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INTERNET FINANCIAL REPORTING BY STATE-CHARTERED BANKS IN GEORGIA, USA

Joseph Abrokwa, University of West Georgia

ABSTRACT

This study investigates the nature and extent of internet financial reporting by state-chartered banks in Georgia, USA. The websites of all 187 State of Georgia chartered banks were examined to determine how many of them reported financial information on their websites and how current is the information reported. Descriptive analysis was used to analyze the data obtained. It was found that 184 of the banks operated websites while 3 did not have websites. The study showed that out of the 184 banks with websites, only 7 reported their financial information (Annual report) on their websites, and 1(one) bank reported only the Statement of Condition, while the remaining 176 banks did not report any financial information on their websites. Thus the overwhelming majority (96.3 percent) of state-chartered banks in Georgia did not engage in internet financial reporting (IFR). The study also found that among the 7 banks using internet financial reporting all of them had current information on their websites and they maintained an average of one year's data. Also, the location of the information on the websites of the banks was not always obvious to the user; some banks reported it under "About Us" while others reported it under "Investor Relations". In contrast, all top 10 commercial banks in the United States use internet financial reporting and they maintained an average of 10 year's data on their websites The study showed that state-chartered banks in Georgia (most of whom are small community-based banks) are more concerned with using the internet to communicate with their customers and to keep pace with their competitors (e.g., online banking) than to disseminate information to their shareholders.

INTRODUCTION

According to the Financial Accounting Standards Board (FASB), the objective of financial reporting is to provide financial information about the reporting entity that is useful to present and potential investors, creditors and other users to enable them to make rational investment, credit and similar decisions. For financial information to be useful to the consumers of the information, it must be relevant and reliable (FASB 1980).

In this study, Internet Financial Reporting (IFR) occurs when a bank provides in its website, a comprehensive set of financial statements (i.e., balance sheet, income statement, statement of cashflows, and statement of changes in shareholders equity) including footnotes and the auditor's report. (Ashbaugh et al, 1999). While financial information on the Georgian banks may be available on such websites as USBankList.com, IBanknet.com,

Bankencyclopeidia.com and for publicly traded banks, the Securities and Exchange Commission's Edgar database, in this study

the banks are deemed to engage in Internet Financial Reporting (IFR) if they maintained current Annual reports at their websites.

Internet financial reporting offers several advantages over traditional paper-based reporting. Lymer et al, (1997) listed the following examples of the advantages: i) it offers a low cost solution to access to corporate data, ii) it offers instant access to data at convenient times for users, iii) it provides a broadcast (mass communication) medium for corporate reports, iv) access to greater volumes of data than previously possible, v) offers dynamic updating potential (addressing timeliness implications), and v) the possibilities of exporting of data for user manipulation.

Using descriptive analysis, the aim of this study is to investigate the nature and extent of internet financial reporting by state chartered banks in Georgia. The study examines 187 state chartered banks in Georgia and seeks to answer the following questions: how many of the banks have websites and how many do not?; of the banks with websites, what proportion of them report their financial information (Annual reports) on their websites and how current is the information reported?; and what is the location of the financial information on the website. The information obtained is then compared with the internet reporting practices of the top ten commercial banks in the United States.

LITERATURE REVIEW

There is a substantial amount of literature on the use of internet financial reporting (IFR) in many countries, dating back to the late 1990s. In 1999, Ashbaugh, et al, examined 290 firms in the United States to determine the extent in which they use the internet to enhance the relevance of their financial reporting. They found that 70 percent of the firms with websites engaged in internet financial reporting and that the firms engaging in internet financial reporting were larger and more profitable than firms who did not. However, there was substantial variation in quality of the firms' reporting practices. Some firms reported more timely financial disclosures on their websites while other firms had out-dated information on their websites. In addition, they observed that the usefulness of the firms' financial reporting depended on how easy it was to access the data, the amount of data disclosed and whether the user could download or analyze the data. Their findings also indicated that consumers of financial information can access a firm's website and obtain more timely financial information than provided by traditional paper-based reporting, and in some cases obtain more financial and non-financial information than that provided through traditional reporting. Ashbaugh et al, 1999, also found that non-IFR firms used a greater proportion of their resources than IFR firms to establish and maintain an internet presence. Also, while firms perceived their websites to be an important way to disseminate information to customers and shareholders, IFR firms were more concerned than non-IFR firms about communication with potential and existing shareholders, while non-IFR firms were more concerned with communication with existing customers and keeping pace with competitors.

Similar studies on the use of internet financial reporting have been conducted for other countries. Lymer et al, (1997) studied 52 top companies in the United Kingdom and 72 listed companies in Finland to determine their usage of the internet in corporate reporting, and concluded that while usage at the time was low, the internet had the potential as a delivery and communication mechanism for corporate reporting.

Studies have also been conducted on the use of internet financial reporting in a number of developing countries. Salawu (2009) studied 220 companies listed on the Nigerian Stock Exchange and found that 54.1% of the companies listed on the exchange had websites and that only 20.5% of the listed companies reported their financial information on their websites, indicating that the use of internet financial reporting among the listed companies in Nigeria was not widespread.

In a study of internet financial reporting by commercial banks in Nigeria, Sanni, et al, (2009), found that all the banks sampled had websites and that a majority (77%) of them maintained some form financial information on the internet. However, they discovered that only a few of the banks featured information that was comprehensive enough to be useful to users, and most of the information on the websites was stale. They recommended that Nigerian banks should overhaul the internet financial reporting sections of their websites in order to be in line with globally accepted practices.

Lastly, Lamani et al (2011) studied 26 banks and insurance companies in Albania to determine the extent of the usage of internet financial reporting among them. Their findings indicated that 24 out of the 26 banks and insurance companies had websites, and that among the companies with websites, 20 (83%) reported their financial information at their websites. This indicated that internet financial reporting was a common practice among banks and insurance companies in Albania.

DATA AND METHODOLOGY

The study covered all the 187 state chartered banks listed on the State of Georgia Department of Banking and Finance website. The Internet was searched for the websites of the banks between December 1, 2012 and January 7, 2013, and when the websites were found they were reviewed to determine if they contained financial information in the form of Annual Reports, how many years of data was reported, how current was the data reported and the location of the financial information on the websites. By way of contrast, a similar review was conducted on the websites of the top 10 commercial banks in the United States. The website: www.Google.Com was the major search engine used to access the websites of the banks; and the State of Georgia Department of Banking and Finance website: http://dbf.georgia.gov was used to obtain the list of State of Georgia chartered banks. The data collected was analyzed using descriptive analysis such as tables, percentages and averages.

RESULTS AND DISCUSSION

It was found that 184 (98.4%) of the banks operated websites while 3 (1.6%) did not have websites. The websites contained financial and non-financial information such as the history of the bank, board of directors and management team, products and services offered, financial information, branch network, online banking and contact information. The study showed that out of the 184 banks with websites, only 7 reported their financial information on their websites and 1 (one) bank reported only the Statement of Condition, while the remaining 176 banks did not engage in internet financial reporting. Thus, the overwhelming majority (96.3 percent) of state-chartered banks in Georgia did not engage in internet financial reporting. Not surprisingly, the banks with internet financial reporting were the larger banks (e.g., Sun Trust Bank) while the banks with no internet financial reporting were the small community based banks, some with one or two branches (e.g. Verity Bank).

The banks with no internet financial reporting maintained the following information on their websites: History of the Bank, Board of Directors, Management Team, Products and Services, Branch Network , Online banking and Contact Information. This is consistent with the findings of Ashbaugh et al, 1999, that non-IFR firms were more concerned with using their internet presence to communicate with their customers and keep pace with competitors than to disseminate information to their shareholders. The study also found that among the 7 banks using internet financial reporting all of them had current information on their websites, reporting an average of one year's data. Also, the location of the financial information on the websites of the banks was not always obvious to the user; some banks reported it under "About Us" while others reported it under "Investor Relations".

By contrast, a study of the internet financial reporting practices of the top ten commercial banks in the United States of America shows that all top ten commercial banks in the United States maintain current Annual Reports on their websites. The number of years of Annual Reports included in the websites of these banks ranged from 5 to 14 years, with an average of 10 years data presented. Seven of the banks reported the financial information under the "About Us" tab of the main page of the website, while three reported it under "Investor Relations".

Summarized below is a table comparing the internet reporting practices of state chartered banks in Georgia to that of the top 10 commercial banks in the United States.

	Percentage of Georgia Chartered Banks	Percentage of Top 10 Commercial Banks in United States
With Websites	98.4%	100%
With No Websites	1.6%	0%
With Internet Financial Reporting	3.7%	100%
No Internet Financial Reporting	96.3%	0%

CONCLUSION

This study investigates the nature and extent of the internet financial reporting by state-chartered banks in Georgia. It found that 184 (98.4%) of the banks operated websites while 3 (1.6%) did not have websites. The study showed that out of the 184 banks with websites, only 7 reported their financial information (Annual report) on their websites, 1(one) bank reported only the Statement of Condition, while the remaining 176 banks did not report any financial information on their websites; thus the overwhelming majority (96.3 percent) of state-chartered banks in Georgia did not engage in internet financial reporting (IFR). The study also found that among the 7 banks using internet financial reporting all of them had current information on their websites and they maintained an average of one year's data. Also, the location of the information on the websites of the banks was not always obvious to the user; some reported it under "About Us" while others reported it under "Investor Relations". In contrast, all top 10 commercial banks in the United States use internet financial reporting and they maintained an average of 10 year's data on their websites The study showed that state-chartered banks in Georgia (most of whom were small community based banks) were more concerned with using the internet to communicate with their customers and to keep pace with their competitors (e.g. online banking) than to disseminate financial information to their shareholders.

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CAPITAL GAINS TAXATION AND INVESTORS' RESPONSE: EMPIRICAL INVESTIGATION

Akinloye Akindayomi*, University of Texas – Pan American

ABSTRACT

In this study, I attempt to empirically examine whether taxpayers fully and truly respond to the interaction between changes in capital gains tax rates and capital assets liquidation in a 'rational' way. Rational taxpayers are expected to respond to changes in statutory tax rates. A priori, rational taxpayers are expected to respond to changes in statutory tax rates. I argue that such responses ex ante tend to be pronounced for capital gains in the short-run relative to the long run. For example, a reduction (increase) in capital gains tax rates may make taxpayers to unlock (lock-in) substantial amounts of accrued (realizable) appreciated gains. I also speculate that capital gains and not necessarily capital gains rates affect market liquidity.

Keywords: capital gains, taxpayers, market liquidity

SURPRISE EARNINGS ANNOUNCEMENTS: A TEST OF MARKET EFFICIENCY

Robert T. Blackburn, Longwood University
Frank W. Bacon, Longwood University

ABSTRACT

The purpose of this study is to test the semi-strong form efficient market hypothesis (EMH) by analyzing the effects of surprise earnings announcements (SEAs) on stock price. The goal of this study is to answer the question, is it possible as a rule to earn an above normal return while purchasing the publicly traded stock on the announcement date of surprise earnings? Past research has shown that the market is typically categorized in the semi-strong form of market efficiency this means it is not possible to consistently outperform the market when appropriately adjusted for risk, (i.e. Beta and Alpha), by using public information such as SEAs. Thus, SEAs should have been acted on by the market fast enough to make it impossible for investor's acting on the announcement to make an above normal risk adjusted return. These study results support the semi-strong form EMH and proposes the possibility that people are trading on this information almost 29 days prior to the announcement date. This may mean that investors are using insider information while making these investments.

INTRODUCTION

Earnings reports are certified financial documents that are published by publicly traded companies to show their overall financial condition. Earning reports can be published monthly and or yearly. These statements are analyzed by both professional stock analysts and new investors. Some of the important documents discussed in the earnings report are the income statement and balance sheet. These documents indicate the expenses, earnings, and net profit of a company. The earnings reports are significant because they give the public, who may be interested in investing in the company, a view inside of the firm in order to analyze the firm's performance. It is easy to see that having a positive surprise earnings report may bring about the potential to make a capital gain on an investment due to the increase in interest of the successful firm. The purpose of this study is to test the semi-strong form efficient market hypothesis (EMH) by analyzing the effects of surprise earnings announcements (SEA) on stock price. The goal of this study is to answer the question, is it possible as a rule to earn an above normal return while purchasing the publicly traded stock on the date of its surprise earnings?

