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LETTER FROM THE EDITOR

Welcome to the *Academy of Accounting and Financial Studies Journal.* The *Journal* is the official publication of the Academy of Accounting and Financial Studies, an affiliate of the Allied Academies, Inc., a non profit association of scholars whose purpose is to encourage and support the advancement and exchange of knowledge, understanding and teaching throughout the world. The mission of the *AAFSJ* is to publish theoretical and empirical research which can advance the literatures of accountancy and finance.

As has been the case with the previous issues of the *AAFSJ*, the articles contained in this volume have been double blind refereed. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies.

The Editor works to foster a supportive, mentoring effort on the part of the referees which will result in encouraging and supporting writers. We continue to welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

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THE COMPASS ROSE VANISHES

Premal P. Vora, Penn State Harrisburg

ABSTRACT

The use of visual display of data has increased dramatically over time. In finance, one of the most beautiful visualizations is the "compass rose" first identified by Crack and Ledoit (1996). I revisit the compass rose and demonstrate that it has vanished from daily return data. I also provide evidence on the frequency of discrete price changes in the Crack and Ledoit data versus more recent data and conclude that the changing nature of the U.S. stock market has resulted in the vanishing of the compass rose.

INTRODUCTION

The use and analysis of visual display of data has increased in virtually every human endeavor including commerce. For instance, a search on ABI/Inform of all newspaper and magazine articles carrying the term "visual" or "visualization" over the 15 years spanning 1983-1997 reveals that either term appeared in 4,410 articles; over the 15 years 1998-2012 there were 15,045 articles that carried either of those terms – a more than three-fold increase. Yet, the academic finance literature has mostly ignored the use of visual displays of data. A significant exception is the beautiful compass rose visualization brought to the attention of the academic community by Crack and Ledoit (1996, henceforth CL). When CL plot the value of the daily return on a common stock against its lagged value they find that a visually interesting and attractive pattern, best described as a mariner's "compass rose", emerges. In the mariner's compass rose, the most common directions — north-south (NS), east-west (EW), northwest-southeast (NW-SE), and northeast-southwest (NE-SW) — are clearly marked. Likewise, in the CL compass rose a large number of points fall on these directional lines creating a pattern like the mariner's compass rose.

While the pattern may be visually interesting, it also has serious implications for research in finance. As suggested by CL and others, one possible source of the pattern is discreteness in stock prices or, stated in another way, the existence of a small number of ticks by which stock prices move. Gottlieb and Kalay (1985) demonstrate that discreteness in prices affects the variance and other higher moments of returns. Kraemer and Runde (1997) show that discreteness seriously biases statistical tests of chaos in returns. Additionally, CL and Koppl and Nardone (2001) suggest that the presence of discreteness leads to return distributions that are inconsistent with standard ARCH models.

Another strain of literature motivated by CL discusses the necessary and sufficient conditions that lead to the compass rose. According to CL, three conditions that — taken together — are necessary and sufficient for the compass rose to emerge are:

1. Daily price changes should be small relative to the level of the stock price,
2. Daily price changes are in a small number of discrete values, and
3. The price of a stock varies over a wide range.

Szpiro (1998), however, concludes that the only condition both necessary and sufficient for the emergence of the rose is discreteness in price changes. Gleason, et al. (2000) argue that the tick/volatility ratio has to be above some threshold level before the pattern will emerge. Wang and Wang (2002) derive a measure of the visual quality of the compass rose which is affected by the tick size, by return volatility and by the price level. The common characteristic among these papers is the role of the tick size.

The microstructure of the U.S. stock market has undergone significant changes since CL brought the rose to our attention. Of particular relevance to the compass rose is the decimalization of U.S. stock market quotes and prices in the years 2000 and 2001. The decimalization of quotes and prices has resulted in a substantial decrease in tick size for most stocks (Bessembinder, 2003). This raises the possibility that changes in microstructure have resulted in the disappearance of the rose. McKenzie and Frino (2003), however, report that despite an 85% post-decimalization drop in the tick/volatility ratio, the compass rose continues to emerge from the data.

I revisit the compass rose to assess whether recent changes in the stock market has had any impact on it. Subsequent to the decimalization of the stock market, the most interesting and visible change to market microstructure has been the arrival of high-frequency algorithmic trading (Hasbrouck and Saar, 2013). Such trading has further affected volumes, tick sizes and volatility in the market. In light of these significant and ongoing changes in market microstructure, it is an open research question whether the compass rose continues to emerge from the data or no. Whether it does or no affects our ability to use statistical tests based on chaos theory as well as ARCH models to study the stock market.

In this paper, in Section 2, I reproduce the CL compass rose for Weyerhaeuser stock and for the cross-section of NYSE/Amex listed common stocks. I update CL's visualizations by attempting to recreate the rose from the latest return data. My attempts to recreate the rose from the latest data are mostly unsuccessful. In Section 3, I provide evidence on discrete price changes in the sample used by CL and compare that to what emerges from the recent data. I conclude in Section 4.

THE COMPASS ROSE AND ANALYSIS

To demonstrate the changing nature of the U.S. stock market and how that affects the compass rose, I first reproduce CL's Weyerhaeuser-stock compass rose. Their compass rose displays returns up to the end of 1993. I gather the daily returns for Weyerhaeuser stock from December 9, 1963 until December 31, 2012 from the CRSP Daily Returns file. In Figure 1a., Weyerhaeuser's daily returns on day t are plotted against returns on day t + 1 for the period December 9, 1963 until December 31, 1993. In Figure 1b. I display Weyerhaeuser returns from January 4, 1994 until December 31, 2012. For both parts, returns <-3% and >3% are deleted. (This is consistent with CL's approach. For part a., 658 observations are deleted from 7,567 for a total of 6,909. For part b., 646 observations are deleted from 4,784 for a total of 4,138.)

The compass rose pattern first identified by CL is clear and distinct in Figure 1a. The most significant feature of the rose is the appearance of the NS and EW lines in the visual. Additionally, lines are clearly visible in the NW-SE and NE-SW direction. However, in the post-1993 era the rose virtually disappears. Two faint lines are visible – one NS and the other EW. A casual observation of Figure 1b. will conclude that no pattern is visible in the visual.

Figure 1
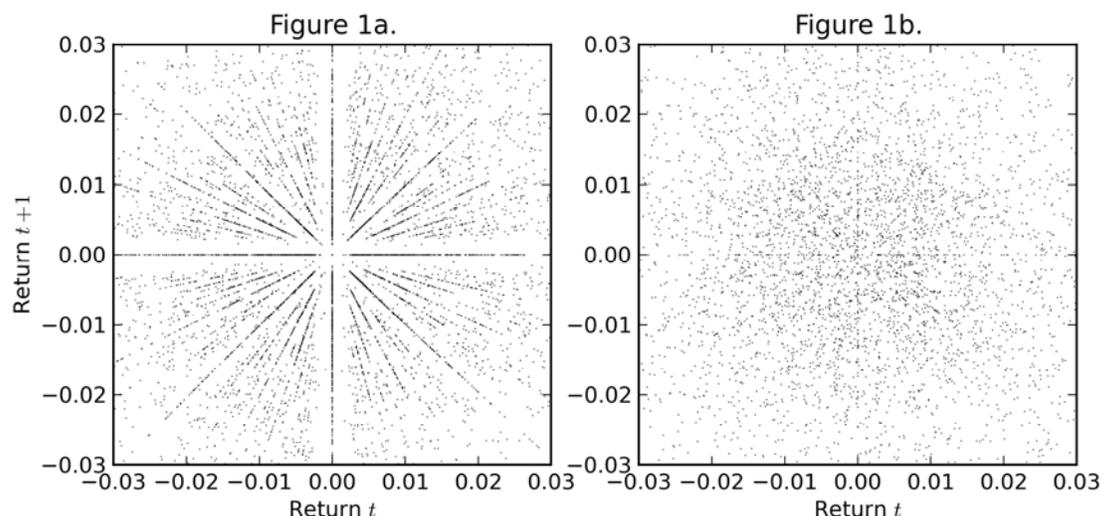
Is the disappearance of the rose confined to just Weyerhaeuser? CL demonstrate that the pattern is consistent across all the stocks listed on the NYSE. I gather the prices on all NYSE/Amex stocks on the same days as in CL (October 19 and 20, 1993) and — to investigate whether the rose pattern appears in the recent data — on October 18 and 19, 2012. In Figures 2a. and 2b. I reproduce the CL NYSE rose as well as an updated version of it based on the 2012 data. For both parts, returns <-3% and >3% are deleted. (For part a., 670 observations are deleted

from 2,165 for a total of 1,495. For part b., 248 observations are deleted from 1,554 for a total of 1,306.)

Again, the compass rose pattern that CL demonstrated for all NYSE stocks is apparent in Figure 2a. From Figure 2b. it is also clear that the rose vanishes for the cross-section of all NYSE/Amex stocks. The disappearance of the pattern is complete and unequivocal in the cross-section as opposed to for Weyerhaeuser stock as the faint NS and EW lines that were visible in the Weyerhaeuser visual are completely absent in the cross-section. I now turn my attention to changes in tick size both for Weyerhaeuser stock and for the cross-section of all stocks.

Figure 2
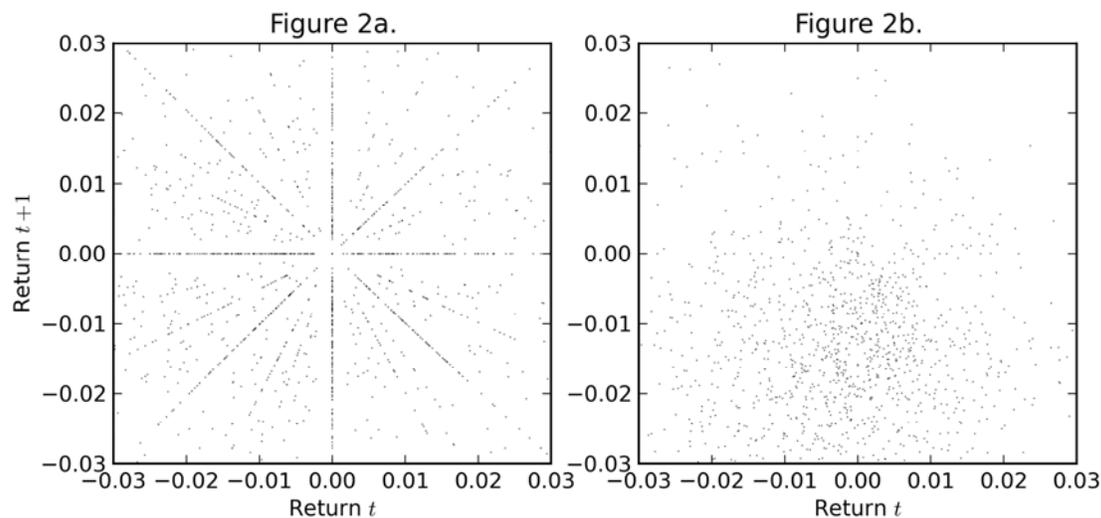
TICK CHANGES

The dramatic increase in ticks that has occurred in the U.S. stock market post-1993 is best illustrated by counting the number of different ticks in the CL period and contrasting that with the counts in the post-1993 period. Ticks for Weyerhaeuser stock are plotted against how frequently they occur in Figure 3. In part a., the data is confined to the CL period while in part b. the data is confined to the post-1993 period. While in 3a. there are a few discrete values that price changes occur in and large frequencies associated with the most common of these values, in 3b. it is clear that there are many different discrete values but the share of any one is much smaller than it is in the CL period.

In particular, in the CL period there are 39 discrete price changes (two out of 39 fall outside the -$3.00 to $3.00 range). For the post-1993 data, there are a total of 843 different discrete price change values (one out of 843 falls outside the -$3.00 to $3.00 range).

Figure 3
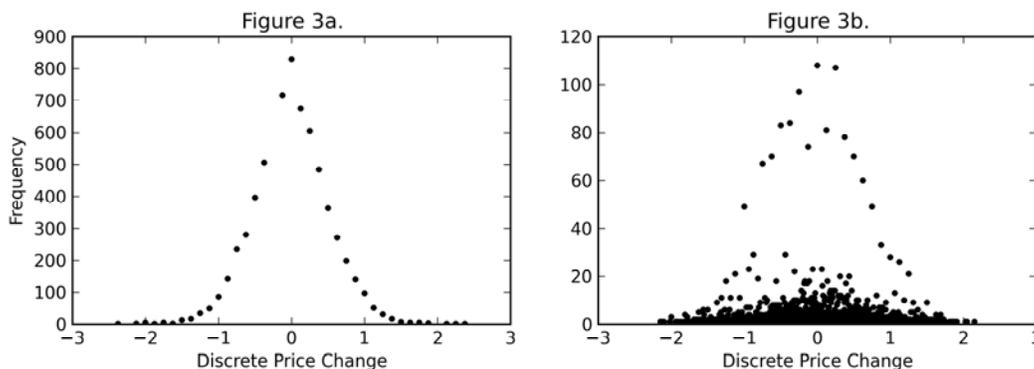
What about the cross-section of NYSE/Amex stocks? In Figure 4, I plot the discrete price change values and their frequencies for the cross-section of NYSE/Amex stocks. In part a., the data is for the two previously-identified days in October 1993 and part b. for the two previously-identified days in October 2012. It is clear from the figure that the increase in discrete price changes that was observed for Weyerhaeuser extends to the cross-section of NYSE/Amex stocks also. In the CL period there are 102 different discrete values of price changes -- 64 out of these are below -$5.00 or above $5.00 and are not displayed in Figure 4a. (all 64 occur only once in the data). In the post-1993 period, there are 686 different discrete price changes – only 19 are below -$5.00 or above $5.00 and are not displayed in Figure 4b.

The evidence on the frequency of discrete price changes is dramatic and unequivocal. The changing nature of the U.S. stock market driven by changes in the microstructure has led to a multitude of discrete price changes. Such a dramatic increase in discrete values by which price changes occur appears to have largely eliminated the compass rose that was observed by CL and others.

Figure 4
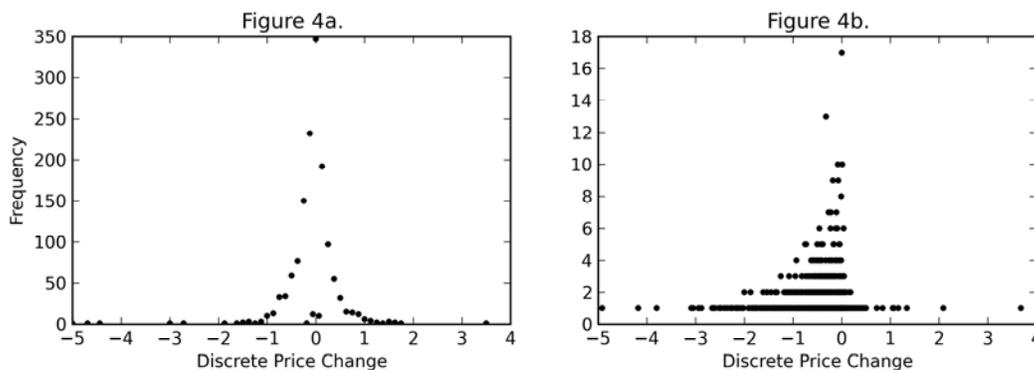
CONCLUSIONS

The compass rose is an important and beautiful visual pattern in the U.S. stock market first identified by CL. It is important because the existence of the pattern seriously biases statistical tests of chaos in returns and it is also inconsistent with the assumption of normality that ARCH models make. Analysis of the pattern subsequent to CL by Szpiro (1998), Gleason, et al. (2000) and Wang and Wang (2002) suggests that tick size plays the most important role in whether consecutive returns will visualize as a compass rose or not. With some of the significant and ongoing changes in U.S. market microstructure and their impact on tick size, it is an open research question whether the compass rose emerges from recent data or not.

In this paper I reproduce some of the CL visualizations, but — more importantly — I update them with more recent data. Based on the visualizations I present in this paper, I conclude that the compass rose has more or less vanished. I demonstrate that the number of discrete price changes has increased dramatically in the post-1993 years. These increases in discrete price changes are visualized to bring out the contrast in the CL period versus the post-1993 period. With algorithmic trading driving huge volumes in the U.S. stock market combined with regulatory changes in the tick size, it is unlikely that the compass rose will be seen again in daily data.

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ANALYSIS OF DUAL CAPITAL CONCEPT: FROM DUAL MEASUREMENT TO DUAL RECOGNITION OF INCOME

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ABSTRACT

This paper explains the relationship between net income and comprehensive income, on the basis of differences in their recognition. Current accounting standards require disclosure of net income (profit and loss) and comprehensive income. During the 1980s, it was required to disclose multiple income figures adjusted for inflation or price changes. On the basis of historical and international comparative research on accounting standards and a review of accounting literature, this paper clarifies the difference between, and provides a rationale for, the current presentation of income and that in the 1980s.

Although multiple concepts of income and multiple concepts of capital were applied, those in 1980s were multiple measurements, which were different from the current accounting treatment. Current accounting treatment can be described as dual recognition rather than dual measurement. As long as other comprehensive income items are recycled, it could be described as dual income concept based on dual recognition is applied under the single capital maintenance concept. The change in fair value included in other comprehensive income will not be directly credited to shareholders' equity, but will be credited through comprehensive income.

INTRODUCTION

Current accounting standards require disclosure of net income (profit and loss) and comprehensive income (Accounting Standards Codification, ASC 220-10-45; International Accounting Standard, IAS 1 par.81A; Accounting Standard Board of Japan, ASBJ Statement No.25). During the 1980s, it was required to disclose multiple income figures adjusted for inflation or price changes (Statement of Financial Accounting Standards, FAS 33, pars.29-30). This paper explains the differences between the multiple income figures disclosed in both cases.

A number of existing studies have focused on the pricing of other comprehensive income (Dhaliwal, Subramanyam & Trezevant, 1999; O'Hanlon & Pope, 1999; Biddle & Choi, 2006; Chambers, Linsmeier, Shakespeare & Sougiannis, 2007). In contrast, this paper theoretically analyzes the explanation of the relationship between net income and comprehensive income.

The Japanese conceptual framework defines comprehensive income as the change in net assets during a certain period resulting from transactions or events other than direct transactions

with shareholders, minority shareholders, and option holders. Net income is defined as the result of investments attributable to the owners of the reporting entity (ASBJ, 2006, 24).

Existing studies in Japan have analyzed the relationships between net income and comprehensive income as well as between owners' equity and net assets. In 2010, ASBJ Statement No.25, *Accounting Standard for Presentation of Comprehensive Income* was issued. Ishikawa (1997b) discussed the meaning of recycling. Akiba (2013) discussed and explained the meaning of recycling under current International Financial Reporting Standards (IFRSs). Suzuki & Yabushita (2012) discussed recycling issues related to IFRS 9.

Yamada (1999) discussed the relationship between net income and comprehensive income from the revenue-expense view and the asset-liability view. Yoshida (2011) discussed the concept of other comprehensive income on the basis of an international comparison of the relationship between net income and comprehensive income. Kawai (2012) discussed the relationship between net income and comprehensive income from the perspective of the distinction between capital and income.

Ishikawa (1997a) discussed the capital maintenance concept for the calculation of comprehensive income. Ono (2008) discussed the possibility of a capital maintenance concept other than nominal capital to explain other comprehensive income. Ono (2012) concluded that net income is based on a nominal capital maintenance concept and that comprehensive income is based on a net assets maintenance concept. Suzuki (2002) summarized the history of fair value accounting for financial instruments. Fukushima & Yamada (2009) discussed the capital maintenance concept that should be applied to financial instruments.

Gotanda (2010) classified a discussion of the relationship between net income and comprehensive income into three categories: first focusing on the difference in recognition, second explaining net income as a subtotal of comprehensive income, and third claiming that net income should be the same as comprehensive income.

Therefore, explaining the relationship between net income and comprehensive income and between capital maintenance concepts is important. In particular, type of capital maintenance concept applied to the calculation of net income and comprehensive income must be clarified under the current US GAAP and Japanese GAAP in which recycling is required in principle, because that has not been explicitly stated in the prior studies mentioned above. Although multiple concepts of income and capital were applied, the concepts used in the 1980s were multiple measurements, which differed from current accounting treatment. Current accounting treatment can be interpreted as dual recognition instead of dual measurement. As long as other comprehensive income items are recycled, there is no difference in the capital maintenance concept. Dual concepts of income based on dual recognition can be explained as being applied under the single capital maintenance concept.

This paper clarifies the difference between, and provides a rationale for, the current presentation of income and that in the 1980s on the basis of the historical and international comparative research of accounting standards and accounting literature.

DUAL MEASUREMENT IN FINANCIAL REPORTING

Variations in the concept of income were observed in accounting literature from the first half of the 20th century. Bedford (1951) criticized the variations in accountants' concept of income on the basis of an analysis of American Accounting Association (AAA, 1948) and Accounting Research Bulletins (ARB Nos. 1, 5, 8, 9, 11, 13, 16, 20, 29, and 32). One important issue was a comparison between accounting income and economic income. Such a viewpoint was seen in Paton (1924), Canning (1929), Fetter (1937), Littleton (1937), and many subsequent studies, and topic continues to be discussed (e.g., Ryan, 2007).

