

THE GLOBAL ECONOMIC CRISIS AND INTERDISCIPLINARY BUSINESS EDUCATION

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ABSTRACT

The global economic crisis that started in 2007 was the result of systemic failures in the U.S. and global financial systems. There was a monumental failure in various financial systems, markets, institutions, processes, and their regulation. One major system that failed was the banking sector. The causes for systemic failures in banks include ineffective regulation, improper rating agency evaluations, extremely cheap provision of credit by the federal government, and profligate lending by banks to unworthy creditors encouraged by a perverse compensation system for the senior management of banks. Alonzi, Irons and Razaki (2009) have developed a model for bank profit maximization that shows that bank managers have a perverse financial incentive to maximize lending to even unworthy borrowers by shifting the cost of default risk to investors in securitized loans or to future periods while being rewarded in the short term. This situation arose due to information asymmetry and moral hazard.

This paper proposes to use the Alonzi et al. (2009) model to develop teaching modules in the disciplines of economics, finance, and accounting for a capstone course for business students. Specifically, the modules will provide a conceptual and interdisciplinary understanding of the following: (1) The deep interrelationship between different business disciplines in understanding economic crises, (2) The importance of effective regulation of financial markets, ratings agencies, auditors and enterprise managers, (3) The roles of information asymmetry and moral hazard in managerial decision making, and (4) The critical need for financial accounting standard setters to broaden the focus from primarily shareholders to other stakeholders such as the government, creditors and investors in securitized assets.

Introduction

The global economic crisis that started in 2007 resulted from the systemic failure of the U.S. and global financial systems—its markets, institutions, processes, and their regulation. The factors contributing to this failure are many and their connections intricate. Alonzi (2009) sorts through the intricate connections identifying many ingredients—innovations such as Mortgage Backed Securities (MBS) and Credit Default Swaps (CDS), high credit ratings from Rating Agencies for the MBS, actions of Government Sponsored Enterprises (GSEs: Fannie Mae and Freddie Mac), the requirements of Department of Housing and Urban Development (HUD) for the GSEs, increased leverage, mark-to-market accounting applied to mortgages, excessive liquidity (either from easy Fed policy or the return of dollars to the US originally sent out of the US when Americans imported non American goods and services), and a change in role of lenders from warehouses for loans they originate to sellers of those loans— and discusses the implications of their interaction. These interconnected factors made the financial system ripe for large scale failure once housing prices ceased rising. The last factor, change in the role of lenders from warehouses to sellers of the loans they originate is the primary foundation of this paper's teaching modules. In particular we focus on the perverse incentives given bank management by the compensation system of senior management that are amplified and exacerbated in an era of innovation without proper infrastructure of effective regulation, of improper rating agency evaluations, and of extremely cheap provision of credit by the federal government.

The Pedagogical Approach

In general, capstone courses are designed to help graduating seniors develop a comprehensive, conceptual framework of the business world. Capstone courses are also good vehicles to revisit the fundamental philosophy of various business disciplines and their basic principles. This background knowledge helps in understanding the need for and use of various models, approaches, hypotheses, axioms, principles, techniques, methodologies, and assumptions taught in the business curricula. These students have studied many courses across the various business disciplines including economics, finance, management, marketing, operations research, and accounting courses. Most students seem to get bogged down in the minutiae of individual courses, treating each one as a functional silo without extensive connections to other courses and disciplines, especially those not in their major. The goal of a capstone course is to overcome this fragmentation of business knowledge by providing students the opportunity to integrate the deep interrelationships between different business disciplines and courses in a holistic fashion. We will utilize the students' familiarity with the current economic crisis, and the resultant deep concern among students about their future employment, to show how important the integration of business concepts is in developing an in-depth understanding of major business phenomena. We present conceptual teaching modules in economics, finance, and accounting that can be included in a capstone course. Constraints in space limit us from showing modules involving marketing, operations research, business statistics, human resource management and other business disciplines. These modules, though, can be easily.