Market efficiency is said to be how quickly the market reacts to information. In 1970, Eugene Fama, stated that market efficiency could take on three forms: weak form, semi-strong form, and strong form efficiency. According to the semi-strong form EMH, the stock market should instantaneously respond to public earnings announcements making it impossible for an investor to make an above normal return on their investment by purchasing stock on publicized

announcements. This study tests the EMH by determining the investor's ability to earn an above normal return in the short run by acting on surprise public earnings announcements.

BACKGROUND AND PURPOSE

The intention of this event study is to test the market efficiency theory by analyzing the impact of a sample of 10 firm's positive SEAs using the standard risk adjusted event study methodology. In particular, how fast does the market price of the firms' stock react to the sample of positive SEAs examined? This research tests whether a positive surprise earnings announcement reflects the strong form, semi-strong form, or weak form of the EMH based on the timing of the announcements and the adaptations in the stock price that occur. If a strong relationship exists between the announcement and an instantaneous equity market price change, there may not be opportunity to earn an above normal return and such evidence would support efficient market theory.

LITERATURE REVIEW

In 1970, Eugene Fama, stated that market efficiency could take on three forms: weak form, semi-strong form, and strong form efficiency. (Fama 1970) Fama described weak-form efficiency as no investor can earn an above normal return by developing trading rules based on past information on prices or returns. In essence, if the market is weak form efficient then no investor can receive a return greater than the market (i.e. S&P 500 index). An example of this is if a person sees that a company had high earning last quarter and then purchases the stock on this past information the investor should not be able to make and above average return. Numerous studies have supported the random walk theory that supports the weak form market efficiency.

The next form of market efficiency defined by Fama, semi-strong-form, describes the market as no investor can earn an above normal return (i.e. S&P 500 index) if they are making their decisions based on publically known information such as accounting statements, block trades, dividend announcements, earnings announcements, repurchase of stock announcements, sale of stock announcements, or stock split announcements. Put simply, if someone purchases stock on the announcement and still doesn't make a higher than average return adjusted for risk than the market is said to be semi-strong form efficient.

The last form of market efficiency, Strong-form efficiency theory, says that no investor can earn an above normal return, (i.e. S&P 500 index), if they are making their decisions based on any information, public or private. Studies on the weight of strong form efficiency offer varied results. If the market falls into this category of strong form efficient, then stock prices adjust so quickly to both public and private information that no investor can earn an above normal return, (i.e. S&P 500 index). In other words, investors would be acting on insider information, which in the United States, where this information was gathered, is illegal. In order to test this theory, it would have to be shown that when people use private information to invest they don't earn an above normal return, (i.e. S&P 500 index).

Investors should only expect to earn an average rate of return, (i.e. how the S&P 500 index is performing) in this research. This paper analyzes the effects of SEAs on stock price by seeing if it falls into the category of semi-strong-form market efficiency. The goal of this study is to answer the question, is it possible as a rule to earn an above normal return while purchasing the publicly traded stock on the announcement date when a firm publicizes its surprise earnings?

METHODOLOGY AND STUDY SAMPLE

This study sample includes 10 randomly selected firms with positive SEAs on random dates between the time period November 22, 2011 and November 27, 2012. The random sample was selected from positive SEAs traded on either the NYSE or NASDAQ found on finance.yahoo.com.

In order to test semi-strong market efficiency with respect to positive SEAs on stock return around the announcement date, this study proposes the following null and alternate hypotheses:

$H1_0$: *The risk adjusted return of the stock price of the sample of firms announcing positive surprise earnings is not significantly affected by this type of information on the announcement date.*

$H1_1$: *The risk adjusted return of the stock price of the sample of firms announcing positive surprise earnings is significantly positively affected by this type of information on the announcement date.*

$H2_0$: *The risk adjusted return of the stock price of the sample of firms announcing positive surprise earnings is not significantly affected by this type of information around the announcement date as defined by the event period.*

$H2_1$: *The risk adjusted return of the stock price of the sample of firms announcing positive surprise earnings is significantly positively affected around the announcement date as defined by the event period.*

This study uses the standard risk adjusted event study methodology from the finance literature. The announcement date, (day 0), obtained from http://finance.yahoo.com/, is the date of the firm's announcement of the positive surprise earnings. The required historical financial data, i.e. the stock price and S&P500 index during the event study period were also obtained from finance.yahoo.com. The historical stock prices of the sample companies, and S&P 500 index, for the event study duration of -180 to +30 days (with day –30 to day +30 defined as the event period and day 0 the announcement date) were then obtained. However, to arrive at the information of the current daily return for this time period the 181st day prior to the announcement needs to be gathered as well. Then, holding period returns of the companies (R) and the corresponding S&P 500 index (Rm) for each day in this study period were calculated using the following formula: Current daily return = (current day close price – previous day close price) / previous day close price. A regression analysis was performed using the actual daily return of each company (dependent variable) and the corresponding S&P 500 daily return

(independent variable) over the pre-event period (day –180 to –31 or period prior to the event period of day –30 to day +30) to obtain the intercept alpha and the standardized coefficient beta. In order to get the normal expected returns, the risk-adjusted method, (market model), was used. The expected return for each stock, for each day of the event period from day -30 to day +30, was calculated as: E(R) = alpha + Beta (Rm), where Rm is the return on the market i.e. the S&P 500 index. Then, the Excess return (ER) was calculated as: R = the Actual Return (R) – Expected Return E(R). The Average Excess Returns (AER) was then calculated (for each day from -30 to +30) by averaging the excess returns for all of the firms for each given day. AER = Sum of Excess Return for given day / n, where n = number of firms is sample i.e. 10 in this case. The Cumulative AER (CAER) was also calculated by adding the AERs for each day from -30 to +30. Graphs of AER and Cumulative AER were plotted for the event period i.e. day -30 to day +30. Chart 1 shown below depicts AER plotted against time. Chart 2 shown below depicts Cumulative Average Excess Return (CAER) plotted against time.

QUANTITATIVE TEST AND RESULTS

To statistically test for a difference in the Actual Daily Average Returns (for the firms over the time periods day -30 to day +30) and the Expected Daily Average Returns (for the firms over the time periods day -30 to day +30), we administrated a paired sample t-test and found a significant difference at the 5% level between actual average daily returns and the risk adjusted expected average daily returns. Results here support the alternate hypothesis $H2_1$. This finding supports the significance of the information around the event since the market's reaction was observed. Is it possible to isolate and observe the sample's daily response to the announcement of a positive surprise earnings announcement from day -30 to day +30? If so, at what level of efficiency (weak, semi-strong, strong form according to efficient market theory) did the market respond to the information and what are the implications for market efficiency?

Another purpose of this analysis was to test the efficiency of the market in reacting to the announcement of a positive surprise earnings report. Precisely, can we distinguish weak, semi-strong, or strong form market efficiency as demarcated by Fama, 1970, in the EMH? The key in the analysis or tests is to determine if the AER and CAER are significantly different from zero or that there is a visible graphical or statistical relationship between time and either AER or CAER. See AER and CAER graphs in Charts 1 and 2 below. T-tests of AER and CAER both tested different from zero at the 5% level of significance. Likewise, observation of Chart 2 (graph of CAER from day –30 to day +30) confirms the significant positive reaction of the risk-adjusted returns of the sample of firms tested, up to 29 days prior to the positive surprise earnings announcement.

Chart 1: AVERAGE EXCESS RETURN OVER EVENT PERIOD

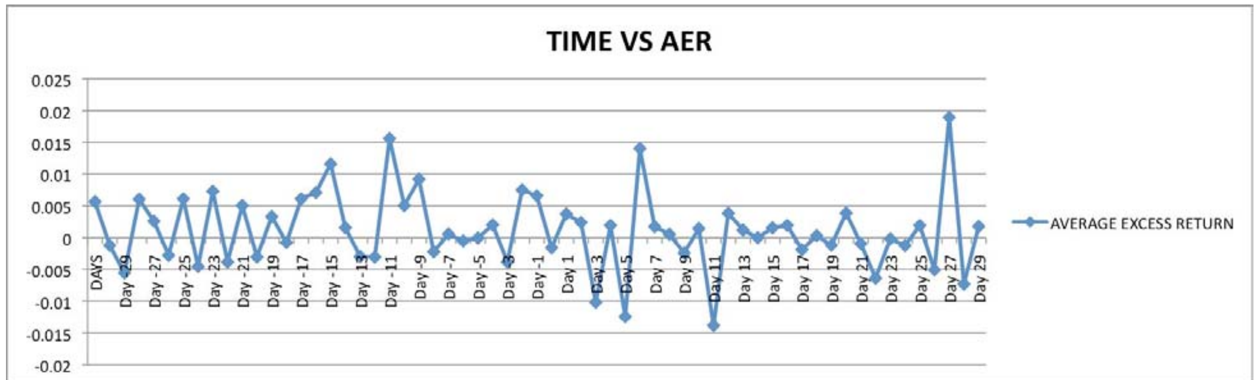
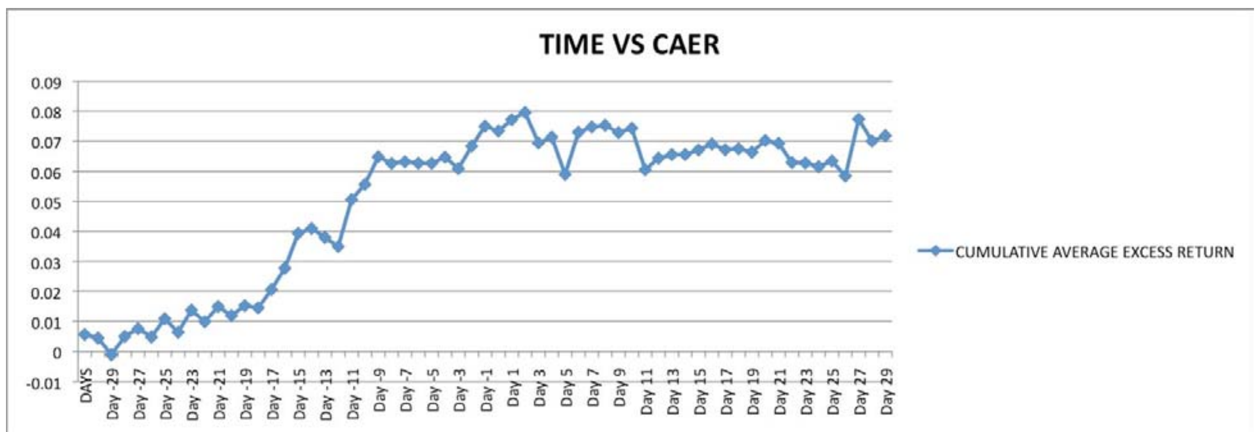


Chart 2: CUMULATIVE AVERAGE EXCESS RETURN OVER EVENT PERIOD



The graph in Chart 2 demonstrates that the positive SEAs had a significant positive impact on the firm's share price up to twenty-nine days prior to the surprise earnings announcement, day zero. The evidence supports the null hypothesis $H1_0$. For the sample of 10 firms analyzed, an investor was unable to earn an above normal risk adjusted return by acting on the public announcement. As for on the announcement date, the firms' stock prices had already adjusted to the new information embedded in the positive SEAs. In fact, after the announcement, stock prices dipped slightly on days 2,5 and 11, (suggesting an over-reaction by investors acting on this announcement), then returning to announcement day equilibrium on day 4,8, and 14 (Pettengill & Jordan, 1990). This is consistent with the semi-strong form market efficiency hypothesis, which states that the stock price reflects all publicly available information. Fascinatingly, the results for this sample suggest significant insider trading activity up to 29 days prior to the announcement of the positive surprise earnings.

CONCLUSION

This study tested the effect of positive surprise earnings report announcements on the stock price's risk adjusted rate of return for a randomly selected sample of 10 firms from the NYSE and NASDAQ during the time period November 22, 2011 to November 27, 2012. Using

standard risk adjusted event study methodology with the market model, the study analyzed 2,364 recent closing prices on the ten publicly traded firms and the S&P 500 market index. Appropriate statistical tests for significance were conducted. These results show a significant positive market reaction prior to the firms' positive surprise earnings report announcements. Findings also support efficient market theory at the semi-strong form level as documented by Fama (1970). Similar to other event study's findings in the finance literature, (stock options, repurchase, dividend announcements etc.), apparently trading activity on the basis of this information surfaced prior to it being made public. This is a very interesting subject matter because people either sensed that the firm was doing well and decided to purchase the stock which caused the stock to make an above average return adjusted for risk prior to the positive surprise earnings report announcements or they received insider information.

