From the desk of the Editor-in-Chief... 


All articles that appear in this volume of the *Mustang Journal of Accounting and Finance* have been recommended for publication by the Reviewers/Advisory Editors, using a double, blind peer review process. A personal thank you is extended to the Reviewers/Advisory Editors for all their hard work and dedication to the Journal. Without their work, the publication of this Journal would be impossible.

This has been my second year to serve as the Editor in Chief of the Journal, and I wish to express my sincere thanks and appreciation for all the support, encouragement, assistance and advice throughout this year.

Congratulations to all our authors. I extend a hearty invitation to submit your manuscripts for future editions of Mustang Journals!

To further the objectives of Mustang Journals, Inc., all comments, critiques, or criticisms would be greatly appreciated.

Again, thanks to all the authors for allowing me the opportunity to serve you as editor-in-chief of the Journal.

**David Ritter**  
**Editor-in-Chief**  
*Mustang Journal of Accounting and Finance*  
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PREDICTING THE FINANCIAL VULNERABILITY OF NONPROFIT BUSINESS LEAGUES: A TEST OF TUCKMAN-CHANG RATIOS

Bernard G. McNeal
Bowie State University

ABSTRACT

Few analytical and prediction models exist that provide a framework to monitor financial vulnerability in nonprofit organizations. As a result, vulnerable nonprofits are more likely to cut back services in times of financial hardships. This quantitative study has applied four accounting ratio measures, introduced by Tuckman and Chang (1991), to nonprofit subsectors of membership-based business leagues that include business leagues and chambers of commerce, boards of trade, and real estate associations. The purpose of this study is to determine the usefulness of the ratio measures in identifying and predicting financial vulnerability in a specific nonprofit subsector. The findings indicate that the relationships, differences between, and the vulnerability prediction values of the ratios varied across subgroups and among ratio measures. The results of this research study has revealed that Tuckman and Chang’s measures could identify and predict the financial demise of certain types of business leagues, but not all.

INTRODUCTION

Methods used to analyze the financial statements of for-profit entities are well known and frequently used; however, such applications do not exist for nonprofit organizations (Fischer, Gordon, Greenlee, and Keating, 2004; and Mensah, Lam, and Werner, 2008). Researchers have argued that traditional for-profit financial ratios are not appropriate for use by nonprofit organizations (NPOs) (Greenlee and Bukovinsky, 1998; and Mulligan, 2007). Limited research has been conducted on the financial vulnerability of nonprofit membership organizations (NMOs) (Gronbjerg and Tennen, 2005; and Hall, 2000). Additionally, there has been an increase in scholarly interest and writing on the mortality or failure of nonprofit organizations (NPOs) (Carroll and Hannan, 1989). Research on NMOs is generally included as part of studies on NPOs in general (Carroll and Stater, 2009; Trussel, 2002; Trussel, Greenlee, and Brady, 2002; and Tuckman and Chang, 1991). Tuckman and Chang (1991) have developed one of the earliest vulnerability prediction models applicable to NPOs. Tuckman and Chang’s (1991) four-ratio model utilized the equity balance ratio, revenue concentration ratio, administrative costs ratio, and operating margin ratio. They argued that their ratio model could effectively measure and predict the financial vulnerability of nonprofit organizations, in general (Tuckman and Chang, 1991). Subsequent empirical studies conducted by Greenlee and Trussel (2000), Hager (2001), Hodge and Piccolo (2005), and Trussel (2002), which tested the usefulness of the Tuckman-Chang’s (1991) measures on nonprofit organizations in general, large and small nonprofit organizations, and a specific nonprofit subsectors, have found contrasting conclusions from the Tuckman and Chang (1991) model. Therefore, a test of the usefulness of the Tuckman and Chang (1991) measures in predicting the financial vulnerability of membership-based nonprofit business leagues was utilized in this research study.

NATURE OF NONPROFIT BUSINESS LEAGUES

A business league is an association of persons having some common business interest, the purpose of which is to promote such common interest and not to engage in a regular business of a kind ordinarily carried on for profit (Publication 557, 2008). Section 501(c)(6) of the Internal Revenue Service (IRS) Internal Revenue Code (IRC) provides tax-exemption of business leagues, which includes business leagues, chambers of commerce, real estate boards, boards of trade. Therefore, IRC Section 501(c)(6) organizations are nonprofit membership organizations. Due to systematically differences between the activities of business leagues, the IRS separates business leagues into discrete subgroups, based on the National Taxonomy of Exempt Entities (NTEE) Codes: (1) business leagues and chambers of commerce (NTEE
(1) Code S41), (2) real estate boards (NTEE Code S46), and (3) boards of trade (NTEE Code S47) (Publication 557, 2008).

**UNIQUE FINANCIAL VULNERABILITY OF NMOS**

The growth in the nonprofit membership sector implicated the demand for its services. The National Center for Charitable Statistics (NCCS) reported that: (a) The number of NMOs reporting to the IRS increased 22% from 1998 to 2008, and (b) the total revenues for NMOs reporting to the IRS increased by 59%, from about $23.7 billion in 1998 to about $37.7 billion in 2008 (NCCS Business League, 2009). Nonprofit membership-based organizations may be more financially vulnerable than donations and fundraising-based charities because NMOs reply on a narrower source of revenue, membership dues. A decrease in members, resulting from increased unemployment, has led to a drastic decrease in membership revenue for NMOs. As a result, membership-based organizations are more susceptible to financial vulnerability and less likely to overcome financial shock (hardship) because of limited revenue sources (Omar, Arshad, Asyiqi, and Razali, 2013). In a 2002 study of Indiana NMOs (Gronbjerg and Tennen, 2005), it was found that: (a) 87% of the organizations surveyed were faced with a challenge in attracting new members, (b) 66% of organizations were challenged to obtain funding, and (c) 60% of membership organizations relied on dues for 75% of revenues. In a study of Maryland NMOs (Hall, 2009), it was determined that 60% of the surveyed organizations that started between 1995 and 1999 never generated revenue in excess of $25,000, and 20% of organizations with revenues of $25,000–$250,000 in 1995 may have disappeared by 2005.

**SIGNIFICANCE OF STUDYING THE FINANCIALLY VULNERABLE OF NMOS**

The number of NPOs, in general, increased significantly from 1998–2008 (NCCS Business League, 2009). However, the number of NMOs that experienced financial challenges, closure, or operating at a deficient sharply increased (Littlepage, 2009). A decrease in members, resulting from increased unemployment, led to a drastic decrease in membership revenue and a lack of revenue diversification for NMOs. As a result, NMOs appear to be more susceptible to financial vulnerability and less likely to overcome financial shock. Justification for focusing on these types of organizations was supported by the conflicting occurrences that took place in the nonprofit sector during the 2004-2007. Trussel (2002) argued that although a decline in financial conditions likely occurs over time, it is in the best interest of the organization’s stakeholders to identify potential crises as soon as possible. Therefore, prompt, preemptive, and corrective actions should be taken to ward off financial demise. The implication of these events are that research is needed to understand what caused these potential threats to organizational survival and how these occurrences could be better predicted.

**LITERATURE REVIEW**

The groundbreaking and influential work by Tuckman and Chang (1991) has been subjected to subsequent empirical studies. Tuckman and Chang (1991) applied their model to a study 4,730 nonprofit organizations across six nonprofit categories, including membership-based organizations that filed an annual Form 990 tax return with the IRS in 1983. Tuckman and Chang (1991) defined an organization as financially vulnerability if “it is likely to cut back its program service offerings immediately when it experiences a financial shock, due to an economic downturn or the loss of a major revenue source” (Tuckman and Chang, 1991, at 445). Tuckman and Chang (1991) described a financially flexible nonprofit as one with access to equity balances, many revenue sources, high administrative costs, and high operating margins. Tuckman and Chang (1991) argued that organizations that lack one or more of these elements of flexibility are more vulnerable to financial shocks than more flexible organizations. Tuckman and Chang (1991) ranked nonprofits falling into the lowest quintile for all four measures as being severely at risk of becoming financially vulnerable, and those with any one of the four measures in the bottom quintile were defined as at risk of becoming financially vulnerable (Hager, 2001). Tuckman and Chang (1991) acknowledged that their financial vulnerability measures were likely to differ across nonprofit industries, but concluded that their ratio model could be used to predict the financial vulnerability of NPOs, in general.

The description and operationalization of the four ratios are central to Tuckman and Chang’s (1991) work, and summarized and operationalized here (Hager, 2001 at 378-379):
Equity balance ratio—Equity ÷ Revenue. Nonprofits with greater amounts of equity are more flexible in the face of financial shocks than organizations with comparatively lesser amounts of equity, for four reasons. First, organizations with greater amounts of equity are better positioned to borrow money from capital markets, should borrowing be necessary to avert closure. Second, unrestricted equity can be converted to cash to offset financial shocks. Third, illiquid assets can also be sold for cash. Fourth, organizations with restricted equities can alter their mix of services so that organizational efforts can be paid for with restricted funds.

Revenue concentration ratio (index) = \( \sum \left( \frac{\text{Individual source of revenue}}{\text{Total of all revenue sources}} \right)^2 \). An organization’s revenue concentration refers to the proportion of funding it receives from different sources of income. Revenue concentration ratio is an index, which captures both the number of revenue sources and the extent to which a nonprofit organization’s revenues originate from multiple sources. An organization with revenues from a single source will have a concentration index of 1, while an organization with equal revenues from many sources has an index close to 0. In short, an organization with diverse funding streams that suffers loss or decline in one stream can offset the loss by increasing revenues from another stream.

Administrative costs ratio—Administrative and management costs ÷ Total expenses. Administrative costs are spent to run an organization, whereas program costs are spent to run specific programs or projects. High administrative costs can buffer organizations facing financial shocks. Therefore, organizations with high administrative costs can cut back their administrative expenses in lean times rather than reducing programs. High administrative costs, then, is a source of flexibility that might separate the survivors from those organizations that cannot weather hard times.

Operating margin ratio—\( \frac{(\text{Revenues} - \text{expenses})}{\text{Total revenues}} \). The lower an organization’s expenditures (in proportion to revenue), the higher the operating margin. The greater the operating margin, the more surplus the organization is able to save or invest. The greater the surplus, the more the organization has to draw on in event of decline or financial shock. Organizations, then, seek a high operating margin as a long-term precaution against bad fiscal times. According, to a high operating margin is a source of financial flexibility.

Different researchers have defined financial vulnerability in different ways when studying the financial vulnerability of NPOs, while using all or some of Tuckman and Chang’s (1991) measures. Trussel, Greenlee, and Brady (2002), utilized Tuckman and Chang’s (1991) measures in a study of NPOs in general, and defined an organization as financially vulnerable if it had an overall reduction in its fund balance during a consecutive 3-year period. Trussel (2002) employed three of Tuckman and Chang’s (1991) measures in a study on a random sample of large NPOs (assets over $10 million) and a random sample of small NPOs, but defined an organization as financially vulnerable if it had more than a 20% reduction in net assets over a 3-year period. Greenlee and Trussel (2000) adapted the four measures in a study of financially vulnerable large nonprofit charities (assets greater than $10 million), and defined an organization as financially vulnerable if it reduced program costs in each of three consecutive years over a three-year period. Greenlee and Trussel (2000) found that all four ratios, as anticipated, were significantly higher for nonfinancially vulnerable organizations than for vulnerable organizations, and concluded the Tuckman and Chang (1991) model could predict the likelihood of financial vulnerability. Hager (2001), in a study of nonprofit arts organizations defined an organization as financially vulnerable if the organization fell to survive. Hager (2001) concluded that in general, Tuckman and Chang’s (1991) ratio model was effective in predicting the financial vulnerability of some nonprofit arts organizations, but not all. In this current study, an organization was defined as financial vulnerability if it experienced a 20% decrease in fund balance for any year within a 3-year period.

**DATA, METHOD, AND MEASURES**

This section describes the data and methodology used to test Tuckman and Chang’s (1991) four-ratio financial vulnerability prediction model on a specific nonprofit subsector. The discussion includes specifics of the model, the sample selection, and quantitative methods used in conducting the study.

The research conducted in this study was in the tradition of Tuckman and Chang’s (1991) work by using their four ratio measures as independent variables to test for possible financial vulnerability in nonprofit business leagues (NBL) within the 2004–2007 timeframe. The financial data used in this study,
as with previous empirical studies on NPOs (Hager, 2001 for example), was obtained from the NCCS IRS Statistics of Income database. The data was based on a population of organizations that were tax-exempt under IRS Code Section 501(c)(6)–Business Leagues and filed a Form 990 tax return for each year during the 2004–2007 timeframe. Based upon a Power Analysis, a total of 176 U.S.-based NBLs comprised the total sample population. Due to systematically differences between the activities of business leagues, the IRS separates business leagues into three discrete subgroups, based on the National Taxonomy of Exempt Entities (NTEE) Codes: business leagues and chambers of commerce (NTEE code S41), real estate boards (NTEE Code S46), and boards of trade (NTEE Code S47). The NTEE Codes were used to randomly select organizations for a NTEE Code-based stratified population. A random stratified sample of 88 organizations defined as financially flexible and 88 organizations defined as financially vulnerable were selected across each of the three discrete subsectors of NBLs.

In this current study, Tuckman and Chang’s (1991) model was applied to a specific nonprofit subsector, membership-based nonprofit organizations (NMOs). Comparisons of the four ratios measures were conducted between samples of financially flexible and financially vulnerable NMOs, over a three-year period. To measure the degree of linearity between the average mean ratio values, Pearson’s correlation coefficients were computed for each of the four ratio variables by NMO subgroup and the all organizations’ categories. To assess whether the differences between the average mean ratio values of flexible versus vulnerable organizations were statistically different from each other, t-tests were performed. A discriminant analysis (probability analysis) was performed on each of the four ratio measures, to predict the probability that a randomly selected financially flexible organization could have an average mean ratio value equal to or less than that of a financially vulnerable organization.

Table 1 shows the frequency distribution the sample of 176 NBLs, which was normally distributed among the three discrete subgroups, and between financially flexible and vulnerable organizations, by subgroups. Table 2 displays the correlations between the equity balance ratio and the other independent ratio variables, for the sample subgroups and the all organizations’ category of financially flexible and vulnerable organizations. Significant positive and negative correlations were noted across all subgroups and the all organizations categories. Within the chambers of commerce and business leagues subgroup, it was noteworthy that significant negative relationships were found between the equity balance and operating margin ratio ($r = -.28$), and the operating margin and revenue concentration ratios ($r = -.45$). The negative coefficients suggest that chambers of commerce and business leagues with low equity balances usually maintain high operating margins and vice-versa, and high equity balances are associated with a lack of revenue diversification. These relationships are contrary to Tuckman and Chang’s (1991) augment that high equity balances are associated with high or positive operating margins and revenue diversification.

Table 1

<table>
<thead>
<tr>
<th>Types of Organizations</th>
<th>Financially Flexible</th>
<th>Financially Vulnerable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>Boards of trade</td>
<td>30</td>
<td>33.4</td>
</tr>
<tr>
<td>Chambers of commerce &amp; Business leagues</td>
<td>30</td>
<td>33.3</td>
</tr>
<tr>
<td>Real estate associations</td>
<td>30</td>
<td>33.3</td>
</tr>
<tr>
<td>Totals</td>
<td>90</td>
<td>100.0</td>
</tr>
</tbody>
</table>

For Boards of trade, Table 2 reveals that positive and significant correlations existed between the equity balance and administrative costs ratios ($r = .80$), and the revenue concentration and administrative costs ratios ($r = .60$). These relationships support Tuckman and Chang’s (1991) conclusions that high equity balances are associated with high administrative costs and revenue diversification, which may negate financial demise.

Within the real estate associations’ subgroup, as presented in Table 2, the equity balance and revenue concentration ratios was negative and significantly correlated, ($r = -.37$), contradicting Tuckman and Chang’s (1991) conclusion that high equity balances are associated with multiple sources of revenue, in the same manner as noted with the chambers of commerce and business leagues subgroup. The revenue concentration and operating margin ratios were positive and significantly correlated ($r = .41$), confirming Tuckman and Chang’s (1991) argument.
The results of the second analysis, t-test of means, were shown in Table 3. The average equity balance ratio for flexible organizations was higher than for vulnerable organizations across all subgroups and the all organizations category. However, the mean difference was only significant for the real estate association subgroup and the all organizations category.

In Table 3, for the revenue concentration ratio, across all subgroups and the all organizations category, except the boards of trade subgroup, the revenue concentration ratio of flexible organizations was closer to zero than for vulnerable organizations. However, the difference among ratios was only significant for the real estate association’s subgroup and the all organizations category.

In Table 3, for the administrative costs ratio, across all subgroups and the all organizations category, the administrative costs ratio was higher for flexible organizations than for vulnerable ones. However, the differences did not differ significantly.

The operating margin ratio for flexible organizations, in Table 3, was higher for flexible organizations than for vulnerable ones across all subgroups and the all organizations categories, except for the real estate associations’ subgroup. The larger the operating margin percentage, the larger the potential surplus that an organization has to draw on if its revenues decline. However, the difference noted in these subgroups is not significant, and could happen by chance.

Table 4 revealed the results of the discriminant analysis of the probabilities that a randomly selected financially flexible organization could become vulnerable by having an equity balance, administrative costs, or operating margin ratio less than a vulnerable organization, and a revenue concentration ratio closer to 1 than a vulnerable organization. Tuckman and Chang (1991a) did not operationalize their definition of financial vulnerability, but indicated that an organization would become vulnerable if it lacked multiple sources of revenue, thereby having a low revenue concentration ratio. At least a 50% probability of this occurrence existed across all subgroups and the all organizations category, with the most notable probabilities with the operating margin ratios for the chambers of commerce and business leagues and boards of trade subgroups, $p=.96$ and $p=.99$, respectively.

Table 2

<table>
<thead>
<tr>
<th>Chambers of commerce &amp; business leagues</th>
<th>Equity Balance</th>
<th>Revenue Concentration</th>
<th>Administrative Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue concentration</td>
<td>.33*</td>
<td>.15</td>
<td>-.18</td>
</tr>
<tr>
<td>Administrative costs</td>
<td>-.15</td>
<td>-.18</td>
<td>.07</td>
</tr>
<tr>
<td>Operating margin</td>
<td>-.28*</td>
<td>-.45**</td>
<td>.07</td>
</tr>
<tr>
<td>Boards of trade</td>
<td>.59</td>
<td>.80**</td>
<td>.60**</td>
</tr>
<tr>
<td>Revenue concentration</td>
<td>.37**</td>
<td>.06</td>
<td>.15</td>
</tr>
<tr>
<td>Administrative costs</td>
<td>.06</td>
<td>.15</td>
<td>.22</td>
</tr>
<tr>
<td>Operating margin</td>
<td>.01</td>
<td>.41**</td>
<td>.22</td>
</tr>
<tr>
<td>Real estate association</td>
<td></td>
<td></td>
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<tr>
<td>Revenue concentration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating margin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue concentration</td>
<td>-.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative costs</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating margin</td>
<td>.05</td>
<td>.29**</td>
<td>.10</td>
</tr>
</tbody>
</table>

*Correlation significant at the 0.05 level (2-tailed).

**Correlation significant at the 0.01 level (2-tailed).
### Table 3

**Test of Mean Values, by Financial Status**

<table>
<thead>
<tr>
<th></th>
<th>Chambers of Commerce &amp; Business Leagues</th>
<th>Boards of Trade</th>
<th>Real Estate Associations</th>
<th>All Organizations</th>
</tr>
</thead>
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<tr>
<td><strong>Equity balance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible</td>
<td>.95</td>
<td>1.28</td>
<td>8.62</td>
<td>3.62</td>
</tr>
<tr>
<td>Vulnerable</td>
<td>.73</td>
<td>.75</td>
<td>.61</td>
<td>.69</td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>.75</td>
<td>.81</td>
<td>2.29</td>
<td>2.36</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.46</td>
<td>.42</td>
<td>.03*</td>
<td>.02*</td>
</tr>
<tr>
<td><strong>df</strong></td>
<td>56.00</td>
<td>57.00</td>
<td>57.00</td>
<td>174.00</td>
</tr>
<tr>
<td><strong>Revenue concentration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible</td>
<td>.55</td>
<td>.74</td>
<td>.79</td>
<td>.69</td>
</tr>
<tr>
<td>Vulnerable</td>
<td>.69</td>
<td>.70</td>
<td>3.57</td>
<td>1.66</td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>-1.58</td>
<td>.81</td>
<td>-3.00</td>
<td>-2.85</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
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<td>.68</td>
<td>.00**</td>
<td>.01**</td>
</tr>
<tr>
<td><strong>df</strong></td>
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<td>57.00</td>
<td>57.00</td>
<td>174.00</td>
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<tr>
<td><strong>Administrative costs</strong></td>
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<td></td>
</tr>
<tr>
<td>Flexible</td>
<td>.15</td>
<td>.07</td>
<td>.08</td>
<td>.10</td>
</tr>
<tr>
<td>Vulnerable</td>
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<td>.04</td>
<td>.05</td>
<td>.07</td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>.73</td>
<td>.72</td>
<td>.69</td>
<td>1.24</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.47</td>
<td>.48</td>
<td>.49</td>
<td>.22</td>
</tr>
<tr>
<td><strong>df</strong></td>
<td>56.00</td>
<td>57.00</td>
<td>57.00</td>
<td>174.00</td>
</tr>
<tr>
<td><strong>Operating margin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible</td>
<td>.05</td>
<td>.13</td>
<td>.32</td>
<td>.17</td>
</tr>
<tr>
<td>Vulnerable</td>
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<td>-2.29</td>
<td>.45</td>
<td>.02</td>
</tr>
<tr>
<td><strong>t</strong></td>
<td>4.23</td>
<td>2.14</td>
<td>-1.04</td>
<td>1.75</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.00**</td>
<td>.04*</td>
<td>.30</td>
<td>.08</td>
</tr>
<tr>
<td><strong>df</strong></td>
<td>56.00</td>
<td>57.00</td>
<td>57.00</td>
<td>174.00</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation significant at the 0.01 level (2-tailed).
Table 4

**Z-score Probability for the Ratio Measures**

<table>
<thead>
<tr>
<th>Financial Status</th>
<th>Chambers of Commerce &amp; Business Leagues</th>
<th>Boards of Trade</th>
<th>Real Estate Associations</th>
<th>All Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity balance</td>
<td>Flexible (M)</td>
<td>.96</td>
<td>1.28</td>
<td>8.62</td>
</tr>
<tr>
<td></td>
<td>Flexible (SD)</td>
<td>1.28</td>
<td>3.23</td>
<td>10.14</td>
</tr>
<tr>
<td></td>
<td>Vulnerable (M)</td>
<td>.90</td>
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<tr>
<td></td>
<td>Z-score</td>
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</tr>
<tr>
<td></td>
<td>Z distribution</td>
<td>.02</td>
<td>.06</td>
<td>.29</td>
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<tr>
<td></td>
<td>p</td>
<td>.52</td>
<td>.56</td>
<td>.79</td>
</tr>
<tr>
<td>Revenue concentration</td>
<td>Flexible (M)</td>
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<td>.74</td>
<td>.79</td>
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<td></td>
<td>Flexible (SD)</td>
<td>.17</td>
<td>.33</td>
<td>.34</td>
</tr>
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<td></td>
<td>Vulnerable (M)</td>
<td>.69</td>
<td>.70</td>
<td>3.57</td>
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<tr>
<td></td>
<td>Z score</td>
<td>.82</td>
<td>-.12</td>
<td>2.72</td>
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<tr>
<td></td>
<td>Z distribution</td>
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<td>.05</td>
<td>8.18</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.79</td>
<td>.55</td>
<td>.50</td>
</tr>
<tr>
<td>Administrative costs</td>
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<td>.07</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>Flexible (SD)</td>
<td>.17</td>
<td>.23</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>Vulnerable (M)</td>
<td>-.12</td>
<td>.04</td>
<td>.05</td>
</tr>
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<td></td>
<td>Z score</td>
<td>.17</td>
<td>-.13</td>
<td>-.13</td>
</tr>
<tr>
<td></td>
<td>Z distribution</td>
<td>.07</td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.57</td>
<td>.55</td>
<td>.55</td>
</tr>
<tr>
<td>Operating margin</td>
<td>Flexible (M)</td>
<td>.05</td>
<td>.13</td>
<td>.32</td>
</tr>
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<td></td>
<td>Flexible (SD)</td>
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<td>.34</td>
</tr>
<tr>
<td></td>
<td>Vulnerable (M)</td>
<td>-.12</td>
<td>-.29</td>
<td>.45</td>
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<td>Z score</td>
<td>-1.70</td>
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<td></td>
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<tr>
<td></td>
<td>p</td>
<td>.96</td>
<td>.99</td>
<td>.65</td>
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</tbody>
</table>

**IMPLICATIONS FOR FUTURE RESEARCH AND CONCLUSIONS**

Several limitations occurred in the methodology used in this study. The financial vulnerability model used in this study assumed that a NMO is financially vulnerable if it experienced a 20% decrease in fund balance for any year within a 3-year period. This assumption prohibits any consideration of financial vulnerability of NMOs with less than a 20% decrease in fund balance. In addition, the limited study period prohibited any consideration of financial vulnerability for periods prior to the study. Limitations occurred related to the ratio measures analyzed in this study. Ratios and percentages that are calculated in financial analyses focus on certain areas of financial management in isolation to the rest of the organization (Abraham, 2006). It is critical that ratios be interpreted in the correct perspective, bringing into the examination qualitative factors, such as the unique characteristics of the nonprofit sector (Abraham, 2006).