An attempt to cover every single cause of every single systemic failure would have led to information overload in one single course. To develop these modules, it was important to narrow the entire spectrum of the global economy's systemic failures to a single, but crucial, type of failure to concretize various concepts. We chose to concentrate on explaining the causes and issues related to the current banking failures because we believe that business students, even non finance majors, may be more familiar with the activities involved in bank lending and its products than with other esoteric products and processes. Alonzi et al. (2009) have developed a model for bank profit maximization that shows that bank managers have a perverse financial incentive to lend to even unworthy borrowers because the cost of default risk can be shifted to investors in securitized loans or to future periods while managers are rewarded in the short term. The perverse incentive rises due to information asymmetry and its attendant moral hazard. This paper draws upon the framework of Alonzi et al. (2009) model as the starting point for the development of teaching modules for coverage in an undergraduate capstone course. The analysis of the general economic crisis with a special emphasis on profligate bank lending lends itself to a

multidisciplinary pedagogy. Specifically, the modules will provide a conceptual and interdisciplinary understanding of the following: (1) The deep interrelationship between different business disciplines in understanding economic crises; (2) The importance of effective regulation of financial markets, ratings agencies, auditors and enterprise managers; (3) The roles of information asymmetry and moral hazard in managerial decision making, and (4) The critical need for financial accounting standard setters to broaden the focus from primarily shareholders to other stakeholders such as the government, creditors and investors in securitized assets.

Model of Bank Profit Maximization

Alonzi et al. (2009) examine the incentives given to bank management when profit (π) is a major factor in management's compensation ($K\pi$, where K is the percentage of profit paid to management). Four sources contribute to bank profit: loan revenues earned on the loans the bank holds in its portfolio ($W * r_L$, where W is dollar amount of loans held, i.e. warehoused, in the bank's portfolio and r_L the interest rate earned on warehoused loans) plus the fees earned on loans originated by the bank but sold into the secondary market ($L * \Phi$ where L is dollar amount of loans sold into the secondary market and thus removed from the bank's portfolio and Φ the net fee earned for each dollar of loans originated and sold into the secondary market) less deposit costs ($D * r_D$, where D is the dollar amount of deposits and r_D the interest rate paid on deposits) less the default costs (ΔL , where Δ is the percentage of loans for which the bank is making provision for expected defaults). Combining these sources the bank's profit equation is:

$$\pi = W * r_L + L * \Phi - D * r_D - \Delta L$$

The key insight of Alonzi et al. that emerges from consideration of this profit equation is that asymmetric information gives rise to an agency problem which leads in turn to profligate lending. Since bank management makes the loans it would have a better understanding of the quality of the loans originated than would the bank's owners. This asymmetric information allows management to boost its compensation by boosting short-term profits by providing for expected defaults but at the lower end of what is reasonable. That is management could use a Δ lower than what owner's would choose (moral hazard) if owners had the same knowledge and understanding of the quality of the loans originated as management possesses.

This knotty nexus of asymmetric information and moral hazard is further exacerbated when the innovation of mortgage backed securities (MBS) make possible the securitization and sale of loans in the secondary market [See end note 1]. The securitization and sale makes possible the removal of loans, in particular loans-to-weak-borrowers, from the financial firm's portfolio. The situation is worsened further when the innovation of credit default swaps arose to "insure" the MBS so that buyers of MBS are relieved of the risk of default by the loans underlying the MBS.

Starting with the profit equation above but with more analytic work, Alonzi et al. argue that bank management could increase profits and its compensation by increasing lending and selling even more of its loans into the secondary market ($L+W$ increases as L increases by more than W falls) which (1) could increase revenues by increasing lending and (2) could decrease costs by shifting default risk to those buying mortgage backed securities thus relieving the bank of default costs ΔL .

The essential point of Alonzi et al (2009) is that the asymmetric information and the agency problem transformed the business of lending resulting in increased lending. The work of Alonzi (2009), by placing this transformed financial firm behavior in the context of many other factors (summarized in this current paper's introduction), discusses how lending firms contributed to the financial and economic crisis of 2008. [See endnote 2].

Each pedagogical module will draw on this bank lending situation as the basis for teaching modules in economics, finance, and accounting.

The Economics Module: Three Question

For our students, the financial crisis of 2008 is what the Great Depression was for our grandparents' generation. Students know about the consequences of the financial meltdown due to news reports of bank closings, to parents saying no to their requests because times are tough, to an unemployed relative or friend, and to the shrinking pools of student financial aid. Their familiarity with this defining economic moment provides a great opportunity for classroom discussion to strengthen their grasp of what markets can or cannot do.