For this study of positive surprise earnings report announcements, they are viewed as a signal of solid growth and the ability to do well in the market. Positive surprise earnings report announcements appear to give investors a positive view of the companies stock, making that company appear to have continuous growth in the future, which pushes up the price of stock. The market's positive reaction to the surprise earnings announcement implies stockholders should like hearing that this has happened but should not cause anyone to react on the news because the market has already reacted on this information and thus is efficient in the semi-strong form of market efficiency.

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HOW CONFERENCE CALLS AFFECT STOCK PRICE

Brooke V. Bunch, Longwood University
Frank W. Bacon, Longwood University

ABSTRACT

The purpose of this research project attempts to gain a measure of how conference calls affect stock prices by analyzing the selected firms' stock price around the time of their conference call. Particularly, can you earn an above normal return due to a company's conference call? A standard risk-adjusted event study methodology was used to determine whether conference calls have an effect on stock prices. Data was collected from fifteen different companies to determine the stock market's reaction during the period of the earnings call. The study presents new indications of a positive affect during the time surrounding the conference call date. Furthermore, the study results suggest a lower return ten days prior to the conference call and a higher return after but by thirty days after the price seems to level back out.

JAQUES FELT FAIR PAY AMONG INTERNAL AUDITORS

Shawn M. Carraher, University of Cambridge, Oxford University, Plymouth University

ABSTRACT

In the current paper I examine the relationship between Pay Satisfaction and Jaques' Felt Fair Pay construct among a sample of 238 internal auditors from the Southwestern USA. Using multiple regression I did a stepwise regression of compensation and then Jaques' felt fair pay construct on the Pay Level subscale of the Pay Satisfaction Questionnaire of Heneman & Schwab (1985). I found that compensation alone was able to explain 3.7% of the variance in pay satisfaction but that by adding the Felt fair Pay construct that the two were able to explain 39.6% of the variation in pay satisfaction. Suggestions for future research on Jaques' theories are provided.

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A KALEIDOSCOPE CAREER PERSPECTIVE ON THE COMPENSATION OF INTERNAL ACCOUNTANTS

Shawn M. Carraher, University of Cambridge, Oxford University, Plymouth University
Sherry E. Sullivan, Bowling Green State University

ABSTRACT

In the current study we use data from 214 accountants in Texas in order to examine the relationship between the Kaleidoscope Career Model (KCM) and compensation. Based upon prior research and theory we hypothesize that authenticity should not be related to compensation, that balance should be negatively related to compensation and that challenge should be positively related to compensation. We find that Challenge is statistically significantly related to Compensation at the .002 level but that neither Authenticity nor Balance was related to compensation at or below the .05 level. At the .1 level Balance was negatively related to compensation however this was due to it acting as a statistical suppressor variable between compensation and Challenge. Suggestions for future research are provided

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INFLUENCES ON ADMINISTRATIVE COSTS IN CONVENIENCE STORE CHAINS: A CROSS-SECTIONAL ACTIVITY-BASED STUDY

Kirk Frederic Fischer, University of Mary Hardin-Baylor

ABSTRACT

Convenience store chains have administrative functions – largely accounting, human resource, and compliance activities – to support the business operations. Chains across the United States and Canada, while rich in operational industry benchmark data, have no data to help evaluate the appropriateness of their administrative costs.

Using a mixed-methods approach built on the theoretical foundation of activity-based budgeting, data was gathered and analyzed attempting to link chain activities to administrative processes. The data gathered covered chains owning from five to seventy stores.

The results show that economies of scale and automation of paperwork handling, particularly as it pertains to inside-the-store activity, yield per-store cost savings. Increases in chain size have more potential to increase administrative costs than increases in business complexity. Specific activities are linked to per-store administrative cost providing practitioners with inferential guidance as to where administrative cost savings can be found.

AN ANALYSIS OF USING FOMC PURCHASES TO REDUCE KNIGHTIAN RISK

Thomas F Gross, Herzing University

ABSTRACT

Although the literature suggests the Government can play a key role in reducing Knightian risk by means of market intervention, there are surprisingly few documented examples where such a policy was explicitly attempted. However, the recently completed effort by the Treasury, in partnership with the Fed, to stabilize the market for Mortgage-backed securities is an example of such an attempt. A statistical analysis of purchase and sale prices of Agency mortgage-backed securities indicates that the effort was successful.

INTRODUCTION

One of the most dramatic and economically important events in recent history is the near collapse of the market for mortgage backed securities in 2007, an event sparked by the crisis in subprime mortgages. This event had the potential to cause a widespread economic collapse by cascading through domestic and international financial markets. The initial reaction to the growing financial crisis was a mix of public and private initiatives designed to stabilize the market by providing liquidity, the main thrust of which was the Troubled Asset Relief Program (TARP). According to the Treasury, the purpose for which the TARP was created was to "stabilize the financial system and prevent a possible second Great Depression" (2011). The Special Inspector General of the Troubled Asset Relief Program (SIGTARP, 2009a) described the TARP as representing a "massive and unprecedented investment of taxpayer money designed to stabilize the financial industry and promote economic recovery" (p. 3).

TROUBLED ASSET PURCHASE PROGRAM UNDER FOMC

According to the Federal Open Market Committee's (FOMC) annual report in 2008 (2009), the trading desk of the Federal Reserve Bank of New York (the Desk) is charged with fostering "conditions in the market for Federal Reserve Balances consistent with maintaining the overnight federal funds...rate" (p. 1). At the same time the committee also announced that the Desk began purchasing agency MBSs (i.e., those of Fannie Mae, Freddie Mac, and Ginnie Mae) on behalf of the System Open Market Account (SOMA). Thus the originally conceived TARP morphed into a separate effort to purchase, hold, and resell agency MBSs through open market transactions of the Desk. This effort worked coincidentally with the effort to provide liquidity by injecting money into the economy.

WHAT IS KNIGHTIAN UNCERTAINTY?

The research questions addressed in this paper stem from an analysis of liquidity problems caused by any reason and the additional risk caused by Knightian uncertainty (Knight, 1921). Knight defined uncertainty as investors not knowing the magnitude or type of risk they face, rather than just an increase in the volatility of the underlying variable that causes risk. Knight argued that uncertainty has a larger effect on markets than increased variability because investors cannot quantify an unknown. Put simply, the focus of researchers on liquidity problems and Knightian uncertainty is widespread in the literature on market crisis.

In addition to agreeing on the effects of a liquidity crisis on markets, several authors have endorsed Government intervention under the auspices of being the lender of last resort. For example, Caballero and Krishnamurthy (2008) argued explicitely that Governments should intervene because they are uniquely able to provide the necessary liquidy that would convert Knightian uncertainty to simple risk.

DATA AND RESEARCH QUESTIONS

The data used for this research were obtained from the Board of Governors of the Federal Reserve System web site (2011). The primary variable of interest is the recorded price of the security transaction, represented as a percentage of its par value (par value = 100). This variable represents the price paid by the Desk or obtained by the Desk in open market transactions. Each transaction represents a trade in agency MBSs that can be identified by CUSIP; each CUSIP represents a float of identical MBSs issued by one of the three Government enterprises (Fannie Mae, Freddie Mac, or Ginnie Mae).

These data were described by the Fed as prices obtained during trades that were executed in an open bidding process designed to ensure that the transaction prices represented market rates at the time of the transaction (System, 2012). Transactions were conducted by the Desk from January of 2009 to March of 2010, the period over which the FOMC was authorized to make trades under the TARP.

The primary goal of this research is to determine if intervention by the Fed in the market for mortgage-backed securities succeeded in stabilizing the market and preventing a security price collapse. Specifically, it is to determine if there was a sharp decline in value of these securities; the associated testable null hypothesis is:

H1: Is the average purchase price of MBS is greater than or equal to par value.

There were two different methods used for testing the relationship between purchase and sale prices recorded by the Desk. The first method (Hypothesis 2a) looked at the average price of all mortgage-backed securities purchased and compared that to the average price of all mortgage-backed securities sold. A second method of testing this research question (Hypothesis 2b) was used to compare the prices obtained for specific CUSIPS. The specific testable null hypothesis for the average of all purchase and sale transactions is Hypothesis 2a:

H2a: The average price of all MBSs sold by the Desk is less than or equal to the average price of all MBS purchased.

The specific testable null hypothesis for each paired CUSIP is Hypothesis 2b:

H2b: The average price of MBSs i sold by the Desk is less than or equal to the average price of MBS i purchased.

DATA ANALYSIS

The null hypothesis for H1 could not be rejected because the estimated average purchase price of agency MBSs was greater than Par value. The mean price of the purchases conducted by the Desk was 101.77 or almost two percent above par value. The summary statistics for sale transactions were similar to those for purchase transactions, although with a higher mean and slightly worse measures for skewness and kurtosis. The sale transactions indicate that the Desk was able to obtain an average price for all sales of 103.23; the confidence interval of the mean is from 103.14 to 103.32. Further, more than 75% of the sale transactions were above the average purchase transaction price. Therefore the null hypothesis for Hypothesis 2a can be rejected.

Hypothesis 2b was tested using a subset of all transactions by grouping them by their CUSIP number and comparing the average purchase price for that issue against its subsequent average sale price. The only restriction placed on selecting the securities used for this test was that each grouping had to have a minimum of 30 transactions for both purchases and the sales.

The t-values associated with tests of Hypothesis 2b are given in Table 1. In addition, the difference in the average transaction price is included to show the magnitude of the difference.

Table 1: Hypothesis Test 2a and 2b: Sale Price Greater than Purchase Price

CUSIP	Sales	Purchases	P_s - P_p	t	p-Value
All Transactions	1438	8620	1.45	27.52	0.00
01F0506A	37	202	1.90	17.60	0.00
01F0506B	38	58	0.80	8.09	0.00
01F05262	30	138	1.80	7.46	0.00
01F05263	31	89	1.81	7.12	0.00
01F05264	59	118	(1.11)	-8.31	1.00***
01F05625	105	103	(0.03)	-0.29	0.62***
01F05266	114	68	0.76	3.49	0.00
01F05267	81	61	0.07	0.19	0.43***
Total Paired	495	837			
Percent of All	34.42%	9.71%			

Note: *** represents failure to reject the null hypothesis

As noted above, the results of the t-test show that the null can be rejected for the average of all transactions, indicating that on average the Desk was able to sell agency MBSs at a higher price than they paid for the securities. In fact, only 194 of the 1438 sale transactions (14.5%) were below the average price of 101.77 for all transaction purchase transactions. However, the

average price of all transactions is not a good test of the claim that individual securities sold for a price above what was paid by the Desk when they acquired the security. It was therefore necessary to compare the average purchase and sale price of securities by CUSIP.

When specific securities grouped by CUSIP were tested, five out of the eight securities rejected the null with large t-values. Of the three that failed to reject the null, two also would have failed to reject if the null had been testing that the purchase and sale prices were equal, meaning that the price obtained by the Desk was approximately equal to the price paid for those securities. Only one security had a significantly lower sale price than purchase price. To the degree that the purchase and sale prices of individual securities could be compared, there is strong evidence that the Desk was able to obtain higher prices for securities sold than were paid.

The combined results from testing hypotheses 1 and 2 give strong evidence that the Fed was able to meet its primary goals of restoring liquidity and stability to the market for agency MBSs. This is an important result if it could be shown that the broader market in which the Fed did not intervene did collapse.

DISCUSSION OF RESULTS

The evaluation of agency MBSs suggests an obvious question: what happened to the rest of the high-quality MBSs market? Although there is currently little peer reviewed analytical research available on these markets, one pertinent study was conducted by Stanton and Wallace (2011). In their paper the authors calculated the implied default rates of AAA MBS derivatives by the drop in prices of a market-wide index. The data used in the study consisted of index prices for Credit Default Swap (CDS) financial instruments compiled for the ABX.HE index (p. 3). Although the underlying securities were themselves sub-prime, the analysis included the pricing of the AAA tranche of these derivatives. As noted by Fabozzi (2005) and others, the top-tier tranches of a MBS and their derivatives are considered low risk investments because of the high level of defaults the portfolio would have to endure before payouts from that tranche would be affected. After reviewing their data, the authors noted that the AAA rated residential MBSs were trading significantly below the rate implied by any historical measure of defaults (p. 5). One possible explanation considered by Stanton and Wallace was that investors were pricing anticipated losses in the market rather than realized losses. However, they argued that the prices quoted implied anticipated default rates greater than the "worst imaginable" scenario. For example, the authors claimed that the implied default rates were lower than those observed in the Great Depression and worse than have ever been observed in the US housing market (p. 9). Making their point explicit, they argued that the "market prices for AAA ABX.HE index CDS at the peak of the financial crisis in June 2009 are inconsistent with any reasonable assumptions for future default rates" (p. 27). As an example, the authors documented that in June of 2009 various AAA tranches traded between 33 cents on the dollar to around 60 cents on the dollar, much lower than could be justified by actual or anticipated market conditions. Therefore one answer to the question about what happened to markets for MBSs in which the Treasury did not intervene is that some did collapse.

