

**Allied Academies  
International Conference**

**New Orleans, Louisiana  
April 7-10, 2004**

**Academy of Accounting  
and Financial Studies**

**PROCEEDINGS**

# Table of Contents

ADVERTISING EXPENDITURE AND FIRM PROFITABILITY: AN INVESTIGATION ..... 1  
Confidence W. Amadi, Florida A&M University

MATHEMATICS AND ACADEMIC FINANCE:  
THE ROLE OF PARADIGMS ..... 3  
Kavous Ardalan, Marist College

ARE AUDITOR ETHICS PUTTING THE PROFESSION AT RISK? ..... 9  
D'Arcy Becker, University of Wisconsin - Eau Claire  
Susan Haugen, University of Wisconsin - Eau Claire  
Lucretia Mattson, University of Wisconsin - Eau Claire

MANAGEMENT FRAUD AND STOCK PRICE PERFORMANCE ..... 11  
Roger J. Best, Central Missouri State University  
Kurt Fanning, Grand Valley State University

THE IMPORTANCE OF AUDITING-BASED COMPETENCES: DOES SIZE OF FIRM MATTER? ..... 17  
William E. Blouch, Loyola College in Maryland  
Thomas A. Ulrich, Loyola College in Maryland  
Alfred R. Michenzi, Loyola College in Maryland

MINIMIZING THE EXPECTATION GAP ..... 19  
Lisa N. Bostick, The University of Tampa  
Michael S. Luehlring, Louisiana Tech University

ACCOUNTING IN THE THIRD MILLENIUM:  
AN EXAMINATION OF PRINCIPLES TEXTS ..... 21  
Patricia Carver, Bellarmine University  
Michael R. Luthy, Bellarmine University

THE FASB'S NEW AND IMPROVED PENSION DISCLOSURES: A STEP FORWARD, BACKWARDS OR SIDeways? ..... 27  
Rena K. Clark, Henderson State University  
Paul J. "Jep" Robertson, Henderson State University

THE INVESTORS ABILITY IN MAKING AN  
INVESTMENT DECISIONS ON THE GERMANY'S  
FINANCIAL MARKET-AN EMPIRICAL ANALYSIS ..... 29  
Musa Darayseh, Purdue University Calumet  
Elaine Waples, Purdue University Calumet

PREDICTING RELATIVE STOCK PRICES:  
AN EMPIRICAL STUDY ..... 31  
Dean W. DiGregorio, Southeastern Louisiana University

DO STATES OPTIMALLY SET TAX RATES?  
THE PORTFOLIO APPROACH VS.  
THE TAX SMOOTHING HYPOTHESIS ..... 33  
C.A. Dole, State University of West Georgia  
Jennifer Troyer, University of North Carolina at Charlotte

EVALUATING HEALTH SAVINGS ACCOUNTS ..... 35  
Janet Dye, University of Alaska Southeast

EVERY GOOD MANAGER IS A GOOD AUDITOR:  
CROSS FUNCTIONAL PROFICIENCY ..... 37  
Kevin L. Ennis, Mississippi State University  
Doh-Kuhl Kim, Mississippi State University  
Jack E. Tucci, Mississippi State University

MANAGEMENT TURNOVER AND  
MYOPIC DECISION-MAKING ..... 39  
Robert Graber, University of Arkansas - Monticello

CREATING THE WRONG INCENTIVES?  
THE UNINTENDED CONSEQUENCES OF  
TAX AMNESTY PROGRAMS ..... 41  
Martin Gritsch, William Paterson University of New Jersey

THE IMPACT OF SARBANES-OXLEY ACT ON  
NON-U. S. ACCOUNTING FIRMS ..... 43  
Kathy H. Y. Hsu, University of Louisiana at Lafayette  
Ronald G. Cheek, University of Louisiana at Lafayette  
Harlan L. Etheridge, University of Louisiana at Lafayette

AN ASSOCIATION BETWEEN THE TIME SERIES BEHAVIOR OF ANALYSTS FORECASTS AND THE PREDICTIVE VALUE OF QUARTERLY EARNINGS .....	45
Jongdae Jin, William Paterson University Kyungjoo Lee, Cheju National University, Cheju, Korea Sung K. Huh, California State University-San Bernardino,	
DUTIES OF ACCOUNTING CLERKS DURING THE CIVIL WAR AND THEIR INFLUENCE ON CURRENT ACCOUNTING PRACTICES .....	51
Darwin L. King, St. Bonaventure University Carl J. Case, St. Bonaventure University	
ACCOUNTING FIRMS IN CYBERSPACE: A CRITIQUE OF THE BIG 4 .....	53
Michael R. Luthy, Bellarmine University Patricia Carver, Bellarmine University	
FINANCIAL INSTITUTION OBJECTIVES, INDIVIDUAL ACCESS TO INFORMATION AND TURNOVER .....	61
Vaughn S. Armstrong, Utah Valley State College Norman Gardner, Utah Valley State College	
AN ANALYSIS OF THE CONVERGENCE EFFORT TOWARD A GLOBAL SET OF ACCOUNTING STANDARDS .....	65
Michael Broihahn, Barry University Inge Nickerson, Barry University	
WHAT'S IN A NAME? AN ANALYSIS OF S&P 500 INDEX MUTUAL FUNDS .....	67
John Cresson, Southeastern Louisiana University	
WHY IS THERE SO MUCH DEBATE ABOUT THE METHOD OF ACCOUNTING FOR STOCK BASED COMPENSATION? THE ANSWER IS IN THE NET INCOME AND EPS NUMBERS .....	69
Teresa T. King, Clayton College and State University H. Wayne Cecil, Macon State College	
A STUDY ON THE BINARY OPTION MODEL AND ITS PRICING .....	71
Bin Peng, Nanjing University of Science and Technology Yuqi Han, Nanjing University of Science and Technology	

THE ANTI-DILUTIVE EFFECT OF TAX BENEFITS  
DUE TO EMPLOYEE STOCK OPTIONS ..... 79  
Paulette A. Ratliff, Arkansas State University

ROI FOR QUALITY COSTS: ACCOUNTING  
MEASURES THE ADVANTAGE OF ISO 9000 ..... 81  
Martha Lair Sale, University of South Alabama

THE PERFORMANCE OF AMERICAN DEPOSITORY  
RECEIPTS LISTED ON THE NEW YORK STOCK  
EXCHANGE: THE CASE OF UTILITIES ..... 83  
Mark Schaub, Northwestern State University  
K. Michael Casey, University of Central Arkansas

TAX RESEARCH SELF-EFFICACY: AN EXTENSION ..... 85  
Dennis Schmidt, University of Northern Iowa  
Rex Karsten, University of Northern Iowa

AN APPLICATION OF REPLACING A PARTIAL  
ADJUSTMENT MODEL WITH THE FUNCTIONAL  
PARTIAL ADJUSTMENT ADAPTIVE EXPECTATIONS  
(PAAE) MODEL ..... 89  
Sharon S. Seay, Mississippi College  
Sarah T. Pitts, Christian Brothers University  
Rob H. Kamery, Christian Brothers University

ESTIMATING REGRESSION PARAMETERS AND  
EMPIRICAL RESULTS: THE RATIO ADJUSTMENT  
PHENOMENON--FIRM-SPECIFIC FACTORS ..... 95  
Sharon S. Seay, Mississippi College  
Sarah T. Pitts, Christian Brothers University  
Rob H. Kamery, Christian Brothers University

THE EFFECTS OF DERIVATIVE USAGE ON  
SECURITY RETURNS ..... 101  
George Klersey, Birmingham-Southern College  
Ronald A. Stunda, Birmingham-Southern College

CORPORATE SCANDALS, SARBANES-OXLEY ACT  
OF 2002 AND EQUITY PRICES ..... 103  
Samanta B. Thapa, Western Kentucky University  
Christopher Brown, Western Kentucky University

---

ANDRAGOGY FOR ADULT LEARNERS IN HIGHER EDUCATION .....	107
Margaret A. Thompson, Kennesaw State University Michael Deis, Clayton College and State University	
OCEAN AND SPACE ACTIVITIES: PROPOSED REGULATIONS FOR SOURCING OF INCOME .....	113
Dan R. Ward, University of Louisiana at Lafayette Cheryl T. Metrejean, University of Texas at Austin Suzanne P. Ward, University of Louisiana at Lafayette Eddie Metrejean, Texas State University at San Marcos	
HOW DO CPAs FEEL ABOUT THE REVOLVING-DOOR PHENOMENON .....	115
Carl N. Wright, Virginia State University Quinton Booker, Jackson State University	
ADVERTISING EXPENDITURE AND FIRM PROFITABILITY: AN INVESTIGATION .....	131
Confidence W. Amadi, Florida A&M University	
Authors' Index .....	137



# MATHEMATICS AND ACADEMIC FINANCE: THE ROLE OF PARADIGMS

**Kavous Ardalan, Marist College**

Kavous.Ardalan@Marist.Edu

## ABSTRACT

*Any adequate analysis of the nature of mathematics and its role in sciences necessarily requires fundamental understanding of the worldviews underlying the views expressed with respect to the nature and role of mathematics. This paper starts with the premise that any worldview can be positioned on a continuum formed by four basic paradigms: functionalist, interpretive, radical humanist, and radical structuralist. It looks at the current state of mainstream academic finance and notes that it is founded only on the functionalist paradigm. It argues that any view expressed with respect to the nature of mathematics and its role in sciences is based on one of the four paradigms or worldviews. It, therefore, discusses four views expressed with respect to the nature and role of mathematics. The paper emphasizes that the four views expressed are equally scientific and informative; they look at the nature and role of mathematics from a certain paradigmatic viewpoint. Emphasizing this example of mathematics, the paper concludes that there are opportunities for mainstream academic finance to benefit from contributions coming from the other three paradigms if it respects paradigm diversity.*

## INTRODUCTION

An analysis of the nature of mathematics and its role in sciences necessarily requires a fundamental understanding of the worldviews underlying the views expressed with respect to the nature of mathematics and its role. Four general views with respect to mathematics and its role in sciences, corresponding to four broad worldviews, are discussed. These four views with respect to the nature of mathematics and its role are equally scientific and informative; each looks at the nature of mathematics and its role from a certain paradigmatic viewpoint.

The paper takes the case of mathematics as an example and emphasizes that, in general, any phenomenon may be seen and analyzed from different viewpoints and that each viewpoint exposes a certain aspect of the phenomenon under consideration. Collectively, they provide a much broader and deeper understanding of the phenomenon. Therefore, academic finance can benefit much from contributions coming from other paradigms if it respects paradigm diversity.

Any adequate analysis of the role of paradigms in social theory must recognize the assumptions that underwrite that paradigm or worldview. Social theory can usefully be conceived in terms of four key paradigms: functionalist, interpretive, radical humanist, and radical structuralist. The four paradigms are founded upon different views of the social world. Each generates theories, concepts, and analytical tools which are different from those of other paradigms.

The four paradigms are based on different assumptions about; the nature of social science (i.e., the subjective-objective dimension), and the nature of society (i.e., the dimension of



regulation-radical change) as in Burrell and Morgan 1979. This can be used as both a classificatory device, or more importantly, as an analytical tool.

The paper is organized as follows. It first, lays down the foundation by discussing the four paradigms. Then, it presents the nature of mathematics and its role from the point of view of the paradigm under consideration.

### **THE FUNCTIONALIST PARADIGM**

The functionalist paradigm assumes that society has a concrete existence and follows certain order. These assumptions lead to the existence of an objective and value-free social science which can produce true explanatory and predictive knowledge of the reality out there. It assumes that scientific theories can be assessed objectively by reference to empirical evidence. Scientists do not see any roles for themselves within the phenomenon which they analyze through the rigor and technique of the scientific method. It attributes independence to the observer from the observed. That is, an ability to observe "what is" without affecting it. It assumes there are universal standards of science, which determine what constitutes an adequate explanation of what is observed. It assumes there are external rules and regulations governing the external world. The goal of scientists is to find the orders that prevail within that phenomenon.

The functionalist paradigm seeks to provide rational explanations of social affairs and generates regulative sociology. It emphasizes the importance of understanding order, equilibrium and stability in society and the way in which these can be maintained. Science provides the basis for structuring and ordering the social world, similar to the structure and order in the natural world. The methods of natural science are used to generate explanations of the social world. Their approach to social science is rooted in the tradition of positivism.

Functionalists are individualists. That is, the properties of the aggregate are determined by the properties of its units.

The functionalist paradigm has become dominant in academic sociology and mainstream academic finance. The world of finance is treated as a place of concrete reality, the individual is regarded as taking on a passive role; his or her behavior is being determined by the economic environment.

Theories and policies in current mainstream academic finance may be listed as follows: (1) Efficient market theory, (2) Portfolio theory, (3) Capital asset pricing theory, (4) Option pricing theory, (5) Agency theory, (6) Arbitrage pricing theory, (7) Capital budgeting policy, (8) Capital structure policy, and (9) Dividend policy.

Functionalists' views with respect to the nature of mathematics and its role in science are presented next.

Mathematics is regarded as a language, a universal instrument of representation. The universe is mathematical in structure and behavior, and nature acts in accordance with general laws. Mathematics is a neutral medium into which all statements of each theory, and the statements of all theories, can be translated without modifying them. Mathematics, in this way, is devoid of content. That is, as a result of the conceptual neutrality of the methods and procedures of mathematical formalization, the object of analysis are unaffected by their mathematical manipulation.

Mathematics is uniquely capable of interpreting theory with its ability to separate the rational from the vague intuitional, the essential from the inessential. It is the unique standard of logic, consistency, and proof. Once intuitions are formed, mathematical models can be constructed which prove or disprove the logical consistency of the theory. Other languages are incapable of doing this because the operations of mathematics have an essential truth that other languages do not possess. Mathematics is more important than other languages in that it is uniquely capable of generating truth statements and that it has no impact on what is being thought and communicated. Mathematical statements are based on the necessity of arriving at conclusions as a result of following mathematical rules.

Mathematics eliminates the noise by agreeing on the meaning of symbols that otherwise would vary from one use to another. That is, everyone agrees to recognize the same symbol.

The notion of mathematics as a special code is linked, in turn, to the twin pillars of traditional epistemology: empiricism and rationalism.

Empiricists consider mathematics as a universal instrument of representation. It is used as a tool to express the statements of a discourse which already, always has an essential grasp on the real. It is the universal language by which statements about objects of different economic and social theories can all be expressed.

Theory is compared to the facts in order to examine its validity. The role of mathematics is to express the various intuitive statements of the theorist in a neutral language such that they can be measured against reality.

This is based on the traditional subject-object dichotomy: the passive subject and the active object impressing itself on the knowing subject. The theorist knows how the world works by observing it. He/she then translates the description into a model to check its consistency, its logical thoroughness, and son on. Mathematics merely represents, in a different language, that which was already present in the pre-mathematical intuition.

Rationalists consider logic as the foundation of mathematics and use mathematics for logical abstraction. Thus, the use of formal, mathematical methods is a necessary, although not sufficient, condition for arriving at scientific propositions. Mathematical models are conceived as abstract images or ideal representations of a complex reality. The process of theorizing is identified with the initial elaboration of, and deductive operations on, a set of mathematical models.

Here the subject becomes the active participant in discovering knowledge by operating on the theoretical model of reality. In this sense, the logical structure of theory - not the correspondence of theory to the facts - becomes the privileged or absolute standard of the process of theorizing. Reality, in turn, is said to correspond to the rational order of thought. The laws that govern reality are deduced from the singular set of mathematical models in and through which the essence of reality can be grasped.

Both empiricists and rationalists conceive of mathematics as a neutral language and as the language singularly privileged over all others. They represent two sides of the same epistemological coin: although each reverses the order of proof of the other, both empiricism and rationalism presume the same fundamental terms and some form of correspondence between them. In this sense, they are variant forms of an essentialist conception of the process of theorizing. Both of them invoke an absolute epistemological standard to guarantee the singular, unique scientific production of knowledge.

## THE INTERPRETIVE PARADIGM

The interpretive paradigm sees the social world as a process which is created by individuals. Social reality, insofar as it exists outside the consciousness of any individual, is regarded as being a network of assumptions and intersubjectively shared meanings. This assumption leads to the belief that there are shared multiple realities which are sustained and changed. Researchers recognize their role within the phenomenon under investigation. The goal of the interpretive researchers is to find the orders that prevail within the phenomenon under consideration; however, they are not objective.

The interpretive paradigm believes that in cultural sciences, the subject matter is spiritual in nature. In the cultural sphere, human beings are perceived as free. An understanding of their lives and actions can be obtained by the intuition of the total wholes. Cultural phenomena are seen as the external manifestations of inner experience. The cultural sciences, therefore, need to apply analytical methods based on "understanding;" through which the scientist can seek to understand human beings, their minds, and their feelings, and the way these are expressed in their outward actions.

The interpretive paradigm believes that scientific knowledge is socially constructed and socially sustained; its significance and meaning can only be understood within its immediate social context. Interpretive finance research enables scientists to examine aggregate market behavior together with ethical, cultural, political, and social issues. The interpretive paradigm believes that there are no universally valid rules of finance and financial management.

Interpretive paradigm's views with respect to the nature of mathematics and its role in science are presented next.

Mathematics is regarded as an anthropological phenomenon. The foundations of mathematics are the psychological, social, and empirical facts upon which the structure of knowledge is actually raised. Mathematics is the product of instinct, training, and convention. Mathematics is invented rather than discovered.

The compelling force of mathematical procedures does not derive from their being transcendent, but from their being accepted and used by a group of people. The procedures are not accepted because they are correct, or correspond to an ideal; they are correct because they are accepted. Mathematical truth is established by agreement, that is, it is agreed upon as a rule. The basis and cause of these agreements are not matters to be settled by a priori reflection. They must be investigated empirically: One might give an ethnological account of this human institution.

The belief in mathematical essence is a reified perception of social processes. The conventional aspects of the techniques become transmitted in the consciousness into something mysterious. This is the form taken in our consciousness by the social discipline imposed upon their use. It is as if the work that society puts into sustaining a technique returns to its users in the phenomenological form of an essence. The reality behind mathematical techniques is the reality that society has a use for certain techniques: it is an ethnological fact - it is something to do with the way the society lives.

Simple calculations are grounded in certain techniques and the physical and psychological facts that make the techniques possible. But calculations do not state these conditions; they take them for granted.

Of all the indefinitely large number of techniques for manipulating objects that exist, society selects those that provide useful patterns. The operations and techniques that are chosen, and which become memorable patterns, are the ones that become central to the training given to children.

What mathematical techniques for manipulating objects and symbols do is to produce one structure out of another. They are used as paradigm identity but their experimental character disappears when one looks at the process simply as a memorable picture. They are used to define the essential features of a change and see them as yielding relations which are not merely contingent: The calculation are regarded as demonstrating an internal property, a property of the essence.

The emergence of the mathematical out of the physical occurs when the empirical manipulations are put to a certain use; when they become part of a certain technique, and when they become subject to certain conventions and norms.

Starting from the idea of a calculation as a kind of experiment that becomes frozen into a criterion of identity, one may imagine a gradual widening of the range of experimental procedures so treated. The range of models that might be taken up from experience, and turned into paradigms of identity, has no known limits. What can be said, however, is that available models are exploited by assimilating novelties and problematic cases to them. Models are made applicable to new cases by analogies seen between them. A proof goes in fact step by step by means of analogy - by the help of paradigm. Mathematical conviction might be put in the form of recognizing "this as analogous to that." The word "recognize," here, does not mean acknowledging a pre-existing fact: it indicates the acceptance of a convention. The reason proofs are of interest is that it is so easy to reproduce them again and again in different objects. The proof exhibits the generation of one from others.

The proof changes society's concepts. It makes new connections, and it creates the concept of these connections. A sentence asserting an internal relation between two objects, such as mathematical sentences, is not describing objects but constructing concepts. One does not have to accept the conventions thus created. What is regarded by one person as essential may be regarded by another as inessential. They may put an opposite construction on it. But if one does that one is enabled to recognize one thing as analogous to another. One should not look at a proof as a procedure that is compelling, but as one that is guiding.

## REFERENCES

- Burrell, G. & G. Morgan (1979). *Sociological Paradigms and Organizational Analysis*. Hants, England: Gower Publishing Company Limited.



## ARE AUDITOR ETHICS PUTTING THE PROFESSION AT RISK?

**D'Arcy Becker, University of Wisconsin - Eau Claire**

dbecker@uwec.edu

**Susan Haugen, University of Wisconsin - Eau Claire**

shaugen@uwec.edu

**Lucretia Mattson, University of Wisconsin - Eau Claire**

mattsols@uwec.edu

### ABSTRACT

*Audit opinions provide assurance that financial statements used for equity investment, loan and other decisions are fairly stated. The opinions are based on professional judgment, and technical competence and ethical behavior by auditors are critical to their quality. Substandard audit work and unethical actions by auditors have resulted in the loss of billions of dollars by investors and retirees, and the loss of thousands of jobs.*

*The auditing profession is under siege for its lack of ethical conduct in the past decade. Auditors at all of the large firms have allegedly broken the Code of Professional Conduct, and the allegations go beyond isolated incidents and a few individuals. Andersen has gained the most publicity for unethical conduct in its audit of Enron, but it is not the only firm that has been accused of such actions. We provide a summary of 10 major current cases where auditors are alleged to have engaged in unethical conduct.*

*Recent information shows the impact these suits are having on the reputation of auditors. The 'Edelman Trust Barometer for 2004' survey asked college-educated people in households of over \$75,000 income what they thought had led to the greatest reduction in trust of corporations and institutions. The winning answer: unethical business practices by accounting firms, getting 66% of respondents' votes. This was a more popular choice than excessive compensation for executives, misleading communications from companies themselves, and misappropriation of pension and 401(k) funds. Auditors are seen as part of the problem rather than part of the solution.*

*The Sarbanes - Oxley Act of 2002 (SOX) was passed in response to Enron and other large-scale accounting and auditing frauds. The paper discusses SOX provisions that may improve auditor ethics. However, substantial improvement in auditor ethics will only come as a result of efforts at the national, state, firm and individual levels. The paper analyzes efforts at each of these levels.*

*Perhaps the most progress in improving auditor ethics can be made at the state level, which sets licensing requirements for CPAs. We analyzed the continuing professional education (CPE) requirements of all 50 states and found that 48 of 50 states have CPE requirements. We analyzed the amount of required CPE as well as the type of CPE for which credit is given.*

*We also analyzed CPE requirements regarding ethics training. We found that 32 states have no requirement that CPE include ethics training. Further, for states requiring ethics the annual*

*requirement is quite modest, amounting to less than one required hour of ethics CPE per year. We propose strengthening these requirements.*

*Actions at all levels, but most importantly at the state level, can improve auditor ethics. It is imperative that auditor ethics be restored if the profession is to regain the trust of the public in the opinions issued by auditors.*

# MANAGEMENT FRAUD AND STOCK PRICE PERFORMANCE

**Roger J. Best, Central Missouri State University**

best@cmsu1.cmsu.edu

**Kurt Fanning, Grand Valley State University**

fanningk@gvsu.edu

## ABSTRACT

*Corporate scandals as measured by accounting irregularities and other misdealings by management have been pervasive in recent years. Such irregularities, however, are not new. We collect a sample of companies that have been the subject of an Securities and Exchange Commission enforcement release and investigate whether the stocks of these companies are long-term good investments. Specifically, we examine the three year period after the enforcement release and find that our sample has a much lower survival rate than an industry-matched group of firms. Further, in the one year period subsequent to the enforcement release, our sample of firms experience negative returns. Interestingly, however, our group of matched firms perform (statistically) as poorly as the "fraud" firms in the year after the enforcement release. This is consistent with contagion effects in industries where one firm is accused of fraudulent activities.*

## INTRODUCTION

Recent corporate scandals at companies such as Enron, WorldCom, and Tyco (among others) have brought to light the potentially devastating impact of management misbehavior on shareholder wealth. Although these recent scandals have increased the focus on accounting irregularities and improper actions by management, instances of corporate improprieties have a long history. In general shareholders have suffered upon the revelation of these improprieties. Nourayi (1994) and Feroz, et al. (1991) find significant average abnormal returns of 13% to 33% upon announcements of SEC enforcement actions involving potential management misdealings.

While it is generally accepted that illegal and/or improper corporate actions result in immediate losses to shareholders, the long-term impact on shareholder wealth remains unclear. Debondt and Thaler (1985), Brown, et al. (1988), Atkins and Dyl (1990), Bremer and Sweeny (1990), Akbigbe, et al. (1998) and Li (1998) all find evidence that market participants overreact to negative news announcements and confirm subsequent short-term price reversals to account for these overreactions. Investors are likely to overreact to management fraud as well. Indications of management fraud, however, typically lead to greater uncertainty for investors over a longer horizon than the shorter-term reversals found by Debondt and Thaler (1985) and others. Thus, we examine a longer time period in order to determine whether the short-term reaction to revelations of corporate fraud are the result of an overreaction to negative information by market participants. If investors systematically overreact to revelations of management fraud in the short-term, stocks of these companies may generate longer-term excess returns.



In particular, we examine the long-term buy and hold returns of companies that are the subject of an SEC enforcement release. We focus on the Securities Exchange Commission Act of 1934 section 10(b) enforcements, which are indicative of management fraud. If investors overreact as in DeBondt and Thaler (1985), purchasing the stock of a company which is being subjected to an SEC investigation could generate excess returns. On the other hand, if markets are indeed weak form efficient, such "purchasing opportunities" are unlikely to generate superior returns.

## **DATA AND METHODOLOGY**

For our study we require a sample of companies with known fraudulent financial statements. The Securities Acts of 1933 and 1934 were passed with two main objectives: (1) to provide investors with material financial and other information concerning securities offered for public sale, and (2) to prohibit misrepresentation, deceit, and other fraudulent acts and practices. Because the government delegates enforcement powers concerning management fraud to the SEC, we use the SEC enforcement releases to collect our sample of companies with fraudulent financial statements.

An issue with our use of SEC enforcement releases is the assumption of the guilt of the companies in the SEC enforcement. These assumptions may not be entirely true. Since the details of discussions between the companies and the SEC are unavailable, the company may view conceding as the path of least cost. This raises questions regarding the validity of considering these companies' financial statements as fraudulent. However, from inspection of the enforcement releases and the background on how the SEC pursues litigation, we feel assuming that the companies issued fraudulent financial statements is reasonable.

The SEC enforces cases of fraudulent financial statements through section 10(b) and rule 10b-5 of the Securities act of 1934. Section 10(b) and rule 10b-5 makes it unlawful for any person to "use or employ" a "manipulative or deceptive device or contrivance" in connection with publicly traded securities. While cases involving 10(b) usually involve management fraud, not all cases mentioning 10(b) involve fraudulent financial statements. Several SEC enforcement releases are public announcements and do not involve a financial statement. We exclude these companies from our sample. Because the SEC enforcement releases have no consistent pattern for denoting fraudulent financial statements we use two additional criteria besides the explicit mention of 10(b). These two criteria are the statements of violating the anti-fraud provisions or falsifying the accounting records. We include in our final sample only those firms that have stock price information on Research Insight (Compustat) for at least one month after the month in which the enforcement action is released. Also, the enforcement release must follow the fraudulent statements by no more than six accounting cycles. The choice of six is arbitrary. The longest lag we identify is 11 accounting cycles, the shortest one accounting cycle, and the median is 4.5 accounting cycles. These criteria result in a sample of 33 firms with an SEC release.

In order to determine the relative performance of these companies, we also collect a matched sample of firms that do not have an enforcement action during the same period. Using matched firms reduces the need to adjust for risk, time varying returns and other factors. We match companies based on the 4-digit standard industrial classification (SIC) code and annual sales revenue from Research Insight. As a check, we compare the SIC codes in Research Insight with the companies' individual 10-Ks and Moody's industry summaries to detect any noticeable

discrepancies. Table 1 contains a breakdown by SIC code for the firms with fraudulent statements. As shown, the largest number (58%) of the sample are from the 3000 SIC code grouping (Manufacturing). We suspect that this clustering presents no problem in our analysis given the matching procedure we use in our subsequent statistical tests.

SIC Code Range	Number
1000-1999	1
2000-2999	7
3000-3999	19
4000-4999	1
5000-5999	2
7000-7999	2
8000-8999	1

To assess the performance of the ER firms, we calculate the geometric mean holding period return for the period that begins at the end of the month two months before the enforcement release and ends at the end of the month after the release. We also calculate the one-year geometric mean holding period return beginning at the end of the month of the enforcement release. That is, to calculate the one year holding period return (HPR) for each firm we first add one to each firm's monthly return and then multiply each of these sums. Finally, we subtract one from this product in order to achieve an annualized return. For the HPR surrounding the enforcement release, we use the three month HPR.

As in Barber and Lyon (1997), we also calculate the abnormal holding period return (AHPR) to determine the relative performance of the ER firms. We calculate AHPR by computing the HPR (as described above) for the sample firm and the HPR for its matched firm then subtracting the HPR of the matched firm from the HPR of the sample firm. We then calculate t-statistics to determine whether the average HPR or AHPR for our sample differs statistically from zero. The t-statistic is calculated by taking the sample average HPR (or AHPR) and dividing by a standard error. The standard error is defined as the cross-sectional standard deviation of returns divided by the square root of the sample size.

## RESULTS

Not all of the firms in our sample remain as on-going concerns for the sample period. To determine the propensity for ER firms to be delisted from the exchanges on which they trade, we examine the three year period subsequent to the enforcement release. In Table 2, we present the number of ER firms and matched firms (and percentage of the initial sample size) that remain over the three years after the enforcement action is announced. Of the ER firms in the sample, only two-thirds (22) remain after three years. In fact, eight (24%) of the ER firms are delisted within one

year of the SEC announcement. By contrast, only one of the matched firms is delisted in this three-year window. At a minimum, this may indicate that investing in ER firms poses a greater risk than investing in similar firms without enforcement releases.