Other issues related to the definition of net income were the "current operating performance" type of income statement and the "all-inclusive" type of income statement (ARB 31). Serlin (1942) called the former "surplus viewpoint" and cited Sanders, Hatfield & Moore (1938), and called the latter "income viewpoint" and cited Paton & Littleton (1940). The issue was whether extraordinary gains and losses and prior period adjustments should enter into the calculation of net income. In 1966, when Accounting Principles Board (APB) Opinion No.9 was issued, the "all-inclusive" type of income statement became required.

The other concern about net income was the effect of inflation or price changes. Within the analysis of the income concept, one shortcoming of accounting income was highlighted: it did not properly present the real condition of the business during inflation or significant price changes. American Institute of Certified Public Accountants (AICPA, 1963) concluded that the effects of price-level changes should be disclosed as a supplement to conventional statements. In contrast, the need for current value data received substantial recognition (Edwards & Bell, 1961; Mathews, 1968).

In 1966, *A Statement of Basic Accounting Theory* (ASOBAT) was published by the AAA, which significantly affected accounting standards. Accounting was defined as the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information (AAA, 1966, 1). Therefore, ASOBAT was considered the first of the new statements of accounting theory that was user-oriented (Hendriksen & van Breda, 1992, 104). ASOBAT's general recommendation with respect to accounting information for external users was to present both historical transaction-based information and current-cost information in a multi-valued report in adjacent columns (AAA, 1966, 30-31).

During the inflationary period of the 1970s, inflation accounting standards were developed to meet the information needs of investors. The Securities Exchange Commission (SEC) adopted Accounting Series Release (ASR) No.190 and required replacement cost disclosures in 1976 (Beaver, Christie & Griffin, 1980, 128). As for U.S. GAAP, FAS 33 was issued in 1979 and required the followings to be reported as supplementary information (FAS 33, par.29):

1. Income from continuing operations adjusted for the effects of general inflation, and
2. The purchasing power gain or loss on net monetary items.

Moreover, enterprises were required to report the following current cost information (FAS 33, par.30):

1. Income from continuing operations on a current cost basis;
2. The current cost amounts of inventory and property, plant, and equipment at the end of the fiscal year; and
3. Increases or decreases in current cost amounts of inventory and property, plant, and equipment, net of inflation.

These requirements resulted in multiple measurements of income: income based on historical cost, income adjusted for the effects of general inflation, and income adjusted for the effects of changes in the prices of resources used by the enterprise. Each of these income concepts was related to the different capital maintenance concepts of initial monetary investment, general purchasing power, and operating capacity.

In the U.K., in 1973, an Exposure Draft "Accounting for changes in the purchasing power of money" (ED8) was issued. In 1974, Statement of Standard Accounting Practice (SSAP) No.7 was issued as a "provisional" statement, meaning that it did not involve a binding obligation to disclose and explain in annual accounts the departures from the procedures contained within, nor did it oblige the auditors to mention such departures in their report. SSAP 7 proposed the current purchasing power method that removes the distorting effects of changes in the general purchasing power of money on accounts. However, in 1975, the *Report of the Inflation Accounting Committee* was published, which recommended current cost accounting. In 1980, SSAP 16 was issued, and it introduced current cost accounting in the U.K.

SSAP 16 provided for current cost information to be included in annual financial statements in addition to historical cost information. In current cost accounting, fixed assets and stock are normally expressed at their current cost. The statement was designed to maintain the operating capability of net operating assets, and that capital maintenance concept was reflected in the determination of profit (SSAP 16, pars.3-4).

In 1986, FAS 33 was superseded by FAS 89 and made the supplementary disclosure of current cost/constant purchasing power information voluntary. Early empirical studies failed to reveal the value relevance of the information. Beaver, Christie & Griffin (1980) examined the security price behavior of firms related to ASR 190 replacement cost disclosures and found no effect on security prices, indicating that no information was provided to the market. Gheyara & Boatsman (1980) and Ro (1980) found no price reaction. Beaver & Landsman (1983) and Olsen (1985) found no incremental information content for FAS 33 data.

The decline in inflation rates and analysts' ability to make their own adjustments seem to be reasons for the lack of relevance of the data (Hendriksen & van Breda, 1992, 405). Moreover, SSAP 16 was suspended in 1985 and formally withdrawn in 1988 (Technical Release No.707).

NET INCOME AND COMPREHENSIVE INCOME

Although the FASB generally followed the all-inclusive income concept, it occasionally made exceptions by requiring certain changes in assets and liabilities to not be reported in a statement that reports the results of operations for the period in which they are recognized; instead, these changes should be included in balances within a separate component of equity in a statement of financial position (FAS 130, par.3). These exceptions were as follows:

1. Foreign currency adjustments (FAS 52 - ASC 830),
2. Unrealized gains (losses) on securities (FAS 12, FAS 115 - ASC 320),
3. Minimum pension liability (FAS 87 - amended by ASC 715 for full recognition), and
4. Cash-flow hedging items and hedges of forecasted foreign-currency-denominated transactions (FAS 52, FAS 80 - ASC 815).

Some users of financial statement information expressed concerns about the increasing number of comprehensive income items that bypass the income statement. It was required to report the accumulated balances of those items in equity, but, there was considerable diversity existed as to how those balances and changes in them were presented in financial statements (FAS 130, par.4).

FAS 130 required that all items that meet the definition of components of comprehensive income be reported in a financial statement for the period in which they are recognized (FAS 130, par.14 - ASC 220-10-45-1). Information on other comprehensive income and comprehensive income can be presented in a combined statement of income and comprehensive income (FAS 130, par.22 - ASC 220-10-45-1B). Alternatively, that information can be reported in a standalone statement of comprehensive income or in an expanded statement of changes in stockholder's equity (FAS 130, par.22 - ASC 220-10-45-8, but superseded by Accounting Standard Update No.2011-05). In ASC 220, FASB encourages the use of either a combined statement in which other comprehensive income appears below net income or a standalone statement that begins with net income.

FAS 130 also required that adjustments be made to avoid double counting in comprehensive income items displayed as part of the net income of a period that was also displayed as part of other comprehensive income in that period or in prior periods. For example, gains on investment securities that were realized and included in net income of the current period and that also were included in other comprehensive income as unrealized holding gains in the period in which they arose must be deducted through other comprehensive income in the period

in which they are included in net income to avoid including them twice in comprehensive income. These adjustments are referred to as reclassification adjustments (FAS 130, par.18 - ASC 220-10-45-15). The process of including in net income an item previously reported in other comprehensive income is often referred to as recycling (Flood, 2013, 73). This expression clarifies that two concepts of income are employed and that the difference is not measurement but recognition: not the amount but the timing.

As for IFRSs, IAS 16 allows an entity to choose either the cost model or the revaluation model as its accounting policy for property, plant and equipment (par.29). When the revaluation model is selected, and if an asset's carrying amount is increased as a result of a revaluation, the increase will be recognised in other comprehensive income and accumulated in equity under the heading of revaluation surplus (IAS 16, par.39). And the revaluation surplus included in equity with respect to an item of property, plant and equipment is transferred directly to retained earnings when the asset is derecognized. The difference between depreciation based on the revalued carrying amount of the asset and depreciation based on the asset's original cost is an example of a revaluation surplus to be transferred directly to retained earnings when the asset is used by an entity (IAS 16, par. 41). As for intangible assets, IAS 38 allows an entity to choose either the cost model or the revaluation model as its accounting policy (IAS 38, par.72).

When the revaluation model is selected, the difference between comprehensive income and net income is not the difference in recognition, but the difference in measurement. Thus the dual concept of income and the dual concept of capital are applied.

FROM DUAL MEASUREMENTS TO DUAL RECOGNITIONS

Although a variety of formats could be found in annual reports containing information required by FAS 33 (FASB, 1980), not only historical cost but also constant dollar and current cost information became available. Because all balance sheet items and income statement figures were adjusted for general inflation or changes in specific prices, three net income figures existed and the stockholders' equity figures were presented in the financial statements, indicating that multiple measurements of income and calculation existed for multiple concepts of capital maintenance.

For example, the "Supplemental Information on the Effects of Changing Prices" of ACF Industries on December 31, 1979 (FASB, 1980, 100-101), in the Condensed Consolidated Balance Sheet included amounts (1) as reported in primary financial statements, (2) adjusted for general inflation (constant dollars), and (3) adjusted for changes in specific prices (current costs) and was presented in columns for assets, liabilities and stockholders' equity. As for the Statement for Income for the Year Ended December 31, 1979, in addition to the aforementioned amounts in (1), (2), and (3) for revenues, cost and expenses, (2) "Gain from Decline in Purchasing Power of Net Amounts Owed," and (3) "Effects of Increase in General Price Level,"

"Increase in Specific Prices (Current Cost) of Inventories, Plant, Property and Equipment," and the net "Effect of Increase General Price Level Over Increase in Specific Prices" were presented.

Current accounting standards require the presentation of certain unrealized gains and losses as other comprehensive income. When realized, they are reclassified into net income from other comprehensive income, which is recycled under U.S. GAAP. However, under IFRSs, some items of other comprehensive income, such as other comprehensive income on changes in revaluation surplus, are not subject to recycling while other items are (Mackenzie Njikizana, Coetsee, Chamboko, Colyvas, Hanekom & Selbst, 2013, 87). U.S. GAAP promotes the concept that a firm's lifetime net income equals its lifetime comprehensive income (Rees & Shane, 2012, 810).

According to AICPA (2012), in a survey of 500 entities registered with the SEC in 2011, 93 disclosed "Reclassification adjustments" as a component of other comprehensive income.

For the calculation of comprehensive income, the recycled items are recognized when they are accrued, and for the calculation of net income, they are recognized when realized.

The total of comprehensive income is calculated on the basis of nominal capital maintenance, which is not different from the calculation basis for net income. The difference results from the timing of recognition of the two income concepts.

The following illustration describes the difference in accounting treatments between inflation accounting in the 1980s and current accounting.

Illustration

The company purchases a share of stock at $100 at the first year-end (as available-for-sale securities). At the second year-end, the share price rose to $120, and the price index reached 110 (100 at the first year-end). At the third year-end the company sold the share at $150, and the price index reached 121.

Table 1 ACCOUNTING TREATMENT		
	Current Accounting Treatment	Constant Dollar Accounting
First year	Investment 100 　　Cash　　100	Investment 100 　　Cash　　100
Second year	Investment　20 　　OCI　　20	Investment　10 　　Capital　　10
Third year	Cash　　150 OCI　　20 　　Investment 120 　　Net Income　50	Investment　11 　　Capital　　11 Cash　　150 　　Investment　121 　　Net Income　29

With current accounting treatment, comprehensive income is recognized for $20 in the second year and $30 ($50-$20) in the third year, and net income is recognized in the third year. Any difference in the capital maintenance concept applied will be reflected in a difference in the total of income.

DUAL CONCEPTS OF CAPITAL IN THE JAPANESE CONCEPTUAL FRAMEWORK

Japanese conceptual framework employs two capital concepts: net assets, which represents any credit on the balance sheet that does not meet the definition of liabilities, and owners' equity, which represents a portion of net assets as net stock of investments that generates net income (ASBJ, 2006, 27). Owners' equity is presented as shareholders' capital in the balance sheet of Japanese companies. This relationship could be described as follows:

Table 2 RELATIONSHIP BETWEEN NET ASSETS AND OWNERS' EQUITY		
	Released from Risks	Not Released from Risks
Shareholders of the Parent Company	Net Income	Revaluation gains and losses
Minority Interests	Minority Income	Same as above attributable to minority interests

Instead of the term "realization," "released from risks" is used in the Japanese conceptual framework, and revenues/gains are recognized when the funds invested are released from risks of the investments (ASBJ, 2006, Chapter 3 par.13).

In the Japanese conceptual framework, minority interests are excluded from the owners of the reporting entity, and only the shareholders of the parent company are treated as owners' equity in consolidated financial statements (ASBJ, 2006, Chapter 3 par.7). Therefore, income attributable to minority interests is not included in net income and this is a permanent difference between net income and comprehensive income. Instead of the economic unit concept, the parent company concept was employed in the Japanese conceptual framework. Thus, dual capital concepts for net income (only shareholders of the parent company) and comprehensive income (shareholders of the reporting entity including minority interests) are considered to be employed in the consolidated financial statements.

Unrealized holdings gains and losses on other securities (available-for-sale securities), deferred gains or losses on hedges, and foreign currency translation adjustments are transferred to net income when they are realized. Unlike the amount of minority interests in the income of consolidated subsidiaries, the differences between net income and comprehensive income are not permanent.

Although net assets relates to comprehensive income and owners' equity for net income, both are calculated on the basis of the same capital maintenance concept of nominal capital. Dual recognition of earnings, not dual measurement is the answer to describing current financial statements presentation.

SUMMARY

Two income figures—net income and comprehensive income—are presented in the financial statements. This paper described the relationship between the two income concepts through a comparison with the multiple measurements adopted in the 1980s.

FAS 33 and other accounting standards such as SSAP 16, issued to provide necessary information on the effect of inflation in the 1970s, employed multiple measurements based on multiple capital maintenance concepts. However, both net income and comprehensive income are based on the same nominal monetary capital maintenance concept as long as the revaluation model is not adopted. For the revaluation model which is allowed for IFRSs, the situation is similar to that in the 1980s, and dual capital maintenance with dual calculation of income exists.

Because the change in the fair value of available-for-sale securities is reflected through other comprehensive income and not directly transferred to shareholders' equity, the calculation of comprehensive income may be explained as being based on the nominal monetary capital maintenance concept. Moreover as long as that amount is recycled, the calculation of net income may be said to also be on the basis of nominal monetary capital maintenance concept. As long as other comprehensive income is recycled, total of net income and total of comprehensive income will be identical in the long run, indicating that the difference between these two income figures could be described as being the result of the difference in the timing of recognition, not measurement.

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REACTION OF INITIAL ADR ISSUERS TO SUBSEQUENT ADRS

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ABSTRACT

The purpose of this paper is to assess the stock price reaction of initial ADR issuers to new ADR listings from the same country. Previous research finds that ADR listings from emerging markets result in a decrease in the cost of capital for the respective market. This would suggest that such contagion effect should influence the return performance of existing ADR issuers in each market. Using foreign stock returns of the underlying issuer and issuers of up to five ADR programs after the first indicate that subsequent ADR issues both positively and negatively affect the first company to initiate an ADR program. Results are reported for both listing and announcement dates for various event windows.

INTRODUCTION AND REVIEW OF THE LITERATURE

The purpose of this study is to determine if the first firm to initiate an ADR program experiences abnormal returns when new ADR programs are initiated by other firms in the same market. An ADR is a security that represents a certain number of shares of a foreign company's equity (Bank of New York Mellon 2012). The most notable benefit of an ADR program as it relates to this study is the ADR's ability to overcome international investment barriers.

An ADR's ability to access otherwise restricted markets would imply some influence of the ADR program on the required returns of the aggregate market and the ADR issuing firms. The low correlations among international equity markets offer a better risk-return trade-off (Speidell and Sappenfield 1992). However, investment barriers cause segmented markets and higher risk premiums (Errunza and Losq 1985; Foerster and Karolyi 1993). American Depositary Receipts are able to bypass these barriers and thereby are able to integrate markets and reduce the cost of capital for the issuing firm (Miller 1999).

Henry (2000) finds initial stock market liberalizations have a positive impact on the liberalizing market. However, the liberalizations studied do not include the issuance of ADRs. Henry's contention is that ADRs are issued from countries that have already experienced some form of liberalization. Bekaert and Harvey (2000) include the introduction of ADRs as a liberalization variable. They find a significant decrease in aggregate dividend yields for the liberalizing market which is interpreted as a decrease in the cost of capital for the market. Therefore, ADR issuance is accompanied by decreases in the cost of capital for the market and is hypothesized to do the same for existing ADR issuers. When using return data instead of

dividend yields they find negative abnormal returns for the introduction of ADRs, country funds, and an index measuring the introduction of both ADRs and country funds. This would mean that the cost of capital actually increases around such liberalizations. However, none of these findings using return data are significant. The absence of significance using return data and the ability to detect a significant impact using dividend yields is the reason given by them to use dividend yields.

Bekaert and Harvey (2000) also find that reductions in the cost of capital resulting from ADR issuance decrease with subsequent liberalizations. Karolyi (1998) finds that firms with ADR programs to be the most integrated firms in the home market. Similar to what Bekaert and Harvey (2000) found with regard to the market as a whole Blaylock and Duett (2004) find the same general pattern of a declining marginal reaction for firms that issue ADRs. In other words, the reduction in the cost of capital of the firm initiating the second ADR program is less than the reduction in the cost of capital of the firm initiating the first ADR program and so on. However, Bekaert and Harvey (1995) find that some markets become more segmented after liberalization and Francis, Hasan, and Hunter (2002) find that some markets that became highly integrated after a liberalization later became more segmented. Regardless of the pattern of changing levels of integration the research indicates that a certain degree of segmentation exists in the presence of continuous market liberalizations.

Although the aggregate cost of capital for the liberalizing market may fall even after the initial ADR is issued (or other liberalization is enacted) U.S. investors may still not be able to access the liberalizing market, only the ADRs from the market. If this is the case, the investor is more interested in the portfolio of existing ADRs which he or she has invested and how subsequent liberalizations affect it. Given that the home market is affected by each subsequent ADR arising from the market implies the possibility that firms with established ADR programs may also be affected. Blaylock (2007) finds such is the case regarding Korea. Focusing on the first ten firms to issue an ADR program he reports that those firms that have an ADR experience both positive and negative abnormal returns at the time of subsequent ADR issuances. This study builds on Blaylock (2007) by expanding the sample of markets to the 20 emerging markets analyzed in Bekaert and Harvey (2000). However, since each market may have a different number of ADRs, this study focuses only on the initial firm to issue an ADR so that the number of existing ADRs is the same across countries. Therefore, this study determines if the cost of capital for the initial firms to issue an ADR are affected when new ADR programs are initiated by other firms in the same market. The terms "issuance" and "initiated" as used here and throughout the study refer to either the listing of an ADR program or the initial announcement of an ADR program.

DATA AND METHODOLOGY

Blaylock and Duett (2004) use the daily returns of each of the first 10 ADRs originating from the 20 emerging markets in Bekaert and Harvey (2000). The sampling procedure follows that of Blaylock and Duett (2004). However, due to number of ADR issuers during the sample period this study limits itself to the first 6 publicly placed ADR issuers from each market. This would not limit the efficacy of this study since any ADR issuances after the sixth is not hypothesized to affect the first ADR issuer. The sample of firms was obtained from a directory of ADRs provided by Citibank and cross-checked with directories from Bank of New York, NYSE, and NASDAQ.

This study assesses the impact on the initial ADR issuer of both announcements and actual listing of subsequent ADR programs in the same market. Announcement and listing dates are established in the same way as Blaylock and Duett (2004). Announcement dates are determined by a search of announcements in Lexis/Nexis or by using the first SEC filing for the impending ADR program. Listing dates are obtained from either NASDAQ, NYSE, and AMEX or the closing dates as given by the Citibank directory. The daily returns for both the underlying stock and the foreign market indices are obtained from Datastream International and from the foreign stock market itself. The final sample results in nine countries with 37 ADRs available with listing dates and 39 ADRs available with announcement dates. The nine countries are Chile, Colombia, Greece, India, Korea, Portugal, Taiwan, Turkey, and Venezuela. Table 1 presents the number of ADRs that are available according to their order of issuance. Note that not all of a market's ADRs are included because of a lack of data or the inability to determine announcement or listing dates.

Table 1 Number of ADRs Included by Sequence							
Announcements:							
	ADR1	ADR2	ADR3	ADR4	ADR5	ADR6	Total
Number of ADRs	9	6	5	5	7	5	37
Listings:							
	ADR1	ADR2	ADR3	ADR4	ADR5	ADR6	Total
Number of ADRs	9	7	7	6	6	4	39

As in Schipper and Thompson (1983), Binder (1985a; 1985b; 1998), Foerster and Karolyi (1999), Henry (2000), and Blaylock and Duett (2004) the model in this study uses a multivariate regression model (MVRM) in which dummy variables are used to parameterize the abnormal returns. Two event windows are used, a 51 day event window and an 11 day event window. The model using the 51-day event window is

$$R_{1t} = \alpha_i + \gamma_k^{KADR}KADR_{kt} + \beta_1^a R_M^a + \beta_1^{US} R_M^{US} + \varepsilon_{1t}$$

where R_{1t} is the daily returns at time t for the first firm to have an ADR event and $KADR_{kt}$ is a dummy variable that equals 1 during the event window (-25 to +25) around the kth ADR event after that the first. R_M^a is the daily returns of the stock market index for Market A. R_M^{US} is the daily returns for the S&P 500. γ_k^{KADR} measures the average daily abnormal return of the first ADR issuer due to a subsequent event actuated by another firm.

The model using an 11 day event window segmented into two smaller windows is

$$R_{1t} = \alpha_i + \gamma_k^{KPRE}KPRE_{kt} + \gamma_k^{KPOST}KPOST_{kt} + \beta_1^a R_M^a + \beta_1^{US}R_M^{US} + \varepsilon_{it}$$

where R_{1t} is the daily returns for the first firm to have an ADR event at time t, $KPRE_{kt}$ is a dummy variable that equals 1 during the 6 day window leading up to the event (-5 to 0), and POST is a dummy variable that equals 1 during the 5 day window after the event (+1 to +5). R_M^a is the daily returns of the stock market index for Market A. R_M^{US} is the daily returns for the S&P 500. γ_k^{KPRE} measures the average daily abnormal return for the five days leading up to and including the event and γ_k^{KPOST} measures the average daily abnormal return for the five days after the event.