The research of Stanton and Wallace (2011) is particularly valuable to these discussions because it represents an examination of the market for derivatives of residential MBSs as a whole. Further, Stanton and Wallace's research argues that the drop in prices for the AAA derivatives could not have been due to anticipated defaults, implying that some other source of risk was being priced by investors. A reasonable interpretation is that agency MBSs, which are a subset of the larger market for MBSs, should have been affected in a similar way as the AAA derivatives of residential MBSs. Summarizing these results, the TARP succeeded in maintaining the stability of the market for agency mortgage-backed securities under conditions that should have resulted in a market price collapse.

CONCLUSION

The research described here used pricing data to evaluate the effect of a targeted Government program designed to stabilize a specific market. The research is unusual in that it was able to test the effect of Government intervention authorized under the TARP against specific goals set out by Congress. Measured against those goals, the agency MBSs purchase program was a success. The results of this study suggest that Government should have an active, if limited, role in the financial markets. Specifically, the results suggest that the Government should intervene in markets to avoid the effects of Knightian uncertainty by providing liquidity when necessary to minimize the risk of collapse.

INFLUENCE OF STOCK SPLIT ANNOUNCEMENTS ON STOCK PRICE: A TEST OF MARKET EFFICIENCY

Caitlin A. Hagarty, Longwood University
Frank W. Bacon, Longwood University

ABSTRACT

The purpose of this study is to test whether or not a stock split announcement can affect stock prices of a firm in such a way that would make it possible for an investor to earn an above normal return after the announcement is made. According to the semi-strong form efficient market, it is impossible for an investor to achieve superior gains by solely relying on public information such as a stock split announcement. Previous studies propose that a firm's stock split announcement can instill a positive image in regards to the firm's future, which can result in an increase of the firm's stock price. The methodology used for the analysis is a standard risk-adjusted event study, testing whether the public announcement of a stock split affects the price of the stock. Data was collected on eleven randomly selected firms that announced a two for one stock split. Results of the analysis support the semi-strong form efficient market hypothesis.

BEHAVIOR OF MONTHLY TOTAL RETURNS OF U.S. TREASURY BILLS: 1926 TO 2011

Shaikh A. Hamid, Southern New Hampshire University

ABSTRACT

This paper explores the behavior of total monthly returns of Treasury bills over the period January 1926 to December 2011. We examine three types of month effects: if the mean of T-bills total monthly returns of the entire data set, and of a given month were significantly different from zero; if the mean of T-bills total monthly returns of a given month was different from the mean of the other eleven months stacked; and if the variance of the T-bills total monthly returns for a given month was different from the variance of the other eleven months stacked. The mean of T-bills total monthly returns (0.294%) for the entire data set as well as the mean of all the months were significantly greater than zero. No month effect was detected either in terms of mean or in terms of variance. When the data are sliced into three sub-periods, we find results similar to what we find for the entire data set. The non-existence of significant differences in the means or the volatilities of the returns of a month compared to the other eleven months stacked together shows that T-bills market is largely efficient. This is contrary to what we found with similar studies on monthly returns of long-term Treasury and corporate bonds. The mean of T-bills total monthly returns during the Republican presidencies (0.372%) was higher than during the Democratic presidencies (0.215%). Compared to the other eleven months stacked, the variance of the returns of December during Republican presidencies was lower and it was higher during Democratic presidencies.

THE USEFULNESS OF ANNUAL REPORTS AND OTHER INFORMATION: EVIDENCE FROM INDIVIDUAL INVESTORS IN HONG KONG

Shimin Chen, China Europe International Business School
Kathy H. Y. Hsu, University of Louisiana at Lafayette

ABSTRACT

This study reports a survey of individual investors in Hong Kong with respect to their information needs. First, we find that although investors make use of annual reports, they rank the usefulness of annual reports lower than other alternative information sources such as historical information on stock price, dividends and earnings, company related news, as well as advice from analysts, newspapers and magazines. Second, consistent with the FASB's Conceptual Framework, individual investors view relevance and reliability as the two primary characteristics of useful financial reporting. However, relevance is more important than reliability in determining their perceptions on the usefulness of annual reports. Third, we provide evidence that the usefulness of annual reports is affected not only by investor characteristics such as education, investment experience, and investment horizon, but also by the types of companies in which they invest. Finally, we demonstrate that Hong Kong investors demand additional information, in particular relevant non-financial information, to be disclosed in annual reports to help them make better investment decisions. These findings help us better understand why and how financial reporting can be improved.

Key Words: *Value-relevance, Financial Reporting, Hong Kong, Individual Investors.*

ANALYSIS OF THE EFFECT OF SINGLE AUDIT ACT: CASE OF COUNTY GOVERNMENTS IN THE STATE OF OHIO

Sungkyoo Huh, California State University, San Bernardino
John Jin, California State University, San Bernardino
Steve Jakubowski, Ferris State University,

ABSTRACT

The Single Audit Act (SAA) Amendment in 1996 intended to simplify the audit process by consolidating OMB Circular A-128, Audits of State and Local Governments, and Circular A-133, Audits of Non-Profit Organizations. The OMB'S revised Circular A-133 provides the most recent guidance to auditors conducting single audits. The SAA states that its purpose is to improve the financial management of local governments.

While there is some discussion in the literature describing the SAA amendments and the benefits, very few studies have examined single audit reports. In this study, auditors' reports on internal control have been examined for a sample of counties in Ohio. We accessed to all 88 counties' web sites and selected randomly 16 counties and reviewed five years' from 2007 to 2011 SAA reports. Therefore, total eighty SAA reports have been reviewed for this study.

We investigate how the frequency of reported single audit findings changed over the five-year period beginning with 2007 through 2011. We also examine the specific types of control weakness and noncompliance findings (NCF) reported by the auditor along with the funding agency associated with each noncompliance finding. The findings provide some important information regarding the quantity and type of information provided by auditors about county government internal controls and the extent to which they have complied with grant terms and other applicable regulations. These findings have important implications related to the extent to which the single audit process improved as a result of the new amendments, the usefulness of the information reported, and also single audit quality.

We find in this study that auditors reported very few reportable conditions (RC) and questioned costs (QC) across the five years studied. Furthermore, the frequency of these findings changed little over the five-year period.

DOES CORPORATE GOVERNANCE IMPROVE BANKRUPTCY PREDICTION?

Elshahat, Islam - Towson University
Elshahat, Ahmed - Bradley University
Rao, Arundhati - Towson University

ABSTRACT

In this research article the Altman's bankruptcy prediction model is replicated using recent data to test for the validity of the Altman's results. Also, a corporate governance index measure is incorporated to enhance the prediction of the firms' bankruptcy. For one-year prediction window, we found no significant differences between bankrupt and non-bankrupt firm group means, however, there was significant group mean difference for the corporate governance index. The inclusion of the corporate governance index slightly improved the predictability of the bankrupted firms. There was no improvement in the overall predictability of Altman's bankruptcy prediction model after incorporating the corporate governance measures. Both prediction models, with and without corporate governance index, reported an overall predictability of 69% as compared to Altman's reported prediction rate 95%.

MULTIPLE NEEDS AND SINGULAR OFFERINGS: FINANCIAL STATEMENT ANALYSIS AT A CROSSROADS

Kurt Jesswein, Sam Houston State University

ABSTRACT

Accounting is often referred to as "the language of business" because it is how financial information about business entities is reported to various parties both inside and outside the organization. Therefore, the analysis of financial statements that are derived from the accounting process can be of paramount importance to understanding the operations of business entities. Developing the skill set that is necessary to successfully analyze financial statements can provide a significant advantage to students entering the world of finance and accounting. Yet there does not appear to be a singular text or set of materials that covers the broad spectrum of analytical tools in sufficient depth to provide a singular source to help in developing that skill set. We examine the state of financial statement analysis as it is currently situated in the ivory-towered world of academia and look at where it could or should move in the future.

INTRODUCTION

Accounting is often referred to as "the language of business" because it is how financial information about business entities is reported to various parties both inside and outside the organization. The process of assessing and analyzing accounting information (i.e., the company's financial statements) is of paramount importance to understanding the key components of a company's profitability and the risks that it takes on to generate that profitability.

The methods and tools used to conduct analyses of financial statements are dictated by the specific needs of the individual or organization conducting the analysis. Although there can be many varied approaches to financial statement analysis, such analysis tends to fall into one of three groupings: those concerned with the overall well-being (i.e., strength and weaknesses) of the organization such as management within the organization, those concerned with the organization's ability to repay debts such as external creditors of the organization, and those concerned with the ability of the company to generate additional value through its operations such as investors or potential investors in the organization.

The ability to analyze financial statements is a skill that can be taught to many but which will only be mastered by those with sufficient practical experience and those who possess the gift of being able to decipher the true meaning among the many mixed signals that accompany such an undertaking. While the "art" of financial statement analysis is something that cannot be readily taught, the "science" of financial statement analysis can be and is in both the academic and professional realms. In the professional realm various organizations provide learning resources specific to their fields. For example, one can train in credit analysis through

coursework offered by organizations such as the Risk Management Association (RMA) and American Bankers Associations (ABA). Or one can be trained in investment analysis through organizations such as the American Association of Individual Investors (AAII) or the CFA Institute.

In the academic realm many colleges and universities offer specific courses in financial statement analysis. Surprisingly, given the importance placed in the private sector on performing credit and investment analysis and in evaluating the operational efficiencies of organizations through analyzing financial statements, there have been few studies on how financial statement analysis is approached within academia and none in many years, the most recent being Koehn & Hallam, 1999. This paper reviews the "state" of financial statement analysis as it is currently being offered within the academic realm at U.S. colleges and universities with a critical look at where it may need to go in the future.

RESEARCH DIRECTION

Each of the primary textbook publishers offers textbooks covering various aspects of financial statement reporting and analysis. From Wiley, we have Drake & Fabozzi (2012), Fridson & Alvarez (2011), and Robinson, Henry, Pirie, Broihahn & Cope (2012). From Cengage we get Gibson (2013), Healy & Krishna (2013), and Wahlen, Baginski & Bradshaw (2011). McGraw-Hill offers Lundholm & Sloan (2013), Penman (2013), Revsine, Collins, Johnson & Mittlestaedt (2013), Subramanyam & Wild (2009), and White, Sondhi & Fried (2003). Prentice-Hall has Ormiston & Fraser (2013). Lesser known publishers such as Cambridge Business Publisher also produce text such as Easton, McAnally, Sommers & Zhang (2013). Given the plethora of offerings each textbook has obvious advantages and disadvantages or strengths and weaknesses relative to the other texts that may be based on the unique perspective of the individual making the comparisons.

The casual review of these textbooks produces a list of key similarities and differences. These include a matter of perspective (accounting information producer versus accounting information user), the ease or level of difficulty, and the breadth and depth of coverage. Some Orniston and Fraser) are relatively light reads, while others are almost encyclopedic (White, Sondhi & Fried). Although many of them profess otherwise, most of the texts assume either a high level of familiarity with the underlying accounting methodology or at least assume that the readers can readily grasp the accounting topics. Many address a broad array of uses of financial statement information, from assessments of a company's overall financial strengths and weaknesses to more focused examinations associated with investment or credit analysis. We argue that although credit analysis is addressed in each of the texts the topic is not covered with sufficient rigor to provide students with the tools to be successful in their careers. Not belittling the other purposes of financial statement analysis, it is in the credit area that many students will begin their careers. Particularly at the vast majority of schools that do not make up the upper tier of research institutions, graduates will more likely find themselves working in positions involving a great deal of credit analysis, whether it is in the financial services area or within the commercial world dealing of trade credit and related matters.

