of the corporate sector that the department of defense conducts business, to address how these perceptions shape the outcomes of business interrelationships between military and corporate business organizations. These perceptions will highlight the tolerance level of conduct deemed inappropriate and unacceptable cross-culturally. A contrast is drawn between military and corporate cultures to shed light on perspectives on ethical conduct held by subordinates in both cultures, given the same circumstances and professional standards of leadership.

To effectively obtain the desired information, employing a data collection method or research design that captures a sample size adequately representative of the population and indicative of generalizability of the results of the hypotheses is imperative to this research proposal. Creswell (2013) suggests that the sampling procedure and theory should be considered in identifying how data will be collected; a clustering random sampling method for data collection will be employed due to the ‘clusters’ of desired respondents from different locations or organizations. Also, a cross-sectional survey method will be employed due to the need for a quicker turn-around from respondents given the scope of the study. The proposal concludes by reflecting on the contrast between the military and corporate cultures and how expected analysis and future research will be impacted.

LITERATURE REVIEW OF ETHICAL LEADERSHIP IN MILITARY CULTURE

The literature on ethical leadership in military culture stems from the conduct of leaders’ demonstrated behaviors that have been documented over time; to that end, military ethics has been defined as “the study of honorable and shameful conduct in the armed services” (Toner, 2013, p. 4). In this quantitative research study of cross-cultural ethical leadership in business, it is worth noting that researchers discuss how the culture of military ethics transcends the day-to-day livelihood of its members, regardless of whether they are in the Army, Air force, Navy or Marine Corps since these branches of service entail parts of the military, and therefore, are prone to the same vices or susceptible to the same challenges in ethical conduct. Toner (2013) discusses how military culture has been construed as demonstrating unethical conduct by virtue of donning a uniform that perceptually biases one to a blatant denouncement of ethical values, while another school of thought argues that military organizations should not be held to a high level of ethical standard because “all’s fair in love and war” (p. 1). These notions do not give the men and women in uniform a free pass at upholding ethical standards, nor does it imply they do not have ethical challenges that may be perceptually similar to that observed in the corporate culture.

It is not a surprise for researchers to mention that members of an organization that are expected to uphold high ethical standards in business due to the measure of discipline inculcated in their life-long training and professional mandates are inevitably plagued with ethical issues. It is no wonder that Farrell et al. (2015) address the actions taken by the department of defense to review and streamline efforts in developing programs that enhance ethical and professional

wellbeing of service members. An investigation into the business contractual dealings of military professionals revealed unethical conduct such as bribery and cheating and in some cases, inappropriate sexual behavior (Farrell et al., 2015). Based on the results of this investigation, it cannot be taken lightly that the culture in the military does not face similar challenges as the corporate culture does since these military organizations also involve leaders who face similar personal or professional challenges, except theirs is cloaked behind a uniform that presumably and perceptually represents a higher level of ethical conduct and disciplined professionalism.

The military's top official, Chairman of the Joint Chiefs of Staffs was on record stating that the ethics among the military's top brass had "his full attention", indicating that the military had been plagued in recent times with a variety of Navy contracting scandal related to alleged bribes and sexual misappropriations among other concerns (Barnes, 2014). Therefore, these concerns of ethical misappropriations and bleak future of sound ethical conduct is not new, but rather alive within our societies today. The questions that still remain amidst this frenzy of ethical misconduct are what subordinates think or perceive about their leaders. Does it undermine the integrity of the leaders? Does it impact productivity? Is it perceived as worse in the corporate culture than in the military? These are some of the questions that urge the demand for research into its influence today.

LITERATURE REVIEW OF ETHICAL LEADERSHIP IN CORPORATE CULTURE

Grojean et al. (2004) provide insight to strategies that must be explored by corporate leaders and fostered as part of an organizational climate in order to alter or "influence the perceptions of members." (p. 224). There have been incidents of several corporate leaders (those in high levels of office) caught in the snare of unethical behaviors as reported in the Piff, Stancato, Côté, Mendoza-Denton, and Keltner (2012) seven laboratory studies conducted showcasing "upper-class" individuals. The study revealed that such leaders were more likely to "exhibit unethical decision-making tendencies...lie in a negotiation...endorse unethical behavior at work" than were identified in those of the "lower-class" (p. 4086). The results of this study were staggering and compelled the need for further review of whether such conduct was really existent or perceived among corporate executives. Piff et al. (2004) discussed the notion of social class and the "socioeconomic status" (SES) that revealed the disparity between a so-called lower class society and that of an upper class; the study suggested that significant differences and unethical behavior on the part of the higher-class individuals was evident and controlled the SES. Unfortunately, in a survey conducted by Weiss (2014), it was discovered that the top five most dominant acts of leadership misconduct or unethical behavior include lying to employees, abusive behavior, inappropriate use of company time, misuse of company resources and internet use violations. Yet unfortunately still, sexual harassment, substance abuse and similar improper and unethical conduct as illegal political contributions received sharp increase in recent years within corporate America.

These unethical vices stemming from exercise of power in the corporate United States of America appear to have their origin from a source of unchecked conduct or accepted social norms that form the culture of the respective organizations from which they thrive. What is unclear is whether corporate America's employees (subordinates) see this trend or perceive these issues as critical and potentially impactful to the productivity of the organization or a risk to good order and discipline within the organization. Weiss (2014) highlighted that there is the need to examine the perspectives of Chief Executive Officers in particular since they set the climate for how an organization is perceived. Unfortunately, in the survey conducted by Weiss (2014), retaliation against employees for addressing concerns formed 62% of the reported cases. Such evidence of misconduct or unethical practices may have devastating effects on an organization and consequently, demand some measure of reflection or research to bring light to the issues at hand.

Based on the literature reviewed, the study will explore two hypotheses:

H1: There is a difference in follower perceptions of sound ethical conduct among the cultures of United States Navy and Marine Corps (military followers) and contractor business leaders in corporate America doing business with the department of defense.

H2: There is a relationship between follower perceptions of unethical behavior among leaders in corporate and military cultures of the United States of America, and their perceptions of reduced productivity among subordinates in both cultures.

CONTRAST BETWEEN MILITARY AND CORPORATE CULTURES

Military and corporate cultures are by nature two distinct fields of professions and consequently, also exercise their own respective cultures. However, there is potential to misunderstand what each culture does when addressing the notion of organizational culture and how it applies to ethical behavior. The main distinction between military and corporate cultures could be examined from the perspective of their roles in society and how these roles influence or impact interactions within and outside of those cultures.

Hoffman et al. (2014) discuss the conflict between “decision-making rules” in the corporate sector, and address the challenge faced by an executive who must choose between making a decision that transcends business, legal and ethical rules. Unfortunately, the business rule “maximizes profits” howbeit at the expense of ethics and legality. These are some of the issues that the corporate culture faces that is in sharp contrast to that of military culture. Hoffman et al. (2014) continue to emphasize that there are often challenges along the seams of legal, business and ethical decision-making, and suggest that leaders should resolve such conflicts by executing what the law mandates when there is conflict between legal and ethical mandates, while executing business principles where there are conflicts between business and ethical mandates. Unfortunately, from a business perspective, it is apparent that ethical decisioning takes a back-burner when conflict is encountered with legal and business ramifications – whether this approach fosters unethical conduct or ambivalence in enforcing ethical principles leaves much to ones interpretation.

Toner (2014) reminds that the military culture on the other hand is sharply contrasted by the knowledge that almost every decision-making is guided by a code of conduct, code of military justice and more importantly, real-time sensitive decision-making that compels sharpness in wit and presence of mind – this is where the training and discipline of character is depended upon. He further highlights the notion that sometimes it is not clear-cut how to define certain terms, but one knows it when it is seen – this is the category where he places ethics in military culture. Though presumably those in uniform are held to a higher standard, does the definition of the term ethical leadership change or perceived differently as a result? This is the intrigue that spells the need for understanding how subordinates view their leaders and whether it changes any meaning of the word “ethics” across both cultures.

To effectively obtain the desired information, employing a data collection method or research design that captures a sample size adequately representative of the population and indicative of generalizability of the results of the hypotheses is imperative to this research proposal. Creswell (2013) suggests that the sampling procedure and theory should be considered in identifying how data will be collected; a clustering random sampling method for data collection will be employed due to the ‘clusters’ of desired respondents from different locations or organizations. A cross-sectional survey method will be employed due to the need for a quicker turn-around from respondents given the scope of the study. The proposal concludes by reflecting on the contrast between the military and corporate cultures and how expected analysis and future research will be impacted.

THE METHOD OF QUANTITATIVE RESEARCH

Creswell (2013) addresses quantitative research as a scholarly research method that involves “highly systematic procedures” with specific consideration for when conducting research where a number of variables are compared amongst one another (p. 19). The design of this method involves the development of empirical strategies that consider data collection and processing for analyses, all the information required to provide a thorough and credible assessment of the hypothesis. Creswell (2013) also highlights the importance of ensuring that there is no bias in the method employed for the research proposal. In this study, two groups of people and cultures will be studied using a cross-sectional method.

PROPOSAL FOR DATA COLLECTION PROCESS

The proposed data collection process will involve use of two mediums of data collection questionnaires employed in the field. Both hard copy paper questionnaires and electronic versions (scanned and emailed) and online surveys will be employed to reach the respondents in diverse groups, locations and representative of the two cultures, military and corporate. There are usually challenges with data collection processes that must be accounted for during any data collection process, and one of the precautions that must be considered in this phase is the timeline required to collect the data and the demographic requirements or limitations of the population being surveyed (Creswell, 2013). To that end, the dual approach of paper and electronic survey methods will be employed for a quicker turn-around period.

In determining sample size, an accurate interpretation of the results requires an observation or in this case, a response ratio to independent variables of no less than five to ten; therefore, a conservative ratio of ten observations for every independent variable applied is ideal (Bartlett et al., 2001; Creswell, 2013). Therefore, a sample size of approximately 100 active and non-active military in low to middle-management positions and 100 current or retired low- to middle-management civilian contracting supervisor participants in firms doing business with department of defense will be solicited, since they are more inclined to have perceptions on leadership ethics than more junior subordinates. These samples will be obtained from different areas within the United States. The randomization method sample size is determined by employing a number of factors such as the margins of error that exist for the number of items that the researcher considers important for the survey in identifying continuous and categorical variables (Bartlett et al., 2001). Consequently, using a survey method quantitative research methodology that employs a cross-sectional data collection procedure to conduct both hard-copy and electronic or web-based questionnaire surveys will be ideal in collecting the desired sample size (Bartlett et al., 2001; Creswell, 2013).

THE CONCLUSION OF PROPOSED ANALYSIS AND EXPECTED RESULTS

A Mann-Whitney U test will be conducted to determine the variances in data collected between the perceptions in the two cultures; a bivariate analyses of any relationships attributed to perception of unethical conduct and perceived reduced productivity among subordinates by type of organizational culture (military or civilian) will also be explored.

The conclusion of this proposal involves an understanding and intent to present to fellow researchers of organizational leadership discipline an analysis of the data collected using the ethical leadership scale. The test is expected to reveal the differences between perceptions of ethical leadership between both cultures and also, that among both military and corporate cultures, a perceived relationship exists between ethical conduct among leaders and perceived reduced productivity among subordinates.

Ultimately, based on results of the study, if the hypothesis is supported, it should provide opportunity to study areas where future research should focus to enhance ethical training of leaders in both cultures and actions to prevent unethical behavior among leaders.

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PRIORITIZATION OF PROCESS IMPROVEMENT USING RISK EVALUATION IN THE MANUFACTURING OF BIOLOGICS

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ABSTRACT

This paper considers how a biologics manufacturer took the lagging data expressed in nonconformance data to build a system of analysis with the aim of prioritizing improvements in terms of risk management. Nonconformance or deviation data were grouped into a hierarchy of categories, culminating in FDA compliance system categories. Statistical process control (SPC) charts (u-charts) were generated to understand the performance of critical control processes within the manufacturing process of the biologic. Risk indicator operational definitions were developed to classify the control point process performance in terms of the risk that control point posed to both the donor and recipient of the biologic. A 5 x 5 risk matrix was developed to merge the performance of the process to the risk indicators. A color schematic was applied to the risk matrix to facilitate the actions warranted to assigned risk priorities within the matrix in terms of process performance and risk indicator. The management of this process required both a computer application as well as continued human intervention for its success. To date, the risk matrix has assisted the organization under study in allocating resources for specific higher risk areas to minimize the possibility of regulatory censure.

INTRODUCTION

Biomedical organizations combine applied and natural sciences with technology to develop knowledge and inventions for use in the public healthcare (Stirling, 2006). The interdisciplinary nature of their tasks, projects, staff, and management is an intrinsic preposition of complexity. In addition, they manage myriad processes reflecting the Voice of the Customer (VoC), the Voice of the People (VoPp), and the Voice of the Business (VoB); unlike most of the other types of organizations, they are heavily regulated by the government since their products and services are critical for the well-being of the population.

Biomedical organizations are often engaged in manufacturing of biologics, which represent drugs and products isolated from natural sources, such as vaccines, blood and blood components, allergenics, somatic cells, gene therapy, tissues, and recombinant therapeutic proteins. (U.S. Food and Drug Administration – What Are "Biologics" Questions and Answers, retrieved August 5, 2016). While biologics are results of the avant-garde biomedical research and interdisciplinary efforts offering the most innovative methods to treat medical conditions that may not have other means of treatments, they differ from the conventional drugs, because they are highly susceptible to microbial contaminations. Hence, it is vital to have very strictly regulated manufacturing, transportation, and storage processes.

Therefore, project management in these types of biomedical organizations faces various challenges related to time, cost, and resource allocation to meet and exceed customers' specifications and to be in compliance with government regulations. The multitude of operational and strategic processes as well as inputs from the various voices makes it difficult to identify the ones that are critical to the business objectives and have potential risk for one or more projects. Thus, to systematically identify the higher risk processes and to effectively target available resources to them, biomedical organizations require a new and deeper level of visibility into the factors and insights, which cannot be achieved without the methods of data analytics.

The methodology described below has been developed for a large biomedical organization engaged in the manufacturing of biologics which we will keep anonymous to protect its market presence. In the sequel, it will be denoted as BMed. This approach can, however, be applied for a wide range of organizations.

The paper is organized as follows. We first describe how the methodology was developed. A verification of the model follows, and lastly, we conclude explaining how the computer system contributed to risk evaluation and savings for the organization.

DEVELOPING THE METHODOLOGY

The Compliance System

As indicated, biomedical organizations seek to answer a number of customer voices. Among those voices is the Voice of the People, representing the voice of regulatory oversight. Biomedical organizations, including those that manufacture biologics, are heavily regulated by government agencies. In the USA, the regulator is *Food and Drug Administration* (U.S. Food and Drug Administration – FDA, retrieved August 5, 2016). This regulator seeks to ensure that the biologic manufactured is safe, as that product is consumed by the citizen population. As part of that assurance, the FDA executes processes to ensure compliance with regulation. The FDA evaluates biomedical organizations which engage in biologic manufacturing in terms of the applicable operational systems used to manufacture the end product. In our case study, the FDA evaluates BMed in terms of the following five systems: Quality Assurance System (QAS), Donor Eligibility System (DES), Product Processing System (PPS), Quarantine/Inventory Management System (QIMS), and Product Testing System (PTS) (U.S. Food and Drug Administration – CBER, retrieved August 5, 2016). Each will be discussed briefly below.

The DES is comprised of those policies, procedures, and practices which ensure the donor of the natural material used in the manufacture of the biologic is free of disease which may be transmitted by the biologic; it also ensures the donor is in good health (U.S. Food and Drug Administration – CBER, June 1, 2016, p. 43). Critical processes which constitute the DES include ensuring the identification of the donor; providing donor about the facts of donation and the impact of his or her health on the safety, purity, potency, and quality (SQulPP) of the biologic; evaluate a donor deferral database to ensure the historical appropriateness of the donor's donation; determine the interval between donation events is appropriate; and conduct a health history and physical finding evaluation for day of donation suitability.

The PTS consists of those policies, procedures, and practices that have a significant direct impact on SQulPP in that it ensures that the raw natural material collected for manufacture is free of disease that may be transmitted through the use of the biologic (U.S. Food and Drug Administration – CBER, June 1, 2016, p. 54). Significant diseases are those that could be fatal or life-threatening, or cause permanent damage to the recipient of the biologic. It could also include a condition which necessitates a medical intervention as well as any disease which can be transmitted via the biologic (U.S. Food and Drug Administration – CBER, June 1, 2016, p. 54). The critical processes of this system include the collection of the material sample, the processing of that sample, the testing processes themselves, and the management of the test results, including actions taken to invalidate test results, if necessary.

The PPS is comprised of those policies, procedures, and practices which include the actual collection of the biologic through to the labeling of the final product (U.S. Food and Drug Administration – CBER, June 1, 2016, p. 62). The critical processes within this system include the actual event to access the natural raw material (for example, the venipuncture for a blood product); the collection event, including both manual and automated processes; the preparation of the biologic from the material; and the final labeling of the product. Emphasis in this area is on ensuring sterility of the processes to prohibit contamination.

The QIMS consists of those policies, procedures, and practices that ensure that unsuitable products are not distributed (U.S. Food and Drug Administration – CBER, June 1, 2016, p. 71). It includes processes to ensure the donor was in good health on the day of the collection event; the donor's health history and physical findings are appropriate; the donor had no historical reason for deferral; product testing was satisfactory; and the donation meets all regulatory requirements.

The QAS is comprised of those policies, procedures, and practices which ensure overall compliance with current good manufacturing practices (cGMP) (U.S. Food and Drug Administration – CBER, June 1, 2016, p. 40). This system seeks to ensure that a quality unit reviews and approves all critical inputs to the biologic product, in terms of all process inputs, such as human qualification and training, adequate procedures, qualified equipment, computer systems, and supplies, executed with an appropriate environment. QAS also ensures the validation of processes to meet the expected outcome. QAS is also concerned with the management of product defects and product returns.

The Compliance Analysis Attribute Analytical Pyramid

The organizations usually process thousands to millions of transactions every month. They keep a record of these products indefinitely. As part of this record-keeping, they maintain a system of deviation or nonconformance codes denoting irregular or unsuccessful transactions. Some examples might be *Pr-A-23: Product out of temperature*, *Pr-C-07: Lack of cooling*, *Er-M-42: Missing unit*. Such codes facilitate the management of problems, and allow for the documentation of root cause analysis and corrective action for such deviations. Although these nonconformance codes are really lagging indicators of performance, essentially all biologics manufacturers have some sort of similar mechanism, and thus, have at least these data readily available.

In the case of BMed, approximately 1300 such codes existed. The code's presence in transactions is certainly an indicator of problems, but to reveal the nature of the problem and its severity, data analytics has to be applied. For example, some deviation codes may occur rarely, but be critical for human well-being and need immediate attention; others may appear often, but could be just a minor problem. Another note is that a combination of deviation codes may be an indication for a serious issue, which cannot be revealed from a single deviation code. Thus, it is crucial to create and implement a mechanism that allows for these codes to signal that an issue has a higher severity than another issue. Otherwise, an organization may have 1300 codes which are managed in an isolated manner, without regard to their interaction with other codes, which have the potential to expose larger deficiencies in processes.

The first step to in applying data analytics in our case was to combine the deviation codes into a more manageable system of controls. These controls represent points in an operational process that must adequately function for that the operational system to meet its goal. For example, one control in DES might be donor identification. In that control, codes might include: failure to review the identification; failure to document type of identification; and failure to use approved identification source. If the control point of donor identification fails, then the intent of the DES may not be met as historical review of the donor might not be accurate. So each control is comprised of a combination of deviation codes, and in some cases, a code may appear in other controls. For example, a failure to document equipment quality control checks might appear in several controls. In our case there were 223 controls.

To match the FDA's 5-system regulatory foci, another layer of abstraction was developed – quality functions – each of them comprising a number of controls (between 27 and 67). These quality functions were derived from the specific industry standards as well as international quality standards, specifically ISO 9001:2008. For example, the QAS contained the following quality functions: 1) management; 2) quality audit and review; 3) facilities management; 4) validation management; 5) equipment management; 6) data management; 7) supplier management; 8) materials management; 9) nonconformance management; 10) hiring and training management; 11) document management; and 12) defective product management. The relationship among the deviation codes to the controls to the quality functions to the FDA compliance systems is illustrated as part of the Compliance Analysis Attribute Analytical Pyramid, Figure 1.

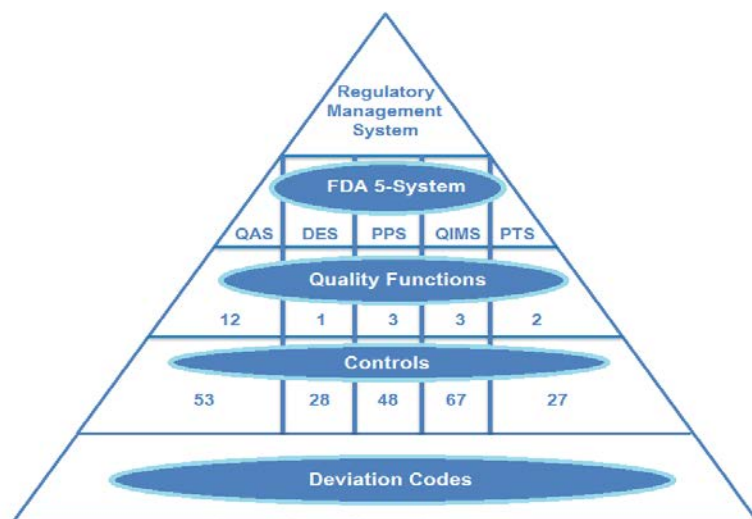


Figure 1: Compliance Attribute Analytical Pyramid.