Year	Remaining ER Firms	Percentage	Remaining Matched Firms	Percentage
0	33	100%	33	100%
1	25	76	33	100
2	24	73	32	97
3	22	67	32	97

In order to determine the underlying cause for the delisting, we examine delisting codes from the Center for Research in Securities Prices (CRSP) database and search the Lexis-Nexis newswire data service for reports about these companies. We report the results of this analysis in Table 3. As shown, two of the eleven delisted firms (18%) are acquired or merged into other companies. Three firms (27%) become insufficiently capitalized and are removed by the exchange. Insufficient capitalization and subsequent delisting generally portends bankruptcy or liquidation. In the best case, shareholders suffer a loss in the liquidity of their shares if those shares are delisted from an exchange. Two firms fail to register with the exchange or file timely financial statements. Similar to the insufficient capitalization problem, this would be indicative of a diminished capacity for the company to continue operations. The remaining four firms are delisted for unknown reasons. The one delisted matched firm experienced a merger. Thus, given the reasons for delisting, it does appear that investing in ER firms is relatively risky.

Reason	ER Firms	% of Delisted ER Firms	Matched Firms	% of Delisted Matched Firms
Merger/Acq	2	18	1	100
Insuff. Capital	3	27	-	-
No Registration	2	18	-	-
Unknown	4	36	-	-
Totals	11	100	1	100

Next, we examine whether the announcement of an SEC enforcement action generates an overreaction on the part of investors, and, therefore, results in longer-term excess returns for investors who purchase the stock after the enforcement release. We first determine the return in the three month window surrounding the release. Although we are not examining the announcement effect per se, we do expect this return to be consistent with the findings of Nourayi (1994) and Feroz, et al. (1991). That is, we expect a negative average return over this period. We next examine whether the post-release performance of the ER firms differs statistically from a benchmark return.

Interestingly, neither the HPR nor AHPR for this time period are statistically distinguishable from zero. Although the average HPR is of the expected sign at -1.21%, the t-statistic of -0.593 is far from any conventional significance level. The average AHPR, which is the more relevant measure of return, is -0.06% with a t-statistic of -0.027. These unexpected findings may result from two sources. First, the three month window may be too long to adequately isolate negative market reactions at the SEC announcement. Second, given our matching procedure, which involves choosing similar companies with the same 4-digit SIC code, the matched firms may experience a contagion reaction. Such reaction still leaves unexplained the lack of significance of the raw HPRs. We leave the exploration of this to future research.

Variable	Average	t-test
3-month HPR	-1.21%	-0.593
3-month AHPR	-0.06%	-0.027
1-year HPR	-2.62%	-2.078*
1-year AHPR	-2.06%	-1.311

Notes: \*Significant at the 5% level.

The average HPR over the year beginning after the enforcement release for this sample is -2.62%. The t-statistic of -2.078 is statistically significant at the 5% level. Although the average AHPR for our sample is negative (-2.06%), this return is not statistically different from zero (with a t-statistic of -1.311). Thus, it appears that ER firms experience returns that are, on average, no different from their matched counterparts. Given the negative returns overall, it appears that the stocks of firms that are the subject of an SEC enforcement release represent bad investments over the year subsequent to the ER. Because of the negative return, investors may be able to profit by engaging in the short selling of these securities post-ER announcement.

More interesting, however, is the "bad" performance of the matched firms. The matched firms have an actual average return of approximately 0.6% for the year subsequent to the enforcement release. Thus, an ER may provide investors with two distinct investment guidelines. First, short (or avoid) the common stock of companies that are the subject of an SEC ER. Second, avoid stocks of similar companies within the same (4-digit SIC) industry grouping, as these firms seem to suffer from guilt by association in the year following an ER on a company in the industry.

## SUMMARY AND CONCLUSIONS

We examine the short-term and long-term performance of a sample of firms that are accused of fraud by the SEC relative to a sample of matched firms. First, we find that the survival rate of fraudulent firms is much lower than for the matched firms over the three year period subsequent to an SEC enforcement release. Second, our results indicate that firms for which an enforcement release is issued (ER firms) have, on average, a -2.6% return in the year subsequent to the enforcement release. Third, we find that our sample of firms accused of fraud by the SEC have

statistically similar returns to a group of matched firms during a three month window surrounding the announcement or for the year subsequent to the enforcement release. The lack of a differential return between the ER firms and the matched firms during this period of time may result from contagion effects. Finally, we find that the returns of our "fraud" sample stocks, on average, are no different than the return on the matched firm stocks for the year subsequent to the enforcement release.

Collectively, these results indicate that investors do not profit typically from purchasing the stock of firms that are the subject of an SEC enforcement release. Further, there appear to be long-term industry "fall-out" effects from these announcements. Thus, our results provide two guidelines for investors. First, avoiding stocks of companies that are the subject of SEC enforcement releases (or possibly shorting these stocks) may be prudent and result in overall higher portfolio returns. Second, avoiding the stocks of companies similar to the those of companies that are the subject of an SEC enforcement release (where similarity is determined by the 4-digit SIC code and level of sales) would likely benefit investors given the relatively poor performance of these stocks in the one year period subsequent to the enforcement release of our sample firms.

## REFERENCES

- Akhigbe, A., T. Gosnell and T. Harikumar. 1998. Winners and Losers on the NYSE: A Re-examination Using Daily Closing Bid-Ask Spreads. *The Journal of Financial Research*. 21. Spring: 53-64.
- Atkins, A. B. and E. A. Dyl. 1990. Price Reversals, Bid-Ask Spreads, and Market Efficiency. *Journal of Finance and Quantitative Analysis*. 25: 535-547.
- Barber, B. M. and J. D. Lyon. 1997. Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics*. 43: 341-372.
- Bremer, M. and R. Sweney. 1991. The Reversal of Large Stock-Price Decreases. *Journal of Finance*. 46: 747-754.
- Brown, K, W. Harlow and S. Tinic. 1988. Risk Aversion, Uncertain Information and Market Efficiency. *Journal of Financial Economics*. 22: 355-385.
- Cox, D. and D. Peterson. 1994. Stock Returns Following Large One-Day Declines: Evidence on Short-Term Reversals and Longer-Term Performance. *Journal of Finance*. 49: 255-267.
- DeBondt W. and R. Thaler. 1985. Does the Stock Market Overreact? *Journal of Finance*. 40: 793-808.
- Dopuch, N., R. Holthausen, and R. Leftwich. 1987. Predicting Audit Qualifications with Financial and Market Variables. *The Accounting Review*. 62. July:431-454.
- Feroz, E., K. Park, and V. Pastena. 1991. The Financial and Market Effects of the SEC's Accounting and Auditing Enforcements Releases. *Journal of Accounting Research*. 29. Supplement:107-142.
- Ho, C., C. Liu, and D. Ziebert. 1998. Price Reversal and Drift Following Earnings Announcements. *Financial Review*. 33: 145-160.
- Li, J. 1998. The Controversial Contrarian Profits: A Study on the Differential Returns Across Months. *Quarterly Journal of Business and Economics*. 37: 3-26.
- Nourayi, M. 1994. Stock Price Responses to the SEC's Enforcement Actions. *Journal of Accounting and Public Policy*. 13. 4:333-347.
- Stice, J. 1991. Using Financial and Market Information to Identify Pre-engagement Market Factors Associated with Lawsuits Against Auditors. *The Accounting Review*. 66. 3:516-533.

## THE IMPORTANCE OF AUDITING-BASED COMPETENCES: DOES SIZE OF FIRM MATTER?

**William E. Blouch, Loyola College in Maryland**

wblouch@loyola.edu

**Thomas A. Ulrich, Loyola College in Maryland**

tulrich@loyola.edu

**Alfred R. Michenzi, Loyola College in Maryland**

amichenzi@loyola.edu

### ABSTRACT

*Public accounting firms range in size from the Big Four accounting firms, who have thousands of partners and revenues in excess of a billion dollars, to the sole proprietorship. Given this vast diversity among CPA firms, are auditing educators properly preparing their students for positions within these rather disparate firms? A national survey of 1,554 firms, categorized by firm size and net fees generated, revealed that different size firms have different type practices (Zimmerman, Flaherty, & Murray, 1999). More specifically, audit fees correlate directly to firm size. The larger the firm the larger audit fees are as a percentage of total fees. Tax-service fees, on the other hand, correlate inversely to firm size. The smaller the firm the larger the tax-service fees are as a percentage of total fees. Management-advisory services fees were relatively constant across firm size. Finally, write-up services fees are more important to sole practitioners as compared to regional and national firms.*

*The services provided by public accounting firms are clearly dependent on firm size since firm size determines to a great extent client size. The Big Four accounting firms dominate the market for big company audits. Many Big Four clients are large publicly traded companies listed with the Securities and Exchange Commission (SEC). At the same time, smaller CPA firms may have no clients registered with the SEC and find audits provide only a very small part of total fees collected. Additional surveys have found differences in client base and resultant services provided by national, regional, and local public accounting firms. In a survey of North-Central U. S. CPA firms, Wolosky (1997) found many cases in which regional firms establish service niches in such noncompliance areas as corporate finance, financial planning, litigation support, and management consulting for specialized industries. Demery (1997a and 1997b) and Kahan (1997) report similar results in studies of other regions. Given the greater significance of auditing for the larger-sized CPA firms, does this difference lead to different criteria with respect to the auditing-based competencies a firm requires in the graduates they recruit and hire?*

*Another impact of firm size is that large public accounting firms have substantial, well-funded, in-house training programs. These programs cover a wide range of topics ranging from the basic auditing functions to very specific topics like derivatives. Smaller firms lack such extensive training infrastructure. They must rely more on outside vendors to provide training programs and view themselves as more dependent on the undergraduate training received by newly hired staff than*

large firms. Does this diversity in the availability of training resources among firms of differing size result in differences of opinion among firm types regarding the technical competencies required of new accounting graduates they hire?

The focus of this research is to resolve this dilemma by further investigating the impact of firm size on the relative importance accorded individual auditing topics within the auditing curriculum. If auditing topics differ in importance among CPA firms of different size, then schools may need to tailor their auditing curricula to meet the needs of the major employers of their accounting graduates. In addition, this study expands on the earlier research in two ways. First, while previous research focused on a selected geographical area, this study undertakes a national survey of 518 public accounting offices. Second, while previous research included only 26 auditing topics, this research doubles the number of auditing topics assessed on importance to 54.

To accomplish these objectives, this research surveys a national sample of CPA firms of varying size to identify differing perceptions in the assessment of the relative importance of 54 auditing topics within the auditing curriculum in preparing students for entry-level work and career advancement. This research endeavors to determine whether the type of firm has a significant effect in determining the relative importance accorded auditing topics.

## REFERENCES

- Demery, P. (1997a) Grit, determination and resourcefulness paying off. *The Practical Accountant*, 30(4), 26-27.
- Demery, P. (1997b) Nontraditional services setting the pace. *The Practical Accountant*, 30(4), 40-41.
- Kahan, S. (1997) From the bayou to the Rio Grande, the sun shines again. *The Practical Accountant*, 30(4), 38-39.
- Wolosky, H. W. (1997) The range of services is the driving force. *The Practical Accountant*, 30(4) 32-33.
- Zimmerman, R. A., Flaherty, D., & Murray, M. A. (1999) The national results of the 1998 management of an accounting practice survey. *The CPA Journal*, 69(7), 40-45.

## MINIMIZING THE EXPECTATION GAP

**Lisa N. Bostick, The University of Tampa**

lbostick@ut.edu

**Michael S. Luehlfing, Louisiana Tech University**

### ABSTRACT

*Given the recent financial reporting scandals (Enron, WorldCom, Parmalat, etc.), financial reporting is once again at a crossroad (Sutton 2002). Predictably, both the government and the auditing profession have reacted to these scandals. For example, the government passed The Sarbanes-Oxley Act of 2002. Additionally, the American Institute of Certified Public Accountants (AICPA) issued Statement on Auditing Standards (SAS) No. 99 (AICPA 2002a), Consideration of Fraud in a Financial Statement Audit, and has also issued a proposed SAS (AICPA 2002b), Understanding the Entity and Its Environment and Assessing the Risks of Material Misstatement. While we believe that these recent actions have addressed many of the issues underlying these scandals, we also believe that more can and should be done. In particular, we believe that, in order to improve audit effectiveness, the auditing profession must revisit the auditors' responsibility to detect illegal acts. The logic underlying these notions is grounded in McEnroe and Martens (2001) as well as Porter (1993).*

*McEnroe and Martens (2001) report that expectation gaps continue to exist in six dimensions of the audit - including fraud, internal controls, and illegal acts. As suggested by Porter (1993), we analyze these expectation gaps in order to identify possible remedial actions, that is, actions that may narrow the expectation gaps identified by McEnroe and Martens (2001). The analysis initially focuses on actions of the AICPA--subsequent to McEnroe and Martens (2001)--regarding fraud and internal controls. Thereafter, the analysis focuses on the current professional guidance regarding illegal acts.*

*The recent actions of the AICPA (i.e., SAS No. 99 and the proposed SAS) provide additional guidance to the auditor for identifying fraud and for obtaining a sufficient understanding of the entity and its environment, including internal controls. The guidance specifically encourages the auditor to increase their understanding of the entity as well as expand their assessment of the risk of material misstatement, whether due to error or fraud, to the operational aspects of the entity. We believe that these recent actions represent prima facie evidence that a deficient standards gap not only existed at the time of McEnroe and Martens (2001), but also contributed to their findings. That is, we believe that deficient standards contributed to the expectation gap that McEnroe and Martens (2001) found with respect to fraud and internal controls. In turn, we also believe that a deficient standards gap contributed to their finding that an expectation gap exists with respect to illegal acts.*

*Specifically, the auditing guidance provided by SAS No. 54, Illegal Acts by Clients (AICPA, 1988) indicates that there is no assurance that illegal acts--resulting from the operational aspects of the entity--will be detected. In contrast, the requirements of Statement of Financial Standards No. 5, Accounting for Contingencies (SFAS, 1975) do not provide such an exception for reporting contingent liabilities that arise from the operational aspects of the entity. Thus, we believe that*



deficient standards (or in this case disparate standards) are also contributing to the expectation gap with respect to illegal acts.

Two broad findings are suggested by the results of the analysis. First, in addition to unreasonable public expectations, deficiencies in the professional standards may have also contributed to the results of McEnroe and Martens (2001). Second, the current professional guidance regarding illegal acts may need to be revisited in order to improve audit effectiveness and, in turn, narrow the expectation gap with respect to illegal acts.

## ENDNOTES

The Sarbanes-Oxley Act of 2002 (The Act) created the Public Company Accounting Oversight Board (PCAOB), a private sector non-profit corporation to oversee the auditor of public companies. Specifically, Section 101 of The Act provides that the PCAOB shall establish auditing, quality control, ethics, and independence standards to be used by registered public accounting firms in the preparation and issuance of audit reports. However, given that the promulgatory domain of the PCAOB is currently limited to audits of public companies, the AICPA continues to promulgate generally accepted auditing standards with respect to audits of non-public companies. Thus, the term auditing profession encompasses not only auditors, but also the two promulgating bodies (i.e., the PCAOB and the AICPA).

## REFERENCES

- American Institute of Certified Public Accounts (AICPA). 1988. *Illegal Acts by Clients*. Statement on Auditing Standards No. 54. New York, NY: AICPA.
- American Institute of Certified Public Accounts (AICPA). 2002a. *Consideration of Fraud in a Financial Statement Audit*. Statement on Auditing Standards No. 99. New York, NY: AICPA.
- American Institute of Certified Public Accounts (AICPA). 2002b. *Understanding the Entity and Its Environment and Assessing the Risks of Material Misstatement*. Proposed Statement on Auditing Standards. New York, NY: AICPA.
- Financial Accounting Standards Board (FASB). 1975. *Accounting for Contingencies*. Statement of Financial Accounting Standards No. 5.
- McEnroe, J.E. and S.C. Martens. 2001. Auditors' and investors' perceptions of the "expectation gap". *Accounting Horizons* (December): 345-358.
- Porter, B. 1993. An empirical study of the audit expectation - performance gap. *Accounting and Business Research* (Winter) 93: 49-68.
- Sutton, M.H. 2002. Financial reporting at a crossroads. *Accounting Horizons* (December): 319-328.
- U.S. Congress. 2002. *The Sarbanes-Oxley Act*. 2002. 107th congress of the United States of America. H.R. 3763. Washington, D.C.: Government Printing Office.

## **ACCOUNTING IN THE THIRD MILLENIUM: AN EXAMINATION OF PRINCIPLES TEXTS**

**Patricia Carver, Bellarmine University**

pcarver@bellarmine.edu

**Michael R. Luthy, Bellarmine University**

mluthy@bellarmine.edu

### **ABSTRACT**

*In the wake of several negative, high-profile accounting scandals, the issue of how educators can address the significance and practice of accounting with their students is an important one. Much of the burden is carried by those instructors teaching the accounting principles classes where most students decide if they want to pursue a career in the field. Instructors in turn rely greatly on textbook content and supplementary materials to structure how students view the accounting profession. This paper focuses on the Principles in Financial Accounting course and the resources available for today's educators in accomplishing those goals.*

### **INTRODUCTION**

The first few years of the third millennium witnessed a number of high-profile company and accounting firm practices that generated a large amount of press coverage. In the wake of the negative publicity of Enron and other scandals, the accounting profession faces a tremendous amount of scrutiny. Accounting programs in higher education institutions may have to adjust their curriculum. Besides the greater emphasis on finance (Volpe and Chen, 2001), ethics likely will also receive expanded coverage. With the growing introduction of technology, accounting has moved from a once laborious, tedious, solitary activity to one that is better characterized as relationship-based, professional, and focused on inventing new ways and services to attract new clients and retain established ones. In support of this evolution it is important for colleges and universities to challenge accounting graduates to become skilled in communications, marketing, management and sales. As a result, publishers of accounting textbooks face the challenge of producing materials that meet the needs of students, instructors, and employers in today's market. This means that instructors and students expect to remain regularly updated with new information at a faster pace than ever.

The first accounting course typically taught to undergraduate students is Principles of Financial Accounting. This course provides students the framework for further education in accounting. While some of the basic concepts have not changed, "assets = liabilities + equities", and "debits = credits" the approach taken in current textbooks are more in tune with teaching what the numbers mean and how they relate to financial statements and future cash flows.

Publishers have made the process of reviewing textbooks much simpler for educators through the posting of materials online. A search for Financial Accounting textbooks conducted through the Internet reveals most of the pertinent information needed to select a text. This saves a

tremendous amount of time that would be spent waiting for hard copies of texts to be received by instructors - and a good deal of costs to the publishers. An online study of accounting principle texts published in 2002-03 revealed many similarities in subject matter, while the presentation and emphasis reflects slight to significant differences. Of course, topics such as financial statements, accounts receivable, inventories, etc, were presented. It is, however, important that universities focus on relevant instruction that will add value to real-world experiences as students graduate with accounting degrees. Accounting firms have argued that the content of accounting courses is not relevant because the faculty "lacks significant, continuing sources of information about the realities of the practice environment" (The Big Eight, 1989).

While this statement was expressed over ten years ago, it is still relevant to the dilemma many universities face today. The accounting faculty's lack of real world experience may be part of the culprit; however students' anxiety over grading makes them more concerned about the "how to" than the "why" in accounting. If textbooks focus on basic steps, i.e., debit = credit, then students are also going to focus on those fundamentals. Being more conceptual in the teaching process helps students expand their knowledge base and thinking skills. Spreadsheet programs now allow instructors to move away from the basic tasks. "Doing away with tasks now performed by technology leaves time for students to acquire solid foundations for building critical-thinking skills and preparing them for life-long learning" (Nearon, 2002).

New concepts have been introduced over the years and with the use of technology there is no longer a need to have students perform laborious problems, (i.e., least square regression analysis), manually when there are computers that can do calculations in seconds. Educators have realized the value of technology but are sometimes slow to introduce it in the classroom. The use of this technology frees valuable classroom time for more critical thinking and relevant projects.

The Accounting Education Change Commission (AECC) states that they are concerned with accounting education as it presently stands. If their concerns are not consciously addressed, it will lead to the demise of the accounting education. Note the following:

*The number and quality of students electing to major in accounting is decreasing rapidly.*

*Both practicing accountants and accounting educators, most of whom have accounting degrees, would not major in accounting if pursuing their education over again.*

*Accounting leaders and practicing accountants are telling us that accounting education, as currently structured, is outdated, broken and needs to be modified significantly (Albrecht and Sack, 2000).*

## METHODOLOGY

Several publishers' web sites were searched for financial accounting principle textbooks. Thirteen textbooks were then reviewed in terms of content area discernable from their table of contents and online supplemental information for instructors and students. No textbooks were physically reviewed; all information was gathered from websites. Therefore, the accuracy of this information depends on the completeness of the websites and the ease of which the author could gather and interpret information.

## Table of Content/ Features

All the texts offered online table on contents with some texts offering a short statement about the chapters. Major areas of accounting principles were easily recognized. These topics included the balance sheet, income statement, cash flow, assets, liabilities and equities. Other unique topics were included to the specific texts, such as income taxes, international accounting, and partnerships. Reviewing the table of content online helps narrow the selection process. Those books that do not fit criteria for the course, based on given information, can be eliminated rather quickly.

Each site gives an overview of the text listing unique features. This overview lists the nuances of the book, telling how the material flows, new approaches taken from previous editions, and subject matter unique to the text. Using this opportunity well sells books. Many instructors are interested in receiving as much information as possible with the amount of hassle typically associated with reviewing textbooks - at least in making a first cut. Reviewing texts online allows for this evaluation in a more timely way (see Table 1).

	a	b	c	d	e	f	g	h	i	j	k	l	m
Accounting Framework	X										X		
Accounting Systems & Internal Controls			X	X		X	X	X		X		X	X
Accounts Receivable	X	X	X	X	X	X	X	X	X	X	X	X	X
Balance Sheet Concept	X	X	X	X	X	X	X	X	X	X	X	X	X
Cash			X	X			X	X	X	X	X	X	X
Cash Flow Statements	X	X	X	X	X	X	X	X	X	X	X	X	X
Economic Concepts	X												
Equities	X	X	X	X	X	X	X	X	X	X	X	X	X
Financial Statement Analysis	X	X	X	X	X	X	X	X	X	X	X	X	X
Global and International Accounting					X						X		X
Income Statement Concepts	X	X	X	X	X	X	X	X	X	X	X	X	X
Income Taxes	X	X							X				
Introduction to Financial Accounting	X	X	X	X	X	X	X	X	X	X	X	X	X
Inventories	X	X	X	X	X	X	X	X	X	X	X	X	X
Liabilities	X	X	X	X	X	X	X	X	X	X	X	X	X
Long Term Assets	X	X	X	X	X	X	X	X	X	X	X	X	X
Long Term Liabilities, i.e., Bonds	X	X	X	X	X	X	X	X	X	X	X	X	X
Marketable Securities	X	X	X	X	X		X	X	X	X	X		X
Matching Concept & Adjustments		X	X			X		X	X	X		X	X
Partnerships								X					X

(a) Antle and Garstka; (b) Horngren, Harrison, and Bamber; (c) Libby, Libby, and Short; (d) Meigs, Williams, Haka and Bettner; (e) Wild, Chiappetta, and Lersons; (f) Reimers; (g) Stickney and Weil; (h) Warren, Reeve, and Fess; (i) Albrecht, Stice, Stice, and Skousen; (j) Edmonds, McNair, Milan, and Olds; (k) Needles and Powers; (l) Wild; (m) Porter and Norton

### Supplemental Materials

All of the textbooks researched provide at least a minimal amount of online services to students and instructors (see Table 2). The texts provide Webtutor to the instructors and list many other supplement materials available for use. Some of the texts provide online ready Powerpoint slides for the instructor and in a few cases for the students as well. In an informal review of two principles of financial courses involving approximately 40 students, only five students reported that they actually went on line for supplemental information. Many students noted that the site would be helpful, but many said that they would not take the time involved in going to the site. While students in this small very informal study were not anxious to visit the website, these sites do tend to be of greater interest to many instructors. They want the supplemental sites available for those students interested and themselves.

	a	b	c	d	e	f	g	h	i	j	k	l	m
On-line Interactive Tutorial	X	X	X	X	X	X	X	X	X	X	X	X	X
Hot links to related sites and materials	X			X	X	X	X			X	X		
PowerPoint Slides	X		X	X									
INTACCT	X	X							X				
Self-Quizzes	X		X		X								
Study Guide			X		X	X							
Key Terms		X		X									
Online Course		X	X										
Course Compass		X											
Edgar-Scan (financial statement archive)	X												
Personal Trainer								X					

(a) Antle and Garstka; (b) Horngren, Harrison, and Bamber; (c) Libby, Libby, and Short; (d) Meigs, Williams, Haka and Bettner; (e) Wild, Chiappetta, and Lersons; (f) Reimers; (g) Stickney and Weil; (h) Warren, Reeve, and Fess; (i) Albrecht, Stice, Stice, and Skousen; (j) Edmonds, McNair, Milan, and Olds; (k) Needles and Powers; (l) Wild; (m) Porter and Norton

## DISCUSSION

The traditional method of teaching accounting has come under fire by many critics. A few authors of textbooks are listening to these criticisms. An online review of the 13 textbooks published in 2002 and 2003 reveals that the more progressive offer many online tools and suggestions to keep material fresh and updated. Principles of accounting courses teach basics, there is only so much that the author can do with the presentation of material. One approach many authors are taking is to use financial information from existing companies, making the information more relative to industry.

With the influx of technology however, a renewed look at ethics, and changing expectations of employers, what other advances can texts offer to make them stand out from other books? How fast can information and updates be made available to students and instructors? Instructors can immediately get an abundant amount of information by going online. There is no longer the need to wait until receiving a hard copy to do a cursory review, allowing access to more texts.

Antle and Garstka make the following statement concerning their text *Financial Accounting*, "Although we did not write this text in order to train students as bookkeepers, we believe that students need to be exposed to the techniques that underlay financial reporting," (Antle and Garstka, 2002). Of the information provided online for the textbooks reviewed, only one presented itself as offering an "alternative to debits and credits" (Porter and Norton, 2002). Horngren, Harrison, Bamber offers four to ten minute videos on each chapter with actual business professionals who use accounting to "enhance the success of their organization" (Horngren, Harrison, Bamber, 2001).

### Limitation of the Study

This study had several limitations. First, it was limited to our interpretation of titles for chapter content. For instance, most principle financial textbooks discuss "cash", however if there were no specific title alluding to that discussion, the author was not credited with that topic. Some of the supplements for instructor and students may have not been attributed to a text because if may have not been specifically noted and included with another supplement.

No textbooks were physically reviewed; all information was gathered from websites. Therefore, the accuracy of this information depended on the completeness of the websites and the ease of which the author was able to gather information. This was the goal of the study, however, physically reviewing texts and supplemental information may have caused a different outcome.

## CONCLUSION

The accounting discipline like many others looks for new and innovative ways to approach teaching. Having access to online material, which can be updated quickly, is a plus for any publisher looking to sell texts and stay ahead of the curve. Publishers' use of the Internet has made the task of reviewing textbooks simpler. There is an abundant amount of information available online. Instructors have available to them information that gives synopsis of textbooks including table of contents, overviews, unique features and some even offer a brief description of each chapter.

Along with printed teaching supplements, most sites offer PowerPoint and other electronic instructional tools.

Students also have available to them online study guides, exercises, and chapter summaries. These websites accommodate and supplement ever-fast changing texts revisions (even those revised every two or three years). One good example would be the Sabanes-Oxley Act. Only the very latest editions of texts would include this information; however, it could be easily updated on a website for a student and/or instructor's use.

## REFERENCES

- Albrecht, S.W. and R.J. Sack (2000). *Accounting education: Charting the course through a perilous future*. (August), <http://accounting.rutgers.edu>.
- Albrecht, S.W., J.D. Stice, E.K. Stice, and K.F. Skousen (2002). *Financial Accounting*, 8e, Cincinnati, OH: Southwestern Publishing.
- Antle, R. and S. Garstka (2002). *Financial Accounting*, Cincinnati, OH: Southwestern Publishing.
- Arthur Anderson & Co., Arthur Young, Coopers & Lybrand, Deloitte, Haskins & Sells, Ernest & Whinney, Peat Marwick Main & Co. Price Waterhouse, and Touché Ross (1989). Perspectives on Education: Capabilities for Success in the Accounting Profession, Retrieved November 10, 2003 from [aaahq.org/AECC/big8/cover.htm](http://aaahq.org/AECC/big8/cover.htm).
- Edmonds, T.P., F.M. McNair, E.E. Milan, and P.R. Olds (2002). *Fundamental financial accounting concepts*, 4e, New York, NY: McGraw-Hill.
- Hornngren, C.T., W.T. Harrison Jr., and L.S. Bamber (2001). *Accounting*, New Jersey, Prentice Hall.
- Hornngren, C.T., W.T. Harrison, and L. Bamber (2002). *Accounting*, 5/e, New Jersey, Prentice Hall.
- Libby, P., R. Libby, and D.G. Short (2001). *Principles of financial accounting*, 3e, New York, NY: McGraw-Hill.
- Meigs, M.S., J. Williams, S. Haka, and R. Bettner (2002). *Financial accounting*, 12e, New York, NY: McGraw-Hill.
- Nearon, B.H. (2002). "A radical proposal for accounting education," *The CPA Journal*, (October), 72, 28.
- Needles, B.E., Jr., and M. Powers (2002). *Principles of financial accounting*, 2002e, Boston, MA: Houghton Mifflin.
- Porter, G.A. and C.L. Norton (2002). *Financial accounting: The impact on decision makers, an alternative to debits and credits*, 3e, Cincinnati, OH: Southwestern Publishing.
- Reimers, J.L. (2002). *Financial accounting: A business process approach*, NJ: Prentice Hall.
- Stickney, C.P. and R.L. Weil, (2003). *Financial accounting: An introduction to concepts, methods, and uses*, 10e, Cincinnati, OH: Southwestern Publishing.
- Volpe, R.P. and H. Chen (2001). Finance: A missing dimension in accounting education" *Ohio CPA Journal*, (April-June).
- Warren, C.S., J.M. Reeves, and P.E. Fess (2002). *Financial accounting*, 8e, Cincinnati, OH: Southwestern Publishing.
- Wild, J. (2002). *Financial accounting: Information for decisions*, 2/e., New York, NY: McGraw-Hill.
- Wild, K.D, B. Chiappetta, and J.J. Larsons (2002). *Fundamental accounting principles*, New York, NY: McGraw-Hill.

