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It is with great pleasure that I present to you the 2015 issue of *Journal of Risk Education (JRE)*.

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Sincerely,

Brenda Wells, Ph.D., CPCU, AAI, CRIS

Editor
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Funding Issues Impacting Undergraduate Insurance and Risk Management Programs

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ABSTRACT

Traditional funding resources in higher education have declined significantly over several decades. This has impacted many specialty undergraduate degree programs in colleges of business, such as Insurance and Risk Management. Many of these programs have been forced to develop alternative funding strategies and resources to replace their diminished traditional legislative financial support. This paper discusses how undergraduate programs, and specifically undergraduate insurance and risk management and/or actuarial science degree programs, have been affected by systemic budget constraints and funding declines from the traditional sources of state and federal legislators and identifies what alternative public and/or private funding strategies and resources are being utilized by undergraduate degree programs.
Key words: Funding; Insurance and Risk Management; Undergraduate degree programs

INTRODUCTION

The purpose of this paper is to discuss how undergraduate programs have been affected by systemic budget constraints and funding declines from the traditional sources of state and federal legislators and to identify what alternative public and/or private funding strategies and resources are being utilized by undergraduate degree programs. Traditionally, state legislatures provided the majority of funding support for American public higher education (IES, 2010; Newfield, 2010; Toutkoushian & Shafiq, 2010). However, institutions of public higher education experienced a major shift in the sources of their funding over the past several decades (Cejda & Leist, 2006; Doyle & Delaney, 2009; McClendon, Hearn, & Mokher, 2009; NASBO, 2007; Tandberg, 2010). As traditional sources of public funding diminished, many universities turned to alternative public and private funding sources in order to survive and flourish (Ehrenberg, 2006; Harcleroad & Eaton, 2005; Lyall & Sell, 2006; Speck, 2010).

One of the many deleterious effects of the systemic decline in legislative funding of higher education has been the reduction and/or elimination of many specialty undergraduate degree programs in colleges of business, such as insurance, real estate, advertising, and human resources. However, some colleges of business undergraduate degree programs in Insurance and Risk Management have flourished in spite of the diminishment of public funding. Although each successful undergraduate degree program in Insurance and Risk Management has its own unique characteristics and circumstances, there are many strategies and practices in common that institutions have implemented to mitigate and counteract their traditional funding deterioration. Several large nationally-ranked programs have successfully maintained their student enrollment and faculty levels due to status and prestige, research funding, and substantial endowments. Many mid-to-small programs have succeeded in spite of the decline in public funding and their lack of funded research and endowment largesse. These undergraduate degree programs in Insurance and Risk Management have necessarily resorted to developing alternative funding strategies and resources to replace their traditional legislative financial support (Klein, 2012).

There are approximately 73 colleges and universities identified nationally with undergraduate bachelor degree programs focused on insurance and risk management and/or actuarial science (College Source Online, n.d.). There are three major accreditation organizations for colleges or schools of business, Association to Advance Collegiate Schools of Business (AACSB), Accreditation Council for Business Schools and Programs (ACBSP), and International Assembly for Collegiate Business Education (IACBE). Considering only business programs in the U.S., the Association to Advance Collegiate Schools

of Business lists 517 institutions (AACSB, n.d.), the Accreditation Council for Business Schools and Programs has 215 baccalaureate members (ACBSP, n.d.), and the International Assembly for Collegiate Business Education shows 184 four-year programs (IACBE, n.d.). Using a base of these 916 baccalaureate programs in accredited colleges or schools of business nationwide, these 73 undergraduate Insurance and Risk Management and/or Actuarial Science degree programs represent approximately eight percent of institutions of American higher education that house accredited colleges or schools of business. The small percentage of these programs infers a higher risk of program cutbacks during periods of funding decline, potentially leading to program elimination. Given that traditional funding for public institutions has come from governmental resources, an interesting sidebar relates to the public/private composition of these undergraduate Insurance and Risk Management and/or Actuarial Science bachelor degree programs. Of the 73 colleges and universities discussed above, 45 are listed as public institutions, 14 are categorized as private nonprofit, and 14 as private nonprofit – no religious affiliation (College Source Online, n.d.).

The value of an undergraduate Insurance and Risk Management or Actuarial Science program is driven by career opportunities and the increasing demand for insurance professionals and educators. The insurance industry is concerned that it is populated by older practitioners and recognizes the need to attract new younger professionals to mitigate the industry's natural attrition due to the retirement of existing personnel. However, most college students express minimal interest in the discipline. A study on student perceptions of the insurance and risk management profession found that many business students, surveyed from two regional universities that offer insurance and risk management degrees, have a general lack of knowledge about either available undergraduate Insurance and Risk Management degree programs or about the insurance profession (Berry, Berry, & Tippins, 2004). Many organizations and corporations are starting to recognize the importance of managers and administrators with expertise in insurance and risk management. This acute need is partly the result of the first decade of the new millennium which was marked by economic recession, world-wide natural disasters, persistent terrorist threats, and a catastrophic financial crisis. Following this resurgent industry demand for insurance, risk management, and actuarial science graduates, many undergraduate Insurance and Risk Management and Actuarial Science degree programs are preparing for substantial enrollment growth while facing public funding cuts (Holbrook, 2009).

Apart from higher education, the need for post-secondary training in insurance and risk management is evidenced by the plethora of industry certifications available for insurance and risk management practitioners. Many industry organizations provide training and certification for insurance professionals. For example, the Chartered Property and Casualty Underwriters industry organization's educational division offers 57 distinct courses for practitioner-based insurance education, many of which are available for articulation as college-equivalent coursework (AICPCU, n.d.).

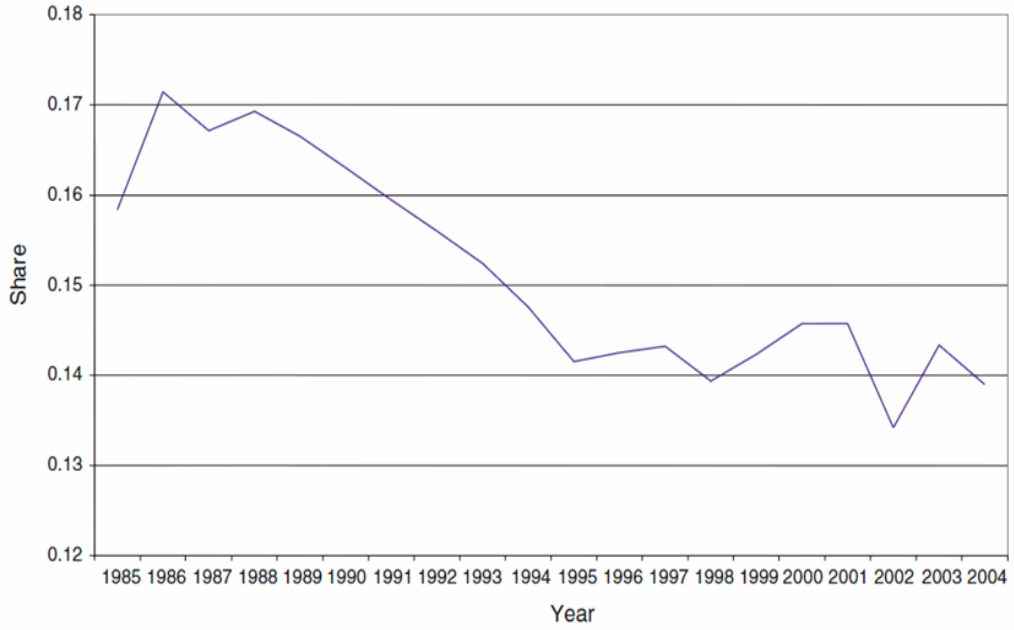
TRADITIONAL FUNDING ISSUES

Any investigation of funding issues facing U.S. undergraduate Insurance and Risk Management degree programs must start with a discussion of the greater funding issues impacting colleges of business and, by extension, college and university systems in higher education. An understanding of the role of the various stakeholders, public and private, is helpful to inform participants and observers of higher education so that differing stakeholder perspectives are considered in the implementation of financial policy and practices in the arena of higher education.

Historically, most public colleges and universities depended on state appropriations for the greater part of their financial needs. State legislature-provided funding has steadily declined since the 1980s, but the average percentage of state revenues dedicated to higher education fell by 10% in just a four year period in the early 1990s (McPherson & Schapiro, 2003). More specifically, California decreased its higher education funding by almost 50% in the past 30 years (Newfield, 2010) and Louisiana is currently facing 20% cuts in state allocations (Stuart, 2011); these are neither atypical nor

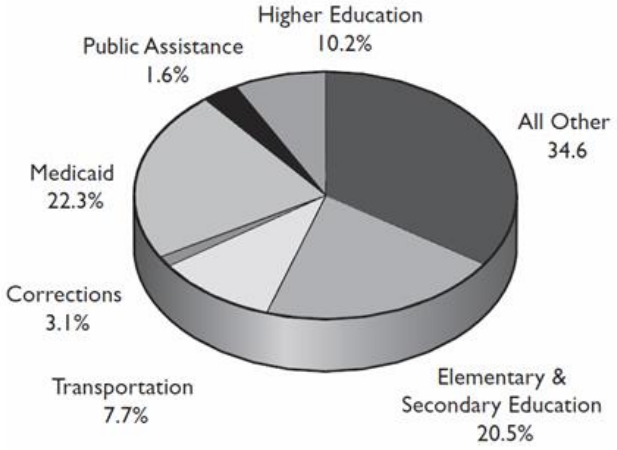
isolated examples. Figure 2.1 shows a 3.5% decline in state funding for higher education over an 18 year period from 1986 to 2002.

Figure 2.1. Higher Education's Share of State General Fund Expenditures (NASBO, 2007)



This percentage decrease in state funding accelerated through 2010, with an additional 3.5% decline from 2004 to 2010, over only a six year period. Figure 2.2 graphically displays this additional decline.

Figure 2.2. Total State Expenditures by Function (NASBO, 2010)



Almost all institutions of public higher education have experienced this public funding crisis over the past several decades. The amount of tax-generated-funding for public colleges and universities varies according to state legislature and public institution, but, nationally, public funding has declined for at least three decades (Klein, 2012; McPherson & Schapiro, 2003; Newfield, 2010; Stuart, 2011). Part of the explanation for this decline in state support is that higher education funding is no longer viewed by legislators as an absolute fiscal obligation. Funding for institutions of higher learning is considered more of a discretionary expenditure that is only considered after other higher priority programs are funded. This reduction in state funding available for public higher education is attributed to increased competition for every dollar of state funding from elementary and secondary education, the criminal

justice system, and Medicaid (Ehrenberg, 2006; Heller, 2006; Klein, 2012; McClendon, Hearn, & Mokher, 2009, Wanger, 2004).

American public institutions of higher education, where 77% of all post-secondary students attend (Zhanga, 2011), typically received more than half of their operating funds from legislative sources in the 1980s. Two decades later, state legislators provided about 30% of public universities' operating funds, while some nationally ranked public universities received less than 10% of their support from public funds. In general, revenue from student tuition, alumni, and private donors is larger than public funding support at many public institutions (Lyall & Sell, 2006). In the past 15 years, public funding for the University of Virginia dropped from 30% to only 20%, a 33% decline. According to their former Provost Peter Low, the state legislature wants 100% control while only contributing a minor portion of higher education funding (Kirp & Roberts, 2002). This situation created a new perspective whereby many public institutions stopped referring to their symbiotic relationship with their state legislature as state-supported and are instead calling themselves state-assisted public universities and colleges. Some have even gone as far as self-identifying as merely state-located (Speck, 2010). Colorado State University-Fort Collins and the University of Colorado-Boulder experienced reductions in state funding of 32% from 1999 to 2005. Colorado State previously received 50% of its budget from public funds, but now gets only 8.5% (Powers & Rubin, 2005). Approximately 35% of the budget at the University of Wisconsin - Madison was from state funding in 1988, but shrank to 21% by 2004 (Weerts & Ronca, 2006). In Kansas, state funding for higher education was cut by 50% over the past 15 years and, within the next few years, tuition revenue will exceed the level of public funding received from the legislature. State funding for higher education decreased to approximately one-third of its level of 25 years ago, according to the National Association of State Universities and Land Grant Colleges. Tuition increases by themselves have not been enough to cover the rising costs of higher learning (Williams, 2006).

As traditional sources of public funding declined, many universities turned to private funding sources to survive (Ehrenberg, 2006; Harcleroad & Eaton, 2005; Lyall & Sell, 2006; Speck, 2010). In view of this paradigm shift in funding resources, academic administrators need to examine the impact of changing resources in public higher education funding in order to differentiate and evaluate alternative funding sources utilized by the differing types of institutions in public higher education. From 1989 to 1999, higher education enrollment grew by 9%, but in the decade following, from 1999 to 2009, it increased substantially by 38%, from 14.8 million to 20.4 million students (IES, 2011). More specifically, higher education enrollment increased by 30% at community colleges alone from 2000 to 2006 (Kennamer, Katsinas, Hardy & Roessler, 2010). During these periods of enrollment growth, the economy suffered several economic recessions, in 1980 – 1983, 1990 – 1994, and 2000 – 2003. These periods of economic disruption had a significant effect on higher education funding (Weerts & Ronca, 2006). The massive increases in enrollment exacerbated the crisis in public funding for institutions of higher learning and may appear paradoxical, but student enrollment in higher education actually increases during periods of economic recessions. Higher education enrollment is countercyclical to business cycles, so college and university enrollments typically increase when the economy is poor because people are more likely to go to college when they cannot find work and to quit school when employment opportunities are strong (Levine, 2001). Because tuition revenue only covers 20 - 30% of the costs per student in higher education, this surge in enrollment only compounded the funding crisis (Vedder, 2005). Most public universities increased tuition by as much as 50% over the past decade, in an effort to offset the decline in public funding, but pressure from parents and politicians, as well as from competing institutions, have effectually imposed a ceiling cap on tuition revenue at many institutions (Kirp & Roberts, 2002).

During this same time period of declining state funding for public higher education, the federal government contributed to the current funding crisis by changing its focus from distributing federal funds to the institutions of higher education to providing funds directly to students in the form of financial aid. The proportion of federal funds provided to students changed from mostly grants, with a small percentage of student loans, to the exact opposite. Most federal dollars are now received in the form of student loans and much less federal funds are available as free grants (Mendez, 2006; Wanger,

2004). This shift in federal policy places a huge financial strain on students and their parents just at the time when public higher education funding has been diminished by state legislators. Many in academia bemoan the changing landscape in higher education (Ehrenberg, 2006). Some educational leaders see the transformation in higher education as an opportunity to engage and collaborate with the business sector, industry and societal associations, and philanthropic foundations, as well as governmental entities. This synergistic collaboration could lead to a more mutually beneficial, and more equal, partnership (Lyall & Sell, 2006; Wanger, 2004).

ALTERNATIVE FUNDING RESOURCES

With the reduction in public funding revenues, institutions in public higher education have been forced to cultivate other sources of funding to survive. As previously stated, student tuition has always been a minor source of revenue, as have funds donated by alumni, individual charitable donors, private foundations, and private businesses and organizations. With tuition costs increasing to the stage of a significant entry barrier, many public colleges and universities are searching for alternative funding sources, such as private donors, to fill the public funding shortage. Individual charitable donors, for example, created endowments at some prestigious universities that are worth billions of dollars (Williams, 2006).