EMPIRICAL RESULTS

The results are presented in Table 2 and Table 3. Table 2 shows that all of the subsequent five ADR listings after the first, estimated as a group, negatively affect the first firm to list an ADR over the 51 day event window. The average daily abnormal returns for the 51 day period is -0.10% yet is insignificant with a p-value of 0.2499. Both positive and negative returns are revealed when the ADRs are analyzed separately. However, only one of the five, ADR5, affects ADR1 positively although at an insignificant level. The only ADR listing that significantly affects ADR1 is ADR2 with an abnormal daily return of -0.37% (p-value of 0.0565). This is the exact opposite of alternative hypothesis.

Narrowing the event window to 11 days and separating the window to show pre-listing and post-listing returns reveals more positive abnormal returns. As a group, subsequent ADRs affect the first firm to list an ADR negatively with a significant average daily abnormal return of -0.39% (p-value of 0.0256) for the six days leading up to and including the listing day. The first firm to list an ADR experiences positive yet insignificant average daily abnormal returns for the five days after listing, yet these returns are insignificant. Estimating the ADRs separately reveals significant positive abnormal returns in the post-listing period for ADR5 with an average daily abnormal return of 0.97% and a p-value of 0.0146). Note that all of the abnormal returns for each ADR in the pre-listing period are negative. Only two are negative in the post-listing period. No other ADR except for ADR5 already mentioned demonstrates a significant impact on ADR1 in either the pre- or post-listing period.

Table 2
Listing Dates

The coefficient γ_k^{KADR} from equation $R_{1t} = \alpha_i + \gamma_k^{KADR}KADR_{kt} + \beta_1^a R_M^a + \beta_1^{US}R_M^{US} + \varepsilon_{1t}$ is reported in panel A, and the coefficients γ_k^{KPRE} and γ_k^{KPOST} from equation $R_{1t} = \alpha_i + \gamma_k^{KPRE}KPRE_{kt} + \gamma_k^{KPOST}KPOST_{kt} + \beta_1^a R_M^a + \beta_1^{US}R_M^{US} + \varepsilon_{it}$ are reported in panel B. R_{1t} is the daily returns at time t for the first firm to have an ADR event and $KADR_{kt}$ is a dummy variable that equals 1 during the event window (-25 to +25) around the kth ADR event after that the first. γ_k^{KADR} measures the average daily abnormal return of the first ADR issuer due to a subsequent event actuated by another firm. $KPRE_{kt}$ is a dummy variable that equals 1 during the 6 day window leading up to the event (-5 to 0), and POST is a dummy variable that equals 1 during the 5 day window after the event (+1 to +5), γ_k^{KPRE} measures the average daily abnormal return for the five days leading up to and including the event and γ_k^{KPOST} measures the average daily abnormal return for the five days after the event.

	A		B	
	51 Day		11 Day	
	-25, +25		-5, 0	+1, +5
ALL ADRS	-0.00101		-0.00386	0.00178
	0.2499		0.0256 **	0.4691
ADR2	-0.00365		-0.00509	-0.00491
	0.0565 *		0.1412	0.3542
ADR3	-0.00087		-0.00459	-0.00008
	0.6638		0.1393	0.9839
ADR4	-0.00033		-0.00285	0.00116
	0.8581		0.5239	0.8610
ADR5	0.00274		-0.00173	0.00968
	0.1498		0.7043	0.0146 **
ADR6	-0.00258		-0.00445	0.00446
	0.1922		0.1381	0.3015

Note: p-values are located underneath the coefficients with *, **, *** indicating significance at the 10%, 5%, and 1% levels, respectively.

Subsequent ADR listings do impact the returns of the first firm to list an ADR; however, negatively not positively. The null is rejected for the fifth firm to list an ADR only as seen by the significant post-listing returns.

Table 3 shows that all of the subsequent five ADR announcements after the first, estimated as a group, positively affect the first firm to announce an ADR over the 51 day event window. The average daily abnormal return for the 51 day period is 0.04% yet is insignificant with a p-value of 0.7138. Both positive and negative returns are revealed when the ADRs are analyzed separately. Two of the five, ADR2 and ADR5, affect ADR1 positively although at an insignificant level. No significant returns are revealed in the 51 day event window.

Narrowing the event window to 11 days and separating the window to show pre-announcement and post-announcement returns reveals a mixture of positive and negative returns. As a group, subsequent ADRs affect the first ADR announcer negatively for the six days leading up to and including the announcement day but this return is insignificant. The first firm to list an ADR experiences positive yet insignificant average daily abnormal returns for the five days after announcement, yet these returns are also insignificant. Estimating the ADRs separately reveals

Table 3
Announcement Dates

The coefficient γ_k^{KADR} from equation $R_{1t} = \alpha_i + \gamma_k^{KADR}KADR_{kt} + \beta_1^a R_M^a + \beta_1^{US} R_M^{US} + \varepsilon_{1t}$ is reported in panel A, and the coefficients γ_k^{KPRE} and γ_k^{KPOST} from equation $R_{1t} = \alpha_i + \gamma_k^{KPRE}KPRE_{kt} + \gamma_k^{KPOST}KPOST_{kt} + \beta_1^a R_M^a + \beta_1^{US} R_M^{US} + \varepsilon_{it}$ are reported in panel B. R_{1t} is the daily returns at time t for the first firm to have an ADR event and $KADR_{kt}$ is a dummy variable that equals 1 during the event window (-25 to +25) around the kth ADR event after that the first. γ_k^{KADR} measures the average daily abnormal return of the first ADR issuer due to a subsequent event actuated by another firm. $KPRE_{kt}$ is a dummy variable that equals 1 during the 6 day window leading up to the event (-5 to 0), and POST is a dummy variable that equals 1 during the 5 day window after the event (+1 to +5), γ_k^{KPRE} measures the average daily abnormal return for the five days leading up to and including the event and γ_k^{KPOST} measures the average daily abnormal return for the five days after the event.

	A		B	
	51 Day		11 Day	
	-25, +25		-5, 0	+1, +5
ALL ADRS	0.00039		-0.00263	0.00016
	0.7138		0.2198	0.9448
ADR2	0.00468		0.00688	0.00548
	0.1817		0.0488 **	0.4423
ADR3	-0.00084		-0.00873	-0.00506
	0.6709		0.0152 **	0.2519
ADR4	-0.00097		-0.00633	-0.00009
	0.6178		0.1106	0.9792
ADR5	0.00017		0.00263	-0.00191
	0.9148		0.5174	0.6800
ADR6	-0.00021		-0.00827	0.0054
	0.9298		0.2787	0.3126

Note: p-values are located underneath the coefficients with *, **, *** indicating significance at the 10%, 5%, and 1% levels, respectively.

significant positive abnormal returns in the pre-announcement period for ADR2 with an average daily abnormal return of 0.69% and a p-value of 0.0488. Three of the five returns are negative. Returns for ADR3 are significant at the 5% level. Three of the five returns are also negative (not the same ones as in the pre-announcement period) in the post-announcement period, but no post-announcement returns are significant.

SUMMARY AND CONCLUSION

Bekaert and Harvey (2000) find that market liberalizations to include ADRs reduce the cost of capital in the liberalizing segmented market and that such reductions decrease with subsequent liberalizations. Blaylock and Duett (2004) find the same general pattern of a declining marginal reaction for individual firms that issue ADRs. This indicates that a certain degree of segmentation exists in the presence of continuous market liberalizations. Since ADRs

would be one of the limited instruments outside investors would be able to use to access the still segmented market, the investors' concern would be how subsequent liberalizations affected their portfolios of existing ADRs. Blaylock (2007) finds that firms with existing ADRs in Korea are both positively and negatively affected by subsequent ADR issuances. This study builds on Blaylock by incorporating eight additional countries and focusing on only the first firm to issue and ADR from those markets.

This study contributes to a further understanding of time-varying market segmentation as described by Bekaert and Harvey (1995) and Francis, Hasan, and Hunter (2002) as well as the declining marginal reaction effect as described by Bekaert and Harvey (2000). Firms are positively affected when issuing their own ADRs (Miller 1999; Blaylock 2004). The markets from which they issue are also positively affected by a firm's ADR issuance (Bakaert and Harvey 2000). However, the results from this study indicate that the firm to initially issue an ADR from a market is mostly negatively affected (notwithstanding the significant positive returns resulting from the 5th ADR listing). This is consistent with Bekaert and Harvey (1995) and Francis, Hasan, and Hunter (2002) that find time-varying degrees of market segmentation. The differing degrees of segmentation may at least partially be explained by the relativity of the positive effects of ADR issuance for the market as a whole and the ADR issuing firm and the negative effects experienced by the initial ADR issuing firm. Also, the negative effects found in this study may partially explain the decreasing nature of market integration for the market as a whole as explained by Bekaert and Harvey (2000). However, this study would not be able to help explain the declining marginal reaction of ADR issuing firms as described by Blaylock and Duett (2004).

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HETEROGENEITY BETWEEN "VOTE-WITH-HAND" AND "VOTE-WITH-FEET" SHAREHOLDERS

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ABSTRACT

There are arguments in previous literature questioning whether shareholder proposals are a useful device of external control. We argue that only when "vote-with-hand" shareholders have different concerns from those shareholders who trade their shares in open markets ("vote-with-feet" shareholders) will shareholder proposals provide a channel to corporate policy changes that cannot be substituted by selling shares. We investigate whether shareholders who cast their votes ("vote-with-hand" shareholders) on shareholder proposals are more concerned about a company's corporate governance or financial performance. We find that "vote-with-hand" shareholders are usually more concerned about corporate governance rather than financial performance. The research results also suggest that shareholder proposals are able to cause changes to a company's policy regardless of its temporary financial performance, so their roles cannot be substituted by open markets transactions. Our research provides evidence on the heterogeneity between "vote-with-hand" and "vote-with-feet" shareholders, and such evidence supports the effectiveness of shareholder activism. Our study also provides an explanation to the insignificant results documented in previous literature on the market reactions related to proposal events.

Keywords: Corporate Governance; Shareholder Proposals; Non-controlling Shareholders; Shareholder Voting

INTRODUCTION

In the corporate world, members of boards of directors are supposed to act in a way to maximize shareholders' benefits. But in reality many board members also take executive positions in the company. The dual roles of top executive and board member create conflicts between board of directors and shareholders who do not have direct control of the company, even though theoretically they are all shareholders. For example, Johnson *et al*. (2000) identify a phenomenon called "tunneling" where controlling shareholders transfer assets or profits out of firms for their own benefits.

Besides voting in annual meetings, which we will denote as "vote with hand" in this paper, shareholders can also "vote with feet", meaning to sell shares in the open markets when they are not satisfied with a company's performance or policy. Most previous studies on the value impact of corporate governance focus on examining the relationship between corporate governance structure and stock performance, which is mainly influenced by the actions of "vote-with-feet" shareholders. For example, Gompers *et al.* (2003) (GIM) posit that provisions that lower the effectiveness of takeover threats would result in lower stock returns. Cremers and Nair (2005) find that portfolios composed of companies with different governance structure experience different levels of abnormal returns. The relatively worse stock performance is considered a reduction to shareholders' value as a result of inadequate corporate governance. But not much attention has been paid to the monitoring costs borne by shareholders who want to change the corporate policies through voting in annual meetings. Soliciting shareholders' votes is a costly process. These costs are a direct reduction to shareholders' wealth as well. Some shareholders spend a considerable amount of financial resources and time on proxy voting process. For example, the mailing and publicity costs for dissenting shareholders to unseat a standing board can be as high as millions of dollars (McCracken and Scannell, 2009). We argue that costs related to investor campaigns and proxy solicitation processes should be counted in when examining factors affecting shareholders' value.

Shareholder proposal is an approach shareholders can pursue to influence corporate policies. But since this approach is usually used after failed negotiations with management groups and it has no binding power, there has been a debate in academic research on the effectiveness of shareholder proposals as a means to solve corporate agency problems. Even though there are studies demonstrating that proposals obtained majority support among shareholders are likely to be implemented because management groups do not want to tarnish their reputation (Ertimur *et al.*, 2010; Thomas and Cotter, 2007), practitioners generally consider the role of shareholder proposals to be relatively weak, because shareholders can always "vote with feet" first when they are not satisfied with the company's performance. Even institutional investors, which are usually considered as long-term investors, are found actively engaged in short-term and momentum trading (Parrino *et al.*, 2003; Renneboog and Szilagyi, 2011). Empirical studies also show that shareholder proposals tend to target at companies already showing poor performance in stock markets (Karpoff *et al.*, 1996; Ng *et al.*, 2009). So it is not clear whether shareholder dissatisfaction reflected in shareholders' voting in annual meetings will bring any different functions to corporate governance other than those of "vote-with-feet" investors.

Since "vote-with-hand" shareholders experience additional costs in terms of money and time to express their opinions in annual meetings, a study on the preference of this group of shareholders can reveal more information on what factors may cause more monitoring costs for "vote-with-hand" shareholders. We also want to look at whether the dissatisfaction among "vote-with-hand" shareholders is mainly triggered by financial performance or corporate governance of

a company. When financial outcome is good, will "vote-with-hand" non-controlling shareholders endure the poor corporate governance of a company for the moment? If this is the case, the role of "vote-with-hand" shareholders then would be considered to be redundant with or even less important than that of the "vote-with-feet" shareholders, because they have the same preference as "vote-with-feet" shareholders. As a consequence, shareholder proposals brought up in annual meetings would not have substantial additional contribution to bringing changes to a company's policies. We argue that the more additional concerns besides the financial performance of a company the "vote-with-hand" shareholders have, the more additional roles the "vote-with-hand" shareholders and shareholder proposals will play in the corporate world. Our study will investigate between the two major issues on shareholders' agenda, financial performance and corporate governance, which one "vote-with-hand" shareholders would concern more.

Previous studies evaluating the role of shareholder proposals usually look at the market reactions around the shareholder proposals' announcement periods, but the empirical results are unclear. For example, Gillan and Stark (1998, 2007) review the related literature and generalize that studies following this approach have not identified significant abnormal returns around the proposals' releasing periods. We argue that the approach using market reactions to examine the role of shareholder proposals has the implied assumption of homogeneity between those investors who trade in the open markets and those who vote in the annual meetings. In reality, the assumption may not be true. Yet previous studies have not paid enough attention to the validity of this assumption. If "vote-with-hand" shareholders have different concerns from those "vote-with-feet" investors, it is understandable that shareholder proposals may not cause any significant reactions in stock prices because the voting and trading behaviors are driven by two different groups of investors.

In this study, we introduce a new proxy, percentage of "For" votes received by the shareholder proposal, to measure how dissatisfied non-controlling shareholders are with the company's performance and policy. Usually bigger companies are likely to attract more attention in the market and receive more shareholder proposals because they have bigger pools of investors. But not all shareholder proposals reflect the consensus among shareholders. Since shareholder activists usually try to negotiate with management groups first for their proposed changes, having shareholder proposals in proxy statements usually reflects that managements are reluctant to make the changes proposed by the activists. We manually checked 201 shareholder proposals voted in corporate annual meetings in 2008, and none of them were supported by board of directors. So we use the percentage of "For" votes received by the shareholder proposal rather than the number of shareholder proposals voted on in the annual meeting to reflect the level of concern of "vote-with-hand" non-controlling shareholders.

We divide the factors that affect shareholder satisfactory level into two major groups. One group reflects the financial performance of the company. We use profitability and stock return as the proxies. The other group reflects the corporate governance of the company. We use G-index created by GIM (2003) and ownership of board of directors as the major proxies. The

more protective the company's governance provisions are and the smaller the director ownership is, the more disconnected are the benefits between non-controlling and controlling shareholders.

We examine the voting results on shareholder proposals of the Super S&P 1500 firms. Our research results show that non-controlling shareholders who are willing to go through the voting-by-hand procedures to propose changes to a company care more about the company's corporate governance status than its financial performance. This result indicates that the role of "vote-with-hand" shareholders cannot be replaced by that of "vote-with-feet" shareholders. Based on Ertimur *et al.* (2010) and Thomas and Cotter (2007), shareholder proposals that have won a majority vote are likely to be implemented, so shareholder proposals are an effective means of external control. In addition, our study shows that shareholder proposals offer a channel other than open markets to bring changes to a company's corporate governance structure even when the company is performing well financially.

This paper proceeds as follows. In the next section, we review the related literature on shareholder proposals and the change of shareholder structure in recent years. Then we present the methodology applied in our study and report the empirical evidence. The last section concludes the paper.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In the corporate world, shareholders have the right to elect directors to make major business decisions on behalf of their interests. However, in reality, directors and top executives are able to put their own interests ahead of those of the non-controlling shareholders, because controlling shareholders have control on how to utilize a company's assets on a day-to-day basis, an influence non-controlling shareholders do not have.

When non-controlling shareholders are not satisfied with the work of controlling shareholders, they have three options. First, they can sell their ownership by trading shares in the open markets. Second, they can turn themselves into controlling shareholders by conducting takeover and leverage-buy-outs. Lastly, they can bring up shareholder proposals and vote in annual meetings to influence manager's decisions. Among the three options, the first two usually would lead to noticeable price changes in stock markets and the value impact is visible; whereas the influence of the last option is much harder to measure.

Previous studies provide contrasting and unclear evidence on the role of shareholder proposals (Karpoff, 2001; Gillan and Starks, 2007). Practitioners generally consider the role of shareholder proposals to be weak (Renneboog and Szilagyi, 2011). Some studies question the quality of shareholders proposals. For example, Prevost *et al*. (2008) argue that shareholder proposals brought up by union pension funds may be used to serve their own interests rather than those of the majority of shareholders. Bainbridge (2006) even argues that the costs for boards of directors to handle disruptive shareholder proposals actually can create more damage rather than value increase to the company. On the other hand, there are also studies indicating that

shareholder proposals have important impacts on corporate governance. It is found that shareholder proposals that have won a majority vote are likely to be implemented because directors want to avoid reputation damage (Ertimur *et al*., 2010; Thomas and Cotter, 2007). Based on these studies, it is apparent that there is a wide variety in the influence of shareholder proposals. So in our study, we use the percentages of "For" votes received by shareholder proposals rather than the numbers of shareholder proposals received by companies to reflect the level of concerns of "vote-with-hand" shareholders.

When evaluating the value impact of shareholder proposals, previous studies usually focus on the market reactions to proposal events (Bizjak and Marquette, 1998; Picou and Rubach, 2006; Renneboog and Szilagyi, 2011). We argue that the approach of using market reactions to examine the role of shareholder proposals assumes no significant heterogeneity between those investors who trade the shares in the open markets and those who vote in the annual meetings. Because market reactions might mainly reflect the preference of "vote-with-feet" shareholders rather than that of "vote-with-hand" shareholders, it is not appropriate to use stock market reactions to measure the value impact of shareholder proposals before we are certain that "vote-with-hand" and "vote-with-feet" shareholders share the same investment goals. Among the "vote-with-hand" shareholders, institutional investors have played an important role. Because institutional investors have more resources than individual investors and cannot move their investment positions as easily as individual investors can, studies usually argue that institutional investors are more likely to exercise their voting rights and oversee management over the long term (Rose, 2007).

Based on the Institutional Investment Reports issued by the Conference Board, in the largest 1,000 U.S. corporations, the holdings of institutional investors increased from 47% in 1987 to 76% in 2007. Based on Reuters Press Release in September 2008, the assets controlled by institutional investors increased from $2.7 trillion in 1980 to $27.1 trillion in 2007. As institutional investors hold an increasing share of equities of publicly traded corporations, they recognize their potential ability to influence companies. The Investor Responsibility Research Center has tracked the shareholder proposals filed at U.S. companies since 1973. From 1973 through 2004, more than 15,000 shareholder proposals were filed. Remarkably, approximately 25% of those proposals were filed just in the last four calendar years, 2001 through 2004 (Voorhes, 2005).

In the study, we do not have the information to distinguish whether there are more institutional investors or individual investors voting in the annual meetings. But considering the financial expenses and extra time needed to exercise the voting rights, it is reasonable to presume that investors who are more willing to vote would tend to be investors who are more concerned about the long-term potentials of a company, because short-term investors can simply sell their stocks if they are not satisfied with the company's current performance.

The above literature leads us to the approach we apply in this study, an examination focusing on the voting results of shareholder proposals, to investigate whether "vote-with-hand"

shareholders can provide a channel to corporate policy changes that cannot be substituted by selling shares. If "vote-with-hand" shareholders' concern – reflected in the voting results of shareholder proposals – is driven by the company's financial performance as much as or more by its status of corporate governance, then the role of shareholder proposals may not be as important as some previous studies perceived. Such circumstance suggests that "vote-with-hand" shareholders share similar concerns with "vote-with-feet" shareholders, and the price movements caused by open market trading of "vote-with-feet" shareholders are usually considered more influential because the implementation of shareholder proposals is not mandatory yet the impact of price is direct to the value of the firm. Therefore our research hypothesis in the null form is:

> H   *The voting results of shareholder proposals are influenced by companies' financial performance as much as by companies' corporate governance.*

EMPIRICAL TESTS

Data

We use percentage of "For" votes received by shareholder proposals (*for_inall*) as a proxy for the levels of concerns of non-controlling shareholders on the company's performance and policy. Shareholder proposal voting results data are obtained from the U.S. Annual Corporate Governance Review issued by Georgeson Inc., a Computershare company that provides strategic shareholder consulting services. The Georgeson annual review tracks the shareholder proposals voted in the annual meetings of the Super S&P 1500 firms.