The findings in this study have implications for accounting theory and professional practice. The financial model tested in this study could: (a) provide decision makers with insight into specific areas for financial improvement, (b) provide decision makers with a valuable tool to reduce the risk of financial distress, and (c) be used as an early warning signal to predict which types of organizations that are facing financial vulnerability (Trussel and Patrick, 2009). The model could provide auditors and audit committees with key ratios that could be applied in bringing the organization into compliance with the Statement on Auditing Standards (SAS) 56—Analytical Procedures (Colbert, 1994).

Future research may determine if the results obtained in this study are unique to NBLs, or other types of NPOs. Research separating chambers of commerce organizations from business leagues organizations may expose strong correlations among chambers of commerce organizations and weak
correlations between the same variables for business leagues. A broader application of the Tuckman and Chang (1991) measures will make information from the measures available to a larger array of nonprofit stakeholders, and a more extensive investigation of NPO subgroups will increase the chance that the right measures are used to assess the particulars of a specific nonprofit subsector (Hager, 2001).

Although researchers have used accounting information extensively in models to predict financial vulnerability in the for-profit sector, but few analytical and prediction models exist that provide a framework to monitor financial vulnerability in nonprofit organizations (Greenlee and Trussel, 2000). Tuckman and Chang (1991) concluded that in general their four measures could be used to effectively identify and predict the factors that precipitate financial vulnerability of NPOs. These factors include a low equity balance, a high revenue concentration index (lack of revenue diversity), low administrative costs, and low or negative operating margins. This current study sought to test the usefulness of these aspects in explaining the financial vulnerability of a specific nonprofit subsector, membership-based business leagues.

Three conclusions were drawn from this study. First, Tuckman and Chang (1991) suggested that high equity balances were associated with multiple revenue sources, high administrative costs, and positive or high operating margins. The findings in this study are contradictory to Tuckman and Chang’s (1991) conclusions because the strength and direction of the correlations varied across all subgroups of business leagues. The correlations indicated that high equity balances were associated with low levels of revenue, administrative costs, and operating margins.

Second, Tuckman and Chang (1991) suggested that flexible organizations have higher equity balances, higher administrative costs, and higher or positive operating margins, and are more revenue diversified than vulnerable organizations. The results of this study confirmed Tuckman and Chang’s (1991) generalizations pertaining to business leagues as a whole, but not categorically across all subgroups of business leagues. Vulnerable boards of trade showed more revenue diversification than flexible organizations of this type. Ever the less, across all subgroups, flexible organizations were more revenue diversified than vulnerable ones. In addition, real estate associations generated more positive operating margin than flexible organizations of this type.

Third, the probability that a randomly selected flexible organization could be vulnerable existed across all subgroups, for all ratio measures. The conclusions reached in this study were consistent with prior research studies. All four of Tuckman and Chang (1991) ratios were significant in evaluating the relationships between ratio measures and their influence on financial vulnerability. The ratio measures were useful in assessing and predicting the financial vulnerability of NBLs, in general. This research study also supported the conclusion reached by Hager (2001) that different measures are valuable in assessing different types of NPOs.

REFERENCES


**AUTHOR**

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THE EFFECT OF LEGAL LIABILITY COVERAGE ON MARKET REACTION TO VOLUNTARY DISCLOSURES

Jinyoung P. Wynn
Louisiana Tech University

ABSTRACT

This paper investigates whether legal liability coverage for managers affects the market’s reaction to the company’s voluntary disclosures. Using the sample of Canadian firms on the Toronto Stock Exchange between 2000 and 2001, I measure managers’ total legal liabilities by the sum of directors’ and officer’s liability insurance coverage limit and cash for indemnification. I also employ management earnings forecasts as a proxy for voluntary disclosures and three-day cumulative abnormal returns (centered on the announcement date) to measure the market reaction to voluntary disclosures. I find evidence of a significantly favorable market response to good news issued by firms with high legal liability coverage. Contrary to the early findings of the present study that cash is a significant determinant of disclosure decisions, the market test results indicate that investors consider managers’ liability protection through D&O insurance to be more important than cash for indemnification.

INTRODUCTION

This paper investigates whether legal liability coverage for managers affects the market’s reaction to the company’s voluntary disclosures. Healy and Palepu (2001) argue that voluntary disclosures are credible when adequate penalties exist for disclosing false information such as legal liability, suggesting that the market is likely to react differently to voluntary disclosures made under different liability coverage levels. Canadian firms on the Toronto Stock Exchange between 2000 and 2001 are used because their insurance data is publicly available. I measure managers’ total legal liabilities by the sum of D&O insurance coverage limit and cash for indemnification. Directors and officers can mitigate their personal legal liability through directors’ and officer’s (D&O) liability insurance and indemnification, and companies can recoup their indemnification costs through D&O insurance. I use management earnings forecasts as a proxy for voluntary disclosures and three-day cumulative abnormal returns (centered on the announcement date; hereafter CAR) to measure the market reaction to voluntary disclosures. Although I predict that the market is likely to discount good news from firms carrying a high level of total coverage, I find evidence of a significantly favorable market response to good news issued by firms with high total coverage. The result is consistent with the significantly favorable effect D&O insurance on shareholder wealth (Bhagat, Brickley, and Coles, 1987; Janjigian and Bolster, 1990).

Limited research has been done regarding market adjustments for the credibility of voluntary disclosures. This paper adds to our understanding of the credibility of voluntary disclosures. My finding that U.S. markets respond favorably to good news by firms with high liability coverage suggests that legal liability is a determinant for the credibility of voluntary disclosures.

The remainder of the paper is organized as follows. Section 2 reviews the related literature and develops hypotheses. Section 3 describes the empirical approaches. Section 4 presents empirical findings, and Section 5 discusses the conclusions drawn from my research.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In order to protect managers from personal liability incurred by business decisions and to recruit highly qualified individuals, companies commonly bear any costs of litigation against managers through D&O insurance and indemnification provisions. D&O insurance policies provide entity coverage that includes both corporate and personal coverage. The indemnification provisions eliminate liability for negligence, misconduct, or breaches of the duty of care. Although D&O insurance and the indemnification provision are not limited to disclosures, it is most likely to influence managers’ disclosure decisions since the most common lawsuit by stockholders is based on Rule
level factors. Thus, I include one dummy variable to indicate the provision of supplementary information as a problem. The data are ranked by the level of excess total coverage, excess coverage (after being adjusted for excluding the dummy in such an event study that suffers from a compounding effect, the effect of management control variable. For a parsimonious model specification, I do not include a dummy to indicate the presence of future economic performance such as segment information, industry-level factors, and firm—level factors. Whereas soft talk includes disclosures of management’s plans and objectives for future operations, as well as earnings forecasts on stock returns can be found in a relatively parsimonious manner and avoid a multicollinearity problem. The data are ranked by the level of excess total coverage, excess coverage (after being adjusted for.

RESEARCH DESIGN

A forecast is classified as good news if a quantitative forecast is higher than the market expectation or a qualitative forecast has a positive message. The market expectation is determined in the following order: (i) median analyst forecast on I/B/E/S, (ii) existing management forecast if I/B/E/S analyst forecasts are not available, and (iii) the seasonal random walk model if I/B/E/S analyst forecasts are not available and existing management forecasts are not available. I assume that the total coverage for legal liability captures the extent of the expected legal liability. That is, high coverage proxies for low legal liability. I also assume that two components of total coverage, D&O insurance coverage and cash for indemnification, are used as proxies for liability coverage.

To test H, I examine the response coefficients obtained from the regression of a three-day window CAR (around the announcement date of management forecast) on forecast deviation. The forecast deviation (FD) that captures the unexpected portion of earnings equals the difference between management forecasts and expected earnings at the announcement date, scaled by stock price at the beginning of the current forecast quarter. Previous studies indicate that most management earnings forecasts are accompanied by other information such as sales forecasts or earnings announcements (Waymire, 1984; Hutton et al., 2003). Further, Hutton et al. (2003) provide evidence that supplementary statements (consisting of verifiable forward-looking statements and soft talk discussions) affect market reaction to management earnings forecasts. According to Hutton’s et al. (2003) definition, verifiable forward-looking statements include sales forecasts, earnings-related items, or other financial items, whereas soft talk includes disclosures of management’s plans and objectives for future operations, as well as statements regarding future economic performance such as segment information, industry-level factors, and firm-level factors. Thus, I include one dummy variable to indicate the provision of supplementary information as a control variable. For a parsimonious model specification, I do not include a dummy to indicate the presence of verifiable forward-looking statements, since information included in the statements could affect the magnitude of forecast deviation, which in turn, results in the multi-collinearity between the dummy and forecast deviation. By excluding the dummy in such an event study that suffers from a compounding effect, the effect of management earnings forecasts on stock returns can be found in a relatively parsimonious manner and avoid a multicollinearity problem. The data are ranked by the level of excess total coverage, excess coverage (after being adjusted for.
premium paid), or excess cash; RANK=1 if it is in the top 25% group and 0 if it is in the bottom 25% group. The regression equations (1) and (2) are estimated for the H. The sign of \( \theta_3 \) is expected to be negative for the good news group with \( FD > 0 \).

\[
CAR = \theta_0 + \theta_1 RANK + \theta_2 FD + \theta_3 RANK*FD + \epsilon
\]

(1)

\[
CAR = \theta_0 + \theta_1 RANK + \theta_2 FD + \theta_3 RANK*FD + \theta_4 SOFTTALK + \epsilon
\]

(2)

where \( CAR \) = cumulative abnormal returns of a 3-day window around the announcement of management forecasts; RANK = 1 if excess total coverage, excess adjusted coverage, or excess cash of a firm is in the top 25%; 0 if in the bottom 25%; \( FD \) = the difference between management earnings forecasts and expected earnings at the announcement date, scaled by stock price at the beginning of the current forecast quarter. Point forecasts and the mid-points of range forecasts are used to calculate forecast deviation; and \( SOFTTALK = 1 \) if soft talk is provided with management earnings forecasts; 0 otherwise.

The sample consists of Canadian firms listed on the Toronto Stock Exchange (TSX; formerly TSE) from 2000 to 2001. Specifically, the sample includes (i) Canadian firms that were cross-listed on TSX and U.S. markets and (ii) local firms that were at least part of the TSX 300; these are identified through TSE Review and S&P Research Insight. The internet stock bubble burst in the Spring of 2000, and high profile corporate scandals broke in the Fall of 2001. To see whether the market downturn affected high-tech firms’ decisions to buy D&O insurance or increase coverage, I examine the changes in coverage level of 33 cross-listed high-tech firms in my sample. Only one of those firms increased the level of coverage. The corporate scandals of 2001 are not likely to have influenced firms’ decisions concerning the level of coverage during my 2000-2001 sample period because most of my sample firms could change their insurance contracts in 2002.

Cross-listed firms provide an appropriate setting to test the research questions in this paper because they must also abide by the SEC disclosure rules the same as U.S. firms. On-going controversy continues in the finance and law area whether foreign firms listed on the U.S. market effectively bond themselves in compliance with U.S. law. Critics argue that such foreign firms face lesser litigation risk under U.S. law than U.S. firms do, based on the rarity of law enforcement against foreign firms (Siegel, 2005). However, according to Coffee (2002), the SEC tends to impose low-visibility sanctions such as warnings or informal contacts before they become public. Accounting studies support the common belief that listing on the U.S. market brings high litigation risk. For locally listed firms, the TSX does not provide an anti-fraud provision such as SEC Rule 10b-5 or a rule regarding disclosures during the sample period. But the recent rule, National Instrument 51-102 Continuous Disclosure Obligations (similar to the SEC Rule 10b-5) is likely to affect firms’ disclosure behavior during the sample period. The purpose of this instrument is to impose statutory civil liabilities for secondary market disclosures. Experts anticipate that the new legislation will facilitate more aggressive U.S.-style class actions in Canada. In addition to NI 15-102, the Ontario Securities Commission (OSC) has increased enforcement activity in my sample period of 2000-2001. The OSC increased its budget and staff in 1999 and launched the Continuous Disclosure Review Program in July 2000 in order to improve the quality and the timeliness of disclosures. The Program actually brought several high-profile lawsuits, which would make Canadian firms adjust their disclosure policies even before the NI 15-102 becomes effective.

Table 1 presents the sample selection process. The initial sample consists of 2,558 cross-listed firm-quarters of 309 firms and 2,984 local firm-quarters of 371 firms identified from the monthly TSE Review and S&P Research Insight between 2000 and 2001. I exclude firms that have undergone a merger and acquisition, have gone through bankrupt or private, or were de-listed from TSX. Next, based on the monthly TSE Review, I delete 766 firm-quarters that were not cross-listed during a whole quarter for the cross-listed sample and 971 firm-quarters that were cross-listed at least one month during a quarter for the local sample. Further, I remove firm-quarters whose financials in COMPUSTAT and stock prices in CRSP (for cross-listed firms) or in YAHOO Finance (for locally listed firms) and firm-quarters for which proxy circulars in the www.sedar.com are not available. Finally, I exclude the firm-quarters whose proxy circulars do not reveal coverage amount and premium. After these deletions, the final sample includes 908 firm-quarters of 143 cross-listed firms and 990 firm-quarters of 164 locally listed firms.
Table 1: Sample Selection

Panel A: Cross-listed Sample

<table>
<thead>
<tr>
<th>Criteria</th>
<th>No. of firm-quarters</th>
<th>No. of firms</th>
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</thead>
<tbody>
<tr>
<td>TSE Review and S&amp;P Research Insight</td>
<td>2,558</td>
<td>309</td>
</tr>
<tr>
<td>M&amp;A, bankrupt, private, or de-listed</td>
<td>(568)</td>
<td>(70)</td>
</tr>
<tr>
<td>Not listed during the whole quarter</td>
<td>(766)</td>
<td>(55)</td>
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<tr>
<td>Financials not in COMPUSTAT</td>
<td>(158)</td>
<td>(20)</td>
</tr>
<tr>
<td>Prices unavailable in CRSP</td>
<td>(112)</td>
<td>(15)</td>
</tr>
<tr>
<td>Proxy circular not available</td>
<td>(8)</td>
<td>(0)</td>
</tr>
<tr>
<td>Coverage and premium not revealed</td>
<td>(38)</td>
<td>(6)</td>
</tr>
<tr>
<td>Final sample</td>
<td>908</td>
<td>143</td>
</tr>
</tbody>
</table>

Panel B: Locally Listed Sample

<table>
<thead>
<tr>
<th>Criteria</th>
<th>No. of firm-quarters</th>
<th>No. of firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSE Review and S&amp;P Research Insight</td>
<td>2,984</td>
<td>371</td>
</tr>
<tr>
<td>M&amp;A, bankrupt, private, or de-listed</td>
<td>(464)</td>
<td>(58)</td>
</tr>
<tr>
<td>Cross-listed during at least one month in a quarter</td>
<td>(971)</td>
<td>(101)</td>
</tr>
<tr>
<td>Financials not in COMPUSTAT</td>
<td>(312)</td>
<td>(20)</td>
</tr>
<tr>
<td>Prices unavailable in YAHOO Finance</td>
<td>(205)</td>
<td>(20)</td>
</tr>
<tr>
<td>Proxy circular not available</td>
<td>(9)</td>
<td>(2)</td>
</tr>
<tr>
<td>Coverage and premium not revealed</td>
<td>(33)</td>
<td>(6)</td>
</tr>
<tr>
<td>Final sample</td>
<td>990</td>
<td>164</td>
</tr>
</tbody>
</table>

EMPIRICAL FINDINGS

Descriptive statistics of liability coverage are consistent with the common notion that firms cross-listed in U.S. markets face more litigation risk. While cross-listed firm-quarters are slightly larger than local firm-quarters, their total coverage and D&O coverage (adjusted for purchase premium) are more than twice that of local firm-quarters (58.33 vs. 25.72 and 49.78 vs. 20.02; not tabulated; in Canadian dollars, unless otherwise stated). After controlling for firm size, D&O coverage per premium dollar for the cross-listed sample is less than half of that for the local sample, which implies that D&O insurance is much more expensive for cross-listed firms.

Table 2 presents the descriptive statistics of variables for CAR tests. While the mean CARs of the cross-listed and the local sample are -1.45% and -1.14%, median CARs are -0.21% and 0.25%, respectively, indicating that the distributions are left-skewed. The forecast deviations of the cross-listed sample are lower than those of the local sample, which suggests local markets have greater information asymmetry. Although firm size in the cross-listed sample tends to be larger than that of the local sample, the local firms have greater amounts of total coverage, mainly from greater amounts of cash. Consistent with the previous findings in this paper, the ratios of coverage-to-premium confirm that D&O insurance is more expensive for the cross-listed sample than for the local sample (53.19 vs. 416.13). The table also indicates that the cross-listed sample for CAR tests provides fewer annual, more quarterly, and more range type forecasts (less precise), as well as more soft talk and verifiable information than the local sample does.
To clarify the difference in market responses, according to the level of excess coverage, I choose a high-ranked group in the top 25% and a low-ranked group in the bottom 25%. Table 3 reports the results of regression models (1) and (2). The significantly positive coefficients of RANK in panel A indicate that, contrary to the predictions in H, firms with high excess total coverage receive a significantly favorable response in U.S. markets (p-value=0.04 and 0.05). Regardless of whether good news comes from a high-ranked group (FD+RANK*FD) or a low-ranked group (FD), good news itself is not significant to either the cross-listed or the local sample (p-value=0.40 and 0.75). Furthermore, additional provision of soft information (SOFTTALK) turns out to be significantly positive for the response to good news (p-value=0.05), which is inconsistent with the findings by Hutton et al. (2003). The additional tests including a dummy variable indicating provision of verifiable statements show that adjusted R-squares decrease, and that the dummy is insignificant, in all tests. These results imply that using only a dummy for soft talk increases the test power for this event study and that verifiable statements do not have information content in my sample. Considering that the winsorized CARs still remain left-skewed, and that most firms experienced quite a volatile downturn during the sample period between 2000 and 2001, this event study might detect with difficulty the sole effect of management forecasts on stock returns.
Table 3: Regressions of CAR on Forecast Deviation

Panel A: CAR test using ranks by excess total coverage

<table>
<thead>
<tr>
<th></th>
<th>Cross-listed sample</th>
<th>Locally listed sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.0230 0.18</td>
<td>-0.0675 0.02</td>
</tr>
<tr>
<td>RANK</td>
<td>0.0503 0.04</td>
<td>0.0452 0.05</td>
</tr>
<tr>
<td>FD</td>
<td>0.1453 0.84</td>
<td>0.2105 0.76</td>
</tr>
<tr>
<td>RANK*FD</td>
<td>-1.1136 0.41</td>
<td>-0.5864 0.66</td>
</tr>
<tr>
<td>SOFTTALK</td>
<td>0.0519 0.05</td>
<td>0.0799 0.05</td>
</tr>
<tr>
<td>FD + RANK*FD</td>
<td>-0.9683 0.40</td>
<td>-0.3758 0.75</td>
</tr>
<tr>
<td>No. of observations</td>
<td>73</td>
<td>24</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.03 0.08</td>
<td>0.02 0.14</td>
</tr>
</tbody>
</table>

Panel B: CAR test using ranks by excess D&O insurance coverage

<table>
<thead>
<tr>
<th></th>
<th>Cross-listed sample</th>
<th>Locally listed sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.0208 0.25</td>
<td>0.0193 0.65</td>
</tr>
<tr>
<td>RANK</td>
<td>0.0389 0.11</td>
<td>0.0405 0.10</td>
</tr>
<tr>
<td>FD</td>
<td>-3.0640 0.05</td>
<td>-3.7540 0.03</td>
</tr>
<tr>
<td>RANK*FD</td>
<td>3.0332 0.08</td>
<td>3.7232 0.04</td>
</tr>
<tr>
<td>SOFTTALK</td>
<td>-0.0416 0.30</td>
<td>0.0864 0.21</td>
</tr>
<tr>
<td>FD + RANK*FD</td>
<td>-0.0308 0.82</td>
<td>-0.0308 0.97</td>
</tr>
<tr>
<td>No. of observations</td>
<td>71</td>
<td>24</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.14 0.14</td>
<td>-0.09 0.06</td>
</tr>
</tbody>
</table>

Panel C: CAR test using ranks by excess cash

<table>
<thead>
<tr>
<th></th>
<th>Cross-listed sample</th>
<th>Locally listed sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.0051 0.73</td>
<td>-0.0570 0.02</td>
</tr>
<tr>
<td>RANK</td>
<td>0.0223 0.29</td>
<td>0.0152 0.45</td>
</tr>
<tr>
<td>FD</td>
<td>-0.3315 0.57</td>
<td>-0.3712 0.50</td>
</tr>
<tr>
<td>RANK*FD</td>
<td>-0.6368 0.60</td>
<td>0.2280 0.85</td>
</tr>
<tr>
<td>SOFTTALK</td>
<td>0.0723 &lt;.01</td>
<td>0.1965 0.89</td>
</tr>
<tr>
<td>FD + RANK*FD</td>
<td>-0.9683 0.35</td>
<td>-0.1432 0.89</td>
</tr>
<tr>
<td>No. of observations</td>
<td>74</td>
<td>24</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>-0.01 0.10</td>
<td>-0.02 0.07</td>
</tr>
</tbody>
</table>

One could expect that investors consider excess cash as a signal of financial health. If true, high excess cash could drive a significantly positive response of U.S. markets to forecasts from firms with high excess total coverage. To scrutinize this issue, I run two tests using ranks from either excess D&O coverage or excess cash. Panels B and C of Table 3 show that the excess D&O coverage weakly drives the significance for the cross-listed sample (p-value=0.08 and 0.04 in Panel B), rather than the excess cash. These results are in line with existing evidence that the market responds favorably to broadening D&O insurance coverage, but it does not positively respond to the passage of indemnification provisions (Bhagat et al., 1987; Janjigian and Bolster, 1990). My finding adds evidence that U.S. markets differentiate D&O insurance coverage from cash, and that investors in U.S. markets are likely to consider D&O insurance as a device for monitoring managers and/or as a safeguard for the legal liability of the firm itself. The results of the local group are inconclusive due to negative R-squares. Also, a significantly negative response to positive forecast deviations by the low-ranked cross-listed sample (FD) does not seem sensible. The regression results could suffer from the small sample size, volatile sample period, or the measurement error problem due to translation of U.S. into Canadian dollars.

**CONCLUSION**

I examine whether the markets react differently to voluntary disclosures according to the level of liability coverage. Using Canadian firms whose D&O insurance data are publicly available, I find that firms with high total
coverage receive a significantly favorable market response to their good news forecasts, especially in U.S. markets. Although these results do not support my prediction, they are consistent with existing evidence that D&O insurance has a significantly favorable effect on shareholders’ wealth (Bhagat et al., 1987; Janjigian and Bolster, 1990). Contrary to the early findings of the present study that cash is a significant determinant of disclosure decisions, the market test results indicate that investors consider managers’ liability protection through D&O insurance to be more important than cash for indemnification. Although the findings of the present study are limited by a sample period that had a volatile downturn and small sample size, these inconsistencies still raise the question as to why investors react favorably to good news released by managers with low legal liability. Increased sample size and further exploration using the different sample period may provide more conclusive evidence for my finding.

REFERENCES


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ABSTRACT

The purpose of this study is to empirically test whether pension information derived first through recognition and then through disclosure is impounded in prices in a manner consistent with information derived first through disclosure and then through recognition. There is a substantial body of literature devoted to changes in value relevance when information moves from disclosure to recognition. However, this study is one of the first to address the value relevance of information that moves from recognition to disclosure. We conclude that information derived first through recognition and subsequently through disclosure is not impounded in prices in a manner consistent with information derived first through disclosure and subsequently through recognition. Therefore, the implementation of SFAS No. 158 did not make the financial statements more value relevant. We contribute to researchers’ and regulators’ ongoing understanding of the fundamental concept of relevance, and its effect on market perceptions of accounting information relayed via disclosure, recognition in net income and recognition via comprehensive income.

INTRODUCTION

According to the Financial Accounting Standards Board (FASB), “The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders, and other creditors in making decisions about providing resources to the entity.” (FASB, 2010). Further, “if financial information is to be useful, it must be relevant and faithfully represent what it purports to represent” (FASB, 2010). The purpose of this study is to empirically test whether pension information derived first through recognition and then through disclosure is impounded in prices in a manner consistent with information derived first through disclosure and then through recognition. In addition, we empirically test Barth’s (1991) assertion that the projected benefit obligation is closer than the accumulated benefit obligation to values implicitly used by investors in
assessing market valuations and is thus more value relevant. The FASB adoption of SFAS No. 158, *Employers’ Accounting for Defined Benefit Pension and Other Postretirement Plans*, provides a unique opportunity to test both of these phenomena. Under SFAS No. 158, some variables that were previously disclosed became recognized and, conversely, some variables that were previously recognized became disclosed. There is substantial literature devoted to the first phenomena. However, we believe this paper is one of the first to address the latter.