With the financial stress forced on public higher education institutions by the decline in public funding and the inability to raise tuition enough to cover these losses, charitable individual, corporate, foundation, and alumni donors are competitively courted for donations and support. As a result, major donors' gifts are essential to the continued existence of most institutions in higher education. On most campuses, named buildings and programs, endowed faculty chairs, and even the names of many colleges and schools themselves are indicative of the largesse of major donors (King, 2005).

When charitable donors fund university endowments, the particular area targeted to receive funding is usually specified, i.e., scholarships, faculty, athletics, research, facilities or a department (Williams, 2006). Although philanthropic donations from individuals, charities, and foundations have grown throughout the past few decades (Speck, 2010), this increase in non-legislative funding, even when taking into account significant increases in tuition, is still insufficient to compensate for the decline in public funding. Institutions of higher education have been forced to search for alternative sources of funding, such as community and industry partnerships. With few other viable options available, research universities turned to corporate sponsorship in their search for new funding sources.

Academic capitalism describes the use of market-like methods by institutions of higher education to increase their revenues (Mendoza & Berger, 2006). Given the apparent unwillingness in state and federal legislatures to invest public funds in higher education, considerable fiscal pressure is experienced by most colleges and universities leaving few viable alternatives to the entrepreneurial direction of academic capitalism (Klein, 2012; Rhoades & Slaughter, 2006). With this move toward a market industry model that focuses on private and economic interests, higher education experienced a shift in its participants' expectations and nomenclature. Many universities now view students as consumers to be wooed from collegiate competitors. Students think of themselves as purchasers of educational services, rather than as members in a collegiate cohort, and they view the final outcome, the coveted university degree, as a commodity or a product that comes at a considerable financial cost and to which they are entitled (Wanger, 2004).

To exacerbate this issue, many legislative funding formulas changed to performance criteria instead of a traditional across-the-board funding approach in higher education. This created extreme competition between public, private, and for-profit institutions of higher learning; many stakeholders in higher education are concerned about the eventual outcome. Kezar wrote that as funding strongly determines an institution's mission, vision, and priorities, the inevitable increase in privatization and the marketization of higher education funding is particularly distressing (2005).

Privatization is a term used to describe the shift in public higher education appropriations from legislative sources of public funding to other non-traditional funding resources (DeAngelo & Cohen,

2000; Lyall & Sell, 2006; Rhoades & Slaughter, 2006; Wanger, 2004). The move toward privatization has been associated with a demographical change in post-secondary learners. Formerly, a university education was considered the province of the wealthy and privileged. This supposition has been inexorably altered in that the higher education experience has become available to mid- and lower-income students from a myriad of cultures and ethnic backgrounds (NEA Higher Education Research Center, n.d.).

Corporate and community partnerships have been developed to replace diminishing funding from traditional federal and state government sources. This often resulted in a shift from basic research for increasing a discipline's body of knowledge to corporate-influenced research for marketable knowledge that is profitable to both the corporation and the institution. This new approach of developing profitable relationships with external partners promotes applied research in areas that have a strong linear curriculum correlation with private industries, such as agriculture, business, manufacturing, etc., to the detriment of research funding for more traditional university disciplines, such as English, humanities, and other liberal arts fields. Privatization resulted in an economic reprioritizing of institutional objectives, and power and leverage being shifted away from an administrative centrist perspective to the specific academic departments and research units that are able to generate revenue (Birnbaum & Eckel, 2005).

This shift in public higher education's pursuit of alternative funding created extreme competition between differing public institutions of higher learning for partners with deep pockets. DeAngelo and Cohen posit that, like many other public enterprises, public higher education is shifting to a paradigm of privatization. Many public research universities, and to a lesser extent some other types of state schools, excelled in replacing lost revenue from public funding with other financing from alternative sources of funding, such as research sponsorships, private charitable fundraising, and alumni giving (2000).

Financing research through corporate partners has been the focus of fundraising at many public doctoral-granting universities. The importance of and emphasis on research to these flagship universities is paramount. Applied research has been motivated by recent major advances in genomics, biomedical studies, pharmacology, information technology, and other areas as well as by considerable increases in governmental and corporate funding in specific disciplines (Ehrenberg & Rizzo, 2004). Corporate sponsorship is promoted by many university administrations as the only practical means to replace the loss in public funding at research-focused universities, but there is much concern over the lack of funding opportunities for non-research institutions. Ehrenberg stated that privatization is a viable strategy for most large research public universities as a method to acquire the funding resources they require to be competitive and to counter threats to their quality and status as a result of public funding declines. However, privatization is probably not as feasible nor sustainable for public comprehensive universities and small colleges that are disproportionally affected by reductions in state funding support (2006). These non-research teaching universities and colleges do not have the same private funding opportunities as their larger research-oriented counterparts (Klein, 2012). Without the history, structure, expertise, and culture of research, teaching-oriented institutions often struggle to attract the corporate partnerships, and commensurate levels of financial support, to mitigate their decline in public funding. Program size does not necessarily dictate success, however, the reality of funding, especially alternative funding, does indicate that larger programs have access to considerably more financial resources than smaller programs.

In dynamic positivist perspective based organizations, such as undergraduate programs in a college of business, the homeostasis process leads to a naturally preferred condition of equilibrium (Bess & Dee, 2012; Morgan, 1997). This state of balance helps stabilize an organization as it is confronted with environmental changes and threats, such as a funding shortage. Thus there is considerable danger when an organization, such as a smaller and less-well-funded undergraduate Insurance and Risk Management degree program, is faced with similar funding cuts as a larger well-funded organization and attempts to exactly duplicate a larger organizations methods and procedures of developing new funding inputs. These smaller programs can, however, implement different strategies and methods that can potentially

achieve an analogous desired outcome. The principle of equifinality states that since no two organizations are identical, their differing processes and pathways can lead both to a similar level of success (Bess & Dee, 2012).

Although smaller programs can strive for a recognizable niche position to face program competition, every program struggles for more funding in order to elevate the quality of its faculty and students and to reduce its dependence on external forces. Teaching universities and colleges are typically smaller and less well funded than large research universities. They therefore have fewer alumni generally, and much fewer wealthy alumni in particular, to approach for individual donations. There are few studies available that address this situation, but a definite need exists for further research in this area. Ehrenberg and Smith conducted research on the sources of annual giving at private research universities (Ehrenberg & Smith, 2002; Smith & Ehrenberg, 2003), but the is a paucity of specific peer-reviewed studies focused on committed annual alumni giving at public universities.

There are some private funding options available to both research and teaching institutions, but they typically require a dedicated department to build effectively the relationships necessary to develop them. Many university-corporate-community partnerships can lead to other non-research funding opportunities, such as corporate and individual charitable giving and community and foundation grants and sponsorships. To develop relationships in private sector support, many colleges and universities are instituting advisory boards that consist of affluent individuals who are usually business owners or chief executives of corporations. Although the primary goal of these boards is to facilitate fund-raising, they also often represent a link to potential employers of college graduates and can be a valuable external source of feedback, influence, and advice for academic programs. Although more common in business and engineering schools, many such boards are now being established in colleges of education, fine arts, humanities, and social and behavioral sciences (Rhoades & Slaughter, 2006). Public higher education, however, is both a public good and a private good, and these are not mutually exclusive concepts and goals. If universities are to survive this period of dwindling public funding, they must become more valued as vital public institutions that not only educate students but also contribute to social and economic development (St. John & Priest, 2006).

Unlike other academic disciplines, business schools study and focus on business and corporate concepts and practices. Therefore models based on privatization and academic capitalism are not as foreign, conceptually, nor as anathematic as they are to other colleges in academia, such as liberal arts or education. However, even in colleges and schools of business, faculty have traditionally evaded being drawn into fundraising and donor development activities. The attitude of being independent or above these undertakings may be a luxury that many in specialty undergraduate degree programs can no longer avoid. Developing mutually beneficial relationships with alumni, individual donors, private foundations, private businesses, industry organizations, and community partners are a major step toward mitigating funding deficits and building successful undergraduate degree programs, especially in the specific disciplines of Insurance and Risk Management and Actuary Science as these are very applied academic programs that directly lead to careers in the insurance and risk management industry.

SIGNIFICANCE OF THIS RESEARCH

This paper is designed to contribute to the body of knowledge related to the funding and development of undergraduate Insurance and Risk Management degree programs. The literature in this academic discipline includes anecdotal evidence and peer-reviewed articles that discuss pedagogy and program development within the broader context of colleges of business, but virtually no peer-reviewed research studies, neither qualitative nor quantitative, that relate to program development and alternative funding resources specifically in undergraduate Insurance and Risk Management degree programs were found.

FURTHER RESEARCH CONSIDERATIONS

There is much anecdotal and peer-reviewed literature that discusses research funding and privatization in general, but few peer-reviewed research studies, either qualitative or quantitative, and only a few published dissertations, on specific or very specialized aspects of private funding. Although there have been many articles about the progression of public higher education toward privatization, there is not yet a significantly large body of scholarly work produced to examine and analyze the shift toward private funding for public higher education. This demonstrates a definite need for more scholarly work, especially of an empirical nature, on the general topic of private funding of higher education, and also in the specific area of alternative sources of private funding for research and non-research institutions in public higher education. This paucity of peer-reviewed research studies and published dissertations relating to program development and alternative funding resources specifically in undergraduate Insurance and Risk Management degree programs, or the lack of utilization of theoretical modeling relating to fundraising in the development of these programs, indicate a need for further research, both naturalistic inquiries and empirical studies, on the financing and development of undergraduate Insurance and Risk Management and/or Actuarial Science degree programs.

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"One Dollar, Bob"—The Use of Television Game Shows to Teach Risk and Insurance[1]

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ABSTRACT

Television game shows have long been a staple of television programming. Though meant for entertainment purposes, game shows often involve contestants thrust into risky or uncertain situations. The following paper offers highlights from a one-hour seminar course designed for incoming freshmen. The course as originally taught was for a specific university mission, however, the game shows can be utilized to illustrate specific concepts to students from first-semester freshmen to doctoral students. The paper explicitly discusses *Jeopardy!*, *Deal or No Deal*, and *Let's Make a Deal* and their applicability to a risk management and insurance course.

INTRODUCTION

Since *Truth or Consequences* began the game show genre in the early 1950s, game shows have been a staple of television programming. In addition to providing entertaining television programming, game shows can often be educational. One can hardly watch *Jeopardy!* without picking up a fact or two. However, the educational nature of game shows is not limited to learning the answers of trivia questions. By definition, game shows all have some element of game theory that could be taught in a game theory course. Of course, for a risk management and insurance course, a game show that puts contestants into risky or uncertain situations (which covers most, if not all, game shows) can be educational. Additionally, some game shows have a very explicit connection to risk management and insurance. For instance, though not as catchy, *Deal or No Deal* could easily be called *Do You Want Insurance?!*. The game is simply repeated offers to contestants of a choice between a certain or random dollar value. Contestants can either take the certain amount (the insurance) or take the gamble and try to win more.

The following sections outline the first three game shows that I presented to the class, and their potential use in a course in risk management and insurance. The original course utilizing these "cases" was an one-hour seminar course designed for incoming freshmen called "One Dollar, Bob."[2,3] The objective of the course was to introduce broad concepts of risk (including risk aversion and insurance) to students within the context of television game shows. Though the course as originally taught was for a specific purpose, individually, these game shows can be utilized to illustrate specific concepts to students from first-semester freshmen to doctoral students.[4]

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[1] I would like to thank students in my First Year Odyssey Seminar taught in Fall 2012 for many of the game show suggestions. I also thank the American Risk and Insurance Association and the 2013 Committee for the Les B. Strickler Innovation in Instruction Award.

[2] The "First Year Odyssey Seminar" was created by the University of Georgia as a way to introduce students to the mission of the University, particularly as it relates to the professors. To this end, participating professors are encouraged to choose a topic that will not only be interesting to students, but will also be applicable to the research of the faculty member. In this way, it is hoped that the students will obtain a better understanding of the mission of faculty.

[3] "One dollar, Bob" is a reference to a frequently heard refrain during the original run of the popular television game show *The Price is Right* hosted by Bob Barker. In order to play for a significant prize, contestants on *The Price is Right* had to submit sequential guesses (called bids) of the price of a smaller prize. The contestant who was closest to the actual price, without going over, won the right to play for a bigger prize. Since the bidding was sequential, when the final contestant believed everyone to have over-bid, he or she would make a bid of…. "One dollar, Bob."

[4] As will be noted below, some of the game shows have been the subject of high-quality academic journal articles.

To be clear, I would not expect the seminar I taught to be replicated broadly. Rather, I believe the games mentioned below can be used in a wide range of settings. These game shows could be used as a first day "ice breaker," a motivating example, a research project in estimating risk aversion for Ph.D. students, or in any other way that is appropriate for a risk-related class. Because of the variety of applications and the likelihood that my exact seminar is not repeated, what follows is *not* my syllabus or class notes or lesson plan for the course. Rather, I simply mean to convey the existence of these game shows and the risk-related lessons within. Lastly, I understand that some (or all) of the shows discussed below will be new to some readers. For those readers, I strongly recommend watching a few episodes before taking the lessons to the classroom. While not all of the shows are available on television in all locations, clips and/or episodes are readily available online for most (if not all) of the shows mentioned in the paper.

Below, I document the three game shows that I presented in the original class. For each one, I include 1) a brief description of the game, 2) the risk-related lesson(s) that can be taken from the show, 3) its suitability for class (in my opinion), and 4) a brief, non-exhaustive, list of potential activities for a class. Where appropriate, I also include potential applications involving higher-level courses. In addition to the three game shows I presented, the students in the class were each required to choose a game show to present to the class. In this paper, I will list these shows with a short comment as to the risk-related lesson available. For the Strickler submission, I wrote notes/case studies for each of these games (based on the assignments completed by the students). Interested readers should feel free to contact me for these more complete notes. Finally, many of the games presented below have some type of question/answer component and can therefore be relatively easily transformed into an in-class trivia-type game to help test/prepare students for material presented in class.[5]

GAME SHOWS

Let's Make a Deal

In the original game, there were two pertinent games played during an episode. In order to find contestants, host Monty Hall would mingle amongst the audience and select contestants to play. The game played during the first part of the show involved Monty giving contestants a choice between various prizes. Though some prizes were partially revealed, the contestant was primarily deciding between unknown choices. The second game occurred towards the end of the show when Monty would ask contestants who had previously won prizes if they wanted to trade in their winnings for a chance to win a bigger prize. Of course, some were happy with their current prizes and declined, while some were willing to take a chance. It is important to note that virtually all games included a "prize" with essentially no value.[6]

During the first segment of *Let's Make a Deal*, Monty walks around the audience and chooses a contestant to play. He would often offer the contestant a simple choice between two unknown prizes hidden behind a box or a curtain or some other device. At this point, the contestant has no information and simply a 50/50 chance. Since the prizes were usually either something of value (e.g. a pool table) or virtually worthless (e.g. a nickel), half of the time the contestant would have a good outcome, and half of the time the contestant would have a bad outcome. If the game is truly random, then there is really no strategy involved. Just like picking heads or tails during a coin flip (with a fair coin) the outcome is random. That is, there is no strategy one can employ to improve the odds of winning the prize. From the perspective of risk, there was also little risk in these games. The contestant was not giving away anything to play the game. Therefore, losing out on any prize here left the contestant in exactly the same position as before the game started. This illustrates a basic game of chance with no information.