The full paper examines the topical and theoretical approaches that permeate the many textbooks in the field. It also examines a large sample of college curricula and associated course syllabi to see how the topic is being addressed by business schools in the 21st century. Suggested changes to the pedagogy of financial statement analysis are made in the hope of making the courses academically rigorous yet also addressing the practical importance of the subject matter.

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CAUSALITY TEST OF BUSINESS RISK AND CAPITAL STRUCTURE IN A PANEL DATA OF NIGERIAN LISTED FIRMS

Dauda Mohammed, Bayero University, Nigeria

ABSTRACT

In economic sense, some events may be subject to spill-over from economy-wide or world-wide shocks. For instance a country's fiscal policy, such as government spending, taxation, and borrowings, influence both the pattern of economic activity and also the level and growth of aggregate demand, output and employment. Therefore, causal relationship may flow from business risk to financing structure of companies and vice versa. The objective of this study is to show that Granger (1969) Causality test can be conducted on a panel data comprising of time series and cross-sectional data set. This study used a dynamic panel data of publicly listed firms in Nigeria for the period of 2000-2006, to analyse the direction of causality between our measures of leverage and business risk using the causality approach described by Granger (1969). The overall, results indicates that increases in either business risk or total liabilities as a proportion of total assets do not Granger-cause or predict higher future values of both variables over the short-to-medium term. The implication is that an analysis of the relationship between capital structure and business risk in Nigeria could be estimated in a dynamic panel framework

Keywords: Capital structure, business risk, Granger causality, Nigeria

INTRODUCTION

Financial researchers have often use contemporary pair-wise correlation coefficients to analyse of the degree of correspondence of directional movement in the variable of interests. However, such estimated pair-wise correlation coefficients do not indicate whether the assumed relationship is unidirectional or bi-directional. For instance, it does not often show whether the dependent variable is causing change in the independent variable or vice versa Nwachukwu and Mohammed (2012).

In other words some global events may be subject to spill-over from economy-wide or world-wide shocks. For instance a country's fiscal policy, such as government spending, taxation, and borrowings, influence both the pattern of economic activity and also the level and growth of aggregate demand, output and employment. It is therefore important to realize that changes in fiscal policy affect both aggregate demand (AD) and aggregate supply *(AS)* including that for a company's capital. In order to capture the impact of these changes in aggregate *demand* and aggregate *supply* researchers such as Granger, *et al.*(2000) and Koop (2006) employ econometric method to statistically detect the direction of the causal relationship between two time series variables using the Granger causality test. Similarly, previous studies on capital structure including Morley (2006) and Berger and Patti (2006), have utilized the Granger causality test in their panel data analysis. The aim of this paper is to use causality test as described by Granger (1969) to examine the directional relationship between business risk and capital structure of Nigerian listed firms**.** For brevity, we limit our analysis of the direction of causality by assuming that the ratio of total liabilities to total assets (LEV) and earnings risk (STDEV) form a simple two-variable model without the necessity of controlling for the effect of the other factors influencing the capital structure decisions of Nigerian companies.

DATA COLLECTION

The data for our study were obtained directly from the Nigerian Stock Exchange and to check the authenticity of data, we compared it with those made available by some of the companies on their respective web sites. Further, we excluded firms with less than 8 years of continuous time series data on their total liabilities, total assets, and earnings before interest and tax between 2000 and 2006. We also dropped firms that were cross-listed on both the domestic and overseas capital markets. This helped to avoid the confounding implications of disparities in economic structure, exchange rates, legislation, and the level of development of local and foreign markets. The sample of our study comprises seven annual observations for 94 companies, thus 658 observations. On the whole, they make up more than three-quarters of shares traded on the Nigerian Stock Exchange (NSE).

We examine the relationship between these variables using annual data over the period 2000-2006. The last seven years were chosen in order to avoid the uncertainties associated with the Nigerian elections in 1999 and in 2007. The definitions of all the variables used in this paper are given in Appendix Table A4. The paper is organised as follows: Section 1 explains the sources of the data. Section 2 examined the theoretical framework of the bivariate regression model that underlies our analysis. Section .3 summarizes the econometric problems inherent in quantitative researches when lagged dependent variables are included as one of the explanatory variables in a panel data framework. Section 4 presents our methodology while section 5 discusses the results of our empirical analysis along with related implications for policy debate over capital structure and risk.

THEORETICAL FRAMEWORK OF BI-VARIATE GRANGER CAUSALITY TEST

The theoretical framework of the bi-variate Granger-causality test is based on the premise that a causal series contains information about the response variable that is unavailable from any other source (Pesaran *et al.* 2001). A variable (X_{it}) for example, is said to cause another (Y_{it}) if the forecast for the current value of Y_{it} is significantly improved by the inclusion of the past value of X_{it} after controlling for the past value of Y_{it} (Pesaran *et al.* 2001). Given the challenges of Nigeria's business environment, it would not be impossible to have a causality relationship between capital structure and earnings volatility (*business risk*) running in both directions. It therefore follows that causation may run negatively from earnings risk to the total leverage ratio, providing that company managers are more inclined to retain a larger proportion of a marginal increase in earnings rather than distribute them to shareholders during periods of economic uncertainty. Thus, the additional retained profit is then substituted for debt capital. This implies that a forecast of changes in earnings variability would be followed by changes in the total leverage ratio in the opposite direction.

Previous studies on capital structure including Morley (2006) and Berger and Patti (2006), have utilized the Granger causality test in their panel data analysis. The perceptive ideas for bivariate causality are usually investigated by isolating the impact of the two variables of interest, in this case the leverage ratio of our sampled firms and our measure of earnings variability (business risk) assuming other variable are held constant. Hence, we regressed lags of the two variables of interest using the following specifications:

$$Y_{i,t} = \eta_0 + \sum_{j=1}^{m} \alpha_j^y \mathrm{Y}_{i,t-j} + \sum_{j=1}^{n} \beta_j^y \mathrm{X}_{i,t-j} + f_i^j + \varepsilon_{i,t}^y \quad \text{(Equation. 2.1)}$$

$$\mathrm{X}_{i,t} = \eta_0 + \sum_{j=1}^{m} \alpha_j^\chi \mathrm{X}_{i,t-j} + \sum_{j=1}^{n} \beta_j^\chi \mathrm{Y}_{i,t-j} + f_i^x + \varepsilon_{i,t}^x \quad \text{(Equation .2.2)}$$

where the term η_0 is an overall group constant, f_i is the company-specific effect and ε is the error term. We assume that the disturbance terms for the two equations are uncorrelated with the observable variable on the

right hand side and that they are normally identical and independently distributed. The coefficient β_j^y in equation 2.1 is utilized in our assessment of whether Granger-causality runs from the variable X to Y, while the coefficient β_j^x in equation 2.2 is employed in our computation of Granger-causality running in the opposite direction from Y to X.

EFFICIENCY OF PARAMETER ESTIMATES IN A DYNAMIC PANEL DATA MODEL

Research studies done in the past decade (Carkovic and Levine 2002; Nwachukwu, 2009) have shown that the inclusion of lagged dependent variables as one of the right hand side variables in a panel data framework presents problems for both fixed and random effect estimation techniques. This is because all panel data models make the basic assumption that at least some of the parameters are the same across the panel often referred to as the *pooling assumption*. When the pooling assumption does not hold, we refer to our panel as a *heterogeneous panel*.

Heterogeneity is introduced because we consider as cross-sections a relatively large number of companies that are in different sectors and different stages of growth that are also in competition for a larger market share. Thus, if we impose constant parameter assumption incorrectly, then serious problem may arise and we can again get a biased result arising in both ***static*** and ***dynamic*** panels under certain circumstances. In a panel data set, there is always a reason to suspect that the idiosyncratic error of individual firm (i) correlates over time (*autocorrelation*). It therefore follows that by construction, the regressors $Y_{i,t-j}$ and $X_{i,t-j}$ in equations 2.1 and 2.2 respectively will be a function of firm-specific fixed effects f_i. Generally, there are three types of misspecification bias that are frequently considered in a dynamic panel estimation which may prejudice the estimated parameter coefficients. They comprise errors induced by (i) non-stationarity in data, (ii) bias induced by the presence of firm-specific effect and (iii) the joint endogeneity of the explanatory variables. These biases have been dealt with in this study.

METHODOLOGY AND MODEL SPECIFICATION

The variables used in this paper are the natural logarithm of debt ratio and the volatility of the ratio of total earnings before interest and tax (EBIT) relative to total assets. The natural log as opposed to untransformed ratios allow us overcome the problem of skewed distribution as a result of the inclusion of companies with varying dimensions in their sales variability and asset structure. Harris, *et al.* (2005) has suggested that some skewed data can be transformed to normally distributed data and then analysed using more accurate parametric testing.

In addition, the use the natural log was also based on the result of a nested test. The non-nested test of linear versus log linear equations is obtained by estimating the linear equations and saving the predicted value of the dependent variables. We then ran the log-linear regression equation and include the fitted dependent variable from the linear model. The decision criterion is that if this additional predicted variable is significant at the conventional five per cent, then the log-linear equation is the wrong specification for analysing the data. The test result rejects the significance of the fitted dependent variable, thus implying that the log-linear equation is an acceptable specification for analysing our data. The two types of bivariate regression models estimated for our tests of the existence and direction of causality between the change in natural log of leverage ratio ($DLLEV$) on the one hand and earnings volatility as our measure of business risk ($STDEV$) on the other hand are represented in equations 4.1 and 4.2 below.

$$DLLEV_{i,t} = \eta_0 + \sum_{j=1}^{m} \alpha_j^{DLLEV} (DLLEV_{i,t-j}) + \sum_{j=1}^{n} \beta_j^{STDEV} (STDEV_{i,t-j}) + \Delta\varepsilon_{i,t}^{DLLEV} \quad \text{(Eq 4.1)}$$

$$STDEV_{i,t} = \eta_0 + \sum_{j=1}^{m} \alpha_j^{STDEV} (STDEV_{i,t-j}) + \sum_{j=1}^{n} \beta_j^{DLLEV} (DLLEV_{i,t-j}) + \Delta\varepsilon_{i,t}^{STDEV} \quad \text{(Eq 4.2)}$$

The regression analysis deploys a total of 609 observations generated from the panel data of our ninety-four companies over the period 2000 – 2006. The use of annual observation means that we can consider separately short and long-run Granger causality effects (Elbadawi and Mwega, 1998; Attanasio *et al.* 2000). Consequently, equations 4.1 and 4.2 above are estimated using the three instrumental variables techniques of GMM-IV, SURE and 3SLS.

EMPIRICAL RESULTS

The results of the estimation of the Granger-causality specifications using the three techniques described in Section 3 are presented in a Table. As is customary in the literature on Granger causality tests, we report the estimated group constant, the coefficients on the changes in the lagged values of total liability ratio and earnings volatility (business risk) variables in equations 4.1 and 4.2 respectively. In addition, we present the result of our calculation for the sum of the lag coefficients β_j^{DLLEV} and β_j^{STDEV} from the relevant equations, along with their probability values ($p-values$). We focus on the sum of the lagged coefficients which captures the total effect of the variables of interest as the appropriate statistic for testing causal relationships between our variables of interest, rather than the individual lag coefficients.

DISCUSSION OF FINDINGS

First, starting with the ratio of total debt to total asset annual changes in the Table for the SURE model, we found that there is no significant causal correlation running from the measure of earnings volatility (*business risk*) to the total leverage ratio for both the short and long term at the five per cent confidence level. The sum of the beta β_j coefficients on the individual lagged earnings volatility variables in Equation 4.1 i.e. [$\sum_{j=1}^{n=4} \beta_j^{STDEV}$] is -0.33 with a probability value of 0.48. However, the sum of the coefficients on the lagged measures of earnings volatility is negative and insignificantly different from zero. On the other hand, the coefficients of leverage lagged one, two and four periods for the SURE model, is statistically significant at the 5% confidence level. Consequently, the statically significant value for one and two year lagged periods suggests that the income variability (business risk) of the sampled companies may lead to a decrease in the gearing ratio of firms. This is indeed the inference of the negative value of -0.33 resulting from the summation of the coefficients of the lagged variable of earnings volatility. The outcome of this relationship may not be too surprising, given that companies' borrowing decisions may be strongly determined by the projected level and regularity of their earnings, given that debt obligations include a fixed contractual payment (debt) which a company has to honour irrespective of its future income. The more volatile a company's earnings are the greater are the chances of failing to meet the repayment of debt and interest. This will increase the probability of the firm becoming financially distressed hence, leading to bankruptcy.