Prior to December 2006, employers accounted for pensions under SFAS No. 87. Under this statement, the balance sheet of the employer reported a net asset or net liability equal to the difference between the fair market value of the pension’s assets and the pension’s accumulated benefit obligation. The pension’s projected benefit obligation, unrecognized prior service costs and unrecognized gains/losses were all reported off-balance sheet in a note to the employers’ financial statements. In December 2006, FASB implemented SFAS No. 158, *Employers’ Accounting for Defined Benefit Pension and Other Postretirement Plans*. Under SFAS No. 158, the employers’ balance sheet reports a net asset or net liability equal to the difference between the fair market value of the pension’s assets and the pension’s projected benefit obligation. Further, any deferred plan costs and income, including unrecognized prior service costs and unrecognized gains and losses, which were previously off-balance sheet are now reported in the equity section of the balance sheet as accumulated other comprehensive income (AOCI). In addition, the accumulated benefit obligation, which was on the balance sheet net of the fair market value of plan assets pre-SFAS No. 158, is now reported in the notes to the financial statements post-SFAS No. 158. Therefore, the implementation of SFAS No.158 provides us with a unique opportunity to test whether recognized information is more relevant and, consequently, more useful than disclosed information even if such information is disclosed via comprehensive income versus other places in the financial statements. Further, we test whether accounting variables, which were previously recognized, maintain their relevance when they become merely disclosed.

When comparing the performance of the accumulated benefit obligation (ABO) versus the projected benefit obligation (PBO), we found that the ABO performed better in both the entire sample and in the individual pre- and post- periods. Prior disclosure / recognition literature deals exclusively with elements that were disclosed and subsequently recognized. Conversely, the accumulated benefit obligation was recognized under SFAS No. 87 and subsequently disclosed under SFAS No. 158. We believe this unique treatment, in addition to inflation volatility during the test period, and the accompanying measurement error documented by Barth (1991), contributed to our findings. We draw this conclusion because previous studies related to the value relevance of pension variables found results only for large cap firms. It is well documented in financial literature that larger firms are followed by more analysts. Yu (2013) found that the number of analysts following a particular firm affects the value relevance of disclosed pension information as well as the valuation difference between disclosed and recognized information. This may be due to the fact that financial analysts are more experienced investors that are better able to predefine their information needs, execute focused searches to acquire relevant information, and interpret and integrate financial statement information than are less experienced investors (Hodge and Pronk, 2006). Given that, it is consistent that analysts had previously expended the additional cognitive effort reserved for recognized variables, such as the accumulated benefit obligation (Clor-Proell and Maines, 2014), in order to interpret that variable and there was a carryover effect when that variable became merely disclosed. Since larger firms are followed by more analysts, it follows that the accumulated benefit obligation would be more relevant, especially for larger firms.

We also suspect our findings were influenced by the fact that the pension variables, which were disclosed and subsequently recognized, became recognized through comprehensive income. During the period covered by this study, comprehensive income could be reported three ways: (1) a second income statement; (2) a combined income statement; or (3) as a part of the statement of stockholders’ equity. The vast majority of entities reported comprehensive income using the third format. Per Hirst and Hopkins (1998), professional investors failed to acquire comprehensive income information when it is presented in a statement of stockholders’ equity format. Maines et al. (2000) showed similar results for nonprofessional investors.

With respect to the other variables required to be recognized under SFAS No. 158, we find that the prior service costs were not value relevant in either the pre- or post-periods. This is consistent with
Mitra and Hossain (2009) who found that, in general, the market reacts to the magnitude of pension transition adjustments. An examination of the prior service cost means shows that they are less than 3% of the next smallest variable at each capitalization level of the study. We also find that unexpected gains and losses are also not value relevant. Unexpected gains and losses meet Ohlson’s definition of transitory earnings (1999) and thus provide no information beyond what is inherent in book values and core earnings, which are already part of the analysis. Further, SFAS No. 158 maintained the ‘income smoothing’ mechanisms allowed under SFAS No. 87. This means that unexpected gains and losses are capitalized and amortized over a period of time using a complex corridor approach thus protecting the income statement. This is significant given that Franzoni et al. (2006) found that investors do not take into account pension underfunding until its effects go through the income statement and Plumlee (2003) found that complexity influences the way information is used. Based on these findings, we conclude that the implementation of SFAS No. 158 did not make the financial statements more value relevant.

We extend the pension literature by empirically testing the value relevance of pension variables once recognized that are subsequently merely disclosed and vice versa. In addition, we test Barth’s (1991) assertion that, in certain circumstances, the projected benefit obligation is closer than the accumulated benefit obligation to values implicitly used by investors in assessing market valuations. Further, we contribute to researchers’ and regulators’ ongoing understanding of the fundamental concept of relevance, and its effect on market perceptions of accounting information relayed via disclosure, recognition in net income and recognition via comprehensive income.

**Pension Accounting**

Prior to December 2006, under SFAS No. 87, pension expense consisted of service costs, interest costs associated with the projected benefit obligation, amortization of prior service costs, if any, and the amortization of accumulated gains and losses, if any. Expected returns on plan assets were deducted from these amounts to arrive at pension expense. Obviously, assumptions were embedded in many of these cost estimates. The balance sheet reflected only prepaid/accrued pension costs and, occasionally, a minimum liability when the accumulated benefit obligation of the plan exceeded the fair value of the plan assets. In such situations firms would increase an intangible deferred pension cost asset account, as well as, an additional pension liability account for an amount equal to the difference between the accumulated benefit obligation less the fair market value of the assets less any pension costs already accrued. In instances where this additional pension liability exceeded any unrecognized prior service costs, the difference between the additional pension liability and the unrecognized prior service costs would decrease accumulated comprehensive income on the balance sheet and serve as a contra equity account. The remainder would continue to increase the intangible deferred pension cost account. Other than the fair market value of plan assets net of the accumulated benefit obligation, the projected benefit obligation, unrecognized prior service costs and unrecognized asset/liability gains and losses were all reported off-balance sheet.

SFAS No. 158 substantially altered the way that pension assets and liabilities are reported versus the way they were reported under SFAS No. 87. Under SFAS No. 158 the minimum liability reporting requirements of SFAS No. 87 have been eliminated. The employer’s balance sheet reports a net asset or net liability equal to the difference between the fair value of the pension’s assets and the pension’s projected benefit obligation as of the employer’s balance sheet date. Under SFAS No. 87, the pension’s asset/liability measurement date could differ from the employer’s fiscal year end by up to three months. Further, SFAS No. 158 requires any deferred plan costs and income, including unrecognized gains and losses and unrecognized prior service costs, which were previously off-the-books, to be reported in the equity section of the balance sheet as accumulated other comprehensive income (AOCI). These amounts are then amortized and reflected in net income using the same approaches applied under SFAS No. 87. Any changes to prior service costs and accumulated actuarial gains/losses in the current year are included in the schedule of comprehensive income (OCI). This, of course, means that SFAS No. 158 still maintains the income smoothing mechanisms allowed under SFAS No. 87, protecting the income statement from the full effects of gains and losses. This is significant given that Franzoni et al. (2006) found that investors do not take into account pension underfunding until its effects go through the income statement.
PRIOR RESEARCH AND REGULATORY BACKGROUND

Recognition versus Disclosure

Recognition and disclosure have been defined for many purposes by both academics and practitioners. The Statement of Financial Accounting Concepts (SFAC) No. 5 – Recognition and Measurement in Financial Statements of Business Enterprises (FASB 1984a - paragraph 6) defines recognition as:

“the process of formally recording or incorporating an item into the financial statements of an entity as an asset, liability, revenue, expense or the like. Recognition includes depiction of an item in both words and numbers, with the amount included in the totals of the financial statements.”

Further SFAC No. 5 (paragraph 9) adds:

“Since recognition means depiction of an item in both words and numbers, with the amount included in the totals of financial statements, disclosure by other means is not recognition.”

For purposes of this paper, we adopt this definition and consider any amount that is included in the totals of the financial statements as recognized. Specifically, amounts that are included in the totals of the income statement or balance sheet via a double-entry accounting system will be considered recognized with a distinction drawn between amounts recognized in net income and that recognized via comprehensive income. Information contained in the annual report or an SEC filing that is not recognized, will be considered disclosed.

There are numerous studies in a myriad of industries that address how investors evaluate recognition versus disclosure. Most provide evidence inconsistent with the efficient market hypothesis. For example, Aboody (1996) found that the effect of footnote disclosure on price differs from the effect of recognition in the oil and gas industry. Espahbodi et al. (2002) examined the equity price reaction to the pronouncements related to accounting for stock-based compensation and show that disclosure is not a substitute for recognition. Ahmed et al. (2006) found that, in the banking industry, the valuation coefficients on recognized derivatives are significant, whereas the valuation coefficients on disclosed derivatives are not significant. Davis-Friday et al. (1999, 2004) provided modest and model-sensitive evidence that, for postretirement benefits (PRB), the recognized PRB liability receives more weight than the disclosed liability in market value association tests. More recently, Yu (2013) found that the number of analysts following a particular firm affects the value relevance of disclosed pension information as well as the valuation difference between disclosed and recognized information. These results are consistent with the view that recognition and disclosure are not substitutes.

In virtually all recognition / disclosure research, variables that were once disclosed are subsequently recognized and tested to see the effect of the accounting change on value relevance. Conversely, SFAS No. 158 provides a unique opportunity to test a variable that was once recognized, but subsequently disclosed. If it is true that recognized variables are more value relevant than disclosed variables, then ex-ante we expect that the accumulated benefit obligation, which was recognized pre-SFAS No. 158 and disclosed post-SFAS No. 158, to be more value relevant in the pre-SFAS No. 158 period than in the post-SFAS No. 158 period, especially when compared to the projected benefit obligation (Barth, 1991). We further the disclosure / recognition literature by empirically testing this assumption.

Ex ante, we believe the accumulated benefit obligation will maintain its value relevance in both the pre- and post-SFAS No. 158 periods. Yu (2013) found that, in the pension arena, recognized variables are more value relevant than disclosed variables, but only for large cap firms with more institutional and analyst followers. This is consistent with Hodge and Pronk (2006) who found that experienced investors are better able to predefine information needs and acquire relevant information than less experienced investors, and Clor-Proell and Maines (2014) who found that financial executives expend more cognitive effort under recognition than disclosure. Given that analysts tend to follow the same firms for multiple years, ex ante, we expect the accumulated benefit obligation to be more value relevant than the projected benefit obligation in both the pre- and post-SFAS No. 158 period.
SFAS No. 158 also required the recognition of unrecognized prior service costs and unexpected gains and losses through comprehensive income. During the period covered by this study, comprehensive income could be reported three ways: (1) a second income statement; (2) a combined income statement; or (3) as a part of the statement of stockholders’ equity. The vast majority of entities reported comprehensive income using the third format. Per Hirst and Hopkins (1998), professional investors failed to acquire comprehensive income information when it is presented in a statement of stockholders’ equity format. Maines et al. (2000) showed similar results for nonprofessional investors.

Pension unexpected gains and losses consist mainly of unexpected changes in the fair value of plan assets as well as changes in actuarial assumptions. Hence, they arise from random walk processes and should be zero in expectation. This makes them transitory in nature. Through analysis, Ohlson (1999) shows that from an information perspective, the effect of transitory earnings, and thus unrecognized gains and losses by extension, on valuation are captured through its effect on book value, which is already an element in our analysis. When combined with prior research on the unrealized gains and losses for banks (Ahmed and Takeda, 1995), property-liability insurers (Petroni and Wahlen, 1995) and closed end mutual funds (Carroll, Linsmeier and Petroni, 2003), intuitively, one might expect a positive, significant pricing coefficient for unexpected pension gains and losses. However, the accounting treatment for pension unexpected gains and losses differs from the accounting treatment of other types of unrecognized gains and losses. The “corridor approach” to “income smoothing” described above means that those gains/losses may never be recognized. Since Franzoni et al. (2006) found that investors do not take into account pension underfunding until it actually materializes in the income statement and, for this pension element, that materialization is uncertain, ex ante, we do not predict a significant coefficient for unexpected gains and losses.

Chambers et al. (2007) examined the effect of the additional minimum pension liability in excess of unrecognized prior service costs on returns. Pre-SFAS No. 158, this element was reported in other comprehensive income. Chambers found a positive coefficient consistent with the variable containing only transitory elements. However, Mitra and Hossain (2009) found that the market reacts to the magnitude of pension transition adjustments. An examination of the means of the prior service costs in our sample shows that they are between .39% and 5.7% of the next smallest variable at each capitalization level in the study. Due to the magnitude of the prior service costs, we do not expect a significant coefficient when the variable is moved from the financial statement notes to other comprehensive income.

**Value Relevance of Pension Accounting**

There are also numerous studies that focus on the relationship between security prices and pension assets and liabilities. Early studies found evidence consistent with the economic substance view that pension plan assets and liabilities belong to the firm (Landsman, 1986) and that these liabilities are viewed similar to other firm debt and liabilities (Dhaliwal, 1986). Landsman et al. (1990), however, found evidence to suggest that the market is informational inefficient with respect to these liabilities and displays a general under-reaction relative to the net pension liability. In fact, Franzoni et al. (2006) found that investors do not take into account the negative implication of pension plan underfunding for future earnings and cash flows until the underfunding actually materializes in the income statement.

Other research on pension liabilities examines the costs and benefits of recognizing the projected benefit obligation versus the accumulated benefit obligation on the balance sheet. As noted above, pre-2006, the accrued pension liability on the balance sheet was calculated as the difference between the fair market value of plan assets and the accumulated benefit obligation. Post-2006, the amount recognized is the net of the fair value of plan assets and the projected benefit obligation. Barth (1991) concluded that investors appear to include expectations about future salary progression in assessing pension liabilities. Since the projected benefit obligation incorporates these expectations, whereas the accumulated benefit obligation does not, one would expect the projected benefit obligation to be more relevant. Further, Barth (1991) found that the projected benefit obligation exhibits less measurement error than the accumulated benefit obligation periods where the salary progression rate includes expected inflation. In the years we study, there is both inflation volatility and an unusual salary component. Interestingly, since the projected benefit obligation requires more assumptions than the accumulated benefit obligation, one could argue that the accumulated benefit obligation can be more reliably computed. Therefore, based on the research
mentioned above, ex ante we expect that recognizing the projected benefit obligation, versus the accumulated benefit obligation, will not make the accrued pension liability more value relevant than when the projected benefit obligation is merely disclosed.

**RESEARCH DESIGN AND METHOD**

**Empirical Model**

To accommodate panel data and mitigate the effects of autocorrelation, we used a fixed effects model that allows intercepts to vary across time. The model is an adaptation of one used by Davis-Friday et al. (1999) and Choi et al. (1997) to detect the value relevance of liabilities associated with retirement benefits other than pensions (PRB). Since time is represented by groups in our model, we used a dummy, PT, which equaled 1 for group 1, the pre-SFAS No. 158 group, and 0 otherwise. If PT is significant, there is a temporal effect and the data should be separated into pre- and post-SFAS No. 158 periods as represented by groups 1 and 2, respectively. Our modified model allows us to analyze pension variables that were previously off-balance sheet, but which are now included in the body of the financial statements as a result of SFAS No. 158 and to test the various pension liability components for significance separate from the fair market value of the plan’s assets. The model is:

\[
DMKVAL = \lambda_0 + \lambda_1 PT + \lambda_2 DATWOPEN + \lambda_3 DLTWOPEN + \lambda_4 DPPLAO + \\
\lambda_5 DPBPRO + \lambda_6 DPCUPSO + \lambda_7 DPPOAP + \lambda_8 DPBCAO + \epsilon
\]  

where:

- **DMKVAL** = the market value of equity
- **PT** = A dummy variable that takes on a value of 1 in the pre-SFAS No. 158 period and 0 otherwise.
- **DATWOPEN** = the book value of assets other than pension assets
- **DLTWOPEN** = the book value of liabilities other than pension liabilities
- **DPPLAO** = the market value of pension assets
- **DPBPRO** = the market value of pension liabilities as measured by the projected benefit obligation
- **DPCUPSO** = unrecognized prior service costs
- **DPOAJO** = unrecognized gains and losses on pension plan assets and pension liabilities
- **DPBACO** = the market value of pension liabilities as measured by the accumulated benefit obligation

We also separately analyze the value relevance of the pension variables within the pre- and post-SFAS No. 158 periods by further modifying the above model to become:

\[
DMKVAL = \lambda_0 + \lambda_1 DATWOPEN + \lambda_2 DLTWOPEN + \lambda_3 DPPLAO + \\
\lambda_4 DPBCAO + \lambda_5 DPBPRO + \lambda_6 DPCUPSO + \lambda_7 DPPOAP + \lambda_8 DPBCAO + \epsilon
\]  

For the years 2004 through 2008 inclusive, we downloaded MKVAL, PPLAO, PBPRO, PBACO, PCUPSO AND POAJO directly from Compustat. We chose the years 2004 through 2008 inclusive in...
order to cover the period immediately preceding and immediately following the implementation of SFAS No. 158. MKVAL is calculated by Compustat by multiplying the monthly close price by the quarterly common shares outstanding. PPLAO represents the fair value of a pension plan’s assets, e.g. stocks, bonds and other investments. These are the assets that the pension trust sets aside to pay benefits to pensioners when due. PBPRO, the projected benefit obligation, represents the actuarial present value of all benefits earned by employees as of a specified date for service rendered prior to that date using future salary levels and all years of service, both vested and nonvested. PBACO represents the actuarial present value of vested and non-vested benefits earned by employees for services rendered. Whereas measurement of PBPRO is based on future salary levels, PBACO is based on current and passed compensation levels. PCUPSO is the fund’s unrecognized prior service cost, meaning it is the prior service cost that has not yet been recognized as part of the net periodic pension costs. This variable is usually a positive value. Finally, Compustat labels POAJO as “Pension – Other Adjustments.” This variable includes unrecognized net gains and losses caused by experience that deviates from and changes in actuarial assumptions. It also includes unrecognized gains and losses caused by differences between actual and expected asset returns. Further, unrecognized net obligations or assets that existed at the date of the initial pension plan application, and any additional liability caused by early retirement termination benefits are included. Cumulatively, the sum of these factors is often referred to as unrecognized gains and losses. If the sum is a net gain, Compustat presents the variable as a negative number. If it is a loss, Compustat presents the variable as a positive number.

ATWOPEN and LTWOPEN were computed by the authors. ATWOPEN, the book value of firm assets less pension assets, is calculated as the difference between company assets, AT in the Compustat database, and “Pension Prepaid Costs” as calculated by Compustat. LTWOPEN, the book value of company liabilities less pension liabilities, is calculated as the difference between company liabilities, LT in the Compustat database, and “Pension Accrued Costs” as calculated by Compustat.

The “D” prefix in front of the variables indicates that we used a deflator developed by Park (1966) and adapted by Landsman (1986) to deal with the potential problem of heteroscedasticity. As pointed out by Landsman (1986), this deflator is preferable to other deflators because it is relatively independent of the size of the pension plan and the capital structure of the firm. In addition, it avoids the pitfalls of other popular deflators, such as the book value of equity, which may cause instability in the model’s coefficients due to near identity between the book value of equity, the book value of firm assets exclusive of plan assets, and the book value of firm liabilities exclusive of pension liabilities. In fact, as a robustness check, we tested our model using the market value of equity as a deflator as suggested by Easton and Sommers (2003). However, the deflator exacerbated our multicollinearity issue, as indicated by VIF factors which increased exponentially and caused instability in our coefficients.

Sample Selection

In order to collect data for the period immediately preceding and immediately following the implementation of SFAS 158, we gathered data from the period 2004 through 2008 inclusive. However, SFAS No. 158 became effective for firms with fiscal years ending after December 15, 2006. Therefore, some of the data from 2006 were determined in conformity with SFAS No. 87 and some in conformity with SFAS No. 158. We included the 2006 observations with year ends on or prior to November 30th, in the pre-SFAS No. 158 group. All others were included in the post-SFAS No. 158 group. We began with all of the active companies in the Compustat database that provided pension data for any period 2004 through 2008 inclusive. This yielded 14,483 observations, 2,145 cross-sections. We eliminated those companies that did not have data in all of the time periods studied. For example, when constructing the post-SFAS No. 158 data pool, we eliminated those companies that did not have data for both 2007 and 2008. Similarly, when constructing the pre-SFAS No. 158 data pool, we eliminated those companies that did not have data for all periods. Further, we also eliminated observations using Cook’s D and DFFITS to detect outliers. This left us with 3,956 observations in the pre-SFAS No. 158 group and 2,243 observations in the post-SFAS No. 158 group.

RESULTS

Using Belsley’s condition indices as a benchmark (Belsley et al., 1980), we determined that our data was ill-conditioned and thus used a Gentleman-Givens transformation (Gentleman, 1972, 1973) to
force an orthogonalization approach to solve the least squares equations of our model. This transformation produces more accurate parameter estimates than other procedures when one has ill-conditioned data. This transformation is considered superior to the mean-centered score approach to dealing with multicollinearity as mean-centered scores serve to only partially orthogonalize the data.

Regression results for the entire sample are presented in Table 1.

**Table 1 - Full Sample Results**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate (P-Values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DINT</td>
<td>-258.37322 (0.0355)</td>
</tr>
<tr>
<td>PT</td>
<td>488.94902 (&lt;.0001)</td>
</tr>
<tr>
<td>DATWOPEN</td>
<td>2.07684 (&lt;.0001)</td>
</tr>
<tr>
<td>DLTWOPEN</td>
<td>-2.09106 (&lt;.0001)</td>
</tr>
<tr>
<td>DPPLAO</td>
<td>-2.09106 (&lt;.0001)</td>
</tr>
<tr>
<td>DPBPRO</td>
<td>2.07277 (&lt;.0001)</td>
</tr>
<tr>
<td>DPCUPSO</td>
<td>0.58738 (0.3874)</td>
</tr>
<tr>
<td>DPOAJO</td>
<td>4.52221 (&lt;.0001)</td>
</tr>
<tr>
<td>DPBACO</td>
<td>-5.85626 (&lt;.0001)</td>
</tr>
</tbody>
</table>

N = 6,199
Adj. R squared = .8118

The pre/post dummy is significant, which means that the time/group designation is significant. Therefore, we ran regressions separately for each period using equation (2). The results are shown in Table 2.
### Table 2 - Pre and Post Groups

<table>
<thead>
<tr>
<th></th>
<th>Pre SFAS 158</th>
<th>Post SFAS 158</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameter Estimate (P Values)</td>
<td>Parameter Estimate (P Values)</td>
</tr>
<tr>
<td>DINT</td>
<td>332.3623</td>
<td>225.3036</td>
</tr>
<tr>
<td></td>
<td>0.0002</td>
<td>0.0059</td>
</tr>
<tr>
<td>DATWOPEN</td>
<td>2.1137</td>
<td>1.9776</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DLTWOPEN</td>
<td>-2.1276</td>
<td>-1.9978</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DPPLAO</td>
<td>3.2594</td>
<td>4.0025</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DPBPRO</td>
<td>2.0959</td>
<td>6.0449</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DPCUPSO</td>
<td>0.7694</td>
<td>1.3362</td>
</tr>
<tr>
<td></td>
<td>0.3452</td>
<td>0.5147</td>
</tr>
<tr>
<td>DPOAJO</td>
<td>5.5135</td>
<td>0.2046</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>0.6776</td>
</tr>
<tr>
<td>DPBACO</td>
<td>-5.9089</td>
<td>-9.5808</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>N =</td>
<td>3956</td>
<td>2243</td>
</tr>
<tr>
<td>Adj. R squared</td>
<td>0.8161</td>
<td>0.7817</td>
</tr>
</tbody>
</table>

In the pre-SFAS No. 158 period, the accumulated benefit obligation is significant and of the correct sign. Conversely, the projected benefit obligation is significant, but does not have the expected sign. This is consistent with our hypothesis that the well documented disclosure/recognition relationship when variables move from disclosed to recognized is not the same as when variables move from recognized to disclosed.

Interestingly, the coefficient attached to the accumulated benefit obligation is twice that of the projected benefit obligation. These results persist in the post-SFAS No. 158 period. It is possible that volatility during the test period could be driving this result. Barth (1991) found that investors seem to
include expectations about future salary progression in assessing pension liabilities and the projected benefit obligation had less measurement error in subsamples where the salary progression rate included ‘expected’ inflation. This suggests that the projected benefit obligation should have been more value relevant than the accumulated benefit obligation in our subsamples and thus have a larger coefficient. However, in the pre-SFAS No. 158 period, the Consumer Price Index (CPI) had percentage increases between 1.6% and 3.4%. In the post-period the range was between .1% and 4.1% thereby making “expected” inflation difficult to determine and increasing measurement error for the projected benefit obligation. This could result in the projected benefit obligation being less value relevant. We also find that the prior service costs have an unexpected sign and are not significant. An examination of Table 3 shows that prior service costs are less than 5.7% of the next smallest variable in the pre-SFAS No. 158 period and less than .39% in the post-SFAS No. 158 period. This is consistent with Mitra and Hossain (2009) who found that the market reacts to the magnitude of pension transition adjustments.

We also find that the unexpected gains and losses have an unexpected sign in both the pre- and post-SFAS No. 158 periods and are not significant in the post-SFAS No. 158 period. This is consistent with our hypothesis.