The Pyramid is the basis of the data analysis which will allow the organization to better understand the behavior of the various quality functions, which then reflect which FDA systems might be weak or deficient. Because of the unique coding at the deviation level, this pyramid must be customized for each organization. In our case, the controls and quality functions were developed by data analysts and practitioners with expertise in the quality function field.

Risk Matrix Development

The Pyramid is a multi-step tool of matching FDA compliance (regulatory level) with the deviation codes (institutional level). However, in an organization with limited resources, as all organizations are, it is not possible to address all issues immediately (or even to address them at all) and a priority system must be used.

Additionally, the international quality community, as evidenced in the ISO 9001:2015 version, emphasizes risk management as a necessity to quality (Murray, 2016), explicitly requiring organizations which seek accreditation to ISO 9001 to identify and manage risk. For some organizations, ISO 9001 accreditation is a necessary characteristic to compete in international markets.

Lastly, the management of risk is of paramount importance to the FDA. Violations to regulatory code may be viewed by the FDA as considerable or pervasive enough to warrant an escalation in compelled actions beyond citations; such actions include warning letters, which detail the violation and require timeframes for correction with FDA verification of the corrective action (U.S. Food and Drug Administration – FDA – Regulatory Information, retrieved August 5, 2016), as well as consent decree, a significant regulatory action between the FDA and the violating organization, enforced by the Department of Justice (Slota et al, 2013, p. 5). The substantial nature of these regulatory actions result in a higher level of scrutiny, and in the case of a consent decree, result in significant limitations on how and when the product can be made available to customers (Slota et al, 2013, p. 5). On average, a consent decree can cost an organization five million dollars, and last three to five years (Slota et al, 2013, p. 4). The five million dollar price tag includes not only fines, but additionally remediation expenses, paid penalties, and lost sales (Slota et al, 2013, p. 4).

Thus, when considering resource management, international market implications, and regulatory implications, understanding organizational risk is critical to organizational survival. As a result, a technique to prioritize actions to manage risk needs to be deployed.

We chose the *risk matrix approach* to define our priorities. This approach uses a matrix for risk assessment to define various levels of risk within various severity categories, allowing for systematic and objective decision-making (Allen, 2014). Key to the functionality of the risk matrix is consensus with regard to the risk matrix structure. For example, a risk matrix approach commonly uses two metrics: frequency and severity (Lozier, 2011). When developing the matrix, stakeholders must agree in the construction of these metrics. As a result, the risk matrix development can be a long process with extensive human experience involved, hallmarked by the opinions and personalities provided by those participating. In the case of BMed, the team initially agreed to construct a 5 x 5 matrix using frequency and severity. The 5 x 5 matrix, by its nature, allows for more discrimination of the data.

The team constructing the matrix worked to first anchor the frequency metric. We took the total deviation codes reported for a calendar year by date of discovery, and simply generated a histogram of the frequency of those total codes. The date of discovery was used rather than date occurred, as date occurred may not adequately reflect process performance for the simplistic reason that an issue might be occurring, and it is simply not detected. The resulting histogram is illustrated in Figure 2: Bin Establishment for Frequency Aspect of Matrix.

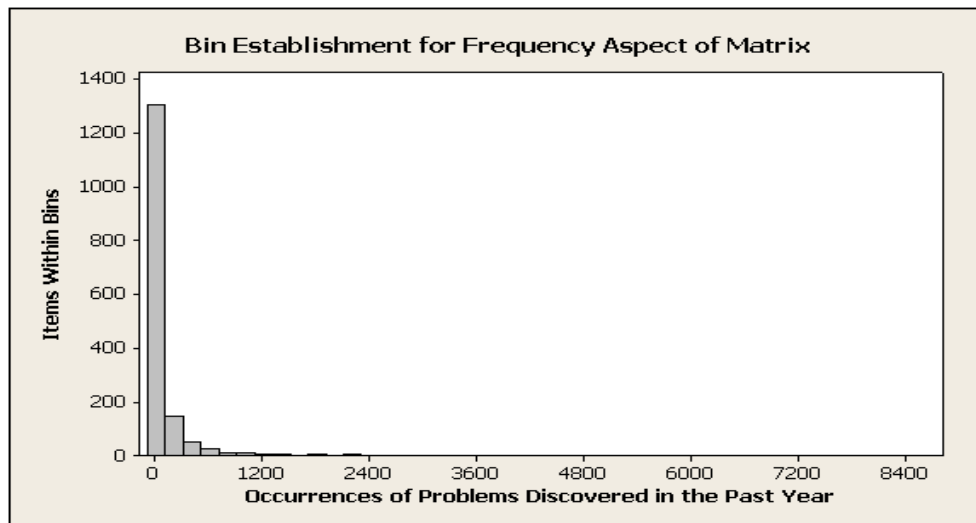


Figure 2: Bin Establishment for Frequency Aspect of Matrix

In examining the histogram, the team determined some groupings appeared which lent themselves to establishing five levels of frequency, a desired number, as the team strived for a 5 x 5 matrix for increased discrimination among the processes. The team determined the following ranges: [0-49], [50-149], [150-499], [500-1499], and [1500+]. Thus, some codes were identified quite a bit, in excess of 1500 times within the calendar year. Other codes were rarely identified, only noted between 0 and 49 times. These groupings of the data were assigned a frequency category, illustrated in Table 1: Frequency Categorization.

| Code Frequency of Occurrence Range | Category of Frequency |
|------------------------------------|-----------------------|
| 0 – 49 | Improbable |
| 50 – 499 | Likely |
| 150 – 499 | Occasional |
| 500 – 1499 | Seldom |
| 1500 + | Frequent |

Table 1: Frequency Categorization.

The frequency of the individual codes which comprised the system of controls supportive of the quality functions were summed for a monthly total, with the evaluation looking back for approximately 45 months (when the data were first collected in BMed’s computerized system). The retrospective look at the previous months was used to determine the base line performance of the control to detect any changes.

It should be noted that although the frequency histogram, which resulted in the frequency anchors, evaluated individual codes, those frequency categories were still used for the control frequency. The team recognized that the controls contained “driving codes”—codes which may be key indicators of the control’s performance. These cases, although bundled with less specific codes, would best be detected in terms of frequency by using the individual code frequency categories. Additionally, the team understood this was not a perfect scenario, but it was a sound start, based on something rather than hunches.

Each month when new data were generated, the oldest month would be dropped off to keep the monitoring charts easier to read. This approach allowed us to use statistical process control (SPC) by means of *u-charts* to track increases in frequency rate or abnormalities in performance, such as upward trends or instability in process, according to SPC rules which identify *out-of-control conditions*.

A *u-chart* is an SPC chart which tracks defects per unit over time. A *u-chart* recognizes that it is possible for a unit to have defects and still be acceptable, and it allows for varying sample sizes (Minitab, retrieved August 5, 2016).

In applying SPC rules which would signal *out-of-control conditions*, selected common Western Electric Rules were

used. It should be noted that SPC signals are based on the data distribution of the normal curve, where approximately 68% of the data are within one standard deviation (or one sigma) of the mean, approximately 95% of the data are within two standard deviations (or two sigma) of the mean, and approximately 99.7% of the data are within three standard deviations (or three sigma) of the mean. Additionally, the rules apply when the distribution is symmetrical about its mean, and the measures of central tendency are equal. Thus, *out-of-control conditions* signal that one or more of these criteria are not met.

The Western Electric Rules used by BMed are (Quinn-Curtis Inc., retrieved August 5, 2016):

A *freak data point* exists when the most recent point is outside one of the three-sigma control limits, as there is only a 0.3% chance such a point is attributable to a normal process.

A *freak pattern* exists when two of the three most recent points are outside and on the same side as one of the two-sigma control limits, as there is only a 1% chance that two such points out of three is attributable to a normal process.

A *second freak pattern* exists when four of the five most recent points are outside and on the same side as one of the one-sigma control limits, as the probability of this occurrence is only about 3%.

A *shift* occurs when eight of the last eight points are on the same side of the center line. The probability of this occurring within a normal process is around 1%.

A *trend* occurs when seven points in a row are steadily increasing or decreasing. The probability of this occurring within a normal process is around 1%.

For BMed, any freak pattern, shift, or trend was classified as an *out-of-control pattern*. The freak data point was classified as an *out-of-control point*. Figure 3: Documentation of Start Times and End Times as a Function of Collections provides an example of a u-chart exhibiting freak data points.

Here, a number of bundled deviation codes used to evaluate the control point of collections, an aspect of the PPS, exhibit normal variation for a great deal of time since January 2008. However, two freak data points were noted in July and August 2011 and again in November and December 2011. Further, in terms of this chart, we can expect about 0.155 deviations for each unit collected; if BMed collects 100,000 units in a month, it would not be unusual to have 15,500 deviations involving the start time and end time of the collection event. That number might be as high as 51,200 ($0.512 \times 100,000$) or as low as 0 ($0 \times 100,000$) if the process were acting normally. However, it is not acting normally, as evidenced by the freak points. Note that this analysis did not use the freak data points in calculating these values, as these out-of-control points could skew the data. These points were brushed using the statistical software program and eliminated from the calculation.

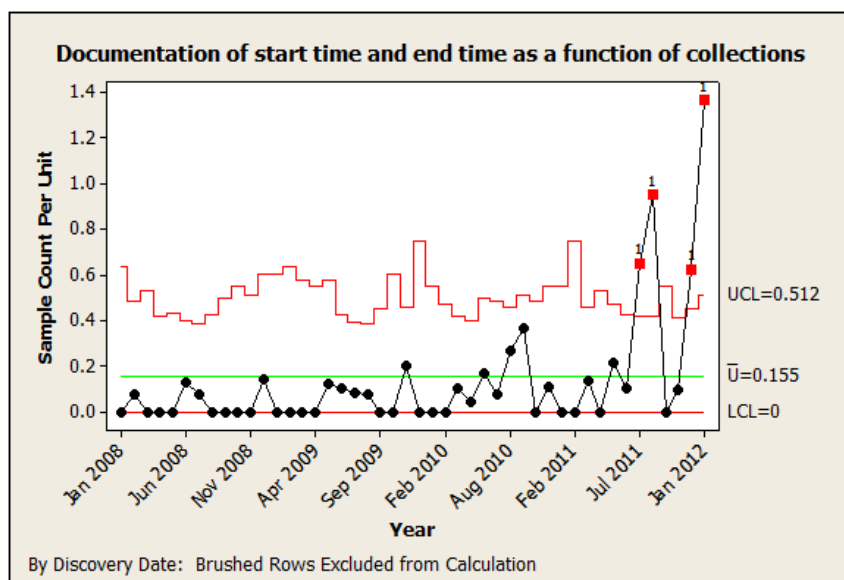


Figure 3: Documentation of Start Times and End Times as a Function of Collections

Given the frequency categories from Table 1 and the chosen Western Electric Rules, the team devised a five-level column to comprise the frequency aspects of the matrix. This column is found in Figure 4: Frequency Column of BMed Risk Matrix:

| | |
|--------------------------------------|------------------------------------|
| Frequency/ Process Performance | Frequent or Pattern Out-of-Control |
| | Likely or Point Out-of-Control |
| | Occasional |
| | Seldom |
| | Improbable |

Figure 4: Frequency Column of BMed Risk Matrix

The more serious indictment of deviation frequency or poor process performance is found at the top of the column, with the least concerning deviation frequency or process performance found at the bottom of the column. Thus, even a control with an improbable frequency of deviations might be elevated to a higher risk area if the process performs outside its normal expectation.

To define the column headers of the risk matrix, we had to define the risk indicator. This was done by an interdisciplinary team of professionals – physicians, regulatory specialists, quality assurance people, and operation experts. This aspect of the risk matrix development was quantitative, and as such, was the source of many vigorous discussions. One important point to note is that risk was viewed not only in terms of the recipient of the biologic, but also the donor of the raw material. As such, the definitions of risk had to be broad enough to encompass both stakeholder groups. Additionally, five levels of risk indicator had to be determined, as the team required a 5 x 5 matrix. The results of the discussions resulted in the categories given in Figure 5: BMed Risk Indicator Descriptions.

| Negligible | Minor | Moderate | Critical | Catastrophic |
|----------------------------|----------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------|
| No risk of damage or death | Risk of temporary damage (detectable or not) | Risk of death, but highly detectable; risk of permanent damage, but detectable | Risk of death, but detectable; risk of permanent damage and not detectable | Risk of death and not detectable |

Figure 5: BMed Risk Indicator Descriptions

In Figure 5, notice that detectability is mentioned in all but the negligible category. The idea of incorporating detectability was a point of contention among the team, with some arguing it should not play a role, while others arguing that detectability allows for the establishment of mitigating actions which may work to minimize risk. Because tools of risk management often incorporate detectability, such as Failure-Mode-Effect-Analysis, the team opted to incorporate detectability.

These risk indicator definitions were then married to the frequency column. The team then applied a color scheme to the cells of the matrix, along with a risk prioritization level. The risk level is evaluated from 1 (highest) to 25 (lowest). The color code indicates the urgency of addressing the risk factor. Red color signifies “Immediate attention. Risk of suspending operations.” Yellow code meaning is “Immediate action needed, but does not lead to suspending operation.” Light green color indicates “Corrections are required,” while dark green color means “Monitoring.” As with all the development processes of this matrix, the team worked together to come to consensus on both the color scheming and the prioritization levels. In this endeavor, the team used a Delphi approach, where the team members anonymously assigned the color schemes and the risk prioritization levels. The work of each individual team member was anonymously shared among the other team members. The process was repeated until the team members had more or less a consensus, which took three reiterations of the Delphi process. At last, a team meeting was held at which time the final matrix color schemes and priority levels were finalized, and the final risk matrix emerged as illustrated in Figure 6: BMed Risk Matrix.

| Risk Matrix | | Risk Indicator | | | | |
|---------------------------------|------------------------------------|----------------|-------|----------|----------|--------------|
| | | Negligible | Minor | Moderate | Critical | Catastrophic |
| Frequency / Process Performance | Frequent Or Pattern Out of Control | 17 | 14 | 11 | 4 | 1 |
| | Likely Or Point Out of Control | 18 | 15 | 12 | 5 | 2 |
| | Occasional | 19 | 16 | 13 | 6 | 3 |
| | Seldom | 24 | 22 | 20 | 9 | 7 |
| | Improbable | 25 | 23 | 21 | 10 | 8 |

Figure 6: BMed Risk Matrix

It was decided that the risk matrix would be used primarily for the system of control level of the Compliance Attribute Analytical Pyramid, as it is at that level that immediate actions may require implementation to reduce risk. It was agreed by the team that the most serious risk indicator within the deviation grouping would be the indicator that prevailed. The mapping to the quality function and FDA system would still be necessary, as actions directed to the specific control point may impact other processes within the quality function and FDA system; thus, when implementing directed actions to the control point, BMed would have heightened awareness of other areas to monitor to ensure those areas continued stability.

MODEL VERIFICATION

Each month, BMed collected approximately 500,000 units. The historical deviation data available for the previous years (approximately 45 months) were used for verification purposes. The deviation data were distributed among the system of controls, and *u-charts* were generated for those control points so that *out-of-control conditions* could be detected. The resulting charts provided the data for the risk matrix placement.

To interpret the charts, the most recent three month timeframe was selected as the “period under review.” The three month timeframe was selected because the senior executive team met every three months as part of the management review process for BMed. It was proposed by the team to run this model every three months once implemented to coincide with these meetings. The model was verified in September, so the period under review was June, July, and August. The results of the verification indicated that virtually all the control points were distributed within the light green and dark green areas, with some notable exceptions. The three exceptions were: 1) failure to document quality control associated with collections events; 2) documentation regarding adverse events during collections; and 3) failure to meet timelines for donor notification.

In terms of quality control associated with collection events, the *u-chart* exhibited a freak pattern within the last three months, but because this was a documentation issue, the impact was considered minor, thereby providing for a 14 priority level. In terms of the documentation regarding adverse events during collections, although this occurred occasionally, it is considered a moderate risk indicator, providing for a 6 priority level (moderate was warranted because it is through documentation that it is understood how a donor was managed through the adverse event). Lastly, with respect to a failure to meeting timelines for donor notification, a freak point was observed, and this issue is considered critical, thereby assigning a 5 priority level.

An evaluation was then prepared of all repetitive or similar FDA citations made against BMed within the past year. Those citations were mapped to the control points, quality functions, and FDA systems. Although the FDA citations did not necessarily map exactly to the control points noted, repeated citations were made to the quality functions which contained the three noted priority areas. Additionally, the results were compared with the decisions made by the organization’s leaders; that is, the team tried to find out whether the model simulates the experience of the administrators and whether it identifies the same processes as a potential of risk. In this case, administration felt that model was effective in reflecting the prominent issues faced by the organization.

IMPLEMENTATION

To implement the model, all deviations going forward were coded in terms of the system of controls to allow linkages to the quality functions and FDA systems. Because deviation management at BMed is documented electronically, the program was modified to add a field for this control point coding. Additionally, the deviation management software used already had a field to select the risk indicator; as a result, the definitions of each risk indicator were encoded by procedure to be assigned at the time of logging the deviation. An interface was built by the information technology group within BMed that allowed for on-demand generation of *u-charts* for all the control points.

Human intervention is still necessary to evaluate the *u-charts* to determine the frequency component of the control point on the risk matrix. Further, human intervention is also still needed to review the computer records to identify the highest risk indicator for the specific deviation bundled within the control point to establish the control point risk indicator. A report is then prepared with a listing of the control points and their risk priorities (level and color) for the quarterly senior management review.

This process was deployed in last quarter of 2012. When the team members were contacted in early 2014, they communicated that the model was found very useful for indicating the potential problems before they developed to critical situations. This also helped distributing properly the resources for rectifying the disruptions and lead to savings for the organization.

CONCLUSION

A systematic risk management process to prioritize improvement actions in the biologics industry can assist an organization in allocating resources to ensure on-going compliance with FDA. Such a systematic model can be developed using data which is readily available in biologics, specifically nonconformance data. Although these data are lagging data, they are still valuable in targeting areas which pose the greatest risk for the organization's stakeholders.

FURTHER STUDY

To ensure the on-going integrity of the model, monitoring its use as it correlates with FDA compliance over time would be useful. Because these researchers are not privy to the continued use of the model, it is unclear if evidence offered as to its efficacy is robust. Further, it would be beneficial to match a biologics organization that uses such a model to one that does not and compare both business and compliance benefits between the two. Specific business benefits may concern operating or profit margins, productivity measures, brand favorability, employee satisfaction, and customer satisfaction. Compliance concerns may be those beyond FDA citations, but also the cost of quality, fines, recalls, market withdrawals, and regulatory reputation.

The presented approach can be used in other fields for risk analysis in project management. Some possible applications could be in businesses related to manufacturing, software development, or transportation. The principal steps would be as follows:

- Collecting data for deviations;
- Aggregating the deviations into manageable categories;
- Developing the risk matrix.

It would be interesting to study the differences with the applications in other fields. The main challenges, however, would be similar to the presented case:

- Managing the deviations: in some cases there may be huge datasets and we expect that big data methods for storage and processing shall be applied;
- Methods of data mining and automated data analysis should often be applied to find manageable categories and develop the risk matrix.
- Human involvement in the form of team work is very important in all applications. Often, it is an interdisciplinary effort as experts from different fields have to come to make the decisions together. In some cases collaborative decision-making software could be used to reach a consensus.

Another step forward is extending the presented model with elements of machine learning to reduce human involvement. This may be done in two directions:

- Dynamically enhancing the model with new deviation codes of irregularities detected during the system exploitation. The intelligent software could propose assignment of the code to some of the existing controls and may even go further proposing new controls and modification of the subsequent levels.
- In case the system of regulatory foci of the regulatory agency changes, machine intelligence could propose rearrangement of the Compliance Analytical Pyramid to minimize the human effort in this process.

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AN EXAMINATION OF MAINE'S ECONOMIC TRENDS AND OUTLOOK: MANUFACTURING AND HOSPITALITY SECTORS

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ABSTRACT

This paper will examine employment trends in the Maine economy over the last two decades using data from a variety of public sources. During this period, Maine has transitioned from an economy lead by Paper-related) Manufacturing to an economy supposedly led by the service sectors, and in particular the Hospitality and Tourism industry. This economic shift has paralleled a workforce composition shift as employer's needs regarding technical knowledge, skillset, education, and experience has altered. A shift from a manufacturing to a service economy is not unique to Maine as other U.S. states, and even some countries, have experienced similar trends. However, Maine's relatively small size affords the opportunity to examine systemic effects effectively.