Secondly the results of the reverse causal relationship from the total leverage ratio to business risk for the SURE model are reported. The sum of the estimated beta coefficients of the four year lagged variable $\sum_{j=1}^{n=4} \beta_j^{DLLEV}$ in Equation 4.2 is minus -0.001 and is statistically insignificantly different from zero. This suggests that a higher debt to assets ratio does not Granger cause or help predict future year-on-year changes in earnings volatility. An empirical implication of this insignificant causal relationship is that the business risk arising from the uncertainty in the forecasts of future cash flows is broadly similar for the firms in our sample of study, including those that raised their total debt ratio over the group sample mean. This correspondence in earnings risk would be manifested primarily in the form of comparable interest expenses on uninsured debt, as the rates on this debt would

incorporate a similar premium for the expected bankruptcy costs. This means that the rates paid on uninsured debt by our sample of listed Nigerian firms over the period 2000 to 2006 were broadly similar, irrespective of their proportions of total liabilities in total assets. We should recognise, however, that the predictions of our simple bivariate relationship between capital and earnings volatility may have been held down by the "spurious" effects of the omitted control variables.

SUMMARY AND CONCLUSION

The study tests for the direction of causality between our measures of leverage and business risk using the causality approach described by Granger (1969). Overall, the results suggest that increases in either business risk or total liabilities as a proportion of total assets do not Granger-cause or predict higher future values of both variables over the short-to-medium term. The results show that the previous debt ratios lag 1, 2 and 4 are statistically significant under the SURE estimation. The implication is that an analysis of the relationship between capital structure and business risk in Nigeria could be estimated in a dynamic panel framework. Nonetheless, we recognised that the causal predictions of such a simple two-variable empirical analysis may be biased because of the effect of omitted firm-specific variables that may impact on the capital structure choices of companies.

SNIPS: SIGNAL PROCESSING AND NEURAL NETWORK-BASED INTELLIGENT PREDICTIVE SYSTEM FOR STOCK FORECASTING

Aaron R. Rababaah, University of Maryland Eastern Shore
Dinesh K. Sharma, University of Maryland Eastern Shore

ABSTRACT

In this study, we develop a predictive intelligent system for tracking stock market movements and forecasting. Furthermore, the study applies to various decision-making situations including stock index individual price, open, close, low and high signals, N-day's future prediction. The effect of signal processing on the prediction reliability and the impact of the accuracy measure used to evaluate the performance. For each of the aforementioned cases, the study conducted several experiments on DOW30 and NASDAQ100 indices for training and testing the proposed system. The results strongly supported the effectiveness of the proposed model. We believe that this work is unique in terms of being comprehensive in investigating many aspects of the development and testing the proposed system and presenting a research methodology approach on how to develop, integrate, and test similar systems.

INTRODUCTION

Stock market predictions are highly uncertain due to socio-economic and political factors. Traditional statistical methods have been used for stock market forecasting. However, these methods have not proved to be very reliable because they require some basic assumptions or continued review and refinement as economic conditions change (Trippi and Turban, 1996). Therefore, individual and professional investors always search for intelligent systems that can help in tracking the price movements to maximize returns (Sharma, Hota and Sharma, 2012).

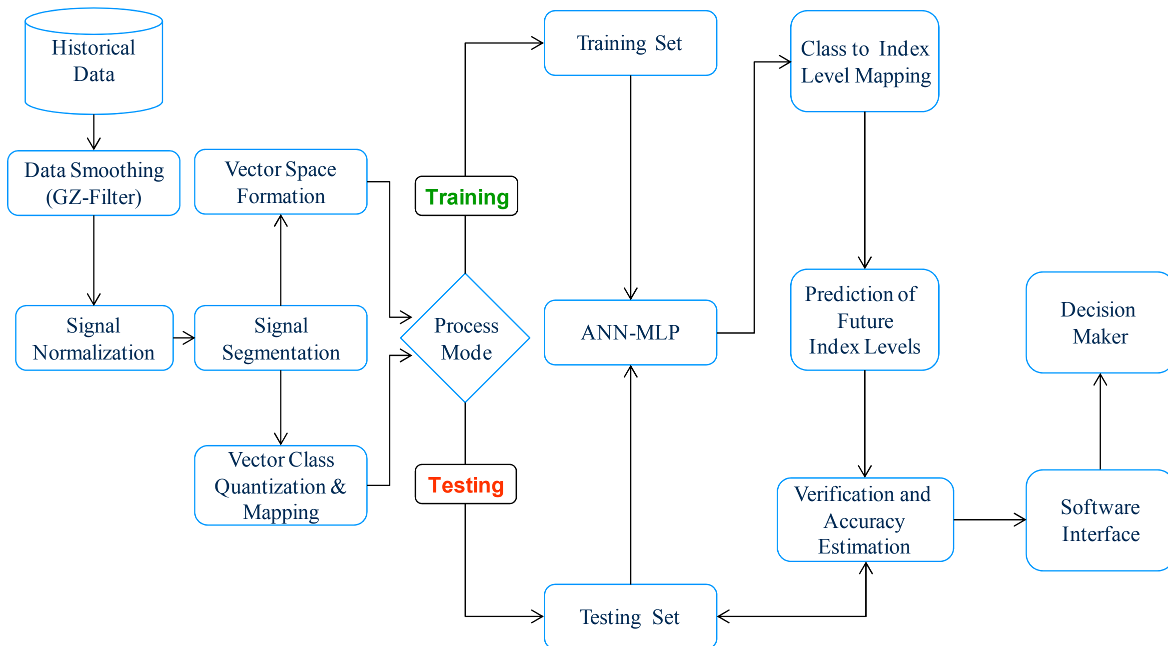
Over the past two decades, several financial researchers have applied artificial neural networks (ANNs) to stock price predictions (Trippi and Turban, 1996; Aiken & Bsat, 1999; Chang, Wang, & Yang, 2004; Lee, 2001). However, ANNs have their limitations due to noise and nonlinearity of stock price data. To overcome the limitations of noise in ANN, we propose to integrate a filtering technique based on signal processing. In this study, we propose an extension of our previous work (Sharma and Rababaah, 2012) that combines signal processing and neural networks for stock market forecasting. Additionally, the system is capable of handling different decision making situations such as stock price movements of open, close, low and high. Furthermore, the study ensured the extension of N-day future predictions, effects of signal processing on the prediction reliability, and the accuracy.

THEORY AND TECHNICAL APPROACH

This section will present and discuss theoretical backgrounds and techniques used in the development of the proposed Signal Processing and Neural Network-based Intelligent Predictive System (SNIPS). This section will cover the following aspects: research methodology, theoretical background of SNIPS, signal processing techniques and neural network algorithm.

Theoretical Background: This section will present the theoretical concepts and the mathematical modeling of the proposed approach. The process of the proposed approach is depicted in Figure 1. The process illustrated in the block diagram of Figure 1 is discussed as follows: Historical Data: the historical record of any stock index that is needed to be processed by this approach. We used an online source (http://finance.yahoo.com/) to acquire data for around 10 years.

Figure 1: Flow Diagram of the Data Processing Models used in the Proposed System SNIPS



As it can be observed, the system consists of the following integrated stages of data processing: *Signal Processing*: This stage is concerned with transforming the raw input signals into a consumable form that can be fed to the next stage of ANN. This stage contains four different operations: historical data, data smoothing with GZ-filter, signal normalization and signal segmentation. All of these operations are implemented as MatLab M-Files. These M-Files are connected to the graphical user interface (GUI).

ANN Training: The ANN training and testing stages are a customized implementation of the MatLab library/toolbox. To automate the training and testing, we developed two M-Files as wrappers of the native libraries to facilitate vector space generation, training/testing sets partitioning, testing and plotting the results, and computing the error and accuracy of the predictive models. These M-Files are also connected to the GUI.

End User Stage: In this stage, the GUI of the system is designed to facilitate the user-system interaction activities. The GUI consists of the following components: Popup menu – lists available options that are linked to functions including load a signal from a text file, load a signal from an spread sheet, plot signal, build vector space, train the ANN model, test the model, etc. Control panel – enables the experimentation with different parameters such as vector size, quantization levels, training set size, etc. Graphing panel – provides the means to plot the original and predicted signals. Open/Save Dialogue – allows the user to select a path/file to read/save the signal to. To develop this GUI and the underlying functions, Matlab GUIDE for GUI development was used. The main libraries used to implement the different functions and algorithms are: Signal Processing toolbox, Neural Network toolbox and plotting interface (Sharma and Rababaah, 2013).

EXPERIMENTAL WORK AND RESULT ANALYSIS

In this section, we will present our experimental work in testing the developed system: SNIPS. There were five different experimental cases we investigated during our testing. These are: single input vs. multiple inputs; N-future day's prediction; individual index price predictions - open, close, low and high price; the impact of signal processing on the prediction accuracy; and a comparison between Mean Squared Error (MSE) and Mean Absolute Percentage Error (MAPE) for prediction accuracy. These different testing cases are presented in the following sections as follows:

Single Input vs. Multiple Inputs: In our previous work (Sharma and Rababaah, 2012), we demonstrated experiments that used single input vectors to the predictive model. In this work, we experimented with multiple input vectors that included equally-sized vectors of: open, close, high, and low index prices as can be seen in the following formula: $v_{in} = [v_{open} \ v_{close} \ v_{high} \ v_{low}]^T$. Figure 2 shows the results of using multiple-input in the new system. The average prediction accuracy of the single-input vector we reported in our previous work (Sharma and Rababaah, 2013) was 98.7%. The average prediction accuracy of multiple-input in this paper was 97.24%. Therefore, we can conclude from this experiment that multiple input-vector does not enhance the accuracy of the system.

N-Future Days Prediction: This experiment was designed to investigate impact of the time distance in the future (number of days) on the prediction accuracy. To accomplish that, we started from time distance of one-day and gradually incremented this time distance to one hundred days, 5 days a week at a time. The accuracy for each experiment was tabulated and plotted for analysis. Figures 3 shows the results of this experiment conducted on Nasdaq and Dow indexes. The two charts reveal a consistent trend. It can be inferred that the prediction accuracy is inversely proportional to the time-distance.

Figure 2: Left: Multiple Inputs (Low, High, Open and Close) Results for Nasdaq Index. Accuracy = 97.24%. Right: Testing the Prediction Accuracy vs. Number of Days in Future (Nasdaq)

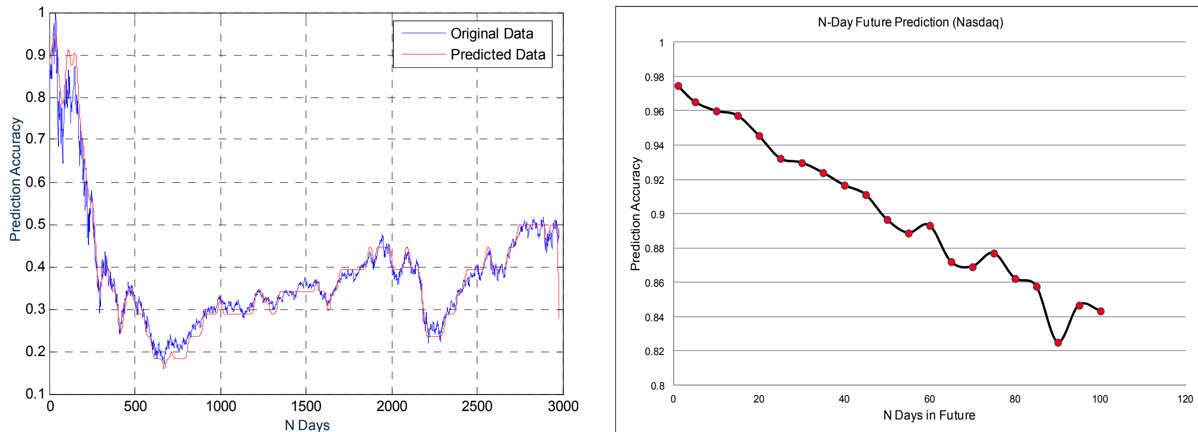
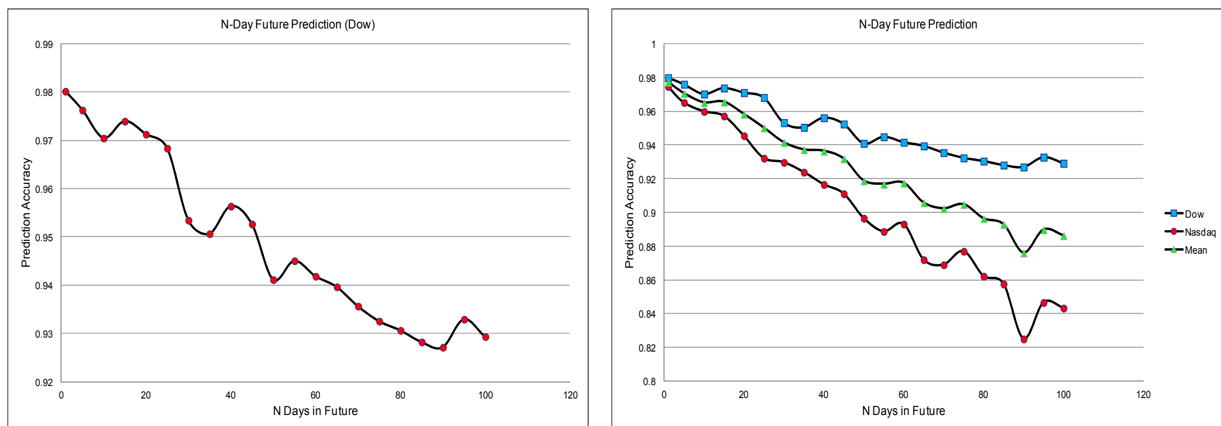