The discussion based on the financial crisis can proceed in three steps. First ask how did financial firms contribute to the financial crisis? In answering this question there emerges an appreciation for what happens when the infrastructure (market microstructure) necessary for competition is missing from the market place. This in turn raises the second question: what are the conditions needed for markets to efficiently coordinate the collective action of demanders and suppliers? This question provides the opportunity to review the conditions needed for competitive markets. This discussion of the second question leads naturally to the third question: when the conditions of perfect competition are absent, what is the appropriate role for government, if any?

The first question to address is how did financial firms contribute to the financial crisis? As indicated above in the summary of the Alonzi et al. (2009), their analysis reveals that the lending business had been transformation due to the combination of two interacting factors: the different information possessed by managers of financial firms who were actually making the loans and the owners of financial firms who were not making the loans, and the management compensation programs based on short-term profitability. As a result of the interaction of these two factors bank management over lent.

Because the asymmetric information led to the contribution of the lending industry to the financial crisis and because asymmetric information destroys competition in markets, the current financial crisis leads, although by way of counter example, to a second question: what are the conditions needed for competitive markets?

For markets to produce, by Adam Smith's invisible hand, price and profit signals which coordinate the voluntary decisions of buyers and sellers and result in an efficient allocation of resources, essential infrastructure is needed. That is, markets must be competitive! Not all students in economics remember the definition of competitive markets from the beginning of their microeconomic principles courses as the definition fades from student memories without consistent and persistent reminders. So a refreshing repetition is most helpful. And the discussion of the causes of the financial crisis provides an excellent opportunity for such a refreshing repetition.

Competitive markets require the presence of at least five key preconditions of infrastructure: (1) a large number of buyers and sellers; (2) independent buyers and sellers; (3) buyers and sellers possess full information about production, inventory levels, price, and distribution; (4) free entry and exit; and (5) homogeneous products. There are many texts presenting these preconditions of competitive markets but one that is particularly effective is Thomas Hieronymus's classic discussion of markets (Hieronymus, 1977).

If one of the pillars is absent, markets are not competitive, an efficient allocation of resources is lost, and problems arise. For example suppose the first condition of many sellers is absent. In the extreme, suppose there is only one seller. In this situation market power arises in the form of monopoly that restricts production and raises price. The presence of monopoly requires some response. Currently, in the U.S., natural monopolies are subject to price regulations, and other types of monopolies are subject to the antitrust laws.

When the third pillar is absent market participants have unequal situational knowledge and the problem of asymmetric information arises. The existence of informational asymmetries leads to the problems of moral hazard and adverse selection. Typically economics texts relate these problems to the insurance industry. But while moral hazard and adverse selection are real and potent problems for the insurance industry, the significance and reality of these problems can be lost on students who have not yet dealt with insurance premiums.

The financial crisis that has impacted their lives does provide a problem within their experience which occurs due to asymmetric information and moral hazard. In the lending markets, managers of lending firms enabled by asymmetric information and lured by short-term profits weakened lending standards and over lent [both moral hazardous behaviors]. These behaviors contributed to a mortgage credit financed housing bubble that left the owners of the lending firms holding the bag and in the case of “too big to fail” leaves tax payers holding the bag.

As in the case of monopoly, the presence of asymmetric information and its harmful consequences demands another human institution, other than markets, to organize the collective action of humans. For monopoly government has been the institution to which society turns. This suggests a role for government to deal with the problems that asymmetric information causes in financial markets. With this setting provided, the class has been lead to the third question to tackle: What is the best/appropriate role for government?

One answer could involve the government establishing a more complete and relevant market microstructure for the twenty first century financial markets. Just as safe driving requires licensed and insured drivers, well paved expressways with clearly marked lanes, exits, and speed limits, and good lighting as well as well designed curves, entrance ramps, and exit ramps, participants in financial markets need well designed, clearly communicated and proven ways to engage in safe lending.