INTRODUCTION

Decades ago Maine's economy, like many other rural states, was driven primarily by the Manufacturing sector. In Maine, manufacturing employed 43 percent of all nonfarm jobs in the manufacturing sector in the 1950s, and peaked in 1979 at 114,600 jobs (Manufacturing jobs: Trends, issues, and outlook, 2012). By 2015, total manufacturing employment had dropped to less than 9% of total employment or approximately 51,100 jobs. Another issue facing the sector is high job "churn". The Maine Department of Labor (Manufacturing jobs: Trends, issues, and outlook, 2012) noted that there were more than 2,000 job gains and 2,000 job losses each quarter in the sector. A quarterly turnover rate of approximately 4%. Despite the decline in jobs, overall production has remained steady as increase manufacturing GDP per worker has offset the loss of jobs (Manufacturing jobs: Trends, issues, and outlook, 2012).

The Welcome sign when entering Maine reads 'Welcome to Maine: The Way Life Should Be'. The Maine license plate reads "Vacationland". Both speak to the importance Maine now places on leisure, the Hospitality, Leisure, and Tourism industry, on the Maine economy. According to VisitMaine (2015 Maine tourism highlights, 2015), 71% of Maine residents considered hospitality (tourism) the most important economic sector for the state. In 2013, tourist spending in Maine was \$3.42B, a 6.39% share of the gross state product (Interactive travel analytics, 2013). While not as large as FL (10%), or NV and HI (25% each), hospitality and tourism has a huge impact on the Maine economy. VisitMaine (2015 Maine tourism highlights, 2015) estimates that the total economic impact of tourism in Maine for 2015 was total sales of \$8.29B, total earnings of \$2.39B, and total taxes of \$554MM.

Thus, the Maine economy can be viewed as transition from the old Manufacturing driven economy to the new Hospitality and Tourism driven economy. The purpose of this paper is two-fold: a) to compare the two economies, and b) to compare the workforce composition of the two economies. More specifically, when comparing the two economies, this paper will examine if the new economy has resulted in a significant increase in either employment or earnings.

DATA

The data for this research was extracted from the U.S. Census Bureau (2015) Quarterly Workforce Indicators (QWI). The original data set contained quarterly data from 1993 Q1 through 2015 Q4, the most recent quarter where data was available. It consisted of 107 variables, including the North American Industry Classification System (NAICS) codes which were used for industry sector identification and analysis. From this data set, a Maine subset was extracted which contained data from 1996 Q3, the first quarter Maine submitted a complete report, through 2015 Q4. The analysis was conducted using R and Microsoft Excel.

The QWI data contains several employment statistics representing an individual being employed during a given quarter. For the purpose of this research, the field Employed Stable was used. A worker is considered full quarter employed (employed stable) for the quarter T, if the worker had reported income in all three quarters: T-1 (the quarter immediately before T), T, and T+1 (the quarter immediately after T) (U.S. Census Bureau, 2015).

ANALYSIS

Total Employment

Maine's workforce grew by 40% between 1980 and 2010 (Maine's labor shortage, 2016). Most of this growth can be accounted for by the significant increase in the percentage of women who are working, which rose from 30% in 1940s to 50% in 1980 to 75% in 2010 (Maine's labor shortage, 2016). As seen in Figure 1, despite recessions in 2001 and 2007, total employment from 1996 through 2015 has generally increased.

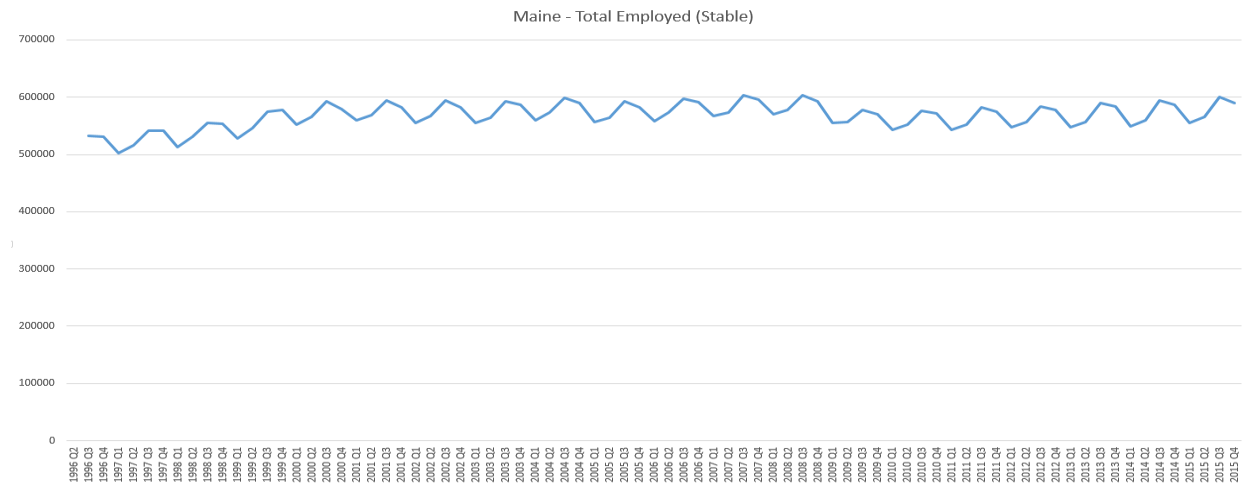


Figure 1. Maine – total employed (stable) for period 1996 Q3 through 2015 Q4

Employment – Top 5 NAICS Sectors

Figure 2 graphs the number of jobs in each of the 20 top-level NAICS sectors. Two things stand out in this graph. First, many of the sectors are bunched at the bottom of the graph, meaning the sector has few people employed in it. Second, there is not sector titled “Tourism” or “Hospitality”. In fact, this was one of the major challenges of this research. The closest associated top-level NAICS to either “Tourism” or “Hospitality” is “Accommodation and Food Service”. However, obviously, not all lodging or all dining is tourism. Likewise, some hospitality and tourism jobs may be inside of smaller sectors such as “Arts, Entertainment, and Recreation”, “Real Estate and Rental and Leasing”, and “Retail Trade”.

Given that “Accommodation and Food Service” is a top-level NAICS sector, one of the top five employment sectors in Maine, and most of the other top-level sectors are so small, the decision was made to use that sector as a close enough proxy for “Hospitality and Tourism”.

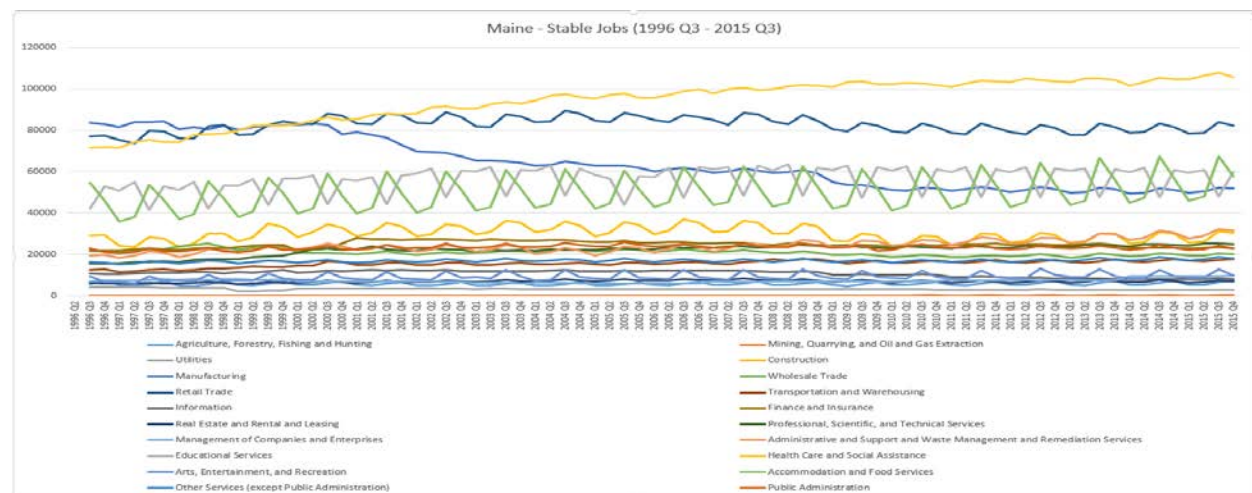


Figure 2. Maine – employment by NAICS for period 1996 Q3 through 2015 Q4

When examining the number of jobs in the top five NAICS sectors (see Figure 3) a few things become clear. First, there is supporting evidence of a significant decline in manufacturing jobs from 83,670 in 1996 to only 51,883 in 2015. When viewed as the percentage of total jobs in Maine (see figure 4), the graphs shows a similar decline. As recently as 1997 Manufacturing was the largest job sector comprising 15.9% of the total jobs in Maine (see Table 1). Nearly ten years later, that ranking dropped from first to third in 2006 with 10.5% of the total jobs. By 2015, Manufacturing has further declined to the fifth ranked sector and employed less than 1 in 10 at 8.9%. From this, it is obvious that Manufacturing is no longer driving the Maine economy when using the measure number of jobs.

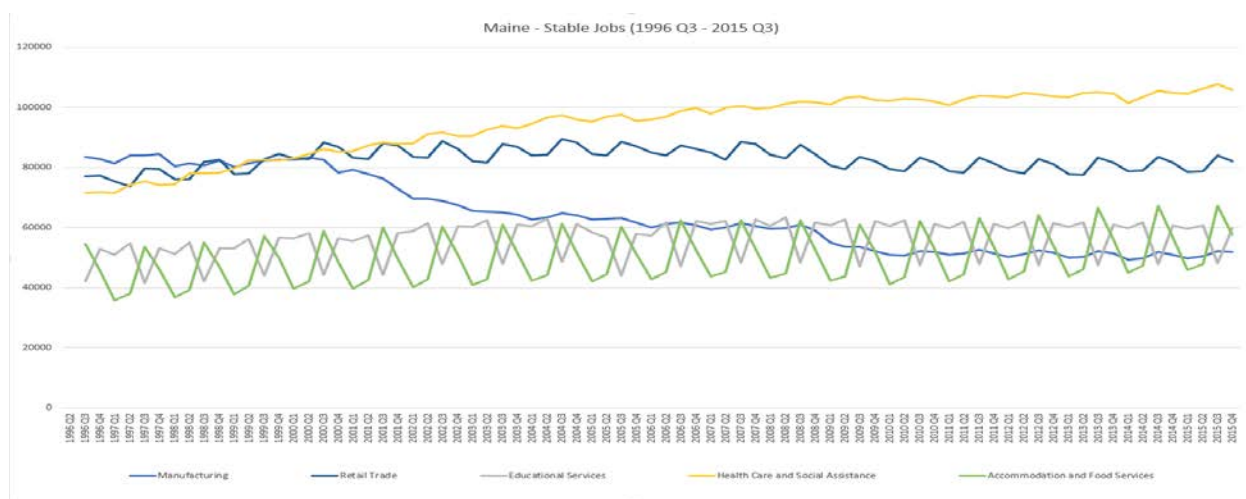


Figure 3. Maine employment by NAICS, top 5 sectors for period 1996 Q3 through 2015 Q4

During the same period, Maine has seen a dramatic increase in the number and percentage of jobs in the Health Care sector. Health Care jobs rose from 71,628 in 1996 to 105,568 in 2015 (see Figure 3). It is now the largest percentage employer with 18.4% of all Maine jobs (see Table 1). Currently, the second largest sector is Retail Trade, which has shown a slight downward trend but still contains 14.0% of the total jobs (see Table 1).

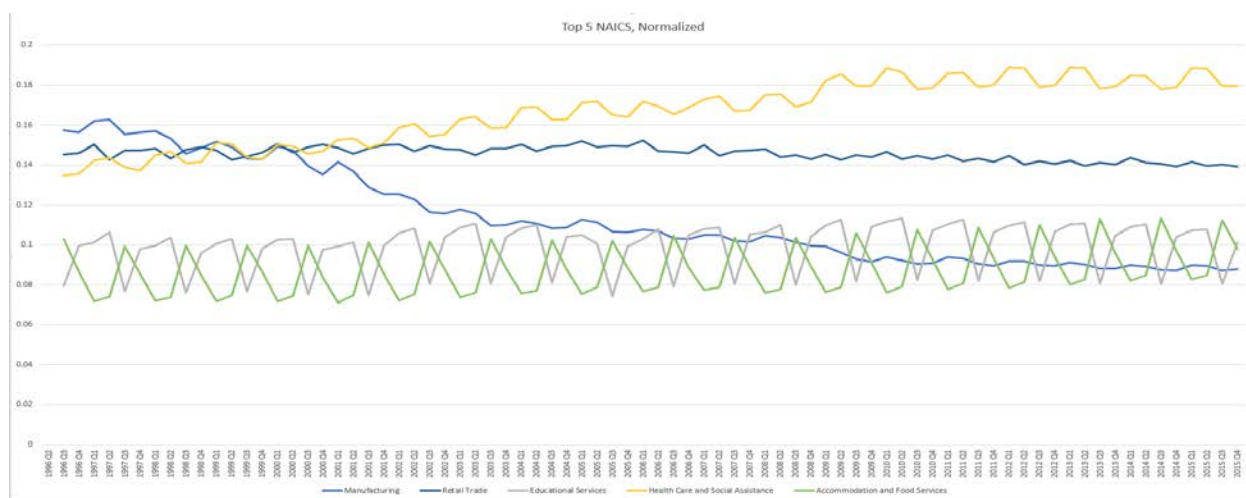


Figure 4. Maine employment as percentage of total jobs by NAICS, Top 5 sectors for period 1996 Q3 through 2015 Q4

When examining the Accommodation and Food Service sector during the same period, both Figures 3 and 4 show slow, steady growth in the sector. This conclusion is supported by research from the Maine Development Foundation (Measure of growth, 2016) which finds that this is the third fastest growing sector of the Maine Economy behind only Health Care and Professional Services. Table 1 depicts this growth from 8.3% and a fifth ranking in 1997 to 9.4%

and a fourth ranking in 2015.

As mentioned above, one of the objectives of this research was to determine if Hospitality and Tourism was a driver of the Maine economy as measured by the number of jobs in the Accommodation and Food Services sector. While the sector is experience steady jobs growth, and now employs more people than the Manufacturing sector, it is clear when examining Figures 3 and 4 and the information in Table 1 that Hospitality and Tourism is not leading in the number of jobs.

Table 1
Maine Employment by NAICS, Top 5 Sectors by Ranking

| <u>Rank</u> | <u>1997</u> | | <u>2006</u> | | <u>2015</u> | |
|-------------|-----------------------------------|----------|-----------------------------------|----------|-----------------------------------|----------|
| | <u>Sector</u> | <u>%</u> | <u>Sector</u> | <u>%</u> | <u>Sector</u> | <u>%</u> |
| 1 | Manufacturing | 15.9 | Health Care and Social Assistance | 16.9 | Health Care and Social Assistance | 18.4 |
| 2 | Retail Trade | 14.7 | Retail Trade | 14.8 | Retail Trade | 14.0 |
| 3 | Health Care and Social Assistance | 14.1 | Manufacturing | 10.5 | Educational Services | 9.9 |
| 4 | Educational Services | 9.6 | Educational Services | 9.9 | Accommodation and Food Services | 9.4 |
| 5 | Accommodation and Food Services | 8.3 | Accommodation and Food Services | 8.7 | Manufacturing | 8.9 |
| Total | | 62.6 | | 60.8 | | 60.6 |

Employment – Monthly Earnings

When examining the average monthly earnings (see Figure 5), it is evident that workers in the Manufacturing sector make significantly more than workers in the Accommodation and Food Service sector. However, the QWI data defines this as wages only. This definition is problematic when attempting to properly determine average monthly earnings in the Accommodation and Food Service sector as a large part of earnings is based upon customer tips. Some wait staff in Maine can earn \$20 to \$30 an hour or more when including their tips (Goad, 2016; Ohm, 2016). It should be noted that it would be an extremely difficult exercise to determine what percentage of the employees' earnings should be adjusted and then by how much as certainly not all earnings reach the upper end \$30 an hour. If it could be reasonably accomplished, adding tips to the monthly earnings depicted (see Figure 5) could change the graph dramatically. Additionally, most management level jobs in hospitality and tourism are heavily impacted by performance bonus packages, which are also not included in regular wages. Finally, some summer wages are lost in a “shadow economy” where wages and jobs are traded for rent. For example, someone made trade work at a campground as maintenance, storekeeper, or housekeeper as payment for rental space.

However, when examining only the QWI provided data it is obvious that Manufacturing employees make more on average every month, and until recently they outnumbered Accommodation and Food Service employees. Thus, the Accommodation and Food Service sector is not a driver of the Maine economy as measured by employee average monthly earnings.



Figure 5. Average monthly earnings for period 1996 Q3 through 2015 Q4

Workforce Composition – Gender

Overall, Maine’s workforce is fairly evenly split by gender; however, women have outnumbered men slightly over the last couple of decades (see Figure 6). The percentage of women participating in the workforce has grown significantly from only 50% in 1980 to approximately 75% in 2010 (Maine’s labor shortage, 2016).

When examining the gender data by sector (see Table 2), some of the sector stereotypes are evident. Manufacturing is a strong male dominated sector with over 70% of all jobs held by men. While the Accommodation and Food Service sector could be thought of as a female dominated sector, the sector is much more balanced than Manufacturing, and it should be noted that the percentage of jobs held by men has been slowly rising.

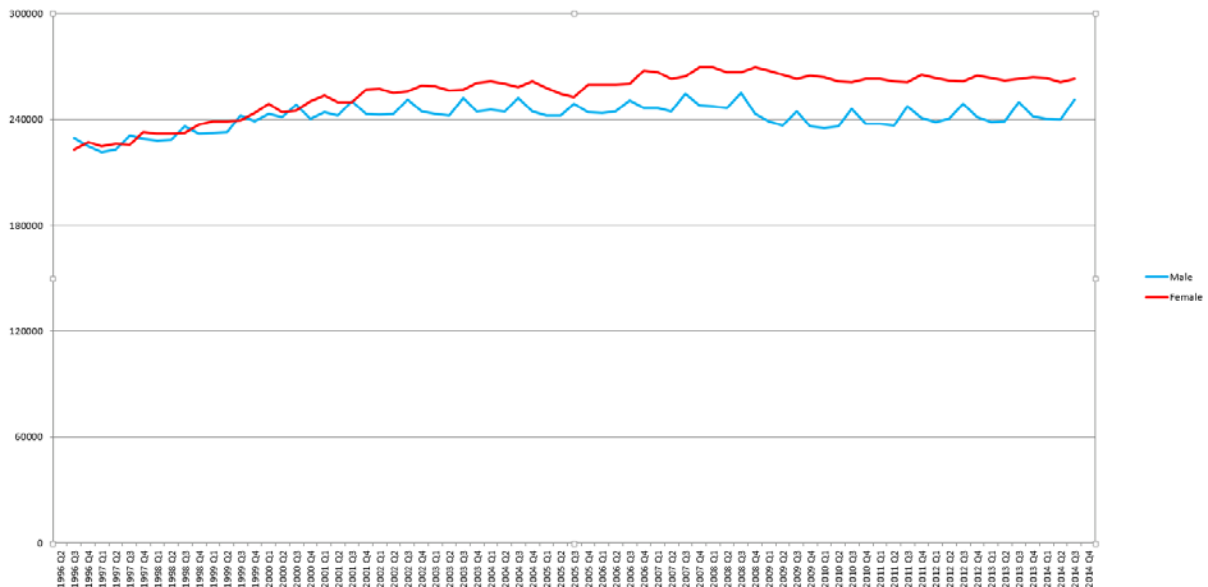


Figure 6. Maine workforce composition by gender for period 1996 Q3 through 2015 Q4

Table 2
Maine Workforce Composition by Sector by Gender

| | <u>Manufacturing</u> | | <u>Accommodation and Food Service</u> | |
|-------------|----------------------|-----------------|---------------------------------------|-----------------|
| <u>Year</u> | <u>Male %</u> | <u>Female %</u> | <u>Male %</u> | <u>Female %</u> |
| 1997 | 71.0 | 29.0 | 38.8 | 61.2 |
| 2006 | 74.4 | 25.6 | 39.7 | 60.3 |
| 2015 | 76.3 | 23.7 | 41.8 | 58.2 |

Workforce Composition – Age

When examining the age composition of Maine’s workforce, a number of interesting items stand out (see Figure 7). First, note that the top four age groups shown in the graph are all 35 years old and above. This finding supports Mills (2013) who states that Maine is one of the oldest states in the country. Second, there has been a significant increase, more than doubling, of the 55 to 64 year age group that cannot simply be explained by the aging of the population. Thus, it appears that people move to Maine and continue to work in their later years. Finally, much has been printed about the Maine “Brain Drain”, that the state’s best and brightest move south after completing their education. If this were the case, one would expect the 22 to 24 year age group, those primary ages where individuals would be graduating with either a four or six year degree, to trend downwards as these individuals left the Maine workforce and moved south. This data simply does not support this notion, unless these individuals were never part of the Maine workforce.