Our study is based on the voting results from 2001 to 2007. We do not go beyond 2007 for our research data period for two reasons. First, G-index, the major governance factor designed by GIM (2003) and calculated biannually, is not available after 2006. Second, we want to avoid the impact of the market crash in 2008. Based on Georgeson's report, a total of 2,506 shareholder proposals were voted on during the 2001 to 2007 period. A breakdown of the numbers of companies that received shareholder proposals for each year is shown in Table 1. We also break down the proposals based on type. Executive compensation-related proposals are the most frequently received proposals during this period, accounting for 30.01% of the 2,506 proposals. The next two are proposals to repeal classified board, which account for 10.85%, and proposals to adopt cumulative voting, which account for 5.51%. Other types of proposals account for the remaining 53.63% (Table 2).

Based on the voting results on shareholder proposals tracked by Georgeson Inc., some of the proposals have received "For" votes as low as 0.1% among shareholders, whereas some received "For" votes as high as 98%. This result indicates that whether a company receives shareholder proposals is not a very reliable indicator to the level of concerns of non-controlling shareholders. Companies with bigger size tend to have more shareholders, thus increasing the

possibility of having a few more concerned activist investors who will bring up shareholder proposals. But not every proposal brought up in an annual meeting will be agreed upon by the majority of shareholders. A shareholder proposal that receives a high percentage of "For" votes in an annual meeting reflects that the level of concerns among non-controlling shareholders is high and the collective time and financial resources spent to initiate possible corporate changes are likely to be high as well.

Table 1 Number of companies received shareholder proposals (2001-2007)	
year	Number of companies
2001	143
2002	167
2003	239
2004	244
2005	202
2006	213
2007	200
Total	1408

Table 2 Numbers of shareholder proposals by types (2001-2007)		
Types of proposals	Numbers of proposals	Percentage of total
Executive Compensation	752	30.01%
Repeal Classified Board	272	10.85%
Cumulative Voting	138	5.51%
Other	1344	53.63%
Total	2506	100%

Variable Definition

We examine the impacts of two groups of factors that non-controlling shareholders would be most concerned about, financial performance and corporate governance. For financial performance factors, we include profit margin (*prft*), calculated as Earnings before Interest and Taxes divided by Total Revenue, and yearly stock return (*ret*). We expect to see that poorer performance tends to cause more concerns among non-controlling shareholders and thus brings up stronger voices to make changes to corporate policies. For corporate governance factors, we use G-index (*Gindex*) created by GIM (2003) to proxy the company's corporate governance feature. Since G-index is only available for years 2000, 2002, 2004, and 2006, for the years 2001, 2003, and 2005, we approximate the G-index by taking the average of previous and later

year's G-index numbers. Based on GIM's argument, the bigger the G-index number is, the more protective the corporate provisions are to the executives. So it is expected to see positive relationship between the G-index and the level of discordance between executives and non-controlling shareholders. We also include directors' ownership (*p_DOwn*) in the governance factor group. The higher the directors' ownership, the better the alignment is between the interests of non-controlling shareholders and those of board of directors.

We also include two groups of control factors. The first group is the size of the company, proxied by Total Assets (*at*) and Total Revenue (*revt*). Bigger companies tend to receive more shareholder proposals, but it is not clear whether bigger companies tend to cause higher level of concerns among non-controlling shareholders than smaller companies. The second group of control factors is used to measure the components of non-controlling shareholders. First we use stock turnover (*turnover*), calculated as the total trading volume per year divided by the total number of shares outstanding, to proxy the level of short-term speculative trading in the company's overall stock trading. Generally speaking, the higher the turnover rate, the more the company's stock has been influenced by short-term investors. We also include institutional ownership (*Insthold*). As addressed in the literature review section, institutional investors tend to exercise their voting rights and oversee management over the long term (Rose, 2007). A higher percentage of institutional ownership would indicate a higher percentage of long-term shareholders in a company.

Since voting reflects a judgment based on events and activities that happened beforehand, all the explanatory variables used in the tests are lagged variables that reflect information one year before the voting happens. We delete 571 out of the 2,506 proposals that have missing values in the variables and get a total of 1,935 proposals for our statistical tests. The descriptive information of all variables is shown in Table 3.

Table 3
Descriptive information of variables (2001-2007)

Variable	N	mean	median	max	min
% "For" vote	1935	25.82	24.55	87.40	0.10
Total Assets (in $million)	1935	101,062.39	21,239.00	1,884,318.00	180.49
Revenue (in $million)	1935	32,441.13	13,866.97	345,977.00	98.84
Profitability	1935	14.42%	11.96%	97.84%	-44.75%
Yearly Stock Return	1935	6.15%	3.48%	1756%	-89.42%
G-index	1935	9.35	9	17	3
% Director Ownership	1935	5.35	1.00	116.20	0.00
Turnover	1935	16.65	12.30	178.47	1.42
% Institutional Ownership	1935	59.93	61.00	98.00	0.00

Empirical Results

We generate two groups of samples for the tests. The first group includes all available shareholder proposals that have been voted on during the 2001 to 2007 period. This group has a total of 1,935 observations after taking out the ones with missing data. The second group only includes the proposals that have received the highest percentage of "For" votes in each firm year. This group has a total of 1,113 observations after deleting the ones with missing data. The test based on the first group of samples focuses on how the voting result of each proposal is affected by various factors. The second group of samples focuses on how the level of shareholder concerns about a company is affected by various factors. Comparing the results generated from these two groups of samples can reveal how diverse shareholder proposals are in each firm year. We also take the natural log of total assets (*logat*) and total revenue (*logrevt*) before carrying out statistics tests.

The correlation matrices (detailed results are available upon request) show that shareholder proposals tend to receive more "For" votes when a company's size is small, profitability is low, G-index is high, and institutional ownership is high. These relationships are as expected. Because big size companies tend to have more shareholders, it is not very easy to generate higher level consensus among a large number of investors. The higher the G-index, the more protective the corporate provisions are to executives. As indicated in the correlation matrices, high G-index does lead to high level of dissatisfaction among non-controlling shareholders.

The correlation matrices based on the two different groups of samples show similar relationships among variables, indicating there is not much variety among the shareholder proposals in each firm year. The correlation tests show that total assets and total revenues have a very high level of correlation, with a $\rho > 0.80$. To avoid multi-collinearity, we only include log of Total Assets (*logat*) in the regression tests. The main regression model is as follows:

$$for\_inall_t = \beta_0 + \beta_1(logat_{t-1}) + \beta_2(prft_{t-1}) + \beta_3(ret_{t-1}) + \beta_4(Gindex_{t-1})$$
$$+ \beta_5(p\_DOwn_{t-1}) + \beta_6(turnover_{t-1}) + \beta_7(Insthold_{t-1}) + \varepsilon$$

where *for_inall* is the percentage of "For" votes received by shareholder proposals; *logat* is the natural log of total assets; *prft* is the profit margin, calculated as Earnings before Interest and Taxes divided by Total Revenue; *ret* is the yearly stock return; *Gindex* is the G-index created by GIM (2003); *p_DOwn* is the percentage of directors' ownership; *turnover* is the yearly stock turnover, calculated as the total trading volume per year divided by the total number of shares outstanding; and *Insthold* is the percentage of institutional ownership. The regression tests (Tables 4a and 4b) based on the two groups of samples generate similar results, which are consistent with the results shown in the correlation matrices. Again, as a control variable, size of a company tends to affect the voting results of shareholder proposals negatively. Corporate

governance factors, especially G-index, show significant impacts on the shareholder proposal voting results. Director ownership, even though not showing statistically significant results, has negative signs for the parameter estimates in both regressions, indicating that high director ownership tends to lead to lower level of concerns among non-controlling shareholders.

Table 4a
OLS Regression testing the impacts of governance and performance factors
(Based on all available proposals)

Variable	Parameter Estimate	Error	t Value	Pr >|t|
Intercept	0.2541	0.0397	6.40	<.0001
logat	-0.0198***	0.0027	-7.32	<.0001
prft	-0.0074	0.0339	-0.22	0.8267
ret	0.0113	0.0102	1.10	0.2702
Gindex	0.0143***	0.0016	8.76	<.0001
p_DOwn	-0.0280	0.0280	-1.00	0.3170
turnover	-0.0002	0.0003	-0.87	0.3842
Insthold	0.0012***	0.0002	5.42	<.0001
N	1935			
Adj. Rsq	0.138			
Pr>F	<.0001			
Note: Significance level: *at 10% level; **at 5% level; *** at 1% level.				

Table 4b
OLS Regression testing the impacts of governance and performance factors
(Based on proposals received highest "For" votes in each firm year)

Variable	Parameter Estimate	Error	t Value	Pr >|t|
Intercept	0.1549	0.0516	3.00	0.0027
logat	-0.0062*	0.0037	-1.69	0.0915
prft	-0.0699	0.0433	-1.62	0.1065
ret	0.0069	0.0132	0.52	0.6043
Gindex	0.0135***	0.0022	6.12	<.0001
p_DOwn	-0.0511	0.0383	-1.33	0.1822
turnover	-0.0001	0.0004	-0.19	0.8529
Insthold	0.0017***	0.0003	5.39	<.0001
N	1113			
Adj. Rsq	0.083			
Pr>F	<.0001			
Note: Significance level: *at 10% level; **at 5% level; *** at 1% level.				

On the other hand, after controlling other factors' impacts in the regression, financial performance factors, profitability and yearly stock return, do not show significant influence on the voting results on shareholder proposals. This result is different from the evidence in some previous studies. For example, Gillan and Starks (2000) find that prior performance, proxied by the company's return over past five years relative to S&P 500, has significant influence to the voting outcome. In our study, we use the company's past one year's profitability and return to measure performance. We think the main reason why Gillan and Starks identify a significant relationship between the prior performance and voting outcome is because they use the long-term performance data. Based on GIM (2003), in the long run, companies with stronger shareholder rights tend to demonstrate higher value and higher profitability. So the five-year performance measurement used in Gillan and Starks' study may be partially driven by a company's corporate governance features as well. In order to discern the influences between financial outcome and governance status, we argue that it is more appropriate to use past one year rather than past five year's performance as the measurement for the study. We also group the proposals based on the type of shareholder proposals. According to the descriptive information, the top three most frequently voted proposals are executive compensation, repeal classified board, and cumulative voting proposals. Regression tests based on these proposals reveal some different results from the pooled data (Table 5).

Table 5 OLS Regressions testing the impacts of governance and performance factors (Based on top three shareholder proposals)						
	Cumulative Voting		**Executive Compensation**		**Repeal Classified Board**	
Variable	Estimate	Pr>|t|	Estimate	Pr>|t|	Estimate	Pr>|t|
Intercept	0.3015	*<.0001*	0.2367	*0.0001*	0.4130	*<.0001*
logat	-0.0087	*0.1181*	-0.0181***	*<.0001*	-0.0150**	*0.0340*
prft	-0.0018	*0.9738*	0.1146**	*0.0261*	-0.0034	*0.9607*
ret	0.0899***	*0.0004*	0.0116	*0.4368*	0.0598**	*0.0247*
Gindex	0.0008	*0.7867*	0.0064**	*0.0103*	0.0037	*0.4043*
p_DOwn	-0.0186	*0.8177*	0.0454	*0.2029*	-0.1879**	*0.0212*
turnover	0.0002	*0.7450*	0.0006	*0.0466*	-0.0004	*0.5952*
Insthold	0.0004	*0.3949*	0.0008**	*0.0128*	0.0027***	*<.0001*
N	115		620		178	
Adj. Rsq.	0.107		0.091		0.203	
Pr>F	0.007		<.0001		<.0001	
Note: Significance level: *at 10% level; **at 5% level; *** at 1% level.						

For executive compensation-related proposals, control variables and governance variables still show similar impacts as those in the pooled regression based on all types of

proposals. However, profitability now shows statistically significant impact, but with a positive parameter estimate, indicating that the more profitable the firm is in the prior year, the more likely for executive compensation related shareholder proposals to receive more "For" votes. Similar positive relationships between voting results and performance factors are shown in the regressions based on the other two types of proposals as well. In the regression tests on repeal classified board and cumulative voting proposals, better stock performance in previous year seems to lead to more "For" votes. The positive relationship between financial performance factors and percentage "For" votes received by shareholder proposals on major governance issues is counterintuitive and deserves further study. This result is also different from what has been found in some previous studies. For example, Romano (2001) identifies that in the 1980s and early 1990s underperforming companies are more likely to receive corporate governance proposals from investors. Our evidence, based on percentage of "For" votes received rather than numbers of proposals received, indicates that it is possible that the more profitable the business is, the more likely executives are going to tunnel more profits to themselves. As a consequence, non-controlling shareholders may feel that it is more vital in profitable years to change the corporate policy.

In the last step, we divide the observations by years and carry out regression tests based on each year's proposals (detailed results are available upon request). There is no major inconsistency between the yearly tests and the tests based on pooled data. Overall, our test results indicate that non-controlling shareholders who are willing to go through the "vote-by-hand" procedures to bring changes to the company care more about corporate governance than financial performance of a company. One year of good performance in terms of business profit or stock return does not satisfy these shareholders. Sometime it may be associated with more dissatisfaction among non-controlling shareholders, for reasons that deserve further study.

Robustness Check

In this section, we run some alternative tests to check whether the evidence identified above is robust. In the regression test above, we have used lagged variables as pre-determined factors to avoid the possible endogeneity problem that could exist due to interactions between performance measures and voting results. In theory, shareholders' opinion as reflected from the votes casted in annual meetings can be influenced by the firm's performance; on the other hand, the revelation of such opinion is a signal that could also cause shareholders to act accordingly in open markets and create changes in the company's stock performance. This is the rationale behind the past studies that try to test whether voting results are related to any abnormal returns in the stock markets (Carleton *et al.*, 1998; Del Guercio and Hawkins, 1998; Gillan and Starks, 2000; Karpoff *et al.*, 1996; Prevost and Rao, 2000; Wahal, 1996.) So in this section, we use the event-year values rather than the lagged-year values of the explanatory variables to run the

regression test again. We also take the possible interactions between voting results and stock performance into consideration to see if the prior results are robust.

We use instrumental variable (IV) method to control the possible interactions between stock performance and voting results. The instrumental variable applied in the 2SLS model is the industry median stock return, which is a factor that is closely related to the firm's stock performance but not related to the voting results (see table below).

	with stock returns		with voting results	
	ρ	p-value	ρ	p-value
All available proposals	0.3837	<.0001	-0.0043	0.8351
Only top proposals	0.3411	<.0001	0.022	0.4162

The first and second stages of the 2SLS model are as follows:

First stage: $ret_t = \gamma_0 + \gamma_1(ret\_indm_t) + \varepsilon$

Second stage: $for\_inall_t = \beta_0 + \beta_1(logat_t) + \beta_2(prft_t) + \beta_3(ret_t) + \beta_4(Gindex_t)$
$+ \beta_5(p\_DOwn_t) + \beta_6(turnover_t) + \beta_7(Insthold_t) + \varepsilon$

where in the first stage, ret_indm_t is the corresponding industry median stock return; in the second stage, all explanatory variables are values of the event-year rather than of the prior year.

The test results based on all available proposals are reported in Tables 6. We find that after controlling for the possible endogeneity problem, the second stage of the 2SLS model still demonstrates similar results as in the prior OLS model. That is, voting results are mainly influenced by the firms' corporate governance, and performance factors do not show any significant contribution to the voting results. The consistency of the results confirms our previous findings. Our research evidence indicates that heterogeneity does exist between "vote-with-hand" and "vote-with-feet" shareholders. This finding also provides an explanation to the insignificant results documented in previous studies on the market reactions related to shareholder proposal signals. We can consider that open market reactions are mainly caused by "vote-with-feet" shareholders and shareholder proposals mainly attract the attention of "vote-with-hand" shareholders. Since the evidence in our study indicates that "vote-with-hand" shareholders are more concerned about corporate governance, which has more influence on long-term rather than short-term financial performance, it is likely that shareholder proposals may not cause significant immediate impact to a company's open market stock performance.

Next, we also adjust the two performance variables, profitability and stock return, with the industry median values to run another robustness check. The industry-adjusted profitability is the firm's profitability subtracting industry median profitability of the corresponding year; the industry-adjusted return is the firm's yearly return subtracting industry median yearly return of

the corresponding year. The regression results using industry-adjusted performance variables are similar to the results obtained with unadjusted variables (detailed results are available upon request). The industry-adjusted performance variables do not show any significant impacts to the voting results, and it is still mainly the corporate governance factors that determine the voting results.

Variable	Parameter Estimate	Error	t Value	Pr >|t|
Table 6 **2SLS Regression testing the impacts of governance and performance factors** **(Based on all available proposals)**				
First stage				
Intercept	0.0467***	0.0110	4.26	<.0001
ret_indm	0.6706***	0.0458	14.63	<.0001
N	1633			
Adj. Rsq	0.115			
Pr>F	<.0001			
Second stage				
Intercept	0.2264***	0.0438	5.17	<.0001
logat	-0.0184***	0.0030	-6.14	<.0001
prft	-0.0107	0.0371	-0.29	0.773
ret	-0.0111	0.0267	-0.42	0.6773
GINDEX	0.0158***	0.0018	8.83	<.0001
p_DOwn	-0.0371	0.0286	-1.30	0.1952
turnover	0.0003	0.0003	0.81	0.4168
Insthold	0.0011***	0.0002	4.41	<.0001
N	1633			
Adj. Rsq	0.136			
Pr>F	<.0001			
Note: Significance level: *at 10% level; **at 5% level; *** at 1% level.				

DISCUSSION AND CONCLUSION

The main question we want to address through this research is whether non-controlling long-term shareholders are more concerned about financial performance or corporate governance of a company. The reason to divide shareholders' concerns between financial performance and corporate governance is to find out whether "vote-with-hand" and "vote-with-feet" shareholders share the same investment goals. Only when "vote-with-hand" shareholders have additional concerns besides the financial performance of a company could they play additional roles to

"vote-with-feet" shareholders. This is also the premise for shareholder proposals to be an effective means of external control. Our test results indicate that "vote-with-hand" shareholders do show different concerns from "vote-with-feet" shareholders. Their concerns about a company's policy are more influenced by corporate governance factors rather than financial performance factors. Sometimes higher stock returns can be associated with even more concerns among non-controlling shareholders. This result shows that shareholder proposals do offer a channel to bring corporate governance changes to a company. This evidence supports the argument that the roles of shareholder proposals cannot be substituted by selling shares in open markets.

Our findings can be used to explain the insignificant empirical results in previous literature when the relationship between shareholder proposals and market reactions is examined. Based on Gillan and Stark's (1998, 2007) review on related studies, in general no significant abnormal returns around the proposal releasing periods have been identified. We argue that since the evidence from our study does indicate that the "vote-with-hand" shareholders have demonstrated different concerns about a company from "vote-with-feet" shareholders, in general a significant close relationship between proposal releasing and market reaction is not expected. Through this study, we also want to draw researchers' attention to the reduction of shareholders' wealth caused by the monitoring costs borne by long-term shareholders. We find that discordance between long-term non-controlling shareholders and the board of directors is mostly affected by corporate governance structure rather than financial performance. This empirical evidence indicates that long-term shareholders care more about whether the corporate governance mechanism can ensure management groups to carry out due diligence rather than to generate short term good financial performance.

Our research has important implications to the corporate and investment world. The capital size of professionally managed funds in which individual investors put their retirement money has increased dramatically in the past decades. Many funds are taking a voting-by-hand approach to impose their influence on the companies they have invested in. This process usually leads to a huge amount of resources used for shareholder campaigns. Our research results show that regulations promoting less protective corporate governance structure to executives may reduce the monitoring costs for long-term shareholders.

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TIMELY LOSS RECOGNITION, AGENCY COSTS AND THE CASH FLOW SENSITIVITY OF FIRM INVESTMENT

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ABSTRACT

This study examines the sensitivity of the investment-cash flow relation to timely loss recognition. Results suggest that as the recognition of economic losses becomes more timely, the sensitivity of firm investment to cash flows decreases. I interpret this finding as indication that firms practicing more timely loss recognition have greater access to external funds. Furthermore, lower investment-cash flow relations resulting from timely loss recognition are strongest in firms with high agency costs, suggesting timely loss recognition reduces moral hazard and adverse selection risks in the corporate setting. These findings are robust to using both a levels and changes specification of my empirical model, and to the use of alternative measures of timely loss recognition.

INTRODUCTION

I examine whether timely loss recognition affects the sensitivity of firm investment to cash flows, a proxy for internal funds (see Hayashi, 1982).[1] Two related streams of literature motivate my analyses. First, timely loss recognition may arise not only out of a contracting need (Watts, 2003), but also out of the need to reduce information asymmetries between managers and investors (e.g. LaFond and Watts, 2008; Biddle et al., 2009). Where managers have significant information advantages over investors, timely loss recognition may act as a governance mechanism by resulting in a more conservative estimate of firm value. In line with this argument, timely loss recognition has been shown to be negatively related to cost of capital (e.g. Zhang, 2008; Lara et al., 2010), indicating investors consider conservative firms to be less risky.