While driving provides one way to introduce infrastructure, another example of infrastructure that is related directly to markets can be even more helpful. The Chicago Board of Trade (CBOT)—which is now part of CME group—developed over its 150-plus years of existence, rules and regulations that provide effective infrastructure for trading (Alonzi, 2006). The rule book provides the “rules of the road” so to speak, for trading derivatives on the exchange. In the structure provided by these rules, incentives are given to stakeholders that eliminate the effects of asymmetric information. For example a broker may not trade ahead of his/her customer’s order. Such trading ahead, known as front running, is prohibited since the broker knows better than the others in the market the size and price points of his/her customer’s order. This asymmetry in information confers an unfair advantage upon the broker to the detriment of the other traders as well as the broker’s customer. Not only do the rules prohibit such trading, the CBOT maintains computerized records of all trades, and the exchange analyzes the data base rigorously for patterns indicative of front running as well as any other pattern of trading abuse. When the review reveals sufficient evidence, the exchange holds hearing. When the results of a hearing warrant it, the exchange takes disciplinary action ranging from fines to suspension of trading privileges to expulsion. The rules also establish transparency since all bids and offers must be done openly either in the pit by open outcry (with the requirement that the price of each and every trade had to be communicated to a market reporter who recorded it and transmitted it to the world originally via ticker tape and now via satellite

telecommunications) or on the computerized trading platform which captures and transmits the trade date automatically. These rules and regulations of the CBOT emerged from the crucible of the trading pit between 1848-1960s and merged in the market participants' sense of appropriate and fair trading practices with profitable practices. The rule books welled up from the lived experience of the exchange's participants and provide the "rules of the trading road" that is the market microstructure necessary for the competitiveness of the markets, which in turn led to the effective functioning of the markets. The government designated the CBOT and other futures exchanges self regulatory organizations (SROs). The SROs were responsible for the actions of the participants in its markets. The participants were customers placing orders, exchange members who as brokers executed the customers' orders to buy or sell, and the members who took the other side of customer orders. Notably, during this whole financial crisis episode, these futures exchanges were missing from the reports of problems in financial markets. This absence is due no doubt to the competitive character of the CBOT markets rooted in its effective infrastructure as provided by its rules and regulations.

The experience and example of the Chicago derivative exchanges suggest infrastructure that might be helpful in reforming the credit markets. A committee from the lending industry could be formed to oversee industry activity as did the CBOT's Business Conduct Committee. Such a committee could establish lending standards (minimum FICO scores, maximum Loan to Value ratios, minimum Income to Payments ratios and the like) that quantify the borrower's Character (integrity), Capacity (income/cash flow), Collateral (asset value), Condition (of the economy), and Capital (net worth in the venture). These standards would assure that loans truly serve a commercial purpose and are not NINJA (No income, No Jobs, No Assets) loans merely generating higher short-run profits and higher long-run default risks. Another example of a regulation is that every loan extended must be reported to a centralized industry data base and the status of the loan updated daily. This data base would ensure that the paper work is done in an accurate, timely manner and tracked, thus providing transparency.

The Finance Module: Moral Hazard and the Principal-Agent Problem

Moral hazard is defined as the asymmetric information problem that arises after the financial transaction has occurred [Mishkin 2007]. In the case of a bank loan, once the transaction is completed, the borrower may have incentives to suppress information and/or engage in behavior that creates or adds risks to the lender. For example, the borrower may apply for a loan on the basis of upgrading some part of his business, but then once he has the funds, he may use them to fix up his residence instead. Numerous opportunities for moral hazard exist between the parties in the banking industry in general, and in the securitization-disintermediation process pertaining to the mortgage loan industry in particular.

Unless the bank's managers own 100% of the bank, they are making decisions that affect the wealth of the other owners. This is the definition of an agency issue; managers are in a position to take advantage of situations from which they will benefit, but for which they only pay to the extent that they own shares in the firm. Thus they receive all of the benefit but pay only a fraction of the cost. For the managers of a bank whose financial incentives are based on short-term profits, there is motivation to increase the amount of loans on the books in order to maximize the short-term profits associated with those loans. This could mean lowering credit standards and thus increasing the riskiness of the loan portfolio. While short-term profits would be enhanced, long-term profits are likely to suffer due to the lower creditworthiness of the new loans.

In the above scenario, the agency issue has led to a moral hazard; the managers were hired with the expressed intent of increasing the wealth of the bank's owners, which the managers agreed to by accepting their positions. Once they were in place, however, the motivation built in to the incentive

package encouraged them to change their behavior to pursue self-interest rather than the interests of the bank's owners.

A new type of agency issue was discussed in Alonzi et al. (2009) dealing explicitly with the alignment of managers' and owners' interest with regard to management incentive packages. Essentially bank management uses its better information about the quality of loans it originates to promote its interests by downplaying the default risk of its loan decisions, and consequently increasing short-term, recorded profits at the expense of owners' interest in long-term actual profits. When the loans are intended to be securitized, managers can further increase short-term profits through the loan origination fees, without regard to the riskiness of the new loans (since that risk is being passed along to the owners of the new mortgage-backed securities).