# **THE FASB'S NEW AND IMPROVED PENSION DISCLOSURES: A STEP FORWARD, BACKWARDS OR SIDEWAYS?**

**Rena K. Clark, Henderson State University**

clarkr@hsu.edu

**Paul J. "Jep" Robertson, Henderson State University**

robertp@hsu.edu

## **ABSTRACT**

*Pension accounting is often viewed as one of the most controversial and complex areas of financial reporting. The collapse of pension plans, the under funding of pension plans and the financial viability of pension plans are issues confronting both the political and economic community. Users of financial statements have continuously expressed a concern that they have inadequate information regarding pension plans assets, obligations, benefit payments, contributions and net benefit costs. In December 2003, the Financial Accounting Standards Board (FASB) responded to these concerns by issuing a revised FASB Statement No. 132.*

*The provisions of this statement do not change any recognition or measurement provisions of previously issued statements regarding pension plans and other post retirement benefit plans, but does require a number of additional disclosures. These disclosures include information describing the types of plan assets, investment strategy, measurement date(s), plan obligations, cash flows, and components of net periodic benefit costs recognized during interim periods.*

*The FASB stated that they recognized that firms will incur additional costs to comply with these new disclosure requirements but argued that the benefits to users would exceed the costs. This paper explores the major provisions of the new Statement and poses the question weather the new provisions are a step forward, sideways or backwards in providing users with truly useful information. If there is a definitive answer to this question only time and the markets will tell.*





# THE INVESTORS ABILITY IN MAKING AN INVESTMENT DECISIONS ON THE GERMANY'S FINANCIAL MARKET-AN EMPIRICAL ANALYSIS

**Musa Darayseh, Purdue University Calumet**

Aldara@calumet.purdue.edu

**Elaine Waples, Purdue University Calumet**

Ewaples@calumet.purdue.edu

## ABSTRACT

*Many U.S. companies and investors do business with German companies or own German subsidiaries. To comply with laws in both countries, American Certified Public Accountants and investors need to be familiar with the German accounting rules. Even though there are many similarities, there are some differences in the preparation of financial statements.*

*The two main areas that influence accounting in Germany are commercial and tax laws and the accounting profession. The German commercial and tax laws are the most important influence to accounting in Germany. Laws require every business to keep records and to provide financial statements at the end of a 12-month period. Detailed requirements of how to keep specific accounts are not given purposely to leave room for improvement of the mechanics of bookkeeping. However, the "principles of orderly bookkeeping" give general guidelines of how to keep records. For example, under the principle of individual evaluation, every asset and liability is evaluated individually. Total value is not a valid measure. Also under the principle of caution, balance sheet items have to be evaluated with caution. It is preferred if assets are reported low and liabilities high and not vice versa. Contingencies are to be considered, even if they become known after the balance sheet date. However, gains are not to be reported unless they are already realized on the balance sheet date. Closely related to the principle of caution is the principle of inequality (Imparitätsprinzip). Pending losses always have to be included in the balance sheet, gains that are not realized may not be included. (Hahn and Warner 1986)*

*Another influence to financial reporting rules is the accounting profession. The accounting profession in Germany is governed by the Wirtschaftsprüferkammer (Chamber of Accountants), which was introduced in 1971 by the law regulating the accountancy profession (Nobes and Parker, p.100). Membership is required by law. The Chamber is a self regulating body and its legal function is to observe the professional standards and to educate accountants (Nobes and Parker, p.100). Many times recommendations and suggestions made by the Chamber cause a change in laws in the interest of the public (Publication of the Wirtschaftsprüferkammer). In 1992, the Chamber had 13,000 members, which was almost double than in 1987. Cause of this increase was a new law in 1986 requiring audits not only for corporations (Aktiengesellschaften), but also for companies with limited liability (Gesellschaft mit beschränkter Haftung or short GmbH 2).*

*To help American companies and international investors in forming their expectations about the future prospects of the German companies' financial reports and the accuracy of the accounting*

*data reported in these reports, the objective of this study is to look for evidence of the existence of income enhancement. In other words, the goal of this research paper is to determine if the frequency of occurrence of second digits contained in income numbers of the German firms (annual data) departs significantly from expectations.*

## **PREDICTING RELATIVE STOCK PRICES: AN EMPIRICAL STUDY**

**Dean W. DiGregorio, Southeastern Louisiana University**

### **ABSTRACT**

*This study investigates the ability of two valuation methods, the income approach and the comparable sales approach, to predict the year-ahead, rank-ordered prices of publicly traded stocks. The sample firms are stratified by industry. Actual values and rank measurements are used in general models. Cross-sectional and pooled data is analyzed using nonparametric and parametric statistical methods.*

*Overall, the results support the use of both valuation approaches. Several of the variables used in the valuation models were able to explain a substantial amount of the variation in ranked year-ahead prices. However, it was noted that results could vary by SIC code and that care must be taken when valuing stocks in different industries. Also, as expected it was generally easier to predict the rank of year-ahead prices than to predict actual prices.*



# **DO STATES OPTIMALLY SET TAX RATES? THE PORTFOLIO APPROACH VS. THE TAX SMOOTHING HYPOTHESIS**

**C.A. Dole, State University of West Georgia**

*cdole@westga.edu*

**Jennifer Troyer, University of North Carolina at Charlotte**

*jtroyer@www.uncc.edu*

## **ABSTRACT**

*There are two strands of literature addressing optimal taxation. One, using a portfolio approach, assesses to what degree a tax system balances tradeoffs between revenue growth and stability. The second strand of literature of optimal tax theory, the tax smoothing hypothesis (TSH), claims that changes in tax rates should be unpredictable in order to minimize the excess burden of the tax. This paper considers both theories to determine if there is any overlap of the "requirements" for optimization. For example, are states with a tax portfolio offering high revenue growth and stability also able to smooth tax rates? Results show there appears to be little connection between the two conditions for optimal taxation.*

Note:

We would like to thank Mark Rush, Ben Blair and Kurt Henry for their helpful comments and assistance.



## EVALUATING HEALTH SAVINGS ACCOUNTS

**Janet Dye, University of Alaska Southeast**  
janet.dye@uas.alaska.edu

### ABSTRACT

*Health savings accounts (HSAs) were just signed into law in December 2003. These accounts are similar to medical savings accounts but offer many additional tax advantages. HSAs are available to anyone whose health insurance has a high deductible, deposits are tax-deferred, earnings on the accounts are also tax-deferred, and monies can roll from one year to the next. Many employers are offering a health insurance option combining a high deductible policy and employer contributions to an HAS for the employee. This paper examines when these new plans are advantageous.*





## **EVERY GOOD MANAGER IS A GOOD AUDITOR: CROSS FUNCTIONAL PROFICIENCY**

**Kevin L. Ennis, Mississippi State University**

kennis.aa@meridian.msstate.edu

**Doh-Kuhl Kim, Mississippi State University**

dk62@meridian.msstate.edu

**Jack E. Tucci, Mississippi State University**

Jtucci@meridian.msstate.edu

### **ABSTRACT**

*This paper explores the commonalities between the accounting profession and the management function. Typically these two fields of study are taught and operationalized independently to the point that few appreciate the skills one field can offer the other. An important purpose is to raise a question for further discussion. That question is, can Agood@ managers become more effective by crossing into the accounting discipline and embracing some of the goals, functions, and skills of the audit profession? Where the management function typically emphasizes conceptual skills, human skills, and technical skills, it suggested in this paper the addition of internal auditors focus on the economy, efficiency, and effectiveness of the operations would greatly enhance many managers in their quest to improve themselves and the organizations they work for. The management function could become more effective if managers would Acrossover@ and adopt certain goals, skills, and functions of the audit profession. Managers should not resist this Acrossover@ as these commonalities could be developed and applied at all levels of the organization. If auditors, according to CPA standards, are required to develop and utilize management skills then why shouldn=t managers be required to develop and utilize auditing skills? If this cross-pollination across disciplines could occur, we may never need auditors again.*



## MANAGEMENT TURNOVER AND MYOPIC DECISION-MAKING

**Robert Graber, University of Arkansas - Monticello**  
graber@uamont.edu

### ABSTRACT

*This paper provides an agency theory explanation for the managerial myopia, or shortsightedness, that is present in many corporations. The premise of this research is that corporate managers may not actually be short-sighted, but are in fact acting in what they perceive as their personal long-term best interests, rather than taking actions aimed at maximizing shareholders' wealth. Corporate managers may perceive an implicit contract, based on the experience of their predecessors, regarding their expected longevity with their current employers.*

*If managers believe their tenure with their current employer will be short, they are likely to be reluctant to undertake any activities that will be costly to the firm in the short run. Such activities can be expected to enrich the company only after a long period of time, when the managers do not longer expect to be with their employer to share the rewards.*

*The hypothesis of this study is that, all else being equal, the greater the rate of senior management turnover, the smaller the percentage of revenue that a firm will invest in long-term projects, such as research and development or employee training. Management and CEO stock ownership can be expected to have a mitigating effect, since the greater the percentage of the firm that is owned by management, the more management's incentives should be aligned with other shareholders'.*

*This paper provides a theoretical model to demonstrate that, the greater the probability that the manager will remain with the firm for a long period of time, the more the manager will invest in long-term projects, such as research and development, that maximize shareholders' wealth.*



# CREATING THE WRONG INCENTIVES? THE UNINTENDED CONSEQUENCES OF TAX AMNESTY PROGRAMS

**Martin Gritsch, William Paterson University of New Jersey**  
Gritschm@wpunj.edu

## ABSTRACT

*Over the past two decades, 39 states have offered tax amnesty programs. While they differ in some aspects, they all have one feature in common: Individuals and corporations who previously failed to pay their full tax obligation are given the opportunity to "come clean" and pay past due taxes during the amnesty period. In many cases, accrued interest and fines are also covered under the amnesty.*

*Tax amnesty programs do have their advantages: States collect outstanding taxes in a more punctual manner and without possibly drawn-out legal procedures. Additionally, proponents of tax amnesties point out that participants in the tax amnesty program are now on the tax rolls for future tax collections.*

*There are drawbacks to tax amnesties, however, which may outweigh the advantages. First, amnesties may lead to "giveaways" on tax bills that would have been collected later anyway. Second, a less tangible disadvantage is the ill-will created by tax amnesties on the part of individuals who paid their taxes (possibly including fines and interest) before the amnesty period. They fare worse than others, who waited even longer to "come clean," avoided fines and interest, i.e., illegal activity is rewarded by the authorities. This may create incentives for tax evasion in the future if tax amnesties are used repeatedly and somewhat predictably. Close to half of the states with amnesty programs in recent years offered tax amnesties more than once. Taxpayers may rationally choose to not pay taxes when they are due because the expected cost of deferring tax payments (often sans interest and fines) may be lower than that of timely tax payments.*



## THE IMPACT OF SARBANES-OXLEY ACT ON NON-U. S. ACCOUNTING FIRMS

**Kathy H. Y. Hsu, University of Louisiana at Lafayette**  
kathy@louisiana.edu

**Ronald G. Cheek, University of Louisiana at Lafayette**  
Cheek@louisiana.edu

**Harlan L. Etheridge, University of Louisiana at Lafayette**  
Harlan@louisiana.edu

### ABSTRACT

*The Sarbanes-Oxley (Public Company Accounting Reform and Investor Protection) Act of 2002 is the most far reaching legislation to reform American business practices in recent time. This legislation changes the business landscape in the U.S. by creating a new oversight body, the Public Company Accounting Oversight Board, to oversee the corporate governance, accounting and auditing practices of all publicly held companies in the U.S. and to implement regulatory requirements for better corporate governance, accounting, and auditing practices.*

*Many of these new regulatory changes affect not only U.S. corporations and the U.S. accounting and auditing professions, but also have a far reaching impact on all of the non-U.S. corporations that seek capital in the U.S. security markets as well as those non-U. S. accounting/auditing firms that service these foreign entities. While the intention of the Sarbanes-Oxley Act is to protect U.S. investors in general and the legitimacy of an U.S. oversight body to regulate publicly held companies in the U.S. is not being challenged, some of the specific requirements within the Act pose challenges for non-U. S. companies that are also subject to their home country's regulatory requirements that may be substantially different or in conflict with the requirements of this new act. Strong opposition also has been expressed by non-U.S. accounting firms that are fearful that implementation of this new Act may place them in a disadvantageous position compared to their U.S. counterparts and change the international market for auditing services. This study reviews the specific requirements of the Sarbanes-Oxley Act that are applicable to non-U. S. accounting firms and provides insight on how these requirements affect the global accounting and audit market.*





# AN ASSOCIATION BETWEEN THE TIME SERIES BEHAVIOR OF ANALYSTS FORECASTS AND THE PREDICTIVE VALUE OF QUARTERLY EARNINGS

**Jongdae Jin, William Paterson University**

jongdaejin@hotmail.com

**Kyungjoo Lee, Cheju National University, Cheju, Korea**

mrlove@cheju.ac.kr

**Sung K. Huh, California State University-San Bernardino,**

huh@csusb.edu

## ABSTRACT

*This study examines a relationship between the time series behavior of analysts forecasts and the predictive value of quarterly earnings. It is hypothesized that the revision coefficient be positively related to the predictive value of quarterly earnings information. The revision coefficient is a magnitude of earnings forecast revision in response to actual quarterly earnings information releases, which is measured by a regression coefficient of forecast errors over forecast revisions. The predictive value is a measure of quarterly earning information's impact on the accuracy of annual earnings forecasts*

*Empirical tests on this hypothesis are conducted using the Value Line analysts' earnings forecast data about 235 sample firms over a five-year period. The test results show that the revision coefficient is positively related to the predictive value of quarterly earnings, which supports the hypotheses. These results are robust across different forecast error metrics, and statistical methods.*

## INTRODUCTION

Ever since Green and Segall [1966,1967] did pioneering works, numerous researchers in accounting have examined the predictive value of quarterly earnings in forecasting annual earnings (E.G., Abdel-Khalik and Espejo [1978] and Brown, Hughes, Rozeff and Vanderweide [1980], Lorek [1979], Collins and Hopwood [1980], and Brown and Rozeff [1979b] and Hopwood, McKeown and Newbold [1982]). Using various time-series models and data, these studies found that the accuracy of analysts' annual earnings forecasts improves with the release of quarterly earnings information, which is intuitively appealing because annual earnings are temporal aggregation of four quarterly earnings. Previous studies also identified systematic and time persistent differences in analysts' earnings forecast accuracy, but have not explained why the differences exist. In other words, how quarterly earnings affect the forecast accuracy was not well documented in the previous research (E.G., Clement [1999], Hope [2003], Clement et. al. [2003], Gleason & Lee [2003]).

Thus, the objective of this study is to investigate the impact of the revision coefficient on the predictive value of quarterly earnings, as an endeavor to answer this question. The revision

coefficient is a magnitude of earnings forecast revision in response to actual quarterly earnings information releases, which is measured by a regression coefficient of earnings forecast errors over earnings forecast revisions. This coefficient may vary with the quality and quantity of new information revealed through the quarterly earnings announcement. The predictive value is a measure of quarterly earning information's impact on the accuracy of annual earnings. It is hypothesized that the revision coefficient be positively related to the predictive value of quarterly earnings information.

Empirical tests on this hypothesis are conducted using the Value Line analysts' earnings forecast data about 235 sample firms over a five-year period. The test results are consistent with the hypothetical prediction that the revision coefficient is positively related to the predictive value of quarterly earnings. These results are robust across different forecast error metrics, and statistical methods.

The remainder of this paper is organized as follows. Chapter 2 describes hypotheses development, which is followed by a discussion on sample selection and methodology for testing the hypotheses in Chapters 3 & 4. Empirical results from the hypotheses tests are presented in Chapter 5, while some concluding remarks appear in the final Chapter.

## HYPOTHESES DEVELOPMENT

Financial analysts revise their annual earnings forecasts as new quarterly earnings information is released, because earnings forecasts for a reporting quarter, an integral part of annual earnings forecasts, are replaced by the actual earnings for the same quarter. This revision may vary with the quality and quantity of new information revealed through the actual quarterly earnings announced.

The quantity of new information in the actual quarterly earnings can be measured by the difference between the projected earnings for the reporting quarter and its corresponding actual earnings (i.e., quarterly earnings forecast error), because more news in the actual quarterly earnings causes the bigger difference. The bigger the quarterly earnings forecast error, the bigger the revision on annual earnings forecasts. In other words, an association between the quarterly earnings forecasts error and the revision on annual earnings forecasts (i.e., the revision coefficient) should be positive.

The quality of new information in the actual quarterly earnings may be reflected on the sensitivity of annual earnings forecast revisions with respect to a given magnitude of quarterly earnings forecast error. Financial analysts place heavier weights on the high quality information than on low quality information when they revise their forecasts on the annual earnings. Thus, the higher the quality of new information in the actual quarterly earnings, the bigger the revision on the annual earnings forecasts. In other words, the revision coefficient should be positively related to the quality of quarterly earnings information.

With the revision, the accuracy of annual earnings forecasts improves, because uncertainties in the annual earnings forecasts decrease as the predicted quarterly earnings in annual earnings forecasts is replaced by the corresponding actual quarterly earnings. And the higher the revision coefficient due to higher quality of quarterly earnings information, bigger the revision on annual earnings forecasts which, in turn, leads to higher accuracy of annual earnings forecasts.

In sum, the predictive value of quarterly earnings, a measure of quarterly earnings' impact on the accuracy of annual earnings forecasts, is positively related with the revision coefficient. Therefore, testable hypotheses herefrom would be

H1: The predictive value of quarterly earnings is positively related to the revision coefficient of quarterly earnings.

### SAMPLE SELECTION

Each firm included in this study should satisfy the following selection criteria. (1) Quarterly earnings per share (EPS) data are available in the Value Line Investment Survey over the entire estimation and testing period (10 years for estimation and 5 years for testing). (2) Quarterly earnings forecasts are available in the Value Line during the estimation and testing period. (3) Sufficient daily return data are available on the CRSP tape. (4) Each firm's financial information must be included in the COMPUSTAT tapes. (5) Each firm has a fiscal year ending on December throughout the estimation and testing period. And (6) each firm must be in the manufacturing industry with two-digit SIC code between 10 and 39.

The above selection criteria yielded a sample of 235 firms.

### MEASUREMENT OF VARIABLES

The term 'predictive value' is defined here as the improvement in the accuracy of annual earnings forecasts with the release of actual quarterly earnings information. The improvement in the forecasts is measured by the reduction in forecast errors. Squared forecast error (SFE) described below is used as a forecast error metric:

$$SFE(Q_{\tau})_{iy} = (A_{iy} - E(A|Q_{\tau})_{iy})^2$$

where  $A_{iy}$  = actual annual earnings for firm  $i$  and year  $y$ , and  
 $E(A|Q_{\tau})_{iy}$  = forecasted annual earnings conditional on  $\tau$  quarter's earnings for firm  $i$  and year  $y$ ,  
 $\tau = 0, 1, 2, 3$ .

The predictive value (TI) in the accuracy of annual earnings forecasts during a year relative to the beginning of the year due to the release of actual quarterly earnings is measured by:

$$TI_{iy} = [SFE(Q_0)_{iy} - SFE(Q_3)_{iy}] / SFE(Q_0)_{iy}$$

To obtain the revision coefficient, the following regression model was estimated:

$$REV_{\tau}(t) = \hat{a} + \hat{a}(t)FE_{\tau} + e \quad (1)$$

where  $REV_{\tau}(t)$  = the revision of  $t$ -quarter ahead Value Line forecast at quarter  $\tau$ ,

$FE_{\tau}$  = the forecast error for quarter  $\tau$  ; actual earnings minus the most recent Value Line Earnings forecast for quarter  $\tau$  .  
 $\hat{a}(t)$  = the revision coefficient.

### TESTING HYPOTHESES

To test the hypothesis, the following pooled cross-sectional and time-series regression models are estimated:

$$TI_{iy} = a_0 + a_1 PARA_{iy} + a_2 \ln(SIZE)_{iy} + \hat{a}_{iy} \quad (2)$$

where TI = total improvement in the accuracy of annual earnings forecasts from incorporating all four actual quarterly earnings,  
 PARA = revision coefficient of a given quarterly earnings time-series model,  
 ln(SIZE) = natural logarithm of firm size measured by the market value of equity,  
 i, y = firm and year index, respectively.

Results from estimating regression model (2) presented in Panel A of Table 6. The regression coefficients of the revision coefficient variable,  $a_1$  and  $b_1$ , have the expected positive signs and are statistically significant at the  $\alpha$  level of 0.05 for AFE and 0.01 for SFE. The regression coefficients of the firm size variable,  $a_2$  and  $b_2$ , also have the predicted positive sign but are not statistically significant except for the RI( $Q_1$ ) when SFE was used. Regressions model (2) was again estimated using rank data, and the results are reported in Panel B of Table 6. The general tenor of conclusion remains the same; significantly positive relation of revision coefficient to both total and relative predictive values, supporting the hypothesis. Diagnostic tests for multicollinearity and heteroskedasticity were also conducted using the procedure introduced by Belsley, Kuh and Welsch [1980] and White [1980], respectively. Test results indicate that neither of these problems presents in our data.

Table 1: Effect of Revision coefficient and Firm Size on the Predictive Values of Quarterly Earnings <sup>a</sup>		
$TI_{iy} = a_0 + a_1 PARA_{iy} + a_2 \ln(SIZE)_{iy} + \hat{a}_{iy} \quad (2)$		
	Panel A. Ordinary Regression Analysis	Panel B. Rank Regression Analysis <sup>c</sup>
Variables	TI	TI
Intercept	0.90 (10.404)***	139 (10.764)***
PARA	0.17 (2.723)***	10 (1.732) *
ln(SIZE)	0.019 (1.444)	07 (1.197)
R <sup>2</sup> (%)	3.22	1.54
F-value	4.702***	2.220 *

<sup>a</sup>	Analyses are based on pooling 235 sample firms and over 5 years.
<sup>b</sup>	TI = total improvement in the accuracy of annual earnings forecasts from incorporating all four actual quarterly earnings,
PARA	= revision coefficient of a given quarterly earnings time-series model,
ln(SIZE)	= natural logarithm of firm size measured by the market value of equity,
i, y	= firm and year index, respectively.
<sup>c</sup>	Ranks of both dependent and independent variables are used.
***	Significant at <0.01; ** Significant at <0.05; * Significant at <0.10.

In sum, results show that revision coefficients of quarterly earnings are positively related with both total and relative predictive values of quarterly earnings. These results are robust with respect to the choice of forecast error metric and statistical methods used.

### CONCLUSIONS

This study examines the revision coefficients of quarterly earnings on their predictive value. It is hypothesized that the revision coefficient is positively related to the predictive value of quarterly earnings information. The revision coefficient is a magnitude of earnings forecast revision in response to actual quarterly earnings information releases, which is measured by a regression coefficient of forecast errors over forecast revisions. The predictive value is a measure of quarterly earning information's impact on the accuracy of annual earnings forecasts.

This hypothetical relationship was empirically tested using the Value Line analysts' forecast data about 235 sample firms over the five-year period. Empirical results are consistent with the hypothetical relationship between the revision coefficients and the predictive value of quarterly earnings. These results are robust with respect to different forecast error metrics and statistical methods.

(References will be provided upon requests)



# **DUTIES OF ACCOUNTING CLERKS DURING THE CIVIL WAR AND THEIR INFLUENCE ON CURRENT ACCOUNTING PRACTICES**

**Darwin L. King, St. Bonaventure University**

dking@sbu.edu

**Carl J. Case, St. Bonaventure University**

ccase@sbu.edu

## **ABSTRACT**

*No single event in United States history has had such a profound impact on our country as the Civil War of 1861 to 1865. An analysis of military accounting documents of the period provides valuable information related to their influence on current accounting and auditing practices. These documents illustrate U.S. Army recordkeeping requirements and also reveal various internal controls utilized during this period. The goals of safeguarding assets and producing accurate accounting reports were critical to the military during these desperate times.*

*This paper begins with an overview of military organization. The purpose is to discuss and explain the hierarchical structure of the U.S. Army. The next portion of this document continues with reviews of the positions of company accounting clerks and quartermasters. Both of these assignments required responsible, conscientious soldiers who could be depended upon to prepare numerous reports. A significant number of internal controls were employed in an effort to properly account for the two major classes of assets, men and materials. Military regulations specified in detail the accounting and auditing tasks required when a particular report or statement was prepared.*

*A number of actual Civil War accounting reports are reviewed in this paper with copies included in the appendix. The paper concludes with an assessment of accounting practices and internal controls that were instituted during the Civil War and continue to influence current accounting procedures. This includes an analysis of various internal controls that attempt to safeguard a firm's assets and ensure the accuracy and reliability of their accounting reports and statements.*





## **ACCOUNTING FIRMS IN CYBERSPACE: A CRITIQUE OF THE BIG 4**

**Michael R. Luthy, Bellarmine University**

mluthy@bellarmine.edu

**Patricia Carver, Bellarmine University**

pcarver@bellarmine.edu

### **ABSTRACT**

*The phenomenal growth of the Internet has fundamentally altered the competitive landscape for virtually all businesses. This trend is no more pronounced than in the accounting services sector. This paper explores the cyber presence and on-line activities of the "Big Four" Accounting Firms: PriceWaterhouseCoopers, KPMG, Deloitte and Touche, and Ernst & Young. Each firm's target market is discussed, along with a critique of each site's strengths and weaknesses as a benchmark for other accounting firms' cyber efforts.*

### **INTRODUCTION**

The Internet continues to grow at nearly exponential rates in the United States and around the world. From somewhat humble beginnings, by 1998 there were over 2.8 million websites on the Internet. By the beginning of 2000 the number had increased to 9 million. E-commerce revenues have been forecasted to increase some tenfold between 1998 and 2003. These figures have given rise to the expression that one Internet year is equal to three months by a standard calendar (Richardson, 2001). While virtually no business enterprise will go untouched by this revolution, the one of current interest and at the focus of this paper is the accounting services industry in general, and the so-called Big Four firms of PriceWaterhouseCoopers, KPMG, Deloitte and Touche, and Ernst & Young.

These firms utilize the Internet as a marketing tool like so many other major companies in promoting their business. These firms are leaders in the field of technology because they have to be well informed and "cutting-edge" due to expectations from clients. They can be no different in the adoption of their interactive web sites (Bachmann, Elfrink, and Robideaux, 1997). The presentation of their websites reflects who they are as much as any other form of advertisement or corporate communication. All four firms have well established websites with a wealth of information for internal and external users. The strengths in each website far outweigh weaknesses. Utilizing this marketing tool as a rapid, cheap, and efficient way to get out massive amounts of information to potential and established clients, employees, and other interested parties is a prime reason for organizations taking the time and effort to establish and maintain them. Disseminating the same amount of information could not be accomplished as easily, shared, or updated, through, for example brochures or other media campaigns in such an effective manner. Estimates show that approximately 120 million Americans are currently online at any given time (Elftick, 2002).

## **Website Development**

Research indicates that good websites are those that deliver relevant and well-organized information in an engaging manner to the end customer (Chen and Williams, 1999). In a world where some industries lead the way in internet commerce (technology, finance, entertainment), it is expected that the Big Four accounting firms be a leader in their online realms. The future of e-commerce is bright, with boundaries only limited by technology, the government, and competition. Creating and maintaining a competitive advantage within these boundaries will rest in part on the establishment of a firm's cyberpresence. The website, in the evaluation of current and potential customers, will have to deliver value, foster and nurture the customer-firm relationship, and be responsive to customer needs as they evolve.

## **History**

In the beginning, accounting firms as well as other businesses used the Internet as a way to get their name to customers and show the array of services that they provide. More recently, the firms see Internet sites as a substantial resource in obtaining new business, meeting current clients' needs, and publicizing themselves and information they feel is relevant. While some of the earlier look may remain, all the sites have evolved to become more sophisticated than their beginnings. All the firms' sites have international or global home pages. They also organize their sites by country and allow for easy navigation through to the nation of interest. KPMG's first site had a popular "tip of the day" which helped them to average 80,000 hits per day. Their site does not include this any longer. As in the past, they still offer visitors the opportunity to review and/or retrieve publications, and other writings. Ernst & Young past design featured a question and answer format. "Ask Ernie" was a popular tool in which, for a fee, subscribers submitted questions online for answering. Deloitte Touche offered tax release information (Pratt, 1977).

## **Methodology**

According to Netraker Corporation, the top three factors that ensure repeat visitors to web sites are content, speed and ease of use (www.WebCritique, 2003). PricewaterhouseCoopers, KPMG, Deloitte Touche, and Ernst Young websites were accessed and critiqued in these areas. Web content was reviewed for authority, updated subject matter, and relevant information. The review measured to see if there were any substantial problems in using the search engines and navigating the sites ensuring no broken links. In addition, usability testing looked at graphic design, innovative use, and readability of content.