### Table 3 - Pre and Post Group Means

<table>
<thead>
<tr>
<th></th>
<th>Pre-SFAS 158</th>
<th></th>
<th>Post-SFAS 158</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>DATWOPEN</td>
<td>9091</td>
<td>6255.0100</td>
<td>3905</td>
<td>3599.8300</td>
</tr>
<tr>
<td>DLTWOPEN</td>
<td>8166</td>
<td>5288.5700</td>
<td>3986</td>
<td>3062.4900</td>
</tr>
<tr>
<td>DPPLAO</td>
<td>8209</td>
<td>381.1631</td>
<td>3990</td>
<td>205.3558</td>
</tr>
<tr>
<td>DPBPRO</td>
<td>8215</td>
<td>457.2737</td>
<td>4000</td>
<td>224.5431</td>
</tr>
<tr>
<td>DPCUPSO</td>
<td>7853</td>
<td>4.9178</td>
<td>3386</td>
<td>0.1022</td>
</tr>
<tr>
<td>DPOAJO</td>
<td>7894</td>
<td>85.2118</td>
<td>3401</td>
<td>26.0786</td>
</tr>
<tr>
<td>DPBACO</td>
<td>4949</td>
<td>454.4507</td>
<td>3082</td>
<td>181.5943</td>
</tr>
</tbody>
</table>

We also find that the unexpected gains and losses have an unexpected sign in both the pre- and post-SFAS No. 158 periods and are not significant in the post-SFAS No. 158 period. This is consistent with our hypothesis.
To see if firm size influenced our results (Mitra and Hossain, 2009), we ran our analysis on small-, mid- and large-cap firms. The results are in Table 4.

**Table 4 - Analysis at Various Capitalization Levels**

<table>
<thead>
<tr>
<th></th>
<th>Pre-SFAS 158</th>
<th></th>
<th>Post-SFAS 158</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Caps</td>
<td>Mid Caps</td>
<td>Large Caps</td>
</tr>
<tr>
<td>DINT</td>
<td>254.0783</td>
<td>2326.3683</td>
<td>5980.5635</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DATWOPEN</td>
<td>1.0839</td>
<td>1.3412</td>
<td>2.0451</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DLTWOPEN</td>
<td>-1.0656</td>
<td>-1.2952</td>
<td>-2.0574</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DPPLAO</td>
<td>0.1136</td>
<td>0.8226</td>
<td>3.6186</td>
</tr>
<tr>
<td></td>
<td>0.4058</td>
<td>0.0580</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DPBPRO</td>
<td>4.5222</td>
<td>-2.7168</td>
<td>-0.5643</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>0.0063</td>
<td>0.6819</td>
</tr>
<tr>
<td>DPCUPSO</td>
<td>-4.2033</td>
<td>-1.3926</td>
<td>6.6193</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>0.2087</td>
<td>0.0073</td>
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<tr>
<td>DPOAJO</td>
<td>0.4489</td>
<td>1.1638</td>
<td>7.8855</td>
</tr>
<tr>
<td></td>
<td>0.0786</td>
<td>0.0500</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>DPBACO</td>
<td>-4.4324</td>
<td>2.1107</td>
<td>-3.9964</td>
</tr>
<tr>
<td></td>
<td>&lt;.0001</td>
<td>0.0260</td>
<td>0.0064</td>
</tr>
<tr>
<td>N</td>
<td>2461</td>
<td>937</td>
<td>558</td>
</tr>
<tr>
<td>Adj. R squared</td>
<td>0.7748</td>
<td>0.8731</td>
<td>0.8376</td>
</tr>
</tbody>
</table>
Consistent with Mitra and Hossain (2009), our results improved in the large-cap category where the coefficient of the unexpected gains and losses became appropriately negative and the magnitude of the coefficient attached to the accumulated benefit obligation increased significantly.

**Additional Sensitivity Analysis**

Easton and Sommers (2003) argued that the market value of equity (MVE) is the only appropriate deflator to mitigate scale effects. Therefore, we ran our analysis deflating by MVE. Consistent with Landsman (1986), the new deflator exacerbated our multicollinearity problem, as evidenced through VIF factors which increased exponentially. Therefore, the results were unreliable. Further, we ran our analysis out of sample to confirm our post-SFAS No. 158 findings. Our results were consistent.

**SUMMARY AND CONCLUSION**

The purpose of this paper is to extend the disclosure literature of Aboody (1996), Espahbodi et al. (2002), Ahmed et al. (2006) and Mitra et al. (2009) by using the pension context to see if information presented first through recognition and subsequently through disclosure is impounded in prices at the same rate as information derived first through disclosure and subsequently through recognition. We found it is not the same. In our overall sample, as well as in large-cap firms, we find that the accumulated benefit obligation outperforms the projected benefit obligation in both the pre-SFAS No. 158 and post-SFAS No. 158 periods.

We also found only mixed results for the pension variables that were disclosed pre-SFAS No. 158 and recognized post-SFAS No. 158. We believe these findings are due to the fact that the pension variables, which were disclosed and subsequently recognized, became recognized through comprehensive income versus through net income or someplace else in the financial statements. The comprehensive income literature shows that markets sometimes perceive differences in elements recognized through comprehensive income versus other places in the financial statements. We believe this influenced our results.
REFERENCES


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Email: sherre_strickland@uml.edu

Minje Jung
University of Central Oklahoma

ABSTRACT

In this paper, we revisited a short term speculation, currency carry trade on the euro and the yen. Carry trade returns are calculated for 1- and 3-month speculation based on the 1-and 3-month spot exchange rates and the LIBOR interest rates differentials between the U.S. and the EU and the Japan during the sample period from the October 2007 and the September 2011. We found that foreign currency traders enjoyed positive speculative returns on the two currencies with 3-month carry trade is more profitable with higher risk for both currencies. Statistically though, carry trade returns on the euro are not significant for both carry trade periods. Japanese yen carry appears to be highly profitable and both 1- and 3-month carry trades appear to have produced highly significant returns during the sample period.

Keywords: Currency Trade, Speculation, Short term Borrowing and Investment

INTRODUCTION

Many institutional and individual investors take a long or short position in a specific currency they follow as a target in their attempt to seek speculative profit. By closely examining the underlying economic determinants of exchange rates, they attempt to anticipate the short-term change in the exchange rate as economic condition changes to capitalize on it. Carry trade is a commonly used strategy by institutional and individual investors who seek short term speculative profit by borrowing a currency with low interest rate and investing the borrowed fund in currency with high interest rate. By short-term borrowing or investing in a foreign currency that they expect to depreciate or appreciate, institutional and individual investors implement carry trade speculation as well. When a foreign currency exhibits a forward premium (discount), owing to the high–risk and high-return potential in foreign currency speculation, many institutional investors (mainly money center banks) make large speculative profits exceeding $100 million. And yet they are subject to incurring large loss due to inaccurate forecast of highly volatile exchange rates. Short-term borrowing and investing decisions that involve securities trading in the money markets are an important practical part of international financial management. Short-term borrowing and investing can be used for carry trade speculation as well as management of foreign exchange risk associated with cash inflow and outflow in foreign currencies.

In this paper, we revisit and formalize the process of carry trade implemented to capitalize on interest rate differentials between the U.S. dollar and the three foreign currencies. We then compute the profit from the carry trade weekly basis before and after the onset of the euro zone debt crisis for two major foreign currencies: the euro (€) and the Japanese yen (¥).

LITERATURE REVIEW

Carry Trade Model under Interest Rate Differential

Speculators expect the exchange rate to move in opposite direction of the theoretical relationship. According to theories such as covered interest rate parity and uncovered interest rate parity, the currency
with a higher interest rate is expected to depreciate against the currency with a lower interest rate. However, carry traders attempt to make short term speculative profit by borrowing in the currency with a lower interest rate, converting it into and investing it in the currency with a higher interest rate. Carry traders hold a view that their extra demand for the currency with a higher interest rate will result in an appreciation as opposed to the prediction of the theories.

Given that a foreign interest rate is higher than domestic interest rate, i.e. \( i_h < i_f \), a carry trader executes speculation as follows:

1. Borrow \$1 at \( i_h \)
2. Convert it into \( 1/S_0 \) units of the foreign currency (where \( S_0 \) is the current spot exchange rate)
3. Invest \( 1/S_0 \) at \( i_f \) to receive \( 1/S_0 \cdot e^{i_f t} \) units of the foreign currency that is converted back into dollars: \( S_1/S_0 \cdot e^{i_f t} \) (where \( S_1 \) is the realized spot rate at the end of carry trade speculation)
4. Repay the domestic loan with interest \( 1 \cdot e^{ih t} \)
5. Speculative carry trade profit is: \( S_1/S_0 \cdot e^{i_f t} - 1 \cdot e^{ih t} \)

A numerical example is for a U.S. speculator who borrow \$1,000,000 from a U.S. bank at 0.5 percent for 1 month to invest in a euro bank at 1.0 percent when euro’s spot rate is \$1.12 per euro, and he believes that the euro’s spot rate in 1 month would be the same as today’s spot rate. The speculator executes carry trade in euro as follows:

1. Borrow \$1,000,000 at 0.5 percent
2. Convert it into €1,000,000/1.12
3. Invest it at 1.0 percent for 1 month to receive €1,000,000/1.12 \cdot e^{(0.01)(1/12)} \) that is converted back into \$1,000,000 \cdot e^{(0.05)(1/12)} \)
4. Repay the domestic loan with interest \$1,000,000 \cdot e^{(0.05)(1/12)} \)
5. Speculative profit is \$1,000,000 \cdot e^{(0.01)(1/12)} - \$1,000,000 \cdot e^{(0.05)(1/12)} $416.93

In case euro had appreciated against the dollar during the above month, profit would be even higher because the 1 month investment in euro will be converted into more dollars. The choice of currencies to borrow and invest is determined by market interest rates as well as expected change in foreign exchange rates. Carry traders hunt for mispriced foreign currencies for short-term speculative profits. They borrow in a currency with a low interest rate but expected to depreciate and invest in a currency with high interest rate but expected to appreciate. In the above example, the currency that is borrowed and exchanged for another currency for investing (i.e. dollar converted into euro). Over time, as many carry traders participate in the speculation, the currency that is borrowed and exchanged for another will be under downward pressure, and the other currency that is invested in will be under upward pressure as opposed to the prediction of theories.

Carry traders are faced with risk of loss whenever exchange rates move opposite to their expectation. When a currency that is borrowed in low interest rate appreciates as opposed to depreciate, and the other currency invested in high interest rate depreciates as opposed to appreciate, they incur loss that is magnified because of the financial leverage effect of the borrowing. To the extent the foreign exchange markets do not deviate significantly from the prediction of theories, carry traders are faced with higher risk of incurring loss on the highly speculative carry trades.
OBJECTIVES OF STUDY

The purpose of this study is to examine the risk and return on the carry trade by computing the average and the standard deviations of the realized returns on 1-month, 3-month and 1-year carry trade on the euro, the pound and the yen based on LIBOR before and after the euro debt crisis.

DATA

Foreign exchange rates and money market interest rates for this study were collected manually from the Financial Times markets data available at http://www.ft.com/home/us. Spot exchange rates for the euro (€), and the Japanese yen (¥) are collected for 197 weeks during which the euro zone debt crisis occurred. From the same website, we gathered 1-month and 3-month LIBOR interest rates for the US, the EU, and the Japan for the 197 weeks. The exchange rates and interest rates were used to compute the average and the standard deviation of the returns on the speculative carry trade. Out of the total 197 weekly sample of spot exchange rates and LIBOR rates for the euro and the yen, we computed 193 of 1-month carry trade returns and 185 of 3-month carry trade returns for the euro and the yen, respectively. The sample statistics of the carry trade returns are shown in the Table 1.

<table>
<thead>
<tr>
<th></th>
<th>euro</th>
<th>yen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-month</td>
<td>3-month</td>
</tr>
<tr>
<td>Mean</td>
<td>0.001293</td>
<td>0.002909</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.038318</td>
<td>0.061925</td>
</tr>
<tr>
<td>Min</td>
<td>-0.13709</td>
<td>-0.19956</td>
</tr>
<tr>
<td>max</td>
<td>0.111709</td>
<td>0.113826</td>
</tr>
<tr>
<td>Count</td>
<td>193</td>
<td>185</td>
</tr>
</tbody>
</table>

Average returns on 1-month carry trade speculation on the euro and the yen are 0.1293 percent and 0.8468 percent, respectively (e.g. $1,293 and $8,468 profit on one million dollar carry trade). Average return on the 3-month carry trade on the euro and they is higher than 1-month’s (0.2909 percent and 2.3924 percent, respectively). The standard deviations of 1-month and 3-month returns are: 3.8318 percent and 6.1925 percent, respectively for the euro; and 3.4369 percent and 5.4789 percent, respectively for the yen. Overall, there exists positive relationship between the dispersion of return (as measured in the standard deviation) and the time length of carry trade. The longer the time, the more inaccurate the carry trader’s guess of the future spot exchange rates, thus higher standard deviation. For the both currencies, the average returns and the standard deviations of the 3-month carry trade are larger than those of 1-month.
DATA ANALYSIS

TEST FOR STATISTICAL SIGNIFICANCE OF CARRY TRADE RETURNS

We test the statistical significance of the carry trade returns for the euro and the yen. The null hypothesis is that the average weekly returns on the carry trades should be zero. As reported in Table 2, for both currencies, it is found that the longer the carry trade period is, the higher the return is made with the higher risk. And yet, the carry returns on the two currencies appear to be quite different: carry trade returns on the euro are statistically insignificant, while carry trade returns on the Japanese yen appear to be statistically significant for both 1-and 3-month speculation.

Table 2

<table>
<thead>
<tr>
<th></th>
<th>euro</th>
<th>yen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-month</td>
<td>3-month</td>
</tr>
<tr>
<td>Mean</td>
<td>0.001293</td>
<td>0.002909</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.038318</td>
<td>0.061925</td>
</tr>
<tr>
<td>Count</td>
<td>193</td>
<td>185</td>
</tr>
<tr>
<td>t</td>
<td>0.468847</td>
<td>0.638963</td>
</tr>
</tbody>
</table>

TEST FOR DIFFERENCE IN CARRY TRADE RETURNS BETWEEN CURRENCIES

We compare the average size of carry trade returns on the euro and the yen by testing for the statistical significance of the difference in the carry trade returns on the two currencies. It is assumed that the weekly returns in the sample are from the populations of unequal variances because of difference in the characteristics of the two currencies associate with differences in: economic conditions and outlook, government monetary policy and intervention in the foreign exchange markets. The null hypothesis is that the average carry trade returns on the euro and the yen are the same. As reported in Table 3, average return on yen carry trade is higher than that on the euro, and the difference is statistically significant with p-values 0.026776 and 0.000305 for 1-month and 3-month carry trade, respectively. These results are in strong support of the choice of Japanese yen by carry traders for short term speculative profit as witnessed during the sample period from October 2007 to September 2011.
Table 3

<table>
<thead>
<tr>
<th></th>
<th>euro</th>
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<tr>
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<tr>
<td>Variance</td>
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<tr>
<td>Observations</td>
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<td>193</td>
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<td>t Critical one-tail</td>
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3-month

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<tr>
<td>Variance</td>
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<td>Hypothesized Mean Difference</td>
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CONCLUSION

In this paper, we revisited a short term speculation, currency carry trade on the euro and the yen. Carry trade returns are calculated for 1- and 3-month speculation based on the 1-and 3-month spot exchange rates and the LIBOR interest rates differentials between the U.S. and the EU and Japan during the sample period from the October 2007 and the September 2011. We found that foreign currency traders enjoyed positive speculative returns on the two currencies with 3-month carry trade is more profitable with higher risk for both currencies. Statistically though, carry trade returns on the euro are not significant for both carry trade periods. Japanese yen carry appears to be highly profitable and both 1-and 3-month carry trades appear to have produced highly significant returns during the sample period.
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THE MANIPULATION OF REVENUE IMPACT ON EARNINGS MANAGEMENT AND INVESTOR’S EARNING POTENTIAL: LITERATURE REVIEW

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ABSTRACT

In the 1990s, financial scandals led to the implementation of the Sarbanes Oxley 2002 Act (SOX), which requires top management to attest to the accuracy of the financial reporting by publicly held corporations. There is lack of research regarding success of SOX Act in preventing earnings management, practices that portray a company as more successful financially than it is in reality. The purpose of this research is to determine if change has occurred in the earnings management practices in publicly traded corporations after implementing the SOX Act. Implications for positive social change include information that can help regulatory authorities preempt manipulation of financial statements reporting, preventing substantial losses to the investors and other stakeholders of publicly traded companies, and maintaining a sound and reliable capital market.

Key Words: Earnings Management, Discretionary Revenues, Discretionary Accruals, Internal Controls

LITERATURE REVIEW

Researchers who have studied the manipulating of earnings management through revenues and investment potential have focused on examining how the accountability of leaders for the financial position of their organization is important to building the confidence of society. In this review, the strategies used by several scholars will be evaluated by using existing literature to determine if company assets have been safeguarded since implementing the SOX (2002) Act. Improving financial reporting is essential for building a successful organization and support base from the community. Several scholars have defined corporate accounting and financial practices and have determined the importance of leadership development and have identified workplace investing principles for social change.

Include a critical analysis of literature relating to investigations of accounting and financial practices with the current SOX (2002) Act regulations. Recent scholars with findings on financial measures and ethical practices were examined to improve the operation of publicly held corporations’ financial performance. The literature will conclude with the evaluation of the SOX Act for transparency in financial reporting for revenue and investments. The calculations of financial ratios are explained and the outcome will be compared during the times of pre-SOX Act and post-SOX Act to explore the changes in the reporting of the financial statements. The literature review The literature review concludes with an evaluation of the SOX Act to determine if publicly help corporations’ financial reporting measures up to the SEC standards since implementing the SOX Act. The calculations of total accruals are explained and evaluated to determine the validity of revenue and investment recognition expectations prior to the SOX Act and after the implementation of the SOX Act.

LITERATURE SEARCH STRATEGY

The strategy used for searching the literature was based on the SOX (2002) Act, SEC, and GAAP accounting principles, which are responsible for transparent reporting of quarterly financial statements presented to the general public. Existing peer-reviewed literature and research on the reporting of discretionary accruals outlined the approach to earnings management for evaluation purposes. Key words that helped to identify the literature resources for this study were (a) fraud, (b) financial review regulatory agencies, (c) safeguarding company assets, and (d) internal controls. The search engines used were (a) Goggle scholar, (b) management and business research databases (e.g., Allied Business Intelligence (ABI)/INFORM Complete), and (c) EBSCOhost database. These were the main sources used to extract current literature related to financial fraud, inappropriate reporting of discretionary accruals, and investigations of publicly held corporations financial statements.
REVIEW OF RELATED RESEARCH

Financial scandals contribute to the poor performance of financial markets in the United States. Investors, stakeholders, and regulators require integrity of the financial statement reporting by publicly held corporations (Suyanto, 2009). Financial managers are responsible for developing internal controls to complete a quarterly financial report since the SOX (2002) Act (Lobo et al., 2010). Grove and Basilico (2008) suggested that policies and procedures for assessing financial statements must include financial ratios or other nonfinancial measures and must continue to apply ethical measures to safeguard the assets. Also, Grove and Basilico elaborated on how cutting corners to achieve goals and objectives is misleading to the general public. Controls and accountability are to be thoroughly monitored to protect investors, stakeholders, and other interest groups. Stubben (2010) held that the common form of revenue manipulation—the premature recognition of sales before collecting the cash—violates the Generally Accepted Accounting Principles (GAAP). Therefore, financial officers must involve the management, employees, and regulators for feedback and support to make a fair assessment in evaluating the organization’s overall financial position. Fleming (2011) determined that analysis of drilling down financial statements for larger corporations requires ratio analysis to evaluate the valuation framework to better assess the productivity growth and financial growth. Leaders must not focus only on the financial position and internal controls of their organization; they must also focus on mentoring employees effectively, so they can be productive in the organization.

Write-offs of accounts receivable have an adverse effect on the reporting of revenues (Thomas, 2008). This area must be continuously monitored. Independent verification of sensitive financial data is important to maintaining the integrity of the organization. Educating the employees on financial protocol measures is valuable to an organization’s financial future (Thomas, 2008). Therefore, leaders must be accountable for the financial position of their respective publicly held organization. Effective leaders must be able to research other ways to efficiently operate and to adopt other sources that are successful.

Interim financial controls during the planning phase of strategic development need to be discussed by all levels of management on goals set for the current year; an effective mission analysis would also benefit positive outcome on productivity (Thomas, 2008). The outcomes of these processes (e.g., plan quality), in turn, serve as inputs to the subsequent action. Essential processes include coordination and backup behavior. Fraud risk assessments could be used to measure management’s behavior. McNichols and Stubben (2008) identified investment projects which are coordinated by management who might attempt to manipulate earnings in order to attract more investors and financing from prospective lenders. Callen, Robb, and Segal (2008) suggested that the profitable publicly held corporations are less likely to manipulate revenue than corporations with declining revenue. Internal and external auditors must identify the potential misstatements of reported revenues and expenses.

Structured policies provide an opportunity to voice opinions and contribute to the success of an organization. However, publicly held corporations need to have a diversified core group of people from different practical experiences, which is important for financial growth and investor confidence. Ongoing training and group interaction to meet goals and objectives keep everyone focused (Gilligan & Golden, 2009). Grasso et al. (2009) postulated that manipulating operations on earnings management procedures affects (a) deferring production, (b) shipping to customers, and (c) research and development in both balance sheet and income statement. Five circumstances were used by Grasso et al. (2009) to evaluate earnings management:

1. When accounting practices are not as important as daily operating procedures
2. Management not adhering to GAAP
3. No significant difference in the directions of earnings
4. Actions involving material variance amounts not examined
5. Timing difference in reporting such that annual reports are judged less than quarterly reports.

Publicly held organizations are an important component in the economic and investment strategies in the social community. Akers et al. (2007) determined that earnings management was influenced by deferring expenses or revenue transactions, and this method led to management manipulating reported earnings. A solid finance team for public agencies consists of competent members who have ethics, a wealth of life experiences, procedure strategies, and a passion to create a strong budget plan. Steele (2008) argued that regulatory power on a normative decision process must exist on all levels of management and must not be politically driven. Therefore, a publicly held corporation’s finance department and organization leaders analyze other successful entities’ financial positions and other scholars with the same interest. Chan et al. (2008) determined that Section 302 of the SOX (2002) Act requires management to disclose all internal control procedures. In addition, the independent auditors are not required to complete a comprehensive review of the financial reporting because; Section 404 requires management and the independent auditor to complete a review of the internal controls. Hussain et al. (2010) assumed that fraud education...
holds management accountable for the daily responsibilities of accounting and financial procedures. This stipulation should meet the requirements of the SOX Act. To support Hussain et al.’s theory, empirical studies are used to explore the financial reporting challenges and to ensure detection controls are in place. Diverse ideas and practical life experiences are to be integrated into the organization’s accounting practices.

Accountability for an individual’s own actions in the workplace and community is factored in by life experiences and social circles. Positive reinforcement with a structured environment keeps individuals honest and focused on achieving goals for self-improvement and the workplace. Bartlett (2009) stated that the previous researchers who have identified changes in ethical attitudes have focused on the long term prior to the Enron and WorldCom’s scandal. Perhaps this is because past scandals, like those involving corporate raiders in the 1980s, motivated researchers globally to study other organizations involved in inappropriate activities. However, since the Enron era in the 1990s, changes in ethics of senior management’s behavior are monitored to identify breaches in policies and internal control procedures (Conroy & Emerson, 2006).

Life is based on priorities, and individuals are responsible for their actions in the workplace and community. Everyone can be recognized for good work if justified, instead of one individual. Bedford et al. (2007) emphasized the importance of internal controls over financial reporting to avoid causing tension between publicly held companies and independent auditors. The concern is whether or not the external audit fees are justifiable based on the work completed. Management should seek clarification from the SOX (2002) Act to determine another measure to cut costs. Leadership in public and private organizations must support a culture of innovative ideas to adapt to the changing world of financial reporting responsibility. Constructing a financial risk assessment collaboratively will generate disagreements due to not understanding one’s reasoning. However, everyone must be allowed to express his or her ideas during the policy making process and the formation of a financial reporting process. Pachter et al. (2007) elaborated on the fundamental mode of teamwork and communication amongst financial managers and investors. Building trust and loyalty is important for effective communication.

Internal controls and standard operating procedures must be followed daily. Miller and Savage (2009) suggested that audit measures be used to test (a) the controls checklist in accordance to the SOX (2002) Act; (b) all account balances (e.g., cash, sales, inventory, and investments); and (c) all transactions if applicable to determine any errors that deviate from the SOX Act and SEC (p. 95). Keeping the community interested in improving the economy and investors’ confidence is a win-win situation for both the leaders and interest groups. Collaborative work keeps everyone motivated to invest his or her labor into projects that benefit human development for a positive work environment. Venkat (2007) identified a revenue earnings methodology to allocate inventory to maximize profit without manipulating the balance sheet and income statement.

Financial officers have all the necessary resource support tools to assist them in successfully completing effective internal control measures to safeguard their assets. Government policies, procedures, and community support are in place to measure the human behavior of leadership. Steele (2008) stated, “No one quarrels with the fact that anyone who appears before an administrative body at any level of government subjects themselves to that body’s control over how they conduct themselves while appearing before the body” (p. 509). Leaders who explore all the necessary resources to train their staff will have a successful budget team. Ethical behavior and values must also be integrated into their process for the good of the community development. Federal, state, and local government support is another mentoring tool used to assist the organization’s internal control success.