There are four areas of moral hazard in the banking industry currently recognized in the literature. They are:

1. *Between the bank and the bank's loan customers.* The loan customers have better information about their own creditworthiness than the bank does]. Tools that banks use to address this asymmetry are the multiple criteria of capacity, collateral, capital, conditions, and character.
2. *Between the bank and the deposit insurer.* Deposit insurance is designed to eliminate runs on banks, but it also offers banks the opportunity to increase the riskiness of their activities at the expense of the deposit insurer [Kose et al. 2000 and Prescott 2002]. The insurance premium set by the insurer is likely to be inadequate once the lender lowers their credit standards.
3. *Between the bank's managers and the bank's owners.* The situation in item 2 above also creates a moral hazard for the bank's owners [Kose et al 2000]. By lowering credit standards, managers can raise short-term profits, and thereby maximize incentive payments, at the expense of adding long-term risk to the bank's loan portfolio. By the time the loans begin to default, the managers may very well have moved on with their incentive payments intact.
4. *Between the bank and the buyers of mortgage-backed securities.* When the managers know that the bank will be selling off part of their loan portfolio in the form of mortgage-backed securities, they are motivated once again to relax credit standards and offer loans to less creditworthy borrowers, since the default risk will be passed along to the owners of the new securities (Dowd 2009 and Alonzi et al. 2009).

The pedagogy to be used in teaching agency issues and moral hazard requires a focus on the nature of the information held by all parties concerned and any asymmetries in that information. For example, at the time of hire, new bank managers share their resumes and their references (which are chosen carefully), but any further information must be extracted through the interview process and any other sources used in the hiring process (such as credit checks and criminal background checks). Similarly, when loans are approved by the bank's managers, they know better than the owners just how risky new loan customers are, and can control what information is kept in the customer's loan file (to be seen by others). Each step along the loan process involves new information, and the bank's managers have the ability to control the flow of that information either toward or away from the bank's owners.

Attention should also be paid to the role the principal-agent problem plays in the creation of moral hazard. For example, Alonzi et al. (2009) show that when the bank's managers decide to securitize loans rather than warehouse them, they benefit from the increased short-term profitability associated with the increased lending activity in the form of higher incentive payments, while passing along the increased default risk to the owners of the new securities. Even if the loans are not being securitized, they enjoy greater short-term profits (and therefore higher incentive payments) while increasing the riskiness of the owners' loan portfolio. Once the incentive payments are disbursed, retrieving them becomes problematic, so there is less concern on the managers' part that the loans will eventually default.

The existence of asymmetric information is the circumstance that enables the creation of a moral hazard; the principal-agent problem is the tool that permits the managers to profit from the asymmetric information.

The Accounting Module: The Need for Fundamental Changes

The 2008 economic crisis brought into relief the inadequacies not only in monetary policy, financial markets and banking regulation, and ratings agency reliability, but also accounting standards and auditing practices. In this section the focus is on the latter by discussing the essential role that accounting and auditing perform in the proper functioning of a market economy. Particular attention will be paid to issues of users of financial accounting, the need for effective auditing, and the dysfunctional impact of information asymmetry. It is imperative that business students realize that the accounting discipline is more than mere journalization of debits and credits.

As stated earlier, information asymmetry enables bank managers to maximize lending beyond prudent levels to exploit the perverse compensation system based on financial accounting income. It does so by allowing bank managers to lower credit standards without this information being accessible to bank owners or to non-bank investors in loan securities, who are not aware of the increased default risk of securitized bundled loans.

There are three separate opportunities for engaging the students by considering the connection between accounting standards and practices and asymmetric information in banking. First, the stage is set by posing the accounting philosophical question: What is accounting and auditing? Second, there is the two part question of (a) who actually uses financial accounting information in their decision making and (b) in light of the previous question, what accounting information should be provided to the various stakeholders? Third, there are fruitful discussion questions that arise concerning the conduct of the audit engagement and the application of two accounting rules (accrual accounting and mark-to-market valuation of financial instruments) in the context of asymmetric information.