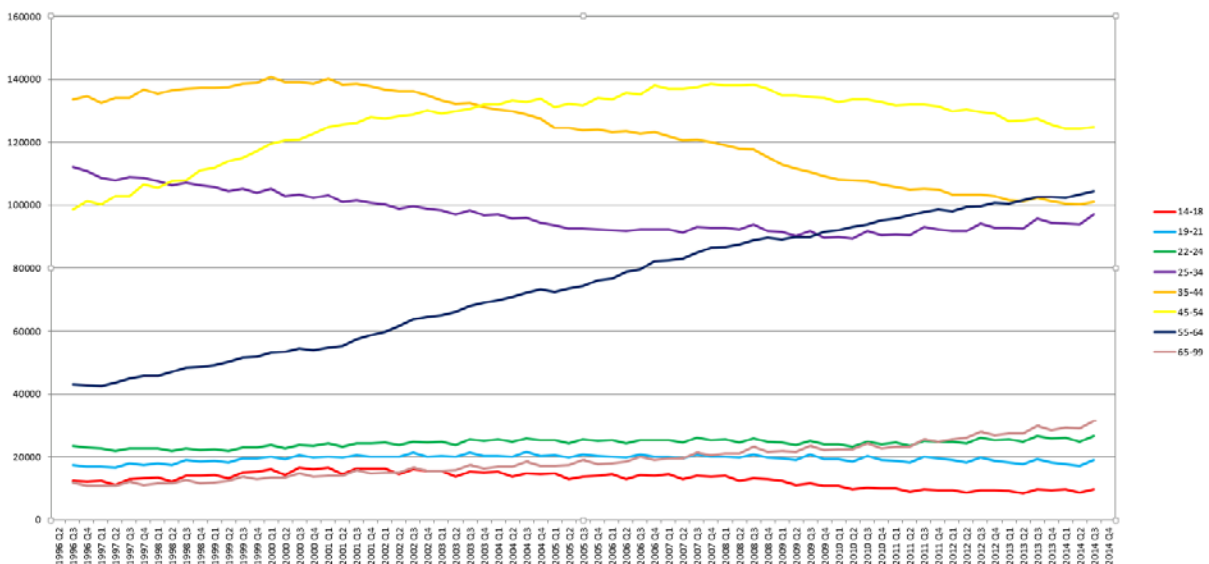


Figure 7. Maine workforce composition by age for period 1996 Q3 through 2015 Q4

When examining the age group data grouped by sector (see Table 3) a couple of things are immediately noticeable. As noted by others, the Manufacturing workforce is older, and aging in Maine (Manufacturing jobs: Trends, issues, and outlook, 2012; Mills, 2013). One can follow “bands” of workers across the years, as there appears to be a tendency to enter the sector and stay in it. For example, the 23.6% 25 to 34 year olds in 1997 becomes the 26.1% 35 to 44 year olds in 2006 and finally the 27.9% 45 to 54 year olds in 2015. Likewise, the 32.7% 35 to 44 year olds in 1997 move to each column on the right. Overall, far less than 10% of the employees are 24 years or younger, and very few employees work past the typically retirement age of 65 although this latter group is growing.

The data for the Accommodation and Food Services sector tells a different story. Overall, the age composition for this sector has been fairly consistent over the last two decades. The number of workers continuing past 65 is similar to that of the Manufacturing sector. Of greater interest is the fact that over 30% of all employees are 24 years old or younger. So, the age composition of the workforce for this sector is much more stable than Manufacturing sector, and also much younger.

Table 3
Maine Workforce Composition by Sector by Age

| <u>Manufacturing</u> | | | | | | | | | |
|----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <u>Year</u> | <u>14-18</u> | <u>19-21</u> | <u>22-24</u> | <u>25-34</u> | <u>35-44</u> | <u>45-54</u> | <u>55-64</u> | <u>65-99</u> | <u>Total</u> |
| 1997 | 0.8% | 2.9% | 4.1% | 23.6% | 32.7% | 23.7% | 10.8% | 1.5% | 100% |
| 2006 | 0.8% | 2.6% | 3.5% | 15.2% | 26.1% | 32.6% | 16.9% | 2.3% | 100% |
| 2015 | 0.6% | 2.4% | 4.2% | 17.2% | 18.6% | 27.9% | 24.9% | 4.2% | 100% |

| <u>Accommodation and Food Services</u> | | | | | | | | | |
|----------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <u>Year</u> | <u>14-18</u> | <u>19-21</u> | <u>22-24</u> | <u>25-34</u> | <u>35-44</u> | <u>45-54</u> | <u>55-64</u> | <u>65-99</u> | <u>Total</u> |
| 1997 | 16.4% | 13.6% | 10.2% | 24.3% | 18.8% | 10.0% | 4.8% | 1.9% | 100.0% |
| 2006 | 15.4% | 14.5% | 11.6% | 21.1% | 15.9% | 12.9% | 6.1% | 2.5% | 100.0% |
| 2015 | 10.4% | 12.1% | 11.2% | 25.7% | 15.2% | 13.1% | 8.8% | 3.4% | 100.0% |

Workforce Composition – Education

Overall, the education status of Maine’s workforce is good. Although it is still too high, the smallest category are those workers with “less than a high school education” (see Figure 8). Unfortunately, there has been a slight upturn in this category over the last five years. Since 2002, the number of workers with a “some college or an Associate’s degree” has outnumbered those with just a high school education. The number of workers with at least a Bachelor’s degree had been climbing until about 2008. Since then it has been steady or trending slightly downward.

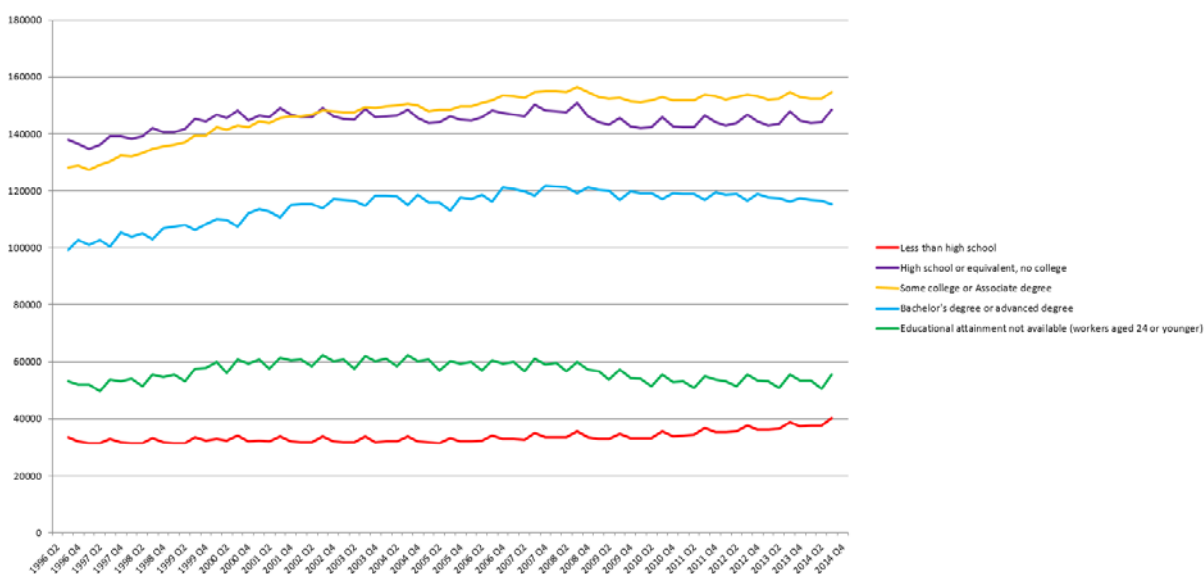


Figure 8. Maine workforce composition by education for period 1996 Q3 through 2015 Q4

Initial attempts to examine the educational composition of the Accommodation and Food Service sector were hampered by the fact that so many of the workers were younger than 24 years old (see Table 4). So, according to QWI, their educational status was unavailable. Using this data, both sectors have a similar percentage of workers with less than a high school education. Manufacturing has a clear advantage in employees that have completed high school as well as those with any college education. These trends may change as advanced education degree programs in hospitality and tourism are relatively new at the college and university level, and are very new, within the last five to ten years, at the high school level.

Table 4

Maine Workforce Composition by Sector by Age

| <u>Manufacturing</u> | | | | | | |
|---------------------------------------|----------------------------------|------------------------------------------------------|-------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------|
| <u>Year</u> | <u>Less than high school</u> | <u>High school or equivalent, no college</u> | <u>Some college or Associate degree</u> | <u>Bachelor degree or advance degree</u> | <u>Educational attainment not available (workers aged 24 or younger)</u> | <u>Total</u> |
| 1997 | 9.4% | 39.4% | 28.9% | 14.4% | 7.8% | 100.0% |
| 2006 | 8.4% | 38.4% | 30.9% | 15.5% | 6.9% | 100.0% |
| 2016 | 9.5% | 36.4% | 30.7% | 16.1% | 7.2% | 100.0% |
| <u>Accommodation and Food Service</u> | | | | | | |
| <u>Year</u> | <u>Less than high school</u> | <u>High school or equivalent, no college</u> | <u>Some college or Associate degree</u> | <u>Bachelor degree or advance degree</u> | <u>Educational attainment not available (workers aged 24 or younger)</u> | <u>Total</u> |
| 1997 | 8.1% | 24.2% | 18.7% | 8.8% | 40.2% | 100.0% |
| 2006 | 8.7% | 23.0% | 18.4% | 8.5% | 41.5% | 100.0% |
| 2016 | 9.9% | 23.9% | 21.1% | 11.3% | 33.7% | 100.0% |

However, it was felt that the unavailable educational data was skewing the results, and there was more to this story. So, the decision was made to remove that column and recalculate percentages based upon the new totals. One would assume that the educational requirements for these two sectors would be different. The results are extremely interesting as the educational composition of the workforce of the two sectors are strikingly similar (see Table 5). The Manufacturing sector has slightly fewer workers that have not completed high school, and slightly more that have any college education.

Table 5

Maine Workforce Composition by Sector by Age, Adjusted

| <u>Manufacturing</u> | | | | | | |
|---------------------------------------|----------------------------------|------------------------------------------------------|-------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------|
| <u>Year</u> | <u>Less than high school</u> | <u>High school or equivalent, no college</u> | <u>Some college or Associate degree</u> | <u>Bachelor degree or advance degree</u> | <u>Educational attainment not available (workers aged 24 or younger)</u> | <u>Total</u> |
| 1997 | 10.2% | 42.8% | 31.4% | 15.6% | | 100.0% |
| 2006 | 9.0% | 41.2% | 33.1% | 16.7% | | 100.0% |
| 2016 | 10.3% | 39.3% | 33.1% | 17.4% | | 100.0% |
| <u>Accommodation and Food Service</u> | | | | | | |
| <u>Year</u> | <u>Less than high school</u> | <u>High school or equivalent, no college</u> | <u>Some college or Associate degree</u> | <u>Bachelor degree or advance degree</u> | <u>Educational attainment not available (workers aged 24 or younger)</u> | <u>Total</u> |
| 1997 | 13.5% | 40.4% | 31.3% | 14.8% | | 100.0% |
| 2006 | 14.8% | 39.3% | 31.4% | 14.6% | | 100.0% |
| 2016 | 15.0% | 36.0% | 31.9% | 17.1% | | 100.0% |

Workforce Composition – Race

As noted by Mills (2013) Maine is also one of the least diverse states in the country, with approximately 94% of the state identifying as white (see Figure 9). All of the other groupings are shown as overlapping lines at the bottom edge of the graph. Many (Maine's labor shortage, 2016; Measures of growth 2016, 2016; Mills, 2013) cite this as one of the most significant challenges to Maine's economic future. Furthermore, Maine has developed a tenuous reliance on work visa programs for hospitality employees (Brechlin, 2015; Maine's labor shortage, 2016).

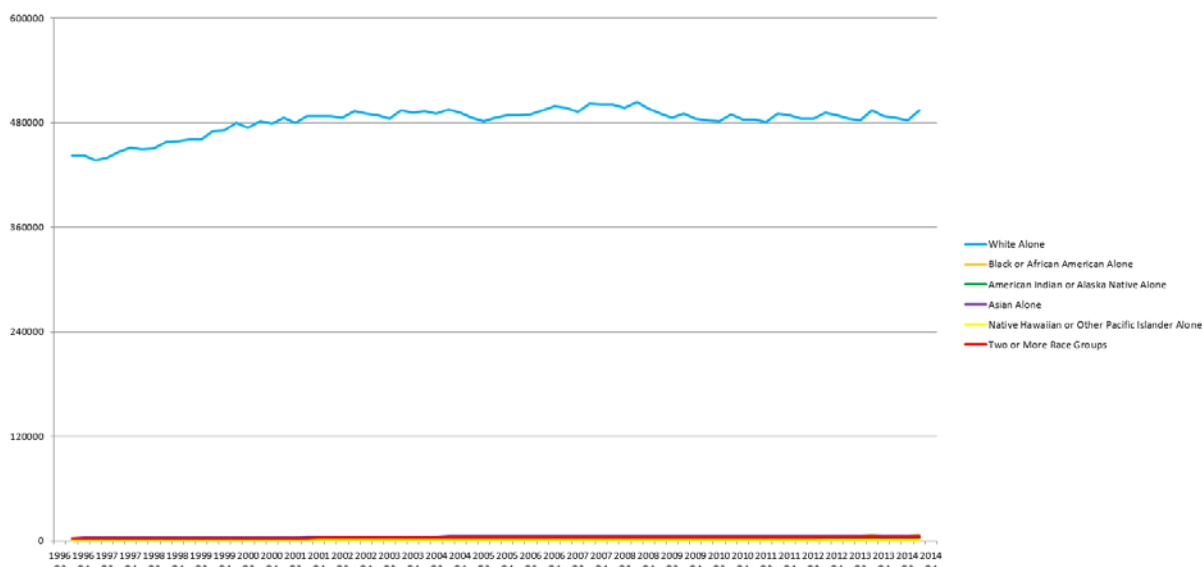


Figure 9. Maine workforce composition by race for period 1996 Q3 through 2015 Q4

Table 6

Maine Workforce Composition by Sector by Age, Adjusted

Manufacturing

| <u>Year</u> | <u>White Alone</u> | <u>Black or African American Alone</u> | <u>American Indian or Alaska Native Alone</u> | <u>Asian Alone</u> | <u>Native Hawaiian or Other Pacific Islander Alone</u> | <u>Two or More Race Groups</u> | <u>Total</u> |
|-------------|------------------------|----------------------------------------------------|---------------------------------------------------------------|------------------------|----------------------------------------------------------------------------|----------------------------------------|--------------|
| 1997 | 97.3% | 0.5% | 0.4% | 1.3% | 0.1% | 0.5% | 100.0% |
| 2006 | 96.4% | 0.8% | 0.4% | 1.7% | 0.1% | 0.6% | 100.0% |
| 2015 | 94.9% | 1.4% | 0.6% | 2.1% | 0.1% | 0.9% | 100.0% |

Accommodation and Food Services

| <u>Year</u> | <u>White Alone</u> | <u>Black or African American Alone</u> | <u>American Indian or Alaska Native Alone</u> | <u>Asian Alone</u> | <u>Native Hawaiian or Other Pacific Islander Alone</u> | <u>Two or More Race Groups</u> | <u>Total</u> |
|-------------|------------------------|----------------------------------------------------|---------------------------------------------------------------|------------------------|----------------------------------------------------------------------------|----------------------------------------|--------------|
| 1997 | 95.5% | 0.8% | 0.6% | 2.0% | 0.1% | 0.9% | 100.0% |
| 2006 | 92.8% | 2.3% | 0.7% | 2.9% | 0.1% | 1.2% | 100.0% |
| 2015 | 91.8% | 3.0% | 0.8% | 2.8% | 0.1% | 1.5% | 100.0% |

When looking at the raw data, one can see that the Accommodation and Food Services sector is slightly more racially diverse (see Table 6). However, because of the already small percentage, it would only take a few individuals in any category other than “White” to change this analysis.

Workforce Composition – Summary

Table 7 is a summary of the work force composition between the two sectors. As noted by Mills (2013), Maine’s lack of racial diversity and aging workforce represent significant challenges to developing a robust Maine economy. This obstacle is common among the states with similar demographics. In addition, Maine employers face a significant lack of “qualified” workers (Maine’s labor shortage, 2016), where having a college education is not enough, but jobs require very specific skillsets. In many sectors, including the two examined in this study, jobs are evolving as productivity advancements come through automation (Maine’s labor shortage, 2016; Measures of growth, 2016). This results in the remaining jobs requiring better educated and more highly skilled workers. Once again, this challenge is not unique to Maine, but the age of the workforce makes its resolution more critical.

Table 7

Maine Workforce Composition Summary

| Category | Manufacturing | Accommodation and Food Services |
|---------------------|-------------------------------|---------------------------------|
| Gender | Strong Male (70%) | Moderate Female (60%) |
| Age | Older workforce | Normal distribution |
| | Visible demographic shift | Stable |
| Education | Normal distribution | Strong Not Available (40%) |
| | Strong HS & Some College | |
| Education, Adjusted | Almost identical distribution | Almost identical distribution |
| Race | Non-White is too small | Non-White is too small |

CONCLUSION

As recently as the late 1990s the Manufacturing sector was the driver of the Maine economy as it employed the highest percentage of Maine workers in high earnings jobs. The number of those manufacturing jobs continues to decline from its peak resulting in manufacturing currently being only fifth largest sector. Given the sales, wages, and taxes generated by the Hospitality industry (2015 Maine tourism highlights, 2015) it would be hard to argue that the sector does not play a significant role in Maine’s economic future. Based upon the data presented, it is not the driver of the Maine economy, but given calls for the diversification of Maine’s economy (Commerce Department, 2016; Measures of growth, 2016; Mills, 2013) that might not be a bad thing.

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Official Conference Program

**Northeastern Association of Business, Economics and Technology
39th Annual Meeting**

October 27th and 28th, 2016

Thursday October 27, 2016

Registration - Days Inn Atrium **7:30 am - 3:15 pm**

Breakfast - Sylvan Room **7:30 am - 9:00 am**

Welcome - Norman Sigmond, Board Chair **8:00 am - 8:15 am**

Session 1: Sylvan Room **8:30 am – 9:30 am**

Session Chair: *Linda A. Hall*

Promise and Practice: Green IT and BYOD

Karen Druffel
Sharon A. Wulf

Framingham State University
Worcester Polytechnic Institute

We consider the relationship between two sets of practices in corporate information systems (IS) management: BYOD (Bring Your Own Device) and Green IT. BYOD programs allow employees to use personal information technology devices, such as laptops or tablets, on their work information technology (IT) network. BYOD is expected to reduce the overall number of IT devices per user, as well as energy consumption needed to power multiple devices. Organizations implementing BYOD often frame the initiative as a form of Green IT, but do we have support for these assumptions? What are these organizations doing to determine whether, in practice, BYOD complements or conflicts with some Green IT objectives? As a first step to our research question, we will assess the literature examining both trends, BYOD and Green IT, from both practitioner and academic perspectives. We present our research question and proposed framework for finding and categorizing the articles.

Comparative Analysis of Anti- Indemnity Statutes

John Cameron

Pennsylvania State University

The enforcement of contractual indemnification clauses in business relationships needs to be considered in light of state anti-indemnity statutes. Contractual indemnification clauses and additional insured coverages are interpreted to determine whether the contractual provisions violate certain legislative mandates. So long as the contractual provisions do not purport to indemnify a company for its own acts of negligence, courts are reluctant to bar enforcement of contractual indemnification provisions. The use of contractual indemnification clauses and additional insured coverages are a customary practice in the private and public sectors including businesses and governmental agencies. Companies utilize contractual indemnification clauses and additional insured coverages to shift responsibilities from one party to another party and provide a contractual limitation of liability. Contractual indemnification clauses and additional insured coverages by companies present a particular uncertainty because of recent anti-indemnity legislation. According to a survey of anti-indemnity statutes by the Foundation of the American Subcontractors Association, Inc. (2013) and related case law, such reform legislation has been approved in many states. Prior research to examine the variances in the provisions associated with anti-indemnity legislation within the United States has been limited. To address this gap in the literature, this paper will examine anti-indemnity legislative trends including third party indemnity, limitation of liability, partial fault, and contract interpretation.

Launching a CFP Board Registered Program: A Process Review

Bradley C. Barnhorst

DeSales University

DeSales University successfully launched two CFP Board Registered Programs, but there were multiple complications to meeting internal and external requirements. This paper will compare the internal and external processes, examine which elements caused the most slowdown during the application, evaluate if all controls and requirements were truly

necessary to secure quality, and attempt to value the resources expended compared to a more streamlined process.

Session 2: Sylvan Room

9:35 am – 10:35 am

International/Global Business Topics

Session Chair: *Leo Previti*

The Economic Growth in Peru and the Economic Struggles of Zimbabwe

Michael Joseph Gallagher

DeSales University

Zimbabwe experienced a “Lost Decade” starting with the year 2000 and Peru suffered through a “Lost Decade” in the 1980’s. These lost decades demonstrated are denoted by a decline in gross domestic product (GDP) and periods of hyperinflation. Peru has recovered and has led South America with strong economic growth starting with the year 2000 (including the global economic crises 2007 -2009). Zimbabwe continued to struggle throughout these same years. Peru is a developing economy with a limited global presence but with an economic growth of 9 percent in 2007 (the largest growth rate in the world during the global economic crises) whereas Zimbabwe has continued to struggle with a negative growth rate of 14 percent in 2008. Peru has continued this growth at an average rate of 5.7% during the period 2009-2015 ((OECD, p. 17). This paper provides the argument that the well-managed informal economy of Peru using microfinance to provide funding provides a solid base for their economic growth. The reliance on foreign capital inflows and the lack of a dependable informal economy has hindered the economic growth of Zimbabwe.