However, the game was not always so simple or devoid of strategy. In particular, there were two aspects of the game that are quite interesting to those interested in risk. First, some of the games offered

[5] This could be done in a similar way to Norma Nielson's "The Risk Management Quiz Show."

[6] For completeness, I will note that there was a third game played. With any time remaining, Monty would walk around the audience offering money (small amounts, $10, $20, etc.) for random items (pencils, rubber bands, etc.).

included some information regarding the prizes involved. Often, Monty would play some variation of "guess the price" game with contestants. In these games, Monty would give the contestant money (usually $100-$500) for each correct guess. Monty would then offer to "make a deal" where he would "sell" an unknown prize for the cash already won. In a similar vein, during the second segment of the show, Monty would return to two contestants that had previously won prizes and give them the option to trade in their prizes for an attempt to win "The Big Deal," the biggest prize of the day. This prize was much larger (in monetary value) than any of the prizes already won during the show. Therefore, contestants had to decide if they were willing to give up the prize they already won for a chance to win the big prize. These games have very interesting applications to real-world decision making. Indeed, this is a classic example of risk affecting the decision making process. On the one hand, there is the option of taking a certain outcome (a prize that has already been won). On the other hand, there is the *chance* to win a bigger prize. It is important to note here that there is also have the *chance* to lose! Does one give up the certain prize to potentially win the bigger prize, knowing one may lose everything? The answer, of course, is not simple, and depends on the individual. Does the individual care for the prize already won? Is it valuable to the individual? The more valuable the prize (this is a very subjective determination), the less likely one should be to trade it in. On the other hand, the less valuable the prize is, the more likely it will be traded in. Of course, this illustrates aspects of *risk aversion*. If an individual is risk averse, they would prefer to know the outcome for certain (e.g. keeping the prize) than to take on uncertain outcomes. Naturally, preferences for the prize, as well as other factors, will influence how risk averse one is in this moment.

The second variation of games involved Monty offering a contestant a choice of three doors. The contestant was typically told that two of the doors had worthless prizes, but one door had a valuable prize. After the contestant would pick a door, Monty would reveal that one of the non-chosen doors contained a worthless prize, leaving two doors hidden (one of which was the original door chosen by the contestant). Of the two remaining doors, one had another worthless prize while the other door contained one of value. At this point, the contestant was then given the option of switching doors. This game is commonly referred to as the "Monty Hall Problem," a well-known brain teaser (Nalebuff 1987).[7] Though often seen as counter-intuitive, as it turns out, the contestant should always switch. That is, it can be shown that switching doubles your chances of winning the prize.[8]

Ultimately, *Let's Make a Deal* offers a variety of learning opportunities in a classroom setting. Most notably, students can learn/discuss basic probability and risk aversion within the context of the games played on *Let's Make a Deal*. Additionally, these concepts can be easily shown in-class without the need of any elaborate set-up. There are two rather simple ways to bring *Let's Make a Deal* to the classroom. First, from a risk/risk aversion perspective, the instructor can discuss several (as many as is warranted) actual deals that were made (or not made). If available, showing the deal on video can help initiate a discussion of "what to do." Second, to discuss probabilities, I often discuss the "Monty Hall Problem." In upper-level/MBA classes, I require the students to seek the solution themselves and to verify the solution with an online simulation (e.g. http://www.stayorswitch.com/). As an ice-breaker in some lower-level courses, I will bring some playing cards (e.g. two Jokers and an Ace) and play the game (I do not give away a car!).

[7] The Monty Hall problem was the first puzzle in Nalebuff's (1987) paper where he offers puzzles to "stimulate research" and "help undergraduate and graduate teaching" (p. 157).

[8] Since Monty always revealed a worthless prize, switching (or not) is *not* a 50-50 proposition. The easiest way to think about it (for this author) is to imagine that there are fifty (or some large number of doors). You have a one in 50 chance of picking the correct door. By revealing doors that do not have a prize, the odds of you having originally picked the correct door do not change. The door that remains, therefore has a 49 in 50 chance of being the door with the prize. Alternatively, imagine you are given the option to switch immediately after picking the door. Would you take your door or the other 49 doors?

Deal or No Deal

Deal or No Deal was an amazingly simple game. A contestant was shown a set of 26 briefcases. Within each briefcase hid an *unique* dollar amount ranging from $.01 to $1,000,000.[9] The dollar amounts in play were known to the contestant and (aside from special episodes) did not vary. The contestant would choose a briefcase with the chosen briefcase being removed from gameplay. If the contestant went "all the way," the contestant would win whatever dollar amount was contained in that briefcase. However, the briefcase was not immediately opened. Rather, the contestant was to reveal the contents of the chosen briefcase through the process of elimination by opening the *remaining* briefcases over a series of rounds in the game. In the first round, the contestant was made to open six of the remaining twenty five briefcases. The dollar amounts revealed were therefore not in the contestant's briefcase. A large electronic board showing the possible dollar amounts kept track of the values still in play. After the contestant had opened six briefcases, the contestant was made a monetary offer to stop the game.[10] If the contestant accepted the offer, then the game was over and the contestant took home the money offered and not the value in the chosen briefcase. If the contestant refused the offer, the game progressed to the next round. In the second round, the contestant was required to reveal the contents of five cases, after which another offer would be made. Again, this offer could be accepted or rejected. The game proceeded in the same manner until the contestant either accepted an offer or was left with two briefcases (the contestant was required to reveal fewer and fewer cases as the game progressed so that for the sixth (and subsequent rounds) round, the contestant was required to reveal only one briefcase before an offer was made). As always, if the contestant accepted an offer, the game ended and the contestant took home the "deal." In the end, if the contestant was left with two briefcases, the contestant was allowed to switch briefcases if desired.[11]

Clearly, *Deal or No Deal* has a relationship to insurance. The offers made between the rounds are certain outcomes. Does an individual want to trade those certain outcomes in for a gamble? The answer, again, depends. Are the dollar amounts large (note "large" can mean different things to different people)? How many cases remain? What is the alternative gamble to be undertaken (e.g. how many cases have to be revealed next?)? If the remaining cases all contain relatively low dollar values, insurance is probably not a very good deal. If the few (e.g. three) remaining cases contain a both low and high dollar values, insurance may be appealing. Even if all remaining cases contain relatively high dollar values, insurance may be an attractive alternative (depending on the risk aversion of the contestant). These are all basic issues taught in an undergraduate risk management/insurance course.

Additionally, *Deal or No Deal* could have appeal in higher-level doctoral classes. In particular, the game could be included in a discussion of behavioral economics and how people behave in the face of risk. By studying the decisions made by contestants, researchers are able (theoretically) to examine the risk aversion levels of individuals. They are also able to determine the degree to which risk aversion varies across demographic characteristics (e.g. age, gender, etc.). Indeed, academic papers studying *Deal or No Deal* can be found in journals such as the *American Economic Review*, *Journal of Applied Econometrics*, and *Economic Letters* (e.g. (Post, Assem et al. 2008), (Blavatskyy and Pogrebna 2010), and Pogrebna (2008)).

Because of its simplicity and obvious relationship to insurance, *Deal or No Deal* is easy to discuss in a risk management/insurance class of any level. Discussing the game or even playing one of the various online versions (http://en.gameslol.net/deal-or-no-deal-754.html is modelled after the original gameplay) of the game can reinforce the decision making between certain outcomes and gambles. I create my own "board" within a PowerPoint presentation to play in introductory classes. Beyond a discussion, more

[9] The dollar values and number of briefcases vary in the syndicated version, special episodes and international versions. Further, the dollar values were distributed approximately uniformly with 13 briefcases containing $750 or less and 13 containing $1,000 or more (9 of these 13 contained $50,000 or more).

[10] In some rare instances, the contestant was not made an offer. This was usually due to the contestant having very low dollar values remaining.

[11] Notice, since the briefcases were randomly opened during the game, this decision is *not* the same as the Monty Hall problem.

analytical courses could also analyze individual situations during the game. Specifically, it is easy to consider dollar amounts available and compare them to various offers. The degree to which these alternatives are analyzed can vary by the type of class. For instance, a simple exercise is to examine the offer relative to the expected value of the gamble, while a more sophisticated analysis could include an utility function to calculate a certainty equivalent of the gamble. Indeed, in my MBA classes, we often analyze specific offers (relative to values in play) within the framework of a risk averse individual.

Jeopardy!

Jeopardy! is a quiz show that pits three contestants against one another in a battle of smarts (and a bit of luck). In the standard game, there are three rounds of play: the Jeopardy! round, the Double Jeopardy! round, and the Final Jeopardy! round. In the Jeopardy! and Double Jeopardy! rounds a board of six categories and five questions (hidden by dollar values) per category is revealed to the contestants. Each question is worth the dollar value it is hidden beneath. As the dollar values increase, the questions are meant to become more difficult. Once a question is revealed, players are allowed to "buzz" in and offer an answer. If the contestant is correct, the dollar value of the question is added to the contestant's score. If the contestant is incorrect, the dollar value of the question is subtracted from the contestant's score. Within each round, there are also one (in the Jeopardy! round) or two (in the Double Jeopardy! round) questions that are referred to as "Daily Double" questions. The contestant who chooses the question that hides the Daily Double can wager as much of their current score as desired. If the contestant is correct, the wager is added to the score, though if the contestant is incorrect, the wager is subtracted from the score.

The Final Jeopardy! round is slightly different and actually consists of three stages. First, a category, from which **one** question will be asked is revealed. After the category is revealed, contestants are given some time to contemplate their wagers.[12] Final Jeopardy! acts much like a Daily Double question in that the wager chosen by the contestant will be added (subtracted) from the contestant's score if the contestant answers correctly (incorrectly). The primary difference is that this will be the last question of the game and all contestants are given a chance to answer the question. Ultimately, the winner of the game is the contestant with the highest score (most money), with the winner's prize being the money won. Additionally, the winner is allowed to play again in the following days, until defeated.[13] The second and third place contestants are given $2,000 and $1,000 respectively.

During the course of the game, explicit risk-taking scenarios arise when contestants are faced with Daily Double questions, as well as the wager in the Final Jeopardy! round.[14] For the three Daily Double questions, in order to determine the amount to wager, the contestant must take into account variables such as time remaining, relative position of the contestants, category familiarity, and question difficulty (i.e. a $400 versus a $2,000 question). The Final Jeopardy! question calls into account similar questions, but also requires contestants to consider (at least) the probability the other contestants will answer the question correctly and the relative value to winning versus losing. Naturally, these questions all will affect the amounts a contestant will put at risk on any one question. Considering all of the factors above (and probably more) would be quite complicated. Of course, the one significant factor not yet mentioned is *risk aversion*. That is, to what degree is the contestant willing to put his/her money at risk?

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[12] Contestants must have a positive score to advance to the Final Jeopardy! round.

[13] In the event of a tie, both contestants return the following day and are awarded the prize money. Some contestants actually play for a tie (as opposed to betting one dollar more to guarantee a win). Recently, contestant Arthur Chu made "headlines" (in the game show world) for wagering to tie. *Jeopardy!* enthusiasts seem split on the value of this strategy. On the one hand, it gives the contestant an extra dollar if the question is answered incorrectly. But, it also potentially requires a contestant to face a "known quantity" in the next game. Chu also employed a strategy where he would move seemingly randomly from question to question (most contestants choose questions within a category in an orderly fashion). Again, this strategy has its proponents and detractors in online forums. Though not the focus here, both of Chu's strategies could be discussed in a risk-related or game theory class.

[14] Aside from the risk/reward that comes from attempting to answer a question.

A rather simple experiment to examine risk aversion was shown by Metrick (1995) where he examined a very special case of the *Jeopardy!* game. Specifically, consider the situation in the Final Jeopardy! round where the contestant with the most money has more than double the amount of the second place contestant. In this case, as long as the contestant is rational the contestant is guaranteed to win the game. However, the contestant can still wager some amount to increase his/her winnings. In these situations we can observe how risk averse (or not) the winning contestant is. If the contestant answers the question correctly, but has wagered a very low amount, we can (probably) infer a relatively higher degree of risk aversion relative to a contestant that has wagered a very large amount and answered the question wrong.[15,16]

From a risk-centered learning perspective, *Jeopardy!* is probably not best suited to be *played* in class. Rather, the lessons come primarily from observing the behavior of the contestants. That said, I will note that in this type of trivia setting, it would be quite easy to ask course-related questions as a review or test preparation exercise (e.g. Norma Nielson's *Risk Management Quiz Show*).

Other Game Shows

Tables 1 through 4 list the other games discussed in class, the risk-related concepts illustrated by the game, and, where appropriate, a classroom activity utilizing the game. Many of the shows put contestants in similar risky situations to those discussed above. To that end, the show that is used and/or played in class is a matter of individual preference. Again, interested readers should feel free to contact me for more complete "case studies" on these shows.

[15] This assumes that we use correctness (or lack there-of) of the answer as a proxy for the contestant's comfort level with the final category.

[16] This is another example of a game show whose risk-related lesson can be applied in a setting as advanced as a doctoral seminar.

Table 1: Other Game Shows

Game Show	Risk Related Content/Activities
Catch 21 (Allie M.)	Individual-level risk aversion can be observed in many places within the game play of *Catch 21* including situations similar to those seen in many game shows. *Classroom Activity:* This is a very easy game to play and one where the strategic decisions can be easily seen.
Family Feud (Karen B.)	The only risky decision in *Family Feud* the decision whether or not to play or pass each question. Playing has the distinct advantage of taking control of the question. *Classroom Activity:* Since the risk-related lesson is minimal, this is not recommended for a risk-based class.
Friend or Foe (Kirin P.)	This game illustrates the *prisoners dilemma*. From a game theoretic perspective, *Friend or Foe* is a unique game in that there exists an equilibrium where the game show *never* pays a prize! I do not focus on this game much here as it is more appropriate for an introductory economics/game theory class. Indeed the "case study" I created focuses on the "prisoners' dilemma." Those interested should feel free to contact me. *Classroom Activity:* This was an interesting (and easy) game to play in class with the students selecting their own partners with only a few of the teams actually both choosing "friend." Indeed, some grudges were held the entire semester! A very interesting podcast discussing a similar show (and a very unique strategy) can also be assigned (http://www.radiolab.org/story/golden-rule/).

The name in parenthesis is the student who presented the referenced game show to the class. More complete case studies for these game shows (partially informed by the student's original assignment) are available upon request.

Table 2: Other Game Shows (Cont.)