To properly answer what accounting and auditing are, students must know the philosophical underpinning of information economics and the decision making involved in securities transactions. Accounting is the information discipline that collects, analyzes, summarizes, and reports economic information about an entity to various stakeholders in that entity. Accountants pride themselves as being the “measurers of society”. If accounting information is incomplete or false, a host of economic decision makers including owners, managers, creditors, financial regulators, customers, competitors, employees and unions, rating agencies, and governmental policy makers will make wrong or suboptimal decisions regarding economic resource allocations. This is why financial accounting regulators and standard setters must ensure that accounting information is fair to and freely available to all stakeholders. That is to say that information asymmetry and accounting misrepresentation should be prevented. Further, the ultimate responsibility for the fairness of financial statements lies with the top management of the entity. Also, it is fairly common to base management compensation (including salary, bonus, stock options, and deferred compensation) on the reported profits of the entity. This situation creates a natural conflict of interest for management. To prevent managerial abuse of reported financial numbers, the Securities and Exchange Commission (SEC) has mandated the use of external auditors. It is the function of the external auditors to provide an opinion on the fairness of financial reports after extensive tests of compliance with Generally Accepted Accounting Principles (GAAP) and relevant auditing tests and procedures. The Sarbanes-Oxley Act of 2002 (SOX) has sought to further protect stakeholders interests by demanding additional safety precautions by management, board of directors, and auditors.

There is empirical evidence that accounting rules and regulations have a significant impact on managerial decision making (for example, Walker (2007)). One instance in which the impact of accounting reported performance can manifest itself is when managerial equity based compensation is based on it. If management is self serving, it can maximize its own compensation by making decisions that are suboptimal because they enhance short-term accounting profitability to the detriment of long-term profitability, or publish financial accounting information that is misleading or amounts to significant lack of disclosure. This argument is also supported by the agency cost theory of accounting choice among alternative accounting treatments. The Sarbanes-Oxley Act of 2002 [SOX] has attempted to overcome this malfeasance by requiring the Chief Executive Officer and the Chief Financial Officer of the corporation to provide a signed statement at the beginning of the audited financial statements attesting that the information provides full disclosure to the best of their knowledge. This requirement may limit the amount of accounting misinformation, but it fails to ensure that management will not make self-serving suboptimal decisions.

To answer question (2) about who should be the beneficiaries of accounting information, it should be emphasized that currently the Financial Accounting Standards Board (FASB), which is the primary accounting standard setter, and the SEC have mandated that the interests of stockholders are supreme. Implicit in this mandate is the view that the interests of all stakeholders in a company are the same as the stockholders'. But Macey and O'Hare's (2003, p 92) suggestion that a corporation is a "complex web or 'nexus' of contractual relationships" should be an alert to the many different interests that comprise a company and hence the potential presence of agency relationships and the possibility of asymmetric information with all its attendant problems. It should be pointed out to students that one of the major causes of the systemic failure of banks was the information asymmetry among bank management, bank ownership, bank borrowers, and owners of the bank's securitized loans. Because of the agency relationships between these four groups, there is a great need for a fundamental change in the philosophy in financial accounting to direct the type of information produced. What is needed is accounting information that reduces informational asymmetries. To assure this information is forthcoming there is the need for more effective financial accounting standards for the proper functioning of the financial markets.

Auditing: The primary function of external audits is to protect the interests of all parties (stockholders being the primary beneficiaries) by providing an independent opinion on the corporation's financial position and performance. Auditor duties include disclosure of management's sins of commission or omission in financial reporting. In studying the causes of bank failures and bank managements' self-serving decisions, part of the blame must be assigned to the poor performance of bank auditors. The majority of bank external auditors failed to ascertain and/or disclose the true risk profile and the deteriorating economics circumstances of the audited banks.

Perhaps this poor performance was due to a conflict of interest inherent in the accounting engagement—the external auditor's duty is to protect the interests of investors, but for all practical purposes, they are selected and paid by firm management.

Here a teaching opportunity presents itself! One can pose a series of questions to the class. First, conflict of interest is a general term. It would be very interesting to pose the following question to the students: what specific ways could the conflict of interest be reflected in auditor behavior? [See end note 3]. Second, one could follow up the discussion of this question with the following question: If auditors sacrifice the quality of audits to please bank management, what would be the consequences? Would the students articulate as we have argued that this would enable senior bank executives to report inflated accounting earnings and not report the true risks in its loan portfolio which leads to over lending and thus contributing to the financial crisis. And then there is a third question of how should weak audit

performance due to the conflict of interest be addressed? One could then direct the discussion to consider SOX. It mandated rules to ensure that auditors remained independent of firm management by requiring that auditors be engaged by the audit committee of the corporation which is composed only of outside directors and that auditing firms can have a consulting relationship with their clients only within very strict guidelines. Lastly one could consider the following trio of questions: a) how does one determine auditors' lack of compliance with their professional responsibilities? b) how does one distinguish audit failure from fraud perpetrated by management?, and c) have appropriate penalties been levied on auditors in light of the 2007 financial crisis?.