An Integrated Approach to Measuring the Economic and Social Impact of Investment in Small NGOs in West Bengal, India

Jayanti Bandyopadhyay

Linda A. Hall

Gautam Bandyopadhyay

Arun Deb

Salem State University

State University of New York at Fredonia

Independent Consultant

University of Pennsylvania

This paper describes the results of a study of the economic and social impact of investment in, and the operations of two women's empowerment non-governmental organizations (NGOs) in rural villages in West Bengal, India. Baseline measurements and initial statistical analysis of data collected show evidence of positive social and economic impact and therefore program success, but economic impact is not quantifiable in all cases. From an accountant's perspective, an opportunity exists to provide relevant stakeholders with meaningful training and tools to measure the relative return (social as well as financial) on investment in programs. We propose combining methods inspired by Christensen's Job-To-Be-Done framework, Brest et al.'s Expected Return formula, and concepts from Kaplan and Norton's Balanced Scorecard to develop a practical means for small NGOs to measure relative impact and allocate limited resources.

Adoption of International Financial Reporting Standards: Examining the Effects on Access to Equity Capital

Symon Manyara

Bowie State University

Global diversity in accounting standards makes comparison of financial results from companies in different countries problematic when evaluating investment opportunities in equity capital. It is vital to establish uniform financial reporting regulation, because of the global nature of today's capital markets and the significance of financial information required for investment decision making. The International Financial Reporting Standards (IFRS) have been globally accepted by more than 100 countries as of 2016 to reduce the global diversity in accounting standards. Australia implemented IFRS in 2005. The purpose of the current study was to investigate the effects of the IFRS implementation on cross-listing of Australian firms and trading volume for the cross-listed Australian companies between 2002 and 2008. The sample of companies included in this study were all Australian companies listed on the Australian Securities Exchange (ASX) as of January 1, 2002, which were still listed on the ASX as of December 31, 2008. The test results based on the Australian cross-listed companies attest that implementing IFRS improves access to equity capital thus contributing to the literature on agency theory.

Session 3: Willow Room

9:35 am – 10:15 am

Business Topics

Session Chair: *Jonathan Kramer*

Gender Differences in Product Color Importance, Color Choice, and Meaning of Color among Canadian Consumers

M. Halim Dalgin
Okan Akcay
Abdulwahab Srαιheen

Kutztown University of Pennsylvania
Kutztown University of Pennsylvania
Kutztown University of Pennsylvania

This research paper focuses on an understanding of the importance and meanings of color among Canadian consumers when making purchasing decisions for a variety of products. The sample of Canadian buyers revealed that the majority view color as an important factor in the purchasing decision. There is also a statistically significant difference between men's and women's views of the importance of color. Women are more likely to view color as extremely or very important, while men show indifference (somewhat important). Personal items such as clothing, shoes, sun glasses, are ranked highest in terms of color preference, while electronics are rated lowest. Color is a highly important product attribute because it is what differentiates similar kinds of products. It is a key feature for shaping consumer feelings and responses when making purchasing decisions (Clarke and Honeycutt, 2000). It also influences consumer's behaviors and helps company's position their products in the market place or differentiate themselves from the competition (Grossman and Wisenblit, 1999; Aslam, 2006). In general, color has the potential to affect a consumer's overall perception of a product (Sable and Akcay, 2010). Product color connects the consumer more quickly than any other identifying product characteristic. Studies have shown how color can grab and retain attention, can stimulate emotional responses and can affect an individual's perception. It can also form attitudes, improve learning and persuasiveness regarding product purchase decisions. Overall, color is influential in every level of the marketplace, from brand, to logo, image, packaging and even the product itself (Sable and Akcay, 2011). Color is used to attract or draw a customer's attention and certain colors can create a purchase intention (Bellizi, et al., 1983; Kerfoot, et al., 2003).

The purpose of this study is to determine the importance of color when making purchasing decisions for different products. Those products are purchased on a daily basis by Canadian consumers. Summarizing and analyzing the findings of color choice and meaning, by gender are of paramount importance for producers and marketing managers.

Corporate Social Responsibility: Bringing the fair-trade Designation to Other Industries

Bronwyn M. Laughner

Bloomsburg University of Pennsylvania

Corporate social responsibility is an area burgeoning interest as corporations face increasing pressure to ensure ethical, fair and humane treatment of workers in their supply chains. While companies in the coffee and chocolate industries are pioneers in this movement with their fair-trade practices, other industries, particularly the garment industries are slow to embrace transparency and accountability throughout their supply chains. One company, LaborVoices, is utilizing crowdsourcing to gather real-time, worker data to feed back to upstream supply chain partners on worker conditions, operations in the plant and labor practices. Two questions we will examine in depth are, does a fair-trade designation carry sufficient weight with the consumer to justify the cost (McEachern, 2015) and can the fair-trade designation be useful in other industries (Steinmeyer, 2016).

Session 4: Logan/Harris Room

9:35 am – 10:35 am

Business Education Topics

Session Chair: *John A. DiCicco*

Integrating a Liberal Arts Perspective into School of Business Marketing Courses

Rita Dynan

La Salle University

This paper will describe how written communication is used to add a liberal arts perspective to business school marketing courses. An assigned project requiring students to write original marketing content on a blog will be described. The paper will develop a case for using a blog assignment in Advertising, New Product Development and Marketing Management (capstone) courses. The intention is to improve student's writing skills as well as provide them with a writing sample to supplement their resume for effectively competing in the job market. The primary liberal learning activity of the blog assignment is writing but there is an element of analytical thinking as well because the assignment requires that the blog content be relevant to topics and concepts in the course. The combination of writing and analytical thinking in the assignment improves the student's critical thinking skills. The goal for the student is to have a blog that demonstrates both writing skills and expertise in the field of marketing. Students are required to write blog posts that reflect their analytical skills, good ideas, and creativity. Supplemental course content posted by the instructor on Twitter and Pinterest is used as inspiration for the creation of six graded blog posts. The assignment requires students to reflect on articles, research data, and trend reports and then create six insightful blog posts with analysis, questions and opinions about the articles or research they have read.

Perceived Compatibility of Course Management System with Teaching Style is Associated with Department, Rank, and Length of Use in Higher Education Faculty

Audrey Pereira
Monika Wahi

Fitchburg State University
Laboure College

Willingness of higher education faculty to complete training on the course management system (CMS) at their institutions has been positively associated with the perceived compatibility of the CMS with faculty teaching style. The objective of this analysis was to determine characteristics of faculty that are associated with perceived compatibility of the CMS with their teaching style. In a multivariate model, lower rank and longer length of use were positively associated with perceived CMS compatibility, and level of compatibility differed significantly by department. To increase CMS compatibility with teaching style, academic administrators could provide targeted training to those in higher ranks or who have limited experience with the CMS. Future researchers should determine why teaching using the CMS is perceived as more compatible in some departments compared to others.

Session 5: Holmes/Foster Room

9:35 am – 10:35 am

Marketing & Business

Session Chair: *Darrell L. Steckler*

Spotlighting or Free of Charge? An Empirical Study on Amazon's App Marketplace

Hong Chen
Kevin Lachaud
Wenqi Zhou

Duquesne University
Duquesne University
Duquesne University

We examine the effect of visibility and pricing, and their interaction, on apps' popularity in a marketplace. Specifically, we study Amazon's Free App of the Day (FAD), a promotional strategy which spotlights a single app daily and temporally makes it available free of charge during the same promotional period. We coded a web crawler to automate data collection. We first collected all Apps that have been adopted FAD promotion every day during 2015 summer. We then collected those apps on Google Play daily during the same time period, if available. By using data from both Amazon and Google Play, we are able to differentiate the effects of high visibility and temporally free pricing resulted from Amazon's FAD promotion. We go a step further to investigate how they affect App's popularity on Amazon, i.e. volume of online user-generated conversations and sales rank, which in turn affects the apps' overall market performance. Increasing visibility and lowering price are two commonly used marketing tools. We believe our conclusion from this unique context of Amazon FAD can contribute to our understanding of the relative effectiveness of these two tools in the App market.

The Beauty of Social Influencers

Kurt Komaromi

Ithaca College

This paper presents a case study of an independently-owned makeup and beauty blog that successfully built a larger

audience and extended its influence in the cosmetics and beauty market. The owner of the site wanted to enhance her profile as a product expert, reviewer, and influencer for brands in the industry. Her key decision issues focused on determining which content and media strategies would build the greatest number of subscribers, increase overall traffic levels, and raise her profile with both brands and consumers. The analysis illustrates how social media platforms can amplify a message to a larger audience, the importance of developing engaging content, and how to leverage the power of social influencers.

House Bill 2 and NC Business

Brosh M. Teucher
Nicholas A. Addona

Saint Michael's College
Saint Michael's College

In this case study we examine the impact of North Carolina's House Bill 2 (HB2) on businesses in the state. We draw on secondary information sources including local and national media outlets, and state and federal government publications. The case outlines the political, legal, and public circumstances leading to, and the reactions following the passage of House Bill 2. Next, we chart the impact of these events on businesses operating in and out of the State. We show that the bill and subsequent events had both immediate and lagged negative effects on the North Carolina's business community. We predict that HB2 will have an enduring and intensifying negative impact on the business environment in North Carolina. We conclude with recommendations for businesses on how to adapt to North Carolina's changing legal and business environment.

Session 6: Sylvan Room

10:50 am – 11:50 am

Chair: *Karen Druffel*

Clarifying the Meaning of Non-Integer “N” Values in Annuity Calculations

John Walker
Jonathan Kramer

Kutztown University of Pennsylvania
Kutztown University of Pennsylvania

Time value of money problems are an integral part of finance. In this research, we focus attention on the issues raised when a non-integer solution results from solving for “n” (number of periods) in a time value of money annuity problem. We show that such a numerical solution, while mathematically correct, can deviate from the narrative of the problem. This deviation from the narrative could cause misunderstandings between students and instructors, and/or practitioners and clients. It could also lead to underfunding of investment goals. We demonstrate how instructors and/or practitioners can explain the deviation from the narrative in such cases, and how cash flows can be adjusted to avoid missing goals.

FASB Updates Not-For-Profit Accounting Rules: Understanding the Changes and Impact on Financial Statement Presentation

Warren Kleinsmith
Leo Previti

Stockton University
Stockton University

Current accounting standards supporting not-for-profit entities have existed since 1993. In response to stakeholder concerns about the complexity, transparency, and usefulness of these standards, FASB issued an August 2016 amendment to Topic 958 designed to simplify and improve the face of financial statements and the information disclosed in the notes to the financial statements. Specifically, this update requires changes to net asset classes, investment returns, expenses, liquidity and availability of resources, and presentation of operating cash flows. This paper will examine these changes and their corresponding impact on Financial Statement Presentation.

Stats: What Do Students Need to Succeed?

Robert John O'Connell

York College of Pennsylvania

After twenty years of teaching basic undergraduate business statistics, more students seem to be unsuccessful in their initial attempts at this core business course. This researcher observed increasing failure rates in this course, and discussions with other business statistics instructors in the same school indicate similar conclusions. The purpose of this research is to determine if other business schools are experiencing similar problems and, if so, investigate current

literature to determine the causes of the problem and their recommended or implemented solutions. Students attempting basic business statistics should have a solid mathematics foundation based on common prerequisites of college-level algebra and calculus. Even if students' skills in these areas are minimal, most mathematical business statistics formulae are less complicated than those covered in a calculus course, and basic business calculators can solve the more complex formulae. Further, use of Excel, typically included in prerequisite MIS courses, should facilitate success of students. The use of findings from this research may enable instructors to improve students' success rates.

Session 7: Willow Room

10:50 am – 11:50 am

Business Related Topics

Session Chair: *David Gargone*

Mascots Aren't Worth the Risk of Liability

David Gargone
Joshua Winneker
Zhen Ma

Misericordia University
Misericordia University
Misericordia University

In professional sports, the team mascot is a part of the franchise's brand and overall entertainment product, but with the recent rise in mascot-related lawsuits, and decisions against the teams, it is becoming advisable for teams to discontinue their use of mascots. The cost for the teams of a potential mascot-litigation, settlement or judgment outweighs any minor entertainment benefit to the fans. When analyzing the total franchise valuations of the teams in the four major U.S. professional sport leagues (NBA, NFL, MLB and NHL), it appears that teams with mascots generally have lower values demonstrating that there is not a strong financial incentive to retain a mascot. When you couple this with the potential for liability that comes with voluntarily employing a mascot, it seems that the better course of action for the teams is to proceed without mascots.

Session 8: Holmes/Foster Room

10:50 am – 11:50 pm

Business Topics

Session Chair: *Hong Chen*

The Jay Peak EB-5 Immigrant Investor Program

Brosh M. Teucher
Elizabeth J. Cosentino
Ryan M. Stapleton

Saint Michael's College
Saint Michael's College
Saint Michael's College

In this case study we focus on the background, implementation, and consequences of the EB-5 Immigrant Investor Program at Jay Peak in Vermont. We examine the legal and ethical challenges of the EB-5 program, the business rationale for the Jay Peak EB-5 program, and the handling of the Jay Peak EB-5 program crisis. We draw on secondary information sources including local and national media outlets, and state and federal government publications. We trace the development of the federal EB-5 program. Next, we outline the implementation of the EB-5 program in Vermont. Last, we analyze the reactions of various stakeholder groups to the Jay Peak EB-5 financial crisis that unfolded in 2016. We argue that the EB-5 Immigrant Investor Program is not free of controversy, that the EB-5 program in Vermont performed well in the past but the Jay Peak project was questionable, and that the reaction to and the handling of the crisis varied according to the underlying interests of different stakeholders. We conclude with recommendations for investors, communities, public officials, government agencies, and legislators on how to approach the EB-5 program in the future.

Pairs Trading Sector Performance

Pawan Madhogarhia

York College of Pennsylvania

The purpose of this research was to examine risk and return characteristics of pairs trading in different sectors. We

collected low frequency price data from January 2, 2005 to December 31, 2014 and our focus was on evaluating the performance of a simple trading strategy for stocks within the same sector. We found that the finance sector generated better risk adjusted returns relative to the other sectors. We also discovered that pairs trading can outperform buy-and-hold of the market index in times of high uncertainty.

An Examination of Maine's Economic Trends and Outlook

Gerald Paul Wright
Lee Speronis

Husson University
Husson University

This paper will examine employment trends in the Maine economy over the last two decades using data from a variety of public data sources. During this period, Maine has transitioned from an economy lead by Paper (and paper-related) Manufacturing to an economy lead by the Hospitality and Tourism sector. This economic shift has paralleled a workforce composition shift as employer's needs in terms of technical knowledge, skillset, education, and experience has altered. A shift from a manufacturing to a service economy is not unique to Maine as a number of U.S. states, and even western countries, have experienced similar trends. However, Maine's relatively small size affords the opportunity to effectively examine systemic effects. Several suggestions are offered for future economic growth in Maine.

Session 9: Sylvan Room

1:15 pm – 1:55 pm

Organizational Structure and Leadership

Session Chair: *Catherine Anitha Manohar*

Buddhist Business - A Case Study of Takatoshi Mitsui

Hideki Takei

Central Washington University

Some Buddhist managers and entrepreneurs have applied the Buddha's teachings to business operations. Buddhist Business, an emerging discipline of Business studies, attempts to find applications of these teachings for successful business operation. In Buddhist business, an organization is seen as an entity with its own needs and conflicts that lead to "suffering" much like that experienced by a single person. While a person might use Buddhist teachings in everyday life to try to reduce or eliminate their suffering, an organization should utilize effective management based on the Buddha's teachings to reduce its own suffering. In order to find ways to apply the Buddha's teachings to business management, we did an intensive case study of Takatoshi Mitsui (1622 - 1694), founder of Mitsui Group in Japan. We chose him for the following reasons. First, he was one of the earliest business persons to have applied the Buddha's teachings successfully. Second, his business philosophy is still well respected by executives of companies in Mitsui Group. Third, Mitsui Group has been successful in not only the Japanese market but also globally.

An Aristotelean Workplace

Matt Fuss

Geneva University

Organizations, specifically human resource departments, informed by the Aristotelean concepts of distributive justice, the golden mean and reciprocity will be better positioned to maximize its human capital. Adopting a distributive justice perspective, where one makes resource allocation decisions based on a predetermined design in which deference is given to merit, has great application. By also utilizing Aristotle's concept of the golden mean organizations can avoid the pitfall of both selfishness and altruism. With reciprocity as the underlying and driving principal of an Aristotelean workplace, organizations can strive to make decisions which foster a culture of eudaimonia. Only when employees are valued and given the resources necessary to achieve happiness, can organizations expect to maximize their return on human capital. An Aristotelean workplace will strive to create a culture of cooperation and teamwork in which both the organization and its employees receive appropriate value from the relationship.

Session 10: Willow Room 1:15 pm – 2:05 pm

Business Topics

Session Chair: *Yaya Sissoko*

Reexamining the Effect of Risk Attitudes on Firm Survival: The Roles of Endogenous Risk Preferences and Sample Selection

Insoo Cho

York College of Pennsylvania

This paper illustrates how commonly used measures of risk preferences can lead to biased inferences regarding risk attitudes and firm survival. When risk attitudes are elicited only from current entrepreneurs, the measures are subject to a selection bias which excludes unsuccessful entrepreneurs. When the risk attitudes are collected after entrepreneurial entry, the risk preferences will endogenously reflect the realized success of the business. We illustrate that prior findings of an inverted U-shaped relationship between willingness to take risk and firm survival probability are a result of these biases. Selecting on entrepreneurial success causes an upward bias in measured effects of risk aversion on firm success, while endogenous *ex post* measures of risk aversion bias the measured effect toward zero. Correcting for these two sources of bias, we find that less risk averse entrepreneurs are more likely to survive, a result consistent with experimental findings.

Sharpening Technology Skills Through a Cross-Curricular Project (30 minute workshop)

Marietta F. Kotch

Christina Force

Michalina Hendon

Bloomsburg University of Pennsylvania

Bloomsburg University of Pennsylvania

Bloomsburg University of Pennsylvania

Both educators and students find value in applying academic knowledge to real word applications. In addition, it is also necessary for today's students to understand how to successfully work in teams. In order to achieve these goals, a collaborative project between a university graduate business education (BE) student teacher and an undergraduate project management (PM) class was completed. The student teacher and cooperating high school teacher sought to conduct a training session for high school faculty on Microsoft Excel. In-house research found that junior and senior high school students are not maintaining the skills they learned in their freshman computer applications course. The research also found that many of the high school teachers themselves were not proficient in Microsoft Excel. The purpose of this project was to collaborate to create a professional development training session on Microsoft Excel for high school teachers from a variety of disciplines so that they would be able to work towards a proficiency level of the software application and subsequently successfully create and administer cross-curricular student projects and assignments which incorporate Microsoft Excel. This training was designed by the BE student teacher, the high school cooperating teacher, and the university PM class. The goal of the training was to increase high school students' use of Microsoft Excel through cross-curricular activities in order to retain the skills students acquired during their freshman year.

Session 11: Logan/Harris Room 1:15 pm – 2:15 pm

Business Education Topics

Session Chair: *David William Jordan*

Motivation, Effort, and Distraction Factors Associated with Student Performance in a Financial Management Course: An Empirical Study at a Public Residential University

Mostafa M. Maksy

Keshav Gupta

Kutztown University of Pennsylvania

Kutztown University of Pennsylvania

Using several statistical tests (including one-way ANOVA, Pearson and Spearman correlations, and OLS regression analysis) this paper examines some determinants of student performance in an undergraduate Financial Management course. Of the four motivation factors studied (the grade the student would like to make in the course, intention to take the Certified Public Accountant examination, intention to take the Chartered Financial Analyst or the Certified Financial Planner examination, and intention to attend graduate school) only the first has strong relationship with student performance. Of the effort factors (course study hours, overall study hours, homework, and class attendance) only homework, class attendance and, to some extent, overall study hours have positive explanatory power for student performance. None of the three distraction factors studied (job hours, job type, course load, and credit hours load for

the semester) has any significant effect on student performance. All priorability factors studied (overall GPA and the grades in financial accounting and managerial accounting courses) have significant relationship with student performance. Finally, of the four self-perceived ability factors used in the study (writing, math, reading, and listening) only the math ability has a positive relationship with student performance. Key Words: Motivation, Effort, Distraction, Prior ability, Student performance, Financial Management.

Enhancing Student Engagement in Research Projects: A Marketing Example

John M. Zych

University of Scranton

A well-developed marketing analysis is highly dependent upon the quality of the supporting research. Today's students have an abundance of readily available data at their fingertips. Database searches yield a large volume of information which students must evaluate to determine relevance to the research problem at hand. They also must identify what kinds of data might be missing from their search. In order to perform a complete marketing analysis, diverse secondary sources must be integrated and supplemented with primary sources. A model was developed to help students structure their data searches and identify how sources can be used specifically to support their project objectives. This approach requires students to engage more fully in the research process. This presentation will demonstrate use of the model in a workshop involving sales analysis in the automotive industry. Student reactions to the workshop also will be discussed.