Individuals in the community who offer innovative ideas to involve themselves in the organization process are important to the development of human values. Many public and private organizations are being held accountable for maximizing profits and increasing shareholders’ wealth (Steele, 2008). Therefore, opportunity must be afforded for all economic classifications to achieve the goals set by the initial planning. The citizens have the right to a fair capitalistic system (McAdams, 2006). Also, public organizations are faced with the financial planning issues. Community interest groups can take a proactive approach to the improvement of their respective public and private financial positions. Proper planning is important in building an effective organization’s financial portfolio for many years.

Continuous studies of other public organizations that have successful investment and financial strategies in place are good models to examine. Different social class groups are another measurement used to justify the outcomes from empirical studies to examine different public entities locally, regionally, and nationally to assess strategic tools currently in place. An effective system monitor could circumvent the problems facing public organizations and government entities (McAdams, 2006). Independent verifiers are another effective control to measure leadership’s financial operating procedures (Bedard et al., 2007). McAdams (2006) determined that leadership must act in a mentorship capacity to motivate, direct, and take responsibility for the successful strategic direction and outcomes of an organization.
Communication with customers and investors is another way to gain trust. Effective leaders are catalysts with creative enthusiasm that translates into vision creation and implementation for an organization. Strategic change is essential for organizations, as they must move forward and adapt to the changing planning and economic trends within the 21st century (Bartlett, 2009). Akhigbe et al. (2008), Aupperle (2008), and Bedard et al. (2007) determined that a structured internal control process is important to the financial growth of any organization. Therefore, the SOX (2002) Act and SEC regulations must be considered to gain trust from the public interest groups. When change is implemented in the financial market environment, the unknown may be feared.

Researchers have pointed out those internal controls in the publicly held corporation industries are subject to high risk and require continuous monitoring. Staying in compliance with the policies and control measurements in the corporate environment is important to avoid fines and potentially going out of business (Zhou, 2010). Interest groups in the community deserve honest financial administrators to exercise restraint with public revenue and resources for the good of human and economic development. Miglo (2009) determined that scandals in the corporate environment earnings manipulation are exposed daily. Shareholders and investors must be involved in the financial internal control development phase to assess the risk monitoring of an explicit managing-for-results policy, greater inclusion in the development of the performance-measurement system, and leadership support, which are all areas performance-measurement for a positive work environment. In contrast, Lobo and Zhou (2010) argued that during the post SOX (2002) Act period, the discretionary accruals report lower revenues and higher expenses during the post SOX Act period. The SOX Act imposes legal liability on the financial officers to attest to the financial reports presented to the public.

Community involvement in the financial development process is just as important as government involvement. The public organization’s board officials are elected; therefore, the stakeholder interest groups can influence the organization’s budget and development process (Bartlett, 2009). Trust is an important factor in any form of social and human relationship building process; therefore, effective communication and resource tools are necessary to build a cohesive atmosphere within the community.

Freeman and Francis (2006) determined that accountability for reasonableness is an ethical approach that gives management assurance for fair priority setting during the initial budget planning process. Effective corporate policies are important in structuring procedures to be assessed by internal and external auditors to attest if the procedures are in compliance with federal, state, and local government. Corporate policies and controls are developed internally by many public and private organization leaders for preventive measures to safeguard the assets. Bartlett (2009) emphasized that the development of a new legal basis for municipal accounting similar to the Securities and Exchange Commission. Administrative accountability keeps the organization in good standing according to the SOX (2002) Act.

Corporate leaders allow everyone an opportunity to express his or her ideas, and no single person can take credit for the success of any mission to be met. Steele (2008) stated that creating policies will have opposition. However, experts responsible for instituting development concepts and methods do not have the authority to allocate resources that affect sensitive areas like accounting and finance. Scholars have reported that conditions of decision-making processes are responsible for improving current regulations and social change studied with modern contemporary literature (Thomas, 2008).

**FINANCIAL REPORTING’S UNDER SOX (2002) ACT**

Investing in domestic corporations is still in question since the Enron and Tyco scandal in the 1990s. Steele (2008) focused on a statutory framework designed for board members to manage their respective corporations with significant responsibility and accountability. The problems facing most public and private organizations are caused by leaders’ refusal to adapt to social and economic changes within their respective workplace. Bartlett (2009) identified the Enron scheme from the early stages and identified ethical breaches from all levels of the organization.

Organizations are viewed as independent entities, for which the financial officers have the responsibility to run their operations ethically according to federal and state guidelines (Wilson, 2010). Skugge (2007), on the other hand, focused on the implementation of sustainable policies and practices are important to ensuring long-term success of a corporation’s revenue gains from Revenue Management to attract current and future investors. In contrast, Kama (2009) discussed the accounting practices; financial information on earnings, revenues, and other financial components must adhere to the guidelines of the SOX (2002) Act and other regulatory agencies.

A corporate leader’s legal counsel must have core fundamental values to understand the statutes of the SOX (2002) Act and SEC for any business operation without deceiving the public interest. Many public and state government agencies are being operated by external consultant groups due to inefficient management of their respective organization in accordance with federal and state guidelines (Bartlett, 2009). Freeman and Francis (2006)
expressed the importance of a more comprehensive approach when analyzing the accountability for reasonableness of financial statements that benefits all interested parties. Decisions made by upper tier management require that leaders have extensive experience in their field of study, training and counseling to make the effort to collaborate to complete the financial objectives. Developing good relationships in the workplace is an important component to running a successful organization. DeZoort, Hermanson, and Houston (2008) noted that since post-SOX Act times, many publicly held corporations feel the pressure to determine more support to validate the accuracy of the financial reporting statement presentations.

Economic and political development structures must be in place to build the confidence of the community surrounding their respective organization. Community involvement in the budget reform process is important to help build trust between leadership and community interest groups. An investor’s ideas and life experiences should be valued for a common good. Earnings manipulation increased due to lack of internal control structure. Therefore, when a company is operating well, the shareholders retain control (Miglo, 2009). Akhigbe, Martin, and Newman (2008) determined that an increase in capital risk measured the effectiveness of post-SOX (2002) Act. Management guides organizations to maximize profits and requires ethical and behavioral training to cope with the employees so that the outcomes of operations are positive. Steele (2008) mentioned that behavioral dynamics in a more complex environment when one switch between decisions strategies used for corporate governance. Corporate performance does not achieve the daily objectives of a healthy organization system; instead, they are achieved by a collaborative effort by management to overcome the corporate organization’s financial statement deficiencies. Trust in one another’s ability builds a strong relationship for the betterment of economic growth and consumer confidence.

SECTION 404 MATERIAL WEAKNESSES

Management and employee responsibility in the workplace are to follow written policies and procedures to safeguard company assets. Hermanson et al. (2008) determined that the implementation of SOX section 404 provided another method for studies in the role of revenue recognition in restatements and accounting fraud activity to examine revenue recognition internal control issues. This moral obligation serves to adhere to financial preparation policies on a personal level and to stay in compliance with the organization mission. Also consider the social relationships for regulatory agencies, corporate management, and investors to ensure that the employees and community interest groups are not left behind due to subjective accounting practices. However, revenue recognition accounting practices remain a high risk area to evaluate. Inconsistent errors and accounting practices are high priority areas that need to be closely securitized by regulators (Murray, 2008).

Society can learn from others’ practical life experiences that what makes the United States unique is its ability to afford people of all nationalities, religious beliefs, education and cultural experiences to have an opportunity to become part of structured financial outcome. Callen et al. (2008) evaluated the linkage between firms with loss revenues, revenue manipulation, and operating cash flows are not associated with the market value. However, developing financial and accounting practices requires an agreement amongst everyone to complete the mission of running a successful organization. Steele (2008) mentioned that the State of Delaware allow corporations formed to select internal control options that will maximize shareholders’ wealth without compromising the GAAP and SOX (2002) Act. Everyone’s ideas should be valued for the betterment of the economy, corporate motivation and the interest groups in the community.

Reform of any accounting and financial condition requires patience, competent team members in adherence to a platform investment policy that the federal government sets in place. Spending more than investing not only affects the economy, but also other programs that rely on public donations from private investors. Lobo and Zhou (2010) suggested that corporations in the U. S. stock market exchange meet the requirements of the SOX (2002) Act. The chief executive officer (CEO) and chief financial officer (CFO) must certify all financial statements in accordance to the Section 302. Investors must learn to be resourceful, analyze the overall operation of the corporation, and value ethical principles when investing in respective corporations. Pachter et al. (2007) mentioned that investing in the pharmaceutical industry is important to the market in terms of health care and consumer confidence. Researchers and policymakers make predictions about changing ethical attitudes in the future. The investor must stick to the basics when reforming an organization’s financial position and investment plans. Revenue earnings management can be monitored on a monthly basis so that organizations can make the necessary adjustments to stay within their financial strategy polices and not place values on historical financial procedures. Stallworth and Braun (2007) determined that improper revenue recognition techniques adversely affect investment potential for the long run of corporate strategies during managerial decisions on financial planning. Thomas (2008) postulated that institutional investors have the ability to monitor management activities and to reduce managerial
agency cost. Therefore, careful planning, internal controls, and strategic measures help to refine a complete and accurate investment program.

Proxy statements are important to an institution’s investors for verification of appropriate level of financial disclosure. However, the financial data must support the proxy statements in accordance to the SEC policies and procedures. Core values must be accepted in order to become a successful financial leader in any capacity. Innovative thinking and long term goals must be in place to successfully meet all financial goals (Thomas, 2008). Therefore, it is important for the selection committee to appoint a leader who is competent and familiar with all the financial components associated with operating publicly held corporations. Hussain (2010) mentioned that management tries to hide losses in offshore accounts without investors’ knowledge, resulting in millions of dollars in Enron stock. This scandal took many years to detect and went undetected by internal and external auditors. Deception is one area that must be addressed in preventing fraud.

Corporate accounting practices and investment restructuring is a concern to investors and stakeholders. Management must keep all investors and regulators aware of their decision-making process and remember that honor and trust are drivers towards a successful entity (Hussain et al., 2010). An effective steering group is another method to be used in the corporate environment for creating decisions and polices to gain the confidence of the investors. Chan et al. (2008) determined that corporations with weak internal controls create earnings management issues and internal control weaknesses with more discretionary accruals. Observing other corporations with strong internal controls could be a benefit.

Management and the community must not have an adversary relationship. Instead, they must keep an open line of communication to keep the morale in public and government service; that is, no one likes surprises. McAdams (2006) reported misunderstanding in reference to kinds of revenue structure from key sales in the manufacturing industry will support more mutuality and caring in human relations and caring attitude towards natural environment. Individual ideas are valuable which brings diverse methods to reach a conclusion.

Morals and values in the workplace keep people motivated, so they can meet their daily organization objectives. Bartlett (2009) mentioned, “Firms also may have been influenced by other non-SOX regulatory developments after 2002, such as heightened criminal prosecution against publicly traded firms and their executives, together with a significant increase in the size of settlement payments related to class action shareholder lawsuits” (p. 9). Therefore, if management is having strategic issues within a particular organization, it should allow feedback from outside interest groups and management from departments to provide an opportunity to either arrive at a solution or assist them in resolving a solution. Analyzing the misappropriating of net profits to total assets and inventory to total assets could be fraud risk exposure to the reporting of financial statements (Suyanto, 2009). Suyanto (2009) suggested looking at the three conditions in SAS 99 that are prevalent in fraudulent behavior:

1. Pressure gives an incentive to increase fraud by needs of financial relief for self-gain rather than true financial performance.
2. Opportunity focuses on the ability override controls with lack of controls to prevent or detect fraudulent behaviors and lack of access to information lacking a complete fraud audit.
3. Rationalization involved a financial statement fraud that involves an individual’s attitude, character on the core values of ethics with commitment to perform dishonesty.

Thomas (2008) expressed that accountability in public sector entities identifies the strengths and weaknesses of individual programs within the agency. The groundwork for an evidence-based funding and investment opportunity aims to achieve positive results.

Working in a corporate environment not only requires one to understand self, but also to understand others to successfully meet targeted objectives. Therefore, respecting the cultural and social backgrounds of others keeps a positive work and community atmosphere. Ata and Seyrek (2009) determined that investors, creditors, and financial personnel rely on the public available financial reports. However, probing beyond the appearance of the financial statements must be identified to detect inflating the expense, embezzlement, report false sales transactions, and reporting income in the wrong period. Accountability from a social perspective gives one an incentive to follow an ethical path in the workplace and to respect others’ beliefs and ideas.

Financial managers have a social responsibility to train their accounting and finance team with an open mind, so everyone feels that he or she contributed to the success of meeting the objectives for his or her respective organization. Publicly held companies must identify measures to discover the internal control weaknesses and implement changes in the internal controls in accordance to the SOX (2002) Act (Chan et al., 2008). However, a free, open mind is essential for successful management; this method keeps the accounting and finance teams motivated, so they can maximize their efforts in the financial process of their respective organization. Determination is another factor that financial leaders can implement in the analytical stages of the financial statement process to keep the enthusiasm in the workplace amongst the employees, management, and investors.
Therefore, life and practical experiences can be analyzed on the basis of the social interpretation of others if we allow these ideas to be examined. Group interaction to meet specific goals is another strategy that management can use to get the total production from their employees. Pachter et al. (2007) mentioned, “Disclosure of financial or other conflicts of interest is often thought to be a remedy for such conflicts when they arise in relation to publications, conference presentations, and continuing education” (p. 1012). Integrating ideas from other external organizations could be a win-win situation for the organization conducting the research. Staying current with updated financial and investment strategies is another component that financial officers in public organizations and other agencies can implement with the proper training to make their jobs easier and for better monitoring and tracking of history and fraud. The community interest group wants to place assurance on reliable resources to improve the financial position of the public sector entities. Building on the financial strategy views, Pachter et al. (2007) and Schipper et al. (2009) focused on the legal requirements and the performance obligations that are responsible for public records to inform the public about the publicly held corporation’s financial statements and to educate the citizens, so they can participate in decision making and to build trust in the firm’s operation.

Following corporate policies and procedures structured by regulators for public and private organizations is important to the success of the financial operations because it provides a means for identifying material weaknesses. Leadership that follows structured accounting practices avoids the scrutiny of the local communities and other interest groups. Bedard et al. (2009) identified material weaknesses by (a) using a larger sample size on audit committee experience on financial reporting and content, (b) covering a larger time period since implementing Section 404, (c) evaluating the material weakness by type of accounting practices, management and intended users, and (d) studying the qualifications of the audit committee according to Section 407 focusing on experience and financial experts (p. 840-841). Corporate leaders in the community developed a plan to determine solutions to be structurally developed in their respective organizations.

The full financial picture of any organization is important to society and interest groups. Therefore, successful operations will stay in compliance with the regulators. Thomas (2008) determined that leaders develop effective training protocols to follow for the good of all public and private organization planning and steering committees. The program is to be diversified for both low-to high-income economic levels to make the internal control process fair to all involved in the accounting and financial process implemented by the federal and state government.

Quarterly risk financial assessments could be a win-win situation for the financial success of an organization. Lobo and Zhou (2010) expressed that earnings management on revenue and discretionary accruals are high risk areas that require close monitoring by competent leadership with integrity. Publicly held corporations’ financial statements are required to measure up to the SOX (2002) Act and SEC standards or face fines and penalties. DeZoort et al. (2008) identified that a manipulation check risk program could be another test to determine whether or not the financial data during the pre-SOX Act and post-Sox Act periods are consistent. This test could further identify the strengths and weaknesses of the audit and finance committee expertise.

**DISCRETIONARY REVENUES AND ACCRUALS**

Stubben (2010) identified steps to measure the earnings management of revenues and accruals: (a) premature revenue recognition in correlation to revenues and receivables, (b) accruals have an adverse effect on the reporting of revenues rather than earnings, (c) systematically understating revenues will affect the real cash growth process at year-end, and (d) annual receivables will fluctuate over the first three quarters and decline in the fourth quarter due to prior year’s revenue reported in the first quarter (p. 696). This process must be followed through completely in order to understand the financial development process for improving public and government organizations’ financial positions. A steering committee with a strong financial and accounting background must not deviate from the objective of achieving financial reporting that is in accordance to the SOX (2002) Act and other regulatory agencies.

Alternatively, scholars have been instrumental in researching ways to prevent fraud, especially the financial reporting and accounting practices. Wilson (2010) noted that the reporting of some noncash accruals is determined by management. However, from past experience, an increase in reported earnings by manipulating discretionary accruals can adversely decrease earnings. Accountability is important amongst the leaders to keep everyone focused on achieving the objectives to successfully improve investing opportunities that would be valuable for the current fiscal year. Bartlett (2009) analyzed that management functions in the daily operations of an organization to address the planning and to control activities for a good accounting and financial system. This is applied in contemporary modern research. Financial decision making tasks are not always easy to deal with during daily operations. Corporate leaders must have the ability to make adjustments to each situation to resolve a giving problem. Stubben
(2010) emphasized that discretionary accrual measures lack the necessary components (e.g., revenues and expenses) of earning reporting by corporations. Life experiences and training on the SOX (2002) Act and SEC policies and procedures are other measures to improve leadership strategies to succeed in the current financial market. Ramamoorti and Dupree (2010) emphasized verifying and monitoring financial data for accuracy provides assurance. Therefore, evaluating employee error histories provides a controlled environment that gains trust from investors and community.

Discretionary Accruals

Effective inventory control and financial planning will have a positive outcome for the good of the organization. Management has the discretion to book accruals. However, earnings management behavior can be accessed from the validity of company liabilities and assets reported in the financial statements (Ibrahim, 2009). Researchers investigating the SOX (2002) Act have determined that since implementing the SOX Act, there was a reduction in earnings management and discretionary accruals for studies completed from 1987 through 2005 pre-SOX Act and from 2002 through 2005 post-SOX Act (Cohen et al., 2008). Scholars compared the pre-SOX Act and post-SOX Act to make a determination if earnings management on earnings and discretionary accruals had significant differences. Since SOX Act was implemented, 31 % of companies globally went private (Barlett, 2009). However, the SOX Act itself lacks studies on its effectiveness to minimize deceptive financial reporting practices. Stubben (2010) identified that discretionary accruals can come in forms of (a) sales discounts, (b) accounts receivables, (c) billing in the wrong period, and (d) inventory.

The qualifications of everyone involved in reforming the organization’s accounting and investment process must be justified. This could be a process used during the evaluation phase of the organizational structure of the discretionary accruals and financial reporting process for public and private investors. Thomas (2008) mentioned that financial management and liaisons can support everyone in the organization by setting goals that are related to needs and moving forward to create an effective financial structure to be integrated in a positive behavior support system. However, a formalized accounting and financial program requires structure and historical data to support an effective measure for the discretionary accruals recorded in the correct accounting period. Ibrahim (2009) identified that the increase in earnings and accruals asset accounts had a negative impact on accounting violations identified by SEC in the years 2000-2004. Personality differences are caused by cultural and life experiences. Therefore, the behaviors of the CEO and CFO are to be assessed to give an accurate perception of everyone’s ability to complete a task.

The scholars reviewed discussed many key points on ethics, safeguarding company assets and corporate investment strategies to provide a better assessment of the financial position of corporation. Corporate leaders in public, private, and government organizations provided an ethical financial operation system. The fundamental issues with poor leadership are mismanagement of company assets and poor accounting practices (Bryan, 2010). Leadership decision-making techniques were identified and compared by the theorists in this section. The works of scholars of the social sciences and system development theory were discussed to identify and compare the theoretical views on the economic, finance, and accounting processes of an organization. Pachter et al. (2007) examined the qualitative and quantitative research that was implemented into their research to support the empirical research. However, organizations can benefit from the restructuring their financial operations not to mention an effective budget analysis theory mentioned by the theorists from larger private, public, and government levels.

Best investment practices make a difference in every organization, generating organizational structure, resources, and internal controls to ensure the financial reporting’s continuously monitored (Ramamoorti & Dupree, 2010). Aupperle (2008) postulated the process of making the right decisions to identify the moral obligations and recognition problem by management. Management, with good support staff, keeps the motivation and positive behavior in the workplace environment. An organization’s interest groups will always question financial decisions made by public and government leaders. Issues facing the nation’s economy and budget crisis are attributed to bad decisions and poor planning from the leaders. McNichols and Stubben (2008) suggested that examining investment and accrual revenue during the manipulation and post-manipulation periods could further provide evidence of whether or not earnings management affects the discretionary accruals and capital expenditure decisions by organizations that manipulated earnings reported in the incorrect period.

Nondiscretionary Accruals

Nondiscretionary accruals are mandatory expenses (e.g., payroll expenses, etc.) recorded in the accounting record keeping books, but not realized in the current accounting period. Ibrahim (2009) mentioned that
nondiscretionary accruals could have an impact on earnings management if the accruals required for daily operations are not recorded properly in accordance to GAAP. Nondiscretionary accruals measure the error expectancy when evaluating discretionary accruals resulting from corporate management intentionally manipulating both discretionary accruals and/or non-discretionary accruals (Ibrahim, 2009). However, unexpected accruals should be investigation to determine if there is a manipulation of earnings management.

Quantitative Research

It is important to mention that researchers who have identified financial comparison of ratios is beneficial to quantitative research when analyzing pre-SOX (2002) Act and post-SOX Act financial statements. Trochim and Donnelly (2007) determined that quantitative research summarized historical data derived from various statistical methods. In contrast, Hsu (2010) mentioned the importance of reviewing a company’s financial ratios over time including a comprehensive trend analysis. Asset management measures—such as asset turnover, accruals, inventory turnover, sales and receivable turnover—are great tools to assess the company’s financial strengths and weaknesses. Callen et al. (2008) determined that earnings management was exposed by accounts receivable ratios and unearned revenue due to manipulating the periods when cash was collected. Many corporations used manipulated earnings management to attract more investors. Schipper et al. (2009) stated that the revenue recognition is a major project that addresses the guidance on revenues, liabilities, and investments in the Financial Accounting Standards Board (FASB). Schipper et al. justified the reason FASB invested interest in the revenue recognition project:

1. The United States GAAP revenue recognition of over 100 pronouncements needs to be revised due to inconsistencies.
2. Little guidance provided for service activities due to fast growing U.S. economy
3. Revenue recognition decreases investor confidence due to application errors and fraud.
4. Financial statements are not comparable at times among other similar industries with little information to identify the financial statement adjustments.
5. Accounting policy disclosures on revenue recognition is too general.
6. The revenue available data could be more detailed
7. The comprehensive standards on revenue recognition can better facilitate international financial reporting. (p. 58)

Uncover Earnings Management with Financial Ratio Analyses

Internal control weakness for companies booking the accruals in the correct period is another concern for investors and regulators. Chan et al. (2008) postulated that the problems addressed identifying the control weaknesses related to accounting procedures are (a) income taxes, (b) incompetent staff, (c) lack of training, and (d) inadequate financial reporting procedures (p. 168). Revenues that remain uncollected by year-end adversely affect the accounts receivable ratio performance (Stubben, 2010). Grove and Basilico (as cited in Beneish 1999; Cook & Grove 2004), noted that the key ratios are first obtained from the AAER database and Edgar online to analyze fraud risk of financial statements:

1. Material increase in the days of sales in receivable to determine the controls of the credit department (S/AR) and sales to total asset (S/TA);
2. To assess the gross sales margin and look for shrinkage in sales in the following period to determine if there was an offset of declining operating performance;
3. Increase in sales growth in each quarter in comparison to the prior year’s financial reporting and to examine any significant changes; and
4. Increase in total accruals to total assets that indicate increase in accruals less cash in correlation to earnings manipulation. (p. 13-14)

Hermanson et al. (2008) determined that inappropriate billing and invoicing associated with accounts receivables and credit is another control weakness that needs to be identified. Sales to inventory (S/Inv) and accounts receivable to sales (AR/S) are other indicators if management misappropriating inventory to sales in the wrong period to manipulate earnings (Ata & Seyrek, 2009). Akers et al. (2007) eluded to those techniques for uncovering earnings management including (a) sales to net assets, (b) bill-and-hold sales, (c) consignment sales, and (d) refund rights could identify the proper recording of revenue in the statement of operations (p. 67). However, significant increases or decreases should send a red flag and must be investigated. Wilson (2010) suggested that analyzing changes revenue and return on assets can reveal changes in current accruals that identify the corporation’s net income before
operations, including depreciation less operating cash flows which could be another measure to drill down further into earnings management.

Analyzing the pre-SOX (2002) Act and post-SOX Act periods will provide the researcher with changes in the reporting of revenues, assets, and investments. Hussain et al. (2010) determined that fraudulent financial statements require more than audits to detect fraud. The structure of the audit program requires a better understanding of the internal control process. Therefore, preventive measures should be taken into account to deter management from circumventing fraud. Revenue reported in the wrong fiscal period on the financial report is known as a cutoff error. Means the revenue was never earned. This accrual accounting practice present problems to accountants and financial managers (Bragg, 2007). Formalized training in accordance to the Institute of Certified Public Accountants, Association of Certified Fraud Examiners, and The Institute of Internal Auditors are great sources to obtain current measures to detect and prevent fraud through seminars and web training.

Evaluation of Fraud

Formal communication plan to inform both internal personnel and external interest groups must be privileged to have information that involves the operations of the organization (Thomas, 2008). Therefore, a strategic direction of the organization’s must provide a reason for decisions to have a thorough discretionary revenue and accrual plan with an effective timeline to satisfy all objectives. Miller and Savage (2009) determined that according to the Association of Certified Fraud Examiners fraud survey, in 2006, investigations of 120 reported cases in financial statements identified fictitious revenues made up 43 % of the total fraud schemes.