Second, financial reporting may have real effects in that managers take into account financial reporting practices when making operating and investment decisions (see Kanodia, 2007; McNichols and Stubben, 2009). Recent studies by Bushman et al. (2005), Ahmed and Duellman (2011), Francis and Martin (2009), and Lara et al. (2009) provide evidence that timely loss recognition improves capital allocation and investment profitability. Collectively, these findings support the argument by Ball (2001) and Ball and Shivakumar (2005) that conservative

accounting forces managers to be mindful ex-ante of how they will report the outcomes of their investment decisions to investors ex-post.

Given the potential for timely loss recognition to reduce external capital costs and affect managers' investment decisions, I examine its impact on one of the more established relations in the corporate finance literature, namely, the sensitivity of firm investment to cash flows.[2] Because of its ability to decrease external capital costs, timely loss recognition should be associated with a lower sensitivity of firm investment to cash flows. Furthermore, to the extent that timely loss recognition provides governance benefits, its impact on the investment-cash flow relation should be strongest in firms with a high agency costs (see LaFond and Watts, 2008; Francis and Martin, 2010).

To test these predictions I expand the basic investment-cash flow model (e.g., Myers and Majluf, 1984; Gurgler et al., 2007; Chen et al., 2007) and examine whether the sensitivity of investment to cash flows is decreasing in timely loss recognition. I then introduce agency costs into the model to determine whether the impact of timely loss recognition on the investment-cash flow relation is dependent upon a firm's potential for agency problems. Results support my predictions; timely loss recognition is associated with a lower sensitivity of firm investment to cash flows, and this effect is strongest in firms with high agency costs. These findings are robust to both a changes specification of my primary empirical model and alternative measures of timely loss recognition.

My study contributes to theory by Ball (2001) and Ball and Shivakumar (2005) that suggests conservative accounting has implications for corporate investment. I complement existing empirical studies by Ahmed and Duellman (2011) and Francis and Martin (2010) that find managers in firms with more timely loss recognition make better investments, and by Bushman et al. (2011) and Lara et al. (2010) which find that greater timely loss recognition improves capital allocation efficiency. My findings also add to the literature on the information benefits of conservative reporting. LaFond and Watts (2008) argue that timely loss recognition is most valuable in firms with high levels of information asymmetry. Francis and Martin (2010) lend empirical support to this argument by documenting that conservative firms make more profitable acquisitions, especially those firms with the potential for substantial agency problems. I provide additional support by documenting that firms with high agency costs benefit more from timely loss recognition in terms of their investment-cash flow sensitivity. Finally, my findings contribute to theory and empirical evidence that financial reporting practices have real effects on managers' investment decisions (see Kanodia, 2008; Biddle et al., 2009; McNichols and Stubben, 2009)

In the next section I discuss relevant literature and develop testable hypotheses. In section 3, I present my empirical models. In section 4, I discuss my sample selection and main empirical results as well as results of sensitivity tests. Section 5 concludes the paper.

RELEVANT LITERATURE

Timely loss recognition and firm investment

Financial reporting policies may affect managers' investment decisions. For instance, Biddle et al. (2009) document a positive association between financial reporting quality and investment efficiency. They show that better financial reporting solves some of the moral hazard and adverse selection problems that arise from information asymmetries in the corporate setting. McNichols and Stubben (2008) investigate whether earnings management is related to sub-optimal investment decisions. Examining the investment decisions of companies investigated by the SEC for financial reporting irregularities, they find that firms over-invest during the period in which infractions are made, but cease over-investing after the misreporting period. McNichols and Stubben find similar evidence in firms with high discretionary accruals and conclude that earnings management affects managers' investment decisions. Together, the evidence from these studies suggests that better financial reporting quality may benefit firm investment.

Timely recognition of economic losses is considered an important dimension of financial reporting (Francis et al., 2004). Ball (2001) and Ball and Shivakumar (2005) argue that conservatism can impact managers' investment decisions if it represents an ongoing policy towards recognizing losses from investments quickly. They predict that managers will cut losing projects faster and reallocate capital more efficiently when they commit to conservative accounting. As Ball (2001) posits, increasing the speed at which managers discontinue losing operations may reduce the "personal incentive of managers to prolong losing investments and strategies." The end effect may be better investment choices ex-ante, a reduction in the number of negative NPV projects ex-post, and increased profitability of existing projects (Bushman et al., 2006).

Recent empirical evidence supports Ball (2001) and Ball and Shivakumar's (2005) predictions. Ahmed and Duellman (2011) find that the extent to which a firm recognizes economic losses more quickly than gains significantly explains future cash flows and gross profit margin one, two, and three periods in the future, indicating that managers are more likely to invest in projects with positive ex-post NPVs when their firm employs conservative accounting practices. Francis and Martin (2010) show that 3-day cumulative abnormal returns (CARs) surrounding the announcement of an acquisition are positively associated with timely loss recognition, evidence that the market views investments by conservative firms favorably.

Bushman et al. (2011) document that, at the country level, greater timely loss recognition is associated with faster adjustment of firm investment to changes in profit opportunities. Firms in countries where conservatism is greater are more likely to reallocate capital away from losing industries to more profitable ventures. Managers in these countries also appear to have greater flexibility in responding to new investment opportunities. Lara et al. (2010) find similar results at

the firm level. Firms with more timely loss recognition are less likely to over- or under-invest, evidence that timely loss recognition can improve managers' capital allocation decisions.

Timely loss recognition and external financing costs

Prior research has argued that timely loss recognition may help curb agency costs arising from information asymmetries between managers and external investors (Jensen, 1986). For example, LaFond and Watts (2008) show that increases in information asymmetry lead to higher levels of accounting conservatism. Because equity investors demand more conservative financial reports "as a means of mitigating agency problems," when information asymmetries are high, timely loss recognition aids not only in reporting asset values but increasing the verifiability of these values. Consequently, timely loss recognition has been found to be associated with lower costs of capital. According to Zhang (2008), when debt contracts are based on conservative estimates of a firm's value, lenders are more likely to recover their capital in the event that the firm defaults or becomes likely to default. In exchange for stricter covenant requirements, lenders reward conservative firms with lower interest rates. Similarly, Ahmed et al. (2002) show that losses are more quickly recognized in firms where bondholders and shareholders disagree over dividend policy, suggesting that conservative accounting is one mechanism for mitigating payout conflicts. After controlling for other sources of debt costs, their finding suggests that timely loss recognition is associated with better debt ratings, which are generally associated with lower costs of debt.

Lara et al. (2008) find that, when controlling for firm risk, timely loss recognition is negatively associated with costs of equity, indicating that equity investors reward firms issuing conservative financial statements with lower required rates of return. Moerman (2008) examines the relationship between timely loss recognition and bid-ask spreads and finds that firms that recognize economic losses in a more timely fashion have lower bid-ask spreads, when controlling for other factors that affect spreads.

Cash flow sensitivity of firm investment

Research in corporate finance suggests firm investment is sensitive to cash flows, a common proxy for internal funds, and that this sensitivity stems largely from information asymmetries between managers and investors (Kaplan and Zingales, 1995; Hubbard, 1998). When information asymmetries are large, firms face greater costs of external capital, so that internal funds become a more important predictor of firm investment. Instead of issuing new equity or increasing leverage, managers of firms with high external capital costs may under-invest, giving up potentially profitable projects (Fazzari et al., 1988). Because of this, it is important to understand the factors that drive the sensitivity of firm investment to cash flows.

Evidence on the investment benefits of conservative accounting (e.g., Bushman et al., 2006; Ahmed and Duellman, 2011; Francis and Martin, 2010) has an implication for a firm's investment-cash flow sensitivity for two reasons. The first reason is that higher sensitivities imply greater dependence on internal funds (Myers and Majluf, 1984). However, empirical evidence suggests timely loss recognition decreases external capital costs (e.g., Li, 2009; Lara et al., 2011). I therefore predict that timely loss recognition will decrease the sensitivity of firm investment to cash flows.

The second reason is that greater investment-cash flow sensitivity may be associated with higher agency costs (Hubbard, 1998). Theory and empirical evidence suggest timely loss recognition reduces agency problems (Watts, 2003; Francis and Martin, 2010; Lara et al., 2010). If this is the case, timely loss recognition is likely to decrease the sensitivity of firm investment more in firms with high agency costs than for firms with low agency costs. I therefore predict that the effects of timely loss recognition on the investment-cash flow relation will be strongest in firms with high agency costs. In the next section I empirically evaluate these predictions.

RESEARCH DESIGN

Investment-cash flow model

To test the above predictions, I employ a Q-style OLS investment model and regress firm investment on cash flows from operations (a source of internal funds), a firm-year measure of timely loss recognition, the interaction between cash flows and timely loss recognition, a simple approximation of Tobin's Q (a proxy for investment opportunities), and controls. In equation (1) below, the interaction term *CFO*CSCORE* is a direct test of my prediction that the relation between cash flows and investment will be decreasing in timely loss recognition (calculation of *CSCORE* discussed below). Therefore I expect a negative and statistically significant coefficient on *CFO*CSCORE*. In the next section I report the results of estimating equation (1) both in its neoclassical form (without *CSCORE* or *CFO*CSCORE*) and in its full specification (with *CSCORE* and *CFO*CSCORE*). Additionally, I estimate equation (1) in both levels and changes.

$$INV_{it} = \alpha_{it} + \beta_1 CFO_{it} + \beta_2 CSCORE_{it} + \beta_3 CFO_{it}*CSCORE_{it} + \beta_4 Q_{it} + \beta_5 SIZE_{it} + \beta_6 DIVIDEND_{it} + \beta_7 LEVERAGE + \beta_8 RET_{it-1} + \beta_9 INV_{it-1} + \varepsilon_{it}$$

(1)

Where:
INV	= Firm investment.
CFO	= Cash flows from operations.
CSCORE	= Firm-year level measure of timely loss recognition.
Q	= Ratio of a firm's market value to its asset replacement costs.

SIZE	= Log of market value of equity.
DIVIDEND	= Dividend payout ratio.
LEVERAGE	= Total debt to book equity.
RET	= Annual stock return.

In equation (1), firm investment is capital expenditures to total assets (*INV*). I follow prior literature and use cash flows from operations as a proxy for internal funds (e.g. Fazzari et al., 1988; Lamont et al., 2001; Chen et al., 2006). Stiglitz and Weiss (1981) and Myers and Majluf (1984) offer a "pecking-order" explanation for a positive relationship between cash flows and firm investment. Firms finance new investment first through available cash flows and then through external funds. If internal funds are not sufficient then firms can choose to issue new equity or increase leverage. However, if the costs of external funds outweigh the benefits, managers may pass up profitable investment opportunities, thus cash flows may be an important determinant of corporate investment.

Investment opportunity has also been hypothesized to be an important determinant of firm investment (Tobin, 1969). A common argument in the investment-cash flow literature is that cash flows contain information about a firm's growth opportunities (Gomes, 2001). To better understand the relation between investment and cash flows, investment models have evolved to control for growth opportunity, generally using some derivation of Tobin's Q (1969). Myers (1977) and Myers and Majluf (1984) provide evidence that the larger the value of Tobin's Q, the more promising are a firm's investment prospects. Therefore, managers will be more likely to invest in new projects when Q is high. Given this argument, I expect a positive relationship between firm investment and Q.

Following Gurgler et al. (2000), I also include a control for firm size since size may affect a firm's access to external capital and therefore affect its investment-cash flow sensitivity. Financial constraints may also explain firm investment (Baker et al., 2003). Fazzari et al. (1988) use dividend payout to capture the effects of financial constraints on firm investment. Firms paying high levels of dividends have an ample supply of cash, cash that could instead be channeled into investment. They argue that firms paying high levels of dividends are less financially constrained because dividends (or a reduction in dividends) are one of a firm's least expensive sources of capital. Arguably though, dividends are sticky and managers may not be able to shift funds away from dividends without suffering a negative market reaction (Lintner, 1956; Brav et al., 2005). Therefore, cutting dividends may not always be a source of low-cost capital. If firms have to choose between dividends or new investment, then dividends should exhibit a negative relationship with investment. For this reason I predict a negative relationship between firm investment and dividend payout.

I also control for firm leverage, since debt capital, and specifically debt covenants, may serve as corporate governance mechanisms (Guay, 2008). Lamont (2000) and Richardson (2006) argue that returns may contain information about growth prospects that Q does not capture. Therefore I include a control for prior-year stock returns. The relationship between both size and prior year stock returns is expected to be positive, regardless of the timeliness of a firm's loss recognition.

Timely loss recognition

My primary measure of timely loss recognition is the Cscore developed by Khan and Watts (2009). They modify the earnings-returns model (model 2 below) below (see Basu, 1997), which captures asymmetric timeliness by industry and year, to estimate a firm-year measure of timely loss recognition.[3]

$$EARN_{it} = \alpha_{it} + \beta_1 DUM_{it} + \beta_2 RET_{it} + \beta_3 DUM*RET_{it} + \varepsilon_{it} \qquad (2)$$

Where:
$EARN_{it}$	= Net Income
DUM_{it}	= Dummy variable, equal to1 if annual returns are negative; zero otherwise
RET_{it}	= Contemporaneous annual return

In model (2), the coefficient *β_3* captures timely loss recognition. Basu (1997) shows that from 1963 to 1990, for a sample of firms listed on the *New York* and *American* stock exchanges (NYSE & AMEX), the coefficient on negative returns, *β_3*, is almost five times larger than the coefficient on returns only (*β_2*) indicating that for the average firm, losses get impounded into earnings more quickly than gains. This results in an asymmetric timeliness of financial reports.

To develop a firm-specific measure of timely loss recognition, Khan and Watts (2009) define *β_3* as a function of three firm-level characteristics-size, market-to-book, and leverage-characteristics that have been shown to vary positively with conservatism (e.g. LaFond and Watts, 2008). Following Khan and Watts, I use the coefficient *β_3* from model (2) to estimate the weights of these characteristics. Specifically I measure firm-level timely loss recognition as a linear combination of size (Size), market-to-book (MTB), and leverage (Lev), where *β_3* is replaced by ($\kappa_1 + \kappa_2 Size_{it} + \kappa_3 MTB_{it} + \kappa_4 Lev_{it}$). To estimate the Cscore, *DUM*RET* is interacted with *Size*, *MTB*, and *Lev*. Then the coefficients on the intercept parameter and interactions are summed, so that *$CSCORE = (\kappa_1 + \kappa_2 Size_{it} + \kappa_3 MTB_{it} + \kappa_4 Lev_{it})$*.

$$EARN_{it} = \alpha_{it} + \beta_1 DUM_{it}(\kappa_1 + \kappa_2 Size_{it} + \kappa_3 MTB_{it} + \kappa_4 Lev_{it}) + \beta_2 RET_{it}(\kappa_1 + \kappa_2 Size_{it} +$$

$$\kappa_3 MTB_{it} + \kappa_4 Lev_{it}) + \beta_3 DUM*RET_{it}(\kappa_1 + \kappa_2 Size_{it} + \kappa_3 MTB_{it} + \kappa_4 Lev_{it}) +$$
$$(\kappa_1 + \kappa_2 Size_{it} + \kappa_3 MTB_{it} + \kappa_4 Lev_{it}) + \varepsilon_{it} \qquad\qquad (3)$$

For an alternative firm-level measure of timely loss recognition I refer to Givoly and Hayn (2000) who argue that conservative accounting should result in persistently lower reported earnings. As a result, firms with higher conservatism policies should have higher instances of and more persistent negative accruals. Therefore, persistent negative accruals indicate higher accounting conservatism and thus more timely loss recognition. Following this logic, I use a firm's three year average accruals (*NEG_ACC*), calculated as net income before extraordinary items minus cash flows from operations (Compustat items IBC – OANCF) multiplied by -1, as a firm-specific measure of timely loss recognition.

Agency costs

To the extent that accounting conservatism arises in response to information asymmetry, I also examine the effects of timely loss recognition on the sensitivity of firm investment to cash flows in the presence of agency costs. To measure agency costs I categorize firms by their levels of three agency cost proxies found in prior literature. For the first proxy I follow Ang et al. (2000) and calculate each firm's SG&A expenses to total sales (*OPEX*). Firms with high SG&A expenses relative to sales likely have higher agency problems since in these firms managers are consuming perquisites or expropriating shareholder wealth in ways that cause operating expenses to be high. For the second proxy I refer to prior studies, such as Francis and Martin (2010), that argue variance in stock returns reflects investor uncertainty about a firm's true value. In firms with large return variances, agency costs are likely higher due to a less transparent information environment. Therefore, my second agency cost proxy is the standard deviation of daily returns for the current year (*STD_RET*). For my third agency cost proxy I refer to the literature on capital structure which suggests short-term debt acts as a managerial disciplining mechanism. Short-term debt forces managers to be conservative in their decision-making, so as to ensure adequate pay-off of upcoming debt. Short-term debt contracts are also frequently renegotiated, allowing shareholders to better monitor managers' capital allocation decisions (e.g. Datta et al., 2005; Custodio et al., 2010). Therefore I use the ratio of short-term debt to total debt (*STDEBT*) as my third additional agency cost proxy. Because a higher level of short-term debt to total debt is indicative of lower agency costs, I multiply this ratio by minus one so that higher levels of *STDEBT* represent higher agency costs.

Instead of using each agency cost proxy independently, I use the principal component of the three agency costs proxies as one agency cost metric (*AGENCY*). Using the principal component reduces the "noise" effects of unrelated information which may be correlated with each proxy independently (Joliffe, 2002). The first factor extracted

through principal component analysis explains 88% of the variation between *OPEX*, *STD_RET* and *STDEBT*, and is the only factor with an eigenvalue greater than one (1.22). I consider firms with values of *AGENCY* below their 2-digit SIC industry-year median to have low agency costs while firms with values of *AGENCY* above their industry-year median I consider to have high agency costs.

Changes model

As a robustness test, I also estimate a changes specification of model (1). Wurgler (2000) estimates a capital allocation efficiency model where, at the country level, firm investment in a given industry is a function of changes in the value added to that industry for an additional unit of investment. To estimate a similar model at the firm-level, I proxy value added using Q and include changes in cash flows as my test variable. I also control for changes in size, dividend payout and leverage, as well as lagged annual returns and lagged firm investment. As in Wurgler (2000), all changes are calculated as the natural log of the ratio of the current year value divided by the prior year value, multiplied by 100 (for example, the change in investment is calculated as $\Delta INV = \log[(INV_t/INV_{t-1})*100])$.

RESULTS

Sample statistics and univariate results

My sample begins with all companies available in Compustat, from 1990 to 2010. After excluding firms in financial industries (SIC 6000-6999) and firms in utilities (SIC 4900-4949), I merge the Compustat sample with stock returns from CRSP to form a final sample of 51,897 firm-year observations. All continuous variables are winsorized at the 1% and 99% levels to reduce the statistical effects of major outliers.

Table 1 provides descriptive statistics for the empirical model variables. I report full sample and subsample statistics for firms based on whether the firm has agency costs above or below (low versus high) the industry-year median. In Panel A, for the full sample, firms have a mean ratio of investment to total assets (*INV*) of 5.56%. Average Q is roughly 1.56, and dividend payout (*DIVIDEND*) is .9% percent of net income. These statistics are largely in line with prior studies (e.g. Biddle et al., 2008; Chen et al., 2006). Annual returns (*RETURN*) average roughly 15.3% over the sample period, and mean *CSCORE* is .161, slightly higher than the average of .093 reported by Khan and Watts (2009).

Table 1
Panel A. Descriptive Statistics, Full Sample

Variable	N	Mean	Median	S.D.	Min	Max
CSCORE	51897	0.1607	0.1536	0.1159	-0.1360	0.5651

INV	51897	0.0556	0.0408	0.0941	0.0000	1.3793
CFO	51897	0.0667	0.0822	0.1457	-1.1041	0.5658
Q	51897	1.5681	1.1960	1.1960	0.4440	5.1550
SIZE	51897	4.5831	4.3855	-0.0747	11.7401	2.2100
DIVIDEND	51897	0.0086	0.0000	0.0159	0.0000	0.1819
LEVERAGE	51897	0.3590	0.3420	0.2350	0.0000	1.0000
RETURN	51897	0.1530	0.0560	0.6640	-0.9720	8.7330

Panel B. Descriptive Statistics, Low vs. High *AGENCY* Cost Subsamples

	Mean		p-value	**S.D.**		p-value
	Low	High	difference	L	H	difference
CSCORE	0.1312	0.2210	0.000	0.0484	0.0619	0.000
INV	0.0573	0.0517	0.003	0.1087	0.0779	0.000
CFO	0.0952	0.0124	0.000	0.0945	0.1972	0.000
Q	1.3792	1.7695	0.000	0.8460	1.3490	0.000
SIZE	6.2164	3.9620	0.000	1.4859	1.4949	0.259
DIVIDEND	0.0210	0.0080	0.000	0.0150	0.0170	0.012
LEVERAGE	0.3914	0.3122	0.000	0.3392	1.1030	0.000
RETURN	0.1911	0.0139	0.000	0.6410	0.6900	0.000

***, **, * denote statistical significance at the 1%, 5% and 10% levels, (two-tailed). CSCORE is a firm-measure of timely loss recognition from Khan and Watts (2009) based on Basu's (1997) earnings-return model. INV is capital expenditures scaled by beginning period total assets. CFO is cash flows from operations scaled by beginning period total assets. Q is a simple approximation of Tobin's Q based on Gozzi et al. (2008) and measures the replacement value of assets measured as the market value of equity plus total assets, minus the book value of common equity, scaled by current period total assets. SIZE is the log of the market value of equity. DIVIDEND is dividend payout ratio measured as dividends from preferred stock, plus dividends from common stock, plus purchases of both common and preferred stock, all scaled by net income. LEVERAGE is short- and long-term debt to total assets. RETURN is annual stock return. Agency costs are measured as AGENCY, which is the principal component of operating expenses OPEX, measured as total sales, general, and administrative expenses to sales, the standard deviation of daily stock returns, and the ratio of short-debt to total debt. High Agency cost firms are firms above the median level of AGENCY and low agency cost firms are firms below the median level of AGENCY.