Accounting: We provide two instances of accounting rules that had a negative long-term impact on bank performance and that provide the source of two excellent questions for class discussion. The first question considers the appropriate use of accrual accounting. Accrual accounting is the standard most firms have used very satisfactorily. But is accrual accounting appropriate for banks? [See end note 4].

The second question considers the suitability of mark-to-market valuation of securities. For a number of financial securities, GAAP mandates the mark-to-market rule. This rule requires that these securities be shown at market value regardless of the impact on net income. Since security values can gyrate rapidly, the impact on short-term income can be huge. A question to pose is how suitable is mark-to-market accounting for mortgage loan valuation? The discussion can contrast the nature of a residential mortgage loan—an instrument having its own unique borrower, specific location, and specific structure—with the nature of a standardized item traded on an organized exchange in high volume such as a shares of an S&P 500 stock or a futures contract at the CBOT such as corn. Alonzi (2009) has argued that the nature of the instrument greatly influences whether utilizing mark-to-market is suitable. To the extent that mortgagees are current with their payments, the writing down of a mortgage to current mark-to-market value could greatly understate the value of a mortgage in a down market. Alonzi (2009) points out the consequences of this understatement could have very harmful consequences: greatly reduced value of bank mortgage assets leads to greatly reduced net worth leads to inadequate bank capital positions leads to greatly constrained bank lending to consumers and businesses.

CONCLUSION

This paper provides teaching models for inclusion in a business capstone course that focuses on (a) the importance of an interdisciplinary approach in understanding complex business phenomena, (b) emphasis on revisiting fundamental concepts in business disciplines to develop a holistic understanding of business education going beyond rote learning of isolated pieces of knowledge, (c) an analysis of a particular industry (banks) facing a major crisis (profligate lending, bank failures, devaluation of securitized loans) caused by a crucial stakeholder (management), and (d) suggestions for pedagogical modules in the business areas of economics, finance, and accounting.

END NOTES

[1] This point is also made in Alonzi (2009).

[2] As Alonzi (2009) develops, financial lending firms were no longer in the business of carefully assessing credit risk that would be warehoused for a long time in the firm's portfolio of mortgage loans in order to earn the spread between the loan interest rate less deposit rate month by month over a long horizon. Rather lending became a turnover business focused on earning fees in the short term by engaging in the twofold action of originating and then selling each mortgage loan. Weakening credit standards enhanced volume, and thus fees earned, and so increased managerial compensation. But the increased mortgage volume built on loans to weaker borrowers sowed the seeds of unprecedented levels

of mortgage loan distress and default. And when the weak loan paper could no longer be sold into the secondary market and clogged the financial firm's portfolio, the resulting losses and capital inadequacy curtailed lending most abruptly. In this way the financial firms contributed greatly, first to the housing credit bubble and then to the financial crisis. When the bubble burst the owners of the lending firms lost as the price of their company's stock fell and in the case of "too big to fail" the tax payers paid for the TARP bail out (at least in the short run).

[3] Alonzi et al. (2009) suggested that auditors might curtail the number/scope of audit tests to reduce the cost of an audit and gain an advantage over competing auditors. This of course exacerbates the informational problem. And as noted in Alonzi et al (2009) Mishkin notes three other examples: (1) skewing judgments and options to win consulting business, (2) protection of their non-audit counterparts who may have installed information systems or tax plans, and (3) provide overly favorable audit reports and downplaying business risks to continue the business relationship.

[4] As Alonzi et al. (2009) discuss accrual accounting contributed to the problems presented by informational asymmetry. Essentially they point out that since loan defaults can be a major cost and occur in the future, the accrual accounting practice of recognizing revenue in the present period when the loan is made leads to increased short-term profits and simultaneously decreased long-term profits by accelerating the recognition of revenue while deferring default costs to the future. These increased short-term profit hence increased compensation give bank management the incentive to lend profligately.

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