Poor financial strategies and accounting practices lead to publicly held corporations declining financial position. In contrast, Bryan, Lilien, and Sarath (2010) identified the core fundamental issues relating to mismanagement of investments and discretionary revenues that violated the SOX (2002) Act. A positive environment and honesty are important components in building a successful relationship between financial leaders and community. Not deceiving the public stakeholders could motivate one to express interest in investing in the public organization and to have confidence in government regulations.

Empirical studies and statistical sampling of data in contrast with other scholars’ work can give arguments to support research. The scholars mentioned were compared and contrasted to explain the corporate leader’s approach to improving financial strategies and to safeguard company assets since implementing the SOX (2002) Act. Methods for building a positive work environment with contributions to self-development and social change also reinforce positive outcomes for publicly held corporations. Structuring the public and private organizations’ financial operations requires a collaborative approach from all team members, board members, and investors; everyone will be accountable for his or her respective area of responsibility.

GAP IN LITERATURE

The finance team leaders provide practical and life experiences, so that all objectives are met to successfully complete a comprehensive financial statement to satisfy regulatory agencies. However, the lack of research in comparison of pre- and post- SOX (2002) Act of earnings management requires further research. Wilson (2010) determined that the SOX Act reform reduced the manipulation of earnings management and earnings quality. In Section 404 of the SOX Act was designed to evaluate the internal controls of earnings management and deception presented to the public (Charles et al., 2010). Also, Hsu (2010) determined that financial interpretation of data is important in quantitative research. Therefore, many researchers must integrate this method of analysis to support the findings and conclusions.

The reason for this argument is that simplifying data analysis outcomes for fraud investigators, regulators, and public interest groups will provide more efficient interpretation. Charles et al. (2010) mentioned that comprehensive financial risk measures must be further examined to help identify manipulation of earnings management and financial fraud. Improving the analysis of financial data is another tool for researchers to implement in their research. Financial interpretation at the beginning and intermediate levels alleviates reader intimidation. Lastly, this research will provide corporations, regulators, and investors opportunities to further examine the validity of the SOX Act’s costs and benefits to gain trust from the public on reporting of the financial statements. Fraudulent financial statements not only affect the corporation’s financial existence, but they also affect the economy (e.g., stock market, consumer confidence) on a national and international level.
SUMMARY AND CONCLUSION

The literature review provided a basic foundation that identified issues of misappropriating discretionary and nondiscretionary accruals that impact earnings management revenues and profits. Many scholars, in contrast, discussed the core fundamental issues in the internal controls in the reporting of financial statements. The SOX (2002) Act was designed to hold publicly held senior financial managers accountable to the reporting of the financial reports and to gain the trust of the investors and other interest groups.

Further research builds on the literature of discretionary accruals, pre-SOX (2002) Act and post-SOX Act, using quantitative research design, sampling method, and data analysis of publicly held corporations cited for SEC financial disclosure violations. This study is designed to determine if the financial reports presented prior to the SOX Act and after the implementation of the SOX Act had an impact on revenue and profit.

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ACCOUNTING NARRATIVES:
IMPRESSION MANAGEMENT OR INCREMENTAL INFORMATION?

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Abstract

Do managers apply impression management or adopt an incremental information provision approach in the accounting narratives related to their companies’ performance? This paper studies empirically, using Habermas’ norms of effective communicative action, the management communication behavior between these two schools of thoughts. By examining the MD&A sections of the annual reports (Form 10-Ks) of 72 large companies in the financial sector over the period from 2004 through 2012, the findings suggest that managers of financial firms demonstrate some traces (as far as with respect to truthfulness and legitimacy among the four Habermas’ norms) of impression management in the accounting narratives of their firms’ performance.

Keywords: MD&A, accounting narratives, management communication, Habermas’ norms, incremental information, impression management

1. Introduction

Do the preparers of corporate annual reports deploy the opportunistic behavior in the form of impression management or do they employ incremental information disclosures to provide helpful information? With impression management, corporate management will distort investors’ decision making. On the other hand, with incremental information disclosures, corporate management will help improve investors’ decision making. These two schools of thoughts both rely heavily on the information asymmetry assumption originated from the agency theory (Baiman, 1990) and the signaling theory (Smith & Taffler, 1992a). Whereas incremental information providing managers try to get rid of the information asymmetry between firm insiders and outsiders (Baginski, Hassell, & Hillison, 2000), impression management engaging managers take advantage of this information asymmetry (Abrahamson & Part, 1994; Courtis, 1995, 2004a, and 2004b; Hooghiemstra 2000 and 2001; Godfrey, Mather, & Ramsay, 2003; Rutherford, 2003; Smith & Taffler, 1992a and 2000; Aerts, 2005; and Li, 2006).

With respect to the agency theory, impression management is considered as the introduction of reporting bias into the annual reports by opportunistic managers using, consciously and deliberately, the presentation style and content choice that benefit themselves the most (Bowen, Davis, & Matsumoto, 2005; Staw, McKenchnie, & Puffer, 1983; and Abrahamson & Park, 1994). On the contrary, according to the signaling theory, incremental information providing managers make known to investors the
superior/inferior performance of their firms by increasing transparency in their management disclosures (Smith & Taffler, 1992a and Rutherford, 2003). Early studies, that distinguish management disclosure behaviors into impression management or incremental information provision, include Lang & Lundholm (2000), Frederickson & Miller (2004), Barton & Mercer (2005), Bowen et al. (2005), Johnson & Schwartz (2005), Krische (2005), Elliott (2006), and Matsumoto, Pronk, & Roelofsen (2006). If managers apply impression management, the quality of financial reporting will definitely be weakened.

Uses of financial reports that were prepared by impression management engaging managers will also likely lead to adverse capital allocations. This is because impression management will unavoidably involve managers’ use of judgment to modify the financial reports to include some unclear and/or misleading information for investors and stakeholders in understanding the true underlying economic performance of the companies (Healy & Wahlen, 1999). Since negative firm outcomes may result in conflicts of interest between managers and shareholders, managers might tend to manipulate the perceptions of the shareholders and other outsiders regarding the financial performance and prospects of their firms. This, in turn, will distort the decisions of the outsiders, including investors in the firms (Aerts, 2005). In presenting the accounting narratives related to their firms’ performances, for example, the Management’s Discussion and Analysis of Financial Condition and Results of Operations (Item 7) and the Quantitative and Qualitative Disclosures About Market Risk (Item 7A) in the annual reports, such managers are assumed not to be neutral. Instead, they tend to obscure failures and put more emphasis on success (Sydserff & Weetman, 1999 and Adelberg, 1979). Fortunately, if impression management exists, inconsistency can be found between the discretionary narrative disclosures and the information in the financial statements of the corporate annual reports (Merkl-Davies & Brennan, 2007).

The focus of this paper is to detect empirically, using Habermas’ norms of effective communicative action, whether managers deploy the impression management techniques or employ the incremental information provision approach in the accounting narratives of annual reporting of their companies’ performance. Like Cheung (2014), this paper extends Yuthas, Rogers, & Dillard (2002) to cover more firm-years in analyzing the corporate management communication behaviors. A composite score for each of the Habermas’ norms in the spirit of Yuthas et al. (2002) is calculated as in Cheung (2014). With the larger sample size and the use of the rhetorical analysis software, Diction 6, the findings of this paper succeed in providing some evidence with statistical significance. By examining the MD&A sections (Item 7 and Item 7A combine) of the annual reports (Form 10-Ks) of 72 companies in the financial sector over the period from 2004 through 2012, the findings suggest that managers of financial firms demonstrate some traces (as far as with respect to truthfulness and legitimacy among the four Habermas’ norms) of impression management in the annual reporting of their firms’ performance.

The contribution of this paper is two-fold. This is the first paper to distinguish between impression management and incremental informational provision in accounting narratives, using Habermas’s norms in the business setting. Applying the methodology of composing the various composite scores related to the Habermas’ norms as developed in Cheung (2014), this paper provides a testable empirical prediction as to whether corporate management engage in impression management or practice the incremental information provision approach in the accounting narratives of the annual reports. Besides, this is also the first study that covers such a large sample of firm-years to draw a more general conclusion distinguishing the two types of management disclosure behaviors.

This paper is organized as follows. Section 2 provides an account of the previous research on the use of impression management and incremental information approach in financial reporting, particularly in corporate narratives. Section 3 describes the formation of the hypotheses and the corresponding testing methodology. Section 4 presents some particulars of the sample used in this study. Section 5 discusses the findings, followed by the conclusions in Section 6.
2. Literature Review

Impression management assumes that the market is just weak-form efficient and investors are not able to assess any managerial bias in the financial reports in the short term. As such, managers are able to influence the firm’s share price, thus leading to capital misallocations and increased compensation for the managers (Adelberg, 1979; Rutherford, 2003; and Courtis, 2004a). This forms the basic motive for impression management by managers in preparing the corporate financial reports for their firms.

On the other hand, managers engaging in incremental information disclosure give out all information related to the true value of their firms in the form of relevant cash flows (Holthausen, 1990). This is particularly true for well-performing firms according to the signaling theory (Smith & Taffler, 1992a and 1992b). Incremental information disclosure assumes that the market is at least semi-strong form efficient and investors are able to spot all reporting biases. Consequently, biased reporting using impression management will end up in a higher cost of capital for the firms and lower stock returns for their shareholders. As the compensation packages to most managers are tied to the share price performance of their companies, it does not make sense for them to engage in impression management. Besides, being known for engaging in unbiased reporting will enhance the reputation and compensation of the managers (Baginski et. al., 2000). These form the fundamental pillars for incremental information disclosures.

Corporate annual reports are an effective tool for impression management because the narrative sections and the auditor’s report are put close together in these annual reports (Neu, Warsame, & Pedwell, 1998). This may seemingly add to the credibility of the disclosures in the narrative sections. In impression management, managers mainly communicate with investors (current and potential shareholders) and stakeholders with the aim of influencing their perceptions on the performance of their companies. In other words, the managers try “to control and manipulate impression conveyed to users of accounting information” (Clatworthy & Jones, 2001, p.p.311) so as to strategically manipulate their perception and decision (Yuthas et al., 2002). To do so, managers might manipulate the content and presentation of information in the corporate documents (Godfrey et al., 2003). They might also conceal some unfavorable facts by either not discussing clearly the negative outcomes or emphasizing relatively more on the positive outcomes (Stanton, Stanton & Pires, 2004). They might attribute positive (negative) outcomes to internal (external) factors. By so doing, the managers can distort the readers’ perception of the corporate achievement. The majority of prior studies take impression management to be a response to poor firm performance, which is more likely to occur in economic recessions.

As narrative disclosures in the financial reports become longer and more sophisticated, it increases the opportunity for impression management (Anderson, 2000 and Smith & Taffler, 2000). The fact that corporate narratives are largely unregulated adds to the possibility of impression management as well. An example of impression management can be seen in the pre-collapse corporate communications of Enron. It was found that the firm’s communications became increasingly unclear when its financial situation began to deteriorate. It seems like the company manipulated with wording in its annual reports to hide the problems it was having. Similar tactics can also be observed in the company’s 2000 letter to shareholders (Deloitte Consulting, 2003).

Seven impression management strategies have been studied by researchers. Six of them are considered as concealment strategies whereas one as attribution strategy. The concealment strategies include making the text more difficult to read, using persuasive language, emphasizing positive words and themes, emphasizing or ordering visually the verbal/numerical information, choosing benchmarks or earnings amounts favorable for comparison. To make the annual reports harder to read, impression management engaging managers might also make the intended messages confusing, distracting and perplexing to the readers or add to the annual reports some syntactical complexities (Courtis, 2004a).
Studies finding annual report narratives difficult to read include Lewis, Parker, Pound, & Sutcliffe (1986), Courtis (1986, 2004a), and Smith & Taffler (1992b). Even the most sophisticated users have a hard time fully understanding the financial narratives (Smith and Taffler, 1992b). In addition, readability of financial narratives declines with organizational complexity as proxied by sales growth over time or when the firms go public (Jones, 1988). On the other hand, readability increases with the performance (Adelberg, 1979; Subramanian, Insley, & Blackwell, 1993; Courtis, 1998 and 2004a; and Li, 2006) and size (Merkel-Davies, 2007) of the firms.

The attribution strategy involves attributing good (poor) results to internal (external) factors. As such, impression management manifests itself in managers’ disclosure choices and/or presentation of information via the introduction into the corporate annual reports bias(es) or omitting from (or including in) the corporate annual reports certain type of information (Aerts, 1994 and 2001; Clatworthy & Jones, 2003; and Hooghiemstra, 2001). Managers tend to explain negative organizational outcomes using accounting terminology and positive organizational outcomes by clear statements showing cause(s) and effect(s) (Aerts, 1994). How effective it will be for this kind of self-servicing behavior depends on the context of the disclosures and motives of the managers (Aerts, 2005 and Barton & Mercer, 2005). Managers might use rhetorical devices such as pronounces and passive voice to conceal some or all of the negative organization outcomes (Pennebaker, Mehl, & Niederhoffer, 2003). Or, they might blame performance on circumstances outside their control (Tomas, 1997). In Jameson (2000), shareholder reports of mixed-return mutual funds were found significantly less direct than their top-performing counterparts. To conceal bad news, managers can either not report it entirely, or not report it as much as in the case of good news (Hildebrandt & Snyder, 1981) although they are assumed/required to present the material facts of their companies in the best way possible. Firms are also found to have a tendency of putting more stress on favorable organizational outcomes in spite of their financial performance (Smith & Taffler, 2000; Rutherford, 2005; and Guillamon-Saorin, 2006). At the same time, there is a dramatic increase (slight decrease) in the absolute and relative frequency of optimistic (pessimistic) disclosures prior to new equity offerings. The tones turn relatively more neutral after the offerings (Lang & Lundholm, 2000). All these demonstrate some degree of impression management in management disclosures.

Repetition of information on financial performance to add noise to the financial reports, reinforcement of the same piece of information by different qualifiers, visual effects of related information pieces as well as strategic ordering/physical location of information are found as some manipulation techniques commonly used by impression management engaging disclosure behavior (Courtis, 1996 and 2004b; Guillamon-Saorin, 2006; Staw et al., 1983; Baird & Zelin, 2000; Bowen et al., 2005; and Elliott, 2006). An example of these is that when firms have low value relevance earnings accompanied by extensive media exposures, they emphasize relatively more on their pro forma earnings than on their GAAP earnings (Courtis, 2004b). Another example is that firms place the positive information in a place more noticeable than the negative information (Guillamon-Saorin, 2006).

Benchmark earnings numbers and performance referents are often selectively used to make the actual financial results look comparatively better (Lewellen, Park, & Ro, 1996; Schrand & Walther, 2000; and Cassar, 2001). The downward biases built in the uses of share price performance benchmarks as stated in the corporate proxy statements enable managers to overstate the relative share returns (Lewellen et al., 1996). Managers have a high tendency of using the lowest prior-period comparative benchmark earnings numbers. This allows them to report the highest yearly earnings changes (Schrand & Walther, 2000). Better performing firms tend to use relatively more different visual means to disclose information in their annual reports (Cassar, 2001). In addition, CEOs of large (small) and highly (poorly) performing firms rely more (less) on external performance referents in their explanations of their firms’ performance (Short & Palmer, 2003). As for the choice of earnings numbers, some managers may use specific earnings numbers and/or omitting others. Again, this might make the firm appear more profitable and result in
impression management. Firms have been found using pro forma earnings to manipulate readers’ perception of the firms’ earnings (Johnson & Schwartz, 2005). In addition, firms select the highest earnings number to be included in their press releases (Guillamon-Saorin, 2006). These are some other indications of impression management.

Brennan, Guillamon-Saorin, & Pierce (2009) developed and enhanced four impression management measuring techniques and applied them to 21 examples selected from the narrative disclosures of a sample of 101 UK annual report press releases for 2000. Those four techniques include analysis (i) with the use of certain keywords, statements and amounts, (ii) of selectivity of quantitative information, (iii) of three visual/presentation techniques to emphasize aspects such as location, positioning and visual presentation of disclosures, repetition, reinforcement, and (iv) of the use of performance comparisons. All of these methods involve some sort of manual content analysis. Their findings suggest the existence of impression management in corporate narrative disclosures. In addition, corporate managers have numerous and different kinds of opportunities to affect user impressions.

Bennan (2010) extended the analysis of impression management beyond traditional finance, which based mainly on the agency theory, to cover the insights from behavioral finance/economics, psychology and sociology. She classified the prevailing literatures under four theoretical perspectives: (i) the economic perspective relying on the agency theory, (ii) the social psychology perspective based on the attribution theory, (iii) the sociology perspective in accordance with the legitimacy theory, the stakeholder theory and the institutional theory, and (iv) the critical perspective. These perspectives assume either the same or a different rationality, including the instrumental rationality, substantive rationality and rationality as a social construct. She identified as well three competing explanations with respect to corporate disclosures: increasing information, impression management and hubris.

Merkl-Davis, Brennan, & McLeay (2011), by providing a complementary perspective on corporate annual narrative reporting entailed with “ex post accountability”, put forth that impression management could be resulted from the managerial anticipation of the feedback effects of information. It might also be caused by managerial sense-making using the retrospective framing of organizational outcomes. For this research, they examined 93 UK chairmen’s statements of listed firms for 2002 with a content analysis approach based on the linguistic indicators of self-presentational dissemination in six categories, including word count, first and third person pronouns, positive and negative emotion words as well as words relating to the underlying complex cognitive processes. They found no evidence that firms use chairmen’s statements to create an impression contradictory to the overall content of the annual report. Upon realization of negative organizational outcomes, instead of presenting to the public an image on organizational performance inconsistent with the view of the internal management, the managers choose to engage in retrospective sense-making. In addition, corporate managers tend to use the chairmen’s statements to illustrate an accurate (but favorable) image of the firm as well as of the negative organizational outcome. Using this approach, it is possible to explore three complementary managerial corporate annual reporting scenarios, notably self-presentation dissimulation, impression management and retrospective sense making.

3. Hypothesis Formulation and Testing

Habermas (1984 and 1987) put forth that for a person to communicate effectively, he/she must rely upon a set of validity claims, including those built on comprehensibility, truthfulness, sincerity and legitimacy in his/her discourses. These claims are in general accepted by all participants in the communication. This is known as the Habermas’ effective communicative action theory. The theory used different practical reasons to establish the norms associated with those validity claims.

In the communication framework established by Habermas, the comprehensibility norm requires communicators to make their discourses easily understandable; the truthfulness norm expects
communicators to provide factually correct content in their discourses; the sincerity norm demands communicators to represent their motives in an authentic way; the legitimacy norm necessitates communicators to make appropriate statements in their discourses. When applied to corporate communications, managers should communicate in the way that can be easily understood, even by the average people [comprehensibility norm]. This can be achieved by (i) using the commonly-used terminologies and/or (ii) eliminating the industry and firm-specific jargons and complex logics. Besides, the managers must communicate with factually correct and verifiable contents [truthfulness norm]. Moreover, managers must be authentic when presenting their perceptions, interests, objectives, and views with regard to the company’s performance [sincerity norm]. Furthermore, managers should use appropriate language to help readers stay focused when reading their discourses and enhance the readers’ understanding in them [legitimacy norm] (Cheung, 2014).

As far as communication concerns, impression management engaging managers are likely to follow less (more) of the effective communication norms as put forth by Habermas (1984 and 1987) when they have experienced and/or anticipated relatively unfavorable (favorable) performance of their firms. On the other hand, the incremental information providing managers will follow to the same extent under all circumstances. Yuthas et al., (2002) found that firms expecting earnings surprises demonstrate higher comprehensibility than the average firms. Both the positive surprises and negative surprises firms tend to be truthful in disclosing information regarding their firms’ financial performance. In addition, both groups also adhere to the legitimacy norm. With respect to the sincerity norm, the negative surprises firms show some evidence of strategic action using optimistic terminology. The objective of this paper is to extend Yuthas et al., (2002) and investigate empirically whether impression management exists in the accounting narratives of annual reports using the Habermas’ norms of effective communicative action. The primary hypothesis tested in this paper is formulated as below.

**Null Hypothesis**: The compliance of the Habermas’ norms in corporate public discourse varies directly with the economic conditions (i.e. increase during economic expansion with positive economic growth and decrease during economic recession with negative economic growth) (Managers engage in impression management).

**Alternate Hypothesis**: The compliance of the Habermas’ norms in corporate public discourse remains constant across economic conditions (Managers provide incremental relevant information).

Thus, in accordance with the above broad null hypothesis (Impression Management Hypothesis) and Table 1, managers would demonstrate in the accounting narratives of their annual reports higher comprehensibility, truthfulness, sincerity and legitimacy during economic expansion (to enable annual report users learn more easily about the resulting favorable performance of the firms) and lower comprehensibility, truthfulness, sincerity, and legitimacy during economic recessions (to prevent annual report users from easily knowing about the resulting unfavorable performance of the firms). On the other hand, with respect to the aforementioned alternate hypothesis (Incremental Information Provision Hypothesis) and Table 1, the four norms should be demonstrated to the same extent by the company management in the accounting narratives of their annual reports regardless of the economic conditions.
Table 1. Illustration of the testing hypotheses

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Economic Condition</th>
<th>Manager’s Compliance of the Habermas’ Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₀: Impression Management</td>
<td>Expansion (with positive GDP annual growth)</td>
<td>Follow more</td>
</tr>
<tr>
<td></td>
<td>Recession (with negative GDP annual growth)</td>
<td>Follow less</td>
</tr>
<tr>
<td>H₁: Incremental Information Provision</td>
<td>Expansion (with positive GDP annual growth)</td>
<td>Constant</td>
</tr>
<tr>
<td></td>
<td>Recession (with negative GDP annual growth)</td>
<td>Constant</td>
</tr>
</tbody>
</table>

Hypothesis H₁: **Comprehensibility** demonstrated in corporate communication in the form of accounting narratives varies directly with the economic condition as measured by the annual growth in GDP.

Hypothesis H₂: **Truthfulness** demonstrated in corporate communication in the form of accounting narratives varies directly with the economic condition as measured by the annual growth in GDP.

Hypothesis H₃: **Sincerity** demonstrated in corporate communication in the form of accounting narratives varies directly with the economic condition as measured by the annual growth in GDP.

Hypothesis H₄: **Legitimacy** demonstrated in corporate communication in the form of accounting narratives varies directly with the economic condition as measured by the annual growth in GDP.

The above four resulting hypotheses (H₁ through H₄) are tested using the composite scores calculated on the four Habermas’ norms from the various individual variable and composite scores generated on the MD&A sections (that is, both Item 7 and Item 7A) of the annual reports (Form 10-Ks) of 72 S&P500 financial firms by the rhetorical analysis software, Diction 6. This application software uses a scientific method to determine the tone of verbal message according to five general semantic features (certainty, activity, optimism, realism and commonality) and thirty-five sub-features (the variables on the right-hand side of Eq. 5 through Eq. 9). Diction 6 compares the message with a writing mass of 10,000 words and any custom-made dictionary created by the users according to their specific research needs (Hart & Carroll, 2012). The previous version of the software was also used in Yuthas et al. (2002), Synserff and Weetman (2002), Davis, Piger, & Sedor (2007) and Henry (2008). Diction 6 was used in Cheung (2014).

Like Cheung (2014), the composite scores for the four Habermas’ norms of communicative action are calculated as below.

\[
\text{Comprehensibility} = \text{Realism} - \text{Denial} \quad \text{(1)}
\]
\[
\text{Truthfulness} = \text{Certainty} + \text{Present Concern} \quad \text{(2)}
\]
\[
\text{Sincerity} = \text{Optimism} + \text{Activity} + \text{Commonality} \quad \text{(3)}
\]
\[
\text{Legitimacy} = \text{Variety} - \text{Embellishment} - \text{Blame} \quad \text{(4)}
\]

As in Cheung (2014), the value of the right-hand side composite scores (those bolded) in Eq. 1 through Eq. 4 are calculated by Diction 6 in the following way. Full details on the definitions of the right-hand side terms in Eq. 5 through Eq. 9 can be found in Cheung (2014) and Hart & Carroll (2012).
Realism = [Familiarity + Spatial Awareness + Temporal Awareness + Present Concern
+ Human Interest + Concreteness] – [Past Concern + Complexity] ------(5)
Certainty = [Tenacity + Leveling + Collectives + Insistence] – [Numerical Terms
+ Ambivalence + Self Reference + Variety] ------(6)
Activity = [Aggression + Accomplishment + Communication + Motion]
– [Cognitive Terms + Passivity + Embellishment] ------(8)
Commonality = [Centrality + Cooperation + Rapport] – [Diversity
+ Exclusion + Liberation] ------(9)

Panel regression analyses with random firm effects are conducted as defined in Eq. 10.

\[ \text{Habermas’ Norm}_{it} = \text{const} + b_1 \text{GDPGrowth}_{it} + \text{ROA}_{it} + \sum_{n=1}^{9} \text{Industry}_{n,i} / + e_{it} \] ------(10)

where GDPGrowth\(_t\) is the growth rate of US GDP of Year \(t\). ROA\(_{it}\) is the return on assets of Firm \(i\) for Year \(t\); \(\sum_{n=1}^{9} \text{Industry}_{n,i} \) is a series of dummy variables which are defined as below.