Table 1, Panels B shows some key differences between low and high agency cost firms. Low agency cost firms are larger and invest more than high agency cost firms, 5.73% of assets versus 5.17%. However, low agency cost firms have lower average Q than high agency cost firms, 1.379 versus 1.769. Low agency cost firms tend to pay more dividends, 2.1% versus 0.8% of net income, have higher reported cash flows than high agency cost firms, 9.52% of assets versus 1.24%, and also perform better, with annual returns averaging 19.1% over the sample period versus 13.9% for firms with high agency costs. Low agency cost firms are also less conservative. Mean Cscore for these firms is .131 versus .220 for firms with high agency costs. Together these results suggest that levels of agency costs are associated with significant cross-sectional differences in factors that influence firm investment.

Table 2 provides Pearson correlations for all empirical model variables. *CSCORE* is positively associated with the *AGENCY* (.257) variable as well as with each agency cost proxy

independently. *AGENCY* is positively and significantly related to each agency cost proxy independently, with the correlation coefficients ranging from .152 to .796. The largest correlation between any two independent variables is 0.326 (*CSCORE* and *Q*), indicating that multicollinearity should not forfeit the statistical integrity of my OLS results.[4]

Table 2
Pearson Correlations

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. CSCORE	1												
2. INV	0.037	1											
3. CFO	**-0.153**	0.051	1										
4. Q	**0.326**	0.282	0.020	1									
5. SIZE	**-0.242**	**0.098**	**0.300**	0.299	1								
6. DIVIDEND	**-0.111**	-0.049	**0.175**	**0.109**	0.283	1							
7. LEVERAGE	**-0.351**	0.027	-0.042	**-0.204**	-0.002	-0.043	1						
8. RETURN	**0.087**	-0.004	**0.156**	**0.251**	**0.124**	-0.006	-0.054	1					
9. AGENCY	**0.257**	**0.120**	**-0.249**	**0.263**	-0.010	-0.066	**-0.259**	-0.013	1				
10. EXCESS	**0.246**	**0.223**	**-0.117**	**0.377**	0.049	-0.061	**-0.312**	0.062	**0.713**	1			
11. OPEX	**0.235**	**0.106**	-0.366	**0.187**	**-0.122**	-0.057	**-0.164**	-0.062	**0.796**	**0.304**	1		
12. ASSETU	**0.011**	**-0.086**	-0.106	-0.056	0.086	-0.007	-0.003	-0.038	**0.493**	0.094	0.180	1	
13. STD_RETURN	**0.234**	**0.065**	-0.330	-0.022	**-0.510**	**-0.235**	0.046	-0.097	**0.152**	0.118	**0.217**	-0.056	1

Bold indicates statistical significance at the 10% level or greater.

Multivariate results

Table 3 provides the results of estimating equation (1), without and with the interaction variable *CSCORE*CFO*. In columns 1 and 2, equation (1) is estimated in level form. As a robustness test, in columns 3 and 4, I estimate equation (1) in changes form as well. All specifications include firm- and year-fixed effects and standard errors are clustered at the firm level to account for heteroskedasticity and serial correlation (Peterson, 2009).

Column 1 of Table 3 reports results from the base form of equation (1). Results suggest that cash flows from operations significantly explain firm investment for the full sample of firms (.0585, t-stat 6.79). *Q*, *SIZE* and *LEVERAGE* are all positively associated with firm investment, while *DIVIDENDS* is negatively associated with firm investment. The model explains over 30% of the variation in firm investment. These results are similar to those reported in prior research (e.g., Fazzarri et al., 1988). In column 2, results from the full specification of equation (1) are reported. As expected, the coefficient on the interaction *CFO*CSCORE* is negative and significant (-.0947, t-stat -13.97). While smaller in magnitude than the coefficient on the main

effect of cash flows (*CFO*) (.1134, t-stat 14.89), its opposite sign indicates that timely loss recognition is associated with a lower sensitivity of firm investment to cash flows. Coefficients on control variables and the coefficient of determination are similar to those reported in column 1.

Table 3
Test of the impact of timely loss recognition on the investment-cash flow relation.
Measure of timely loss recognition is the **CSCORE.**

Variable	+/-	Levels				Changes (Δ)	
		1		2		3		4	
(Δ)INTERCEPT		-0.0069		-0.0183		2.1015	***	1.6759	***
		-0.55		-1.48		5.07		3.31	
(Δ)CFO	+	0.0585	***	0.1134	***	0.0832	***	0.2169	***
		6.79		14.89		7.66		4.45	
(Δ)CSCORE	+/-			0.0514	***			0.1016	**
				5.52				2.17	
(Δ)CFO* (Δ)CSCORE	**-**			**-0.0947**	***			**-0.0303**	***
				-13.97				**-3.03**	
(Δ)Q	+	0.0308	***	0.0287	***	0.2960	***	0.2653	***
		28.82		24.22		5.89		4.65	
(Δ)SIZE	+	0.0016	***	0.0016	***	0.6650	***	0.6757	***
		3.82		3.47		6.97		6.23	
(Δ)DIVIDEND	-	-0.7944	***	-0.8490	***	-0.0359	***	-0.0501	***
		-17.26		-18.30		-2.79		-3.66	
(Δ)LEVERAGE	+	0.0285	***	0.0344	***	0.2063	***	0.1970	***
		5.92		6.65		16.19		15.39	
RETURN	+/-	-0.0055	***	-0.0058	***	0.1418	***	0.1462	***
		-4.97		-5.17		6.21		5.65	
INV	+	0.2155	***	0.2116	***	-3.8068	***	-3.8116	***
		31.52		31.11		-41.31		-37.81	
Firm Cluster		Y		Y		Y		Y	
Industry FE		Y		Y		Y		Y	
N		51897		51897		26990		26990	
R^2		0.3029		0.3099		0.4061		0.4062	

***, **, * denote statistical significance at the 1%, 5% and 10% levels, (two-tailed). Dependent variable is firm investment (INV) defined as capital expenditures scaled by beginning period total assets. CFO is cash flows from operations scaled by beginning period total assets. CSCORE is a firm-measure of timely loss recognition from Khan and Watts (2009) based on Basu's (1997) earnings-return model. Q is a simple approximation of Tobin's Q based on Gozzi et al. (2008) and measures the replacement value of assets measured as the market value of equity plus total assets, minus the book value of common equity, scaled by current period total assets. SIZE is the log of the market value of equity. DIVIDEND is dividend payout ratio measured as dividends from preferred stock, plus dividends from common stock, plus purchases of both common and preferred stock, all scaled by net income. LEVERAGE is short- and long-term debt to total assets. RETURN is annual stock return. All changes values are calculated similar to Bushman et al. (2011) and Wurgler (2000) where change represents the natural log of a one period percent difference.

In columns 3 and 4, results for a changes specification of equation (1) are similar. A positive change in cash flows results in a positive change in firm investment. But this relation is reduced for firms with more timely loss recognition. For example, in column 4, the coefficient on ΔCFO is .2169 (t-stat 4.45) while the coefficient on ΔCFO*ΔCSCORE is -.0303 (t-stat -3.03).

In Table 4, I estimate equation (1) using an alternative measure of timely loss recognition, namely the persistence of negative accruals (*NEG_ACC*). Results are similar to those reported in Table 3. For parsimony I only report those for the full specification of equation

(1). In column 1 the coefficient on *CFO* is positive and statistically significant (.0739, t-stat 7.35), but decreasing in timely loss recognition (*CFO*NEG_ACC* coefficient is -.1518, t-stat -3.92). Similarly, coefficients on control variables suggest *Q*, *SIZE* and *LEVERAGE* are positively associated with firm investment, while *DIVIDEND* is negatively related to firm investment. In column 2, where equation (1) is estimated using a changes specification, the interaction *CFO*NEG_ACC* is not statistically significant, though is in the direction predicted (-.0033, t-stat -1.56). All other variables load similar to those results reported for the changes model in Table 3.

Table 4
Test of the impact of timely loss recognition on the investment-cash flow relation.
Measure of timely loss recognition is the **NEG_ACC**.

Variable	+/-	Levels		Changes (Δ)	
		1		2	
(Δ)INTERCEPT		-0.0010		1.7777	***
		-0.08		3.39	
(Δ)CFO	+	0.0739	***	0.1090	***
		7.35		2.63	
(Δ)NEG_ACC	+/-	-0.0996	***	0.0545	
		-10.28		1.28	
(Δ)NEG_ACC*(Δ)CFO	**-**	**-0.1518**	*******	**-0.0033**	
		-3.92		**-1.56**	
(Δ)Q	+	0.0297	***	-0.3917	***
		27.53		-7.14	
(Δ)SIZE	+	0.0007	*	0.7512	***
		1.71		6.82	
(Δ)DIVIDEND	-	-0.8180	***	-0.0415	***
		-17.61		-2.76	
(Δ)LEVERAGE	+	0.0225	***	0.1999	***
		4.69		13.24	
RETURN	+/-	-0.0070	***	0.1421	***
		-6.26		5.10	
INV	+	0.2146	***	-3.7514	***
		31.39		-36.79	
Firm Cluster		Y		Y	
Industry FE		Y		Y	
N		51897		26990	
R^2		0.3099		0.4154	

***, **, * denote statistical significance at the 1%, 5% and 10% levels, (two-tailed). Dependent variable is firm investment (INV) defined as capital expenditures scaled by beginning period total assets. CFO is cash flows from operations scaled by beginning period total assets. NEG_ACC is a firm-level measure of timely loss recognition, based on the persistence of negative accruals (see Givoly and Hayn, 2000). Q is a simple approximation of Tobin's Q based on Gozzi et al. (2008) and measures the replacement value of assets measured as the market value of equity plus total assets, minus the book value of common equity, scaled by current period total assets. SIZE is the log of the market value of equity. DIVIDEND is dividend payout ratio measured as dividends from preferred stock, plus dividends from common stock, plus purchases of both common and preferred stock, all scaled by net income. LEVERAGE is short- and long-term debt to total assets. RETURN is annual stock return. All changes values are calculated similar to Bushman et al. (2011) and Wurgler (2000) where change represents the natural log of a one period percent difference.

In Table 5 I report the results of re-estimating equation (1), in level form only and where timely loss recognition is captured using the *CSCORE*, across subsamples of firms split by low and high agency costs. For firms with low agency costs, the relation between cash flows and

firm investment is even stronger than that reported in Table 3, where the coefficients on *CFO* in columns 1 and 2 are .3668 (t-stat 21.31) and .4189 (t-stat 19.3) respectively. In untabulated tests I sort firms into low and high agency costs using the three agency cost proxies independently and the result is similar.[5] Turning to the interaction *CFO*CSCORE*, the coefficient is again negative and significant (-.1084, t-stat -4.23). When compared to the coefficient on *CFO* however, this magnitude is slight, indicating that timely loss recognition does not reduce the relation between cash flows and investment in low agency costs firms as much as the results from the full sample analysis indicate.

Table 5
Test of the impact of timely loss recognition on the investment-cash flow relation across subsamples of agency costs. Measure of timely loss recognition is the **CSCORE**.

Variable	Agency Costs							
	Low AGENCY				High AGENCY			
	1		2		3		4	
INTERCEPT	-0.0154		-0.0181		-0.0506	***	-0.0560	***
	-1.03		-1.15		-4.97		-6.64	
CFO	0.3668	***	0.4189	***	0.1348	***	0.2550	***
	21.31		19.30		3.69		8.24	
CSCORE			0.0069	**			0.0084	***
			1.98				3.08	
CSCORE*CFO			**-0.1084**	***			**-0.1533**	***
			-4.23				**-7.39**	
Q	-0.0154		0.0217	***	0.0245	***	0.0243	***
	-1.03		11.18		19.61		18.72	
SIZE	-0.0015	**	-0.0018	***	0.0073	***	0.0071	***
	-2.52		-3.02		11.26		10.49	
DIVIDEND	-0.7803	***	-0.7909	***	-0.6564	***	-0.6880	***
	-13.44		-13.51		-9.74		-10.30	
LEVERAGE	0.1326	***	0.1314	***	-0.0030		0.0002	
	16.71		16.16		-0.49		0.03	
RETURN	0.0008		0.0007		-0.0062	***	-0.0061	***
	0.32		0.29		-4.70		-4.58	
INV_{t-1}	0.1645	***	0.1638	***	0.1914	***	0.1901	***
	15.33		15.25		22.54		22.46	
Firm Cluster	Y		Y		Y		Y	
Industry FE	Y		Y		Y		Y	
N	29256		29256		22641		22641	
R^2	0.3093		0.3167		0.2995		0.3040	

Difference in coefficients for
*CFO*CSCORE* across subsamples: Z-statistic = 8.74

***, **, * denote statistical significance at the 1%, 5% and 10% levels, (two-tailed). Dependent variable is firm investment (INV) defined as capital expenditures scaled by beginning period total assets. CFO is cash flows from operations scaled by beginning period total assets. CSCORE is a firm-measure of timely loss recognition from Khan and Watts (2009) based on Basu's (1997) earnings-return model. Q is a simple approximation of Tobin's Q based on Gozzi et al. (2008) and measures the replacement value of assets measured as the market value of equity plus total assets, minus the book value of common equity, scaled by current period total assets. SIZE is the log of the market value of equity. DIVIDEND is dividend payout ratio measured as dividends from preferred stock, plus dividends from common stock, plus purchases of both common and preferred stock, all scaled by net income. LEVERAGE is short- and long-term debt to total assets. RETURN is annual stock return. AGENCY is principal component of operating expenses OPEX, measured as total sales, general, and administrative expenses to sales, the standard deviation of daily stock returns, and the ratio of short-debt to total debt. High Agency cost firms are firms above the median level of AGENCY and low agency cost firms are firms below the median level of AGENCY.

In columns 3 and 4 of Table 5, the relation between cash flows and firm investment is weaker. The coefficients on *CFO* are .1348 (t-stat 3.69) and .2550 (t-stat 8.24) respectively. As mentioned above, this result may be due to the managers in these firms using internal funds for non-investment expenditures. As predicted, in column 4, the interaction *CFO*CSCORE* has a coefficient of -1533 (t-stat -7.39).When compared to the coefficient on *CFO* (.2550, t-stat 8.24), the impact of timely loss recognition on the relation between cash flows and firm investment is larger than for low agency cost firms, indicating that in high agency costs firms, there may be considerable advantage to managers for practicing timely loss recognition.

CONCLUSION

In this study I examine the impact of timely loss recognition on the investment-cash flow relationship. Results suggest that as the recognition of economic losses becomes more timely, the sensitivity of firm investment to cash flows decreases. I interpret this finding as evidence that timely loss recognition decreases the sensitivity of firm investment to internal funds. This effect is primarily driven by firms with high agency costs, indicating that timely loss recognition has agency benefits. These results appear to be evident across both a levels and changes specification of my empirical model and the use of alternative measures of timely loss recognition.

I contribute to the current literature on the investment benefits of timely loss recognition. To my knowledge this is the first paper to examine whether timely loss recognition decreases a firm's investment-cash flow sensitivity and to test whether timely loss recognition affects investment-cash flow sensitivity differently for firms with low versus high agency costs.

ENDNOTES

1   While I use the terms "timely loss recognition" and "conservative accounting" interchangeably, my focus is on asymmetric timeliness, i.e., the requirement of a higher standard of verification for accounting gains than for accounting losses (see Basu, 1997).

2   The sensitivity of firm investment to cash flows is highest when firms face prohibitive costs of external capital. To the extent that cash flows represent a firm's core source of internal funds (Myer and Kuh, 1957), the sensitivity of firm investment to cash flows is likely to be higher in firms with impediments to raising external capital, such as information asymmetry and/or agency costs (see Myer and Kuh 1957; Stiglitz and Weiss, 1981; and Myers and Majluf, 1984).

3   Using positive and negative stock returns as proxies for gains and losses, Basu (1997) shows that when earnings are regressed on positive and negative returns, the coefficient on negative returns is significant and larger than the coefficient on positive returns. He interprets this finding as earnings being more responsive to bad news than good news.

4   In unreported tests I run multicollinearity diagnostics and find that all variance inflation factors are below 3.0, further indication of little collinearity between empirical model independent variables.

5   One reason there may be a stronger relation between cash flows and investment in low agency cost firms is that managers in these firms are better allocating internal capital, i.e., using cash flows to fund profitable investments rather than expropriating those funds.

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THE RESEARCH OF LIQUIDITY RISK MANAGEMENT BASED ON EVA IMPROVEMENT

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ABSTRACT

Economic Value Added (EVA) has been proven to be an effective performance evaluation and management tool. However, EVA possesses a significant defect: it neglects the performance evaluation of cash flow and cannot manage the liquidity risk of enterprises. This study first seeks to identify the problems and deficiencies of the current assessment situation of the EVA indicator. Next, we establish a performance evaluation indicator that can help enterprises achieve comprehensive management on business revenue and liquidity risk management. The superiority of this new indicator is then demonstrated through its application to ten steel companies. The indicator also provides new ideas and methods for the management of enterprise performance evaluation.

Keywords: EVA; Liquidity Risk Management; Performance Evaluation

INTRODUCTION

Many studies have shown Economic Value Added (EVA) to be an effective performance evaluation and management tool. Based on economic profit, the EVA indicator incorporates the cost of capital to accurately evaluate the wealth that operators create for shareholders, and it is an indicator of financial results that is widely-used around the world. In 2010, SASAC decided to carefully assess Economic Value Added among the central enterprises, to lead them to focus on value management, and to take capital value (EVA) maximization as the orientation, in order to set up a scientific and rational performance assessment system, to improve the ability of value creation and the quality of development, and to achieve sustainable development.

Many scholars are currently undertaking research on EVA. Foreign research has concentrated mainly on value relevance and performance evaluation. For example, some of this research has shown that EVA can reflect the true value of companies (Stewart, 1991) other research has found evidence that EVA is, in essence, excess and free cash flow generated by management to meet investors' expectations (Mohanty, 2003). Domestic research has indicated that EVA measures enterprises' performance by taking the shareholders' value as the focus (Wu Shangrong, Chen Yunsheng and Xu Wei, 2009) other scholars have have also conducted

research on EVA performance evaluation systems (Gu Qi and Yu Changzhi,2000)、(Chi Guohua and,Chi Xusheng,2003).

Scholars have generated some controversy in the study of the effectiveness of EVA. Some studies have suggested that EVA has more advantages compared to traditional financial evaluation indices (Liu Li and Song Zhiyi,1999) (Qu Shaofa and Wang Jianwei,2003) (Wang Guoshun and Peng Hong,2004)、(Huang Jun and,Li Fei,2005) (Fu Jingli and Shi Yingjie,2011). However, there are also studies that do not seem to agree with this view. Shen Weitao and Ye Xiaoming (2004) took China's Shanghai- and Shenzhen Stock Exchange-listed companies as subjects and studied EVA's effects on capital structure. The results indicate that EVA affects the capital structure of listed companies in China, but on the extent of weak. Li Yajing believes that although EVA has a positive correlation with market value, the information contained in the company's value is limited. Beyond the traditional accounting indicators, EVA does not have explanatory power beyond incremental information.

A large number of scholars have advanced proposals for improvements on the deficiencies of EVA as performance evaluation indicators. For example, some scholars have suggested that managers should assist in the implementation of EVA with other financial instruments, in order to broaden the application of EVA (Brewer PC and Gyan C, 1999) other scholars have pointed out that MVA and REVA are more advantageous than EVA in measuring the value of industry performance (Seoki Lee and Woo Gon Kim, 2009) Sheng Ju, in the EVA enterprise performance evaluation, stated that EVA lacks effective cash flow information, so it cannot reflect the profitability of cash inflow (Sheng Ju , 2009). While analyzing the financial indicators of performance evaluation which focus on EVA, Huang Yinan and Zhang Kui noted the way EVA establishes a connection with statements of cash flow. The specific method is to establish after-tax operating cash rate indicators (Huang Yinan and Zhang Kui Dong, 2009).

Liu Yunguo and Chen Guofei(2007) constructed a performance evaluation index system based on a combination of BSC and EVA, and make a comparative analysis of both system. As a result, they provide a new idea for similar state-owned enterprises to improve their level of performance evaluation. Gu Yinkuan and Zhang Hongxia (2004) described a method for company valuation: a model of EVA discounted valuation and its application in the valuation of listed companies in China. Based on the analysis of the above scholars, it can be interpreted that EVA, as the evaluation indicator that many scholars advance, neglects the information of cash flow, and that cash flow management is a key part of business management. For example, in the new role of cash flow management-value creation, Zhao Weibin revealed that enterprises may not go bankrupt for the reason of operating losses, but it may get into trouble on account of the funds chain's broken, thus cash flow is an important lifeline to maintain enterprises' survival and development (Zhao Weibin, 2009) Ou Xiaoying revealed that enterprises should establish value-oriented cash flow management, in terms of value-oriented management of cash flow (Ou Xiaoying, 2009) .