Game Show	Risk Related Content/Activities
Hollywood Squares (Becca M.)	*Hollywood Squares* introduces a risky component to the game of tic-tac-toe. *Classroom Activity:* Though there is not an immediate risk-related take-away from *Hollywood Squares* playing this game in class can still be instructive, particularly if compared with a standard tic-tac-toe game. That is, students can clearly see how introducing a risky component to the game can significantly alter the strategy. Further, as is different from a standard tic-tac-toe game where a tie is inevitable (if played correctly), risk introduces many situations where a winner exists. Additionally, playing the game in class with students as "celebrities" can be entertaining.
Lingo (Anna B.)	*Lingo* is better suited for a discussion of strategy than risk. *Classroom Activity:* This game can be played in class, and does teach strategic thinking, but is a bit of a stretch for a risk-related lesson.
The Newlywed Game (Kailey Y.)	The risk associated with *The Newlywed Game* comes in the form of coordination between the couples. The ideal strategy for couples in the game is *not* to give the answer that they believe to be most correct. Rather, the couples should provide the answer that they believe is most likely to be given by their partner. *Classroom Activity: The Newlywed Game* is probably not the best game show for a risk-based class, but was probably my favorite game to play with the freshman seminar. The student who presented the game generated some standard questions (e.g. At age 10, what did you want to be when you grew up?). [The questions on the game show focus on the newly married couples' lives together. These kind of questions would not translate well, for a variety of reasons, into the classroom.] Three "couples" volunteered to be teammates. Two of the teams were friends outside of class, and one team was not. The team that had never met each other *won*! The class was mesmerized (as was I, to be honest). When asked afterwards what their strategy was, both indicated that they answered the way they thought the other would answer, though the answers given were rarely the correct answer. For example, when asked, what their partner wanted to be when they grew up, the answer "President" was given. When the partner returned to the room, they gave "President" as the answer. When asked, "did you really want to be President?," she replied, "no, I just thought that would be the answer given." The other two teams who knew each other were guessing what they thought would be the correct answer. This proved the wrong strategy!

The name in parenthesis is the student who presented the referenced game show to the class. More complete case studies for these game shows (partially informed by the student's original assignment) are available upon request.

Table 3: Other Game Shows (Cont.)

Game Show	Risk Related Content/Activities
Password (Kate C.)	Contestants face a risky decision similar to that in other games where they must choose between a guaranteed prize or a gamble where they stand to win more (or lose it all). *Classroom Activity:* We played out several rounds of the final round of *Million Dollar Password* in class. Though fun, it is a bit harder to properly frame the actual consequences of the monetary values in class. That being said, as for many of the games we played, I feel that being put in the position of making even hypothetical decisions makes the student think more about the risk associated with the decision at hand.
The Price is Right (Ben B.)	There are various risk concepts at play within the in-game pricing games, including risky decisions between a known and unknown outcome. Additionally, the bidding process of contestant's row provides an example of the *last mover advantage*. Analysis of bidding in this game has been published in the *American Economic Review* and *Journal of Economic Behavior and Organization*. *Classroom Activity:* I took four volunteer students to make up a "contestant's row." I then showed the students a product from Amazon.com and had them place sequential bids. The person with the closest bid was then replaced by another student and another round commenced. We kept tally of the position of the student that won each round. Contrary to some of the academic papers, most of the bids produced were rational, and indeed the last mover won a disproportionate amount of the time.
Whammy! (Jenn N.)	Formerly called *Press Your Luck*, this show offers fewer obvious risk-related lessons. That said, general strategic thinking can be discussed. Also, the original version of the game provides a nice example of adverse selection. In particular, a single player won over $100,000 in a single show by memorizing the pattern of the game board. He kept spinning the board hitting the same high value square This specific situation is a clear example of adverse selection as the producers of the show clearly did not know that they had a "bad risk" on their hands. *Classroom Activity: Whammy!* requires more technology than is probably readily available in most classrooms. To that end, we did not play the game (there is also no online version that I am aware of). However, video of the player who won $100,000 is available online and is really quite amazing to watch.

The name in parenthesis is the student who presented the referenced game show to the class. More complete case studies for these game shows (partially informed by the student's original assignment) are available upon request.

Table 4: Other Game Shows (Cont.)

Game Show	Risk Related Content/Activities
Weakest Link (Nicole W.)	Several aspects of the game allow observation of risk averse decision making. *Classroom Activity:* As a trivia-based show, *Weakest Link* can be used in class with some preparation. Observing (and interviewing) students as to their voting behavior can also be quite entertaining and informative.
Wheel of Fortune (Tucker R.)	The general game play offers a clear study in risk aversion. In particular, contestants can guarantee their winnings by solving the puzzle with individual risk aversion can be observed as the solution to the puzzle becomes clearer. Specifically, the more risk averse contestants will tend to solve the puzzle earlier, thereby guaranteeing their prize, whereas those less risk averse contestants will tend to take the risk and spin the wheel. *Classroom Activity:* There are online versions available to help to put the students in the frame of mind of the show. In addition to playing the game in class, discussing the risk-related concepts as they arise is useful in helping the students to think of the concepts in a new setting.
Who Wants to be a Millionaire (Sammy S.)	Again, contestants face several decisions where they are given the opportunity to leave with guaranteed winnings or put their winnings at risk. *Classroom Activity:* There is an online version of *Who Wants To Be A Millionaire* that we played in class. The online version includes all of the life lines, but you can also use the class for the "ask the audience"' life line and/or let the students use their phone in class for a legitimate reason (finally!) for the "phone-a-friend" life line. Also, since this is a trivia-based game it would not be too difficult to generate class-based questions to use instead of the online version. It is difficult to truly align the students' incentives when playing for "fake" money and/or modest prizes. However, considering the simple gambles faced in the game show can still generate thinking along the risk aversion dimension.

The name in parenthesis is the student who presented the referenced game show to the class. More complete case studies for these game shows (partially informed by the student's original assignment) are available upon request.

CONCLUSION

Though television game shows are designed for a non-academic setting, there is no reason that appropriate lessons from certain shows cannot be relayed in a classroom environment. As discussed above, many game shows have a component that relates directly to risk, risk management, and/or insurance. These shows provide a quirky and fun alternative to bring risk-related lessons to a classroom. The lessons from these examples have very real implications and have the added benefit of being fun and relatable to students.

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Risky Business: A Case Study in Attracting Undergraduate Students to a Risk Management & Insurance Program

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ABSTRACT

In a recent article, Karl and Wells (2016) organize an event, titled "Risky Business", at which insurance industry personnel articulate their day-to-day activities to freshmen and sophomore students. When Karl and Wells (2016) analyze the survey responses of students in attendance, they find statistical evidence that students' perception of the insurance industry, as well as interest in majoring in risk management and insurance, improved following the event. This paper serves to complement Karl and Wells (2016) by providing details regarding format, funding, survey procedure, speaker selection, logistical concerns, and other issues associated with "Risky Business" that were not discussed in Karl and Wells (2016). As such, our paper aids university faculty members and other industry personnel in organizing an event similar to "Risky Business." To the extent that other events similar to "Risky Business" have the same effect on students as documented by Karl and Wells (2016), this paper is one tool that can be used for growing undergraduate programs in risk management and insurance, improving the perception of the insurance industry, and helping to bridge the industry's talent gap

INTRODUCTION

Many insurance market participants are concerned that there will not be enough young talent in the workforce to adequately replace jobs left vacant when the Baby Boomer generation retires. This so called "talent gap" or "talent crisis" has led to much discussion and research among insurance industry practitioners and academics regarding the causes of the talent gap. The general consensus in the literature (e.g. Cole and McCullough, 2012; McKinsey and Company, 2010) is that three challenges must be overcome in order to successfully bridge the insurance industry's talent gap: 1) the insurance industry suffers from a poor reputation, 2) high school and college students possess a limited understanding of career opportunities in the insurance industry, and 3) there exists a limited pool of talent with sufficient training.

Collegiate risk management and insurance programs appear particularly well-positioned to help overcome these challenges. These programs inherently increase students' understanding of career opportunities in insurance and broaden the pool of talent with sufficient training in risk management and insurance. Studies also suggest that efforts to attract and retain students often have the fortunate by-product of improving student's perceptions of the insurance industry (e.g. Hamilton, Greene, and Wood, 2003; Karl and Wells, 2014). As a result, the effects of efforts designed to attract and retain risk management and insurance students appear to extend beyond university faculty members and ultimately help to overcome the industry's talent gap.

The literature documents a variety of methods for attracting students to, as well as retaining students in, risk management and insurance programs. These methods include, but are not limited to, study abroad programs (Nielson, Kleffner, and Lee, 2005), hybrid courses (Carson, Cole, Gatzlaff,

[1]The author would like to thank Brenda Wells for her invaluable contribution to this paper as well as two anonymous referees.

Maroney, and McCullough, 2010), and industry sponsored game nights (Hamilton, Greene, and Wood, 2003). Most important to our study, however, is the method used by Karl and Wells (2016). Here, the authors organize an event called "Risky Business" whereby a variety of insurance industry professionals articulate their day-to-day activities to a group of undergraduate students in an effort to reduce the information asymmetries that exist between industry professionals and students regarding the operations of the insurance industry. When Karl and Wells (2016) examine the survey results of the students in attendance at "Risky Business", they find evidence that the event significantly improves students' perceptions of the insurance industry as well as students' interest in majoring in risk management and insurance.

Our paper complements the work of Karl and Wells (2016) by providing a detailed description of the efforts required to organize "Risky Business". While Karl and Wells (2016) provide a general overview of the event, their analysis largely focuses on the outcome of the event in terms of student perceptions. In contrast, our paper provides a road map for putting on "Risky Business", including detailed discussions of the format, funding, survey procedure, speaker selection, logistical concerns, and other issues, so that other faculty members or industry professionals can easily organize an event similar to "Risky Business".

To the extent that "Risky Business" would generate similar improvements in students' disposition toward the insurance industry as those documented by Karl and Wells (2016), the information presented in this paper represents an important contribution to the literature and is likely of value to a variety of insurance educators. More specifically, it is our hope that other faculty members and industry professionals will utilize the information in this article to organize events that help to improve students' perception of the insurance industry and attract interest in risk management and insurance educational programs. Such efforts would not only have direct, positive consequences for the individual entity organizing the event, but would also likely help to bridge the insurance industry's talent gap. From a broader perspective, our paper also helps to advance the knowledge of efforts designed to improve the insurance educational experience.

We organize our paper as follows. First we provide background and motivation for our study. Next, we provide a detailed discussion of the factors to consider when organizing "Risky Business." Finally, we make concluding remarks.

BACKGROUND AND MOTIVATION

A talent gap refers to an economic condition where demand for qualified employees exceeds the supply in a given industry. Research suggests that, due to the impending retirement of the Baby Boomer generation, the insurance industry is currently facing a talent gap.[2] For example, a report by McKinsey and Company (2010) indicates that the number of workers in the overall workforce over age 55 increased by 45 percent in the last 10 years but the number of insurance workers over age 55 increased by 74 percent during the same time period. In addition, research suggests that the talent gap is grimmer in certain segments within the insurance industry including reinsurance, brokers, commercial lines insurers, and underwriters (McKinsey and Company 2010).

The existence of a talent gap in the insurance industry has spurned significant research relating to overcoming the talent gap. Much of the work on this subject is succinctly discussed by Cole and McCullough (2012) who identify three broad challenges to overcoming the industry's talent gap. The first is that the insurance industry enjoys a negative reputation, which is the key challenge to overcome.[3]

[2]Other factors cited as contributing to the insurance industry's talent gap include economic downturn, increased globalization, regulatory compliance, the U.S. education system, and prior strategic decisions by employers. Cole and McCullough (2012) and Wells (2009) provide more detailed information regarding the talent gap in the U.S.

[3] McKinsey and Company (2010) states "Perhaps the biggest obstacle to improving talent in the property and casualty industry is its poor reputation." In support of this, they present a survey indicating that the insurance

The second challenge is a limited understanding of career opportunities in the insurance industry by high school and college students.[4] The third challenge is a lack of trained talent.[5]

While other parties play a non-trivial role in overcoming the insurance industry's talent gap, educational institutions, namely collegiate risk management and insurance programs, are particularly well positioned to help overcome the challenges associated with the talent gap. Supporting this supposition are numerous studies that examine a variety of educational efforts related to risk management and insurance, many of which shed light on potential methods to overcoming the challenges associated with bridging the industry's talent gap. Some of these studies identify methods for increasing the visibility of insurance programs (e.g. Warfel, 1998). Others identify innovative educational methods (e.g. Carson, Cole, Gatzlaff, Maroney, and McCullough, 2010). Still others describe methods for improving the appeal of undergraduate insurance programs (e.g. Nielson, Kleffner, and Lee, 2005)

Similar education-related studies have advanced the understanding of methods to overcome the talent gap by evaluating methods to attract and retain students to risk management and insurance programs and evaluate their perception of the insurance industry. For example, Gardner, Santos, and White (2013) examine survey responses of students enrolled in a program designed to recruit women and minorities into actuarial science programs and conclude that "the program appears to be successful by any number of measures." Bleich, Jin, and Russell (2012) examine the attitudes of undergraduate students toward a career as an insurance agent and find that the most consistent influences on a college students' choice to become an insurance agent are coursework in insurance and personal contact with insurance professionals. Hamilton, Greene, and Wood (2003) present evidence that student/industry professional interactions at industry sponsored game nights are "a useful tool for opening students' eyes to the need for knowledge of risk management and insurance and of the opportunities that are available in the insurance industry and its related fields".

A recent study by Karl and Wells (2016) helps to provide additional insight on methods designed to improve student perceptions of the insurance industry and attract majors to undergraduate risk management and insurance programs. The authors hypothesize that interaction with insurance industry professionals leads to a reduction in the information asymmetries between students and the insurance industry and results in an improvement in students' perceptions and understanding of the insurance industry. To test their hypothesis, Karl and Wells (2016) first organized an event, "Risky Business", during which industry professionals from the areas of sales, underwriting, risk management, surplus lines, claims and disaster recovery/restoration each gave five to eight minute presentations that detailed the day-to-day responsibilities of their respective jobs. The intuition is that the presenters could dispel common misconceptions regarding the industry, inform students about an area of the industry of which they were previously unaware, highlight the personal job satisfaction of many insurance industry participants, inform students of the potential to earn high levels of income, or convey similar information that would ultimately improve students' interest in, and perception of, the insurance industry. Karl and Wells (2016) then administered a survey to each of the 83 students in attendance, both at the start and end of "Risky Business", in order to assess the extent to which the presentations influenced students' disposition toward the insurance industry.

Analysis of the survey responses strongly supports the authors' hypothesis and indicates that "Risky Business" is a potentially effective method for improving students' perception of the insurance industry and increasing interest in majoring in risk management and insurance. More specifically, Karl

industry's reputation was among the worst of all industries considered. In addition, Universum's ranking of the most desirable firms to work for upon graduation did not contain any insurance companies (Universum, 2014).

[4] Studies suggests that it is difficult to generate interest in the insurance industry among students for a variety of reasons such as low business literacy and poor perception of insurance professionals (McKinsey and Company, 2010; Cory, Kerr, and Todd, 2007).