Student On-line Engagement Rubric as a Base-line Template

David William Jordan

Sunita Mondal

Peter Eberle

Slippery Rock University of Pennsylvania

Slippery Rock University of Pennsylvania

Pennsylvania State University-Fayette

Student engagement has been examined as it relates to positive outcomes for specific course performance and integration with the larger academic community relative to retention, assessment and social integration (*Effects From Student Engagement Online*, 2014). Engagement has been defined in various ways, however it generally refers to students' experience with social-emotional, behavioral and cognitive constructs (Edel-Malizia & Brautigam, 2014). For course specific engagement, these constructs are endeavored through many techniques yet focus on varied pedagogical approaches to students' interface with course content, peer collaborative learning, and instructor interaction, often associated with high impact practices (HIPs) {Dubas, 2016 #588; Hall, 2016 #600; #1379; #1410; Gebre, 2014 #597; Edel-Malizia, 2014 #589; Collins, 2014 #598; Carr, 2014 #1416; Banna, 2015 #1406; Harbour, 2015 #585; Trowler, 2010 #1420; Kuh, 2009 #1421; Brownell, 2009 #1422; Kuh, 2008 #1423; Kuh, 2009 #1421}. This study examines the efficacy of an online course engagement rubric. The engagement rubric compliments a pedagogical approach aligned with established student course specific engagement constructs, and incentivizes students for associated positive course engagement behaviors. The engagement rubric is intended to provide a simple structure to compel online course participation beyond that of "checking the boxes for points" and course completion, while acknowledging certain limitations associated with HIPs and online courses. A linear regression is estimated to include student engagement measures, student academic metrics from student records, and demographics with course grades as the dependent variable. Data retrieved are associated with five online courses from a mid-sized public university (N=101).

Session 12: Holmes/Foster Room

1:15 pm – 2:15 pm

Business Related Pedagogy Topics

Session Chair: Jacob Kehres

Content Analysis of Student New Product Development Projects

Audrey Guskey

Duquesne University

This paper examines product ideas generated by students for a new product development project in an introductory marketing class extending over almost three decades. Over the course of a 28-year period, students in an Introduction to Marketing course were given the assignment to "invent" a new product or service and develop a complete strategic

marketing plan. Their task was to brainstorm creative, innovative, and perhaps even technologically unfeasible products that they could market.

A total of 462 student projects were analyzed. Through the use of content analysis, each project was grouped into a category by product type by two independent researchers. The analysis from each researcher was compared and differences were deliberated resulting in an agreement between the researchers. After several iterations, student projects were categorized into one of eleven categories: Food and Beverage, Household, Technology, Fitness and Games, Alcohol and Tobacco, Personal Care, Automotive, Health Care, Clothes and Accessories, Delivery Service, and Safety. Analysis of the various trends for each era and its relationship to the student products is discussed. Specific examples of some of the products students developed are shared.

This research will show that from different time periods, the eighties through the millennium, students invented different types of products due to social and cultural trends of that time. This paper also shows that most of the new product ideas that students created became actual products in the future. For practitioners, the managerial marketing implication is that students can be a valuable source of new product ideas for companies.

Ready. Set. Go! Are You Ready for the New Technologically-Savvy Students? Are You Set to be Able to Walk the Talk? What Are You Waiting For? Go!

Darrell L. Steckler

York College of Pennsylvania

Do you fail at Facebook? Are you all atwitter when discussing the Twittiverse? When someone mentions Pinterest, do you lose interest? Is Instagram some sort of new-fangled cereal to you? Does hearing of “Google Plus” make you wonder, “Plus what?” Wonder why so much is made of SnapChat, which you think of as just a brief conversation. Messenger, Vine, Foursquare, Swarm, YouTube, Tumblr, ooVoo, Tindr, LinkedIn, the list goes on. For our incoming students these and others will be second nature to them. We need to have at least an understanding of what our students are using in their everyday lives. Can there be a way to pull them into the classroom conversations through our utilizing the very applications they are using today? Take a dip into the pool of social media, see how it is affecting your students in both positive and negative ways, and how the challenges SM presents can be handled.

Is It Possible to Teach Ethical Leadership?

Michele L. Langbein

Point Park University

As all higher education institutions are aware, ethics is a fundamental requirement for most business school accreditation. Therefore institutions are left with the dilemma- is it possible to teach ethical leadership? And if so, how. My research will discuss topics such as understanding different world views, how to use the headlines that appeared in the papers as what “not” to do, and more. We will discuss ways to raise ethical awareness.

Session 13: Sylvan Room

2:20 pm – 3:20 pm

Finance & Accounting

Session Chair: *Steven Markell*

Deviations from Put – Call Parity Around a Stock’s 52-week Highs and Lows

Catherine Anitha Manohar

Quinnipiac University

This paper extends the work on stock and option price behavior by examining the deviations from put-call parity before and after the stock price hits its 52-week high or low. In the presence of limited arbitrage, deviations from put-call parity arise when the stock price deviates from its implied price in the options market. Using a sample of all stocks from 1996 to 2015 with underlying put and call options, I find that there is a significant increase in put-call parity deviations when the stock price hits its 52-week high or low. Furthermore the deviations in put-call parity predict reversals in stock returns. These results are consistent with informed investors trading in the options market relative to the stock market.

Build it Better with Bitcoin and Blockchain

Mark M, Lennon
Daniel Folkinshteyn

California University of Pennsylvania
Rowan University

Bitcoin is an entirely digital distributed currency, launched through a white paper by pseudonymous developer Satoshi Nakamoto in 2008 (1). The system's disruptive and disintermediating nature has fueled the tremendous growth of the financial technology space over the past few years. One of Bitcoin's key innovations is the creation of a decentralized public transaction ledger, called the "blockchain", which is transparent and immutable, being cryptographically verifiable by all participants in the Bitcoin network. Transactions are denominated in units of its own currency, "bitcoin", so the system is not dependent on any particular national currency or geographic location, being completely digital and international in scope. The blockchain holds out the promise of fast, cheap, peer-to-peer financial transactions, as well as significant efficiencies in the transfer of other assets via overlay protocols. A recent study by Santander and Oliver Wyman (2) estimates use of blockchain could increase backoffice efficiencies in banking settlements, with savings in excess of \$20 Billion annually. Major players including NASDAQ OMX Group, the New York Stock Exchange, and Pittsburgh based BNY Mellon (3)(4) have all launched blockchain based initiatives. Due to its low transaction costs, Bitcoin is also ideal for overseas remittances in developing nations (5). In this proposed workshop, Dr. Mark Lennon and Dr. Daniel Folkinshteyn, will present an overview and demonstration of the technology, as well as the history of the development and implementation of Bitcoin and blockchain. We will discuss how these innovations can fuel the transformation of multiple financial and non-financial applications and industries in developed and developing markets. This workshop would be of interest to both researchers and practitioners.

Avoiding Unrelated Business Income Tax and Safeguarding Non-Profit Status

Leo Pre
Michele Previti
Warren Kleinsmith

Stockton University
Stockton University
Stockton University

Non-profit entities engage in a wide range of business activities. For example, hospitals primarily provide medical services, but they may also operate cafeterias, parking garages and gift shops. The main function of a college is to provide an education, but it may also operate dormitories and apartments, a bookstore, and various shops, as well as lease out space for other shops and collect rents. If these non-core activities provided by the non-profit entity are "substantially related" to the non-profit organization's tax-exempt purpose, income earned from the activity is generally not taxable. However, income from an "unrelated" business activity may be subject to the Unrelated Business Income Tax ("UBIT").

This article explores the intricacies of the UBIT and delves into Congressional intent in adopting section 511 et. seq. We analyze Congressional efforts to eliminate an unfair competitive advantage a non-profit entity may enjoy over a tax paying entity engaged in the same income producing activity. In addition, we examine legislative efforts to ensure tax revenue will not be foregone by the federal government simply because an entity incorporates as a non-profit but operates substantially unrelated businesses. We further explore the concept of UBIT and the judicial interpretation of the applicability of UBIT to certain aspects of a non-profit's activities. Lastly, we provide some helpful guidelines to minimize the risk that a non-profit's activities will be found to generate UBIT, or to be so significant as to threaten a non-profit's tax-exempt status.

Session 14: Willow Room

2:20 pm – 3:20 pm

Business Law Issues

Session Chair: *Bronwyn M. Laughner*

SEC Cybersecurity Disclosure Requirements: Too Hot, Too Cold, or Just Right?

Loren Selznick
Carolyn LaMacchia

Bloomsburg University of Pennsylvania
Bloomsburg University of Pennsylvania

Over five years ago, the Securities and Exchange Commission (SEC) issued a “guidance” suggesting certain cybersecurity governance and incident disclosures for publicly traded businesses in their Form 8-K and 10-K reports. The Guidance did not have the force of law, but practitioners recognized that a failure to follow the “views” of the SEC staff could lead to enforcement actions. Commentators criticized the SEC for requiring unnecessary disclosures of trivial cybersecurity breaches, for not requiring enough information about significant breaches, for requiring too much information about cybersecurity structure, and for failing to promulgate regulations using the notice-and-comment procedure. This research explores SEC activity on cybersecurity disclosure requirements since the initial guidance.

The Relationship Between Aggressive Corporate Incentives and Financial Statement Fraud

Ermira Mazziotta

Muhlenberg College

Financial Statement Fraud is one of the biggest concerns for the auditors. I will mention Enron scandal to illustrate the magnitude of loss that causes to the investors, employees and other stakeholders of the company. It is everyone's hope that the world will not experience another Enron or another WorldCom. In response to the aforementioned accounting scandals The Sarbanes–Oxley Act of 2002 (Pub.L. 107–204, 116 Stat. 745, enacted July 30, 2002), also known as the "Public Company Accounting Reform and Investor Protection Act" (in the Senate) and "Corporate and Auditing Accountability and Responsibility Act" (in the House) and more commonly called Sarbanes–Oxley, Sarbox was passed and the purpose of this Act is to protect investors and regulate Public Accounting Firms.

State and Federal Legislative Efforts to Incentivize Homeowners to Reduce Fossil Fuel Consumption

Jerry Douglas Belloit

Clarion University of Pennsylvania

In the past decade there has been increasing concern about the impact of the use of fossil fuel on environmental air quality and climate. This paper will explore the current national and state legislative attempts to encourage the homeowner to embrace various activities to reduce fossil fuel usage in the homestead. Since federal tax subsidies for residential wind and fuel cells end at the end of 2016, the paper will focus upon the remaining solar voltaic and solar hot water subsidies and calculate the present value benefit per average solar hour of the federal tax subsidies and different state regulatory efforts relating to solar. This study will also explore the cost/benefit in various states of the state and federal incentives along with a critical analysis of the assumptions behind the analysis.

Session 15: Logan/Harris Room

2:20 pm – 3:20 pm

Session Chair: *Mostafa Maksy*

Comparing and Contrasting Systems Analysis Methodologies With Data Analytic Frameworks

Jan Buzydowski
James J. Pomykalski

Holy Family University
Susquehanna University

The design of data analytic solutions is often done using well-defined methodologies similar to those used in traditional systems analysis and design (SA&D). The major element of each of those methodologies is that it is a process composed of a set of related tasks that must be completed in a specific order, regardless of the size or scope of the project. It is the purpose of this paper to compare and contrast traditional SA&D methodologies with those of data analytic solutions, in terms of their steps, to find optimal practices so as to develop a hybrid methodology that features

the best of both frameworks.

Of Moral Panics & Millennials

Stacy A. Mastrolia
Stephen D. Willits

Bucknell University
Bucknell University

In this paper, we introduce the concept of a moral panic, widely applied in the sociology literature, to the accounting literature. We believe the concept is useful to accounting researchers as it can provide some theoretical underpinnings for the extensive media coverage and the public's reaction to matters that affect accounting research and accounting practice. To operationalize how moral panics develop, we use a subject that directly concerns all accounting educators – our students – the Millennials. We also suggest some other media events affecting accounting research and practice that might correctly be labeled as moral panics. We believe it is important for accounting researchers and practitioners to understand the moral panic concept and be able to identify possible moral panics in our field as the sociology literature repeatedly indicates that where a moral panic exists, resources and efforts are often misdirected and even wasted fighting a nonexistent demon.

Encouraging Attendance in an Information Technology Course

Loreen Powell
Michalina Hendon
Daniel Powell

Bloomsburg University of Pennsylvania
Bloomsburg University of Pennsylvania
North Pocono School District

Attendance is vital to student success in a traditional learning environment. Classroom accountability in the Z/ Pluralist Generation is met with a lack of student attendance. To encourage student turnout an attendance software program is used to allow students to register themselves when arriving to class in within a computer lab. The student's logs are analyzed in order to discern if there is a difference in class turnout when the attendance software system is used compared to a similar course when attendance is not utilized.

The goal of this study is to discuss the difference in attendance levels between 100 and 300 levels courses. This study will also examine the attendance process and how electronic attendance may lead to increased student accountability and increased assessments scores. Ultimately leading to course and university retention rates. All educators regardless of domain knowledge are encourage to attend this presentation.

Session 16: Holmes/Foster Room

2:20 pm – 3:30 pm

Session Chair: *Archish Maharaja*

Living Learning Community: Helping College of Business Freshmen Thrive Academically and Socially in Their First Year and Beyond

Jacob Kehres

Bloomsburg University of Pennsylvania

Living Learning Communities (LLC) are fairly common on college campuses, ranging from a one-year freshman experience to a four-year experience. Research has shown that retention and graduation rates among students have been positively impacted by being part of a living and learning community during their freshman year. This presentation will briefly explain the LLC concept in general and outcome data specific to the College of Business LLC at Bloomsburg University of Pennsylvania. Using peer mentors trained in crisis management, mental health awareness, relationship building, and tutoring, the College of Business LLC provides a synergistic mentor and mentee relationship for freshman business majors. Furthermore, LLC students maintain a sense of community and cohesiveness through a communal living space and common scheduling for both a business and non-business course. Informal data will also be presented showing retention and graduation rates for College of Business LLC students over several years.

Recognizing Alternative Learning Styles for College Students

John Anthony DiCicco

Curry College

In an effort to accurately assess learning outcomes for college students, educators will find that academically unrecognized learning styles for numerous students who process information differently than other, more academically conforming students, seldom receive an accurate assessment of their learning outcome. There has been a considerable degree of study on teaching and learning styles, especially over the past 10 years. However, little has been researched on how learning styles relate to educational outcomes from the perspective of the learning models that are built by the student to satisfy those outcomes. The learning models built by the student during a semester on any given subject can have an inverse relationship to the teacher's expectations and doom the student to an unsatisfactory educational outcome. Students with different learning styles could create problems for some teachers. By relying on long-established linear standards for assessing learning outcomes, many administrators find that there is technically nothing wrong with the way the material is being taught; however the material is drastically ineffective in the way it is being grasped by certain students, simply because their learning style is different. My interactive presentation will identify how different learning styles affect learning outcomes.

This presentation will attempt to establish the call for college leaders and faculty to address traditional and non-traditional learners' education needs so that they may seek out their learning styles in such settings and get a fair assessment of their competencies and educational outcomes.

IOER: A Radical Change in FED Operations (30 minute workshop)

Conway Lackman
William Carlson

Duquesne University, Retired
Duquesne University, Retired

For 57 years, from the "Accord" of 1951 which freed the Fed from pegging Interest rates on Treasury securities to help WWII financing and after, to 2008, the main tool of Fed control was open market operations (OMO). As a result of the banking crisis of 2008 the Fed was authorized to pay interest on bank reserves (IOR) (bank cash and equivalents) on Oct 3, 2008 as part of the Emergency Stabilization Act. The subsequent bailout quantitative easings (QE) have caused two problems; bank excess reserves have gone from \$2 billion in 2006 to 2.3 trillion currently. This huge hoard has driven short term interest rates to near zero (the zero bound ZB). The QE also have distorted the FED's balance sheet so that it cannot eliminate the huge hoard or excess reserves causing the zero bound. Therefore, at the moment, the only way the Fed can raise short term rates is by paying interest on excess reserves (IOER) which sets a floor on the federal funds and bank loan rates. This paper traces the history of IOR and its component IOER. There is some opposition to IOER and we believe that IOER will have unintended consequences.

Session 17: Sylvan Room

3:35 pm – 4:35 pm

Management & Leadership

Session Chair: *Mark M. Lennon*

The Magnetism of Narcissistic Business Leaders, Their Rise, Sustainability and Fall

Mark Arvais

Stevenson University

Leadership positions in business organizations are dominated by narcissistic individuals. Initially, the narcissist is viewed as bold, charming, fascinating, confident and attractive. Usually, however, his or her true focus, him or herself, is exposed, precipitating a possible fall from grace. This paper addresses why the narcissist is so interesting and magnetic in the first place, under what environments the narcissist sustains his or her status and alternatively can lead to a descent. This paper reviews the leader - narcissism relationship and narcissism's connection to attachment theory, implicit leadership theory, personality and context. Research confirms that narcissism is prevalent among senior business leaders. Initial attraction is related to extraversion and its role in leader emergence. The fall, however, can be triggered by the increasing awareness among subordinates and bosses of the leader's self-centeredness. However, derailment can be halted if the needs of the followers are met and other factors are present that extinguishes the reasons for the downfall.

Personal Leadership Development Using an Experiential Model

Eric E. Rios

Drexel University

Founded in 1919, Drexel's co-operative education program was one of the first of its kind, and it continues to be among the largest and most renowned. Drexel co-op is based on paid employment in practical, major-related positions consistent with the interests and abilities of participating students. The benefits are obvious; during their time at Drexel, students experience up to three different co-ops. Because of this, Drexel students graduate having already built a professional network, and they typically receive higher starting salaries than their counterparts from other schools.

The integration of theory and practice, which is widely supported by Drexel's co-ops, are also found within the LeBow College of Business' leadership development programs. At the LeBow College of Business, we have designed programs for high performing upperclassmen students that allow them to develop their interpersonal skills and leadership while actively leading, reflecting on, and applying theory.

In Drexel's first-generation domestic college student model, students are paired with a peer coach and meet with them weekly to discuss priorities and deadlines relative to assignments. They also have additional conversations about time management strategies and how they can effectively be employed to meet competing demands. Next, first generation domestic students meet with a full-time faculty member, who helps them crystallize learning through guided activities. Lastly, students are forced to think critically about how course material impacts on leadership and how "they" can bring about change in the workplace. In the end, the goal is to mold students into effective/efficient students who can help model the way as possible future peer coaches/leaders. This presentation will focus on these and several related dynamic issues.

Session 18: Willow Room

3:35 pm – 4:35 pm

Education Topics & Panel Discussion

Session Chair: *Jerry Douglas Belloit*

Does Regional Variation in Startup Concentration Predict Employment Growth?

Yaya Sissoko
Brian Sloboda

Indiana University of Pennsylvania
University of Phoenix

The paper explores the actions, activities and processes undertaken by the firms and their start-up entrepreneurs. A framework for growth is proposed, supporting the notion of the growth process as a complex, multidimensional construct. More specifically, this paper examines the regional variation in startup concentration be used to predict employment in Pennsylvania, Ohio, and West Virginia by metropolitan statistical area (MSA) for the year 2014. We find significant differences in new firm formation rates from industrial regions to technologically progressive regions using the generalized linear models (GLM). Variations in firm birth rates are explained by industrial size, population growth, the number of startups, human capital variables and establishments.

An Exploration of Organizations as Rainforest Ecosystems: A Metaphor

Rodney Platt

Regent University

Organizations play a vital role in societies across the world. Moreover, those that lead or are involved in organizations can benefit from a deeper understanding of organizations as it can help it to operate more effectively. Metaphor is literary device used for over thousands of years in which one thing is used to help describe or show similarities between another item. Organizational theory scholars have used metaphor as a creative way to elucidate organizational concepts, which at times are hard to understand. This article explores organizations through the metaphor of rainforest ecosystems. The article goes over the concept of metaphor and how it is a sound way to describe organizations. The article then lists and analyzes rain forest ecosystems characteristics that parallel those of organizations.

Prioritization of Process Improvement Using Risk Evaluation in the Manufacturing of Biologics

Lisa Marie Walters
Reneta Barneva

State University of New York at Fredonia
State University of New York at Fredonia

This paper considers how a biologics manufacturer took the lagging data expressed in nonconformance data to build a system of analysis with the aim of prioritizing improvements in terms of risk management. Nonconformance or deviation data were grouped into a hierarchy of categories, culminating in FDA compliance system categories. Statistical process control (SPC) charts (u-charts) were generated to understand the performance of critical control processes within the manufacturing process of the biologic. Risk indicator operational definitions were developed to classify the control point process performance in terms of the risk that control point posed to both the donor and recipient of the biologic. A 5 x 5 risk matrix was developed to merge the performance of the process to the risk indicators. A color schematic was applied to the risk matrix to facilitate the actions warranted to assigned risk priorities within the matrix in terms of process performance and risk indicator. The management of this process required both a computer application as well as continued human intervention for its success. To date, the risk matrix has assisted the organization under study in allocating resources for specific higher risk areas to minimize the possibility of regulatory censure.