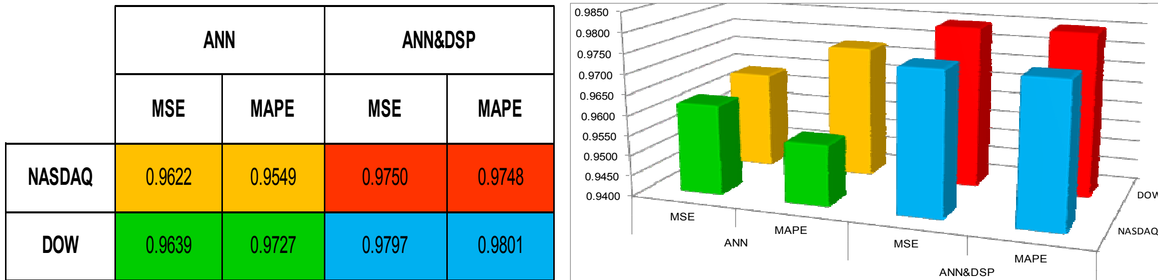
Figure 3: Left: Testing the Prediction Accuracy vs. Number of Days in Future (Dow). Right: Testing the Prediction Accuracy vs. Number of Days in Future (Nasdaq, Dow and the Mean Accuracy)



The Impact of Signal Processing on Prediction Accuracy: One of the important aspects that is important to verify is the impact of integrating Digital Signal Processing (DSP) on the proposed system SNIPS. Therefore, we ran the system on the same inputs using two cases for this part: one that uses only ANN without the DSP components and the other using both ANN and DSP. The results of all experiments are summarized in the Figure 4.

The same results tabulated in Table 1 are also plotted for better visual representation in Figure 5 (right). These results in the table and chart clearly support the importance and significance of using DSP; it clearly supports the importance and significance of using DSP in the proposed system. Therefore, it can be observed that the combined version of the system that used ANN & DSP was ≈ 98.5%, whereas using the ANN alone gave an accuracy of ≈ 95.0%.

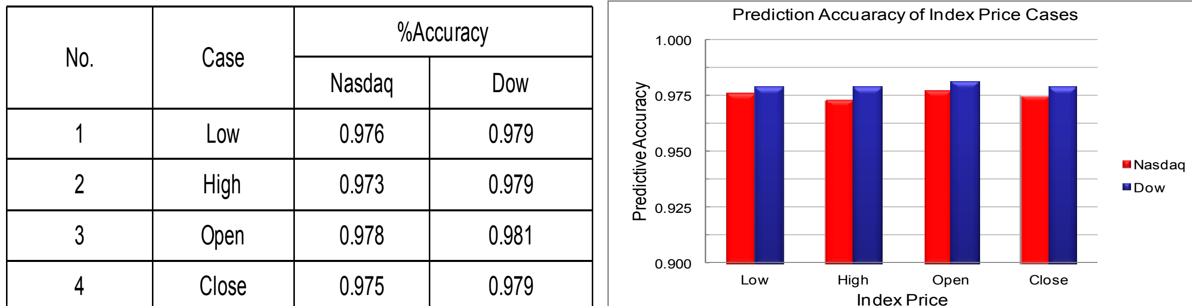
Figure 4: Left: Results of the Impact of Digital Signal Processing on Prediction Accuracy. Right: Plot of the Tabulated Data in the table to the left.



	ANN		ANN&DSP	
	MSE	MAPE	MSE	MAPE
NASDAQ	0.9622	0.9549	0.9750	0.9748
DOW	0.9639	0.9727	0.9797	0.9801

Different Index Level Prediction {open, close, low and high}: This section presents experiments conducted on individual index prices of low, high, open and close. The main objective of this experiment is to verify that the system is reliable for all index prices prediction. Figure 5 (left) tabulates the results of the four different index prices and it is clearly can be observed that the system prediction accuracy is stable with all four different index prices. The same data is plotted in Figure 5 (right).

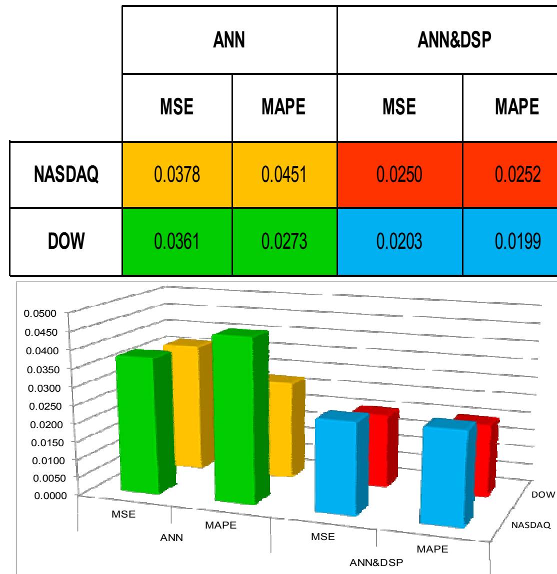
Figure 5:Left: Prediction Accuracy of Index Prices: open close, low and high. Right: Prediction Accuracy of Index Prices: open close, low and high.



No.	Case	%Accuracy	
		Nasdaq	Dow
1	Low	0.976	0.979
2	High	0.973	0.979
3	Open	0.978	0.981
4	Close	0.975	0.979

MSE vs. MAPE: There are several error measures used to evaluate the prediction models including Mean Absolute Error (MAE), Mean Absolute Percentage Error (MAPE), Mean Squared Error (MSE) and Root Mean Squared Error (RMSE). Among the aforementioned measures, there are two popular ones: MAPE and MSE. We wanted to investigate their performance with our data sets to provide the reader with advice on which measure should be used in similar future analysis. Figure 6 (left) tabulates a matrix of the different experimental results of both MSE and MAPE. Furthermore, these results are plotted in Figure 6 (right). The results show that on average, the MSE for all experiments was 0.0298 = 2.98%, whereas, the average MAPE in all experiments was 0.0294 = 2.94%. This means that MAPE performance was about 0.04% better, which is a very small percentage.

Figure 6: Left: MSE vs. MAPE Experimental Comparison Results. Right: MSE vs. MAPE Experimental Comparison Results



	ANN		ANN&DSP	
	MSE	MAPE	MSE	MAPE
NASDAQ	0.0378	0.0451	0.0250	0.0252
DOW	0.0361	0.0273	0.0203	0.0199

CONCLUSIONS

In this study, we have presented an extension of our previous work (Sharma and Rababaah, 2012). The main objective of this work is to develop an integrated solution of signal processing (SP) and artificial neural network (ANN) to assist the users in stock market predictions in the cases of stock index individual price; open, close, low and high signals; N-day future predictions; the effect of signal processing on the prediction reliability; and the impact of the accuracy measure used to evaluate the system performance. To test the performance of the developed system, we used two stock market indexes: DOW30 and NASDAQ100. For each of the aforementioned cases, we conducted several experiments and summarized, plotted, and analyzed the results to provide the readers with our conclusions and inferences that we believe are helpful for decision-making purposes. The main contribution of this work is mainly two aspects: developing an integrated predictive system of SP and ANN, and providing the reader with several prediction cases to demonstrate how to use the proposed system. We can observe from the results that there are several conclusions that are very helpful to use when tackling similar cases of stock market predictions.

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(A complete list of references is available upon request from Dinesh K. Sharma at dksharma@umes.edu)

TIME PERSPECTIVE AND ACCOUNTING DECISIONS: DIRECTIONS FOR RESEARCH

Kenneth Ryack, Quinnipiac University
Gary P. Schneider, Quinnipiac University

ABSTRACT

Research in psychology has found that many individuals use a time-based framing structure when making decisions. In this structure, they partition experiences into past, present, and future temporal frames. Some individuals exhibit a strong orientation toward one of these three frames. This orientation can operate as a cognitive bias that affects judgment and decision making. Accountants and auditors make many decisions, and the study of biases in their decision making processes has occupied many researchers for many years. We outline directions for research into how time perspective might function as a cognitive bias in the decision making processes of accountants and auditors.

INTRODUCTION

Researchers (see, for example, D'Alessio, et al., 2003; Nuttin, 1985; Zimbardo & Boyd, 1999) have concluded that individuals often use, as part of their cognition in decision making processes, time perspectives that partition their experiences into past, present, and future temporal frames. Some individuals exhibit a strong orientation toward one of these time frames. When such a preference exists, it can operate as a cognitive bias that affects judgment and decision making (Zimbardo & Boyd, 1999).

For example, an individual with a strong present temporal frame orientation will tend to focus on current elements within decision alternatives, such as convenience and the immediate benefits provided (Strathman, Gleicher, Boninger, & Edwards, 1994; Zimbardo & Boyd, 1999). In contrast, a person with a strong future frame orientation would focus on potential long-term outcomes and is would be willing to sacrifice current rewards to obtain some desirable future state (Boniwell & Zimbardo, 2004; Strathman, et al., 1994; Trommsdorff, 1983; Zimbardo & Boyd, 1999).

TIME PERSPECTIVE AND DECISION BEHAVIOR

Significant relationships between time perspective (also called time orientation in some studies) and decision behavior have been observed in a variety of situations. Higher levels of alcohol, drug, and cigarette consumption occur in individuals with a strong present orientation, while lower levels of use of these substances are associated with a strong future orientation (see, for example, Henson, et al., 2006 and Keough, et al., 1999).

Strong present temporal frames have also been associated with youth delinquency (Cauffman, et al., 2005; Modecki, 2008), risky driving (Zimbardo, Keough, & Boyd, 1997), risky sexual practices (Dorr, Krueckeberg, Strathman, & Wood, 1999), gambling (MacKillop, et

al., 2006; Toplak, et al., 2007), low academic achievement (Adelabu, 2007; Joireman, 1999), and risky individual health practices (Ouellette, Hessling, Gibbons, Reis-Bergan, & Gerrard, 2005). Further, individuals with a more current temporal orientation attend to concrete features of decision alternatives, such as convenience and other immediate benefits (Strathman, et al., 1994; Zimbardo & Boyd, 1999).

Individuals with a strong future temporal orientation are more likely to focus on the achievement of future goals and to consider more strongly the abstract features in a given stimulus, such as the desirability of future outcomes that might result from their decisions (Boniwell & Zimbardo, 2004; D'Alessio, et al., 2003; Strathman, et al., 1994; Zimbardo & Boyd, 1999).

These differences in temporal orientation have been elicited in controlled experiments. For example, Strathman, Gleicher, Boninger and Edwards (1994) presented participants with an oil drilling decision case that involved trade-offs between present and future benefits. Future framing participants were more likely to favor offshore drilling when the disadvantages were presented as immediate and the advantages were presented as distant. Participants with a more present temporal orientation were more convinced of the benefits of drilling when the advantages were immediate and the disadvantages were distant.

Joireman, Sprott, and Spangenberg (2005) demonstrated similar behavior when marketing students were asked how they would prefer to invest money received from a hypothetical windfall. Future-oriented respondents tended to choose the options with longer-term benefits (such as paying down credit card debt or putting money into savings to cover future college tuition), while the more present-oriented preferred options that provided short-term benefits (such as purchasing an item online that was temporarily on sale or going on a trip with friends).