The above studies have pointed out the existing defects of EVA liquidity and have given advices for improvement as well, but they haven't proposed a specific improvement to the formula to enhance the management of the EVA liquidity risk. This paper tries to build a comprehensive, simple, and easily operating performance evaluation indicator that can enhance the EVA liquidity risk management, based on theoretical analysis and applied research.

DEFICIENCIES IN EVA APPLICATION

2.1 The Complexities of EVA Calculation and Application

EVA can be calculated as: EVA = NOPAT - WACC ×TC, in which NOPAT is the adjusted after-tax profits before interest, WACC is the weighted average cost of capital of enterprises, and TC is the adjusted business investment capital.

In order to achieve the purpose that EVA can evaluate business performance correctly, we need to adjust NOPAT and TC according to financial accounting balance sheet and income statement. So far, the accounting adjustments used for EVA calculation has reached more than 200 kinds, but at the same time the complexity and difficulty of calculation also increase, which hinder the wide application of EVA. In practice, we should make adjustments, combining the principle of simple maneuverability and its importance. As an accounting indicator of management, some businesses combine the cost and benefit principle to make adjustments of EVA. They also introduce some supplementary index to add additional evaluation. However, this would lead to the complexity and duplication of calculating examination index, which increases the difficulties of examining. The paper adopts the SASAC EVA formula in order to achieve convenience and maneuverability.

2.2 SASAC EVA Requirements and Problems

No. 22 File of State-owned Assets Supervision and Administration Commission, "Interim Measures for performance evaluation of the responsible persons of the central enterprises" puts forward the method for improving the annual examination, which introduces EVA into the overall score of the annual performance evaluation, accounting for 40% of the overall score. Almost all domestic enterprises, which implement SASAC and EVA, adopt a unified and fixed WACC value without industry distinction (5.5% or 4.1%). The advantage of fixed WACC value simplifies the calculation, and prevents the artificial adjustment of every enterprise. However, after fixing WACC, capital structure and debt interest have no effect on calculating the EVA index, so it is not reasonable both from theory and practice. In order to make the later research

and analysis more simple, practical and operational, the paper uses 5.5% of the weighted average cost of capital stipulated by the SASAC temporary.

2.3 The limitations of EVA Indicators in Liquidity Risk Management

EVA calculation is based on the accrual basis. In fact, it is based on the calculation of the balance sheet and profit form. Taking operating profit and cost of capital as the center, it ignores the cash flow business performance evaluation and management of liquidity risk. Although the enterprises' economic value is increased, the enterprises will not be able to distribute profits, if corporate profits cannot be ensured by necessary cash.

EVA INDEX EXAMINATION CONSTRUCTIONS FOR INCREASING LIQUIDITY RISK MANAGEMENT

3.1 The Importance of Liquidity Risk Management

In enterprise management, the liquidity risk management is an important component of financial management. Strengthening liquidity risk management can circulate business funds, speed up cash flow, reduce business risk, and improve the competitiveness of enterprises. If there is something wrong with business liquidity risk management，whether short- or long-term, it indicates that the operation of business goes wrong. The bankruptcy of many small and medium enterprises may be caused directly by poor management of liquidity risk. A company's profit should be accompanied by cash flow. If this kind of company relationship is closer, or we can say that the differences are smaller between profits and cash flow in quantity and time, the stronger liquidity is, the better profit quality is, and enterprises' liquidity and financial adaptability are also stronger. However, the existing businesses manage operating funds poorly, they doesn't pay enough attention to liquidity risk management; most of financial goals they set are profit-related indicators, and there is an obvious gap on management of cash flow of accounts receivable, which doesn't manage the cash flow well and eventually leads to the poor cash flow.

Another factor which influences the management of enterprises' liquidity is inventory management; the risk of inventory falling prices will bring serious damage to the business, while the larger proposition of stock funds will lead to serious liquidity risk. Therefore, enterprises should pay enough attention to liquidity risk management, strengthen the internal control of cash flow, reduce financial risk brought out by mismanagement of cash flow, improve techniques and methods of liquidity risk management, and enrich the indicator system of liquidity risk management.

3.2 EVA Index Examination Construction for Increasing Liquidity Risk Management

It would achieve both of comprehensive evaluation and simple practical management simultaneously, and improve the existing management mode, if the business can strengthen the liquidity risk management based on EVA indicator of Accrual management performance evaluation. According to the SASAC No. 22 documents:

Adjusted capital = Total average assets - average non-interest bearing current liabilities - average of construction in progress.

The focus of enhancing enterprises' cash flow management is to manage current assets, which includes the management of cash, all kinds of deposits, short-term investments, accounts receivable and prepayments, and inventory etc.

The author believes that the risk of operating is different due to the different asset types. As for the high-risk liquidity, there should be a fixed-risk premium cost on the basis of the weighted-average cost of capital basis according to asset sources. The fixed management accounting indicator has the characteristics of managing the current assets and current liabilities risk based on the profitable evaluation indicators of EVA, and it is a indicator that can make the enterprise's operating income index, based on accrual basis and cash flow index, based on the cash basis, achieve the comprehensive benefit evaluation on basis of profits and risk assessment.

For example, with the development of commercial credit at present, the proportion of credit sales is increasing gradually every year. Net receivables remain high, and enterprises lack management. According to statistics of professional institutions, the accounts-receivable amount of China's small- and medium-enterprises has been increasing these years, and now account for about 50% of enterprises' sales income (Wang Lan, 2009). More typically, the problem of liquidity management, faced by large communication construction enterprises and construction enterprises, are mainly about the management of liquidity or the management of accounts receivable. Therefore, we can construct a formula which helps to manage the accounts receivable effectively from the perspective of management of accounting. See formula (1)

$$CEVA1 = EVA - a\% \text{ accounts receivable} \qquad (1)$$

The improved index CEVA1 is mainly applied to companies which lack of intensity in accounts receivable management, and the purpose of constructing is to enable enterprises to enhance management on accounts receivable. a% is a fixed risk premium cost of accounts receivable on the basis of the fixed weighted average cost of capital basis according to asset sources.

Enterprises can adopt CEVA2 to manage the liquidity if they consider making considerable efforts not only to manage accounts receivable, but also to manage inventory. For instance the risk that retail enterprises face is mainly about inventory (Zhang Lanju, 2009).

$$CEVA2 = EVA - a\% \text{ accounts receivable} - b\% \text{ stock} \qquad （2）$$

b% is a fixed risk premium cost of inventory on the basis of the fixed weighted average cost of capital basis according to asset sources. Improved CEVA2 can reinforce the enterprise's management of accounts receivable and inventory, and solve the main problems of liquidity risk management which enterprises face now.

The aim of constructing the above two improved EVA formula is to strengthen enterprises' management of liquidity risk. Different formulas should be adopted in accordance with different liquidity risks of different enterprises. Paying more attention to liquidity risk management can make enterprises enhance protection against liquidity risks as well as assess management performance.

3.3 The Significance of the Combination of Liquidity Risk Management and EVA Evaluation Indicator

3.3.1 Enhance the Management of Liquidity Risk of Enterprises.

It is helpful for enhancing the liquidity risk management of enterprises to combine EVA with cash flow. When enterprises evaluate EVA, they pay more attention to the management of accounts receivable and inventory, the improvement of turnover speed, and the reflection of enterprises' real cash flow. It evaluates the profitability of enterprises, considers the cash receipt ability of enterprises, and reduces the financial risk of enterprises.

3.3.2 Simplify the Complexity of Multiple Index Calculation in the Enterprises.

The combination of EVA and cash flow can improve the multiplicity and complexity of present calculation in the enterprises. It shows the condition of present performance in the enterprises by the simplest indicators. So the combination of them is more helpful for enhancing the management of liquidity risk and the operatability of performance evaluation indicators.

3.3.3 Overcome the Orientation of Short-term Behavior

The improved EVA system can overcome the risk that enterprises may overlook the long-run development for the short term performance. It prompts the manager to accelerate the turnover of accounts receivable and inventory, to improve the running efficiency of enterprises, and to promote the development of enterprises in the long run.

In other words, the aim of adopting the improved CEVA to evaluate enterprises is to reinforce the liquidity management of enterprises. It is flexible and universal, and it can measure the enterprises' performance in a simple and comprehensive way.

CASE STUDY

4.1 Sample Selection and Data Sources

The paper takes the listed steel enterprises as an example, other than the enterprises that have significant reorganization of assets and severing financial hardship in the sample period. We randomly selected ten steel enterprises as samples. The data is from the 2008, 2009, and 2010 annual reports of the ten listed steel enterprises published in the Sina. The data of stock price is from the Shanghai and Shenzhen A-share stock price of the accounting period in the Great Wisdom trading system, and it is processed in a way of forward recovery of the right.

4.2 The Selection of Indicators and Parameters

EVA and CEVA were selected to compare and analyze the ten listed steel enterprises. EVA is calculated with the formula given by SASAC, that is: economic value added = after-tax net operating profit - adjusted capital × average cost of capital rate, in which after-tax net operating profit = net profit + (interest expense + research and development adjustments expenses - non-recurring adjustments revenue × 50%) × (1-25%); adjusted capital = (average owner's equity + total average liabilities - average non-interest bearing current liabilities - average construction in progress) × WACC. This paper takes temporarily 5.5% as WACC set by SASAC to make the sequent analysis simple and comparable. The formula of the modified EVA: CEVA = EVA-a% accounts receivable-b% stock. The main problem of enterprises' liquidity risk management is the management of accounts receivable and inventory, such as the risk of bad debt and funds chain break brought out by accounts receivable, the risk of inventory price changes and interest changes. So the risk premium is caused by the coexistence of accounts receivable and inventory risk whose occupancy in cost of capital should be higher than the weighted average cost of capital. For the purpose of analysis, the paper assumes the average accounts receivable occupies 8.5% of a year's capital (for the lack of statistics, this paper according to the expertise to make assumptions: receivables average cost of capital is 8.5% , average occupancy cost of capital for inventory is 7.5%.); accounts receivable premium cost should be 3%, average inventory account for 7.5% of a year's capital, the inventory premium cost of accounts receivable premium cost should be 3%, tax is 25%.

4.3 Comparative Analysis

Basing on the annual data of ten iron and steel enterprises in 2008, 2009, and2010, the economic value added (EVA) and improved Economic Value Added (CEVA) are calculated with this formula provided in the paper, the results is shown in Table 1-4.

Company Name	Net Profit（million yuan）			Year-end Stock Price（yuan）		
	2008	2009	2010	2008	2009	2010
Bao Gang	6459.208	5816.227	12889.08	3.96	9.16	6.09
Shou Gang	460.3882	404.6242	349.6708	2.68	5.91	4.42
Ji Gang	780.6219	66.9942	84.3535	2.44	5.27	3.55
Nan Gang	121.6081	581.2365	918.7036	2.83	6.05	3.43
Ma Gang	710.2343	392.4753	1101.839	3.19	5.01	3.41
Lai Gang	262.6092	82.5006	123.5753	5.56	12.95	7.79
Hang Gang	36.7177	146.5594	348.1969	3.62	6.57	4.8
An Gang	2981	727	2039	6.53	15.79	7.58
Tai Gang	1234.815	905.7538	1372.311	3.31	9.34	5.24
Da Ye	200.8808	332.791	561.8833	3.74	11.51	14.86

**Table 1
Ten Steel Enterprises Net Profits and Year-end Stock Price**

In an efficient capital market, stock prices are the best indicators to measure corporate value, and thus the stock price change is a measure of business performance indicators. However, the actual capital market is not completely effective, and capital markets will affect people's emotions with the external environment policy, resulting in overly optimistic or pessimistic, and it will also affect people's expectations for the future, leading to huge fluctuations in the market temporarily failure, so there would be a larger deviation between stock price and enterprise value. In addition, stock prices reflect the expected value of people's future earnings in the current point--- part of the stock price is current value of future growth opportunities, instead of realized performance, and if the stock price is used as the indicator to access business performance, it will increase the possibility of manipulated stock market, sparking the turmoil in the stock market. Based on the above reasons, the stock price cannot be an indicator of business performance.

Capital markets are effective in the long run, while failure is only temporary, so the stock price is the best measure of enterprise value.

Table 2 **Ten Steel Enterprises EVA and CEVA** (million yuan)						
Company Name	EVA			CEVA		
	2008	2009	2010	2008	2009	2010
Bao Gang	-1751.53	-2899.39	2510.165	-2926.25	-3894.58	1234.766
Shou Gang	-202.955	-459.268	-393.867	-265.819	-525.894	-445.796
Ji Gang	-369.541	-1044.38	-982.143	-538.093	-1210.56	-1182.45
Nan Gang	-318.554	-613.214	-487.384	-460.22	-732.208	-669.60
Ma Gang	-1620.50	-2543.48	-2121.89	-1928.47	-2829.60	-2517.40
Lai Gang	-172.63.1	-428.62	-415.589	-258.52.1	-500.429	-512.415
Hang Gang	-299.539	-208.162	-43.1716	-360.166	-245.146	-94.6672
An Gang	-878.524	-3568.45	-2515.29	-1214.37	-3923.59	-2950.53
Tai Gang	-760.727	-1454.64	-773.294	-1218.44	-1849.61	-1201.72
Da Ye	41.97.639	136.4985	331.8329	22.01.724	108.6236	293.6989

Table 3 **Ten Steel Enterprises' Growth Rate of Stock Price, Net Profit, EVA and CEVA**							
Company Name	Growth Rate of 2009				Growth Rate of 2010		
	Stock Price	Net Profit	EVA	CEVA	Stock Price	Net Profit	EVA	CEVA
Bao Gang	1.313131	-0.09954	0.655348	0.330912	-0.33515	1.216056	-1.86576	-1.31705
Shou Gang	1.205224	-0.12112	1.26291	0.978393	-0.25212	-0.13581	-0.1424	-0.15231
Ji Gang	1.159836	-0.91418	1.826162	1.249726	-0.32638	0.259116	-0.05959	-0.02322
Nan Gang	1.137809	3.779587	0.924991	0.590996	-0.43306	0.580602	-0.2052	-0.08551
Ma Gang	0.570533	-0.4474	0.569569	0.467276	-0.31936	1.807409	-0.16575	-0.11033
Lai Gang	1.329137	-0.68584	1.482875	0.935741	-0.39846	0.497872	-0.0304	0.02395
Hang Gang	0.814917	2.991519	-0.30506	-0.31935	-0.26941	1.375807	-0.79261	-0.61383
An Gang	1.41807	-0.75612	3.061864	2.230966	-0.51995	1.804677	-0.29513	-0.248
Tai Gang	1.821752	-0.26649	0.912176	0.518025	-0.43897	0.515104	-0.4684	-0.35029
Da Ye	2.07754	0.656659	2.251793	3.933569	0.291051	0.688397	1.431037	1.703822

Over the long term, changes in stock prices , to some extent, still reflects the company's operating performance, and the direction of stock price changes is consistent with the change in direction of the business performance. Therefore, the stock price can not be used as the direct

evaluation of business performance, but it can be used as an evaluation of the appropriateness of the standard of other indicators. In other words, the indicators that could measure business performance should meet such conditions: they are positively-correlated with stock price changes, and the degree of correlation is quite high

To test the correlation between changes in net profit, the EVA and CEVA's and changes in stock price, we have figured out the growth rate of them. P_{it} represents the stock price of No.i enterprise in period t; r_{it} represents the growth rate of stock price of No.i enterprise in period t. $r_{it} = P_{it} / P_{i,t-1} - 1$, t=2009 or 2010. In similar way, we could also get the growth rate of net profit, EVA and CEVA.

Next,we use the growth rate data to calculate the correlation among net profit , EVA , CEVA and stock price(Pearson Relation Coeficient)。

Table 4 The Pearson Relation Coefficient of Ten Steel Enterprises' Growth Rate (Net Profit, EVA and CEVA) and Stock Price						
	2009			2010		
	Net Profit	EVA	CEVA	Net Profit	EVA	CEVA
Stock Price	-0.1983	0.5468	0.6750*	-0.1778	0.6421*	0.7305*

Tips:*stands for that Pearson correlation coefficient is significantly associated in the 5% level.

It can be seen from Table 4 that net profit is not suitable to be used as the measure of business performance assessment indicators, because the stock price change is negatively correlated with net profit; EVA and CEVA are eligible. But comparatively speaking, the CEVA is even better because the correlation coefficient in 2009 and 2010 are higher than EVA, and significant as the usual 5% level. Simply considering the value of the EVA might ignore the real corporate cash flow position, while improved economic added value indicators CEVA takes operating earnings and cash flow risk management into consideration, so it is more comprehensive. Therefore, compared with net profit, EVA and CEVA can better reflect the true corporate business performance.

Accounts receivable premium cost and Inventory premium cost are given by experience in the previous analysis because no relevant statistics could be referred. Actually, the values of a and b may be in a range of changes. The changes of these two parameters have an effect on CEVA's calculation, which then affect the correlation between the CEVA and the stock price. The previous theory will no longer be established if the impact is very large, such as CEVA and stock prices are negatively correlated. In order to evaluate the effect on correlation between CEVA and stock prices, we assume Accounts receivable premium cost A and Inventory premium cost B are both in a likely reasonable range of the interval [0.00,0.05], independently.

As follows is the descriptive statistics on the simulation of the correlation coefficient (rho09, rho10) in 1000 random sampling.

Variable	Number of simulation	The mean	Standard deviation	Minimum	Maximum
rho09	1000	0.6650093	0.0359005	0.5522872	0.6981348
rho10	1000	0.7383413	0.0419698	0.645608	0.8131913

Table 5
Parameter Changes' impact on the Correlation Coefficient of CEVA and Stock Price

Tips： Variables ----- rho09 and rho10 are on behalf of the Pearson Relation Coefficient in 2009、2010。

When accounts receivable premium cost s and Inventory premium cost B are both in a likely reasonable range of the interval [0.00,0.05] independently, in the most cases, the correlation coefficient distribution in 2009 is in a narrow range (0.65,0.7) from the box plot while in the narrow range of (0.7,0.8) in 2010. From the surface chart, the relationship between CEVA and stock price changes is enhanced with the increase of the parameters a and b within reasonable limits. Table 5 demonstrates 09 and 10 years, the minimum of correlation of CEVA in 2009 and 2010, is positive, and are more than EVA. Therefore, the changes of parameters within reasonable limits do not affect the superiority of the CEVA, accessing business performance to other indicators.

Fig.1 Parameter changes' impact on the CEVA and the correlation coefficient ofCEVA and stock
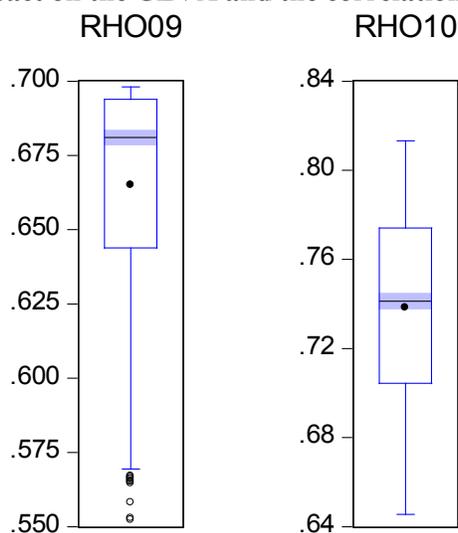
Fig.2 Parameter changes' impact on the CEVA and the correlation coefficient of CEVA and stock
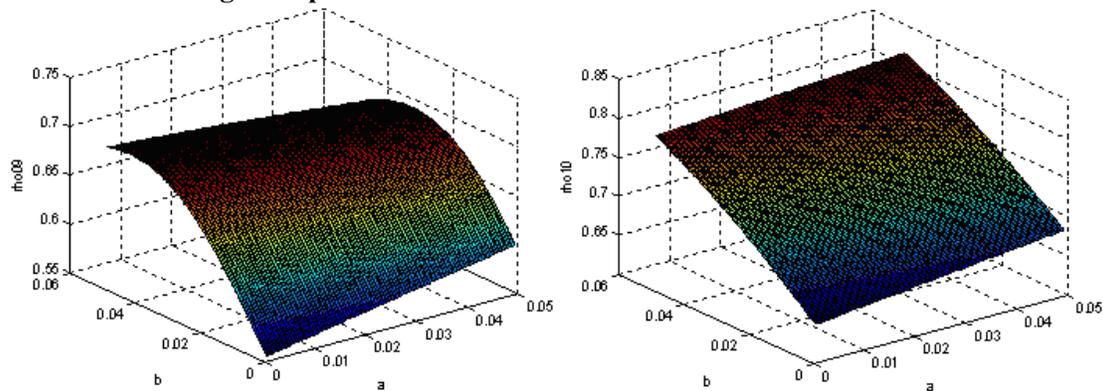
CONCLUSIONS

This paper constructs a performance evaluation indicator CEVA to enable enterprises to achieve comprehensive management on operating earnings and cash flow risk, which is based on the deficiencies of EVA calculation and application. The purpose is to reinforce the management of liquidity risk, to improve cash basis of enterprises, and to reduce financial risk of enterprises on the basis of enterprises' operating performance assessment. It proves the advantages of the new index CEVA by analyzing the example of top five steel enterprises, the new index are simpler, more comprehensive and more operatable. Enterprises which adopt CEVA do not merely take it as a theoretical performance evaluation, but hope to influence and change the thinking mode and behavior habits of enterprises' decision maker, managers and employees by this performance evaluation indicator CEVA. As a result, it will achieve the goal of shareholder value maximization.