[5] While university level risk management and insurance programs often have student placement rates near 100 percent, graduates of risk management and insurance programs only satisfy 10 to 15 percent of the insurance industry's demand for employees (McKinsey and Company, 2010). As a result, insurers are obliged to invest additional resources toward training new hires of non-risk management and insurance programs.

and Wells (2016) find evidence that mean responses to questions regarding the importance/integrity of the insurance industry, insurance-related careers, and interest in majoring in risk management and insurance become more positive following the information presented in the seminar.[6] The authors conclude that events similar to "Risky Business" likely help to increase interest in undergraduate risk management and insurance programs and represent a potentially valuable method for helping to bridge the insurance industry's talent gap. However, a notable shortcoming of Karl and Wells (2016) is that the authors do not provide sufficiently detailed information required by other faculty members or industry professionals to successfully recreate "Risky Business." The information presented in our paper therefore contributes to the literature by overcoming this shortcoming.

In the next section, we document the steps involved in organizing "Risky Business" so that other educators and industry professional can easily recreate the event and potentially improve students' perceptions of the insurance industry and increase interest in insurance educational programs at other institutions. To the extent that these events have the desired outcome, the information given below will also potentially help to bridge the insurance industry's talent gap.

RISKY BUSINESS: THE DETAILS

In this part of the paper, we describe the "Risky Business" seminar and discuss several important considerations for faculty members and industry professionals to consider when recreating a similar event. More specifically, we first describe the general format of the seminar. We then provide a more detailed discussion of several aspects of "Risky Business" including the budgeting and funding process, speaker selection, promotion activities, and logistical concerns.

General Format

"Risky Business" is a one-to-two hour event that allows students to learn more about the insurance industry via short presentations by insurance industry professionals. The event begins with a registration process whereby each student is individually admitted to the facility and given general information regarding dinner, the presenters, and expected behavior for the duration of the event. For evaluation purposes, students are also given a short survey at the registration desk that inquires about attitudes regarding careers in insurance, the insurance industry as a whole, and the undergraduate risk management and insurance program. This survey, included in its entirety in Appendix A for reference, is required to be completed by each student prior to leaving the registration desk. Immediately upon completion of the registration process, a buffet-style dinner and non-alcoholic beverages are then provided to the students who, with meals and drinks in hand, choose their seats and assemble in a classroom or auditorium with capacity of 100 to 125 persons.

After providing students with ample time to finish their meals, we present a lively and fast-paced series of speakers designed to inform students about various aspects of the insurance and risk management industry. First, a faculty member explains very briefly (in five minutes or less) what risk management is and what insurance is and how the two work together. Next several industry professionals each spend no more than five to eight minutes discussing the highlights of their jobs including what they do, how they do it, the satisfaction they get from it, and the monetary compensation available to someone in that field. The industry professionals represent a variety of job functions in the insurance industry including claims adjustors, independent and exclusive agents, underwriters from standard and non-standard markets, risk managers, and disaster recovery/restoration services. Finally, another faculty member closes the program by sharing details about the undergraduate program in risk management and insurance and provides the students with contact information if they want more information.

As students prepare to leave, they are given an exit survey (provided in Appendix B) that, with the exception of the final question, contains the same questions that were included on the survey they took at the beginning of the event. The exit survey helps facilitate the evaluation process and also allows

[6] Karl and Wells (2016) also document that these differences in responses before and after the seminar are statistically significant.

students to indicate if they would like someone to contact them with more information about the undergraduate risk management and insurance program. When students complete the exit survey and return it to the designated faculty member, they receive a $20 cash gift for their participation.[7] The event then concludes with an informal networking opportunity for the student participants and the presenters at "Risky Business."

From a general perspective, "Risky Business" is brief in terms of time, as it typically lasts no more than two hours from the beginning of the registration process to the distribution of the last cash prize. However, the event requires considerable preparations and considerations in order to ensure it success. In the ensuing subs-sections, we provide more detail on the required preparations and planning.

Preparation for Surveys

While not required for a successful event, the matched pairs of surveys gleaned from "Risky Business" culminate in a useful dataset that can be used for a variety of purposes. For example, similar to Karl and Wells (2016), event coordinators can evaluate the extent to which students' perceptions changed following the event.[8] Similarly, student responses can be used to guide the selection process of presenters at future events in an effort to ensure the most dynamic or resonating presenters are present at future events. Often times, the most useful survey datasets require students disclose personal information (e.g. university I.D. number, name, birthdate, etc.) so that pre- and post- surveys can be matched for a given student.

Universities do have rules regarding the use of human subjects for any type of research, particularly as it relates to the disclosure of identifying information. Thus, it is important to consult with the campus research oversight office or institutional research review board to get approval for human subject testing. The approval process may take a significant amount of time and may require university administered training courses. As a result, those electing to include the survey procedure should begin this process as early as possible to ensure no violations of university regulations occur during "Risky Business."

Budgeting for the Event

Ensuring adequate funds is essential to the success of "Risky Business" and we provide the key budget line items for this event in Figure 1.[9] For ease of illustration, the figure assumes 100 students in attendance, though the number of student attendees is theoretically limited only by room capacity and funding availability.[10] Regardless of the expected number of attendees, the two primary expenses are the cost of food and the cash gift for each participant. Our experience suggests that buffet-style meals help to keep the event in the desired time frame and catering costs for such meals can vary greatly from campus to campus, and, from venue to venue. For example, when we use our campus student center as the venue for "Risky Business", we are required to use the university catering office for any food or beverage needs. That food is substantially more expensive than having it catered from an off campus

[7] Requiring that students return the survey in order to receive the $20 helps to ensure that no student receives duplicate compensation and/or door prizes. We recommend that faculty not employing survey methods administer unique tickets (or similar media) to students to inhibit students' ability to collect multiple cash and/or door prizes.

[8] An anonymous referee suggested there are also potential benefits to a follow-up survey conducted in the weeks or months following the event. The same referee also suggested there are potential benefits to including an additional question on the exit survey that asks students to rate each guest speaker on a 1 to 10 scale.

[9] In our experience, we incur little to no direct or indirect costs for securing a venue on campus. However, to the extent that other universities' policies deviate from ours, other persons organizing an event similar to "Risky Business" should be cognizant of the fact that additional costs may be incurred to secure a venue.

[10] Karl and Wells (2016) had 83 students in attendance at the "Risky Business" described in their analysis. However, other similar events organized by us have had in excess of 100 students in attendance. We also acknowledge that smaller universities may have lower levels of attendance at these events and, in such cases, organizers should carefully consider the various cost elements to ensure the marginal benefits of a "Risky Business" event warrant the associated costs.

vendor, which is generally permissible if we hold the event in a regular classroom. As a result, exploring food costs is an important step in budgeting for this event, as the choice of venue and university regulations may be associated with significant variations in food costs. However, when all these factors are considered, our experience suggests that budgeting approximately $15 per student is ample to provide an attractive meal.

We also provide a $20 cash gift for each student who attends.[11] The money we give away at the event is supplied by a sponsor willing to make the donation check out directly to our student Gamma Iota Sigma chapter and the faculty handle the cash funds at all times and account for the totals received and distributed. In general, we find that $20 is sufficient incentive to "pack the house" with attendees and the prospect of free cash at an event also appears to generate a significant amount of discussion and attention among undergraduate students. Thus, the $20 per student cash gift represents an important budget consideration that we believe is vital to the success of the event.[12]

Figure 1
Event Budget
Assuming 100 Student Attendance with 8 Industry Guest Speakers

Essential Budget Items	
Dinner ($15 per student)	$1,500
Cash gift ($20 per student)	$2,000
Speaker dinner (20 persons @ $50 each)	$1,000
Speaker gifts ($25 each)	$200
Copying and printing flyers	$300
TOTAL	$5,000
Optional Budget Items	
Larger door prizes (tablets, gift cards, etc.)	Varies
Speaker parking, transportation, and lodging expenses	Varies
Videography and other technical equipment	Varies

Another expense for our event is a speaker dinner that follows "Risky Business." We believe it is a nice way to show our appreciation to the speakers and we also invite the key student-volunteers who help organize and execute the event. While this expense is not vital to the success of "Risky Business" itself, we have found that the goodwill it generates adds value to future events. For illustration purposes, Figure 1 shows an estimate for dinner of $50 per person, with 8 speakers, 2 faculty, and 10 student volunteers in attendance. However, persons organizing an event similar to "Risky Business" with more limited budgets may find that choosing a less expensive restaurant or electing not to invite students are potential sources of cost savings that likely will not influence the success of the event.

We also supply the speakers with a university logo item (shirt, cooler, or other promotional item) as an additional token of our appreciation. Similar to the appreciation dinner, we find that a small gift generates good will with the speakers that helps to add value to future "Risky Business" events. We budget $25 per gift for each speaker but this is another budget item that could be reduced if necessitated by budget constraints.

Another essential budget item relates to advertising costs, as "Risky Business" will not succeed if prospective students are unaware of its occurrence. We advertise our event largely with color flyers that are posted on campus bulletin boards and distributed in dormitories and classes by Gamma Iota Sigma Student volunteers. As noted in Figure 1, the advertising costs for our event are approximately $300. However, flyers can be as simple as photocopies on colored paper or as elaborate as professionally designed and printed posters, meaning that other organizers of an event similar to "Risky Business" have considerable discretion in the ultimate advertising costs incurred.

As noted in Figure 1, our experience suggests that the ultimate cost to host a successful event for 100 students is $5,000 and, in an ensuing section, we provide additional insight into obtaining funding.

[11] Another potentially cost-saving option is to provide gift cards, instead of cash, because gift cards sometimes are available at a discounted price when purchased in bulk.

[12] Anecdotally, we find that the $20 gift greatly increases the number of students in attendance at the event and also helps to attract non-business majors.

However, another budget item, not essential for success of the "Risky Business" but that may be considered by event organizers is larger door prizes to attract interest/attendance. We have hosted on event that offered a drawing for an iPad mini, and one event that did not offer any additional prizes besides the $20 cash gift. We saw no significant difference in attendance between the two events, but especially when launching a new event like this the appeal of additional larger prizes may boost attendance depending on the campus and the student body. Also, depending on the campus, speaker parking may be an additional expense to consider. Further, the event may be video recorded for future distribution and playback on the program's website. We found an affordable video service by contacting the film education department on our campus and our cost for the service was approximately $1,000.

Obtaining Event Funding

Many sources of funding for student recruiting activities are available at the university level and from the insurance industry itself. Since these funding opportunities are often specific to a given university or geographic area, we leave it to future event organizers to exhaust the sources of funding specifically available to them. However, we chose to approach an industry trade association to fund our event. This organization had expressed to us that its membership wanted to see our program grow and produce more students interested in and dedicated to careers in RMI. In our request to the trade association, we composed a grant request that took the general form of:

"We know that the RMI field offers many rich career opportunities to students; however, the problem we continue to encounter is how to communicate that effectively to our student body, especially those that are not enrolled in or familiar with our classes. We believe the answer to this is to have a career awareness event aimed at presenting, in a fast-paced, fun environment, all the various career options in the risk management and property/casualty insurance field.

In a one hour time frame, we will present information about several different occupations/industry segments. We will invite skilled, charismatic industry representatives to present information about production, underwriting, claims, risk management, surplus lines, and disaster mitigation. We know that these are exciting and promising career paths available in this industry, but, the word "insurance" does tend to turn younger people off initially! So, we will promote this event as a fun evening of food and prizes that includes a $20 cash gift to each student who attends.

The lead sponsorship of this project is being offered to you first. Your organization will receive top billing on all advertising and media, and other trade organizations and insurers will be invited to provide lower level sponsorships and to donate items for "goody bags" that will be provided to each student."

The fact that our request for funds was granted suggests that this grant request effectively communicated the purpose and importance of risky business to an industry sponsor and may serve as a spring-board for others attempting to organize an event similar to "Risky Business." Another potential selling point to consider is that, in addition to getting top billing for the event, you can also give the lead sponsor a longer time slot (e.g. ten minutes for its) speaker representative. We found that this increased exposure is pleasing to the sponsor. We also found that conveying the results of our first event (e.g. anecdotal and survey evidence of the events success) led the sponsor to provide funding for additional "Risky Business" events in the future. As a result, referencing the results of Karl and Wells (2016) and similar studies that document success in recruiting efforts may be another effective tool for first time organizers attempting to obtain funding.

Obtaining "Swag Bags"

We also provide each participant with a gift bag filled with donated promotional items, brochures about our program, and one of our program director's business cards. We found that the free items in these bags, colloquially referred to as "swag bags" by the students, are appealing to student participants and help to market future events. By including information about the risk management and insurance program (e.g. contact information, website, curriculum, etc.) we also increase the likelihood that interested students will take steps to enroll in the program and become involved with Gamma Iota Sigma.

Figure 2
Gift Bag Solicitation Verbiage

As you know, our industry is in dire need of fresh new talented young people to join us as the baby boomers approach retirement. On (date) we are reaching out to freshmen and sophomores on our campus to share with them the opportunities available in risk management and insurance. "Risky Business" will be a fast-paced event that offers students a fun way to learn about all that our industry has to offer.

Sponsored by (sponsor information), we will offer students great incentives to attend, including food, prizes, and cash money!

We will present each student attending "Risky Business" with a gift bag that contains information about various companies and associations in our industry. I'd like to invite you to have your information and/or promotional items in these bags. We want the bags to be absolutely brimming with information and fun items that show students what a great industry we have!

We will be preparing X bags. If you have anything you'd like us to include, please ship your materials to us at (shipping information).

The bags also serve as another incentive for industry organizations to fund the event. By placing items such as water bottles, pens, notepads, jump-drives, etc. containing company logos in the bags, the sponsoring firms are able to market themselves. Thus, including "swag bags" in the event can also be a useful way for organizers to leverage additional sponsors.[13] We solicit donated items for the bags by e-mailing industry contacts using verbiage shown in Figure 2.

Speaker Selection and Preparation

The speakers presenting at "Risky Business" ideally should be young enough that undergraduate freshmen and sophomores can relate to them and "see" themselves in the speakers' shoes eventually. In our experience, anecdotal evidence suggests that speakers who had recently graduated from college (e.g. within the past 10 to 15 years) had the greatest influence on students' perceptions of the insurance industry and interest in our program. However, we also believe that more experienced presenters also add important value to the program and provide important perspective to student attendees. Speakers should also represent both genders and be ethnically diverse to appeal to the broadest student audience. Ultimately, though, we found that the most important attribute of effective speakers is a high degree of passion and enthusiasm for their careers. We found that students' reactions are especially positive to personal stories that attest to a speaker's satisfaction and/or success with their job in the insurance industry. For example, students reacted very positively to a restoration specialist's stories about repairing the lives and businesses of clients. Another speaker gained especially positive responses from students by detailing his career path that began as an hourly-waged undergraduate student and ended as one of the top producers in the country for his company. These, and other effective speakers, appear to positively influence students by dispelling negative misconceptions about the industry and highlighting the many positive aspects of careers in insurance.