Session 19: Logan/Harris Room

3:35 pm – 4:15 pm

Session Chair: *David Gargone*

Tax Inversions: An Ethical Perspective

Leo Previti

Michele Previti

Warren Kleinsmith

Stockton University

Stockton University

Stockton University

The compound effect of a high tax rate and a taxable base that includes not only U.S. based income but worldwide income has incentivized some U.S. based corporations to lower their tax bills through a transaction known as a tax inversion. Under an inversion, a U.S. corporation restructures to become a subsidiary of a parent corporation domiciled in a jurisdiction with a lower tax rate and a taxable base limited to territorial rather than worldwide earnings. While the tax inversion results in considerable tax savings for the company, critics, including President Obama have branded the practice as an “unpatriotic” act undertaken solely to avoid payment of a fair share of taxes which support the country, and system, which facilitated success. Multinational U.S. corporations have defended their actions by citing Milton Friedman’s widely accepted theory of shareholder wealth maximization as the goal of American business, and pointing to their “duty” to shareholders as justification for restructuring.

This paper explores technical compliance with the Internal Revenue Code and Treasury regulations related to tax inversions, together with the norms of corporate social responsibility. We address the question of whether technical compliance with the law relieves the U.S. corporation of concern for the negative effects of its actions. Further, we examine the anti-inversion regulations initiated by the Obama administration and their likely impacts on inversion activity. We conclude with an analysis of the underlying issues implicated by inversions, and consider reforms that might resolve the debate over multinational taxation.

Session 20: Holmes/Foster Room

3:35 pm – 4:15 pm

Accreditation and Assessment

Session Chair: *Michalina Hendon*

Is It a Quality Improvement or Just for Marketing? – Accreditation of Business Schools

Archish Maharaja

Gita Maharaja

V. J. Byra Reddy

K. N. Veena

Point Park University

Point Park University

University of Petroleum and Energy Studies, India

Dayananda Sagar Business Academy, India

In today's world where enrollments are falling and tuition fees are increasing, many schools are looking for competitive advantage to attract students. One of the initiative schools have undertaken is to achieve accreditation from various agencies around the world. Higher education has seen tremendous growth around the world as it is seen as a ticket to achieve financial security by securing employment or becoming an entrepreneur. So it becomes imperative from the public policy stand point that schools/universities are delivering the education they promise and deliver. Also from a student perspective who invests time and money to make sure they are receiving and a quality education that will amount to employment or education which will help them start a business. Also, governments around the world have undertaken initiative to monitor quality of education in various ways from education department approvals, oversight, funding to accreditation. Private organizations tend to focus on programmatic accreditation based on discipline and or programs. Educational institutions seek accreditation to validate their institution and/or programs by peer reviewers. Accreditation may be required by the government rules and regulation to meet their charter or components like individual schools and/or divisions search for quality assurance. This paper addresses accreditations around the world and its benefits so this will be a precursor presentation to have a dialogue with our peers.

Business Curriculum Assessment: A Multi-Focal Approach

Marlene E. Burkhardt

Juniata College

Faculty, students, alumni and accreditation reviewers each have their own opinions regarding assessment. Each source produces reviews that often conflict. In an attempt to make sense of a variety of assessment procedures and tools, this research tries to find commonality in varied findings. Within this research, faculty, students and alumni are asked to participate in the assessment process in the form of objective and subjective analyses using survey research and focus groups. The key to the success of this process lies in using data to determine where there is agreement among various sources and to understand when to believe the data to develop and test a course of improvement.

Session 21: Sylvan Room

4:40 pm – 5:20 pm

****Best Paper Presentation****

Auditor Choice and the Consistency of Bank Accounting: Are Some Auditors Stricter Than Others When Assessing the Value of a Bank's Loan Portfolio?

Robert Lord Porter

Christopher D. Hodgdon

Quinnipiac University

Quinnipiac University

The financial crisis of 2008 presents a natural experiment in which to study the impact of auditor choice on the loan fair-value disclosures of bank holding companies (BHCs). Using a sample of the largest 100 U.S. BHCs from 2007-2010, we examine the differences between banks' disclosed fair value and book value of loans as a function of auditor choice, while controlling for banks' relative financial condition. We find that being audited by Deloitte results in a more negative and statistically significant difference in the fair-value gap of bank loans relative to being audited by a non-Big-4 auditor.

Friday, October 28, 2016

Registration – Days Inn Atrium

7:30 am - 1:30 pm

Breakfast - Sylvan Room

7:30 am - 9:00 am

Welcome and Annual Business Meeting

7:45 am - 8:20 am

Norman Sigmond, Executive Board Chair

All conference participants may attend

Session 22: Sylvan Room

8:20 am – 9:20 am

****Special Session****

Discussion of the NABET Conference Proceedings and the Journal of Business, Economics and Technology

Norman Sigmond

Kurt Schimmel

Jerry Belloit

Kutztown University of Pennsylvania

Slippery Rock University of Pennsylvania

Clarion University of Pennsylvania

A brief history of the Journal will be discussed. However, the main purpose of this presentation is to discuss how an author can submit to the Journal. Also, the blind-review process that is used will be detailed. We will also cover how an author can enhance the probability of a successful review process and achieve publication of his/her submission.

Session 23: Sylvan Room

9:30 am – 10:20 am

Business Law Topics

Session Chair: *Kurt Schimmel*

The Reliability of Fair Value Measurements

Jorge A. Romero

Towson University

The reliability of Fair Value Measurements has been under scrutiny for decades, particularly since the method was abandoned following the Wall Street Crash of 1929. In the last few years, there has been renewed interest in the method and the Financial Accounting Standards Board has pushed the use of fair value measurements. However, there are still unanswered research questions about the reliability of these measurements. This study digs deeper into this issue and also looks at conservative accounting, given the fact that it offers a strict and systematic approach for the recognition of revenue and expenses. Currently, there is a shortage of empirical studies on this topic basically because of the lack of data and the difficulty to verify fair value estimates.

Teaching Entrepreneurship (30 minute workshop)

Philip Van Berten

Stevenson University

Since this proposal is about a workshop, not a real abstract but a few key words introducing the outcome and debate themes along the session on the importance of Entrepreneurship in College Education today;

Pedagogy tools used in the Entrepreneurship Classes like: the MITOO model, methodology used in short case analysis, out-of-campus questionnaire surveying management, the Entrepreneurial Personality Assessment Tool used in biography based learning methods, start-up launch seminars, as well as other significant tools. Colleagues attending the workshop are willing to share similar experience or to exchange on related topics.

Session 24: Willow Room 9:30 am – 10:30 am

Organizational Behavior

Session Chair: *Jui-Chi Huang*

Is Sharing Really Caring? Behavioral Consequences of Consumer Involvement in Social Media

Kuan-Pin Chiang

Central Connecticut State University

One of the building blocks of social media is sharing which enables consumers to “exchange, distribute, and receive content” (Kietzmann et al., 2011). No longer are consumers passive recipients of marketing messages. Instead, consumers are now creating content that has the potential to influence others through social media. Therefore, how to effectively engage and influence consumer sharing is an important marketing question and studies have emerged to understand factors influencing consumers’ likelihood to share and their characteristics (e.g., Hennig-Thurau et al., 2004; Taylor et al., 2012). One of the important constructs is involvement, first reported in 1966 by Ernest Dichter. His major finding was the identification of four motivations for consumers to communicate with brands: product involvement, self-involvement, other involvement and message involvement. In the consumer behavior literature, the concept of product involvement is well established and studies have found a positive relationship between product involvement and brand loyalty (Traylor, 1981, 1983; Park, 1996; LeClerc and Little, 1997; Iwasaki and Havitz, 1998; Quester and Lim, 2003). However, it is not clear what other types of involvement could affect consumer behavior in social media. Building on prior research, this paper explores potential behavioral consequences such as brand loyalty and purchase intention of consumer involvement in social media.

Abuses of Charitable Giving in the Non-Profit Sector: Case Studies

Sidney Askew

Borough of Manhattan Community College - CUNY

Achraf Seyam

Borough of Manhattan Community College – CUNY

Is it better to give than to receive or is it sometimes better to receive than to give are questions that are often debated. Many cannot disagree that giving of either your time, money or other resources is a critical part of the lives of millions. Since the early decades of the American society, nonprofit organizations have played a critical role in helping people in need by providing education, training, residences, counseling, and in-kind and cash support. However, given the contributions that nonprofit organizations have played in enhancing people’s lives, sustaining aspects of the economy and fostering advancement or breaking-down barriers in many areas, people feel violated when their contributions do not benefit the intended beneficiary. In this paper, we will highlight five (5) major cases involving abuses within non-profit organization, analyze internal controls within the organization and provide recommendations that should reduce the likelihood of abuses experienced by donors before and after contributing to a nonprofit organization.

Cross-Cultural Perceptions of Business Ethical Leadership Behavior in Military and Corporate Cultures of the United States of America

Patrick A. Tamakloe

Regent University

The purpose of this proposal is to investigate the perception among subordinates that there are perceived ethical differences among leaders in military and corporate cultures and that their ethical conduct is perceived to negatively influence productivity among subordinates in both corporate and military cultures. The proposal highlights examples of ethical flaws in both military and corporate cultures and contrasts the organizational climates of either culture. This proposal focuses on studying differences between perceptions of ethical leadership in both military and corporate cultures using the ethical leadership scale. The quantitative research design for this study will employ hard-copy and web-based questionnaire methodology for data collection. The dual method of data collection is preferred to facilitate a quicker turn around time for a cross-section (cross-sectional survey method) of the population, sampling a

representative population of military culture from both active and retired Navy-Marine Corps personnel, and for the corporate culture, current or former contract personnel from firms doing business with the department of defense. The data collected will be analyzed using a Mann-Whitney U Test to determine the difference between ethical perceptions of leaders in military and civilian cultures. Bivariate analyses of relationships between follower perceptions of unethical conduct and perceived reduced productivity among subordinates by type of organizational culture (military or civilian) will also be employed. Results of the study will address areas where future research should focus to enhance ethical training of leaders in both cultures and actions to prevent unethical behavior among leaders.

Session 25: Holmes/Foster Room

9:30 am – 10:30 am

Business Education Topics

Session Chair: *Kathleen Houlihan*

Highly Impacted: Fostering Retention and Student Success in Undergraduate Business Programs

Cori Jo Myers

Lock Haven University of Pennsylvania

As budgets tighten and applicant pools dwindle for colleges and universities, competition to attract students has heightened. How will the institution or business program hit its enrollment targets, and hence, budget? This question has become a growing concern, especially in the last five years; however, strategies leading to quality educational experiences also serve as key factors in improving the budgetary outlook for tuition-driven schools by retaining students and leading to student success. This article draws heavily on the recent decade of Kuh's student success research and publications to provide a framework for delivering a four-year business program in which students will persist at higher rates and reap the benefits of a value-added educational program that exhibits the features discovered through the DEEP Project and integrates high-impact practices.

Critical Thinking in Capstone Courses

Don Goeltz

Bernice Purcell

Holy Family University

Holy Family University

For both AACSB and ACBSP accredited schools, critical thinking is an explicit learning objective in the capstone course on strategic management. We assess the top ten textbooks in strategic management, using rubrics for critical thinking from the American Association of Colleges and Universities and the Foundation for Critical Thinking, as a means of assessing whether that learning objective is met in capstone courses.

The session will open with a brief summary of articles from academic journals, higher education associations, the business press, and employer surveys - all of which support the view that critical thinking is the single, most sought-after skill in recruiting new college graduates. These same articles state that critical thinking, along with other "soft" skills such as communication and team membership, are the skills that are most lacking in new college graduates. After a brief summary of definitions of critical thinking, areas with potential for using critical thinking in the strategic management process are illustrated. The ten strategic management textbooks are then evaluated against the critical thinking rubrics, with a focus on how each addresses the step in the strategic management process of generation and evaluation of strategic alternatives. Preliminary findings are that the vast majority of textbooks used in capstone courses do not meet the critical thinking rubric. The authors conclude with suggestions for strengthening the textbooks to better meet the learning objectives on critical thinking.

Student Engagement and Performance in a Graduate Flipped Classroom

Leonard Presby

William Paterson University

In 2015, the basic graduate statistics course was flipped and delivered to 22 students. Recorded course material was placed on the course Web site for students to watch prior to class. Scheduled class periods were dedicated to participating in active-learning exercises. Students also completed a course project, a midterm examination, graded homework, and a cumulative final examination. Results of a survey administered at the beginning and end of the flipped course revealed an increase in students' support for learning content prior to class and using class time for

more applied learning. In addition, results showed that learning key foundational content prior to coming to class greatly enhanced in-class learning. Significantly more students preferred the flipped classroom format after completing the course than before completing the course. Course evaluation responses and final examination performance differed significantly for 2014 when the course was taught using a traditional format and the 2015 flipped-course format. Qualitative findings suggested that the flipped classroom promoted student empowerment, development, and engagement. Results show the flipped graduate classroom can enhance the quality of students' experiences in a basic statistics course through thoughtful course design and enriched dialogue. The objective of this paper is to explore whether "flipping" a traditional basic course would improve student academic performance and engagement.

Session 26: Logan/Harris Room

10:00 am – 10:40 am

Technology & Business Education Topics

Session Chair: *Bonnie Rohde*

Leveraging Twitter and Voxer for Research and Class Management

Mark Choman

Luzerne County Community College

This workshop showcases strategies for understanding and using two popular social media tools, Twitter and Voxer. Both apps are free / freemium and can be run on iOS, Android, or the desktop. We'll discuss training resources to learn their basics, higher education examples of their use, and best practices to consider as you evaluate them for research and virtual teams. If possible, feel welcome to bring your own device (BYOD) to take part in this session.

Expanding the Role of Paralegals

Frank Shepard

John G. Eichlin

Clarion University of Pennsylvania

Clarion University of Pennsylvania

The late jurist, Antonin Scalia, said the following: "The American ideal is not for some justice. It is, as the Pledge of Allegiance says, 'Liberty and Justice for All' ... Can there be a just society when some do not have justice? Equality, equal treatment, is perhaps the most fundamental element of justice." Today access to justice is denied to the poor, the working poor, and in many instances to the middle class. Access to justice is expensive and the court house door is closed to far too many. Paralegal graduates, particularly from American Bar Association approved programs, are highly capable of providing much of the needed legal services at a substantially reduced cost. This paper advocates for expanding the role of paralegals to provide needed services and outlines the expanded use of paralegals in other jurisdictions.

Session 27: Sylvan Room

10:45 am – 11:45 am

Business and Economics Topics

Session Chair: *Cori Myers*

The Bait and Switch: A Study of Workforce Hiring Practices

Kathleen Houlihan

Sara Moore

Wilkes University

Wilkes University

College students struggle to acquire appropriate career opportunities upon graduation. This study explores data collected from hiring managers about the entry-level employment process including information about the time and the costs associated with locating a new hire. The contents within highlight specific recommendations and implications including new opportunities, such as the use of artificial intelligence (AI) like IBM's Watson. The use of AI in the new hire process may improve opportunities by cutting costs, eliminating redundancy, improving accuracy, and reducing time commitments. This research also supports the need for a networked workforce and higher education system in Pennsylvania. These solutions could help to reduce society's dependence on job boards; which offer students little hope of finding a job and might be considered an invasion of privacy.

Changes in Tourists' Place Perception: The Case of Lisbon vs. Lisbon Coast

Rosane Gertner
João Freire

College of Staten Island at CUNY
IPAM, Universidade Europeia, Portugal

Tourism is an extremely competitive industry. It is a great source of revenue for almost any country because it adds to exports, generates taxes, and is relevant in generating of new jobs. Place branding strategies have been applied to attract more visitors, to promote and to position place brand names in the minds of diverse target audiences (Papadopoulos, 2004). Portugal had the fourth highest growth rate in Europe for foreign visitors. A place branding effort of Lisbon started in the 1990's when it was designated as the European Capital of Culture in 1992 and was nominated to host to the World Exhibition in 1998. These events helped make Lisbon an attractive place to visit and to live (Freire, 2015). When Lisbon received the title of European Capital of Culture, government made investments to restore cultural sites as well as to promote the city cultural attributes.

This paper aims to study similarities and differences between tourists' perceptions of brand 'Lisbon' and brand 'Lisbon Coast. Lisbon, Portugal's capital and largest city is a real place brand, while 'Lisbon Coast' does not characterize an existing part of the country. In addition, this article investigates whether there are differences between British tourists' and Spanish tourists' perceptions of brand 'Lisbon' and brand 'Lisbon Coast'.

Urban Infrastructure in the 21st Century: Exploring Gigabit Connectivity in Berks County through Public-Private Partnerships

Bonnie Rohde

Albright College

The financial, political, and management feasibility associated with the rollout of gigabit connectivity in targeted Berks County jurisdictions, including current/projected public demand for software, hardware, and bandwidth was investigated. The project focused on the implementation of the Municipal Carrier Agreement, a unique public-private partnership model structured to comply with the 2004 PA Telecommunications Act. The MCA aggregates public and private data transport demand and produces cost savings by localizing supply chains and revenue flows. A data matrix designed by the Berks County IT Department was utilized to collect local baseline data, as well as exploratory research into the general cost structure associated with the IT infrastructure of local municipalities. The main added value is the practical application of the research in the refinement of a local public-private partnership to promote gigabit connectivity.

Session 28: Willow Room

10:45 am – 11:25 am

International/Global Business Topics

Session Chair: *Kuan-Pin Chiang*

The Impact of Domestic Corruption on Foreign Direct Investment: An Empirical Analysis of Five Sub-Saharan African Countries

Gertrude Eguae-Obazee
Farhad Saboori

Albright College
Albright College

Corruption is a worldwide problem hindering economies through several channels which include, but are not limited to, a reduction in domestic and foreign direct investments, the misallocation of budgetary funds for education, health, and infrastructure. Based on a sample of five sub-Sahara African states between 2000 and 2014, panel data is used to determine the causal effect that a country's level of corruption has on foreign direct investment (FDI) inflows. Of particular interest are the negative effects of level corruption on the amount of FDI flowing to Angola, Botswana, Ghana, Nigeria, and South Africa. The results robustly confirm that corruption negatively impacts FDI inflows into these economies. The results also support previous studies that, credit availability, the level of human capital, the inflation rate, infrastructure, political instability, and the extent of the urban population are found to be important in attracting FDI to host countries. The results generally imply that the governments of these countries need to strongly and strictly enforce their anti-corruption laws while developing the levels of human capital and infrastructure.

Research Proposal on Servant Leadership Between the United States and China

This cross-cultural research proposal will examine the differences in servant leadership theory between the United States and the People Republic of China by comparing servant leadership attributes in these two cultures. All respondents will be middle managers in the banking industry of both countries that will comprise of 120 middle managers from the United States and 120 middle managers from the People Republic of China. This paper examines Patterson's (2003) paradigm of servant leadership which includes seven characteristics of agapao love, altruism, humility, trust, vision, empowerment, and service. These seven servant leadership constructs will constitute the model variables for this research proposal. Five research hypotheses are designed for each of these countries and seven research questions would be used to answer to the cultural differences to each of these servant leadership constructs. Simple regression analysis will be used to test the research hypotheses and t-test analysis will be used to answer the research questions. In addition, this research proposal will highlight the salient socio-cultural differences between the United States and the People Republic of China and areas of convergence in their business practices.

Session 29: Logan/Harris Room

10:45 am – 11:45 am

Session Chair: *Patrick A Tamakloe*

Financial Literacy for High School Students in Pennsylvania

Fred J. Croop

Misericordia University

In a study of the status of financial literacy education in public high schools conducted in 2015 by The Center for Financial Literacy at Champlain College in Vermont, the Commonwealth of Pennsylvania was, along with ten other states, graded as earning an "F" in where it stands on this educational initiative. Five states were issued a grade of "A" in the report that was issued by the Center. The past and current efforts in Pennsylvania to address education on financial literacy in public high schools, including what was revealed in the 2013 *Economics and personal Finance Education in Pennsylvania* by the Commonwealth's Departments of Education and Banking and Securities, are discussed. Also presented are the elements that are in place prompting the Center to assess that success is being achieved in the five states graded with an "A".

Factors Influencing College Readiness in California

Kerry Adzima

Pennsylvania State University-Erie

Using data from the Los Angeles Unified School district, (LAUSD) I analyze student outcomes from Advanced Placement tests and Smarter Balanced Summative Assessments to determine if charter school students display higher levels of college readiness. Using panel data from 2011-12 through 2014-15 for the Advanced Placement tests, I find a gain of between 10.8 and 21.0 percentage points for charter students on average over students attending traditional public schools. For the Smarter Balanced tests, I again find that charter students outperform traditional public students on average with gains in all categories for both the English and mathematics portions of the exam.

Comparing Two Generations' Shopping Responses to Value Marketing

Roger Hibbs

Kutztown University of Pennsylvania

Okan Akcay

Kutztown University of Pennsylvania

Much has been written about the need for multi-generational marketing and marketing strategies. In addition, marketers have done extensive research on the characteristics and behaviors of different generational groups. Little has been written on the actual shopping behavior of different generations relative to the recent trend toward Value Marketing.

The purpose of this paper is to take the actual shopping patterns of two generational groups – Baby Boomers and Millennials and compare their shopping behavior. A literature review was conducted as well as a questionnaire developed, distributed and analyzed comparing these two groups. This comparison can inform marketers and business strategist when making value propositions to Millennials and Baby Boomers.

Session 30: Holmes/Foster Room

10:45 am – 11:55 am

Business Topics

Session Chair: *Bernice Purcell*

Are Aggregate Macroeconomic Factors Relevant in Explaining the Failure of Micro Firms in the United States?