## **Target Market**

A website should reflect the personality of a business. Using a website as a marketing tool will be highly effective when an enterprise gets serious about advancing customer relationships though its online service. It should mirror the needs of its target market (McIntyre, 2000). It is obvious that the firms use websites to present their image and as a promotional tool to share

information with current and potential clients, prospective employees, and other third parties. Ernst Young uses phrases such "People First", "client trust" and "global village" in their site. They not only address client confidence, they also speak highly of their relationship with their employees (see Exhibit 1 / [www.ey.com](http://www.ey.com)). It is clearly obvious that they use their website as a positive image builder in hopes of garnering good faith in existing and potential clients and employees.

EXHIBIT 1: HOME PAGE – ERNST AND YOUNG ACCOUNTING FIRM



PriceWaterhouseCoopers' website also places a high emphasis on its current and potential client base. They convey a message that they put high importance on compliance and code of conduct (see exhibit #2 / [www.pwcglobal.com](http://www.pwcglobal.com)). Interestingly, Deloitte Touche, while their main target seems to be their clients, puts emphasis on a site that "alumni" employees can visit and network when the site was first visited. Six months later, Deloitte Touche's web site focused more on external customer and client services. (see exhibit 3 / [www.deloitte.com](http://www.deloitte.com)). KPMG's homepage highlights books and papers they have written (see exhibit 4 / [www.kpmg.com](http://www.kpmg.com)). They also offer information about services and recruiting information.

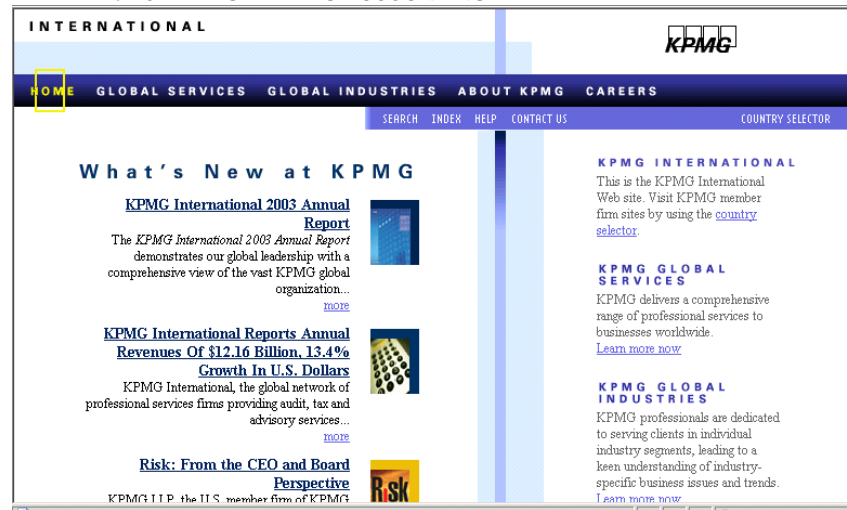
EXHIBIT 2: HOME PAGE - PRICEWATERHOUSECOOPERS ACCOUNTING FIRM



EXHIBIT 3: HOME PAGE - DELOITTE TOUCHE ACCOUNTING FIRM



EXHIBIT 4: HOME PAGE – KPMG ACCOUNTING FIRM



A sticky website essentially is a good mix between content and presentation. A-K Strategic Business Solutions makes the following statement about a sticky website. "The longer a person stays with the pages of your website, the more familiar he becomes with it. The more familiar, the more comfortable. It is when the visitor feels comfortable that they will make the purchase. Even if your product is slightly more expensive than your competitors, if the visitor feels comfortable with, therefore trusts, "you" then you are far more likely to win the sale. All because of your website's stickiness." (www.akstrategic.com)

## Strengths and Weaknesses

### KPMG

In reviewing the international and United States home page for KPMG's website, they are aesthetically pleasing. The lay out of the topics presented make it easy to find information. Cluttering is not an issue, making it simple to review each subject matter presented. The navigation through the site was effortless and user friendly. KPMG provides links to many topics that consumers will find useful. When navigating to two of those listed topics, however, there was a response that the subjects were no longer available. One suggestion would be for the company to remove topics from the homepage once the material is no longer available for review. In addition, there were no pull downs on the home page to offer a list of services or industries. To see those services or industries, the page had to actually be accessed.

### Ernst and Young

Ernst & Young's Global and United States homepages lists its best assets at the top of the page in bold large type. They also enhance the relationship with consumers by listing information concerning their community work as well as offering articles on Sarbanes-Oxley. The site is on

target in portraying an image that meshes well with who they are and what they represent. Navigation through the site was effortless with quick responses. Ernst Young's only fall back is that they present too much information on its home page's front page. They give synopses of six articles as well as listing headings for other topics. As the paragraphs are so long, the print is very small making it hard to read. One suggestion would be to list headings or titles and let the reader decide if they want to pursue the information. Most site visitors do not thorough read each page; they tend to quickly glance until they find the information relevant to them (Ashenhurts, 2002).

### **PricewaterhouseCoopers**

PWC's international and United States webs site are filled with many options to choose from. They use many headlines, subtitles, bulleted list and short sentences and paragraphs to ensure readability (Richman, 2003). The information presented is relevant to targeted customers and is up to date. Their lead off story concerns public trust. This immediately builds a positive customer relationship by focusing on a topic that has been in the headlines for over a year. The web site is easily navigated with quick response time.

When entering PricewaterhouseCoopers' home page, a pop-up survey is immediately presented. Putting the survey off to one side of the page gives the reader the option to pursue this avenue instead of it being forced upon viewer. The only other issue with PWC website is that the word "maximize is misspelled. This was found to be true in viewing the web site over a six month period.

### **Deloitte Touche**

The Deloitte Touche website is very conservative in its look. It is aesthetically pleasing and exactly what one would expect from a CPA firm. The international site gives a brief synopsis of the international company. It also allows for pull downs for most accounting topics and information relating to careers. The United States home page focused on topics interests for that country. The sight was very easy to navigate and the information was relevant. They offer a new on-line tool called "Dbriefs." Dbriefs is a series of webcasts that features Deloitte & Touche professionals discussing critical issues that affect most businesses. Their website is enjoyable to view because of the ease of navigation and information is eye catching at a glance.

## **CONCLUSION**

Successful websites are not only functionally brilliant, perfectly designed, have an abundance of information, and easy to use, but rather, they have a balance of all they attributes (www.Agency.com). The firms' sites were had updated relevant information that was geared to their target market. Each firm produced websites that develops and maintains relationships with potential and current clients as well prospective employees.

Stephen Thompson in his web cast "Analyze This," states that great work should be engaging compelling, relevant, efficient, and satisfying. In other words, it should work for the user first and then fill the needs of the company. He further states that usability and usefulness of the site should

balance (Thompson, 2003). Each firm adds their own essence and balance to their web site, making it unique to who they are and what image they want to portray. How firms address the needs and issues surrounding their cyberpresence and the value that it delivers to customers and their evolving needs is the agenda for future research works.

## REFERENCES

- Anonymous (2003). Make Your Website Really Work For You: Website Critiques. Retrieved June 27, 2003 from [www.webcritique.co.uk](http://www.webcritique.co.uk).
- Anonymous (2003). Giving Your Website Stickiness," Retrieved June 27, 2003 from [www.akstratedug.com/stickiness.html](http://www.akstratedug.com/stickiness.html).
- Anonymous (2003). Provide an Objective Review of your Current Site. Retrieved June 27, 2003 from [www.agency.com](http://www.agency.com).
- Ashenhurst, J. (2002). Enhancing Web Site Usability. *Rough Notes*, 145, 8, 56-58.
- Bachmann, D., J. Elfrink, and D. Robideaux (1997). Internet marketing: Evidence of a viable medium. *The CPA Journal*, 67, 6, 71-73.
- Chen, Q. and D.W. William (1999). Attitude toward the site. *Journal of Advertising Research* 39, 5, 27-37.
- Deloitte Touche Home page (2004). Retrieved January 29 from [www.deloitte.com](http://www.deloitte.com).
- Elfrink, J. (2002). CPA websites: A maturing marketing tool. *The CPA Journal*, 72, 2, 70-72.
- Ernest Young Home page (2004). Retrieved January 29 from [www.ey.com](http://www.ey.com).
- KPMG Home page (2004). Retrieved January 29 from [www.kpmg.com](http://www.kpmg.com).
- McIntyre, P. (2000). "Weaving the ideal website," *Australian CPA*, 70, (October), 51.
- Pratt, L. (1997). Hits to the web. *CA Magazine*, 130, (January / February), 13.
- PriceWaterhouseCooper Home page (2004) Retrieved January 29 from [www.pwcglobal.com](http://www.pwcglobal.com).
- Richardson, P. (2001). *Internet marketing: Readings and online resources*, New York, NY: McGraw-Hill.
- Rickman, C. (2003). Webcritique: Newly relaunched webcritique.co.UK offers new usability & web copywriting services plus free website critique for three lucky readers; Prevent the cycle of site overhauls that fail to fix. Retrieved June 27, 2003 from <http://www.webcritique.co.uk>.
- Thompson, Stephen (2003). "Analyze This," Retrieved June 27, 2003 from [www.agency.com](http://www.agency.com).





# FINANCIAL INSTITUTION OBJECTIVES, INDIVIDUAL ACCESS TO INFORMATION AND TURNOVER

Vaughn S. Armstrong, Utah Valley State College

armstrva@uvsc.edu

Norman Gardner, Utah Valley State College

gardnen@uvsc.edu

## ABSTRACT

*We examine the components of share and dollar turnover in the New York Stock Exchange and on NASDAQ from 1985 through 2001. Transactions costs and the volatility of information affect turnover as expected based on existing literature. After controlling for these factors, differences remain among financial institutions that are of necessity associated with differences in investment horizon. There is also evidence that some investor groups generate turnover in only a subset of stocks in these markets. We also find evidence that increasing the availability of information to individuals, thus reducing their indirect costs of trading, leads to higher turnover.*

**Table 4. Regression of share turnover on investor holdings**

	parameter	t statistic
Panel A. Dependent variable: share turnover in NYSE		
Intercept	0.712	0.529
Commissions per share	-0.873	-1.846*
Market value of corporate equity	0.047	0.399
Standard deviation of Dow Jones industrial average	0.001	8.874***
Federal funds rate	-0.005	-0.896
Household sector	-0.077	-0.714
Non-US investors	0.203	2.479**
Depository institutions	0.064	1.056
Bank personal trusts & estates	0.072	0.860
Life insurance companies	0.126	1.262
Other insurance companies	-0.386	-2.489**
Private pension funds	0.253	1.715*
State and local government retirement	-0.376	-2.858***
Open end mutual funds	-0.179	-1.407
Closed-end funds	0.148	2.873***
Exchange-traded funds	0.012	1.390
Brokers & dealers	0.145	3.428***

F= 0.000Adj R<sup>2</sup> = 0.838

## Panel B. Dependent variable: share turnover in NASDAQ

Intercept	-15.137	-3.310***
Commissions per share	-2.218	-1.381
Market value of corporate equity	0.798	1.972**
Standard deviation of Dow Jones industrial average	0.001	4.680***
Federal funds rate	0.007	0.388
Household sector	0.700	1.906*
Non-US investors	-0.070	-0.250
Depository institutions	-0.022	-0.107
Bank personal trusts & estates	-0.431	-1.507
Life insurance companies	-0.194	-0.569
Other insurance companies	-0.743	-1.410
Private pension funds	1.357	2.707***
State and local government retirement	0.067	0.150
Open end mutual funds	-0.306	-0.709
Closed-end funds	-0.357	-2.043**
Exchange-traded funds	0.014	0.504
Brokers & dealers	-0.055	-0.382

F= 0.000Adj R<sup>2</sup> = 0.924**Table 5. Regression of dollar turnover on investor holdings**

	parameter	t statistic
Panel A. Dependent variable: dollar turnover in NYSE		
Intercept	2.947	2.019**
Commissions per share	0.596	1.163
Market value of corporate equity	-0.046	-0.359
Standard deviation of Dow Jones industrial average	0.001	8.705***
Federal funds rate	0.004	0.618
Household sector	0.076	0.649
Non-US investors	0.308	3.470***
Depository institutions	0.046	0.707
Bank personal trusts & estates	0.013	0.142
Life insurance companies	0.139	1.281
Other insurance companies	-0.628	-3.737***
Private pension funds	0.030	0.186
State and local government retirement	-0.371	-2.602***
Open end mutual funds	0.034	0.249
Closed-end funds	0.132	2.376**
Exchange-traded funds	0.009	1.028
Brokers & dealers	0.067	1.452

F= 0.000Adj R<sup>2</sup> = 0.806

## Panel B. Dependent variable: dollar turnover in NASDAQ

Intercept	-13.043	-1.866*
Commissions per share	2.549	1.039
Market value of corporate equity	0.407	0.658
Standard deviation of Dow Jones industrial average	0.002	4.163***
Federal funds rate	0.109	4.017***
Household sector	-0.028	-0.050

---

Non-US investors	0.768	1.806*
Depository institutions	-0.464	-1.486
Bank personal trusts & estates	-0.993	-2.272**
Life insurance companies	0.157	0.303
Other insurance companies	-2.540	-3.156***
Private pension funds	2.250	2.937***
State and local government retirement	2.605	3.820***
Open end mutual funds	-1.150	-1.743
Closed-end funds	-0.500	-1.873*
Exchange-traded funds	0.016	0.377
Brokers & dealers	-0.252	-1.148

F= 0.000Adj R<sup>2</sup> = 0.889



# AN ANALYSIS OF THE CONVERGENCE EFFORT TOWARD A GLOBAL SET OF ACCOUNTING STANDARDS

**Michael Broihahn, Barry University**

mbroihahn@mail.barry.edu

**Inge Nickerson, Barry University**

inickerson@mail.barry.edu

## ABSTRACT

*Globalization is the business juggernaut of the 21<sup>st</sup> Century. The continent-based trade coalition of the European Union (EU) and the North American Free Trade Agreement (NAFTA) demonstrate a significant departure from the isolated nationalistic economies of the past. Further, the World Trade Organization (WTO) was created in 1995 to deal with the rules of trade between nations. The global economy has also brought forth a need for greater efficiency in the global capital markets. The International Organization of Securities Commissions (IOSCO) supports this effort and has used its regulatory power to urge that national accounting standards be converged into a set of globally common financial accounting standards and practices.*

*The convergence project between the International Accounting Standards Board (IASB) and the U.S.-based Financial Accounting Standards Board (FASB) was born out of the economic forces of global trade and global capital market needs as well as the Sarbanes-Oxley Act of 2002. The European Commission has stated that the members of the European Union will adopt the IASB International Financial Reporting Standards as of January 1, 2005, and Australia has also announced that it will adopt the IASB Standards effective January 1, 2005. Public Law 107-204 (The Sarbanes-Oxley Act) also required the Securities Exchange Commission (SEC) to conduct a study and issue a report on adopting principles-based accounting standards, and thereby possibly depart from the FASB's rules-based approach.*

*This paper examines the repercussions of the convergence project with respect to both the short-term and the longer-term reporting differences and issues as they unfold into the Century of the Global Business Economy.*



# WHAT'S IN A NAME? AN ANALYSIS OF S&P 500 INDEX MUTUAL FUNDS

**John Cresson, Southeastern Louisiana University**  
jccresson@selu.edu

## ABSTRACT

*Even though Standard and Poor's (S&P) 500 Index mutual funds are enormously popular with investors, Frino and Gallagher (2001) note that empirical research addressing index funds is scarce. S&P 500 Index mutual funds are designed to replicate the performance of the S&P 500 Index, and therefore, should move very closely with the S&P 500 Index. In this study, I present evidence that the movements of the S&P 500 Index funds do indeed closely track the movements of the S&P 500 Index, but the returns on S&P 500 Index funds lag the returns on the S&P 500 Index. However, the returns across the S&P 500 Index funds vary significantly. I present the factors that significantly influence the S&P 500 Index funds' returns.*





# **WHY IS THERE SO MUCH DEBATE ABOUT THE METHOD OF ACCOUNTING FOR STOCK BASED COMPENSATION? THE ANSWER IS IN THE NET INCOME AND EPS NUMBERS**

**Teresa T. King, Clayton College and State University**

elvis\_61@msn.com

**H. Wayne Cecil, Macon State College**

wcecil@mail.maconstate.edu

## **ABSTRACT**

*There is a significant debate inside and outside the accounting profession regarding the proper method of accounting for stock based compensation. Some of those outside of the accounting profession taking sides include: Alan Greenspan, Warren Buffet, members of Congress, and executives of many companies. Some shareholders have even made protest signs and marched at annual stockholders meetings. There are two basic sides to the debate. One side supports the current rule that allows use of the Intrinsic Value Method for reporting purposes and only requires disclosing the cost of stock based compensation applying the Fair Value Method in the notes to the financial statements. The other side supports a rule change to require the Fair Value Method be used for determining stock based compensation expense on the income statement. Recent corporate scandals and the role of the accounting profession in these cases make the outcome of this debate a turning point for accounting.*

*Why is this topic so divisive? We investigate the impact that mandating the Fair Value Method would have on the reported Earnings and Income of the top 10 companies traded on the NASDAQ. Industries represented by these companies have been very vocal in their support of not requiring a change to the Fair Value Method.*



# A STUDY ON THE BINARY OPTION MODEL AND ITS PRICING

**Bin Peng, Nanjing University of Science and Technology**  
**Yuqi Han, Nanjing University of Science and Technology**  
feip@ece.ubc.ca

## ABSTRACT

*In this paper, the valuation and applications of an exotic binary option are discussed that includes features of cash-or-nothing option and asset-or-nothing option. We established a pricing model for binary option and derived the analytical solutions of the model by using a conventional Black-Scholes option-pricing method. We further dissertated the application of a Binomial Tree method on the binary option pricing and provided numerical experiments, which verify the validity of the Binomial Tree method. Therefore, we concluded that the Binomial Tree method is a good estimator for the value of binary option.*

**Key word:** Binary Option, Black-Scholes method, Binomial Tree method.

## INTRODUCTION

A standard option is a contract that gives the holder the right to buy or sell an underlying asset at a specified price on a specified date. The payoff depends on the underlying asset price. The call option gives the holder the right to buy an underlying asset at a strike price; the strike price is termed a specified price or exercise price. Therefore the higher the underlying asset price, the more valuable the call option. If the underlying asset price falls below the strike price, the holder would not exercise the option. Binary option is an exotic call option with discontinuous payoffs. The option pays off a fixed, predetermined amount if the underlying asset price is beyond the strike price on its expiration date.. We discuss two types of binary options here: asset-or-nothing call option and cash-or-nothing call option. For the first type, the option pays off nothing if the underlying asset price ends up below the strike price. It pays an amount equal to the underlying asset price if it ends up above the strike price. For the second type, the option pays off nothing if the underlying asset price ends up below the strike price and pays a fixed amount  $Q$  if it ends up above the strike price. Note that for the binary option the underlying asset is the stock and the underlying asset price is termed the stock price.

Fischer Black and Myron Scholes (1973) created the Black-Scholes method of option pricing and Cox, J. C., S. Ross, and M. Rubinstein (Sept. 1979) proposed the Binomial Tree option pricing method, which laid the foundation on the new securities pricing. In recent years, more and more people pay much attention on the option pricing. Binomial Tree option pricing was found to be the most simple and powerful technique that can be used to solve many complex option-pricing problems in contrast to the Black-Scholes method and other complex option-pricing methods referred by Wilmott, P., J. Dewynne, and S. Howison (May 1997). Single European and American

standard option pricing formulae are published by Fischer Black and Myron Scholes (1973) and Cox, J. C., S. Ross, M. Rubinstein (Sept. 1979) and Churchill, R. V. and J. w. Brown (1985.). Since the binary option are not combinations of these options, in the following section, we extend Black-Scholes method to derive valuation formula of the binary option of asset or nothing call option and cash or nothing call option. In the third section we shall study the Binomial Tree method applied to the binary option pricing. At last, we provide simulated computation, which indicate the validity of the Binomial tree method compared to Black-Scholes method.

## 6. BINARY OPTION VALUATION

Our objective is to establish the binary option pricing model and derive its analytic solution in a Black-Scholes method. The asset price is assumed to follow the lognormal random walk, and there are no transaction costs, The interest rate is taken to be continuous and constant over the option life, so the expected return is the risk free interest. The asset pays no dividends during the option period. The valuation method is a risk-neutral valuation approach. Therefore according to John C. Hull (July 2002), we start the deviation from the Black-Scholes equation:

$$\frac{\partial f}{\partial t} + rs \frac{\partial f}{\partial s} + \frac{1}{2} \sigma^2 s^2 \frac{\partial^2 f}{\partial s^2} = rf \quad (1)$$

Where  $f$  is the option value,  $s$  is the underlying asset price,  $t$  is the time,  $\sigma$  is the volatility,  $r$  is the risk-free interest rate. Considering the characteristics of the binary option, its pricing model is equal to the Black-Scholes equation (1).

### A. ASSET-OR-NOTHING CALL OPTION

If the stock price never hits the strike price  $x$  at expiration, then the option is worthless, thus on the lines  $x$  and blow the lines  $x$ , the option value is zero. If  $s_T$  surpass the price  $x$ , we let the final payment of the option be  $s_T$  (stock price at maturity). If  $c_1(s_T, t)$  is the value of asset-or-nothing call option on its expiration date, then the final boundary condition of equation (1) is

$$c_1(s_T, t) = \begin{cases} s_T & s_T > x \\ 0 & s_T \leq x \end{cases} \quad \text{for } t=T \quad (2).$$

With the assumption that the expected return is the risk-free interest rate, we get

$$c_1 = e^{-r(T-t)} E c_1(s_T, T) \quad \text{Such that } 0 \leq t \leq T$$

$$c_1 = e^{-r(T-t)} \int_{-\infty}^{+\infty} c_1(s_T, T) f\{s_T\} ds_T = e^{-r(T-t)} \int_x^{+\infty} s_T f\{s_T\} ds_T \quad (3)$$

Note that the limits on the integral go from  $x$  to  $+\infty$ . Since if the stock price was below  $x$ , the option value at expiry would be zero and the function  $c_1(s_T, T)$  would use 0 instead.

Recall that the stock price follows the lognormal distribution and it turns out that the probability distribution function for  $s_T$  is

$$f(s_T) = \frac{1}{\sqrt{2\pi(T-t)\sigma s_T}} \exp\left\{-\frac{(\ln s_T - u)^2}{2(T-t)\sigma^2}\right\} \quad \text{With } u = \ln s + (r - \sigma^2/2)(T-t) \quad (4)$$

Applying the relationship between  $s$  and  $s_T$ , we let

$$s_T = s * \exp(\ln s_T - \ln s) = s * \exp\left(\ln s_T - u + \left(r - \frac{1}{2}\sigma^2\right)(T-t)\right),$$

so equation (3) can be expressed as

$$\begin{aligned} c_1 &= s \times \exp\left(-\frac{1}{2}\sigma^2(T-t)\right) \int_x^{+\infty} \frac{1}{\sigma s_T \sqrt{2\pi(T-t)}} \exp\left[\ln s_T - u - \frac{(\ln s_T - u)^2}{2(T-t)\sigma^2}\right] ds_T \\ &= s \int_x^{+\infty} \frac{1}{\sigma s_T \sqrt{2\pi(T-t)}} \exp\left[-\frac{1}{2}\left(\frac{(\ln s_T - u) - \sigma^2(T-t)}{\sigma \sqrt{T-t}}\right)^2\right] ds_T \end{aligned} \quad (5)$$

By using the transformation  $y = \frac{1}{\sigma \sqrt{T-t}} [(\ln s_T - u) - (T-t)\sigma^2]$ , we can easily get

$$ds_T = s_T \sigma \sqrt{T-t} dy$$

if  $s_T \rightarrow +\infty$  then  $y \rightarrow +\infty$ , if  $s_T = x$  then  $y = \frac{-1}{\sqrt{T-t}\sigma} \left[ \ln(s/x) + \left(r + \frac{1}{2}\sigma^2\right)(T-t) \right] = -d_1$

So equation (5) can be written as

$$c_1 = s \int_{-d_1}^{+\infty} \frac{1}{\sqrt{2\pi}} \exp\left[-\frac{y^2}{2}\right] dy = s(1 - N(-d_1)) = sN(d_1) \quad (6)$$

### B. CASH-OR-NOTHING CALL OPTION

In this option, if  $s$  never reaches strike price  $x$ , then the option is worthless, thus on the line  $x$  and below the line  $x$ , the option value is zero. If  $s$  exceed strike price  $x$ , the final valuation of option is equal to a fixed amount  $Q$ . If  $c_2(s_T, t)$  is the value of cash-or-nothing call option on its expiration date, then the final boundary condition of equation (1) is

$$c_2(s_T, t) \begin{cases} Q & s_T > x \\ 0 & s_T \leq x \end{cases} \quad \text{for } t=T \quad (7)$$

By using the risk-neutral valuation approach, we can get,

$$\begin{aligned} c_2 &= e^{-r(T-t)} E(c_2(s_T, T)) = e^{-r(T-t)} \int_{-\infty}^{+\infty} c_2(s_T, T) f(s_T) ds_T = e^{-r(T-t)} \int_x^{+\infty} Q f(s_T) ds_T \\ &= Q e^{-r(T-t)} \int_x^{+\infty} f(s_T) ds_T = Q e^{-r(T-t)} P(s_T > x) \end{aligned} \quad (8)$$

Note that the limits on the integral go from  $x$  to  $+\infty$  since if the stock price was below  $x$ , the value would be zero and function  $c_2(s_T, T)$  would use 0 instead. Using the assumption that stock price follows the lognormal distribution

$$\ln s_T \sim \Phi \left[ \ln s + \left( r - \frac{\sigma^2}{2} \right) (T-t), \sigma \sqrt{T-t} \right] \quad (9)$$

According to (9) we can obtain

$$\begin{aligned} P(s_T > x) &= P(\ln s_T > \ln x) \\ &= P \left( \frac{\ln s_T - \ln s - \left( r - \frac{1}{2} \sigma^2 \right) (T-t)}{\sigma \sqrt{T-t}} > \frac{\ln x - \ln s - \left( r - \frac{1}{2} \sigma^2 \right) (T-t)}{\sigma \sqrt{T-t}} \right) \\ &= 1 - N \left( \frac{\ln(x/s) - \left( r - \frac{1}{2} \sigma^2 \right) (T-t)}{\sigma \sqrt{T-t}} \right) = 1 - N(-d_2) = N(d_2) \end{aligned}$$

So equation (9) becomes

$$c_2 = Qe^{-r(T-t)} N(d_2) \quad \text{where} \quad d_2 = \left[ \ln(s/x) + \left( r - \frac{1}{2} \sigma^2 \right) (T-t) \right] = d_1 - \sigma \sqrt{T-t} \quad (10)$$

### III. BINOMIAL TREE METHOD TO THE BINARY OPTION PRICING

According to (6) and (10), we can derive the analytic solution of binary option in the Black-Scholes method, which is the basis for determining how accurate the Binomial Tree method is. In the following section, we shall use the BTM to evaluate the binary option prices.

The Binomial Tree method uses the idea that asset price follows a multiplicative binomial process over discrete periods. Each small time steps, the asset price can either increase or decrease. In other words, there are two different possibilities at each point,  $su$  is the new asset price if it increases, and  $sd$  is the new asset price if it decreases, the probability that the asset increase is  $p$ , therefore the probability it decrease is  $1-p$ . This process is repeated for every small  $\Delta t$ , until time  $T$  is reached. Considering One assumption is that  $u \times d = 1$ , so if the asset increase and then decreased, it would be back at the original starting asset price. The other assumption is that the expected return for an asset is the risk-free interest rate, therefore, we can derive the formulas for  $p$ ,  $u$  and  $d$  are as follow according to John, C, Hull (July 2002):

$$p = (e^{r\Delta t} - d)/(u - d) \quad u = e^{\sigma\sqrt{\Delta t}} \quad d = e^{-\sigma\sqrt{\Delta t}} \quad (11)$$

We assume the stock pays no dividends. The increasing rate of the asset is  $u$ , the decreasing rate of the asset is  $d$ . And we have  $u > 1 + r > 1$ ,  $d < 1 < 1 + r$ ,  $r$  is riskless interest rate and it is constant and positive. If the current asset price is  $s$ , the asset price at the end of one period  $\Delta t$  will thus be either  $su$  or  $sd$ . In keeping with the binomial process, the asset can take on three possible

values after two periods  $2\Delta t$ :  $su^2$ ,  $sud$ ,  $sd^2$ ; at the end of three periods  $3\Delta t$ , the asset has four possible values:  $su^3$ ,  $su^2d$ ,  $sud^2$ ,  $sd^3$ . At the end of  $i$  periods  $i\Delta t$ , the asset has  $i+1$  possible values:  $s(i+1) = su^j d^{i-j}$ ; at the expiration date  $T = N\Delta t$ , the asset has  $N+1$  possible values  $s(N+1) = su^j d^{N-j}$ . For  $j=0,1,2,\dots,N$ . So, the asset prices are calculated using the following formula: (Cox, J. C., S. Ross, and M. Rubinstein. Sept. 1979)

$$s_{ij} = su^j d^{i-j} \quad \text{For } j = 0, 1, 2, \dots, i \text{ and } i = 1, 2, \dots, N \quad (12)$$

Basically, at time  $i+1$ , the asset changed  $i$  times, and could be any combination of increasing and decreasing. It is important to pick  $N$  large enough. So  $\Delta t$  is small enough to provide for a good sample of asset prices in the Binomial Tree.