ACCOUNTING AND AUDITING DECISIONS

Accountants and auditors are involved in making many decisions in their everyday work environments. Accountants often create the structure for managers' decision making by selecting the information to include in financial statements, budgets, variance reports, analyses, and similar collections of accounting and other information (Borthick, 1992; Zimmerman, 2011). The direct impact of accountants' and auditors' temporal framing on important financial decisions is likely to be substantial. The indirect effects of any bias reflected in their constructions of the decision environments used by managers could also be substantial.

Given the likely substantial effects of any temporal framing bias in the decision making processes of accountants and auditors, combined with the similar impact of their choices in structuring managers' decision environments, we believe that research into accountants' time perspectives is highly warranted.

Task characteristics can mitigate the importance and effect of individual characteristics that might lead to decision biases (Beach & Mitchell, 1978; Payne, 1982; Payne, et al., 1992). Judgment biases also might be reduced in settings where experienced decision makers perform tasks about which they have significant knowledge and familiarity (Berkeley & Humphreys, 1982; Einhorn, 1976; Fischoff, 1982, 1987; Funder, 1987; Hogarth, 1981; Kida, Moreno, & Smith, 2010). In particular, Smith and Kida (1991) review auditor judgment research and find that a number of known heuristics and cognitive biases were mitigated in contexts where expert decision makers perform familiar tasks.

MEASUREMENT ISSUES

The scales used in most time perspectives research, such as the Consideration of Future Consequences (CFC) scale (Strathman, et al., 1994) and the Zimbardo Time Perspective Inventory (ZTPI) (Zimbardo & Boyd, 1999) were developed from work with college students. It might be necessary to adapt these scales or create entirely new scales to adequately assess this phenomenon in practicing accountants and auditors.

DIRECTIONS FOR RESEARCH

Research into the effects of time perspective on the decision making processes (and the decision environment construction activities of accountants and auditors might include:

- The development of scales that measure the temporal framing tendencies of practicing accountants and auditors performing tasks with which they have substantial experience and expertise.
- Testing for the existence of persistent temporal framing tendencies in people who become accountants and auditors
- The effect of experience and the development of expertise on the strength of the observed temporal framing effect in accountants and auditors
- The effect of temporal framing orientation on specific, realistic decisions made by accountants and auditors
- The effect of temporal framing orientation on how accountants and auditors structure the decision environments they create for managers in specific, realistic decision situations
- If significant effects of time perspective orientation are shown, the development of techniques and methods for mitigating the biases induced by such orientation

CONCLUSION

The effect of time perspective on decision making in general is well established. Very little research has examined its effect on realistic decisions made by experienced practitioners in any field. Given that accounting and auditing are fields in which decisions can be sensitive to biases of which decision makers are unaware, it seems reasonable to presume that research into the existence and effect of time perspective on the decisions of these professionals is warranted.

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RISK MANAGEMENT AND THE INTERNAL AUDIT FUNCTION IN SIN FIRMS

David A. Sauer, Quinnipiac University
Gary P. Schneider, Quinnipiac University
Aamer Sheikh, Quinnipiac University
Kathleen A. Simione, Quinnipiac University

ABSTRACT

Sin firms (companies in the alcohol, tobacco, firearms, and gaming industries) have an inherent level of vulnerability to unanticipated regulatory actions and lawsuits that is greater than most other firms. Thus, sin firms must develop overall risk management plans that anticipate these higher levels of inherent risk. Internal auditors can play an important role in the risk management function of sin firms. This paper discusses techniques that internal auditors can use in assuring appropriate risk assessment and management in sin firms.

INTRODUCTION

Businesses in industries that are commonly engaged in what might be considered morally reprehensible, albeit legal, activities such as the production and distribution of alcohol, tobacco and firearms or the operation of gaming establishments, are often categorized as sin firms (Ahrens, 2004; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011; Waxler, 2004). These firms are more likely to face regulatory action and lawsuits than non-sin firms (Beneish, Jansen, Lewis, and Stuart, 2008; Hong and Kacperczyk, 2009;Kim and Venkatachalam, 2011). As a result, the increase in risk makes it critical for external auditors to exercise care when auditing sin firms (Sauer, Schneider, Sheikh, and Simione, 2013. Internal auditors of these firms must also consider the potential for risks characteristic of the nature of the industry as they participate in the overall risk management process. This paper outlines the role of the internal audit function in risk management at sin firms.

RISK MANAGEMENT AT SIN FIRMS

Ulsch (2008) reports that many companies have established effective individual policies for dealing with specific external threats; however, these individual policies are seldom integrated with each other in an overall risk management plan. To develop an overall risk management plan, senior management, especially at sin firms, should play a key role in setting risk appetite levels, and in promoting compliance with risk appetite levels within their functional areas of responsibility (Bekefi, Epstein, and Yuthas, 2008). Once senior management sets the risk appetite, it must assess the identified risks (e.g., litigation risk), and then develop strategies to best respond to those risks (Frigo and Anderson, 2009).

INTERNAL AUDIT, RISK ASSESSMENT AND RISK MANAGEMENT AT SIN FIRMS

COSO (2004, 2) defines risk management as: "a process, effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives." Enterprise Risk Management (ERM) is of crucial importance for any company in today's business environment and internal auditors play a pivotal role in risk management (COSO, 2004, Deloitte, 2010; FRC, 2005; Frigo and Anderson, 2011; IIAAEC, 2009; KPMG, 2009; Moeller, 2009; PricewaterhouseCoopers, 2007). Schneider, Sheikh, and Simione (2012) outline a holistic approach that internal auditors can use to help manage risks for their employers.

The first step in managing risks is to identify risks facing the company. The second step is to conduct a risk assessment that evaluates individual risks facing the company, examines how these individual risks might interact with one another, and prioritizes the risks so that management's attention is appropriately focused on the highest priority risks facing the company (COSO, 2004, 2012).

Internal auditors can help develop impact ratings for risk; for example, an impact rating of 1 on a 1 to 5 scale would be a risk that were it to be realized, would not cause significant financial loss to the company, or cause significant non-financial harm to the company (e.g., injuries to employees or other stakeholders, or a loss in the company's reputation). In contrast, an impact rating of 5 would indicate a risk that would cause significant harm (financial and/or non-financial) to the company. Examples might include negative media coverage, loss of market share, or litigation.

The higher baseline threat of litigation can affect the impact of other risks. For example, the risk of injury due to a fall at a casino might have a larger impact factor simply because it occurs in the environment of a sin firm. Thus, internal audit staff should carefully consider risk interactions in addition to the impacts of specific risks.

A risk interaction map where the same risks are listed as both rows and columns, with a check mark indicating a specific risk interaction can be a very useful device for internal auditors to use at a sin firm (COSO, 2012).

Scenario planning (Axson, 2011; Burnaby and Hass, 2009) is another technique that internal auditors at sin firms can use to help senior management identify, assess, and then manage risks including litigation risk. By evaluating different scenarios using likelihood ratings, internal auditors at sin firms can truly help managers pick the appropriate courses of action (Cheney, 2009).

INTERNAL AUDITORS: THE THIRD LINE OF DEFENSE

In addition to assisting with development of impact ratings for risks and scenario planning, the internal auditor can serve as the third (and final) line of defense in an effective risk management practice (IIA, 2013). The first line of defense in risk management is the management of the company and the company's system of internal controls. If management and internal controls fail to manage risks effectively, then it falls upon the shoulders of any committees or other functions that may have been created specifically to manage risks such as a risk management committee composed of senior level managers who have a holistic view of the business and understand the strategic vision of their company.

Internal audit serves as the third line of defense. Internal auditors provide the most objective assessment of risks faced by the company due to their increasing independence and thus should serve as the last line of defense in an effective risk management practice. According to the IIA (2013, 5), "Internal audit provides assurance on the effectiveness of governance, risk management, and internal controls, including the manner in which the first and second lines of defense achieve risk management and control objectives."

The scope of the assurance that internal auditors can provide to management typically covers a broad range of issues, including operational efficiency, safeguarding of assets, reliability and integrity of reporting practices, and compliance with relevant laws, regulations, policies, and contracts (IIA, 2013). In sin firms, internal auditors might want to increase their focus on compliance issues since violations of laws, regulations, policies, or contracts might be especially sensitive and could be intertwined with other risks faced by the enterprise.

The internal audit staff can be especially helpful in sin firms in developing assurances regarding the entire operation of the firm's risk management and internal control framework. In sin firms, the elements of risk management and internal control are likely to be more interdependent than in other firms and the internal audit function, with its organization-wide perspective, would normally be in a position to view the risk management processes in a more holistic, integrated way than operating managers could.

Internal auditors at sin firms need to be especially vigilant. Internal auditors are also well qualified to participate in the development of Key Risk Indicators (KRIs) which enable senior management to more readily identify and react to new and changing risks faced by the company, and in designing, developing, and implementing systems to monitor them (Sauer, Schneider, and Sheikh, 2012; Steinberg, 2011)

CONCLUSION

Internal auditors can play an integral role in identifying, assessing and managing risk for sin firms that have an intrinsically higher level of exposure to regulatory actions and lawsuits. By implementing techniques such as development of impact ratings and key risk indicators as well as scenario planning, internal auditors can assist senior management with the implementation of a cohesive risk management plan that makes firms less susceptible to threats caused by excessive risk.

Senior management of sin firms should consult with their internal auditors so that they can achieve their risk management goals effectively in a holistic way with risk assessment integrated at an organization-wide level. The internal audit staff is uniquely positioned within the business to offer this broad perspective on risk management and internal control activities.

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THE ECONOMIC IMPACT OF IFRS: A FINANCIAL STATEMENT ANALYSIS PERSPECTIVE

Sharon S. Seay, University of West Georgia

ABSTRACT

For almost 40 years, a movement has existed to establish one set of global accounting standards to facilitate international trade and investment. Foreign companies often list their stock on the NYSE. One common set of accounting standards would promote greater understandability of international financial reports as well as increase transparency and comparability on a global scale. On November 14, 2008, the SEC released a proposed road map toward IFRS convergence. The mandated implementation date for large publicly traded companies is 2015. The purpose of this paper is to examine key reporting differences between IFRS and U.S. GAAP as reflected in a reporting entity's financial ratios---key performance metrics used by analysts and other users. Differences in key metrics measuring liquidity, profitability, efficiency, and debt coverage are examined. Implications of IFRS' elimination of the LIFO inventory model are also explored. In addition, the paper discusses IFRS vs. GAAP valuation models, financial statement presentation, and disclosure requirements.

AN EXAMINATION OF EMPLOYEE ACCEPTANCE OF WHISTLE-BLOWER POLICIES

Randall Young, University of Texas at Pan American

ABTRACT

Organizations implement policies and communication channels to promote employee's reporting of wrongdoings that they may witness. Despite management implementing policies to address reporting requirements and, oftentimes, implementing hotlines for employees to report anonymously, employees are hesitant to report wrongdoings due to fear of retaliation, negative performance reports, or threat of job loss. This study examines a model of employee's intention to comply with internal disclosure policies, also termed whistle-blower policies, through a theoretical framework informed by the theory of planned behavior and rational choice theory. The findings show that employee awareness of internal disclosure policies will positively impact the employee's perception of the importance of complying with internal disclosure policies and the employee's perception that non-compliance with internal disclosure policies will increase the vulnerability of organizational resources. However, employee awareness does not reduce the employee's perception of risk that accompanies the behavior of the reporting the wrongdoings of others. Another interesting finding is that the employee's internalization of benefits and cost of complying or not complying with internal disclosure policies is not influences by outcomes that accrue to the organization (i.e. protection of resources). This finding suggests that communications of internal disclosure policies as a control for protecting organizational resources is not effectively promoting favorable attitudes toward internal disclosure policies. Contrary to the proposed model, the perception of benefits that may accrue to an employee as a result of reporting the wrongdoing of others may hinder the development of positive attitudes toward internal disclosure policies. In addition, perception of benefits for complying with internal disclosure policies and perception of cost for not complying with internal disclosure policies exert a significant influence on employee attitude toward the internal disclosure policies. The only consequence shown to impact employee attitude toward internal disclosure policies is the perception of potential negative consequences that may results from complying with internal disclosure policies. The ramifications of these finding to research and practice will be discussed.