Figure 3
Instructions for Risky Business Speakers

The purpose of "Risky Business" is to encourage students to explore a major and a career in risk management and insurance. In preparing your five minute presentation, please keep in mind the following guidelines:

* If you were in the students' shoes, what would you want to know?
* Students are curious about what you actually do... they want to see what they would be doing week-to-week if they had your job. This could be illustrated with a great "war story" from your actual experience.
* Every student will be wondering how much money they can make. Please try to share a general range of expected compensation for someone who has your years of experience and job title.
* Don't be shy....show your enthusiasm for your career and what you do!

[13] Note that including information about current or future "Risky Business" events is another way to market the event itself.

Our experience suggests that speakers can make an engaging and interesting presentation in a time period of five to eight minutes. Limiting the presentations to this time helps to ensure that students remain engaged in the information presented by the speaker. Shorter presentations also ensure that more aspects of the insurance industry can be discussed at the event thereby maximizing students' exposure to the insurance industry. Given the importance of the time and content of the presentations, we provide written instructions to speakers that provide guidelines similar to those shown in Figure 3.

Speakers at "Risky Business" should ideally represent career paths that are hiring and that are viable options for students who choose to come into our program.[14] We include speakers representing the following career paths, all of which hire consistently and regularly from our graduating classes:

- Insurance Production (independent agency and exclusive agency)
- Underwriting
- Claims
- Risk Management
- Excess and Surplus Lines
- Disaster Mitigation and Recovery

Promotion and Advertising

As mentioned previously, we promote "Risky Business" through the distribution of flyers in classes and dormitories, as well as on university common area bulletin boards. Flyers contain wording such as that shown in Figure 4. We find that the most effective way to distribute these promotional materials is to enlist the help of our Gamma Iota Sigma members, as they are better aware of the areas where the promotional materials are most visible to freshmen and sophomore students. We also find that in-class announcements by Gamma Iota Sigma members and faculty members also help to increase awareness of the event. In particular, we find that faculty announcements in several sections of a mandatory freshmen/sophomore level course, each section of which contains several hundred students, is a particularly effective method of marketing "Risky Business."

Figure 4
Promotional Flyer Content

FRESHMEN! SOPHOMORES!
Looking for the perfect major?
Let's talk "Risky Business"

Date & Location

FREE FOOD & $20 PRIZES FOR EVERYONE!!!!

Doors open and dinner served at X:00 p.m. Program starts at X:30 p.m.
No obligation to attend—this is not a credit card solicitation!

You must pre-register on our website at xxx.com

Because we require students to pre-register for the event, we use an event management software provided by Wild Apricot (the vendor that provides our Gamma Iota Sigma website management software platform), to handle registrations. A day or so before the event, we send students an informational e-mail with final details and a reminder about the arrival time. We also include guidelines for conduct such as no cell phone use during the event, and, remind them that prizes will only be distributed to those who remain for the entire event.

We find that although pre-registration always reaches maximum capacity, we still have a number of pre-registered students that fail to show up for the event. As a result, we have a waiting list for standby admission equal to approximately 25% of our initial capacity. In the e-mail sent to those who are registered we specify the time by which they must check in or possibly lose their space to one of our wait list members.

Another important aspect of the pre-registration process is that it allows us to confirm that students are either freshmen or sophomores and are not already majoring in Risk Management and Insurance. In our case, the campus academic advising office verifies the class and major standing of the students registered for the event. This is done to ensure that the prizes are only distributed to freshmen

[14] Our program emphasized property-casualty insurance related careers but other events could also include speakers from the life-health, actuarial science, reinsurance, or financial planning industries.

and sophomores, versus being given to students who are already in our program and/or who are too far along in their program of study as juniors and seniors to change their major to Risk Management and Insurance.

Event Logistics, Execution and Implementation

The registration table is staffed with at least three student volunteers who have copies of the list of registrants and waitlist. Registration workers check student identification, mark the student off the roster, and have them sign a research consent form (required for human subject research). Then, the volunteers give each student participant a beginning survey and a program of the nights' events.[15] The survey might be yellow (or any other desired color) to distinguish it from the end survey which is a different color. Students turn in the completed survey to gain admission into the venue. Note that, because each individual student is required to show identification and complete the survey before entering into the venue, organizers should allot ample time for the check-in process.

Dinner is served and available there for the students upon their arrival, typically in a buffet style. This allows students to proceed to the dinner line immediately following registration/check-in and then, with dinner in hand, find a seat. We find that allowing thirty to forty-five minutes for registration and dinner is appropriate. As soon as everyone is seated the program begins with an introduction from a faculty member who briefly defines the concepts of risk management and insurance. The faculty member then introduces the first speaker, and, the speakers follow one after another until they have all taken a turn and given their presentations.

The program concludes with another faculty member providing closing remarks which include ways to obtain more information about the Risk Management and Insurance program. Once the faculty member commences the closing remarks, student volunteers begin distributing the exit survey, which should be a different color than the beginning survey. The surveys should be counted carefully and each student in the audience should only receive one, as the survey is what is turned in later to obtain the cash prize.

One of the most cumbersome part of organizing "Risky Business" is the distribution of the cash prizes. We make the distribution of cash contingent upon the return of the brightly-colored exit survey and faculty members electing not to administer surveys should select an alternative method to uniquely identify students for cash prizes (e.g. "tickets" uniquely designed by a faculty member). At the room's exit we have a faculty member stationed with the cash, and student volunteers collecting exit surveys. When the survey is turned in, each student is individually given a $20 cash gift and thanked for their participation. If they wish, students are then permitted to proceed to the presenters' area for networking opportunities.

Follow-Up

As given in the appendix, the exit survey asks students if they would like to receive more information about a degree in RMI. Students who check "yes" are contacted individually by e-mail after the event to answer any additional questions and schedule advising appointments if requested. If the event is video recorded, video clips can be put on social media channels for viewing by others who may not have been able to attend. These videos can make excellent marketing tools for the program long after the event has concluded.

SUMMARY AND CONCLUSIONS

Insurance market participants are concerned that the insurance industry is experiencing a talent gap and researchers have identified several challenges associated with overcoming the talent gap. Collegiate risk management and insurance programs are particularly well positioned to help overcome

[15] Note that, if door prizes are also going to be awarded, then students should also receive a numbered prize drawing ticket when they enter. A roll of numbered prize tickets is just a few dollars at the local office supply store.

this talent gap because they increase students' understanding of careers in insurance and help to train future industry employees. As a result, efforts to attract and retain students in undergraduate risk management programs not only benefit the associated university faculty members and administrators, but also likely help to mitigate the insurance industry's talent gap.

Much research has been devoted to examining methods to improve the perception of the insurance industry and grow academic programs related to risk management and insurance. One study by Karl and Wells (2016) found that an event titled "Risky Business", which allowed industry professionals to articulate their day-to-day activities to a group of freshmen and sophomore students, helped to improve students' perceptions of the insurance industry and interest in the Risk Management and Insurance program. In particular, the paper documented evidence of statistically significant increases in students' perception of the insurance industry following the event and the Risk Management and Insurance program discussed by Karl and Wells (2016) grew by approximately 33 percent after two events. This suggests that "Risky Business" may be an effective tool for growing undergraduate programs in risk management and insurance, improving the perception of the insurance industry, and helping to bridge the industry's talent gap.

Our paper serves to complement the work of Karl and Wells (2016), who do not provide much background detail on "Risky Business" and rather focus more on the influence of the event on students. More specifically, our paper provides discussions of the format, funding, survey procedure, speaker selection process, logistical concerns, and other issues surrounding "Risky Business." It is our hope that the information in our paper provides a blue-print that allows faculty members, and other interested persons, to re-create an event similar to "Risky Business."

To the extent that other events produce results similar to that of Karl and Wells (2016), the information in our paper likely is of benefit to university faculty members and industry personnel seeking a better understanding of methods to attract and retain undergraduate risk management and insurance majors, improve the perception of the insurance industry, and overcome the industry's talent gap. We also note that the costs associated with other methods for improving interest in risk management and insurance coursework/careers are not easily apparent from the evidence presented in much of the literature and it is therefore difficult to comment on whether the cost/benefit tradeoff of "Risky Business" is better or worse than these other methods. However, as documented by Karl and Wells (2016), the value of "Risky Business" is that it has the potential to attract students across an entire campus, improve the perception of the insurance industry, and increase interest in risk management and insurance coursework/careers.

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Appendix A

RISKY BUSINESS - Beginning Survey

1. The insurance industry plays an essential role in American business.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

2. Insurance companies are good corporate citizens.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

3. Insurance companies generally try to cheat people and avoid paying claims.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

4. A job in insurance would be interesting and rewarding.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

5. I would like to work in insurance.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

6. Insurance companies try to do the right thing for their policyholders.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

7. Insurance agents are generally honest people.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

8. There are many interesting jobs within the insurance industry.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

9. I would consider majoring/concentrating in risk management and insurance at ECU.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

10. I know someone who works in the insurance industry. They are my: (Mark all that apply).
    o Myself o Parent o Grandparent o Sibling o Friend o Aunt/Uncle

I am a o male o female

My age is: o 18 or under o 19 o 20 o 21 o 22 or older

I am classified as a: o freshman o sophomore o junior o senior

Have you ever heard of the risk management and insurance major at ECU? o yes o no

Please choose ONE of the following three answers regarding your major:

___ I do not know what I want to major in yet.

___ I am leaning towards majoring in (list only one major please): _____

___ I have definitely decided that I will major in: _____

My Name is: _____

Appendix B

RISKY BUSINESS - Exit Survey

1. The insurance industry plays an essential role in American business.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

2. Insurance companies are good corporate citizens.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

3. Insurance companies generally try to cheat people and avoid paying claims.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

4. A job in insurance would be interesting and rewarding.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

5. I would like to work in insurance.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

6. Insurance companies try to do the right thing for their policyholders.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

7. Insurance agents are generally honest people.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

8. There are many interesting jobs within the insurance industry.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

9. I would consider majoring/concentrating in risk management and insurance at ECU.
   o Strongly Agree o Agree o No Opinion o Disagree o Strongly Disagree

10. Indicate any of the following areas of the insurance industry that interest you. Mark all that apply.
    o Sales o Underwriting o Claims o Risk Manager o Other (write in)_____

Would you like more information about majoring in risk management & insurance? o yes o no

Please choose just ONE of the following three answers regarding your major:

___ I do not know what I want to major in yet.

___ I am leaning towards majoring in (list only one major, please):_____

___ I have decided that I will major in: _____

My Name is: _____

The Risk in Seeking and Financing a College Education

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ABSTRACT

The rising cost of college tuition as well as increasing student debt levels have left many college graduates with weights on their feet as they seek to climb the proverbial corporate ladder. Many of the decisions these graduates make in seeking their diploma involve assessing a great amount of risk and uncertainty, as there is no guarantee that their choices and investment in their degree will generate the returns they anticipate. Students often only have a twinge of doubt that they are making smart and efficient college choices. As with all major life decisions, these students should assess whether their college choices meet their long-term goals of a desirable career and lifestyle. This paper explores a myriad of questions and risk issues that prospective college students should consider in deciding whether or not to pursue college as well as risks associated with financing that education. By examining the key factors that potential college students should consider and surveying literature on risks associated with going to college, this paper highlights the critical issues that college-bound students should analyze when managing the risks of pursuing a college diploma.

INTRODUCTION

Never in the history of higher education in the U.S. have college students faced as a daunting task as assessing the diverse risks inherent in seeking a college diploma. It is common for young people, typically still in their teens, to not only face the challenge of deciding how to prepare for a rewarding career, but also to be responsible for paying for their education. College students are often surprised to find themselves forced to pay for their education on an Uber driver's income or to take on debt that will follow them long into their careers. A Brookings report notes that student loan debt exceeded $1.2 trillion in 2013, making it the second largest type of household debt (Dews, 2014). An astonishing 69% of college graduates from both public and private nonprofit colleges left school with debt in 2014 (TICAS, 2015). These graduates owed an average of $28,950 in loans, two percent higher than the Class of 2013, who averaged $28,400 dollars. This staggering amount of debt will increase with interest accumulating over time.

Student debt for graduates varies significantly by state. Average debt across states in 2014 ranged from a low of $18,900 in Utah to a high of $33,800 in Delaware (TICAS, 2015). This study also notes that new college graduates' frequency of incurring debt ranged from 46 percent to 76 percent across states. One may presume that the more expensive colleges have the highest debt levels and lower-prices institutions typically have students graduate with less debt; however, his is not always the case. The study finds students at high-cost colleges often have low average debt levels while many students at low-cost state institutions have very high levels of student debt (TICAS, 2015).

Courses in Risk Management 101 start by teaching students the basic concepts of identifying all possible loss exposures in a situation, analyzing the inherent risk of each exposure, examining the potential frequency and severity of each exposure, and implementing an appropriate risk management technique for each exposure. When loss exposures are not carefully identified or analyzed, the likelihood that the risk manager will make a prudent decision is virtually impossible. As with risk managers, it is important for prospective college students to follow this process when making decisions that will have a major impact on their future.

The presumption is that students who are considering a college degree will pursue it as the means of achieving a desired lifestyle and a successful career. Often, however, students focus their academic energies on areas that are not consistent with their career goals. Many students fail to first identify their lifestyle and career risks before jumping into a college track head first. In light of the recent

media attention and data reports regarding skyrocketing student loan debt and the inability of many students to find promising jobs within their respective fields, one must question whether obtaining a college degree is always the best avenue for obtaining a desirable career.

Over the last decade, average debt for college graduates increased 56 percent, from $18,550 in 2004 to $29,850 in 2014 (TICAS, 2015). During this same decade, there has been an increase in grant aid including federal Pell Grants, but the net cost to college students and their families often exceeds their ability to pay. With escalating student debt levels, students should fully examine the risk of taking out student loans and calculate the cost of repayment related to their projected salary levels.

One study examines how community college students assess the risks and rewards of using personal loans to reach their educational goals (McKinney, et al, 2015). This study interviews students taking federal loans to attend a large, urban community college and finds some interesting results. First, while students indicate that borrowing money for school was used as a last resort, they believe the loans contributed to their academic success, usually due to the relief the loan had on other financial burdens. While half of the interviewed students were willing to borrow $100,000 or more to reach their academic goals, many of the student borrowers were misinformed about debt management and requirements for loan repayment (McKinney, et al, 2015). Additionally, results of this study suggest that almost all students borrow to satisfy immediate liquidity constraints without fully comprehending the true cost of the debt in the long term. In fact, analyses of student loan debt indicate that 31% of borrowers defaulted on their loans within 15 years of graduation. The authors conclude that because of widespread misinformation changes should be made to federal loan policies and enhanced financial counseling should be made available for borrowers to help them understand the costs and benefits of using student loans to achieve their educational goals.

This article examines whether an average prospective college student fully identifies their goal, i.e., their reason for pursuing college. The remainder of this paper is organized to provide insight into several basic issues that prospective college students should analyze such as whether they should go to college, the costs of pursuing a college diploma, the payment options available to students, and whether they will earn more income with a college degree in their prospective field. A final section of this study provides an annotated bibliography of the literature regarding the risk of financing a college education.

TO GO OR NOT TO GO?