Once the asset prices are calculated for the whole tree, the values are then computed by starting at the last step in the tree and working backward. Since the value on the expiry date is known by Rubinstein, M. and E. Reiner (October 1991). The formula for the binary option value at the final time is as follows:

For the asset-or-nothing option,

$$f_{N,j} = \begin{cases} su^j d^{N-j} & su^j d^{N-j} > x \\ 0 & su^j d^{N-j} < x \end{cases} \quad j = 0, 1, \dots, N \quad (13)$$

For the cash-or-nothing option,

$$f_{N,j} = \begin{cases} Q & su^j d^{N-j} > x \\ 0 & su^j d^{N-j} < x \end{cases} \quad j=0,1,\dots,N \quad (14)$$

and moving back one step at a time, the remainder of the option values are calculated as follows:

$$f_{i,j} = e^{-r\Delta t} [pf_{i+1,j+1} + (1-p)f_{i+1,j}] \quad 0 \leq i \leq N-1, \quad 0 \leq j \leq i \quad (15)$$

The logic behind this calculation is for option price  $f_{i,j}$ , the probability it moves up is  $p$ , or the probability in one time step and has value  $f_{i+1,j+1}$  is  $p$ , then the probability it moves down and has value  $f_{i+1,j}$  is  $1-p$ , and then discount it back one time step  $\Delta t$  for the present value of the option.

## 6. NUMERICAL EXPERIMENT

We now give numerical experiment to determine how valid the Binomial Tree method for the binary option pricing is in contrast to the Black-Scholes method. The parameters used in the numerical experiment are:  $S=50$ ,  $r=0.1$ ,  $\sigma=0.3$ , the fixed amount  $Q=25$ . strike price was equal to 50, 51 and 52, the total time is 6 months. First using 256 total time steps and then increasing to 512 and 1024 steps to improve accuracy ran the Binomial Tree. Table 1 contains the numerical results for the asset-or-nothing call option Table 2 shows the numerical results for the cash-or-nothing option. The numerical results for the analytical solution are computed using the Black-Scholes method from formula (6) and (10). The values of binary option with finite time steps are computed using the Binomial Tree method from formula (13), (14) and (15). It can be observed that the prices



of cash-or-nothing call option and asset-or-nothing call option are closer with the analytical solution with the increase of step times. All the numerical example verify the validity of the Binomial Tree method.

**Table1. Numerical results for asset-or-nothing call option (s=50,T=6months)**

Strike price	Analytical solution(a)	N=256		N=512		N=1024	
		Value(b)	%(b/a)	Value(c)	%(c/a)	Value(d)	%(d/a)
50	32.20	32.85	102.02	32.51	100.96	32.27	100.22
51	29.90	30.50	102.01	29.15	97.49	29.90	100.00
53	26.10	25.59	98.46	25.65	98.28	26.21	100.42

**Table2. Numerical results for Cash-or-nothing call option (s=50,T=6months)**

Strike price	Analytical solution(a)	N=256		N=512		N=1024	
		Value(b)	%(b/a)	Value(c)	%(c/a)	Value(d)	%(d/a)
50	13.20	13.69	103.79	13.53	102.50	13.41	101.59
51	12.25	12.53	101.45	11.86	96.82	12.23	99.03
53	10.49	10.16	96.76	10.20	97.14	10.46	99.62

## ๕๕. CONCLUSION

The Black-Scholes method is an exact calculation of the option value for a predetermined stream of stock prices. The analytical solution was the basis for determining how accurate the Binomial Tree method is. In this paper, we derived the analytical solution for the binary option in the Black-Scholes method and numerical solution for the binary option in the Binomial Tree method.. Moreover, we provided the example to verify the validity of the Binomial Tree method for the binary option pricing compared to the Black-Scholes method. It can be concluded that Binomial Tree method is a strong predictor for the new type of the option-binary option pricing.

## REFERENCES

- Black, F and Scholes, M (1973). The pricing of option and corporate liabilities, *Journal of Political Economy* 81, 637-659.
- Churchill, R, V and Brown, J, w (1985). *Fourier Series and Boundary Value Problem*, International Student Edition (McGraw Hill, New York).
- Cox, J, C, Ross, S, and Rubinstein, M (Sept. 1979). Option Pricing: A Simplified Approach. *Journal of Financial Economics* 7, 229-263.
- John, C, Hull (July 2002), *Options, futures and other derivatives*, Prentice Hall, 5th edition, New York.

Longstaff, F and Schwartz, E (2001). Valuing American options by simulation: a simple least-squares approach, *Review of Financial Studies* 14, 113-147.

Rubinstein, M and Reiner, E (October 1991). Unscrambling the binary code, *Risk Magazine*, 4(9), 75-83.

Rubinstein, M (1994), Implied binomial trees, *Journal of Finance* 49,771-818.

Wilmott, P, Dewynne, J and Howison, S (May 1997), *Option Pricing: Mathematical Models and Computation*, Oxford Financial Press, Oxford.



# **THE ANTI-DILUTIVE EFFECT OF TAX BENEFITS DUE TO EMPLOYEE STOCK OPTIONS**

**Paulette A. Ratliff, Arkansas State University**  
pratliff@astate.edu

## **ABSTRACT**

*One of the main concerns of investors with regard to the granting of employee stock options is the issue of potential dilution of earnings. In an effort to address this concern, the FASB has required all firms with stock options to disclose pro-forma net income and earnings per share as if existing stock options were exercised as of the last day of the fiscal year. The calculation for dilutable shares assumes that all options are exercised then reduces this by the number of shares that could be repurchased on the market with the money received from the option holder upon exercise. In addition, the tax benefits that would accrue to the firms due to a deduction for compensation expense in the amount of the difference between market value and exercise price should also be considered as funds with which to repurchase shares. The reductions, particularly the anti-dilutive effect of the tax benefits, are often ignored in the option arguments. In this paper I will examine a sample of firms to see how important tax benefits are to reducing the dilution of stock options. In addition, I will examine the sensitivity of dilution for different tax rates and market-exercise price spread.*

*This paper should be of interest to investors and managers concerned with the dilutive effect of employee stock options.*



## **ROI FOR QUALITY COSTS: ACCOUNTING MEASURES THE ADVANTAGE OF ISO 9000**

**Martha Lair Sale, University of South Alabama**  
martysale@yahoo.com

### **ABSTRACT**

*Much has been written in the management literature about the strategic necessity of quality. Although companies have surged forward with quality initiatives, there is little documentation of the value of such programs. ISO 9000 is one of the most widely recognized quality initiatives, and in fact, its use is so widespread that competitors in certain industries are compelled to adopt.*

*Since its initial development, over a half million companies have become ISO registered and certified. Most companies register and become certified in hopes of reducing costs from customer complaints, improving customer service, reducing work in process, and increasing their ability to compete. The argument arises as to what extent ISO certified companies are seeing results consistent with the financial rewards expected from adoption of ISO 9000. The purpose of this research is to determine if companies that invest in meeting standards set forth by the International Organization of Standardization see returns in the form of improved financial and accounting measures such as revenues, operating profits, and return on investment that exceed industry averages.*



# THE PERFORMANCE OF AMERICAN DEPOSITORY RECEIPTS LISTED ON THE NEW YORK STOCK EXCHANGE: THE CASE OF UTILITIES

**Mark Schaub, Northwestern State University**

schaubm@nsula.edu

**K. Michael Casey, University of Central Arkansas**

mcasey@mail.uca.edu

## ABSTRACT

*In this study, we test the early and aftermarket returns of utility company American Depository Receipts (ADRs) issued from January 1997 through September 2000 and traded on the New York Stock Exchange. The results are broken down to compare IPOs versus SEOs and emerging market firms versus developed market firms. Findings indicate that utility industry ADRs significantly underperform the S&P 500 in the early trading, with the entire sample losing 5.35% in the first month of trading when compared to the market index. IPOs perform worse than SEOs and developed market issues perform worse than emerging market utility industry ADRs in the short-run.*

*In the long run, developed market ADRs tend to underperform emerging market utility industry ADRs and SEOs underperform IPOs. Compared to the S&P 500 index, the entire utility ADR sample lost 23% in the three-year trading horizon. These results suggest foreign utility firm ADRs traded on the New York Stock Exchange are overpriced in the short-run and in the long-run. Such underperformance causes portfolio losses to US investors trying to diversify internationally.*





## TAX RESEARCH SELF-EFFICACY: AN EXTENSION

**Dennis Schmidt, University of Northern Iowa**

*schmidt@uni.edu*

**Rex Karsten, University of Northern Iowa**

*karsten@uni.edu*

### ABSTRACT

*Because of the social costs associated with ineffective and inefficient tax research, it is important to investigate factors that may influence tax research performance. This paper describes an ongoing study that investigates the relation between self-efficacy and tax research performance. The study is an extension of our previous research (Schmidt & Karsten, 2000), which resulted in the development of a 32-item tax research self-efficacy scale (see Exhibit 1). Tax research self-efficacy is a judgment of one's ability to perform the specific tasks necessary to solve tax problems. We plan to use a computer-interactive experimental approach to determine if students with different levels of tax research self-efficacy perform differently in tax research tasks. Theory predicts that self-efficacy will be positively associated with task performance. We are also interested in observing if students with different levels of self-efficacy use more efficient information search strategies. In addition, we would like to examine if the students respond to time pressures differently and if they cope with difficulty differently. Because this is an ongoing study, we would appreciate any comments or suggestions.*

### INTRODUCTION

Many taxpayers are overwhelmed by the complexity of U.S. tax law, and they often seek assistance from tax professionals. To deal with this complexity, tax professionals must develop extensive tax research skills. They must learn how to search efficiently through the morass of statutory, administrative, and judicial sources that make up the body of tax law, and they must be able to evaluate this information critically.

Research projects that explore how to improve the tax research process may have an important social impact. Taxpayers should pay their fair share of taxes, but no more than the law requires. Ineffective or incomplete tax research by professionals could result in taxpayers paying more than their fair share because of missed deductions or overstated income. Inefficient tax research could result in taxpayers paying excessive hourly fees for professional tax services. Improved tax research skills could reduce these social costs.

Many tax professionals first develop their tax research skills in university tax courses. As educators, we are keenly interested in helping our students learn tax research skills. As academics, we want to investigate factors that may influence student tax research performance. Our ongoing study is an extension of our previous research (Schmidt & Karsten, 2000) in which we developed a 32-item tax research self-efficacy scale (see Exhibit 1). Now that we have developed a reliable tax research self-efficacy scale, we want to test the scale's predictive validity on tax students. Bandura

(1997) asserts that people with high self-efficacy should differ from those with low self-efficacy in distinct ways. Applying this assertion to the tax research domain raises some interesting research questions:

- Do students with different levels of self-efficacy perform differently in tax research tasks?
- Do they use different search strategies?
- Do they respond to time pressures differently?
- Do they cope with difficulty differently?

### **SELF-EFFICACY CONSTRUCT**

Self-efficacy refers to the belief one has of the capability to perform specific tasks (Bandura, 1997). It is a well-researched and oft-validated construct with its origins in social cognitive theory (Bandura, 1986). Gist and Mitchell (1992) highlight three important aspects of self-efficacy: it is a comprehensive judgment of one's perceived ability of performing specific tasks, a dynamic construct that changes over time as people acquire new information, and a capturer of motivation. Self-efficacy influences the choices people make, the effort they put forth, how long they persist, and how they feel. Prior research indicates that self-efficacy is positively associated with people's willingness to participate in tasks, expectations of success in such tasks, and persistence when faced with difficulties (Bandura, 1997). Individuals with high self-efficacy for specific tasks typically outperform those with low self-efficacy (Gist, Stevens, & Bavetta, 1991).

### **TAX RESEARCH TASK**

Tax research is the process of finding and communicating solutions to specific tax problems by applying relevant tax authorities to a set of facts. Cloyd (1995), using a computer-interactive experiment, examined the effects of prior knowledge on the information search and evaluation behaviors of tax professionals performing a complex tax research task. He found that prior knowledge affects the information search strategies used, the amount of relevant information located, and the ability to discriminate between relevant and non-relevant information. Spilker (1995), who also used a computer-interactive experiment, investigated how time pressure and knowledge affect tax researchers' ability to locate relevant key words from a commercial tax service's index. He found that knowledge enhances tax researchers' ability to select relevant key words in a time-restricted task. Subjects with procedural knowledge responded more positively to time pressure than did subjects without such knowledge.

### **TAX RESEARCH SELF-EFFICACY**

The tax research process consists of rich, task-oriented skills, rather than simple component skills—a setting well suited for the application of the self-efficacy construct. Tax research self-efficacy is a judgment of one's ability to perform the specific tasks necessary to solve tax problems. We developed a reliable tax research self-efficacy scale (Schmidt & Karsten, 2000). The factor analysis results of our study indicate that the 32-item self-efficacy scale captures the multifaceted

tax research process. Our study was the first to apply the self-efficacy construct to the tax research domain. The next step is to test the scale's predictive ability.

## METHODS

We plan to use a computer-interactive experimental approach to determine if students with different levels of tax research self-efficacy perform differently in tax research tasks. Theory predicts that self-efficacy will be positively associated with task performance. We are also interested in observing if students with different levels of self-efficacy use more efficient information search strategies. In addition, we would like to examine if the students respond to time pressures differently and if they cope with difficulty differently.

We have access to well-equipped computer labs and the two major web-based commercial tax services: RIA and CCH. We plan to design a series of experiments that will utilize these resources. Using experimental techniques similar to Cloyd (1995) and Spilker (1995), we plan to develop a series of web-based tax research tasks, each on a different level of difficulty. We will measure the students' performance of these tasks and relate that to their tax research self-efficacy scores. We will use the search tracking features of the software to analyze their search strategies. The students will be under varying time pressures during the experiments.

## IMPORTANCE OF THE STUDY

We have completed the first step in a stream of research activity: developing a reliable tax research self-efficacy scale. The next step is to test the scale's predictive ability. If we can demonstrate a positive link between self-efficacy and tax research performance, we can then develop teaching and facilitating techniques for increasing students' tax research self-efficacy. Because this is an ongoing study, we would appreciate any comments or suggestions regarding the study's research design.

## REFERENCES

- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman & Company.
- Cloyd, C. (1995). Prior knowledge, information search behaviors, and performance in tax research tasks. *Journal of the American Taxation Association*, 17 (Supplement), 82-107.
- Gist, M. & T. Mitchell (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review*, 17 (2), 183-211.
- Gist, M., C. Stevens & A. Bavetta (1991). Effects of self-efficacy and post-training intervention on the acquisition and maintenance of complex interpersonal skills. *Personnel Psychology*, 44 (4), 837-861.
- Schmidt, D. & R. Karsten (2000). Using a self-efficacy scale for training and outcomes assessment: A tax research example. *Academy of Educational Leadership Journal*, 4(2), 2000: 81-95.
- Spilker, B. (1995). The effects of time pressure and knowledge on key word selection behavior in tax research. *The Accounting Review*, 70 (1), 49-70.

**EXHIBIT 1**  
**TAX RESEARCH SELF-EFFICACY SCALE**  
(Source: Schmidt & Karsten, 2000)

Establish Facts and Identify Issues

- I can identify all tax issues related to a set of facts.
- I can identify which facts are necessary to resolve a tax issue.
- I can distinguish between relevant facts and irrelevant facts when researching a tax issue.
- I can determine if additional facts are necessary to resolve a tax issue.

Locate Relevant Authority

- I can locate Internal Revenue Code provisions that are relevant to a tax issue.
- I can locate congressional committee reports that relate to statutory tax law.
- I can locate regulations, rulings, and other administrative pronouncements that are relevant to a tax issue.
- I can locate court cases that are relevant to a tax issue.
- I can locate secondary tax authority that is relevant to a tax issue.
- I can locate relevant tax authority using the index or table of contents of a commercial tax service.
- I can locate relevant tax authority using the electronic search function of a commercial tax service.
- I can use a citator to ensure the reliability of tax-related court cases and revenue rulings.

Evaluate Authority

- I can evaluate the authoritative weight of Internal Revenue Code provisions.
- I can evaluate the authoritative weight of congressional committee reports.
- I can evaluate the authoritative weight of regulations, rulings, and other administrative pronouncements.
- I can evaluate the authoritative weight of tax-related court cases.
- I can evaluate the authoritative weight of secondary tax authority.

Develop Conclusions and Recommendations

- I can develop defensible conclusions after researching a tax issue.
- I can make appropriate recommendations after researching a tax issue.

Communicate Research Results

- I can communicate tax research results to a client.
- I can communicate tax research results in a legal memorandum.
- I can communicate tax research results in a protest letter to the IRS.

Demonstrate Knowledge of Tax Law Structure

- I can identify the sources of federal tax law.
- I can distinguish between primary and secondary tax authority.
- I can describe how statutory tax law is created.
- I can distinguish between proposed, temporary, and final tax regulations.
- I can describe the structure of the federal court system as it relates to tax cases.
- I can describe how the Internal Revenue Code is organized.
- I can trace the history of changes to the Internal Revenue Code.

Cite Authority

- I can provide the proper citation for Internal Revenue Code provisions.
- I can provide the proper citation for regulations, rulings, and other administrative pronouncements.
- I can provide the proper citation for tax-related court cases.

# AN APPLICATION OF REPLACING A PARTIAL ADJUSTMENT MODEL WITH THE FUNCTIONAL PARTIAL ADJUSTMENT ADAPTIVE EXPECTATIONS (PAAE) MODEL

**Sharon S. Seay, Mississippi College**

seay@mc.edu

**Sarah T. Pitts, Christian Brothers University**

spitts@cbu.edu

**Rob H. Kamery, Christian Brothers University**

rkamery@cbu.edu

## ABSTRACT

*This paper focuses on the models employed by research studies to measure ratio adjustment and the results achieved. Model specification issues as well as econometric properties of the adjustment models will be explored. A review the relevant accounting choice literature concerning agency effects and the contribution of firm-specific factors is discussed.*

## INTRODUCTION

The magnitude of the ratio adjustment depends not only on the speed of adjustment to a desired target, but also on the formation of the target. Industry norm (target) formation is explicitly considered by one model reviewed. The stability of the target is a factor affecting the ratio adjustment process. The implications of how managers revise target ratios are explored in regard to their effect on the ratio adjustment process.

Past research analyzing the ratio adjustment process has progressed from (a) use of a simple partial adjustment model to examine empirically a sample of firms in order to determine if firms *do adjust* their ratios to a target (industry norm) to (b) consideration of linear vs. log-linear adjustment processes to examine model specification issues to (c) consideration of industry norm (target) formation using a model (the partial adjustment adaptive expectations model) which explicitly incorporates how managers revise their target ratios. The development of the literature indicates that not only do firms adjust their ratios to industry *norms* (targets), but that this adjustment process can be decomposed into two components: the speed of adjustment ( $\bar{\epsilon}$ ) caused by the cost of adjustment and/or the cost of being out of equilibrium and the rate at which managers revise their target ratio expectations ( $\bar{\alpha}$ ) caused by information uncertainty.

## RATIO ADJUSTMENT

Results obtained from an application of the partial adjustment adaptive expectations (PAAE) model to a sample of firms across industries and time indicated the significance of  $\delta$  and  $\alpha$  in measuring the ratio adjustment process. While there is variation across firms in the process of adjustment to the assumed target, no unique industry effect on the adjustment pattern was indicated for all financial ratios tested. This suggests the possibility of firm-specific factors contributing to variations in the adjustment process and could have implications for understanding accounting choices.

### Evidence That Firms Adjust Their Financial Ratios to Industry Norms

This model postulates that at any particular time period  $t$ , only a fixed fraction of the desired adjustment is accomplished. This fixed fraction, the coefficient of adjustment ( $\delta$ ), measures the speed of adjustment to the target ratio. As  $\delta$  approaches one, the more rapid the adjustment. For  $\delta < 1$ , a firm's financial ratios move only partially from the prior position to the target level. Lev (1969) used a log-linear partial adjustment model to examine financial ratio adjustment processes. His results were consistent with the hypothesis that firms adjust their financial ratios to industry-wide averages.

This paper extends Lev's work by replacing Lev's partial adjustment model with a more generalized functional form model, the partial adjustment adaptive expectations (PAAE) model (Waud, 1966). The underlying pattern of the ratio adjustment process will be examined to assess the contribution of firm-specific factors in explaining variations in the ratio adjustment process.

### Model Specification Issues Frecka and Lee

Frecka and Lee (1983) extend Lev's work by developing a generalized functional form of Lev's partial adjustment model. The generalized functional form technique was initially developed by Box and Cox (1964) and applied empirically by Zarembka (1968) to the money demand function, by Lee (1976) to dividend policy, and by Kau and Lee (1976) to urban structure. Frecka and Lee (1983) used the generalized functional form technique that considers both linear and log-linear adjustment processes to examine model specification issues. Their results indicated that a single functional form such as linear or log-linear (Lev, 1969) was generally not appropriate and sampling error associated with parameter estimates made distinguishing between alternative functional forms difficult.

The research will employ the PAAE model to examine the ratio adjustment process. Frecka and Lee (1983) focused on an examination of model specification issues. Their results called for additional research to determine the effect of specification error in forecasting and other decision contexts. The results obtained from employing the PAAE model in the proposed research will be compared with the results obtained from the models employed by Lev (1969) and Frecka and Lee (1983) to assess the performance of the PAAE model. The explanatory power and predictive ability of the PAAE model will be assessed and compared to previously used models in examining the ratio adjustment process. Model specification issues will also be examined.

## **Lee and Wu**

Lee and Wu (1988) use Waud's (1966) more general model (PAAE model) which incorporates the conceptual ingredients of both the partial adjustment and adaptive expectations models to reexamine the ratio adjustment process. Lee and Wu (1988) indicate the potential for serial correlation in the disturbance term and the need for a nonlinear regression method for estimating the parameters due to the lagged terms. Doran and Griffiths (1977) demonstrate that estimating the generalized PAAE model by OLS requires an unrealistic assumption about the disturbance term, and OLS yields inconsistent parameter estimates. They suggest the use of a nonlinear maximum likelihood technique.

Lee and Wu (1988) use the Gauss-Newton nonlinear least squares regression method to estimate the structural parameters of equations. Initial parameter estimates were obtained from the maximum likelihood procedure as suggested above.

Empirical results show that explicit consideration of expectation lag improved the explanatory power of the ratio adjustment model. The decomposition of total adjustment lag yields two parts, with one determined by the costs of adjustment and the costs of being out of equilibrium ( $\ddot{\epsilon}$ ) and the other by information uncertainty ( $\ddot{\alpha}$ ). Decomposition of these two effects allows determination of which factor contributes more to the adjustment process. Results by Lee and Wu (1988) show that large firms tend to adjust ratios more quickly than small firms. However, the size of the adaptive expectation coefficients varies across different financial ratios. No unique industry effect on the adjustment pattern of all financial ratios was indicated.

The research is designed to extend the work of Lee and Wu (1988) in analyzing the underlying pattern of the ratio adjustment process. Although the research uses the same PAAE model as employed by Lee and Wu (1988), our study seeks to explain the intra-industry variations in the rate of ratio adjustment to the target for a set of common financial ratios. This study posits that firm-specific factors such as political costs, contractual relations, and ownership control contribute to variations in the ratio adjustment process.

## **Industry Norm (Target) Formation**

Lee and Wu (1988) extend Lev's (1969) partial adjustment model to explicitly consider the formation of desired targets. Lee and Wu (1988) assume managers follow an adaptive process in revising target ratios by incorporating into targets only the changes in industry averages assessed to be permanent. The stability of the target--the industry mean--is a factor affecting the adjustment process. The major question facing the firm is whether any recent change in the industry mean is due to some fundamental change which may be expected to persist, or whether it is a transitory (random) fluctuation.

The firm's adjustment would depend on how confidently it expects the change to persist since there is no benefit from adjusting the ratio for random fluctuations in the target. Accordingly, it would be expected that when the industry mean is highly variable, and thus reflective of a large random component, the adjustment coefficient would be relatively small. Lev's (1969) results were consistent with this hypothesis. Conversely, if the change in the industry mean is largely permanent, the adjustment would be relatively large.



## Firm Size

Firms in the public eye and objects of government scrutiny are subject to actions by government or the public that may impose costs (Watts & Zimmerman, 1978; Hagerman & Zmijewski, 1979; Benston & Krasney, 1978). Large earnings fluctuations may attract the attention of regulators (Benston & Krasney, 1978). Specifically, large upward earnings fluctuations may be perceived as a signal of monopolistic practices and large downward fluctuations may signal crisis and cause regulators to act (Ronen & Sadan, 1981). Exposure to scrutiny and imposed political costs increases with firm size (Gagnon, 1967; Siegfried, 1975; Zimmerman, 1983). Consequently, large firms may have a greater incentive to adjust accounting numbers and ratios to desired (target) levels (Moses, 1987).

One firm-specific variable used to proxy for political costs will be firm size, measured in this study by total assets. The size hypothesis proposes that because political costs increase with corporate size, managers of larger corporations are more likely to choose an earnings decreasing portfolio of accounting procedures. Lev (1969) hypothesized that because of the indivisibilities (lumpiness) of assets and liabilities, a large firm would find it easier to adjust its ratios to a target than a small firm in a given time period. His results were consistent with this hypothesis.

## Firm Risk

Zmijewski and Hagerman (1981) hypothesize that political costs vary with the firm's risk, and that high-risk firms are likely to choose an earnings decreasing portfolio of accounting procedures. Their rationale for this hypothesis hinges on two points. First, since high-risk firms also have high variances of earnings changes, they are more likely to report large profits. Also, due to information costs, voters, politicians, and bureaucrats may not adjust for risk when analyzing the reported earnings level. However, the economics literature (Reilly, 1986) suggests that investment policy is not independent of political costs, and therefore, Hagerman and Zmijewski's (1979) hypothesis may not hold.

## CONCLUSION

Numerous researchers (Gordon, 1964; Schiff, 1966; Monsen, Chiu & Cooley, 1968; Amihud, Kamin & Ronen, 1974; and Smith, 1976) have argued that management sensitivity to the disciplining effects of stockholders will depend on the degree of management's ownership control. It is anticipated that managements with small ownership percentages have greater incentives to adjust performance measures, and thus, may be more likely to smooth performance measures.

## REFERENCES

- Amihud, Y., J. Kamin & J. Ronen (1975). Managerialism and ownerism in risk-return preferences. *Ross Institute of Accounting Research*, working paper 75-4, New York University.
- Benston, G. & M. Krasney (1978). The economic consequences of financial accounting statements. *Financial Accounting Standards Board Research Report, Selected Papers*, 3, 159-252.

- Box, G.E.P. & D.R. Cox (1964). An analysis of transformation. *Journal of the Royal Statistical Society*, ser. B, 26(2), 211-252.
- Frecka, T. & C.F. Lee (1983). Generalized financial ratio adjustment processes and their implications. *Journal of Accounting Research*, Spring, 308-316.
- Gagnon, J. (1967). Purchase versus pooling of interests: The search for a predictor. *Supplement of Journal of Accounting Research*, 187-204.
- Givoly, D. (1985). The formation of earnings expectations. *The Accounting Review*, 7, 372-386.
- Gordon, M. (1964). Postulates, principles and research in accounting. *The Accounting Review*, 4, 251-263.
- Hagerman, R. & M. Zmijewski (1979). Some economic determinants of accounting policy choice. *Journal of Accounting and Economics*, 9, 141-161.
- Kau, J.B. & C.F. Lee (1976). The functional form in estimating the density gradient: An empirical investigation. *Journal of American Statistical Association* 71, 326-327.
- Lee, C.F. (1976). Functional form and the dividend effect in the electric utility industry. *Journal of Finance* 31, 1481-86.
- Lee, C.F. & C. Wu (1988). **Expectation formation and financial ratio adjustment processes.** *The Accounting Review*, 4, 292-306.
- Lev, B. (1969). Industry averages as targets for financial ratios. *Journal of Accounting Research*, Autumn, 290-299.
- Monsen, R., J. Chiu & D. Cooley. The effect of separation of ownership and control on the permanence of the large firm. *Quarterly Journal of Economics*, 8, 435-451.
- Moses, O.D. (1987). Income smoothing and incentives: Empirical tests using accounting changes. *The Accounting Review*, 4, 358-377.
- Nerlove, M. (1958). Adaptive expectations and cobweb phenomena. *Quarterly Journal of Economics*, May, 227-240.
- Peltzman, S. (1976). Toward a more general theory of regulation. *Journal of Law and Economics*, 19(8), 211-240.
- Reilly, F.K. (1986). *Investments*. New York: The Dryden Press.
- Ronen, J. & S. Sadan (1975). Classificatory smoothing: Alternative income models. *Journal of Accounting Research*, Spring, 133-149.
- Schiff, M. (1966). Accounting tactics and the theory of the firm. *Journal of Accounting Research*, Spring, 62-67.
- Siegfried, J. (1975). The determinants of antitrust activity. *Journal of Law and Economics*, 10, 559-581.
- Smith, E. (1976). The effect of the separation of ownership from control on accounting policy decisions. *The Accounting Review*, 10, 707-723.
- Watts, R. & J. Zimmerman (1978). Towards a positive theory of the determination of accounting standards. *The Accounting Review*, 1, 112-134.
- Waud, R.N. (1966). Small sample bias due to misspecification in the "partial adjustment" and "adaptive expectations" models. *Journal of the American Statistical Association*, 12, 1130-1152.
- Zarembka, P. (1968). Functional form in the demand for money. *Journal of the American Statistical Association*, 63(6), 502-511.
- Zimmerman, J. (1983). Taxes and firm size. *Journal of Accounting and Economics*, 8, 119-149.
- Zmijewski, M. & R. Hagerman (1981). An income strategy approach to the positive theory of accounting standard setting/choice. *Journal of Accounting and Economics*, 8, 129-149.