Sunando Sengupta
Falih Alsaaty

Bowie State University
Bowie State University

One of the key characteristics of the United States economy is the drive towards entrepreneurship and growth. Business firms can be established relatively easily and quickly as they considered a key engine for national progress and prosperity. The contribution of small firms to investment, innovation, output, exports, and income is well documented in business literature. Just as it is easy to start a new business venture in the U.S., many firms are also forced out of the market for a variety of reasons. In some past years, the deaths of micro firms outnumbered micro firms' births. This study was intended to explore the influence of key external economic factors on the failure (i.e., deaths) of micro firms in the country. The traditional views attribute this unfortunate phenomenon largely to the firms' internal dynamics, including incompetent management, scarcity of capital, and inadequate infrastructure. The impact of external aggregate economic forces has hardly been fully investigated. The findings of the study indicate the absence of a direct link between external macroeconomic factors and the deaths of micro firms in the United States.

Selling Television Commercial Times Under Competition: An Equilibrium Analysis

Qin Geng

Kutztown University of Pennsylvania

This paper studies two TV networks competing in eyeball guarantee in the upfront market. Adopting the game theoretic framework, we characterize the unique equilibrium and show that setting eyeball quantity is a dominant strategy. Through comparative statistics, we find that the network has an incentive to exaggerate its rating performance, and consequently to over-promising eyeballs. We also find that competition modeled at an aggregate level tends to over provide eyeballs than at the disaggregate level.

Recovery, Recession and Recovery 1933-42 (30 minute workshop)

Conway Lackman
William Carlson

Duquesne University, Retired
Duquesne University, Retired

There has been renewed interest in the 1937-8 recession because analysts have mentioned that a Fed engineered increase in interest rates in 2016-7 might stop the 2009-16 recovery much as the 1937-8 recession interrupted the Great Depression recovery. There is interest in finding out whom or what caused the 1937-8 recession. Milton Friedman blamed the Fed for doubling reserve requirements and also said that the Treasury was equally to blame for its gold sterilization program. More recently Irwin came to the conclusion that gold sterilization was the main culprit. Velde finds that the sterilization of gold halted the growth of the monetary base in 1937 and that the effect of the reserve requirement increases was probable but less clear. Calomiris, Mason, and Wheelock find that the Fed, responsibility was minimal. None of these articles mention inventories being a significant problem. Meltzer said it was too small to be a major factor.. Our inventory data are not only for 1935-8 but for accumulations in front of all post WWII recessions It indicates that an inventory bubble was a problem. We also analyze monthly bank reserves in 1935-37 along with expectations expressed by the Fed in the Federal Reserve Bulletin. The banks did not behave as the Fed expected. We believe the Treasury was responsible for half of the money stock decline, the Fed 30%, and other factors 20%. 1934-42 and 2008-16 have major features in common: high excess reserves, zero bound short term interest rates, and a Fed worried that the excess reserves might cause inflation. The 1936-7 solution caused trouble and the new solution also has problems.

Session 31: Sylvan Room

1:15 pm – 2:15 pm

Business Education and Related Topics

Session Chair: *Dorene Ciletti*

Lower Division Courses as Predictors of Performance in a Senior Level Strategic Management Course

Tony Johns

Clarion University of Pennsylvania

Many Colleges of Business are selective in who they admit into their degree programs. This selectivity is often due to a desire to have those students who are admitted successfully complete the program. While a number of different screening mechanisms might be employed, a common screening mechanism is to use performance in either all or a preselected set of freshman and/or sophomore courses as the screening mechanism. Due to the use of this method, the validity and efficacy of this mechanism through to senior level courses should be of interest to policy makers. In an investigation of how well performance in freshman and sophomore courses translates into performance in later courses, this paper examines how well performance in a senior-level capstone Strategic Management course can be predicted by performance in required freshman and sophomore courses. Among the results it was surprisingly found that the need to take a refresher mathematics course (college algebra) was a significant predictor of performance.

Advisement Effectiveness in Engaging Students in Self-Reflection and Personal Development

Sada Jaman

LaGuardia Community College-CUNY

Ahmed Abdelhalim

LaGuardia Community College-CUNY

LaGuardia Community College (LAGCC) presents the opportunity for faculty to build a strong connection with students through the advisement process. Faculty are able to create a deeper level understanding of the self-assessment through advisement practices in the First Year Seminar (FYS) courses. Students in the FYS are able to assess after the systematic approach of the developmental and prescriptive advisement. Faculty not only learn about their students but also help them to graduate on time by staging the developmental and prescriptive advisement. Through this scaffolding approach, students are able to familiarize themselves systematically with their major, career choice, academic goals, transfer, and graduation plan. Thus, advisement effectiveness fosters the FYS students to achieve a better understanding of their goals, and philosophy of a holistic First Year Experience.

Presenters will share their integrative pedagogy and practice to approach the “whole student,” in cultivating the self-reflection and personal development through the advisement effectiveness. Presenters will also share their syllabi, advisement activity and students’ work. The audience will get an opportunity to think about how they can incorporate an activity to engage students in personal development through advisement practices into their pedagogy. Presenters will also share resources that can help the audience utilize effective classroom practice to strengthen advisement process.

Facilitating Learning with Diverse Teams through Design Thinking

Dorene Ciletti

Duquesne University

Diane P. Ramos

Duquesne University

Capacity for innovation has become a management development priority for corporations and business schools worldwide. A 2015 McKinsey article suggests that innovation thrives when processes and practices involve users throughout development to remove barriers between the idea and the user, facilitating quick and frequent feedback (de Jong, Marston & Roth, 2015). Design thinking is such an iterative process. It facilitates breakthrough innovation and offers a structure for framing and analyzing complex, ambiguous problems. It incorporates deep user insights, moves beyond assumptions (Brown & Wyatt, 2010), and suggests solutions flow from synthesis of information (Garcia, 2012).

Barriers may exist not only between the idea and the user, but also within teams. Organizational team members with different backgrounds bring useful insight, but communication is often problematic when different perspectives on problems and issues lead to discomfort and lower integration (Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991). In fact, diverse users may withhold contributions when they feel distanced or alienated (Milliken & Martins, 1996), and initiatives often falter when preconceptions or preformed solutions get in the way. Design thinking can be utilized to engage diverse communities and stakeholders in early and ongoing program development that reflects user and stakeholder needs, wants, and aspirations in an authentic way.

We propose design thinking as a technique that supports cross-functional communication and collaboration via idea-user interface, reporting on our experiences facilitating diverse teams in applying design thinking methodology for complex-problem solving that leverages innovation through responsible management of financial, social, environmental and informational resources.

Session 32: Willow Room

1:15 pm – 2:15 pm

Business Topics

Session Chair: *Loreen Powell*

Cultural Explanations for Tipping: An Examination of Asian tipping in the US

John Charles Blewitt

Brittney Bauer

King's College

Saint Louis University

Tipping norms vary greatly between nations and world regions. According to Nancy Star in her book entitled *The International Guide to Tipping* (1988), the United States was identified as one of the top three countries in terms of number of service providers tipped in the world. Because of this disparity in tipping prevalence, many foreigners or second generation immigrants living in the United States experience confusion with the norm of tipping (Lynn et al, 1993, Mills & Riehle, 1987). Tipping in the US is a unique social situation which can be unclear, even at times to domestic consumers. There is no cut and dry contract between the consumer and the worker, and opinions, evaluations, and behaviors differ immensely across an individual's consumer-service orientation (Azar, 2007). Thus, for many foreigners consuming in the United States, tipping scenarios are met with great uncertainty. While some research has been conducted in the area of ethnicity and tipping behavior (Lynn & Thomas-Haysbert, 2003; Lynn, 2004; Lynn et al, 1993), this area of tipping research is relatively underdeveloped and requires more investigative work, especially via primary empirical data collection at the individual level.

For many consumer experiences, not limited to tipping scenarios, ethnic ties have been recognized as having a major predictive influence on consumer behavior (Deshpande & Stayman, 1994). This paper seeks to compare Asian consumer behaviors in the United States with American consumer behaviors in the United States within the realm of tipping. We assume that Asian consumers who are unaware of the cultural norms of tipping in this country will base his or her behavior on the cultural dimensions associated with his or her culture. Based on the dimensions of the Asian culture, we show that tipping behavior varies significantly in the absence of US tipping knowledge.

An Empirical Investigation That Determines Whether the House Money Effect Explains Taxpayer Behavior

Kevin Eugene Flynn

Phyllis Belak

Peter Oehlers

West Chester University of Pennsylvania

West Chester University of Pennsylvania

West Chester University of Pennsylvania

This study furthers our understanding of taxpayer behavior by introducing an alternative theory that might provide a better explanation of taxpayer behavior than prospect theory: the house money effect. Prospect theory posits that taxpayers in a refund situation act conservatively. The house money effect suggests that taxpayers expecting to receive a refund act aggressively up to the point where the potential exists to eliminate the refund, at which point taxpayers become conservative. The theory is that the refund is viewed as a gain, and thus taxpayers are playing with "house money" as long as the gain (refund) is not eliminated. The expectation to receive a refund can be created two ways: from a preliminarily determined current year tax position, and from a prior year's tax position. Both tax positions will be tested.

Long-Run Growth and Economic Policy in Cameroon: A Cointegration Analysis

Elkanah Faux

Montgomery College

This study investigates the impact of economic policy on long-term growth in Cameroon. The study isolates growth that results from accumulation of factors from that resulting from the quality of those factors, which in turn depends on government policies and human capital accumulation. This is critical in guiding the implementation of medium

and long-term growth strategies of the country. In order to achieve this, we employed econometric techniques on time series data for the period from 1978 to 2014. The study covered a period of time when Cameroon's economic performance was mixed: a decline, then some recovery, albeit sluggish since the mid-1990s, hence the need to disentangle the contribution of policies to growth from that arising from factor accumulation. Before estimating the growth equation, the characteristics of the data was examined to determine whether the data was stationary or not, and also to determine the order of integration. The results from the error correction model show that capital is a robust determinant of economic growth in Cameroon. The results further reveal that higher levels of inflation rates are harmful to economic growth in the country. These results suggest the need for prudent policies especially well implemented macroeconomic policies that can positively affect economic growth in Cameroon.

Session 33: Logan/Harris Room

1:15 pm – 2:15 pm

Accounting & Finance Topics

Session Chair: *Carolyn LaMacchia*

Firm Level Heterogeneity and Competitive Effects of IPOS

Tapan Seth
Manmohan Chaubey

Robert Morris University
Robert Morris University

Entry of new firms changes the competitive landscape of the industry affecting the performance of incumbent firms. A newly IPO firm will negatively affect the incumbent firm's performance (Hsu, Reed, & Rocholl, 2010) The IPO firm's offering prospects signals to the strategic intent of the firm. The prospectus may indicate an entrepreneurial orientation (EO) or a marketing orientation (EO). The EO is defined as the degree to which the firm's strategic orientation is proactive, innovative, risk-taking competitively aggressive, and emphasizes autonomy (Lumpkin & Dess, 1996). The MO signals competitor orientation, customer orientation, a long-term focus, and profitability (Kohli & Jaworski, 1990). Incumbent firms that are vertically integrated or are diversified have the ability reallocate its resources from one business to another to deal with the entry of the new firm (Chen, 1996). They will be less impacted than a single business firm in the industry. The incumbent firm's ability can be assessed by its unabsorbed slack, its value added to sales ratio and its proportion of assets in the focal business. We assess the impact of the new firm on incumbent firm by its cumulative abnormal return (CAR). We hypothesize that:

H1: The IPO firm with high EO will have a smaller negative impact on the incumbent firm's CAR

H2: The IPO firm with high MO will have a larger negative impact on the incumbent firm's CAR

H3: The effect of the IPO firm's strategic orientation (EO or MO) on the incumbent firm will vary by the degree of vertical integration of the incumbent and the focus of the IPO firms on the incumbent's core business activity.

Session 34: Holmes/Foster Room 1:15 pm – 1:55 pm

Business Education Topics

Session Chair: *Marlene E. Burkhardt*

Can It Be Done? Teaching the International, the Adult Learner, and the Traditional Student in the Same Classroom?

Christine Marie Lombardo-Zaun

Cedar Crest College

In recent years, there has been a surge of incoming international students to our domestic college campuses. The presenter's institution has faced large incoming international classes since 2013. She faced many challenges with the international student such as cheating, coming to class late, and not buying the textbook. The traditional students felt angered that the international students were permitted to get away with this behavior. The presenter, a full-time faculty member, struggled trying to teach one way to all three populations. Over the last two years, the presenter learned how to manage all populations while maintaining the rigor of her courses. The information in this session is valuable to any institution or professor who wishes to improve teaching the international student without it becoming a detriment to other students. The presenter will share teaching tips so that others will be able to shrink their learning curve. She will share her best practices of how she taught three different groups of students in one classroom with the same expectations for all.

Experiential Group Projects in Business Classes: Benefits and Grading Fairness

Brad Sago

Wheaton College (MA)

The focus of this paper is to review the benefits of experiential group projects in undergraduate business classes as well as issues arising from perceived fairness in grading among group members. After surveying relevant literature, the author draws on over a decade of experience assigning group experiential projects in business classes to discuss student and instructor reactions related to the fairness in the grading of group projects – especially in instances of perceived differences in group member effort, production and output quality. Previous research has shown that while group projects benefit students, it is not uncommon for student groups to have members who are perceived to do less work than other group members during a project. In such cases, team members – though often harboring a level of resentment – fail to report their concerns to the instructor. Therefore, some students are allowed to benefit grade-wise beyond their own efforts due to the work of other group members. After a review of relevant literature, the author offers a multi-step grading system – honed by use in dozens of business classes – that has increased grading fairness within student groups while also incentivizing high quality contributions by each student in experiential group projects.

Operating Under Business-Like Principles in Sweden: An Exploratory Study of Municipal Public Housing Companies' Practice

Timothy L. Wilson

Umea Universitet, Sweden

Swedish housing policy is at a turning point. The Public Municipal Housing Act of 2011 requires that Municipal Housing Companies Act in a more business-like manner. This is important because Swedish municipal housing tends to be the international gold standard for operation and policy. An earlier qualitative study suggested companies indeed were saying the right things in their owner directives. This exploratory study attempts to ascertain if financial observations paralleled the text in owner directives that suggested that Municipal Housing Companies (MCHs) in Sweden have complied with present law. Results are reported here for 2 of the original 20 companies used in the qualitative study. Results suggest that the industry as a whole has adjusted over-all to the business-like mandate. One of the two companies followed industry revenue trends and had healthy solvency behavior. The other company went in the opposite direction. Ergo, the good get better and the poorer get worse. The background to Swedish public housing introduces the paper. Tables and graphs, which are explained in context, complete the manuscript.

Session 35: Sylvan Room

2:30 pm – 3:30 pm

Technology & Business Topics

Session Chair: *Norman Sigmond*

Cybersecurity: Has the SEC Protected Its Own House?

Carolyn LaMacchia
Loren Selznick

Bloomsburg University of Pennsylvania
Bloomsburg University of Pennsylvania

The Securities and Exchange Commission (SEC), which had been conducting cybersecurity examinations of broker-dealers and other players in the securities markets, has been criticized for its own cybersecurity weaknesses. In Fiscal Year 2014 audit, the U.S. Government Accountability Office determined that the SEC suffered from multiple cybersecurity weaknesses. Its comprehensive security environment was vulnerable in two major areas: (1) maintenance and monitoring of configuration baseline standards; and (2) implementation of password setting and network service standards. The appropriate management of these two areas is critical in defending against breaches. This paper explores the current state of the SEC cybersecurity system and whether the weaknesses cited have been addressed.

Teaching Pedagogy of Time Management and Personal Budget Planning in the First Year Seminar for Business

Ahmed Abdelhalim
Sada H. Jaman

LaGuardia Community College, CUNY
LaGuardia Community College, CUNY

Two of the primary components of FYS Course for Business Discipline are Time Management and Budget Planning. Presenters will share their integrative pedagogy and practice to approach the connection between Time Management and Budget planning through a series of unique and interconnected assignments and practices that pave the way to effective and efficient time and budget planning for students. For many students this course provides the first exposure to practical steps toward getting the best use of time by actually timing their everyday activities. By creating a series of their own daily and monthly budgets, students are provided the opportunity to learn about the gap between what they thought they spend on their monthly expenses compared to what they actually spend and subsequently be mindful of the causes of the variance. The presenters will also share their unique follow up assignments, course activity and students' work. The audience will get an opportunity to think about how they can incorporate an activity to engage students in personal time and budget planning.

Session 36: Willow Room

2:30 pm – 3:30 pm

Technology & Business Topics

Session Chair: *Tony Johns*

Teaching with Design Thinking

Diane P. Ramos
Dorene Ciletti

Duquesne University
Duquesne University

Can ordinary people learn to be extraordinarily creative? Can organizations create a culture that fosters innovation? Can leaders develop capabilities for accelerating innovation in any organization? The answer to all three questions is yes! Creativity as a core competence empowers organizations to gain competitive advantage by anticipating and responding to diverse pressures (DeGraff and Lawrence, 2002).

Breakthrough innovation is rarely accidental. That's why design thinking has emerged as powerful methodology for matching human needs and wants (desirability) with solutions that are technologically feasible and commercially viable. However, as architects, engineers, and industrial designers learn early in their training, design thinking is not creativity for creativity's sake; it's a disciplined approach to solving problems on a timetable while meeting specifications and overcoming constraints. Successful application of design thinking for breakthrough innovation often requires mental and cultural shifts to reward curiosity, cross-disciplinary collaboration and testing over expedient problem-solving and tweaking. Integrating design thinking into curricula or coursework elevates problem-solving and supports career success in any field, because design thinking instills best practices for applying the full range of critical thinking skills -- including research, observation, synthesis, analysis, hypothesis forming, prototyping and testing -- while students continuously evaluate and nurture their ideas into profitable, human-centered products and services.

This professional development workshop offers pedagogical insight for tying design thinking theory to practice based on a decade of experience using IDEO methodology in live MBA consulting engagements and undergraduate projects in marketing, sales and strategy courses. The workshop features instructional guidance as well as advice for developing projects, assignments and grading rubrics that reinforce the steps and processes as well as link assurance of learning to program and course goals.

Predicting Expected Success in Business Statistics Courses?

Ann Echols

Juniata College

Researchers have found that Business Statistics is a course that often has high failure rates. To help students succeed, I ask: what leads to student success in Business Statistics? The literature points to various assignments as contributing positively to success; mainly learning new computer skills and software, discussions, real-life projects, and case studies. Preferences for various ways of learning (all of which are offered in the principal investigator's BSTATS course) were explored: discussions, case studies, real-life projects, teamwork, and new computer skills/software; while controlling for math savviness, propensity to learn on one's own, grade point average (GPA) as of semester's start,

and desire for frequent praise. A survey carried out in early Fall of 2016 to 57 Business Statistics students at a small liberal arts college in central Pennsylvania indicated that teamwork and real-life projects mattered most to students' perceived likelihood of attaining course success. Both math savviness, and propensity to learn on one's own were also statistically significant in both the control model and model with independent variables. Needing frequent praise to stay motivated, and GPA did not contribute to the perceived likelihood of succeeding, nor did a preference for learning by grasping new computer skills and software, class discussions, or case studies in spite of these being essential to actual course success. Clearly, students believe that they learn best via real-life projects and teamwork and these activities will contribute to course success. Business statistics courses that include teamwork and real-life projects may find that fewer students fail.

Session 37: Logan/Harris Room 2:30 pm – 3:30 pm

Marketing Topics

Session Chair: *John Charles Blewitt*

A Low-Cost Method of Frequent Testing

Robert Liebler

King's College

The author has used frequent testing in all of his undergraduate classes for about twenty years. The version of frequent testing described here involves students facing a potential quiz almost every class; the quiz is on material covered in the previous class or an earlier class. In this paper, a low-cost method of frequent testing is described. The description includes details of things that resulted in the process being low cost. Also, some things that were expected to be low cost, but turned out to be high cost, are pointed out. Low cost is defined as two hours of the instructor's time per section per week.

Scale Item Development: College Students' Psychic Income from Intercollegiate Football

Woosoon Kim

Alvernia University

Colleges and universities are intellectual agencies, but they are also social, commercial, and athletic agencies. While higher education institutions have been pursuing competitive academic performance, college athletic programs have grown rapidly and provided a sense of excitement, pride, and involvement to the college and community (Gerdy, 2000). In the United States, intercollegiate sports represent a major portion of the sport industry and they are as prosperous as professional sports. This study attempted to explore how college students obtain psychological benefits (i.e., psychic income) from their athletic teams, especially a football team. Crompton's (2004) psychic income paradigm was adopted and the preliminary questionnaire was established by a comprehensive literature review, expert review, a field test, and a pilot study. Confirmatory factor analysis and reliability tests were employed with the total number of 663 data for the final purification of the scale of psychic income (SPI). As a result of the factor analysis, the 7-factor model with 27 was conceptualized: **Social Bonding** (3 items), **Excitement** (3 items), **Emotional Involvement** (5 items), **Collective Self-esteem** (3 items), **Pride as a Major Collegiate Sport Institution** (5 items), **Pride as an Increased Institution Visibility** (4 items), and **Pride Due to Additional Campus Development Efforts** (4 items).

Conference Concluded

3:30 pm

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