- Industry\(_{1,i} = 1\), all else = 0: indicates that Firm \(i\) is a provider of consumer finance
- Industry\(_{2,i} = 1\), all else = 0: indicates that Firm \(i\) is a provider of diversified financial services
- Industry\(_{3,i} = 1\), all else = 0: indicates that Firm \(i\) is an insurance broker
- Industry\(_{4,i} = 1\), all else = 0: indicates that Firm \(i\) is a provider of life and health insurance
- Industry\(_{5,i} = 1\), all else = 0: indicates that Firm \(i\) is a multi-sector holdings company
- Industry\(_{6,i} = 1\), all else = 0: indicates that Firm \(i\) is a provider of multi-line insurance
- Industry\(_{7,i} = 1\), all else = 0: indicates that Firm \(i\) is a provider of property and casualty insurance
- Industry\(_{8,i} = 1\), all else = 0: indicates that Firm \(i\) is a REIT
- Industry\(_{9,i} = 1\), all else = 0: indicates that Firm \(i\) is a real estate management and development company

Otherwise, represents that Firm \(i\) is a bank

The dependent variable Habermas Norm\(_{it}\) in Eq. 10 covers Comprehensibility\(_{it}\), Truthfulness\(_{it}\), Sincerity\(_{it}\), and Legitimacy\(_{it}\) determined from the company discourse in the MD&A sections (Item 7 and Item 7A combine) of Firm \(i\) for Year \(t\).

4. Data and Sample

The firms in the S&P 500 financial sector with SEC Form 10-K filings available on the Edgar website (http://www.sec.gov/edgar.shtml) from 2004 through 2012 are included in this study. The resulting sample consists of 648 firm-years (72 firms for 9 years). The reason for choosing this sample period is to avoid the impact of SOX across the sample period. The MD&A sections examined were extracted directly from the Form 10-K filings found on the Edgar website. Both Item 7 and Item 7A were extracted manually from the annual reports. Like Cheung (2014), from the extracted MD&As, all the HTML mark-up codes, if any, were removed. For instance, I excluded all those “<C>”, “<S>”, “<Caption>”, “</Table>” and the like from the extracted Item 7s and Item 7As. After that, I obtained the composite scores (those of the left-hand side variables in Eq. 5 through Eq. 9) and the individual variable scores (those of the right-hand side variables in Eq. 5 through Eq. 9) attributed to the four Habermas’ norms required for effective communications by running Diction 6 on the cleaned MD&A sections.
As shown in Table 2, among the 72 sample firms, the most are found in the diversified financial service industry (20), followed by the banking industry (16) and the REITs (13). These firms combine represent more than half of the sample size.

Table 2. Distribution of the sample companies

<table>
<thead>
<tr>
<th>GICS-Sub Industry</th>
<th>Number of Firms</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks</td>
<td>16</td>
<td>22.22</td>
</tr>
<tr>
<td>Consumer Finance</td>
<td>2</td>
<td>2.78</td>
</tr>
<tr>
<td>Diversified Financial Service</td>
<td>20</td>
<td>27.78</td>
</tr>
<tr>
<td>Insurance Brokers</td>
<td>2</td>
<td>2.78</td>
</tr>
<tr>
<td>Life &amp; Health Insurance</td>
<td>4</td>
<td>5.56</td>
</tr>
<tr>
<td>Multi-sector Holdings</td>
<td>3</td>
<td>4.17</td>
</tr>
<tr>
<td>Multi-line Insurance</td>
<td>2</td>
<td>2.78</td>
</tr>
<tr>
<td>Property &amp; Casualty Insurance</td>
<td>9</td>
<td>12.5</td>
</tr>
<tr>
<td>REITs</td>
<td>13</td>
<td>18.06</td>
</tr>
<tr>
<td>Real Estate Management &amp; Development</td>
<td>1</td>
<td>1.39</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3 shows that, for the MD&A sections in all the annual reports examined in this study, the average number of words contained in them is about 31,405 words (213,423 characters), ranging from 5,733 words (35,982 characters) to 115,400 words (771,339 characters). The average word size is 5.14 characters and the average number of different words used is 11,473.45 words. The average size of the sample firms is $197.79 billion of total assets. The average annual net income they made over the 9 years is $1.55 billion.

Table 3. Some descriptive statistics about the sample firms.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) With respect to MD&amp;A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Words Analyzed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>31,405.41</td>
<td>19,195.58</td>
<td>5,733</td>
<td>115,400</td>
</tr>
<tr>
<td>between</td>
<td>17,625.42</td>
<td>6,650.44</td>
<td>81,109.11</td>
<td></td>
</tr>
<tr>
<td>within</td>
<td>7,852.138</td>
<td>-1,701.702</td>
<td>72,399.41</td>
<td></td>
</tr>
<tr>
<td>Total Character Analyzed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>213,422.8</td>
<td>132,938.2</td>
<td>35,982</td>
<td>771,339</td>
</tr>
<tr>
<td>between</td>
<td>121,950.7</td>
<td>41,658.56</td>
<td>536,738.6</td>
<td></td>
</tr>
<tr>
<td>within</td>
<td>54,630.41</td>
<td>-20,557.1</td>
<td>497,314.6</td>
<td></td>
</tr>
<tr>
<td>Average Word Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>5.135957</td>
<td>.1525112</td>
<td>4.49</td>
<td>5.51</td>
</tr>
<tr>
<td>between</td>
<td>.1442126</td>
<td>4.698889</td>
<td>5.456667</td>
<td></td>
</tr>
<tr>
<td>within</td>
<td>.0521494</td>
<td>4.842623</td>
<td>5.352624</td>
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</tr>
<tr>
<td>Number of Different</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>11,473.45</td>
<td>6,889.233</td>
<td>2317</td>
<td>39842</td>
</tr>
</tbody>
</table>
5. Results and Discussion

Table 4 shows the results of the panel data random effect regression analyses of the Habermas’ norms in effective communicative action demonstrated by the managers of the sample financial companies in the disclosure of their company performance in the MD&A sections of the annual reports on the economic condition faced by the firms in doing their businesses. From the table, it can be seen that there is a significantly positive association between truthfulness and GDP growth (part (b) \([H2 \text{ supported}]\)). The same can be found in part (d) of the table with respect to legitimacy \([H4 \text{ supported}]\). No significant association is found either between comprehensibility and GDP growth (part (a) \([H1 \text{ cannot be supported}]\)) or between sincerity and GDP growth (part (c) \([H3 \text{ cannot be supported}]\)). These findings suggest that managers of the sample financial firms complied more (less) with the Habermas’ norms with respect to truthfulness and legitimacy during economic expansion (recession). These findings partially support the null hypothesis in this study, thus implying that managers in the financial sector do engage to some extent (as far as with respect to truthfulness and legitimacy among the four Haberma’s norms) in impression management in the accounting narratives of the annual reporting of their firms’ operation.

At the same time, while the significantly positive coefficient for the dummy variable Industry 8 (Model III (A)) implies that managers of the REITs in the sample demonstrated higher comprehensibility in the accounting narratives in annual reporting of their company performance, the significantly lower constant (Model III (A) as compared to Model II (A)) in part (a) seems to suggest that managers of banks in the sample offered relatively lower comprehensibility than the managers of other financial firms in their narrative disclosures of firm performance.

The managers of the REIT firms in the sample (significantly positive coefficient for the dummy variable Industry 8 (Model III(B))) tended to demonstrate relatively more truthfulness in their accounting narrative discourse whereas managers of banks (significantly lower constant in Model III (B) as compared to Model II (B)) in the sample demonstrated relatively less truthfulness (part (b)). On the other hand, managers of diversified financial services providers in the sample (significantly negative coefficient for the dummy variable Industry 2 (Model III (C)), property and casualty insurance providers (significantly negative coefficient for the dummy variable Industry 7 (Model III (C)) and REITs (significantly negative coefficient for the dummy variable Industry 8 (Model III (C)) showed relatively lower sincerity in their accounting narratives while those managers of banks showed...
relatively higher sincerity (significantly higher constant in Model III (C) as compared to Model II (C) (part (c)).

Again, the significantly higher constant as illustrated by a smaller negative number (Model III (D) as compared to Model II (D)) in part (d) seems to suggest that managers of banks in the sample offered relatively higher legitimacy than the managers of other financial firms in their accounting narrative disclosures of firm performance.

The significantly negative association between truthfulness and ROA (Model III (B) in part (b)) suggests that the more efficient firms in terms of generating profit using their assets, the less truthfulness can be seen in their accounting narrative disclosures. Perhaps they need to keep their business secrets in order to maintain their competitive advantages which will in turn lead to higher profit.

**Table 4. Results of Panel Data Random Effect Regression Analysis**

\[ \text{Habermas’ Norm}_{i,t} = \text{const} + b_1 \text{GDPGrowth}_t + ROA_{i,t} + \sum_{n=1}^{9} Industry_{n,i} + e_{i,t} \tag{10} \]

(a) Comprehensibility

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Model I(A)</th>
<th>Model II(A)</th>
<th>Model III(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USGDPGrowth</td>
<td>.022(0.42)</td>
<td>.017(0.31)</td>
<td>.018(0.33)</td>
</tr>
<tr>
<td>ROA</td>
<td>1.174(0.43)</td>
<td>.924(0.33)</td>
<td>1.215(0.09)</td>
</tr>
<tr>
<td>Industry 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry 9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>40.912 (110.88***)</td>
<td>40.887(109.13***)</td>
<td>40.107(50.15***)</td>
</tr>
<tr>
<td>Number of Obs</td>
<td>648</td>
<td>648</td>
<td>648</td>
</tr>
<tr>
<td>R² (overall)</td>
<td>0.0001</td>
<td>0.0023</td>
<td>0.0397</td>
</tr>
</tbody>
</table>

Note: z-scores are shown in parentheses next to the regression coefficients. Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.
Table 4. Results of Panel Data Random Effect Regression Analysis (cont.)

Habermas’ Norm_{it} = \text{const} + b_1 \text{GDPGrowth}_t + \text{ROA}_{it} + \sum_{n=1}^{9} \text{Industry}_{n,t} + \epsilon_{it} \tag{10}

(b) Truthfulness

<table>
<thead>
<tr>
<th></th>
<th>Model I(B)</th>
<th>Model II(B)</th>
<th>Model III(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Truthfulness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent Variable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USGDPGrowth</td>
<td>.340 (2.47***))</td>
<td>.391(2.78***))</td>
<td>.397(2.81***))</td>
</tr>
<tr>
<td>ROA</td>
<td>-11.655(-1.57)</td>
<td>-12.868(-1.72*)</td>
<td></td>
</tr>
<tr>
<td>Industry 1</td>
<td></td>
<td>-4.737(-0.63)</td>
<td></td>
</tr>
<tr>
<td>Industry 2</td>
<td></td>
<td>5.191(1.53)</td>
<td></td>
</tr>
<tr>
<td>Industry 3</td>
<td></td>
<td>7.315(0.97)</td>
<td></td>
</tr>
<tr>
<td>Industry 4</td>
<td></td>
<td>4.781(0.85)</td>
<td></td>
</tr>
<tr>
<td>Industry 5</td>
<td></td>
<td>.297(0.05)</td>
<td></td>
</tr>
<tr>
<td>Industry 6</td>
<td></td>
<td>3.562(0.47)</td>
<td></td>
</tr>
<tr>
<td>Industry 7</td>
<td></td>
<td>.073(0.02)</td>
<td></td>
</tr>
<tr>
<td>Industry 8</td>
<td></td>
<td>7.433(1.97**)</td>
<td></td>
</tr>
<tr>
<td>Industry 9</td>
<td></td>
<td>10.601(1.02)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>54.311 (45.68***)</td>
<td>54.554(45.22***)</td>
<td>51.190(20.26***)</td>
</tr>
<tr>
<td>Number of Obs</td>
<td>648</td>
<td>648</td>
<td>648</td>
</tr>
<tr>
<td>R^2 (overall)</td>
<td>0.0032</td>
<td>0.0033</td>
<td>0.0839</td>
</tr>
</tbody>
</table>

Note: z-scores are shown in parentheses next to the regression coefficients. Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.
Table 4. Results of Panel Data Random Effect Regression Analysis (cont.)

\[
\text{Habermas’ Norm}_{i,t} = \text{const} + b_1 \text{GDPGrowth}_{i,t} + \sum_{n=1}^{9} \text{Industry}_n \text{ ROA}_{i,t} + \varepsilon_{i,t} \tag{10}
\]

(c) Sincerity

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Model I(C)</th>
<th>Model II(C)</th>
<th>Model III(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USGDPGrowth</td>
<td>0.081(1.13)</td>
<td>0.097(1.32)</td>
<td>0.094(1.28)</td>
</tr>
<tr>
<td>ROA</td>
<td>-3.610(-1.04)</td>
<td>-1.744(-0.95)</td>
<td>-1.736(-2.08**)</td>
</tr>
<tr>
<td>Industry 1</td>
<td>-1.736(-2.08**)</td>
<td>-2.256(-1.22)</td>
<td>-2.312(-1.68)</td>
</tr>
<tr>
<td>Industry 2</td>
<td>-2.847(-1.54)</td>
<td>-2.961(-2.89**)</td>
<td>-2.070(-2.25**)</td>
</tr>
<tr>
<td>Industry 3</td>
<td>-2.160(-0.85)</td>
<td>-2.847(-1.54)</td>
<td>-2.961(-2.89**)</td>
</tr>
<tr>
<td>Industry 4</td>
<td>-149.065(453.41***)</td>
<td>149.140(458.63***)</td>
<td>150.673(241.22***)</td>
</tr>
<tr>
<td>Number of Obs</td>
<td>648</td>
<td>648</td>
<td>648</td>
</tr>
<tr>
<td>R² (overall)</td>
<td>0.0014</td>
<td>0.0187</td>
<td>0.0752</td>
</tr>
</tbody>
</table>

Note: z-scores are shown in parentheses next to the regression coefficients. Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.
Table 4. Results of Panel Data Random Effect Regression Analysis (cont.)

\[ \text{Habermas’ Norm}_{it} = \text{const} + b_1 \text{GDPGrowth}_{it} + \sum_{n=1}^{9} \text{Industry}_{n, it} + \epsilon_{it} \quad \text{(10)} \]

(d) Legitimacy

<table>
<thead>
<tr>
<th></th>
<th>Model I(D)</th>
<th>Model II(D)</th>
<th>Model III(D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USGDPGrowth</td>
<td>.042 (.51)</td>
<td>.048 (.68*)</td>
<td>.049 (.70*)</td>
</tr>
<tr>
<td>ROA</td>
<td>-1.348 (-1.02)</td>
<td>-1.512 (-1.12)</td>
<td></td>
</tr>
<tr>
<td>Industry 1</td>
<td></td>
<td>.405 (.61)</td>
<td></td>
</tr>
<tr>
<td>Industry 2</td>
<td></td>
<td>.166 (.55)</td>
<td></td>
</tr>
<tr>
<td>Industry 3</td>
<td></td>
<td>.508 (.76)</td>
<td></td>
</tr>
<tr>
<td>Industry 4</td>
<td></td>
<td>-.379 (-.76)</td>
<td></td>
</tr>
<tr>
<td>Industry 5</td>
<td></td>
<td>-.162 (-.29)</td>
<td></td>
</tr>
<tr>
<td>Industry 6</td>
<td></td>
<td>-.096 (-.14)</td>
<td></td>
</tr>
<tr>
<td>Industry 7</td>
<td></td>
<td>-.303 (-.82)</td>
<td></td>
</tr>
<tr>
<td>Industry 8</td>
<td></td>
<td>-.135 (-.40)</td>
<td></td>
</tr>
<tr>
<td>Industry 9</td>
<td></td>
<td>.563 (.61)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-.727 (-.50***)</td>
<td>-.699 (-.11***)</td>
<td>-.682 (-.00***)</td>
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<td>Number of Obs</td>
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<td>648</td>
<td>648</td>
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<tr>
<td>(R^2) (overall)</td>
<td>0.0027</td>
<td>0.0087</td>
<td>0.0280</td>
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</tbody>
</table>

Note: z-scores are shown in parentheses next to the regression coefficients. Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.

6. Conclusion

Do managers apply impression management or adopt an incremental information provision approach in the accounting narratives related to their companies’ performance? The focus of this paper is to detect empirically, using Habermas’ norms of effective communicative action, whether managers deploy the impression management techniques or employ the incremental information provision approach in the accounting narratives of annual reporting of their companies’ performance. With the aim of extending Yuthas et al. (2002) to cover more firm-years in analyzing corporate management communication behavior, a composite score for each of the Habermas’ norms in the spirit of Yuthas et al. (2002) is calculated as in Cheung (2014). Using a larger sample size and the rhetorical analysis software, Diction 6, the findings of this paper succeed in providing some evidence with statistical significance. By examining the MD&A sections of the annual reports (Form 10-Ks) of 72 companies in the financial sector over the period from 2004 through 2012, it can be seen that the findings suggest that managers of financial firms demonstrate some traces (as far as with respect to truthfulness and legitimacy among the four Habermas’ norms) of impression management in the accounting narratives of annual reporting of their firms’ performance.
References


ACTIVITY BASED COSTING AND THE HEALTHCARE SYSTEM

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Dr David Ritter*
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ABSTRACT

Healthcare is struggling to balance the limited resources available and rising costs with the increasing demand for service. One reason for this struggle is healthcare’s inability to assign specific costs to the services and procedures provided to patients. Generally, hospitals use the absorption method or the traditional costing method, which is the Generally Accepted Accounting Principles (GAAP), method which causes distortions in the detailed application of indirect costs. GAAP accounting reports do not provide enough detailed information for effective managerial accounting control. Activity-Based Costing provides the healthcare system with the ability to manage costs at the lowest level by supplying detailed cost information about the activities and procedures performed to the appropriate managers. This will allow managers to provide the best accounting control, which can lead to cost reductions and provide for accurate cost management. There is a common belief among healthcare participants that Activity-Based Costing (ABC) is difficult and costly to implement. “Such a costing system may appear complex. But the complexity arises not from the methodology but from today’s idiosyncratic delivery system, with its poorly documented processes for treating patients with particular conditions and its inability to map asset and expense categories to patient processes” (Kaplan & Porter, 2011, p. 51). The hospital cannot accurately charge a patient for a procedure because it is not accurately documenting the cost of that procedure nor is it accurately documenting the resources consumed for the procedure. Utilization of ABC is a solution to the problems of accurate cost control.

INTRODUCTION

“Today’s healthcare costing approaches are inadequate in an era of reform, when having the ability to understand precise costs for every encounter, procedure, or episode of care is essential. There is a critical need for costing data that provides an accurate and timely portrayal of the true costs of care” (Glaser & Sett, 2012, p. 45). Activity based costing (ABC) is an accounting cost methodology that relates cost drivers to cost activities. This is different from the traditional accounting method because it allows indirect costs, which would normally be applied to overhead utilizing a standard rate related to some output activity, to be separated into the proper activity measures (Yardley Management Solutions, Inc, 2012). Industries have used ABC as a tool to help to more accurately determine the relationship between resource consumption and production for decades. Robin Cooper and Robert Kaplan formally introduced the United States to the concept ABC through their 1987 book, Accounting and Management: Field Study Perspective, followed by a 1988 publication in the Harvard Business Review (Chea, 2011; Federowicz, Grossman, Hayes, & Riggs, 2010). However, the idea and use of ABC had been employed prior to this formal introduction in the manufacturing sector during the 1970s and 1980s (Chea, 2011).

Remarkably, ABC has not been widely adopted throughout the healthcare system, in spite of evidence that firms in other industries using ABC outperform firms in the same industry not using ABC, largely due to their
ability to control costs (Cardinaels et al., 2004). Velmurugan, Bte & Wan (2010) found through researching individual companies, the most common resistance to ABC implementation came in the form of lack of relevance, lack of interest, lack of expertise and the existence of a satisfactory cost management system. Cardinaels et al. (2004) discovered during their 2004 survey that while the decision to change a cost system generally came down from executives at the top, the physicians and key medical parties could in fact impede the process or determination. If physicians felt insecure in the reimbursement process, they were not likely to be supportive (Cardinaels et al., 2004). However, due to new legislation, The Affordable Healthcare Act (ACA), the restructure of reimbursements slowly eliminates incentives, subsequently reducing resistance from physicians resulting from insecurities involving reimbursements or incentivized care. Under ACA, incentives and procedure-based payments disappear gradually and physicians are expected to dramatically increase the number of patients with Medicare they service (Davis, Abrams, & Stremikis, 2011). With these changes and the shift to results-based patient care brought on by the ACA, physicians will no longer rely on performing unnecessary procedures to receive payments or incentives. Now, more than ever, it is critical that accurate costing measures for reimbursement are enacted, thus eliminating the payment-based contention for the implementation of ABC and further encouraging its adoption.

The sheer complexity of the implementation remains another intimidating factor. Companywide applications are complicated and expensive and require implementation in stages (Cardinaels et al., 2004; Velmurugan et al., 2010). Notwithstanding, the recent passage of the ACA may force healthcare institutions to adopt ABC for proper patient tracking and the costs associated with the patient’s care for required compliance, defense of charges and proof of necessary outcomes for reimbursement.

Currently, ABC is the most effective cost accounting method for obtaining quality data to aid in optimal decision making in any managerial accounting area such as outsourcing, valuation, identification and measurement of process improvement or elimination initiatives (Cardinaels et al., 2004). As such, ABC will aid in solving the healthcare cost crisis by allowing providers to establish appropriate cost procedures and services, which will permit them to defend legitimate payment requests from third-party payers and thus abolish the need for distorted incentives.

LITERATURE REVIEW

Researchers throughout the literature support adoption of ABC for the healthcare industry in order to measure costs accurately and price services effectively. “Proactively managing profitability requires adopting advanced techniques, such as ABC, to understand the costs of services being provided” (Pandey, 2012, p. 112). Young (2013) said to make informed decisions about cost reduction per resource, hospital financial managers needed to implement ABC quickly.

IMPLEMENTATION

Most researchers also acknowledge some of the difficulties associated with the adoption and implementation of ABC, such as Velmurugan et al. (2010) contend, “It is difficult and costly to scale to companywide applications.” During their 2004 survey, Cardinaels et al. (2004) discovered that while the decision to change a cost system generally came down from the top, in the healthcare environment, the physicians and key medical parties could in fact impede the process or negatively influence the determination needed to pursue ABC implementation. According to Chea (2011), an organization must have internal motivational structures to support implementing ABC: the operating manager must convince top management, employees must embrace ABC and be accountable, and the communication of the ABC adoption and implementation to the employees must be given top priority.

THIRD-PARTY PAYER INCENTIVES

After reviewing the literature, it is clear that there are other issues contributing to healthcare costs. One such issue is third-party payer incentives. Incentives in the third party payment system not only discourage clinical value, they also negatively affect the success of the system budget (Clark, Savitz, & Pingree, 2010). Kaplan & Porter (2011) rationalized that the root of the incentive problem is the healthcare professional’s inability to accurately measure costs, which prevents a movement to a more effective reimbursement process. Currently, reimbursements from third-party payer incentives can come at the expense of the patient in the form of unnecessary testing that can result in potentially harmful exposure with superfluous monetary charges (“Say “Whoa” to your Dr.,” 2012).

TERMINOLOGY AND COMMUNICATION

Another significant issue uncovered that impacts third-party payers is terminology and communication between healthcare participants. Participants are defined as legislators, third-party payers and providers.
Participants in the healthcare system do not even agree on what they mean by costs” (Kaplan & Porter, 2011, p. 1). Healthcare participants struggle with semantics by using the words costs, charges, prices, payments and expenditures interchangeably (Carpenter, 2012). For example, Medicare released a report that concluded the Part B costs had been growing at a slower rate, however, the term “costs” should have been “expenditures.” Costs are resources used towards the production of goods and services, expenditures are disbursements or payments. There could be some contextual issues causing the semantic confusion, nevertheless, these definitions are critical in the continuing healthcare debate and therefore should be clearly defined.

Throughout the research, there is overwhelming support for the adoption of ABC in the healthcare industry. In spite of acknowledged problems with implementation and the clear industry trepidation, ABC is an effective and necessary system of cost measurement for the healthcare system. What the research lacks is a clear and concise link between ABC, and how it will aid in solving the healthcare cost crisis. Because ABC affords the healthcare system the ability to appropriately cost procedures by providing detailed information about the cost activities and cost drivers, it will allow the healthcare industry to protect itself from the arbitrary payment allocations third-party payers and legislators have been forcing on the healthcare industry thus far. This will enable providers the power to increase patient value and treat patients based on patient needs and not third-party payer incentives.

THE BEGINNING

On December 29, 1973, President Nixon signed into law S. 14, the Health Maintenance Organization Act of 1973, creating HMOs (Woolley & Peters, 1999). After that, hospitals, clinics, and the like were paid on a reimbursement system by the HMO, also known as a third-party payer. The Health Maintenance Organization Act of 1973 lead ultimately to a third-party payer base of roughly 90% (Goodman, 2010). Kaplan & Porter (2011) concluded that reimbursements are decided by healthcare participants based on arbitrary and inaccurate assumptions about the intensity of care, and that providers often allocate costs to procedures based on how much they are reimbursed versus the actual cost.