# ESTIMATING REGRESSION PARAMETERS AND EMPIRICAL RESULTS: THE RATIO ADJUSTMENT PHENOMENON--FIRM-SPECIFIC FACTORS

**Sharon S. Seay, Mississippi College**

seay@mc.edu

**Sarah T. Pitts, Christian Brothers University**

spitts@cbu.edu

**Rob H. Kamery, Christian Brothers University**

rkamery@cbu.edu

## ABSTRACT

*The generalized model employed in studying the ratio adjustment phenomenon was estimated by the Marquardt nonlinear least-squares regression method. These least-squares regressions were used to estimate the coefficients of the model ( $\bar{\epsilon}$  and  $\bar{\alpha}$ ) for each of the firms in the sample for all ratios tested.*

## INTRODUCTION

Complete data for the entire 20-year period for all ratios was available for 92 firms from the sample. These firms represented 38 distinct industries as defined by the four-digit SIC classification. All industries represented in the sample were composed of at least 10 firms. This restriction was imposed so that the industry mean/median would be less sensitive to the individual firms' ratios used to compute the target. The nonlinear regression estimates of the generalized ratio adjustment model reads:

$$Y_t = A_0 + \lambda \delta X_t + (2 - \lambda - \delta) Y_{t-1} - (1 - \lambda)(1 - \delta) Y_{t-2} + U_t$$

## STAGE ONE

The overall results of the nonlinear regressions show evidence of both partial adjustment and adaptive expectations. The explanatory power of the model is relatively high, as indicated by the values of  $R^2$ . Most of the intercept estimates are quite small and statistically insignificant. Almost all of the intercept estimates are close to zero and none are significant at the 10 percent level. The estimated coefficients of partial adjustment ( $\bar{\epsilon}$ ) and adaptive expectation ( $\bar{\alpha}$ ) were constrained to fall into the relevant range between zero and one. The partial adjustment coefficients, though not statistically more significant, are higher for the current ratio, cash/total assets, sales/total assets, and net income/total assets. The current ratio and cash/total assets involve current items which are more easily controlled by management and are thus expected to have smaller costs of adjustment. Inventory/sales is only slightly lower; however, inventory is the least liquid current asset and thus

more difficult and costly to adjust quickly. Lee and Wu's (1988) results for the current ratio and net income/total assets parallel the findings here. The smaller partial adjustment for debt/equity corresponds to Lev's (1969) results and indicates management has less control over these items, which suggests the adjustment is more costly for these long-term items.

The results confirm the existence of expectation adjustment lag. The adaptive expectation coefficients are higher for current ratio, cash/total assets, net income/total assets, and debt/equity. In general, the expectation adjustment lag is due to the uncertainty of current information.  $\lambda$  ( $\bar{\lambda}$ ) depends on the stability of the target or persistence of changes in the industry target. As Lee and Wu (1988) point out, the extent of expectation adjustment seems to depend on the information structure of the particular financial ratio. Current items, such as cash and other current assets and liabilities, are more stable because they are less affected by the economic and random industrial factors. Sales are likely to be less stable because they are subject to the random factors of the economy and industry.

## STAGE TWO

The  $\bar{\lambda}$  and  $\bar{\alpha}$  estimates obtained from the nonlinear regressions for each of the seven ratios are dependent variables in the second-stage ordinary least-squares regression.  $\lambda$  ( $\bar{\lambda}$ ) and  $\alpha$  ( $\bar{\alpha}$ ) are each regressed on four firm-specific explanatory variables--size, market share, beta, and debt/equity.  $\lambda$  ( $\bar{\lambda}$ ) and  $\alpha$  ( $\bar{\alpha}$ ) represent 18-year composite figures. The four firm-specific independent variables also represent 18-year composite levels, since they are averages for the 18-year test period. The ownership control variable was the only firm-specific variable for which complete information was unavailable. Therefore, results are shown without this variable. However, Stage Two regressions were performed including the available ownership control information.

Partial adjustment ( $\bar{\lambda}$ ) results are significant at the 10 percent level with the predicted sign for beta in the current ratio regression. Beta also has the predicted sign for cash/total assets, but it is not significant at the 10 percent level. Adaptive expectation results show beta with the predicted sign for inventory/sales, but significance is not achieved.

Overall, the partial adjustment results indicate the predicted sign for the firm-specific variable size in 30 percent of the ratios tested, the predicted sign for market share in 14.3 percent of the ratios, the predicted sign for beta in 30 percent of the ratios, and the predicted sign for debt/equity in 71.4 percent of the ratios tested. Adaptive expectation adjustment results indicate the predicted sign for size in 71.4 percent of the ratios tested, the predicted sign for market share in 42.9 percent of the ratios, the predicted sign for beta in 14.3 percent of the ratios, and the predicted sign for debt/equity in 42.9 percent of the ratios tested. The partial adjustment results show the greatest support for the proposed theoretical relationships for the beta and debt/equity firm-specific variables. The adaptive expectation results show greatest support for the proposed theoretical relationships for the size and market-share firm-specific variables.

The  $R^2$  and F-statistic values are small, indicating that the independent variables only explain a small portion of the variation in ratio adjustment as measured by  $\bar{\lambda}$  and  $\bar{\alpha}$ . Additional explanatory variables need to be identified and added to the model. Also, the variables chosen to represent firm-specific characteristics are imprecise proxies.

The results for  $\bar{\epsilon}$  and  $\bar{\alpha}$  seem to depend on the information structure of a particular financial ratio. The Durbin-Watson statistic indicates no autocorrelation. The statistic was calculated for each of the seven financial ratios in the second stage regression. The statistic was consistently measured at the 2.0 level. Correlation matrices and scatter diagrams for Stage One regressions indicated no significant collinearity problems or outliers.

### **THE MEDIAN AS A TARGET**

Since it is generally known that financial ratios typically do not represent normal distributions, the median is often recommended as the industry norm. Stage One results using the median as the target generally indicate that larger partial adjustment ( $\bar{\epsilon}$ ) and adaptive expectation ( $\bar{\alpha}$ ) estimates and lower standard deviations were achieved.  $R^2$ s were also higher. Therefore, results indicate the median is a better measure of the target.

Stage Two results for regressions using the median as the target indicate higher  $R^2$ s and F-statistics for the inventory/sales ratio and for the adaptive expectation regressions for the current ratio and the net income/total assets ratio. The partial adjustment regressions show higher  $R^2$  and F-statistics for the debt/equity and sales/total assets ratios. Cash/total assets and receivables/inventory ratios show lower  $R^2$  and F-statistics.

Partial adjustment results indicate the predicted sign for the firm-specific variable size in 85.7 percent of the ratios tested, the predicted sign for market share in 14.3 percent of the ratios, the predicted sign for beta in 14.3 percent of the ratios, and the predicted sign for debt/equity in 14.3 percent of the ratios tested. Adaptive expectation adjustment results indicate the predicted sign for size in 42.9 percent of the ratios tested, the predicted sign for market share in zero percent of the ratios, the predicted sign for beta in 42.9 percent of the ratios, and the predicted sign for debt/equity in 57.1 percent of the ratios tested. The partial adjustment results using the median as the target show the greatest support for the proposed theoretical relationships for the size and market share firm-specific variables. The adaptive expectation adjustment results show greatest support for the beta and debt/equity firm-specific variables. These results are the reverse of those obtained using the mean as the target.

### **GAUGING THE SENSITIVITY OF RATIO ADJUSTMENT ACROSS DIFFERENT TIME PERIODS**

The most recent 10 years of data were selected from the sample and the Stage One and Stage Two regressions were performed on this new sample. By comparing these results with results obtained from the full sample, the sensitivity of ratio adjustment to different time periods can be assessed across various financial ratios. The Stage One regression results generally indicate  $R^2$ s that are slightly higher than those achieved with the full sample, but slightly lower than those obtained using the median as the target. Partial adjustment ( $\bar{\epsilon}$ ) estimates are higher for the current ratio, debt/equity ratio, inventory/sales, and sales/total assets ratios. Adaptive expectation ( $\bar{\alpha}$ ) estimates are higher for the net income/total assets ratio, cash/total assets, inventory/sales, sales/total assets, and receivables/inventory ratios.

Stage Two regression results indicate higher  $R^2$ s and F-statistics for the debt/equity ratio and for the partial adjustment regression for the sales/total assets and receivables/inventory ratios. Adaptive expectation adjustment regression results indicate higher  $R^2$ s and F-statistics for the current ratio, net income/total assets, and inventory/sales ratio.

Partial adjustment estimates show the predicted sign for the firm-specific variable size for 57.1 percent of the ratios tested, the predicted sign for market share for 42.9 percent of the ratios, the predicted sign for beta for zero percent of the ratios, and the predicted sign for debt/equity for 14.3 percent of the ratios tested. Adaptive expectation estimates show the predicted sign for size for 42.9 percent of the ratios tested, the predicted sign for market share for 14.3 percent of the ratios, the predicted sign for beta for 71.4 percent of the ratios, and the predicted sign for debt/equity for 42.9 percent of the ratios tested. Partial adjustment results show greatest support for the proposed theoretical relationships for the size and market share firm-specific variables.

Adaptive expectation results show greatest support for the proposed theoretical relationships for the beta and debt/equity firm-specific variables. These contradict the Stage Two results obtained from the full sample, which uses the mean as the target. However, these results confirm Stage Two results obtained using the median as the target. This finding provides further support for choosing the median as the target measure.

### COMPARING MODEL EFFICIENCY WITH PRIOR STUDIES AND MODELS

Table 1 presents the mean MSEs (mean square errors) for the common ratios among our study, Lee and Wu's (1988) study, and Lev's (1969) study. Lee and Wu used the same generalized model that was used in Stage One of our study. Lev (1969) used only a partial adjustment model. Results indicated the generalized model is generally superior to the partial adjustment model.

TABLE 1  
COMPARISON OF MSEs USING GENERALIZED MODEL IN PRESENT STUDY WITH GENERALIZED MODEL AND PARTIAL ADJUSTMENT MODEL USED IN PRIOR STUDIES

CURRENT RATIO	GENERALIZED MODEL		PARTIAL ADJUSTMENT MODEL
	OUR STUDY	LEE AND WU	LEV
MEAN MSE	0.1745	0.1691	0.1839
DEBT/EQUITY			
MEAN MSE	0.6056	0.5864	0.6342
SALES/INVENTORY			
MEAN MSE	0.6704	0.6627	0.6581
SALES/TOTAL ASSETS			
MEAN MSE	0.0458	0.0436	0.0469

The MSEs for the current study are parallel to those obtained by Lee and Wu. MSEs for the current study are slightly higher than Lee and Wu's. However, the current study placed bounds on the nonlinear regression. Lee and Wu did not use bounds in the nonlinear procedure. This can account for the slight difference in MSEs.

## CONCLUSION

The generalized model used in studying the ratio adjustment phenomenon was estimated by the Marquardt nonlinear least-squares regression method. Summaries of the cross-sectional distribution of parameter estimates based on the nonlinear regression were discussed. The results were summarized by ratio and ordered into fractiles.

## REFERENCES

- Fieldsend, S., N. Longford & S. McLeay (1987). Ratio analysis: A variance component analysis. *Journal of Business, Finance and Accounting*, Winter, 497-517.
- Frecka, T. & W. Hopwood (1983). The effects of outliers on the cross sectional distributional properties of financial ratios. *Accounting Review*, January, 115-128.
- Frecka, T. & C.F. Lee (1983). Generalized financial ratio adjustment processes and their implications. *Journal of Accounting Research*, Spring, 308-316.
- Frecka, T. & C.F. Lee (1983b). A seemingly unrelated regression approach to analyzing and forecasting financial ratios. *Journal of Economics and Business*, 35(3/4), 379-388.
- Lee, C.F. & C. Wu (1988). Expectation formation and financial ratio adjustment processes. *The Accounting Review*, 4, 292-306.
- Lev, B. (1969). Industry averages as targets for financial ratios. *Journal of Accounting Research*, Autumn, 290-299.
- McDonald, B. & M. Morris (1984). The statistical validity of the ratio method in financial analysis: An empirical examination. *Journal of Business, Finance and Accounting*, Spring, 89-97.
- McDonald, B. & M. Morris (1985). The functional specification of financial ratios: An empirical investigation. *Accounting and Business Research*, Summer, 223-228.
- McLeay, S. (1986). Student's t and the distribution of financial ratios. *Journal of Business, Finance and Accounting*, Summer, 209-222.
- McLeay, S. & S. Fieldsend (1987). Sector and size effects in ratio analysis: An indirect test of ratio proportionality. *Accounting and Business Research*, Spring, 133-140.
- Monsen, R., J. Chiu & D. Cooley (1968). The effect of separation of ownership and control on the permanence of the large firm. *Quarterly Journal of Economics*, 8, 435-451.
- Monsen, R. & A. Down (1965). A theory of large managerial firms. *The Journal of Political Economy*, 6, 221-236.
- Moore, M. (1973). Management changes and discretionary accounting decisions. *Journal of Accounting Research*, Spring, 100-107.
- Moses, O.D. (1987). Income smoothing and incentives: Empirical tests using accounting changes. *The Accounting Review*, 4, 358-377.
- Smith, C.W. & J.B. Warner (1979). On financial contracting: An analysis of bond covenants. *Journal of Financial Economics*, 7(6), 117-161.
- Smith, E. (1976). The effect of the separation of ownership from control on accounting policy decisions. *The Accounting Review*, 10, 707-723.
- Thomas, J. & R.V. Evanson (1987). Empirical investigation of association between financial ratio use and small business success. *Journal of Business, Finance and Accounting*, Winter, 555-71.





## THE EFFECTS OF DERIVATIVE USAGE ON SECURITY RETURNS

**George Klersey, Birmingham-Southern College**

gklersey@bsc.edu

**Ronald A. Stunda, Birmingham-Southern College**

rstunda@bsc.edu

### ABSTRACT

*The use of derivative financial instruments is a contentious issue. On the one hand, high profile individuals such as Warren Buffet warn about the dangers of derivative use while on the other hand, people like Allen Greenspan assert that derivative use helps reduce risk. Given the place of derivatives in the financial market place, it seems reasonable to ask what, if any, information content they provide. Past studies have shown that derivatives help hedge against risk, but generally have no impact on security prices. This paper examines whether derivative financial instruments affect the security prices of firms which use them. We analyzed 163 companies across seven industries which have used and continue to use derivatives. We found that derivative use in the utility, manufacturing, and finance/insurance industries yields significant results in linking information content of earnings to security prices. Knowledge and use of this information would be of assistance to managers of firms in these industries, along with financial analysts and investors.*



# CORPORATE SCANDALS, SARBANES-OXLEY ACT OF 2002 AND EQUITY PRICES

**Samanta B. Thapa, Western Kentucky University**  
samanta.thapa@wku.edu  
**Christopher Brown, Western Kentucky University**  
christopher.brown@wku.edu

## ABSTRACT

*Recently, a series of corporate scandals have rocked the U.S. financial markets. Large, well-known companies, such as Enron, WorldCom, Xerox, Merck, Bristol Myers, among many, have been found to engage in questionable accounting practices and in some cases outright fraud (see table 1). This has shaken investors confidence in corporate world and the stock market has taken a severe beating. In response, President Bush signed into law, the Sarbanes- Oxley Act of 2002 on July 30, 2002, which contains the most far-reaching reforms of American business practices since the time of Franklin Delano Roosevelt.*

*The objective of this study is to investigate the stock market reaction to the enactment of Sarbanes-Oxley Act. The impact on stock prices should be positive as this law is intended to prevent such corporate scandals and restore investors' confidence in the stock market. It requires more federal regulation of public companies corporate governance and reporting obligations. It also significantly tightens accountability standards for directors and officers, auditors, securities analysts and legal counsel. Some critics, however, are skeptical. They argue that federal regulation is not the answer to such problems, left alone, the market has its own mechanisms to deter such unethical corporate behavior. Additional regulations simply increase the cost of doing business. Although well intended, critics add, this act may dampen corporate risk taking behavior so essential for a company's growth and profits.*

*A survey of literature reveals that rigorous econometric investigation of the impact of Sarbanes – Oxley Act on stock market has not appeared to date. Since this Act represents a sweeping reform of corporate governance, study of this type undoubtedly enhances the finance literature.*

## SARBANES-OXLEY ACT OF 2002

This Act introduces a wholesale reform of corporate governance and reporting practices. The key provisions are:

- 1) CEO/CFOs must certify financial statements stating that the reports fairly present the company's financial and operating results. Penalty up to \$5million and/or up to 20 yrs in prison for false certification
- 2) imposes specific requirements for audit committee. The audit committee must consist solely of independent directors

- 3) prohibits loans to executive officers
- 4) real-time disclosure of information useful to investors and requires more detailed financial information and other disclosures in SEC filings
- 5) deadline for insiders to report trading in company's securities is changed to within two business days of the transaction
- 6) requires issuers to review their relationship with their auditors to ensure continued independence
- 7) imposes more stringent rules for U.S. attorneys
- 8) protects whistleblowers
- 9) imposes sanctions and penalties on violators of the provisions of this Act.

### **LITERATURE REVIEW**

Finance literature is replete with studies that measure stock price reactions to various events such as changes in dividend policies, stock splits, changes in accounting rules, mergers & acquisitions, changes in tax laws and regulatory changes. Aside from numerous newspaper and magazine articles, no rigorous econometrics investigation of the stock market reaction to Sarbanes–Oxley Act has appeared in the literature to date. Since the passage of the Act introduces sweeping reforms in corporate governance, this type of econometrics study undoubtedly enhances the Finance literature.

### **RESEARCH METHODOLOGY AND DATA**

The sources of Data for this study will be the CRSP tapes, which contain daily returns data for all stocks traded in NYSE. Standard event study methodology as described by Brown and Warner (1985) will be employed to measure the stock price reaction to the passage of Sarbanes - Oxley Act. This methodology has become routine and standard in finance discipline for this type of study.

### **BIBLIOGRAPHY**

- Asquith, P., and E. H. Kim, "The Impact of Merger Bids on the Participating Firms Security Returns," Journal of Finance, Dec. 1982, 1209-1228.
- Boehmer, E., J. Musumeci, and A. Poulsen. "Event-Study Methodology Under Conditions of Event-Induced Variance." Journal of Financial Economics. Dec. 1991, 253-272.
- Brown, Stephen J., and Jerold B. Warner "Using Daily Stock Returns: The Case of Event Studies." Journal of Financial Economics 14 (March 1985): 13>31.
- Chen, Andrew H. and Gary C. Sanger, "An Analysis of the Impact of Regulatory Change: The Case of Natural Gas Deregulation," Financial Review, 1987, 36-54.
- Espahbodi, H., E. Strock, and H. Tehranian. "Impact on Equity Prices of Pronouncements related to nonpension postretirement benefits (FAS 106)." Journal of Accounting & Economics, Dec. 1991, 323-346.
- Mittelstaedt, H.F. and M.J. Warshawsky. "The Impact of Liabilities for Retiree Health Benefits on Share Prices." Journal of Risk & Insurance, March 1993, 5-27.
- Wall Street Journal, Various Issues.

**Table 1: Corporate Scandal Sheet**

<b>Company</b>	<b>When Scandal Went Public</b>	<b>Allegations</b>
<b>Adelphia Communications</b>	Apr-02	Founding Rigas family collected \$3.1 billion in off-balance-sheet loans backed by Adelphia; overstated results by inflating capital expenses and hiding debt.
<b>AOL Time Warner</b>	Jul-02	As the ad market faltered and AOL's purchase of Time Warner loomed, AOL inflated sales by booking barter deals and ads it sold on behalf of others as revenue to keep its growth rate up and seal the deal. AOL also boosted sales via "round-trip" deals with advertisers and suppliers.
<b>Bristol-Myers Squibb</b>	Jul-02	Inflated its 2001 revenue by \$1.5 billion by "channel stuffing," or forcing wholesalers to accept more inventory than they can sell to get it off the manufacturer's books
<b>Duke Energy</b>	Jul-02	Engaged in 23 "round-trip" trades to boost trading volumes and revenue.
<b>Enron</b>	Oct-01	Boosted profits and hid debts totaling over \$1 billion by improperly using off-the-books partnerships; manipulated the Texas power market; bribed foreign governments to win contracts abroad; manipulated California energy market
<b>Global Crossing</b>	Feb-02	Engaged in network capacity "swaps" with other carriers to inflate revenue; shredded documents related to accounting practices
<b>Halliburton</b>	May-02	Improperly booked \$100 million in annual construction cost overruns before customers agreed to pay for them.
<b>Kmart</b>	Jan-02	Anonymous letters from people claiming to be Kmart employees allege that the company's accounting practices intended to mislead investors about its financial health.
<b>Merck</b>	Jul-02	Recorded \$12.4 billion in consumer-to-pharmacy co-payments that Merck never collected.
<b>Qwest Communications</b>	Feb-02	Inflated revenue using network capacity "swaps" and improper accounting for long-term deals.
<b>Tyco</b>	May-02	Ex-CEO L. Dennis Kozlowski indicted for tax evasion. SEC investigating whether the company was aware of his actions, possible improper use of company funds and related-party transactions, as well as improper merger accounting practices.
<b>WorldCom</b>	Mar-02	Overstated cash flow by booking \$3.8 billion in operating expenses as capital expenses; gave founder Bernard Ebbers \$400 million in off-the-books loans.
<b>Xerox</b>	Jun-00	Falsifying financial results for five years, boosting income by \$1.5 billion

Source: *The Corporate Scandal Sheet*, [www.Forbes.com](http://www.Forbes.com), August 26, 2002



# ANDRAGOGY FOR ADULT LEARNERS IN HIGHER EDUCATION

**Margaret A. Thompson, Kennesaw State University**

margaret\_thompson@coles2.kennesaw.edu

**Michael Deis, Clayton College and State University**

MichaelDeis@mail.clayton.edu

## ABSTRACT

*There is much information available to the public through published course curricula, syllabi, and online course descriptions at university websites from which we could speculate what is taught to undergraduate business students in the United States. What we do not have as much information about is how the courses are taught. What teaching methodologies are used? And, to what levels do instructors of business classes understand and practice andragogical principles? As competition for adult students in higher education becomes more intense, not only what we teach, but how we teach it becomes more important.*

*This paper will review and summarize the literature that suggests a significant theoretical difference between andragogy and pedagogy. The premise is that the assumptions behind pedagogy, which in the original Greek means "child conductor," do not always fit the needs of the adult learner. Andragogy, derived from the Greek word for "adult or man," provides a better model for the growing number of nontraditional students enrolled in many universities.*

*This paper will present a theoretical foundation for curriculum development based on andragogical principles. The paper will also present a model with an example of innovative learning which meets the demands of these student populations. Finally, the authors make suggestions for how to plan a course based on the principles of andragogy.*

## INTRODUCTION

The student population of colleges and universities in the U.S. has changed dramatically in the past thirty years. Although there have been numerous demographic changes, it is questionable how many university professors consider their impact. Educators often speak about pedagogical models, but in our research we found few who mention andragogical models and how to apply them. We believe that new models of learning in higher education must be developed based on the theory of andragogy.

Malcolm Knowles' (1977) developed the paradigm of andragogy as we know it today (see Table 1). Lawson (1998) described Knowles' work as pivotal in terms of a shift in the educational paradigm. It is very interesting to note that, although in academic terms Knowles' work might be considered "dated," that most of the articles reviewed for this paper cited at least one article by Knowles and proclaimed him the unmistakable "founder" of adult learning doctrine. Additionally, no one refutes his claims, but only supports them with additional arguments. So, for this paper, we believe it is appropriate to use Knowles' model as a foundation for course development, and to cite



additional supportive literature. Knowles defined andragogy as “the art and science of helping adults learn” (1980, page 43), and claimed that there were four critical andragogical assumptions of adult learners which differ from the assumptions of pedagogy (Knowles, 1977).

Table 1
Knowles' Principles of Andragogy (1977, p. 39):
1. His self-concept moves from one of being a dependent personality toward one of being a self-directed human being.
2. He accumulates a growing reservoir of experience that becomes an increasing resource for learning.
3. His readiness to learn becomes oriented increasingly to the development tasks of his social roles.
4. His time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem-centeredness

### Principle 1: Learner as Self-Directed

These principles are not mutually exclusive; by their very nature and in keeping with Knowles' intention, they are part of a system of learning theory. Only for the purposes of analysis and example, we will explain each principle individually. In his first principle of andragogy, Knowles (1977) claims that superior andragogical learning conditions should motivate the learners to feel a need to learn. Because adults regard education as a life-time activity, they are able to learn more effectively in a self-directed environment, which is quite different from the environment of traditional students (Patterson & Pegg, 1999). Learning as an iterative, dynamic process of change, dependent on the self-efficacy of the learner to take responsibility for his or her own learning is summarized by Galbraith (1990) who stated that "learners and facilitators are involved in a continual process of activity, reflection upon activity, collaborative analysis of activity, new activity, further reflection, and collaborative analysis, and so on" (p.10). In an analysis of undergraduate management education, Gammie (1995) concluded that “maximum flexibility and student self-governance” result in the most effective programs.

As Reed (1993) indicated, adults should be motivated through internal rather than external means. In support of an andragogical model, students should be dynamically involved in planning their learning process (Cervero & Wilson, 2001).

### Principle 2: Learner as Resource

Knowles' second principle claims that adults can be a resource for their own learning and the learning of others. According to Patterson & Pegg (1999), collaboration was the most cited difference in adult learners when compared to children. Galbraith (1990) claims that collaboration is a key ingredient for successful adult learning methodologies. Using an andragogical model requires that educators undergo a basic change in the way that they feel about learning and allow learners to rely on themselves as resources of learning (Boud, Cohen, & Walker, 1993; Cell, 1984). The model must follow Knowles' theory on andragogy and must value nontraditional students' life experiences and awareness of self (Uehling, 1996).

### **Principle 3: Learning as Developmental**

The third principle in Knowles' andragogical model is focused on the learners' developmental goals. The andragogy paradigm requires that instructors choose strategies that will enable adults to achieve their learning goals. By "romancing" the individual adult learner, organizations and society are improved because "a society whose central dynamic, change--economic and technological, political, social, cultural, even theological-- requires a citizenry that is able to change" (Knowles, 1980, p.36). This suggests a focus on learning to learn, which may be a developmental goal of the mature learner. Lawson (1998) supports the importance of andragogy in helping adult learners make career transitions and claims that andragogy can be a powerful tool in influencing the delivery of services to adults. "Program evaluation procedures can help determine if the participants in the learning activity reached their educational objectives and desired outcomes; they can be used in the planning process and for program improvement; and they can be used for program justification and accountability" (Galbraith. 1990, p.8-16). Beaman (1998) indicated that adults "need assessment not just for evaluation, but also for motivation and feedback. Assessment for adult learners can also be empowering and can lead to a richer, deeper learning experience" (p. 58). Learners may develop skills and self-awareness through feedback and evaluation of others' behavior in the classroom (Saunders, 1991). "The driving force in lifelong learning is not the acquisition of knowledge per se as it is amongst youngsters, but rather the self-actualization of individuals of themselves and through the organizations where they work and live. That can scarcely be accomplished through a normative curriculum or through any model of higher education provision based on the philosophy of 'faculty knows most - and best' " (p.328) (Prestoungrange, 2002).

### **Principle 4: Learning as Application to Real World**

The last principle of andragogy according to Knowles (1977) is the need for immediate application of theory to practice and the related focus on problems as opposed to content. The learning strategies should be less involved with theory, and more focused on emphasizing practical applications of knowledge relevant to the real world (Patterson & Pegg, 1999). Similarly, Galbraith (1990) claims that successful education will relate theory to practice, and Wankel & DeFillippi (2003) advocate bringing "real world" opportunities into the classroom through simulations, cases, technology, and collaborative learning opportunities between educational institutions and business. There is little evidence to suggest that making higher education for nontraditional adult learners should be anything but as real as possible, and as immediately applicable to their own lives as is reasonable.

In the Summer Semester 2003, one of the authors (Thompson) designed and facilitated a course which encompassed many of the andragogical principles presented in this article. The design of the course will be presented in terms of Knowles' model of andragogy.

## REFERENCES

- Beaman, R. (1998). The unquiet... even loud, andragogy! Alternative assessments for adult learners. *Innovative Higher Education*, 23 (1), 47 (13).
- Boud, D., Cohen, R., & Walker, D. (1993). *Using Experience for Learning*. Bristol, Pennsylvania: The Society for Research into Higher Education Open University Press.
- Brookfield, S.D. (1986). *Understanding and Facilitating Adult Learning*. San Francisco: Jossey-Bass.
- Cell, E. (1984). *Learning to Learn From Experience*. Albany: SUNY Press.
- Cervero, R. M., & Wilson, A. L. (2001). *Power in Practice: Adult Education and the Struggle for Knowledge and Power in Society*. San Francisco: Jossey-Bass.
- Davenport, J. I. & Davenport, J. A. (1986). Andragogical-Pedagogical orientations of adult learners. *The Education Digest*, 52(1), 58.
- Elliot, C.J., Goodwin, J.S. & Goodwin, J.C. (1994). MBA programs and business needs: Is there a mismatch? *Business Horizons*, 37(4), 55 (6).
- Galbraith, M.W., Ed. (1990). *Adult Learning Methods: A Guide for Effective Instruction*. Malabar: Robert E. Krieger Publishing.
- Gammie, B. (1995). Undergraduate management education: An analysis of rationale and methodology. *The International Journal of Education*, 9 (4). 34.
- Goffee, R. (1996). Managerial capability in the professional firm - assessing competences in the City. *The Journal of Management Development*, 15(7), 4.
- Grabowski, S.M., Ed. (1970). *Adult Learning and Instruction*. Adult Education (ED045867). Association of the U.S.A. Washington, DC.
- Henschke, J.A. (1998). Modeling the preparation of adult educators. *Adult Learning*. 9(3), 11-13.
- Horn, L. (1996). *Nontraditional Undergraduates, Trends in Enrollment From 1986 to 1992 and Persistence and Attainment Among 1989-90 Beginning Postsecondary Students* (NCES 97-578). U.S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.
- Jacobs, J.A. & Stoner-Eby, S. 1998). Adult enrollment and educational attainment. *Annals of the American Academy of Political and Social Science*. 559, 91 (18).
- Kennesaw State University (2002). *Kennesaw State University Fact Book*. Retrieved February 3, 2004, from <http://web1.kennesaw.edu:8080/fb2003/default.htm>
- Knowles, M.S. (1970). *The Modern Practice of Adult Education; Andragogy versus Pedagogy*. New York: The Association Press.
- Knowles, M. S. (1977). *The Modern Practice of Adult Education: Andragogy Versus Pedagogy* (Eighth ed.). New York: Association Press.