Enrollment in degree-granting colleges and universities has been growing steadily since the early 1900s (National Center for Education Statistics, 2015). After World War II, many lower and middle-class students were able to set their sights on college with the GI Bill covering their tuition costs (Geewax, 2014). This growth has only accelerated since then. One study notes that between 1971 and 2013, annual enrollment in colleges in the U.S. more than doubled from slightly over 9 million to 19.5 million students (Schoen, 2015). Between 1992 and 2002, enrollment in higher education schools increased 15% and in the following decade it increased by 24% to 20.6 million students. A large part of this growth was in the number of full-time students, which rose by 28% (National Center for Education Statistics, 2015). An overview of the groups that represented this growth is found in Table 1.

TABLE 1. Percentage Growth in Enrollment in Degree-Granting Institutions between 2002 AND 2012*

Total Growth	24 Percent
Full-time students	28
Part-time students	19
Females	25
Males	24
18-24 year olds	41
Under age 25	35
25 and over	35
Undergraduates	24

*Source: National Center for Education Statistics, Institute of Education Sciences, www.nces.ed.gov.

Enrollment in U.S. degree-granting institutions has now reached record levels. The U.S. Bureau of Labor Statistics reports that in October 2014, 68.4% of recent high school graduates continued their education by enrolling in a college or university (Bureau of Labor Statistics, 2015). The college enrollment rate of 2014 high school graduates was 72.7% for women and 64.0% for men, 86.2% for Asians, 70.9% for African Americans, 67.3% for Caucasians, and 65.2% for Hispanics. Recent high school graduates who enrolled in college in the fall of 2014 (90%) were full-time students, and around two thirds of those students attended 4-year colleges (Bureau of Labor Statistics, 2015). This BLS report also considers the labor participation rate of high school students and recent graduates, finding that recent high school graduates who do not enroll in college are more likely than enrolled graduates to enter the labor force, 72.7% compared with 37.9%. The unemployment rate for recent high school dropouts was not significantly different from the unemployment rate for recent high school graduates who did not enroll in college, 30.3% and 28.8% respectively (Bureau of Labor Statistics, 2015).

When a prospective student decides that the college path is best for his or her needs, the issue that many students and families must then address is what type of college education they should pursue. Several institutional choices are available, from the more traditional private and public universities as well as 2-year and 4-year schools. Students must also decide whether to go to an in-state or an out-of-state school, or the increasingly popular choice, a for-profit school. The top five largest degree-granting college campuses as of fall of 2012 are listed in Table 2.

TABLE 2. Enrollment of the five largest degree-granting college and universities in Fall 2012.

Institution	State	Total Enrollment
University of Phoenix, Online Campus	Arizona	256,402
Ivy Tech Community College	Indiana	100,272
Ashford University	Iowa	77,734
Liberty University	Virginia	74,372
Arizona State University	Arizona	73,378

Source: U.S. Department of Education, National Center for Education Statistics.

The rapid growth of private, for profit colleges has attracted the attention of many agencies and researchers. Two of the three top enrollment degree granting schools, University of Phoenix and Ashford University, are for-profit schools, with a combined enrollment of over 334,000 students. The popularity of these types of schools may be attributed to the fact that students want a convenient way to meet their educational goals and are willing to pay a premium to attend a for-profit school that provides a more flexible schedule through offering predominantly online classes.

IT COSTS HOW MUCH?

Tuition at public universities has been rising to record levels, faster than inflation (Lorin, 2014). In 2014, college tuition and fees at private, non-profit schools rose by 3.7% for an average of $31,231, while in-state tuition at four-year state schools rose by 2.9%. Inflation over this period, defined by the personal consumption expenditures index, only rose by 1.4%. To illustrate the pattern of growth of costs, Table 3 provides the tuition costs for 2- and 4-year institutions of selected years, adjusted for inflation.

TABLE 3. Average total tuition, fees, room and board (adjusted for inflation) for full-time undergraduates for selected years.

School Year	All Institutions	4-year Institutions	2-year Institutions
1982-1983	$ 9,138	$10,385	$6,396
1992-1993	12,097	14,216	6,830
2002-2003	15,262	18,344	7,943
2003-2004	16,104	19,276	8,336
2004-2005	16,647	19,925	8,563
2005-2006	17,014	20,289	8,412
2006-2007	17,547	20,934	8,461
2007-2008	17,737	21,160	8,346
2008-2009	18,421	21,996	8,879
2009-2010	18,839	22,515	9,109
2010-2011	19,355	23,118	9,323
2011-2012	19,741	23,409	9,461
2012-2013	20,234	23,875	9,574

*Source: U.S. Department of Education, National Center for Education Statistics (2015), Fast Facts.

Several studies have addressed the rapid growth in tuition over the last few decades and changes in how students adjusted to meet the rising costs of going to college. One article examines the different schools of thought on this issue, noting that decades ago many college students paid their tuition with money they earned from summer jobs (Campos, 2015). Summer income now is rarely sufficient to cover tuition, which has nearly quadrupled in the last 35 years, averaging $9,139 at public universities. College administrators claim the rapid growth is due to radical decreases in public funding for higher education, but this is not completely true, as government funding for higher education is ten times greater than it was in 1960 (Campos, 2015). This money has not affected professor salaries, and in fact full-time professors are becoming an increasingly rare sight, as adjunct professors and graduate students fill those roles for less pay.

Often the rapid growth in higher education tuition is assumed to be attributed to an increase in professor salaries or university expansion. One study notes that the main reason college prices are rising is the rapid expansion of levels of university administration, not an increase in professor salaries or expansion across the university (Campos, 2015). The Department of Education has found that administrative positions increased by 60% between 1993 and 2009, while tenure-track faculty positions increased by only 6% (Campos, 2015). This article notes that if car prices had increased by the same amount as college tuition, the average sticker price for a new car would be more than $80,000 in 2015. The financial burden caused by this rapid growth forces many prospective students and families to assess whether the cost of their education is justified, given the direct and indirect costs the diploma brings.

Table 4 provides the average tuition and room and board costs for full-time undergraduate students at various types of colleges.

TABLE 4. Average Tuition and Costs of Full-Time Undergraduates from 2013/2014 to 2014/2015.

	4-year Public In-State	4-Year Public Out-of-State	4-year Private Nonprofit	2-Year Public	For-Profit
Tuition and Fees					
2014-2015	$9,139	$22,958	$31,231	$3,347	$15,230
2013-2014	$8,885	$22,223	$31,131	$3,241	$15,040
Percentage change	2.9	3.3	3.7	3.3	1.3
Room and Board					
2014-2015	$9,804	$9,804	$11,188	$7,705	
2013-2014	$9,498	$9,498	$10,824	$7,540	
Percentage Change	3.2	3.2	3.4	2.2	
Total Percentage Changes from 2013-2014 to 2014-2015	3.0%	3.3%	3.6%	2.5%	

*****Source: The College Board Annual Survey of Colleges

When a prospective in-state student considers tuition, room and board, the average yearly cost of attending a state university is $18,943 (Lorin, 2014). This amount rises to $32,762 if the student attends college as an out-of-state student. According to a survey of 3,105 schools by the non-profit College Board, in the past ten years the cost of both tuition and fees has risen by 10.4% for in state four-year state schools and 5.8% for private schools. However, the College Board report further notes that costs did not rise for 12% of full time students at four-year state universities (Lorin, 2014). Notably, when one accounts for financial-aid grants, two-thirds of full-time students pay less than the sticker price.

It is important for students to learn about additional costs involved in completing a degree through a for-profit institution. As for-profit schools gain popularity, students should learn that for the school years of 2014-2015 and 2013-2014, the premium for attending a for-profit school versus a 4-year public institution was, respectively, over 67% and 69%. A U.S. News report notes that nearly 90% of graduates from for-profit institutions completed their studies with student debt, averaging $40,000 (Snider, 2014).

WHO IS PAYING FOR THIS?

Times have changed since it was expected that parents would pay for their children's education. Many parents of the current generation of college students have excessive debt levels themselves and have seen much of their savings erased during trying economic times. One articles notes that parents find it tempting to tell prospective students, "We love you. We want you to go to college, but we can't afford to pay tuition right now. You're on your own" (Clark, 2009). One survey of hundreds of students, recent graduates and dropouts finds that 63% of those who graduated from college had some financial help from their family. When the parents did not provide any financial help, only 42% of students graduated from college. While some of those students who were financially independent were taking on additional debt, most of them sought employment and were unable to devote adequate time to their studies.

Many students may only take a cursory look a school's website to learn how much it costs to attend the school of their choice. In addition to the published tuition cost, students should also consider the more personal costs of attending college, including giving up the ability to generate an income for an additional four years, as well as a delay in having expendable cash. Ultimately sacrifices must be made to achieve a college degree. While most potential students may give minimal thought to the risk and return on investment process, very few students give enough attention to the risk management initiatives that should be part of their college decisions.

A report by Sallie Mae entitled "How America Pays for College 2014," examines the trends in how students and families plan to pay for college, including how a college meets their needs, fits into their financial lifestyles, and matches their personality traits (Sallie Mae, 2014). This report sheds some light on the participation of families in paying tuition, noting that only 20% of families paid solely with out-of-pocket funds, while the majority of students and families sought financial aid to pay for their higher education. This study also notes that out-of-pocket family contributions rose in 2014 after three years of declining family participation. Ultimately, parental income and savings paid 30% of college costs in 2014, while student income and savings accounted for 12% of the costs. Eighty one percent of families filed the Federal Application for Free Student Aid (FASFA), and 35% of families borrowed some money to pay for college.

Table 5 provides an overview of the costs and sources of funding during 2002-03 and 2012-2013, as well as the 10-year percentage change. Students may consider a wide array of funding options, including family resources, grants and federal tax benefits, loans, and corporate and other private scholarships. While traditionally the majority of college costs have been provided by family resources, The Collage Board Advocacy and Policy Center reports that in 2012-2013, 36% of the total charges for full time undergraduates were paid for with grants and tax benefits (Payea, Baum, and Kurose, 2013). This translates to approximately $7,550 per family, which is a 56% increase over the previous 10- year period.

TABLE 5. Sources of payment for Total Undergraduate Full-Time Students per Student*

Full-time Undergraduates	2002-2003	2012-2013	10-year percentage change
Total Grants and Tax benefits	$4,850	$7,550	56%
Total Family Borrowing	$4.010	$5,440	36%
Other Family Resources	$7,620	$8,040	6%
Average Tuition and Fees	$8,760	$11,960	37%
Average Room and Board	$7,720	$ 9,070	17%

*adjusted for inflation and reported in 2012 dollars.

While parents may sometimes feel that they are teaching their children to be independent and wise financial managers, they may not realize that colleges, scholarships, and even loan qualification processes still expect parents to pay at least part of tuition until the student turns 24, becomes a veteran, gets married, or becomes a parent (Clark, 2009). Completing FAFSA, a dreaded chore around many households, requires students who don't qualify as independent to report financial details about their parents. Many sources of tuition payment, including Pell grants, are awarded to a student whose family's adjusted gross income is under $50,000. If the prospective student's parents earn more than $50,000, students may receive federal need-based grants only if they make a request to their college. This is because universities and private colleges often set the threshold higher than $50,000 and award scholarships to students whose family income is over $100,000 (Clark, 2009).

A report from The Institute for College Access and Success, TICAS, notes that nearly 70% of undergraduates in 2013 left school with loan obligations. The average amount of student debt was $28,400, but the amount varies across states and colleges (Bidwell, 2014). The state with the lowest

average debt was New Mexico, whose graduates averaged $18,656 in debt for 2013. The highest average student debt reported by state was just over $30,000 in New Hampshire, Delaware, Pennsylvania, Rhode Island, and Minnesota. Across different colleges, the average student loan amounts ranged from $2,500 to $71,000, although there may be inconsistencies in the data disclosed by individual colleges. TICAS notes that cumulative student debt for those who graduated in 2013 was $28,400, an increase from $27,850 the year earlier (TISCAS, 2015). The debt burden of graduates from college in 2015 is even bleaker. The average student loan debt for the 2015 college graduate is over $35,000 (Sparshott, 2015). This report notes that even when adjusted for inflation, that debt level is two times greater than it was twenty years ago.

In 2013-2014, the total amount borrowed by all students was $106 billion, a 13% decline from the previous three years (Lorin, 2014). Over 90% of students loans were backed by the federal government (Dews, 2014). The most common student loan is the Stafford loan, which may be either subsidized or unsubsidized by the federal government. The subsidy involves the government paying the interest on the loan while the student is still in college. Unsubsidized loans require the student to owe interest while still in college, although that interest payment is deferred until the student graduates. Virtually any student may get an unsubsidized loan, but a student must qualify for a subsidized loan. The amount of money available to the student is based on the student's year of study. The maximum Stafford loan amount is $5,500 for freshmen, $6,500 for sophomores, and $7,500 for both juniors and seniors, and no student may borrow more than $31,000 in total (Onink, 2015).

The availability of loans and the low interest rates may encourage students to enhance their debt level. New 2015-2016 rates for federal student loans for college students allow undergraduates to take student loans at 4.29% for subsidized and unsubsidized loans (Onink, 2015). This is down from the 4.66% the previous academic year. Interest rates will be capped at 8.25% for undergraduates. Loans available to parents, based on the new federal student loan rates, are now 6.84%, down from 7.21%. Interest rates for the federal loans are based on the 10-year Treasury note and are re-set each July. Other student loan rates are capped at 8.25% for undergraduates, 9.5% for graduates, and 10.5% for parents PLUS loans (Onink, 2015).

More students are incurring debt to pay for their secondary education. Approximately 71% of students with bachelor's degrees will graduate with student debt, compared with less than 50% 20 years ago and 64% ten years ago (Sparshott, 2015). One may surmise from this pattern that many students find student loans an acceptable way to pay for their college degrees, especially since they often seek advanced degrees before they complete payment on their undergraduate debt obligations.

As high school students near graduation they should consider whether the cost of going to college is worth the return on their investment. Ideally, students in their upper teens should be thinking of the type of economic lifestyle that they want to have as adults, and after making the economic lifestyle choice, these young adults should find a career path suited for their desires and learn about the requirements needed to obtain that career. They must consider whether their career path requires technical training, an apprentice program, or a college diploma. Should the student find that a college education is needed to achieve the targeted career, they then must determine the most feasible way to pay for their education.

WILL I EARN MORE MONEY IF I GET A COLLEGE DIPLOMA?

While many students find the cost of attending college prohibitive, there are well-founded expectations that a college diploma will bring a high return to those who find a way to finance their education. College graduates ages 25 to 32 earned an average of $17,500 more than high school graduates in 2012, according to Pew Research (Geewax, 2014). Earnings are traditionally higher across the board for college graduates than earnings of those with only high school diplomas. The difference in earnings potential of college versus high school graduates is increasing. This widening gap may be attributed to

declining wages for lower income workers as opposed to rising salaries for college educated workers (Lorin, 2014).

Reports show the income advantage for those who hold a college diploma. A Labor Department report indicates that median weekly earnings for full-time and salary workers who have only a high-school diplomas are $668 for 2014 (Sparshott, 2015). In the same period, those with a bachelor's degree earned an average of $1,193 and also enjoyed a significantly lower unemployment rate. The president of TICAS is quoted as saying "A college degree is still the best path to a job and decent pay" (Bidwell, 2014). With tuition rising at an increased rate, the growth in college costs presents a significant burden to prospective students and families. When evaluating the cost of a college degree, students should consider the level of cost relative to current family income as well as their potential future earnings.