The third-party payer created an incentive program that encourages providers and medical innovators to maximize reimbursement formulas (Goodman, 2010). Because of the third-party payer system, there is a disconnect between what patients pay, the care patients demand and providers suggest. The industry will see a rather large shift in this thinking with the implementation of ACA. With the adoption of ACA, pervasive incentives will disappear and reimbursements will become difficult to claim without proof of high value, patient-centered care (Davis et al., 2011). This incentive cycle has led to healthcare costs in excess of 17% of the US GDP and it is continuing to rise (Kaplan & Porter, 2011). In addition to the lack of accountability between the patient and payment, and the fact that providers are paid for procedures not outcomes, “there is an almost complete lack of understanding of how much it costs to deliver patient care” (Kaplan & Porter, 2011 p. 48). This issue becomes three-fold, third party payers are paying for unnecessary testing based on an incentive system ("Say “Whoa” to your Dr..." 2012; Kaplan & Porter, 2011) and no one understands how to cost healthcare or provide patient value (Kaplan & Porter, 2011).

ABC provides the healthcare system with the ability to manage costs at the lowest activity level by providing detailed cost information about the activities and procedures performed, spurring cost reduction and accurate cost management (Cardinaels, Roodhooft, & Van Herck, 2004). Because hospitals have a higher level of indirect costs and a high level of variability or a heterogeneous operating environment, a more refined costing system, such as ABC, is essential to maximize cost efficiency (Cardinaels et al., 2004). Not only will ABC allow the healthcare industry to manage costs effectively, it will also afford the ability to measure costs accurately and price services on a more accurate patient-related basis. ABC provides clear visibility into cost-of-service delivery by defining two key terms: the cost element and the cost driver (Pandey, 2012). A cost driver is the feature of the cost element that can be directly measured, such as the number of pages (cost driver) in a discharge report (Pandey, 2012). The cost element is a measurable unit of cost, in this case, the cost per sheet of paper (Pandey, 2012). To figure the cost you would multiply the cost driver (number of pages) by the cost element (price per page) (Pandey, 2012). An ABC system will associate all variables in providing healthcare to a specific patient and determine a true cost of treating that patient.

To implement the ABC method effectively into a complex business model like healthcare, the procedure has to be carefully defined. The major activities must first be defined, then the cost pools determined and costs assigned, next conclude cost drivers for every activity and finally assign the carefully determined cost elements. Rajabi & Dabiri, (2012) have identified eight conclusive steps for designing a health care system ABC method:

Step 1: Separate the hospital based on services
Step 2: Define and analyze activity centers
Step 3: Define activity centers and cost drivers
Step 4: Analyze activity centers
Step 5: Calculate activity center costs
Step 6: Allocating costs of administrative activities
Step 7: Allocating resource costs to activities
Step 8: Calculate cost of services and procedures

In a traditional costing method, where indirect costs are being absorbed inaccurately by procedures, a sinus x-ray might be incurring an administrative charge of $3 per film based on a specified allocation and a chest x-ray incurring the same $3 administrative charge. What makes this ineffective is the administrative charge might be different for the two x-rays. The chest x-ray might require twice the administrative attention as the sinus x-ray, (keeping at $3 for simplicity), therefore the sinus x-ray administrative cost should reflect that it only consumes half the administrative resources ($1.50) or it is not being properly costed. In other words, the sinus x-ray appears to cost more than it actually does. When this theory is applied across the healthcare system, costing and pricing become an issue when there is no line item division based on appropriately assigned costs to drivers that have also been accurately assigned to activities.

Another benefit to implementing ABC is tracking and determining resource capacity (Rajabi & Dabiri, 2012). Using ABC, the healthcare system will benefit from understanding the maximum capacity of the departments in addition to the current revenue associated with the functioning departments, and identify unused capacities. The inability to identify unused capacities increases organization costs (Rajabi & Dabiri, 2012). ABC will also identify those departments that are draining resources, which were otherwise undetected. In a real world example illustrated by Pandey (2012), after implementing ABC, a hospital discovered one of its larger functioning departments was “bleeding cash” and one of the more overlooked departments was making impressive profits. Once this information was brought to light by a more effective costing system, the cash-draining department was quickly sold and the hospital invested in developing the smaller department, which had a positive contribution. This is an example of a managerial decision that could not have been made without the data provided by ABC. ABC will also empower the healthcare providers to reduce costs in affected areas. Because providers rely on third part reimbursements they are often required to find cost savings. When providers do not have detailed knowledge of costs and are forced to make cuts, they make simplistic cost saving decisions that can lead to higher total systems costs if it results in poorer outcomes for patients (Kaplan & Porter, 2011). Be that as it may, if a provider or the healthcare system fully understands the costs, they are able to link the costs to process improvements and outcomes, allowing them to make systemic and sustainable cost reductions (Kaplan & Porter, 2011).

CONCLUSION

The adoption of ABC in the healthcare industry is as critical as it is fundamental. Despite intimidating potential issues during implementation and the overwhelming apprehension in the industry, ABC is an effective and necessary system of cost measurement for the healthcare system that will empower the consumer and the provider. It allows a transparency and simplicity of pricing that has never been known by the modern healthcare services consumer. The research has revealed that ABC will aid in solving the healthcare cost crisis, but it will not and cannot be the solution alone. Nonetheless, activity based costing is a great start, it allows the healthcare system the ability to appropriately cost procedures by providing them granular information about the cost activities and cost drivers. It will allow the healthcare industry to protect themselves from the arbitrary payment allocations third-party payers and legislators have been forcing on them for decades. This empowers the providers to increase patient value and treat patients based on patient needs, not third-party payer incentives. In the U.S., decision making about healthcare is made centrally when, in fact, those decisions should be made locally (Mackie, 2012). Understanding and controlling healthcare costs is the first step to regaining local decision-making.

OPPORTUNITIES FOR FURTHER RESEARCH

In 2010 the Patient Protection and Affordable Care Act (PPACA) was signed into law. The intent of PPACA was to overhaul the healthcare system by increasing the affordability and quality of healthcare, and by decreasing the rate of uninsured Americans. In addition, PPACA restructured the reimbursement models for Medicare (Turakhia & Ullal, 2013). They are now based on patient outcomes vice patient procedures (Turakhia & Ullal, 2013). While these new models apply to Medicare, private insurers have promised to adopt the same models (Turakhia & Ullal, 2013). Medicare currently pays, on average, $.80 per dollar with the remaining $.20 shifting to the private sector. In order to promote value-based care, the reimbursement model is shifting from procedure based to outcome based. The reimbursement per dollar spent for value-based care will shift as well and incentives will wane. In both the private sector and for Medicaid there is a need for a clear definition of expected outcome and how that definitively ties to the cost of delivering the care. Now, more than ever, it is critical that the healthcare system
deliver accurate and timely financial information. There is an opportunity to look at how PPACA will affect hospitals and how ABC can mitigate the financial impact of the new reimbursement models.

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ACCOUNTING ESTIMATES AND CREDIBILITY OF FINANCIAL STATEMENTS IN THE HOSPITALITY INDUSTRY IN NIGERIA

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ABSTRACT

This study aimed at investigating accounting estimate with a view to determine the extent to which it influences the credibility of financial statements. To achieve this objective, research hypotheses were formulated and a critical review of extant literature was made. The population of the study consisted of twenty-seven (27) firms selected from the hospitality industry in Nigeria. In order to generate the necessary data for this study, a set of questionnaire was administered on the independent auditors of the selected firms. The questionnaire was designed in five-point Likert-scale, and the data generated for the study were analysed with percentages while the stated hypotheses were statistically tested with Chi-square ($\chi^2$) and Pearson Product Moment Co-efficient of Correlation. The findings of the study revealed that accounting estimate has a significant relationship with the credibility of financial statements but accountants are highly bias in the determination of accounting estimates which manifests in material misstate-ments of accounting information thereby misleading users in their decision making. Based on the above, it was recommended that – accountants should carefully follow the process of developing accounting estimates to make such estimates more objective and reliable; accountants should attend training programmes, workshops and conferences to properly acquaint them with the requisite skills and knowledge on the determination of accounting estimates; and revised earnings resulting from the significant deviation between estimates and facts, should be properly disclosed in the financial statements.

Keywords: Accounting estimates, credibility, financial statements, accountants’ bias, estimation uncertainty
INTRODUCTION

The purpose of financial statements is to provide stakeholders such as shareholders, management, investors, lenders, suppliers, government and customers with useful information about the firm’s ability in managing available material and economic resources thereby building its value. Such information influences the decisions of stakeholders in their relationship with the business. It enables lenders and suppliers to appraise the credit worthiness of the business; it helps the government to determine the business tax liability; and it gives guidance to shareholders and investors on investment decisions. It is the responsibility of management accountants to generate information for the preparation of financial statements. Such information includes both actual and estimated monetary values of financial statements elements. The question is how do we ascertain the financial value that would be used to record items of financial statements when the actual amount is unknown? This calls for accounting estimates.

According to Costello (2012), accounting estimate is an approximation of the monetary value of elements or items of financial statements for which there is no precise means of measurement. Accounting estimates include among others depreciation calculations, warranty claims, and bad debts. Depreciation calculation requires the accountant to estimate the number of years the firm will use the asset and the value of the asset at the end of the asset's life. Warranty claim requires the accountant to estimate the number of customers who will file warranty claims and the cost of repairs for such claim. Bad debt requires the accountant to estimate the number of customers who will default on their accounts and the monetary value of those accounts. According to Gay (2010), estimates are based on subjective as well as objective criteria and as a result, judgment is required to estimate the monetary value of an item or event. Such judgment must be as accurate as possible. Accountant’s judgment is normally based on his knowledge and experience about past and current events and his assumptions about conditions he expects to exist and courses of action he expects to take. Sagam (2006) posits that even when management’s estimation process involves competent personnel using relevant and reliable data, there is potential for bias in the subjective criteria of accounting estimates.

The ever-increasing prevalence of estimates in accounting information is among the most fundamental issues in accounting. The reliability of these estimates is increasingly challenged by de-regulation, globalization and fast technological changes thereby making the reliability of accounting estimates increasingly difficult. Schoderbek (2009) claimed that the credibility of financial information is compromised by the increasing difficulty of making reliable forecasts in a fast-changing, often turbulent economy; and the frequent managerial misuse of estimates to manipulate financial data. According to Li, Lev and Sougiannis (2009), biased estimates provide unreliable information of the financial statements thereby misleading users of the information. Based on the above discussion, the objectives of this paper are –

(i) To examine the degree of biasness by accountants in the determination of accounting estimates.

(ii) To investigate the extent to which accounting estimates influences the credibility of financial statements of firms.
To achieve the above objectives, the following null hypotheses are raised;

Ho₁; Accountants are not bias in the determination of accounting estimates.

Ho₂; There is no significant relationship between accounting estimates and the credibility of financial statements of firms.

**LITERATURE REVIEW**

Financial statements provide business stakeholders with information about the performance of the business. It provides information about the liquidity, solvency, efficiency, profitability, and investment performance of a business upon which decisions are made by the stakeholders. The accountant has an obligation to create these statements to the best of his ability. When the accountant knows that financial activities have occurred, even if the value is unknown, he needs to reflect those activities. Estimating the value of those activities allows him to include that impact in the financial statements. According to McIntosh (2011), accounting estimates include the estimated salvage value and the estimated useful life of depreciable assets, estimated percentage of bad debt expense, estimated percentage of units to be repaired or replaced during a warranty period, and routine estimates of monthly expenses for utilities and other expenses. When a change is needed to one of the estimates, the change can affect the current and future periods. Sagam (2006) claimed that for accounting estimates to be useful and relevant, the accountant needs a reliable basis of estimating those numbers. He might use historical information, documentation, or personal calculations to estimate the numbers. Historical information provides a reliable basis for numbers that rarely change. Documentation provides a good basis when the accountant uses a vendor contract to estimate the numbers. If he calculates the estimate using his own calculations, he needs to document those calculations.

Some of the accounting transactions and events involving accounting estimates are

(i) **Losses on Financing Receivables** – These are recognized when they are incurred. Therefore the accountant required to make best estimate of probable losses inherent in the portfolio. Such estimate requires consideration of historical loss experience, adjusted for current conditions, and judgments about the probable effects of relevant observable data, including present economic conditions such as delinquency rates, financial health of specific customers and market sectors, collateral values, and the present and expected future levels of interest rates. The risk management process, which includes standards and policies for reviewing major risk exposures and concentrations, ensures that relevant data are identified and considered either for individual loans or leases, or on a portfolio basis, as appropriate (Li, Lev, and Sougiannis, 2009). According to Ohlson (2010), past experience and the use of extensive accumulated data facilitate estimates that are reliable.

(ii) **Revenue Recognition on Long-Term Contracts** – Revenue recognition on long-term contracts to provide product services (product services contracts) requires estimates of profits over the multiple-year terms of such contracts, considering factors such as the frequency and extent of future monitoring, maintenance and overhaul events; the amount of personnel, spare parts and other resources required to perform
the services; and future billing rate and cost changes (Gamu, 2009). Estimates under product services agreements are regularly revised to adjust for changes in outlook. Fuji (2004) posits that revisions that affect a product services agreement’s total estimated profitability will also result in an immediate adjustment of earnings. More so, customer credit risk inherent in the carrying amounts of contract costs and estimated earnings are regularly assessed. With this we are able to gain insight into future utilization and cost trends, as well as credit risk.

(iii) Asset Impairment – The assessment of asset impairment involves various estimates and assumptions involving the class of asset such as:

Investments – Investment securities are regularly reviewed for impairment based on criteria that include the extent to which cost exceeds market value, the duration of that market decline, our intent and ability to hold to recovery and the financial health and specific prospects for the issue (Gamu, 2009). There is need to perform a comprehensive market research and analysis and monitor market conditions to identify potential impairments.

Long-Lived Assets - Long lived asset are reviewed for impairment whenever events or changes in circumstances indicate that the related carrying amounts may not be recoverable. Determining whether impairment has occurred typically requires various estimates and assumptions, including determining which cash flows are directly related to the potentially impaired asset, the useful life over which cash flows will occur, their amount, and the asset’s residual value, if any. McIntosh (2011) revealed that the measurement of an impairment loss requires a determination of fair value, which is based on the best information available. Internal discounted cash flow estimates and quoted market prices when available are appropriate to determine fair value. The cash flow estimates are derived from justified experience and internal business plans. According to Costello (2012) the fair value used to assess the impairment of an asset is also based on current market values generated by independent appraisers.

Goodwill and other identified intangible Assets- Goodwill is measured for impairment annually and whenever events or circumstances make it more likely than not that impairment may have occurred, such as a significant adverse change in the business climate or a decision to sell or dispose of a reporting unit. Determining whether impairment has occurred requires valuation of the respective reporting unit, which is estimated using a discounted cash flow method. When available and as appropriate, comparative market multiples are used to corroborate discounted cash flow results. In applying this methodology, we rely on a number of factors, including actual operating results, future business plans, economic projections and market data (Jaggi and Bharat, 2012). If an analysis indicates that goodwill is impaired, measuring the impairment requires a fair value estimate of each identified tangible and intangible asset.

Other identified intangible assets with defined useful lives are also assessed for impairment and subject to amortization by comparing the carrying amount to the sum of undiscounted cash flows expected to be generated by the asset. But intangible assets with indefinite lives are measured annually for impairment using a fair value method such as discounted cash flows.
Insurance Liabilities and Reserves – Insurance liabilities and reserves differ for short and long-duration insurance contracts. Short-duration contracts such as property and casualty policies are accounted for based on actuarial estimates of losses inherent in that period’s claims, including losses for which claims have not yet been reported. Short-duration contract loss estimates rely on actuarial observations of ultimate loss experience for similar historical events. Measurement of long-duration insurance liabilities (such as guaranteed renewable term, whole life and long-term care insurance policies) also is based on approved actuarial methods that include assumptions about expenses, morbidity, lapse rates and future yield on related investments. Jaggi and Bharat (2012) reported that insurance industry experience indicates that a greater degree of inherent variability exists in assessing the ultimate amount of losses under short-duration property and casualty contracts than exists for long-duration mortality exposures. This inherent variability is particularly significant for liability-related exposures, including latent claims issues (such as asbestos and environmental related coverage disputes), because of the extended period of time—often many years—that transpires between when a given claim event occurs and the ultimate full settlement of such claim. This situation is then further exacerbated for reinsurance entities (as opposed to primary insurers) because of coverage often being provided on an “excess-of-loss” basis and the resulting lags in receiving current claims data.

Pension Assumptions - These are significant inputs to actuarial models that measure pension benefits or obligations and related effects on operations. Two critical assumptions—discount rate and expected return on assets—are important elements of plan expense and asset/liability measurement. These critical assumptions are evaluated at least annually on a plan and country specific basis. Other assumptions involving demographic factors such as retirement age, mortality and turnover are evaluated periodically and are updated to reflect the experience and expectations for the future. Actual results in any given year will often differ from actuarial assumptions because of economic and other factors (Lakanmi and Richards, 2009). With a given discount rate one is enable to state the expected future cash flows at a present value on the measurement date. This rate is the yield on high-quality fixed income investments at the measurement date. A lower discount rate increases the present value of benefit or obligations and increases pension expense.

To determine the expected long-term rate of return on pension plan assets, attention should be given to the current and expected asset allocations, as well as historical and expected returns on various categories of plan assets.

Other Loss Contingencies – Such are recorded as liabilities when it is probable that a liability has been incurred and the amount of the loss is reasonably estimable. Disclosure is required when there is a reasonable possibility that the ultimate loss will exceed the recorded provision. Contingent liabilities are often resolved over long time periods. Estimating probable losses requires analysis of multiple forecasts that often depend on judgments about potential actions by third parties such as regulators (Lakanmi and Richards, 2009).

THEORETICAL FRAMEWORK
Some financial statement items cannot be measured precisely but can only be estimated. Such financial statements items are referred to as accounting estimates. The nature and reliability of information available to the accountants to support the making of an accounting estimate varies widely, which therefore affects the degree of estimation uncertainty associated with accounting estimates. The degree of estimation uncertainty affects, in turn, the risks of material misstatement of accounting estimates, including their susceptibility to unintentional or intentional management bias.

Prior studies that relate accounting estimates and the credibility of financial statements revealed a high impact of accounting estimates on financial statements credibility. Schoderbek (2009) revealed that investors’ lost their confidence in real estate in Malaysia as a result of wrong investments based on wrong accounting information which metamorphosed from biased accounting estimates. Sagam (2006) reported that the objectivity of accounting estimates of certain financial statement items such as net realizable value of inventory and account receivables, property and casualty insurance loss reserves, and pension and warranty experiences of financial institutions in the U.S., enhances the firm’s market value as a result of the quality of information used in preparing the financial statements. Jaques and Bennet (2008) also indicated that auditors of selected firms in South Africa reports that in obtaining and evaluating sufficient and appropriate audit evidence, the accounting estimates were biased and therefore negativity affect their audit of financial statements of such firms. Lakanmi and Richards (2009), also claimed that there is a high level of biasness among accountants in the determination of accounting estimates.

METHODOLOGY

This study involves a pilot survey of twenty-seven (27) firms selected from the hospitality industry in Rivers State of Nigeria. In order to generate the necessary data for the study, a set of questionnaire was administered on the independent auditors of the selected firms. The questionnaire was designed in 5-points Likert scale with weights of 5, 4, 3, 2 and 1 from the positive side.

The data generated for this study were analysed using percentages while the stated hypotheses were statistically tested with Chi-square ($\chi^2$) and Pearson Product-Moment Coefficient of Correlation.

DESCRIPTIVE ANALYSIS

Although all the twenty-seven (27) copies of questionnaire administered on the independent auditors of the selected firms were successfully retrieved, six (6) copies were found not usable. Therefore, this analysis was based on the responses from twenty-one (21) auditors.
The respondents were asked to indicate the extent to which accountants are being biased in the determination of accounting estimates, and the result obtained is presented in the table below.

**Table 1: Degree of accountants’ biasness in the determination of accounting estimates**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequencies</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Very High Extent</td>
<td>6</td>
<td>28.57%</td>
</tr>
<tr>
<td>(b) High Extent</td>
<td>9</td>
<td>42.86%</td>
</tr>
<tr>
<td>(c) Indifferent</td>
<td>2</td>
<td>9.52%</td>
</tr>
<tr>
<td>(d) Low Extent</td>
<td>3</td>
<td>14.29%</td>
</tr>
<tr>
<td>(e) Very Low Extent</td>
<td>1</td>
<td>4.76%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Field Work (2013)*

The data presented in the table above shows that 6(28.57%) of the respondents indicated a very high extent of accountants’ biasness in the determination of accounting estimates; 9(42.86%) stated a high extent; 2(9.52%) were indifferent; 3(14.29%) revealed a low extent; while 1(4.76%) suggested a very low extent. This implies that accountants are highly biased in the determination of accounting estimates.

The respondents were asked to indicate the extent to which accounting estimates influence the credibility of financial statements, and the result obtained is presented in the table below.

**Table 2: Extent to which accounting estimates influence the credibility of financial statements.**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequencies</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Very High Extent</td>
<td>5</td>
<td>23.81%</td>
</tr>
<tr>
<td>(b) High Extent</td>
<td>7</td>
<td>33.33%</td>
</tr>
<tr>
<td>(c) Indifferent</td>
<td>1</td>
<td>4.76%</td>
</tr>
<tr>
<td>(d) Low Extent</td>
<td>6</td>
<td>2.57%</td>
</tr>
<tr>
<td>(e) Very Low Extent</td>
<td>2</td>
<td>9.52%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Field Work (2013)*

Analysis of the questionnaire revealed that 5(23.81%) of the respondents indicated that accounting estimates influence the credibility of financial statements to a very high extent; 7 (33.33%) stated a high extent; 1(4.76%) was indifferent; 6(28.57%) revealed a low extent while 2(9.52%) showed a very low extent. This implies that accounting estimates influence the credibility of financial statements.
TEST OF HYPOTHESES

Ho₁; Accountants are not biased in the determination of accounting estimates.

In testing this hypothesis, data presented in table 1 were used and the Chi-square test is as presented in the table below.

Table 3; Chi-Square Test for Hypothesis I

<table>
<thead>
<tr>
<th>Responses</th>
<th>of</th>
<th>ef</th>
<th>(of – ef)</th>
<th>(of – ef)^2</th>
<th>(of – ef)^2/ef</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Very High Extent</td>
<td>6</td>
<td>4.2</td>
<td>1.8</td>
<td>3.24</td>
<td>0.77</td>
</tr>
<tr>
<td>(b) High Extent</td>
<td>9</td>
<td>4.2</td>
<td>4.8</td>
<td>23.04</td>
<td>5.49</td>
</tr>
<tr>
<td>(c) Indifferent</td>
<td>2</td>
<td>4.2</td>
<td>-2.2</td>
<td>4.94</td>
<td>1.15</td>
</tr>
<tr>
<td>(d) Low Extent</td>
<td>3</td>
<td>4.2</td>
<td>-1.2</td>
<td>1.44</td>
<td>0.34</td>
</tr>
<tr>
<td>(e) Very Low Extent</td>
<td>1</td>
<td>4.2</td>
<td>-3.2</td>
<td>10.24</td>
<td>2.44</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>21</td>
<td></td>
<td>10.19</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Field Work (2013)*

Expected frequency (ef) = N/k i.e. 21/5 = 4.2

\[ \chi^2 = 10.19 \]

Degree of freedom = K – 1 = 5 – 1 = 4

At 0.05 level of significance and 4 degree of freedom, the critical value of Chi-Square (\(\chi^2\))

\[ \chi^2_{\text{computed}} = 10.19 \]

\[ \chi^2_{\text{critical}} = 9.49 \]

Decision; Reject Ho; This implies that accountants are biased in the determination of accounting estimates.

Ho₂; There is no significant relationship between accounting estimates and the credibility of financial statements of firms

In testing this hypothesis, data were generated on the strength of accounting estimates and the credibility of financial statements. The two variables were related and the result obtained is presented in the table below.
The table above shows a correlation coefficient of 0.864 which is close to 1.0 from the positive side. This indicates a strong positive relationship. The p-value (0.01) is less than 0.05 level of significance, which suggests a significant relationship. This implies that accounting estimate has a significant relationship with the credibility of financial statements.

**CONCLUSION AND RECOMMENDATIONS**

Some financial statements items cannot be measured precisely because relevant data concerning such events or transactions are not readily available, hence the need for accounting estimates. Accountants are responsible for making the accounting estimates included in the financial statements. Estimates are based on subjective as well as objective factors and as a result judgment is required to estimate an amount at the date of the financial statements. Accountants judgment is normally based on their knowledge and experience about past and current events and their assumptions about conditions they expects to exist and courses of action they expects to take. The nature of information available to the accountant to support the making of an accounting estimate varies widely, which thereby affects the degree of estimation uncertainty associated with accounting estimates.

The result of this study has revealed that accounting estimate has a significant relationship with the credibility of financial statements of firms. That is, the higher the reliability of accounting estimates the higher the credibility of financial statements. But accountants in the Nigerian hospitality industry are highly bias in the determination of accounting estimates because they do not pay adequate attention to the process of developing such estimates. This biasness leads to risk of material misstatements of accounting information thereby misleading users in their decision making.

Based on our findings and the conclusion drawn there from, the following recommendations are made –

(i) Accountants should carefully follow the process of developing accounting estimates to make such estimates more objective and reliable.
(ii) Firms should regularly organize training programmes, workshops and conferences for accountants to properly acquaint them with the requisite skills and knowledge on the determination of accounting estimates.

(iii) Revised estimates arising from the significant deviations between estimates and facts should be properly disclosed in the financial statements as such may change the pattern of earnings.

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