- Knowles, M. S. (1980). My Farewell Address...Andragogy-No Panacea, No Ideology. *Training and Development Journal*, 48-50.
- Knowles, M. S. (1984). *Andragogy in action: Applying Modern Principles of Adult Learning*. San Francisco: Jossey-Bass.
- Lawson, G. (1998). New paradigms in adult education. *Adult Learning*, 8(3), 10.
- Marshak, R. J. (1983). What's Between Pedagogy and Andragogy? *Training and Development Journal*. 37(10), 80-81.
- Masikiewicz, M. (1995). Universities and businesses: Partners for tomorrow. *The Business Times*, 18(8), 1.
- National Center for Educational Statistics (2002). *Findings from the Condition of Education 2002; Nontraditional Undergraduates* (NCES 2002-012). U.S. Department of Education, NCES. Washington, DC: U.S. Government Printing Office.
- Norman, J. (2003). Creatvity is important. *The Orange County Register*.
- Patterson, I. & Pegg, S. (1999). Adult learning on the increase: The need for leisure studies programs to respond accordingly. *Journal of Physical Education, Recreation & Dance*, 70(5), 45.
- Prestoungrange, G. (2002). Why do managers learn best at work? *International Journal of Contemporary Hospitality Management*, 14(7), 328.
- Reed, J. (1993). Learner-centered learning. *Training and Development Journal*, 47(6), 20.
- Rifkin, G. (1996). Leadership: Can it be learned? *Forbes*, 100 (109).
- Saunders, C. E. (1991). Pedagogy vs. Andragogy: Are we treating our students like children? *Military Intelligence Professional Bulletin*, 42.
- Seaman D. (1969). *Behavioral Skills for Adult Basic Education: A Resource Document and Institute Report* (ED034143). State College: Mississippi State University.
- Thiebert, (1996). Train and degree them - anywhere. *Personnel Journal*, 75(2) 28.
- Uehling, K. S. (1996). Older and younger adults writing together: a rich learning community. *Writing Instructor*, 15, 61-69.
- Wankel, C., & DeFillippi, B. (2003). *Educating managers with tomorrow's technologies*. Greenwich, Conn.: Information Age Pub.



## **OCEAN AND SPACE ACTIVITIES: PROPOSED REGULATIONS FOR SOURCING OF INCOME**

**Dan R. Ward, University of Louisiana at Lafayette**

dward@louisiana.edu

**Cheryl T. Metrejean, University of Texas at Austin**

cheryl.metrejean@mcombs.utexas.edu

**Suzanne P. Ward, University of Louisiana at Lafayette**

spward@louisiana.edu

**Eddie Metrejean, Texas State University at San Marcos**

eddiemet@txstate.edu

### **ABSTRACT**

*Determining the source of income pervades virtually all considerations in arriving at the tax consequences of international issues. As the globalization of trade has increased, so has the interest and efforts of the IRS to clarify as well as enforce and strengthen the international tax provisions of the Internal Revenue Code. This resolve is most evident in proposed regulations dealing with the taxation of space, ocean and communications activities. The proposed regulations, if adopted, will substantially alter the manner in which certain income from international activities will be treated. In general, the result of the proposed regulation will be to subject increasing amount of what had been foreign sourced income to categorization as U.S. sourced income. While the proposed regulations are primarily income source rules, their final impact is considerably greater. For example, the proposed regulations will impact the system of foreign tax credits, subpart F income, withholding obligations, and numerous filing and administrative requirements.*

*The IRS has taken a decade and a half to draft the proposed regulations and it will likely involve considerably more time prior to their final issuance. However, the proposed regulations have the potential of drastically altering the tax environment of many industries including shipping, offshore oil and gas exploration and production, and communications. Although income can be currently reported without regard to the proposed regulations, given the potential negative impact of the new regulations, planning ahead for their actual implementation is crucial for affected industries. While the effect on each taxpayer will vary, this article's discussion of the new developments in income sourcing will provide taxpayers with the basic tools for the planning and analysis needed to insure an orderly transition to the new requirements. In addition, the article may alert taxpayers to the possible need to restructure certain transactions and modes of operation and highlights potential tax opportunities to decrease the overall effective tax rate.*



## HOW DO CPAs FEEL ABOUT THE REVOLVING-DOOR PHENOMENON

**Carl N. Wright, Virginia State University**

cwright@vsu.edu

**Quinton Booker, Jackson State University**

qbooker@ccaix.jsums.edu

### ABSTRACT

*The objective of this exploratory study was to investigate whether a “cooling-off period” would influence the perceptions of certified public accounting (CPA) firms’ independence that had been impacted by their non-public audit clients’ hiring, in senior-level accounting positions, the CPA firms’ former auditors—the revolving-door phenomenon. A cooling-off period is the period after a former auditor leaves the employment of the audit client’s current CPA firm and before accepting an accounting position with the audit client.*

*Three experimental scenarios, each having a unique cooling-off period, were randomly given to 148 certified public accountants. Scenario one did not have a cooling-off period. Scenario two contained a one-year cooling-off period while scenario three had a two-year cooling-off period. Three experimental groups resulted.*

*The findings indicated that certified public accountants perceived that CPA firms’ independence, when impacted by the revolving-door phenomenon, was not enhanced by the presence of a one-year nor a two-year cooling-off period. As such, the findings failed to indicate that certified public accountants perceive a need for a cooling-off period.*

### INTRODUCTION

This study investigated whether a cooling-off period would enhance the perception of certified public accounting (CPA) firms’ independence by certified public accountants (CPAs) when non-public audit clients are involved in the revolving-door phenomenon. The revolving-door phenomenon occurs when audit clients employ former auditors of their current CPA firms in accounting positions. A cooling-off period is the time period of disassociation of the former auditor from the audit client’s current CPA firm before accepting employment with the audit client. The revolving-door phenomenon, a routine occurrence, was investigated due to its apparent negative impact on the audit independence considered necessary for audit firms to conduct audits of clients involved in this phenomenon. The lack of audit independence between the audit client and the CPA firm has been attributed to audit failures that have given rise to a lost of investors’ confidence in the audit process. Accordingly, a cooling-off period was considered by this study as a means to mitigate the negative impact on CPA firms’ independence resulting from the revolving-door phenomenon.

The results of this study could assist federal government regulators in determining whether the cooling-off period is perceived to enhance CPA firms’ independence by those affected by this provision of a recent regulatory change. Results may also provide state boards of accountancy,



which regulates the relationships between CPA firms and their non-public audit clients, with relevant information to assist them in deciding whether to mandate a cool-off period for non-public entities affected by the revolving-door phenomenon as required of them in the Sarbanes-Oxley Act (Sarbanes-Oxley Act, 2002, sec. 209).

Forthcoming sections of this paper will include the literature review and research questions; the methodology; research results; summary and conclusions; future research recommendations; and limitations.

## LITERATURE REVIEW AND RESEARCH QUESTIONS

This section provides background information on independence and the impact of the revolving-door phenomenon. The research questions will conclude this section.

### The Revolving-Door Phenomenon and CPA Firms' Independence

The revolving-door phenomenon occurs when audit clients employ former auditors of their current CPA firms in accounting positions. As a recruitment tool, recruiters of CPA firms routinely indicate that audit clients will fill senior-level accounting positions with former auditors from their firms' audit teams. Thus, potential audit staff members are presented two avenues where their career goals can be realized—first as auditors in highly respected CPA firms and second as senior-level corporate accounting managers. According to the Independence Standards Board (ISB), this enticement often allows public accounting firms to recruit highly qualified audit staffs (ISB, Independence Standard No. 3, 2000, par. 24).

James E. Copeland, representing the American Institute of CPAs (AICPA), in his March 14, 2002 speech before the United States Senate Committee on Banking, Housing, and Urban Affairs indicated that any restrictions on this revolving-door phenomenon “would impose unwarranted costs on the public, the client, and the profession. Indeed, limiting the career opportunities of accountants would make the profession less attractive and make it more difficult for CPA firms to hire qualified people” (*Accounting and Investor Protection*, 2002, p. 2). He indicated that this would be especially true for small and mid-size CPA firms and would likewise affect these firms' non-public clients accordingly.

However, not all stakeholders of audited financial statements see the revolving-door phenomenon as a benefit to society but rather as a situation that destroys the public confidence in the expected high feel of client independence to be maintained by external auditors. External audit firms are to be independent of their audit clients *in appearance* and *in fact*. The AICPA independence standard requires (AICPA, 2001):

*In all matters relating to assignment, an independence in mental attitude is to be maintained by the auditor or auditors. Aside from being in public practice, the auditor must be without bias with respect to the client under audit, since otherwise [the auditor] would lack [an] impartiality necessary for the dependability of [the] findings, [regardless of the level of] technical proficiency [present] (AICPA, 2001, p. 39).*

On February 27, 2002, John H. Giggs, Chairman and CEO of TIAA-CREF testified before the U.S. Senate Committee on Banking, Housing and Urban Affairs. Mr. Biggs' testimony compared auditor independence to the relationship between companies and their auditors. He pointed out that this major concern was with the following relationships between companies and their audit firms:

*(1) Have they used the same audit firm for a very long time, say 20 to 30 years? (2) Does the audit firm have a high ratio of non-audit fees to audit fees? and (3) Is the Chief Financial Officer, the Chief Accounting Officer, or any other financial manager a former employee of the audit firm [the revolving-door phenomenon] (Accounting and Investor Protection Issues, 2002, p. 4).*

Related to the latter concern of the revolving-door phenomenon, Grimsley (2002) reported in her article in the *Washington Post* of February 19, 2002, that the now defunct Enron, Inc. hired its chief accounting officer from Arthur Anderson—the CPA firm used by Enron. In addition, Grimsley (2002) reported that (1) Global Crossing, a publicly-held company which filed for bankruptcy amid allegations of improper accounting, had hired its former Arthur Andersen engagement partner as its senior vice-president for finance; and (2) a senior audit manager from PricewaterhouseCoopers, a CPA firm, solicited a job as chief financial officer of a subsidiary of MicroStrategy while conducting the annual audit of MicroStrategy (Grimsley, 2002). Accounting firms' partners now look for new jobs in industry with their audit clients when they reach their forties (Hillebrand, 2002).

Independence is viewed as the cornerstone of the public accounting profession (Imhoff, 1978). However, recent negative publicity for both the management and the auditors of Enron and WorldCom, a publicly-held large communication company, served to increase public skepticism about CPA firms' independence. The central issue in the wake of external financial reporting failures of Enron and WorldCom is the rising tide of failures by CPA firms to prevent misleading disclosure in corporate financial statements. For both Enron and WorldCom, the CPA firms appeared to have participated with management of both international corporations to mislead users of financial statements by not disclosing financial information that would negatively affect corporate earnings. According to former Securities and Exchange Commission (SEC) Chairman Arthur Levitt "...we are witnessing a gradual, but noticeable erosion in the quality of financial report (Levitt, 1998, p. 2).

Levitt also stated "while the problem of inappropriate earnings management is not new, it has risen in a market unforgiving of companies that miss Wall Street's consensus estimates. For many, this pressure has become all too hard to resist" (Levitt, 1998, p. 2). As such, financial reporting misstatements appear to be accepted by both management and independent CPA firms that attest to such financial reports that are designed to satisfy the earnings expectations of Wall Street. Therefore, it would appear that there is a shared perception of ethically correct behavior among corporate management and its independent audit firm (Fritzsche, 2000). Such a shared relationship is in conflict with the type of relationship the investing public expects from independent CPA firms and their audit clients.

Public confidence in the integrity of the relationship between the auditor and the audit client is essential for the continuing efficiency of international capital markets (Barkess, 2000). To maintain the perception of audit firms' independence, audit firms' relationships with their audit

clients cannot compromise the auditor's judgment in the performance of attestation services (Vinciguerra, 2001).

## Research Questions

The accounting profession and investors/congressmen disagree on remedies necessary to maintain the auditor's appearance of independence (Maines, 2001). This is apparent in the disagreement of what steps need to be taken in regards to the "revolving-door phenomenon" of audit clients' hiring of former auditors from their current CPA firms to fill senior-level accounting positions. The accounting profession (CPAs) provides quality control procedures that will mitigate the negative impact of the "revolving-door phenomenon" on audit independence while investors/congressmen propose that there should be a "cooling-off period"—a time period after leaving the employment of the CPA firm before former auditors are allowed to become employees of their former CPA firms' current audit client. It is the purpose of this study to determine whether CPAs perceive if a cooling-off period of one year or two years would enhance their perceptions of CPA firms' independence when the revolving-door phenomenon is present.

The results of this study could assist the federal legislatures in determining if the requirement of a one-year cooling-off period by the Sarbanes-Oxley Act of 2002 will be effective to enhance the perception of CPA firms' independence when impacted by the revolving-door phenomenon. In addition, the results could assist state boards of accountancy in the development of a uniform requirement regarding the revolving-door phenomenon. The following research questions were developed in conjunction with this study's research objective:

*RQ1 Does the presence of a cooling-off period affect CPAs' perceptions of CPA firms' independence?*

*RQ2 Does the length of the time period of the cooling-off period affect CPAs' perceptions of CPA firms' independence?*

## METHODOLOGY

This section provides specifics on the methodology used in this study to include (1) the experimental design, (2) data gathering technique and (3) statistical procedures and methods.

### Experimental Design

A between-subjects design was used to analyze the results using three experimental groups. This method of analysis is consistent with similar studies on perceptions of audit independence (Lowe, Geiger, & Pany, 1999; Imhoff, 1978).

### Data Gathering Technique

This study's approach in gathering information from CPAs followed the study of Imhoff (1978). Potential participants attending two proprietary seminars of continue professional education

(CPE) for CPAs was selected for this study. The potential participants were made aware of the study and that participation was completely voluntary.

There were three experimental scenarios that were used to collect data for this study. The scenarios contained only one manipulation. That manipulation was of the cooling-off period. The first scenario did not have a cooling-off period, and the second had a one-year cooling-off period, while the third scenario had a two-year cooling-off period. On a random basis, one of the foregoing scenarios was given to each of the study's participant. As such, participants were randomly placed into three independent groups based upon the manipulation of the cooling-off period.

Each scenario depicted a highly respected regional CPA firm that contracted to audit a non-public company that reports assets of \$12 million and annual sales revenues of \$20 million on the 2001 financial statements. The financial statements of the non-public company were currently under audit by the CPA firm in question. The CPA firm's audit manager, who had been assigned to all the audits of this non-public company over the last few years, currently serves as this non-public audit client's chief accounting officer (CAO). The manipulation among the three scenarios is related to the length of time that the former audit manager, who is currently the CAO of this non-public audit client, had been disassociated from the current CPA firm of this non-public audit client.

The first experimental scenario indicates that the former audit manager became the non-public client's CAO immediately after leaving the CPA firm—no time period of disassociation from the client's CPA firm. The second experimental scenario has the length of time in which the former audit manager had been disassociated from the non-public client's CPA firm before becoming the client's CAO as one year. The third and last experimental scenario indicates that the former audit manager had been disassociated from the non-public client's CPA firm for two years before becoming the client's CAO.

The participants were instructed to answer two questions following their reading of the scenario. The two questions are presented below.

1. *How confident are you that Bright CPA firm is independent in performing the 2001 financial audit of Thomas (audit client)?*

*Please circle your response by using the following scale: 0 = No Confidence 10 = Extreme Confidence.*

0    1    2    3    4    5    6    7    8    9    10

2. *Would you have allowed Bright CPA firm to perform the 2001 financial audit of Thomas (audit client)?*

*Yes*

*No*

*(Please circle your response)*

In Part II, Section A, a manipulation check was required of participants to determine whether the participants understood the manipulation of the experimental scenarios in Part I. The participants were instructed to seal the completed Part I in an envelope labeled "case" before continuing to Part II. This was designed to prevent the participants from referring back to the information in Part I when answering the Part I manipulation question found in Part II.

The purpose of the manipulation check was to assess the experimental scenarios' responses given by the participants. The scenarios' responses were eliminated for participants who fail the manipulation check since these responses were considered to be non-responsive—not representing informed responses. This approach was consistent with the Lowe et al. (1999) study using an experimental design to collect data on perceptions of audit independence.

Also included in Part II was a section used to solicit demographic data regarding the participant's (1) Highest Education; (2) Certification; (3) Age; (4) Primary Employment; (5) Public Accounting Experience; and (6) Gender. Information obtained was on a voluntary basis.

Members from a state board of accountancy were used to pretest the experimental instrument. Ph.D. students who were also CPAs also participated in pre-testing activities. The pre-testing resulted in a number of changes to the content of the experimental instrument. After the adjustments were made from the initial pre-testing, additional pre-testing resulted in only minor changes.

### Statistical Procedures and Methods

The mean responses scores for the first question of the experiment were calculated and then compared for the three experimental groups. The means were anchored between the no cooling-off period scenario group and the two-year cooling-off period scenario group. The means of each group were compared using a Univariate Analysis of Variance (ANOVA) test. This approach is consistent with the Lowe et al. (1999) study that also considered perceptions of audit independence. The Lowe et al. (1999) study also compared the mean scores of three independent groups.

ANOVA is the appropriate statistical technique to determine, on the basis of one dependent variable, whether there was at least one significant difference in group means' response scores (Hair, Anderson, Tatham, & Black, 1998). Although ANOVA allows the determination of whether there is at least one significant difference in groups' means, it fails to pinpoint where the significant difference exists among the three groups (Hair, et al., 1998). Therefore, a post hoc test may be necessary if there was difference among the means to determine where the difference lied.

Post hoc tests are used to "test for differences among all possible combinations of groups" (Hair, et al., 1998, p. 329). An advantage of using a post hoc test is that *Type I* error rate is not as inflated as it would be if separate *t* test were performed (Hair, et al., 1998). This study considered using, if it were necessary, the post hoc test of Scheffé.

The groups' responses, to the second and last question of the experiment, which require dichotomous responses of "Yes" or "No," responses were analyzed using Chi-square tests. The Chi-square test of frequency was used to determine whether there was a significant difference in the frequency of "Yes" or "No" responses among the three groups. The results of this test provided information about perceptions of CPA firms' independence, as impacted by the revolving-door phenomenon, in performing annual audits of non-public companies.

The foregoing dichotomous response question was designed to have the participant to make a decision based on the perceived-level of independence recorded for the first question. This is consistent with the recommendations from the Orren (1997) report entitled *The Appearance Standard For Auditor Independence: What We Know and Should Know*. The Orren (1997) report was prepared on behalf of the AICPA's presentation to the Independence Standards Board on *Serving the public interest: A new conceptual framework for auditor independence. The white paper*(AICPA, 1997b). The Orren (1977) report recommended that assessing perceptions of independence required a decision-type question along with a question of degree of perception of independence. The report suggested that research of the perception of audit firms' independence should have questions resulting in three categories of dependent variables: (1) questions that probe

the perception of audit firms' independence under different scenarios; (2) questions that probe the perception of reliability of financial statements under various scenarios; and (3) questions that require a decision based upon the perception of independence under different scenarios.

The design of this study incorporated three different cooling-off period scenarios with two questions. The first question solicited the respondents' perceptions of CPA firms' independence. The second question required the respondents to make a decision based upon the respondent's perceived-level of independence from the first question. Therefore, this study's experimental design scenarios incorporated two of Orren (1997) report's recommended categories of dependent variables.

## RESEARCH RESULTS

This section provides information on the results of the study to include response overview, demographic characteristics, and research questions results.

### RESPONSE OVERVIEW

In 2003 the study's experimental instrument with instructions were given to members of two sections of one continue professional education (CPE) seminar that were conducted by one of the researcher of this paper. One hundred forty eight of the participants that were present at the two sections of the seminar participated in this study by completing the experimental instrument. However, of the 148 completed experimental instruments received, 41 of them were considered unusable resulting in 107 usable responses. The 107 responses were fairly equally distributed among the three experimental groups. The no cooling-off period group contained 33 responses. The one-year and the two-year groups contained 31 and 43 respectively.

The 41 responses not used consisted on one incomplete instrument, one participant who was not a CPA, and 39 respondents who failed the manipulation check. The above 41 responses, including those who failed the manipulation check, were not considered in the reported experimental results. Table 1 provides an overview of the responses received.

Table 1. The Response Rate Overview.

	<u>Respondents</u>	<u>Percentage of Total Instruments</u>
Usable Responses	107	72.30%
Unusable responses	2	1.35%
Failed manipulation check	<u>39</u>	<u>26.35%</u>
<b>Responses Obtained</b>	<u>148</u>	<u>100.00%</u>

## DEMOGRAPHIC CHARACTERISTICS

The demographic characteristics of the respondents to the experimental survey are presented in Table 2. The characteristics captured were: (1) Educational Level; (2) Primary Employment; (3) Public Accounting Experience; (4) Gender; and (5) Age. As can be noted in Table 2, there was a fairly equal distribution of respondents in each of the three experimental groups.

Each group had fairly equal levels of variance across the range of demographic characteristics and thus was fairly homogenous. Therefore, aggregated demographic information was presented for comparisons by group and in total for all three groups. In addition, all but one of the participants were college trained with 99.1% having baccalaureate degrees or higher. Although 64.5% of the participants listed industry, education, and government as their primary employment, 17.8% of the participants listed CPA firms/public accounting firms as their primary employment.

Table 2 data also indicate that the respondents' public accounting experience levels were fairly evenly distributed with 77.4% having one to over ten years experience. As related to gender, a slight majority (57.7%) of the respondents reporting their gender were male members. In addition, most of the respondents (67.3%) were 41 years of age or older. The foregoing statistics suggest that the respondents' public accountancy experience, education levels, and their overall maturity of age provided them the wherewithal to make informed judgments about CPA firms' independence.

### Research Questions Results

Research questions RQ<sub>1</sub> and RQ<sub>2</sub> addressed whether the presence and/or the length of a cooling-off period would impact the perceptions of CPA firms' independence by CPAs when non-public audit clients hire the former auditors of their current CPA firms accounting positions. This employment practice is referred to as the "revolving-door phenomenon." A cooling-off period is the time period after the former auditor was disassociated from the audit client's current CPA firm and before accepting employment with the audit client. The following two research questions, RQ<sub>1</sub> and RQ<sub>2</sub>, addressed the concerns of a cooling-off period.

RQ<sub>1</sub> Does the presence of a cooling-off period affect state boards of accountancy members' perceptions of CPA firms' independence?

RQ<sub>2</sub> Does the length of the time period of the cooling-off period affect state board of accountancy members' perceptions of CPA firms' independence?

Both RQ<sub>1</sub> and RQ<sub>2</sub> were investigated via an experiment where the cooling-off period was not present compared to a one-year cooling-off period and a two-year cooling-off period. In the three scenarios, the former auditor of the non-public client's current CPA firm left the employment of the client's current CPA firm to accept the chief accounting officer (CAO) position with the client. The only manipulation was the presence of either a one-year or a two-year period, or the absence of a cooling-off period. The experiment contained two questions.

The subjects were requested to consider the information in the scenarios before answering the questions. An eleven-point Likert-type scale, anchored at *0 for No Confidence and 10 for Extreme Confidence*, was provided participants to record their perceptions of the audit firm's independence for the first question as follows:

1. How confident are you that Bright CPA firm is independent in performing the 2001 financial audit of Thomas Company?

0 1 2 3 4 5 6 7 8 9 10

As an alternative approach to assess the perceptions of audit firms' independence, the experimental instrument contained a second question that requested CPAs to make a decision based upon their perceived levels of the CPA firm's independence in auditing the client. Each respondent was to indicate whether the CPA firm should have been allowed to perform the current year audit of the non-public audit client. The request was within the scope of everyday type of decisions that CPAs are often required to make concerning accepting or rejecting clients due concerns of client/auditor independence. Answers to the second question were recorded as one of the following dichotomous responses—"Yes" or "No." These responses, coded 0 for "Yes" and 1 for "No", were analyzed using Chi-square statistical tests. The second question of the experiment is as follows:

2. Would you have allowed Bright CPA firm to perform the 2001 financial audit of Thomas Company?

Yes No

All responses were grouped and averaged in accordance to the three manipulations of the cooling-off period. The three scenarios' groups were: (1) a no cooling-off period,(CP0); (2) a one-year cooling-off period, (CP1), and (3) a two-year cooling-off period, (CP2).

Table 3 contains the results of the analysis of variance (ANOVA) that indicate that, at a 95% confidence level, there was no significant difference,  $F = .815$  and  $p = .445$ , among the mean-response scores of 5.90 for CPO, 6.84 for CP1, and 7.42. for CP2. The foregoing statistical finding suggests that respondents' perceptions were not influenced by the presence of a cooling-off period.

Table 3. Analysis of Variance for Perceptions of independence.

<i>(Scale: 0 for No Confidence to 10 for Extreme Confidence)</i>						
Comparison Among Groups						
<u>Dependent Variable</u>		<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>	<u>p-value</u>
How confident are you that Bright CPA firm is independent in performing the 2001 financial audit of Thomas Company?	Group	10.485	2	5.242	.815	.445
	Errors	<u>668.917</u>	<u>104</u>	6.432		
	Total	<u>679.402</u>	<u>106</u>			



The foregoing statistical findings failed to indicate that CPAs perceived that CPA firms' independence would not be enhanced by requiring a one-year or a two-year cooling-off period when non-public audit clients hire their current CPA firms' former auditors in senior-level accounting positions.

The dichotomous responses of CPA firms' independence via the second question, were coded "0" for "Yes" and "1" for "No" for each of the three experimental groups—CP0, CP1, and CP2. The group responses were then analyzed using Chi-square tests to determine whether the present or absence of a cooling-off period influenced a client acceptance-type decision made by CPAs.

Data in Table 4 indicate that the results of the Chi-square tests were not significant,  $\chi^2 = 2.704$ ,  $p = .259$ . The no cooling-off period group (CP0) had a 63.6% approval rate. The one-year group (CP1) and the two-year cooling-off period group (CP2) had approval rates of 78.1% and 79.1%, respectively.

Table 4. An Analysis of the Dichotomous Decision Responses.

Approval Rate.

Would you have allowed Bright CPA firm to perform the 2001 financial audit of Thomas Company?

Yes                      No

<u>Scenario Group</u>	<u>Approval Rate (Yes Answers)</u>
No Cooling-off Period (CP0)	63.6%
One-year Cooling-off Period (CP1)	78.1%
Two-Year Cooling-off Period (CP2)	79.1%

Significant Levels

$\chi^2 = 2.704$                $p = .259$

The experimental findings suggest that CPAs do not perceive that the presence of a cooling-off period enhances CPA firms' independence when non-public audit clients employ, in senior-level accounting positions, former auditors of their current CPA firms. Accordingly, the presence of a cooling-off period appeared not to have had positively influenced the decisions CPAs to allow CPA firms to perform annual audits of non-public audit clients that had employed their current CPA firms' former auditors in senior-level accounting positions. In addition, considering the length of a cooling-off period, a one-year period or a two-year period, the results failed to indicate that requiring a two-year period rather than a one-year period would significantly influence the perceptions of CPA firms' independence by CPAs. Therefore, the findings suggest that requiring a cooling-off period of one year or of two years will not mitigate any negative impact that the revolving-door phenomenon may have on the perception of CPA firms' independence.

## SUMMARY AND CONCLUSION

This study was designed to determine whether the perceptions of CPAs were influenced by (1) the presence of a cooling-off period and (2) the length of a cooling-off period. A cooling-off period is the time period of disassociation by the former auditor from the audit client's current CPA firm before accepting employment with the audit client. The experiment that contained one of the three scenarios of a cooling-off period was given to CPAs who attended two sessions of one continuing professional education seminar in May and June of 2003. There were 148 experiments that were given to participants of these two seminars. There were 107 usable responses. The CPAs who participated appeared to have had the qualifications to make informed judgments about impact that the revolving-door phenomenon had on the perceived independence of CPA firms.

Only one manipulation was contained among the three experimental scenarios that were mailed to respondents. This manipulation depicted one of the following conditions related to a cooling-off period: (1) the absence of a cooling-off period, (2) a one-year cooling-off period, and (3) a two-year cooling-off period. Responses were grouped based upon the manipulation of the cooling-off period. This process resulted in three groups of responses. Mean-response scores for first question of the experiment were calculated and the proportions of "Yes" and "No" responses were calculated for the second and last question of the experiment. Using a between-subjects design, analyses were conducted to determine whether there were significant differences, at a 95% confidence level, among the responses of the three experimental groups.

The mean-response scores for the first question represented respondents' assessments of independence that a CPA firm had from its non-public audit client. Responses were recorded on an 11-point Likert-type scale that was anchored at *0 for no confidence and 10 for extreme confidence*. Univariate Analysis of Variance (ANOVA) was used to determine whether at least one mean-response score was significantly different among the mean-response scores of the three groups.