A Brookings Institute article notes that even though the cost of going to college may be 50% more expensive now than it was 30 years ago, a college graduate should expect 75% more lifetime earnings than a high school graduate (Dews, 2014). Though the price of a college diploma is increasing, the rewards of that diploma are increasing even faster. The report also notes that although lifetime earnings vary greatly based on the student's major, any college diploma has a significant impact on the graduate's earnings potential. Ultimately, the financial return from attending and graduating from college has never been higher than it is today. On average, the benefits of a college degree far outweigh the costs, as there is a wage premium over the life of an undergraduate diploma worker of $570,000 (Dews, 2014).

The rate of return on the investment of a college degree appears to pay off and has increased over time. One article notes that in 1970, a bachelor's degree averaged around 9% in additional wages, and in 2013-2014 that premium is around 14-15% (Hannagan, 2014). Between those years, 1970 and 2013, a bachelor's degree graduate earned around $64,500 per year, and those with an associate's degree earned around $50,000 per year, while someone with a high school diploma earned around $41,000 in the U.S.

All college degrees are not created equal, and the area of study of a college graduate has a strong impact on their earnings. Graduates in technical fields such as math, science, and health earn more than those with liberal art degrees (Hannagan, 2014). Education degrees had the lowest return of the fields examined, around a 9% return of investment, while engineering degrees on average had a 21% return of investment. These rates of return translate into significant money over the graduate's lifetime. Graduates with degrees in fields such as petroleum engineering and pharmaceutical sciences earn $3.4 million more in their lifetimes than those who have degrees in areas such as early childhood education, art, and social work (Adams, 2015). While this holds true in general, the report also notes that a field of study is not the only determinant of lifetime income, as the top 25% of humanities and liberal arts majors earn more than the bottom 25% of engineering majors. Additionally, while education is one of the lowest paying fields, the top 25% of education majors earn $59,000 or more a year, which is similar to the lowest 25% of the engineering majors (Adams, 2015). A student should assess the risk associated with their college choice in a similar way that they assess their career choices. Ultimately, however, real life shows that hard work may narrow the gap between the highest and the lowest paying fields.

WHAT DOES RESEARCH SAY ABOUT THE RISK OF PAYING FOR COLLEGE?

A summary of recent academic research on the risks and factors to be considered in financing a college education is provided in the Appendix. The research on the risk assessed in making college decisions tends to follow three thematic areas: how disadvantaged and low income students may pay tuition, what states do to help with the college funding process, and the options available to pay for college.

The studies that address low-income and disadvantaged prospective students find interesting results. A Ching-Yan study (2012) focuses on the impact that increasing tuition has on students from disadvantaged families and notes that disadvantaged families generally pay more for college tuition, as it is more difficult for students to access less expensive public colleges. Furthermore, lower income students must borrow more and often attend lower quality universities. Barrow, et al, (2014) note that

incentive payments or performance-based scholarships and counseling on educational outcomes for low-income community college students improve performance and credits earned in college. One study examines the challenges of less affluent students and notes that young adults rarely have any control over their socioeconomic background. Financial aid opportunities improve educational opportunities for less affluent students (Terriquez and Gurantz, 2015). Xue and Chao (2015) note that students from lower income families are actually less likely to take loans to pay tuition than those from higher income families, although there is little empirical evidence to explain this pattern.

Several studies address the role the state and federal government take in the college decision process, such as adopting initiatives like prepaid tuition or savings plans. Karl, Petronio, and Wallis (2006) summarize the key questions that prospective students must face in determining how to pay for college. Most of these questions involve the opportunities available through various government programs and how to access these resources. One study finds that states whose elections are less competitive and whose post-secondary governance structure is less centralized are more likely to adopt prepaid tuition and savings plans (Doyle, McLendon and Hearn, 2010). Monks (2014) also examines the role that state aid policies have on student loan options, cautioning exclusively blaming tuition as the cause of rising student debt levels. This study further finds that state and institutional financial aid policies as well as student outcomes play a role in student debt levels. Pirrone and Silliman (2014) explore the implication of tax credits on student debt levels. This study examines the HOPE tax credit, the Lifetime Learning tax credit (LLTC), Federal Pell Grants, Student Educational Opportunity Grants, College Work-study, Perkins Loans, and federal subsidized and unsubsidized student loans. Results show that along with college enrollment, debt levels rose when the Higher Education Act was passed, increasing federal student loan limits as well as tax credits.

The final topical area examined in the literature deals with college payment options for prospective students and families. Several studies focus on the impact of parents paying tuition for their children. Handwerker (2011) finds that parents are more likely to delay retirement and less likely to start collecting Social Security benefits if they are paying their child's college tuition. An interview of students and upper-middle class parents who pay their children's college tuition one study finds that not only does the student benefit from having a parent pay tuition, but the parents also seek a return on their tuition investment by expecting the student to perform better while in college, thereby giving the parent a sense of pride in their child's success (Holmstrom, Karp and Gray (2011). A final study concludes that students make college payment decisions based on broad societal circumstances of inequality primarily defined by racial and economic factors (Ziskin et al, 2014). In summation, these studies provide some insight into the vast array of issues which a prospective student must address when deciding whether the investment in a college education is likely to generate the return he or she desires.

CONCLUSIONS

Students must assess a wide array of risks when deciding whether or not to go to college. With the enrollment in degree-granting institutions up 24% between 2002 and 2012, students have more choices to make than ever. Students have the option of attending a myriad of institutions: 2-year vs 4-year schools, for-profit vs not for profit, and public vs private schools. The decision on whether to attend a public, state school versus a private school is significant as the average tuition of these choices is $9,139 vs $31,231, respectively for 2014-2015. Students need to analyze the options of completing a degree at an in-state versus out-of-state school and also need to consider the increasingly popular path of obtaining a degree at a for-profit institution. The shift in how students assess their college decisions and choosing non-traditional institutions is apparent in the fact that the most popular degree-granting college or university in the U.S. is now the University of Phoenix, with a current enrollment of over 250,000 students.

The reality that students must face involves identifying the risk of seeking a diploma and analyzing that risk with caution. Students have more payment options than ever before and must appraise the cost and payment options to determine whether pursuing a particular diploma best meets

their long-term goals. More government sponsored payments are available than ever before, as well as student loan opportunities. Students must carefully evaluate the decision of whether to go to a 2-year, 4-year, public, private, or for-profit institution, paying close attention to the type of degree they will be seeking.

It is critical that students and families thoroughly examine these issues when choosing a college, including the amount the student and his or her family can afford to spend on college, sources available to help pay for that diploma, and ultimately whether the investment in a college diploma will pay off. Clearly, weighing the college options is a monumental risk management challenge for prospective students. While a college diploma in general creates the possibility of a higher income, the student must identify the risks involved with pursuing a particular diploma and decide whether enrolling in college is consistent with their long term goals.

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Appendix. Recent Studies That Examine the Risk Involved with College Choices and Paying for a College Education

Author(s)	Title	Source	Citations	Summary of Results
Barrow, Richburg-Hayes, Rouse, and Brock (2014)	Paying for Performance: The Education Impacts of a Community College Scholarship Program for Low-Income Adults	Journal of labor Economics, 32:3, 563-599.	30	• Evaluates the impact of performance-based scholarship (incentive payments) and counseling on education outcomes for low-income community college students who are also parents. • Eligibility for the incentive payments, based on a student enrolling at least half-time and keeping a C or better GPA, increases the likelihood of enrolling the second semester. • Over the two years examined, program group students successfully earned almost 40 percent more credits.
Ching-Yuan (2012)	The Impact of the High Tuition Policy on Disadvantaged Students in Taiwan	Chinese Education and Society, 45:5-6, 21-30.	8	• Examines the impact of education on disadvantaged families, who find that sending children to college is the key way to escape poverty, but paying tuition is a challenge. • Debt of lower income families has been far greater than their spending on education. • Disadvantaged families must pay more tuition as it is more difficult for children from poor families to access quality, less expensive public colleges. • While it was expected that everyone would have access to higher education after it was universalized in Taiwan, lower income families must increase borrowing and often must attend lower quality universities.
Doyle, McLendon, and Hearn (2010)	The Adoption of Prepaid tuition and Savings Plans in the American States: An Event History Analysis	Research in Higher Education, 51, 659-686.	76	• Examines factors that lead to states adopting prepaid college tuition plans and college savings plans. • Uses event history analysis and examines the impact of policy privatization, electoral competition and timing, and other characteristics of higher education in states. • Concludes that states which are more liberal, i.e., whose elections are less competitive, and whose postsecondary governance

				structures are less centralized, are more likely to adopt prepaid tuition plans. • Regarding the state's decision to adopt a savings plans, there is no relationship between partisanship and ideology, but there is the effect of diffusion as states whose neighbors have savings plans are more likely to implement one.
Handwerker (2011)	Delaying Retirement to Pay for College	Industrial and Labor Relations Review, 64:5, 921-945.	41	• Examines the impact that parents paying tuition for their children college tuition has on the parents' retirement age and thus on labor supply. • Examines Health and Retirement Survey data from 1992-2006 and finds that parents are more likely to continue working (increases 10.5 percentage points for fathers and 6.9 percentage points for mothers), less likely to start collecting Social Security benefits, and less likely to retire if they are paying their child's tuition. • Work intensity is not impacted by the fact that parents are paying for a child's college tuition.
Holmstrom, Karp and Gray (2011)	Why Parents Pay for College: The Good Parent, Perceptions of Advantage, and the Intergenerational Transfer of Opportunity	Symbolic Interaction, 34:2, 265-289.	45	• Conducts interviews of 90 upper-middle-class parents and children to ascertain the process parents go through when deciding to pay for their children's college tuition. • While parents tend to focus on the child's benefit of having the parents pay for college, there are also benefits to the parents who may perceive the child's success as an accolade for being a good parent. • Parents appear to at least subliminally expect a return on their investment by having their child achieve success both in school and in their career if they pay for college. • Return on Investment includes being able to vicariously enjoy their child's success, or not being embarrassed for a child's failure, and having bragging rights on the child's success.

Karl, Petronio, and Wallis (2006)	Twenty Questions About Paying for College	The CPA Journal, 76:12, 50-58.	0	• Examines 20 issues that parents and potential college students should address to better understand their options for paying for college.
				• Some of the most common questions examined include:
				  o At what age is a student considered independent for federal financial aid purposes?
				  o What expenses are eligible for financial aid?
				  o What federal loan programs are available?
				  o What tax benefits are available for education-related expenditures?
				  o How is the Expected Family Contribution (EFC) calculated?
				  o How can a 529 plan or a Coverdell Education Savings Account helpful in paying college expenses.
				• The article provides a wealth of information on the tax implications of paying educational expenses and lists the top websites for financial aid information.

Monks (2014)	The Role of Institutional and State Aid Policies in Average Student Debt	ANNALS, AAPSS, 655, September, 123-142.	35	• Investigates the variation in average student debt. • Notes that focusing on tuition as the primary cause of rising student debt ignores that fact that state and institutional financial aid policies and student outcomes may contribute to rising levels of student loans. • Finds that several factors cause the variation in debt levels, including the cost of attendance, state aid, institutional admissions and financial aid policies, graduation rates, and the mix of majors across students. • Whether a school is has a need-blind admissions policy or whether it meets full demonstrated need of all students can increase student debt by 30 percent. • Schools that have a need-blind admissions policy have an increased average student debt rate.

				• A school being penalized for having higher levels of student debt may cause that school to be more selective in admissions and focus more on merit issues such as SAT scores which are highly positively correlated to family income and thus lower debt levels. • Decreases in state-sponsored grants are correlated with higher average student loan rates.
Pirrone and Silliman (2014)	The Impact of College Tuition Tax Credits since 1998	Journal of Business and Accounting, 7:1, 106-122.	16	• Examines the impact of the HOPE tax credit and the Lifetime Learning tax credit (LLTC) initiatives passed in 1997 that focus on helping middle-income tax payers pay for college tuition. • Reviews several federal student aid programs and when they were each enacted: Federal Pell Grants (1972), Student Educational Opportunity Grants (1965), College Work-Study (1965), Perkins Loans (1958) and Federal Subsidized and Unsubsidized student loans (1965). • Student loan levels began increasing dramatically in the 1990s with the passage of the Higher Education act which increased federal student loan limits. • Families using the Hope scholarship tax credit and the Lifetime Learning tax credit have steadily increased to the point that they appear to be a permanent type of assistance just as are federal student aid programs. • Enrollment in colleges have increased with the tax credit. • The cost of the tax credit between 1998 and 2002 was around $15.5 billion, far less than the predicted $40 billion, leading critics to argue that the lower income families were not benefiting from the credit; however, in 2008, the 40 percent of those who benefit from the tax credits have adjusted gross incomes less than $50,000.
Terriquez and Gurantz (2015)	Financial Challenges in Emerging Adulthood and	Emerging Adulthood, Vol. 3:3, 204-214.	49	• Explores motivations for leaving college with the intention of returning; using data from interviews with 18- to 26-year olds who came to age following the Great Recession.

	Students" Decisions to Stop Out of College			• Financial constraints and factors unique to the transition to adulthood are correlated with students' decisions to stop out of college. • Young adults seldom have any control over their family socioeconomic background; however, they exercise a degree of agency in responding to their financial circumstances with regard to attending college. • Financial factors while one is emerging into adulthood impact the growing social inequalities in young adults. • Financial aid increases educational opportunities for young adults from less affluent families.
Xue and Chao (2015)	Non-Borrowing Students' Perceptions of Student Loans and Strategies of Paying for College	Journal of Student Financial Aid, 45:N1, 25-45.	67	• Examines historical and current changes in the use of grants and loans to pay for college. • Notes that studies indicate that students from lower income families are less likely to take loans to pay tuition than those from higher income families, although there is little empirical evidence to explain the reasons for this. • Using data from interviews with lower or lower-middle-class non-borrowing students indicate four main reasons for their decision to not borrow: parental influence, fear of economic burden, underestimation of the value of a college education, and lack of information on the student loan process. • Non-borrowing students use scholarships, grants, family support, part-time jobs and pre-paid college tuition programs to achieve their educational goals.
Ziskin, Fischer, Torres, Pellicciotti, and Player-Sanders (2014)	Working Students' Perceptions of Paying for College: Understanding	The Review of Higher Education, 37:4, 429-467.	38	• Examines data from interviews on the financial aid process with 100 working students and students with family responsibilities at three commuter colleges in a Midwest metropolitan area. • Explores students' opinions and experiences with the use of financial aid.

	the Connections between Financial Aid and Work	• Finds that students make college payment decisions based on broad societal factors of inequality primarily defined by racial and economic factors. • Finds that students have a broad range of knowledge about the financial aid process, but also have a lot of misinformation, uncertainty, and anxiety regarding financial aid. • Finds that students from various economic backgrounds experience the financial aid process differently, and low-income students indicating more negative experiences and dissonance between expected and actual experiences with the financial aid process.