The result of the ANOVA analysis indicated that there was no significant difference among the mean-response scores of the three groups of respondents—5.90 for the no cooling-off period (CP0), 6.84 for the one-year cooling-off period (CP1), and 7.42 for the two-year cooling-off period (CP2). The results from the ANOVA analysis suggested that the presence of a cooling-off period did not enhanced CPAs perceptions of CPA firms' independence when non-public audit clients employ former audit managers from their current CPA firms as chief accounting officers.

The second question of the experiment requested respondents to decide, using information in the experimental scenario, whether a CPA firm should have been allowed to perform an annual audit of a non-public audit client. Respondents selected either a "Yes" or a "No" answer. The approval rates, the "Yes" answers, were: (1) 63.6% for CP0, (2) 78.1% for CP1, and (3) 79.1% for CP2.

The dichotomous responses of the second question for the three experimental groups of CP0, CP1, and CP2 were analyzed using Chi-square statistical tests. The results of the Chi-square tests indicated that no significant difference existed between the three groups' responses to the second question. No significant difference suggests that the presence of a cooling-off period did not influenced a client acceptance-type decision by CPAs in determining whether an CPA firm should be allowed to audit a non-public audit client that had hired its current CPA firm's former audit manager in the position of CAO.

Chi-square statistics were calculated by the cross-tabulation of the responses for the second question by experimental groups. The Chi-square statistics indicated that there were no significant differences between the responses of CP0, CP1, and CP2. Therefore, it appears that the presence of a cooling-off period did not positively influence CPAs in decisions to allow CPA firms to perform annual audits of non-public clients that had hired their current CPA firms' former audit managers as CAOs. Therefore, the results failed to indicate that requiring a two-year cooling-off period rather than a one-year period would significantly influence CPAs' decisions to allow CPA firms to perform the annual audits of non-public clients that had hired their current firms' former audit managers as CAOs. The results of this study indicated that CPAs did not perceive that the presence of a cooling-off period, a one-year or a two-year period, enhanced the perception of independence for CPA firms involved in the revolving-door phenomenon—non-public audit clients that employed their current CPA firms' former audit managers as chief accounting officers (CAOs). Thus, this study failed to find any evidence that CPAs believe that a required cooling-off period is needed.

### **Future Research Recommendations**

Results and implications of this study may be extended to address other revolving-door factors that impact CPA firms' independence. For example, future research could study whether the definition of the cooling-off period would change the effect of the cooling-off period on the perceptions of audit firms' independence by CPAs. The cooling-off period used in this study represented the time of disassociation by the former auditor from the client's current CPA firm before accepting a position with the audit client. This definition differs from that of the Sarbanes-Oxley Act of 2002. The use of the Sarbanes-Oxley Act's of 2002 definition of a cooling-off period—the disassociation of the former auditor from the client's audit team of the client's current CPA firm—may produce different results.

In addition, other conditions of the experimental scenario could be used such as the size of the non-public audit client, the size of the CPA firm, and the nature of the positions involved in the revolving-door phenomenon. In addition, other subjects could be studied such as bankers, investors, members of state boards of accountancy, members of boards of directors, and members of audit committees.

### **Limitations**

The results of this study must be interpreted in light of certain limitations. One limitation affects the generalizability of the results. The results of this study are limited to the perceptions of CPAs at two sessions of one continuing professional education seminar. Therefore, the result may not be generalized to other groups.

Another limitation relates to the realism of the scenarios and the statements used in the experiment and on the questionnaire. To provide for realism, the research instruments were pre-tested with members of a state boards of accountancy as well as with Ph.D. students who were also CPAs. When considered necessary, the instruments were adjusted to reflect a more realistic condition. However, it is not always feasible to include in the research instruments of an experiment

and a questionnaire all of the information that would be relevant and available in real-world scenarios.

## WORKS CITED

- Accounting and Investor Protection Issues Raised by Enron and Other Public Companies. 107<sup>th</sup> Cong., 2d Sess. (February 27, 2002) pp.1, 4. (testimony of John H. Biggs). [http://banking.senate.gov/02\\_02hr/022702/biggs.htm](http://banking.senate.gov/02_02hr/022702/biggs.htm)
- Accounting and Investor Protection Issues Raised by Enron and Other Public Companies: Oversight of the Accounting Profession, Audit Quality and Independence, and Formulation of Accounting Principles*, 107<sup>th</sup> Cong., 2d Sess. (March 14, 2002) p.2. (testimony of James E. Copeland, Jr., CPA). [http://banking.senate.gov/02\\_03hr/031402/index.htm](http://banking.senate.gov/02_03hr/031402/index.htm)
- American Institute of Certified Public Accountants [AICPA], (2001). *Codification of Statements on Auditing Standards*. Statement on Auditing Standards No.1, Section 220, p. 39. New York: AICPA.
- American Institute of Certified Public Accountants [AICPA]. (1977b). *Serving the Public Interest: A New Conceptual Framework for Auditor Independence. The White Paper*. New York: Commerce Clearing House.
- Barkess, Lynette Kay (2000). *The Process of Auditor-Client Realignment: A Study of the Australian Audit Market*. Unpublished doctoral dissertation, University of New South Wales.
- Fritzsche, David, J. (2000). Ethical Climates and The Ethical Dimension of Decision Making. *Journal of Business Ethics*, 24, (2), 125-140.
- Grimsley, K.D. (2002, February 19). Auditors Pushed Into ‘Revolving Door’ ExClients Hire Accountants Forced to Retire at 60 or 62. *The Washington Post*, p. A1.
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W.C. (1998). *Multivariate Data Analysis*, 5<sup>th</sup> ed. (287 –386) New Jersey: Prentice Hall.
- Hillebrand, Gail, (2002). *Protect the California Public from the Next Enron: Tighten California Licensing of Public Accountants* (Consumers Union) San Francisco, CA: West Costal Regional Office. <http://www.consumersunion.org/finance/enron2wc402.htm>
- Imhoff, Jr., Eugene, A. (1978) Employment Effects on Auditor Independence. *The Accounting Review LIII*, (4), 869-881.
- Independence Standards Board, (July, 2000). Independence Standard No. 3, Employment Audit Client*. par. 24.
- Levitt, Arthur (1998). *A Partnership For The Public Trust*. Speech Before The American Institute of Certified Public Accountants (December 8, 1998), p. 2. <http://www.sec.gov/news/speech/speecharchive/1998/spch230.txt>
- Lowe, Jordan D., Geiger, Marshall A. & Pany, Kurt (1999). The Effects of Internal Audit Outsourcing on Perceived External Auditor Independence. *Auditing: A Journal of Practice & Theory* 18, 7-26.
- Maines, Lauren A. (2001). SEC Auditor Independence Requirements. *Accounting Horizons*, 15, (4), 373-386.
- Orren, Gary (1997). The Appearance Standard For Auditor Independence: What We Know and Should Know. In AICPA’s (Ed.), *Serving the Public Interest: A New Conceptual Framework for Auditor Independence. The White Paper*, (Appendix A). New York: Commerce Clearing House.
- Sarbanes-Oxley Act of 2002. 107<sup>th</sup> Cong., 2<sup>nd</sup> Sess., Report 107-610, 1 (2002).
- Vinciguerra, Barbara Marie (2001). *Auditor Independence: An Examination of The Effect of Self-Interest Threats and Organizational Safeguards On Auditor Judgment*. Unpublished doctoral dissertation, Drexel University.

Table 2. DEMOGRAPHIC INFORMATION FOR RESPONDENTS.

<u>Educational Level</u>					
Scenarios' Groups	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Total</u>	<u>Percent</u>
Number in Group	<u>32</u>	<u>31</u>	<u>43</u>	<u>106</u>	<u>100%</u>
Less than Baccalaureate	0.0%	0.0%	0.9%	1	0.9%
Baccalaureate	24.5%	14.2%	30.2%	73	68.9%
Master's	3.8%	15.1%	9.4%	30	28.3%
Doctorate	<u>1.9%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>2</u>	<u>1.9%</u>
Totals	<u>30.2%</u>	<u>29.3%</u>	<u>40.5%</u>	<u>106</u>	<u>100.0%</u>
<u>Primary Employment</u>					
Scenarios' Groups	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Total</u>	<u>Percent</u>
Number in Group	<u>32</u>	<u>32</u>	<u>43</u>	<u>107</u>	<u>100%</u>
CPA Firm	7.5%	1.9%	7.5%	18	16.8%
Public Accounting Firm	0.0%	0.9%	0.0%	1	0.9%
Industry, Education, or Government	14.9%	24.3%	25.3%	69	64.5%
Others	<u>7.5%</u>	<u>2.8%</u>	<u>7.5%</u>	<u>19</u>	<u>17.8%</u>
Totals	<u>29.9%</u>	<u>29.9%</u>	<u>40.3%</u>	<u>107</u>	<u>100.0%</u>
<u>Public Accounting Experience</u>					
Scenarios' Groups	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Total</u>	<u>Percent</u>
Number in Group	<u>31</u>	<u>32</u>	<u>43</u>	<u>106</u>	<u>100%</u>
None	4.7%	4.7%	8.5%	19	17.9%
Less than 1 year	1.9%	-----	2.8%	5	4.7%
1 to 5 years	10.4%	9.4%	13.2%	35	33.0%
Over 5 years, less than 10 years	1.9%	6.6%	2.8%	12	11.3%
Over 10 years	<u>10.4%</u>	<u>9.4%</u>	<u>13.2%</u>	<u>35</u>	<u>33.1%</u>
Totals	<u>29.3%</u>	<u>30.1%</u>	<u>40.6%</u>	<u>106</u>	<u>100.0%</u>

<u>Gender</u>					
Scenarios' Groups	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Total</u>	<u>Percent</u>
Number is Group	<u>26</u>	<u>30</u>	<u>41</u>	<u>97</u>	<u>100%</u>
Female	13.4%	11.3%	17.5%	41	42.3%
Male	<u>13.4%</u>	<u>19.6%</u>	<u>24.7%</u>	<u>56</u>	<u>57.7%</u>
Totals	<u>26.8%</u>	<u>30.9%</u>	<u>42.3%</u>	<u>97</u>	<u>100.0%</u>
<u>Age</u>					
Scenarios' Groups	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Total</u>	<u>Percent</u>
Number is Group	<u>32</u>	<u>32</u>	<u>43</u>	<u>107</u>	<u>100%</u>
Less than 25	0.0%	0.0%	0.0%	0	0.0%
25 to 40	8.4%	11.2%	13.1%	35	32.7%
41 to 55	15.9%	15.9%	17.8%	53	49.5%
Over 55	<u>5.6%</u>	<u>2.8%</u>	<u>9.3%</u>	<u>19</u>	<u>17.8%</u>
Totals	<u>29.9%</u>	<u>29.9%</u>	<u>40.2%</u>	<u>107</u>	<u>100.0%</u>



# ADVERTISING EXPENDITURE AND FIRM PROFITABILITY: AN INVESTIGATION

Confidence W. Amadi, Florida A&M University  
confidence.amadi@famu.edu

## ABSTRACT

*It is generally accepted or believed that advertising increases sales. But does this increase in sales translate into increase in profitability? Does increase in operating expense resulting from increased sales eat up or neutralize the benefits of increased sales? This paper looks at the long-run relationship and causal implications between advertising and operating income. The findings indicate that the impact of advertising expenditure on firm profitability is not homogeneous across firms in the industry. Moreover, there is a strong and positive causal relationship that runs decidedly from operating income to advertising expenditure, meaning that increases in operating income Granger causes increase in advertising expenditure.*

## INTRODUCTION

Advertising is any paid form of non-personal communication about an organization, product, service, or idea by an identified sponsor, (Alexander, 1965:9). Advertising and promotions are an integral part of our social and economic system, evolving into a vital communications system that gives businesses and consumers the ability to deliver carefully prepared messages to target audiences. "Advertising provides nearly all of the financing for commercial domestic broadcast television and approximately half of the financing for domestic cable television", (Blumenthal and Goodenough, 1998: 416). Expenditures in advertising and promotions have experienced tremendous growth in recent years. Between 1980 and 2002, their combined expenditure increased from \$102 billion to \$490 billion in the United States, (Belch and Belch, 2004:5). The question arises as to the extent and level of benefit provided to the sponsors of these communications. Batra, Lehmann, Donald, Burke and Pae (1995) find a strong and significant increase in the effect of advertising when the product category is new and growing.

The primary purpose of advertising is to sell something—a product, a service, or an idea. In other words, advertising is supposed to increase sales or market share of the sponsor. In view of the fact that the objective of a firm is to maximize shareholders' wealth, the goal of sales increases and market share are only relevant to the extent that they enhance the profitability of the firm through increase in operating income. A firm's stock price is the present value of the cash flow the firm is expected to generate for the shareholders. This cash flow is largely determined by the firm's operating cash flow. Advertising expenditure entails the outlay of current resources in expectation of future benefits to the firm. The objective of this study is therefore, to investigate the long-run relationship between advertising and the firm's sales and operating income. The rest of the paper is organized as follows: the next section presents a brief literature review; section three deals with the data and methodology; section four results and final section contains the analysis and conclusion.

## II. BRIEF LITERATURE REVIEW

This section presents a brief review of previous studies on the impact of advertising. For the purpose of this study, previous studies on the effect of advertising can be classified as studies on the market value effect, advertising budget determination, and the long-run impact of advertising.



## Market Value Effects

Using a sample of 87 firms that announced advertising slogan changes, Mathur and Mathur (1995), examined its effect on the firms' market values. For the firms used in the study, they found that with an event study window of +2 and +10, announcement of changes in advertising slogan resulted in a 91 basis point increase in the return on investment. Conclusion, investors react positively to announcements of advertising changes, leading to higher market values to the firms.

Graham Jr., and Frankenberger (2000) examined the asset value of advertising expenditures of 320 firms with reported advertising expenditure for each of the 10 consecutive years ending in 1994, to determine the "effect of advertising expenditures on the financial performance ." Their results indicate a significant relationship between advertising asset value and the firm's earnings. Also, the regressions show a statistically significant relation between firm market value and advertising asset value. Graham Jr., and Frankenberger studies were based on aggregate industry data as well as differenced data. On a firm level their results may not be applicable. In addition, they caution that "because we use changes rather than levels of advertising expenditures in our analysis, we can not make definitive statements regarding the asset value of absolute advertising expenditure levels."

Agrawal and Kamakura (1995) studied the impact of 110 celebrity endorsement contract announcements on the expected profitability of a firm using event study methodology. Their results indicate that, on average, the impact of these announcements resulted in a 54 basis points cumulative abnormal return over the event window of 0 and +1. Erickson and Jacobson (EJ) (1992) explored the extent to which R&D and advertising expenditures generate a comparative advantage that allows firms to earn above normal profits. They found the coefficients on both expenditures to be substantially positive, indicating a statistically significant positive effect of these expenditures on stock returns. Hasan, Hunter and Mathis III (2000) show that the relationship between promotional expenditures and performance as measured by return on asset (ROA) is not significant. Chauvin and Hirschey (1993) by regressing market value against cash flow, growth, risk, market share, and advertising and R&D expenditures provide evidence that advertising and R&D expenditures have large, positive and consistent influences on market value of firms. Reibstein and Farris (1995) investigated the impact of marketing expenditures on the ultimate consumer. They find that the impact of expenditures, which result in an increase in distribution coverage for a product, benefits the ultimate consumer in the form of a social value as well as economic value.

The preceding review presents mixed results of the market value impact of advertising expenditure. The results are based either on event study methodology or on ordinary least squares regression results. The significance of a regression coefficient does not necessarily imply causality. Hence a methodology is needed that tests for the causal link between advertising expenditure and firm market value. This is one of the objectives of this study.

Mitchell (1993), Lee (1994), Corfman and Lehmann (1994), Fairhurst, Gable and Dickinson (1996), Metwally (1997) and Joseph and Richardson (2002) investigated the advertising budget process. They show that firms use various methods, principally the percented of forecasted sales to set their advertising budget.

Overall, the brief review of the literature shows that while advertising expenditure results in increased sales, the duration of its impact is still a subject of considerable debate. On the market value impact of advertising, it is apparent that a direct measure of the wealth effect on shareholders can only be inferred from market reaction to the expected impact of the advertising expenditure on the firm's cash flow. Whether this expectation is realized in the long run is still open to research. The present study is aimed at filling that gap in the literature.

### III. DATA AND METHODOLOGY

The data for this study, obtained from the Compustat database, are the annual operating income before depreciation (OIBD) and advertising expenditure (ADEX) for the period 1960 through 2000, for the household products industry (SIC 335). Of the 98 firms listed in the database, only 18 firms had sufficient continuous data over the study period. A list of the firms are available upon request

Establishing the long-run relationship between a pair of time series requires that the variables be cointegrated. Cointegration implies that even though the two or more series themselves may contain stochastic trends, the series are linked to form an equilibrium relationship to which the system converges over time. The error term in the cointegrating vector, can be interpreted as the distance that the system is away from equilibrium at time  $t$ .

In order to investigate the long-run relationship between sales, operating income and advertising expenditure, the augmented Dickey-Fuller (ADF) test is employed to determine the integration of these variables for the firms under study. The selection of the optimal lag length is based on the Akaike Information criterion (AC), multivariate Hannan-Quinn criterion (HQ), and multivariate Schwarz Bayesian (SC) criterion.

Given the integration characteristics of the sales, operating income and advertising expenditure variables for the firms, the Johansen maximum likelihood procedure is used to test for possible cointegration between the variables. Johansen and Juselius (1990) likelihood-ratio tests (Lambda-max and Trace tests) are used to determine the number of cointegrating vectors based on the maximum likelihood estimates of the cointegrating vectors.

Standard Granger causality tests that are augmented with error-correction terms, obtained from the cointegrating relationship, are used to investigate the long-run effects

### IV. STATIONARITY TEST RESULTS

The augmented Dickey-Fuller (ADF) test was conducted using the following regression model:

$$\Delta z_t = \alpha_0 + \beta z_{t-1} + \eta T + \sum_{s=1}^p \chi_s \Delta z_{t-s} + \mu_t \quad 1$$

Where  $z_t$  is the time series,  $T$  is a time trend, and  $\mu_t$  is white noise. The null hypothesis is that the time series  $z_t$  is a unit root with drift process:  $\beta = 0$ , against the alternate that  $z_t$  is a trend stationary process:  $\beta < 0$ . The test statistic is the t-value of  $\beta$ . The selection of the optimal  $p$  was based on the Akaike, Hannan-Quinn and Schwarz information criteria and the stationarity test results, though not presented are available upon request. The results for the growth rate form are available upon request. It indicates that the characteristics of the variables differ considerable across the firms in the households industry. In the nominal form, only three of the firms have the operating income and advertising expenditure integrated of the same order,  $I(1)$ . In the growth rate form, six of the firms have both variables integrated of order one. Given that cointegration methodology requires that the variables be included in the analysis in there non-stationary form, variables that are  $I(0)$  will not be used in the cointegration model. Only the variables that are  $I(1)$  will be used to study the long-run relationship for the respective firms.

### V. COINTEGRATION TEST RESULTS

The use of the Johansen procedure requires the selection of the appropriate lag length for the VAR( $p$ ) model. The Hannan-Quinn and Schwarz information criteria are used to select the order

$p$  that ensure the errors are approximately white noise. For all the series in the study,  $p=1$  is the upper bound value that ensures white noise. In order to determine the number of cointegrating vectors, the Lambda-max and Trace tests were conducted. Both test strongly support the existence of one cointegrating vector for most of the firms. However the results are mixed, hence inconclusive, for AND and JET, but one cointegration vector was elected.

Next the Johansen's cointegration analysis was performed with cointegrating restriction on the time trend parameters imposed. The likelihood ratio (LR) tests, of the null hypothesis that the imposed cointegrating restrictions on the time trend parameters hold, are conducted to test the validity of the restrictions. The results of the tests indicate that the trend restriction is valid for all of the firms.

A causal link exists between the variables if the coefficient of the error correction term B1 and or B2 are statistically significant in the maximum likelihood estimation of the vector error correction model (VECM). Significance of the error correction term reflects long-run causality. The result of the VECM estimation is used to test the direction of causality between operating income and advertising expenditure. For each firm, if both coefficients are significant, it indicates that causality is bi-directional. The results indicate that causality runs very strongly from operating income to advertising expenditure. In all of the firms studied, the coefficient of the error-correction term ( $\beta_1$ ) in the advertising expenditure VECM are significant with an average  $R^2$  for the firms studied of 57.5%, with a high of 97.23% and a low of 26.34%. This contrasts significantly with the VECM for the operating income where the average  $R^2$  is 21.76% with a high of 43.82% and a low of 1.4%. Except for one firm, bi-directional causality exists between the growth rates of operating income and advertising expenditure for all of the firms with cointegrated variables, although the causality is much stronger flowing from operating income to advertising expenditure as evidenced by the explanatory power of the VECM.

To further evaluate the effect of operating cash flow on advertising expenditure, the coefficient of the error correction term is multiplied by the coefficient of the operating income in the cointegration vector. The resulting product is an estimate of the long-run impact of operating income on advertising expenditure. It measures the rate of change of the change in advertising expenditure with respect to change in operating income.

The result of the analysis indicates that there is a long-run positive relationship between capital expenditure and operating income. Increase in operating income results in increase in advertising expenditure except for two firms where an inverse relationship exists between growth rate in operating income and the change in the growth rate of advertising expenditure. In the case of the effect of advertising expenditure on changes in growth rate of operating income, of the firms where the error correction term is significant, the results are mixed. For three of the firms, there seems to exist an inverse relationship between increase in growth rate of advertising expenditure and changes in growth rate of operating income. For another three firms, increase in growth rate of advertising expenditure results in a long-run increase in growth rate of operating income. Also, the slope of the VECM for the firms in which the operating income and advertising expenditure are cointegrated in the nominal form, except for one firm, there is apposite bi-directional relationship between advertising expenditure and operating income. Increase in advertising expenditure seems to increase operating income and vice versa. For this firm, increase in operating income decreases advertising expenditure, whereas increase in advertising expenditure appears to increase operating income.

## VI. ANALYSIS AND CONCLUSION

The result obtained from applying the Johansen procedure on the relationship between operating income and advertising expenditure, provides a mixed insight into the nature of advertising expenditure for the household products industry. Of the nineteen firms studied, only ten

firms exhibited long-run relationship between advertising expenditure and operating income. Among the ten firms, the relationship was not uniform. Six of the firms showed long-run relationship in the growth rates of the variables while the remaining four firms were cointegrated in the nominal levels of the variables. The cointegration analysis results provide some insight into the nature of the impact of advertising on profitability as well as the determinant of the level of advertising expenditure.

Firstly, the significance of the variation in the level of integration of the variables begs the issue of the data generating process across firms. Advertising is considered a capital expenditure, it should have a long-run impact on operating income. The existence of different orders of integration between these variables raises doubt about their long-run relationship and the advertising expenditure decision criteria.

Secondly, the impact of time on the long-run relationship between these variables is highly significant. It implies that time is a relevant variable in establishing the long-run relationship between operating income and advertising expenditure.

Thirdly, the Granger causality test provides mixed results indicates that, for all but two of the firms studied, causality runs strongly from operating cash flow to advertising expenditure. For the remaining five firms, the tests indicate and support the inter-dependence of operating cash flow and capital expenditure through the bi-directional Granger causality between operating income and capital expenditure.

Fourthly, the slope of the operating income on the capital expenditure VECM equation is positive for seven of the firms studied. The bi-directional causality implies that the resulting increase in advertising increases operating income and the cycle continues. On the other hand, the three firms with negative VECM slope indicates that advertising expenditure for these firms is a prompted by declining profitability.

And lastly, this study contributes to the literature in the following ways: it extends the work of Agrawal and Kamakura (1995) by providing a direct measure of advertising event on profitability, a concern the authors expressed in their paper. This study contradicts the spurious effect theory advanced by Erickson and Jacobson (1992) on the correlation between advertising expenditure and firm profitability. The findings of Lee (1994) is supported by the inverse relationship between advertising expenditure and operating income in some of the firms studied. In addition, the study, lends support to Metwally (1997) that growth rates in advertising expenditure is strongly correlated with growth rate in sales. Finally, this study simultaneously supports both the Bublitz and Ettredge's (1989) short-live asset theory as well as White and Miles's (1996) inter-temporal effects of advertising effect.

## REFERENCES

- Alexander, Ralph S., editor, *Marketing Definitions*. Chicago, IL: American Marketing Association, 1965, pp. 9.
- Agrawal, Jagdish and Wagner A. Kamakura, 1995, The Economic Worth of Celebrity Endorsers: An Event Study Analysis, *Journal of Marketing* 59, (July) 56-62.
- Batra, Rajeev, Donald R. Lehmann, Joanne Burke and Jae Pae, 1995, When Does Advertising Have an Impact? A Study of Tracking Data. *Journal of Advertising Research* 35, no. 5 (September/October), 19-34.
- Belch, George E. and Michael A. Belch, *Advertising and Promotions, an Integrated Marketing Communications Perspective*, New York, McGraw Hill Irwin, 2004.
- Blumental, Howard J. and Oliver R. Goodenough, *This Business of Television*, New York, Billboard Books, 1998.

- Bublitz, Bruce and Michael Ettredge, 1989, The Information in Discretionary Outlays: Advertising, Research, and Development, *The Accounting Review*, LXIV, no.1, 108-123.
- Chauvin, Keith W, and Mark Hirschey, 1993, Advertising, R&D Expenditures and the Market Value of the Firm, *Financial Management*, (winter), 128-140.
- Corfman, Kim P. and Donald R. Lehmann, 1994, The Prisoner's Dilemma and the Role of Information in Setting Advertising Budgets. *Journal of Advertising* 23, no.2, 35-53.
- Erickson, Gary and Robert Jacobson, 1992, Gaining Comparative Advantage Through Discretionary Expenditures: The Returns to R&D and Advertising, *Management Science* 38, no. 9. 1264-1278.
- Fairhurst, Ann, Myron Gable and Roger Dickinson, 1996, Determining Advertising Budgets for Service Enterprises, *The Journal of Services Marketing* 10, no.6, 18-32.
- Graham Jr, Roger C. and Kristina D. Frankenberger, 2000, The Contributions of Changes in Advertising Expenditures to Earnings and Market Values, *Journal of Business Research* 50, no.2, 149-155.
- Hasan, Iftexhar, William Curt Hunter, and Roswell E. Mathis III, 2000, Promotional Expenditures, Market Competition, and Thrift Behavior, *Journal of Business Research* 50, no.2, 177-184.
- Joseph, Kissan and Vernon J. Richardson, 2002, Free Cash Flow, Agency Cost, and Affordability Method of Advertising Budgeting, *Journal of Marketing* 66, no.1, 94-107.
- Lee, Don Y, 1994, The Impact of a Firm's Risk-Taking Attitude on Advertising Budgets, *Journal of Business Research; New York*, 31, no.1, 2. 247-256.
- Mathur, Lynette Knowles and Ike Mathur, 1995, The effect of Advertising Slogan Changes on the Market Values of Firms, *Journal of Advertising Research*, January/February, 59-64
- Metwally, M. M., 1997, Determinants of Growth of Advertising Expenditure on Consumer Goods and Services: The Australian Experience, *Journal of International Marketing and Marketing Research*, 22, no.3, 147-156.
- Mitchell, Lionel A, 1993, An Examination of Methods of setting Advertising Budgets: Practice and the Literature, *European Journal of Marketing; Bradford* 27, no. 5, 5-18.
- Reibstein, David and Paul Farris, 1995, Do Marketing Expenditures to Gain Distribution Cost the Customer? *European Management Journal*, 13, no.1, 31-38.
- White, John B., Morgan P. Miles, 1996, The Financial Implications of Advertising as an Investment, *Journal of Advertising Research; New York* 36, no.4, 43-54.

## Authors' Index

Amadi, C	129
Ardalan, K	3
Armstrong, V.S	61
Becker, D.	9
Best, R.J.	11
Blouch, W.E.	17
Booker, Q	115
Bostick, L.N.	19
Broihahn, M	65
Brown, C.	103
Carver, P	21, 53
Case, C.J	51
Casey, K.M	83
Cecil, H.W	69
Cheek, R.G	43
Clark, R.K.	27
Cresson, J	67
Darayseh, M	29
Deis, M	107
DiGregorio, D.W	31
Dole, C.A	33
Dye, J	35
Ennis, K.L	37
Etheridge, H.L	43
Fanning, K.	11
Gardner, N	61
Graber, R	39
Gritsch, M	41
Han, Y	71
Haugen, S.	9
Hsu, K.H.Y	43
Huh, S.K	45
Jin, J	45
Kamery, R.H	89, 95
Karsten, R	85
Kim, D.K	37
King, D.L	51
King, T.T	69
Klersey, G	101
Lee, K	45
Luehlfing, M.S.	19
Luthy, M.R	21, 53
Mattson, L.	9
Metrejean, C.T	113
Metrejean, E	113
Michenzi, A.R.	17
Nickerson, I	65
Peng, B	71

Pitts, S.T . . . . .	89, 95
Ratliff, P.A . . . . .	79
Robertson, P.J. . . . .	27
Sale, M.L . . . . .	81
Schaub, M . . . . .	83
Schmidt, D . . . . .	85
Seay, S.S . . . . .	89, 95
Stunda, R.A . . . . .	101
Thapa, S.B . . . . .	103
Thompson, M.A . . . . .	107
Troyer, J . . . . .	33
Tucci, J.E . . . . .	37
Ulrich, T.A. . . . .	17
Waples, E . . . . .	29
Ward, D.R . . . . .	113
Ward, S.P . . . . .	113
Wright, C.N . . . . .	115