This paper makes an empirical analysis only for ten companies of steel industry in 2009 and 2010. There are some limitations in the conclusion. In the future, we will expand the range of industries, increase the sample enterprises, and increase the sample number of installments to make further validations.

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CAUTIONS NEEDED WHEN DECIPHERING FIRMS' QUARTERLY SALES PATTERNS

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ABSTRACT

To make financial data timely, publicly-held firms must file interim reports on Form 10-Q in addition to their annual-reports (10-Ks) with the Securities and Exchange Commission (SEC). In the 10-Q filings, firms factor out any seasonality by comparing performance in the current interim period and year-to-date with that of the same time periods in the prior fiscal year. However, because those studying a firm's performance are also interested in sales patterns within a given fiscal year, a table providing quarterly data for the past two fiscal years is almost always presented in firms' 10-Ks. In this paper, quarterly sales patterns are first examined for Amazon, Macy's, Target, and Toys "R" Us, four firms expected to report their highest sales in the fourth quarter because they feature merchandise known to sell especially well during the end-of-year gift-giving season. Next, quarterly sales patterns are illustrated for three supermarkets and one supplier of bread and pastry to supermarkets, firms that one would expect to experience fairly even sales throughout the year. Surprisingly, only one of these firms reports a steady sales pattern. Each of the other three firms reports one interim period with sales at least 20 percent higher than all other periods. Equally noteworthy is the fact that there is variety among the three in whether their highest sales occur in the first, third, or fourth interim period. The reason for these surprising findings among non-seasonal firms and the implications for those examining firms' Forms 10-Q or their quarterly data in Forms 10-K are discussed. In addition, challenges faced by analysts attempting to compare a firm's quarterly sales trends with those of its peers or over time for the same firm are illustrated by reference to the quarterly-data disclosures of 15 additional companies.

INTRODUCTION

To better ensure the availability of timely financial information to investors, creditors, and other users, the Securities and Exchange Commission (SEC) requires that publicly-traded firms file interim-period reports on Form 10-Q, in addition to an annual report on Form 10-K. In contrast to 10-K data, 10-Q data need not be audited, but it must be reviewed by the firm's independent auditor. The format used in reporting on Form 10-Q is designed to factor out any seasonal sales trends experienced by the firm. Nevertheless, knowledge of seasonal trends and changes therein also are of interest to those studying a firm's results of operations. This latter

information is typically presented in a firm's 10-K for all four quarters of the two most recent years. Because this disclosure includes quarter-four results, firms are not required to file a separate Form 10-Q for their fourth quarter.

Although some consider "Q" to be an abbreviation for "one fourth of a year" (The Free Dictionary, 2013), the SEC does not state that each 10-Q must cover an identical period of time (SEC, 1933-34, as amended). In an unofficial response to one author, a researcher at the SEC expressed the view that a 13-week period is what most would associate with a "quarter," but she noted that the agency has not opined on the number of weeks that should be included within each Form 10-Q.

As will be illustrated, the discretion afforded to firms has enabled reporting periods on Forms 10-Q that range from 12 to 17 weeks. This variability can present difficulties when analysts attempt to interpret a firm's seasonal trends and make inter-company (and even sometimes intra-company) comparisons. As a result, the 10-Q disclosures must be viewed carefully since they could be misinterpreted by users who might assume that a firm's fiscal year would be divided into equal quarters for reporting on an SEC filing titled Form 10-Q. Given the lack of specific guidance by the SEC as to the length of quarterly periods, the AICPA in its guidance to auditors correctly notes that "the term interim financial information means financial information or statements covering a period less than a full year" (AICPA, 2009).

Table 1 Selected Data from Form 10-K Illustration Provided by Ernst & Young to Its Clients (in thousands)				
	20Y2 Three Months Ended			
	31 Mar.	30 June	30 Sept.	31 Dec.
Net sales	$1,500	$2,100	$2,300	$2,900
Gross profit	500	700	750	1,000
Discontinued operations, net of tax	20	40	15	-
Income before extraordinary item, net of tax	100	160	210	275
Extraordinary item, net of tax	-	(150)	-	-
Net income	100	10	210	265
	20Y1 Three Months Ended			
	31 Mar.	30 June	30 Sept.	31 Dec.
Net sales	$1,400	$1,900	$2,200	$1,700
Gross profit	450	700	800	650
Discontinued operations, net of tax	25	40	20	15
Income before extraordinary item, net of tax	50	210	255	210
Extraordinary item, net of tax	-	-	-	-
Net income	50	210	255	210

Source: Ernst & Young (2011).

A sampling of auditing firms' guidance for their clients' quarterly disclosures suggests that auditors are either silent with regard to the length of a quarter (Deloitte, 2013) or depict quarters of equal length (Ernst & Young, 2011). Table 1 shows excerpts from an illustration that Ernst & Young uses to inform its clients as to the type of disclosure that would satisfy the SEC requirement for the reporting of selected quarterly data in their SEC Forms 10-K (Ernst & Young, 2011).

PRIOR CONSIDERATION OF THESE ISSUES

The analyst community is generally aware that many retailers have adopted 52-53 week reporting. These firms prefer to have their fiscal years contain an even number of weeks. As a result, they add an extra week to their fourth quarter every five or six years because most of their accounting periods would only contain 364 days (52 x 7). An advantage of 52-53-week reporting is that it "ensures the same number of Saturdays and Sundays in comparable months" (National Retail Federation, 2013).

As noted earlier, the SEC does *not* require that each 10-Q cover an identical period of time. However, while it is one thing to add an extra week to an interim period every five or six years, it is quite another to report *each year* one quarterly period that has four more weeks than all other quarters. Examples of such instances are illustrated in this paper.

The issue of *substantial* differences in the number of weeks included among a firm's "quarterly" periods has received little attention. A number of years ago, one author addressed this subject, in less depth and for fewer firms, in an exercise directed at loan officers (Gosman, 2008). A review of several Intermediate and Advanced Accounting texts suggests that the issue is not at present considered in the classroom (Fischer et al., 2012; Hoyle et al., 2011; Kieso et al., 2013; and Spiceland et al., 2013).

ILLUSTRATION OF ONE FIRM'S FORM 10-Q DISCLOSURES

As noted above, firms factor out seasonality in their 10-Qs by comparing performance in the current interim period and year-to-date with that of the same time periods in the prior fiscal year. The reason for such a focus is apparent from examining selected data taken from a Form 10-Q filed by Six Flags Entertainment, an operator of amusement parks. As shown in Table 2, in both fiscal 2012 and 2011 sales during the third quarter (Q3) were more than one-half of the combined sales for Q1-Q3, rather than the one-third that one might expect in the absence of seasonality factors. Also, Table 2 reveals that Six Flags would have operated at a net loss for the first nine months in each fiscal year had it not been for its net income in Q3.

As would be expected, the amusement-park business peaks during warm-weather months, many of which are contained within Q3. If Six Flags' 10-Q were to focus on comparing its current-year Q3 with its current-year Q2 or Q1, rather than with its prior-year Q3, it might

suggest incorrectly that the firm had only recently developed a plan to achieve operating efficiencies and financial success. Despite such cautions, knowledge of a firm's distribution of sales *across quarters* can prove useful to analysts in other decision contexts.

Table 2 **Selected Data from Third Quarter 2012 Form 10-Q Filed by Six Flags Entertainment**				
	Third Quarter 2012	Third Quarter 2011	Nine Months Ending 9/30/2012	Nine Months Ending 9/30/2011
Total revenues	$485,143,000	$475,605,000	$926,413,000	$875,613,000
Operating expenses	$132,737,000	$130,417,000	$339,452,000	$328,125,000
SG&A expenses	$54,115,000	$48,341,000	$176,042,000	$166,185,000
Cost of products sold	$34,483,000	$34,594,000	$70,144,000	$67,481,000
Net income	$271,978,000	$211,177,000	$247,740,000	$115,621,000

QUARTERLY DATA FROM 10-KS OF FIRMS WITH EXPECTED SEASONAL SALES PATTERNS

The SEC requires that firms include a table in their 10-Ks that presents selected quarterly data, such as sales revenues, gross profit, and net income for the current and prior fiscal years. Such information, as was illustrated in Table 1, is intended to inform analysts as to the degree of seasonality in the firm's sales pattern and any recent changes therein. One way to capture the seasonal nature of Six Flags' business would be to use data from its 10-K table to express each quarter's sales as a percentage of its Q1 sales (which we set at 100). Table 3 presents such information for fiscal years 2012 and 2011.

As would be expected, the Table-3 data portray a high degree of seasonality for the amusement park business. In both fiscal years, Q1 is by far the slowest quarter. Large proportions of revenues are earned during Q2 (April – June) and to an even greater extent Q3 (July – September).

Table 3 **Six Flags – Trends in Quarterly Sales** **($ in millions)**				
	Q1	**Q2**	**Q3**	**Q4**
Fiscal 2012				
Sales revenue	$66	$375	$485	$144
Sales as % of Q1 Sales	100%	568%	735%	218%
Fiscal 2011				
Sales revenue	$61	$339	$476	$138
Sales as % of Q1 Sales	100%	556%	780%	226%

In Table 4, a similar format is used to illustrate seasonal sales patterns for four retailers, Amazon, Macy's, Target, and Toys "R" Us. Because these retailers are especially popular during the end-of-year gift-giving season, they would be expected to report their highest sales volume in their Q4s. The Table 4 data confirm such a pattern for each firm.

Table 4 Trends in Quarterly Sales – Firms with Expected Seasonal Sales Patterns ($ in millions)									
Amazon					**Target**				
Fiscal 2012	**Q1**	**Q2**	**Q3**	**Q4**	**Fiscal 2012**	**Q1**	**Q2**	**Q3**	**Q4**
Sales revenue	$13,185	$12,834	$13,806	$21,268	Sales revenue	$16,537	$16,451	$16,601	$22,370
Sales as % of Q1 Sales	100%	97%	105%	161%	Sales as % of Q1 Sales	100%	99%	100%	135%
Fiscal 2011					**Fiscal 2011**				
Sales revenue	$9,857	$9,913	$10,876	$17,431	Sales revenue	$15,580	$15,895	$16,054	$20,937
Sales as % of Q1 Sales	100%	101%	110%	177%	Sales as % of Q1 Sales	100%	102%	103%	134%
Macy's					**Toys "R" Us**				
Fiscal 2012	**Q1**	**Q2**	**Q3**	**Q4**	**Fiscal 2012**	**Q1**	**Q2**	**Q3**	**Q4**
Sales revenue	$6,143	$6,118	$6,075	$9,350	Sales revenue	$2,612	$2,552	$2,609	$5,770
Sales as % of Q1 Sales	100%	100%	99%	152%	Sales as % of Q1 Sales	100%	98%	100%	221%
Fiscal 2011					**Fiscal 2011**				
Sales revenue	$5,889	$5,939	$5,853	$8,724	Sales revenue	$2,636	$2,648	$2,700	$5,925
Sales as % of Q1 Sales	100%	101%	99%	148%	Sales as % of Q1 Sales	100%	100%	102%	225%

QUARTERLY DATA FROM 10-KS OF FIRMS WITH NO EXPECTED SEASONAL SALES PATTERNS

In contrast to the firms highlighted in Tables 3 and 4, the four firms included in Table 5 would not be expected to exhibit seasonal sales patterns. Nash-Finch, Publix and Safeway are supermarkets, and Flowers Foods supplies bread and other bakery products to supermarkets and restaurants. There is no reason to believe that sales of their merchandise would vary substantially from quarter to quarter.

As expected, Publix reports only minor sales fluctuations by quarter; its largest fluctuation of 7% occurs for its Q4, but only for fiscal 2011, and this is a direct result of Publix including an extra (14th) week in its Q4 that year to accommodate its use of 52-53-week accounting. Safeway would seem to be very comparable to Publix in that both are large U.S. supermarket chains, but as seen in Table 5, Safeway reported Q4 sales that exceeded its Q1 sales by approximately 38% in both fiscal years.

Table 5 Trends in Quarterly Sales – Firms with No Expected Seasonal Sales Patterns ($ in millions)									
Flowers Foods					**Publix Super Markets**				
Fiscal 2012	**Q1**	**Q2**	**Q3**	**Q4**	**Fiscal 2012**	**Q1**	**Q2**	**Q3**	**Q4**
Sales revenue	$898	$682	$717	$749	Sales revenue	$7,126	$6,838	$6,702	$7,040
Sales as % of Q1 Sales	100%	76%	80%	83%	Sales as % of Q1 Sales	100%	96%	94%	99%
Fiscal 2011					**Fiscal 2011**				
Sales revenue	$802	$643	$675	$654	Sales revenue	$6,836	$6,622	$6,425	$7,295
Sales as % of Q1 Sales	100%	80%	84%	82%	Sales as % of Q1 Sales	100%	97%	94%	107%
Nash-Finch					**Safeway**				
Fiscal 2012	**Q1**	**Q2**	**Q3**	**Q4**	**Fiscal 2012**	**Q1**	**Q2**	**Q3**	**Q4**
Sales revenue	$1,070	$1,104	$1,511	$1,136	Sales revenue	$10,003	$10,387	$10,049	$13,767
Sales as % of Q1 Sales	100%	103%	141%	106%	Sales as % of Q1 Sales	100%	104%	100%	138%
Fiscal 2011					**Fiscal 2011**				
Sales revenue	$1,110	$1,111	$1,486	$1,148	Sales revenue	$9,772	$10,196	$10,064	$13,598
Sales as % of Q1 Sales	100%	100%	134%	103%	Sales as % of Q1 Sales	100%	104%	103%	139%

So what can explain the marked seasonality exhibited by Safeway but not by Publix, when both belong to an industry sector not expected to illustrate a seasonal sales pattern? And

what would cause Flowers Foods' Q1 to show approximately 25% higher sales than in any other quarter? And how did Nash-Finch, a supermarket chain, come to report Q3 sales that exceeded its Q1 sales activity by 34-41%? The answer to these questions cannot lie in some unusual phenomenon that arose in fiscal 2012, because these problematic seasonal sales patterns were observed in fiscal 2011 as well.

EXPLANATION

Flowers Foods, Nash-Finch, and Safeway are representative of companies that structure their external reporting to complement an internal-reporting schedule that is sometimes referred to as a four-week progression. External-reporting quarters of 13 weeks each do not achieve this symmetry because 13 weeks are not evenly divisible by 4. On the other hand, a reporting pattern that consisted of three quarters with 12 weeks and one quarter with 16 weeks would not only add up to 52 but also would contain only quarters whose number of weeks are evenly divisible by 4.

Company	Auditor	Q1	Q2	Q3	Q4*
Advance Auto Parts	Deloitte & Touche	X			
Costco	KPMG				X
CPI Corp.	KPMG			X	
Dole Food Co.	Deloitte & Touche			X	
Flowers Foods	PwC	X			
Frisch's Restaurants	Grant Thornton	X			
Kroger	PwC	X			
Nash-Finch	Grant Thornton			X	
PepsiCo	KPMG				X
Safeway	Deloitte & Touche				X
Spartan Stores	Deloitte & Touche			X	
SUPERVALU	KPMG	X			
Whole Foods	Ernst & Young	X			
Wolverine World Wide	Ernst & Young				X
YUM! Brands	KPMG				X

Table 6
Form 10-Q That Includes 16 Weeks of Financial Results and Name of Auditor

* Firms using 52-53-week accounting would include 17 weeks of results every 5-6 years.

Table 6 presents a listing of 15 firms (including Flowers, Nash-Finch, and Safeway) that each has has one external-reporting quarter that contains 16 weeks. It also reveals that every Big 4 firm and Grant Thornton are represented among their auditors. Every quarter except Q2 was chosen by several of these firms as their 16-week interim period.

The patterns shown for Flowers Foods, Nash-Finch, and Safeway account for the *appearance* of seasonality observed in Table 5. It is not surprising that no other quarter matched Flowers' Q1 for sales revenue, given that its Q1 contained four more weeks than any other quarterly reporting period. Similarly, it is not that surprising that Nash-Finch reported 34-41% more sales in its Q3 than in its Q1, given that its Q3 contained 33% more weeks than its Q1. Nor is it remarkable that Safeway reported approximately 38% more sales in its Q4 than in its Q1, given that its Q4 contained 33% more weeks than its Q1.

Firms that include 16 weeks within one of their interim periods do mention so in their 10-Qs and 10-Ks, but often not in the most prominent manner. In addition, they do not cite four-week progression or any other reason for their interim-reporting practice. Their lack of an explanation for this unusual practice has led one blogger to characterize one firm's (PepsiCo's) 16-week Q4 as "fairly strange." (Carvin, 2008).

COMPARABILITY ISSUES

Analysts must be vigilant when making *inter-company* comparisons based on firms' Form 10-Q disclosures. Table 7 highlights instances in which the quarterly patterns of peers cannot be directly compared, much like the situation illustrated previously for Safeway vis-à-vis Publix.

Table 7 Contrast of Firms' Distribution of Weeks with Their Peers' Distribution									
Company	Q1	Q2	Q3	Q4*	Peer Firm	Q1	Q2	Q3	Q4*
Advance Auto Parts	16	12	12	12	The Pep Boys	13	13	13	13
Costco	12	12	12	16	BJ's Wholesale	13	13	13	13
Dole Food Co.	12	12	16	12	Fresh Del Monte	13	13	13	13
Flowers Foods	16	12	12	12	Campbell Soup	13	13	13	13
Frisch's Restaurants	16	12	12	12	Denny's	13	13	13	13
Kroger	16	12	12	12	Weis Markets	13	13	13	13
Nash-Finch	12	12	16	12	The Pantry	13	13	13	13
PepsiCo	12	12	12	16	Coca-Cola	13	13	13	13
SUPERVALU	16	12	12	12	Roundy's	13	13	13	13
Whole Foods	16	12	12	12	Harris Teeter	13	13	13	13
Wolverine World Wide	12	12	12	16	Timberland	13	13	13	13
YUM! Brands	12	12	12	16	McDonald's	13	13	13	13

* Firms using 52-53-week accounting will include one additional week every 5-6 years.

Intra-company comparisons can also prove challenging as a result of a firm's discretion over how its fiscal year is divided into interim periods. Even in those cases where a firm's sales

are known to be seasonal, the extent to which the seasonal portrayal is representationally faithful will be influenced by the manner in which it distributes the 52 weeks across its four quarters. In the case of Panera Bread, the firm moved from a 16-12-12-12 week distribution in fiscal 2005 (and earlier years) to a 13-13-13-13 week distribution beginning in fiscal 2006. While Panera's 2005 Q1 was reported to be its *best* sales quarter that year on the basis of 2005 data reported in the firm's *2005* 10-K, that quarter was shown to be its *worst* sales quarter of 2005 when that same year's data was restated for inclusion in its *2006* 10-K (Panera, 2006, 59; Panera, 2005, 65).

More recently, two firms initiated shifts similar to Panera's, changing from interim reporting that included a 16-week quarter to reporting quarters of each length. Marriott International gave no reason for its change to 13-13-13-13 week reporting (Marriott, 2013, 6). Ignite Restaurant Group, recently merged with a firm that had interim-reporting periods of 13 weeks each, observed that quarters of equal length is a more typical reporting format used in its line of business "and is easier to understand for our investors" (Ignite, 2013, 6).

SUMMARY AND IMPLICATIONS

Quarterly reports and associated announcements receive significant attention from investors, analysts, and the media. Users of interim financial disclosures need to be aware that there is no SEC requirement that firms divide their reporting periods into quarters of 13 weeks each (or 13-13-13-14 in the case of a 53-week-reporting year). A firm that normally includes sixteen weeks of activity in one of its quarters would be reporting at least 33% more sales days in that quarter than in every other quarter (16 weeks vs. 12 weeks). When the 16-week quarter is Q4, then that quarter during a 53-week-reporting year would contain 42% more sales days than any other quarter (17 weeks vs. 12 weeks).

It follows that care must be taken when seeking to understand the cause of a seasonal sales pattern exhibited by a firm. Does the sales pattern represent actual differences in sales volume among quarters of equal length, as was the case for Six Flags? Or does it merely reflect that the firm's reporting quarters are of unequal length, as was the case for Flowers Foods, Nash-Finch, and Safeway?

What can be done to help ensure that quarterly data is interpreted accurately for purposes of inter-company and intra-company analyses? Ignite Restaurant Group could be correct when it observed that quarters of equal length would yield Form 10-Q data that are easier for investors to understand. Nevertheless, SEC action to require all firms to adhere to a 13-13-13-13 pattern seems most unlikely given the preference of some firms for quarterly reporting periods that can be evenly divisible into four-week segments. More widespread knowledge of the existing diversity in practice should increase financial-statement users' recognition of situations, such as those highlighted in Table 7, where there is a high risk of comparing apples and oranges. The bottom line is that some firms prepare 10-Q submissions to the SEC that are really what one

might more accurately refer to as 10-Is (interim filings), given that these interim reports do not each necessarily encompass an exact quarter of a calendar year.

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THREE STAGES TO BANK OVER REGULATION

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ABSTRACT

Beginning in the Great Depression of 1929, Congress proposed the first major overhaul to regulation regarding financial institutions. It was the Glass-Steagall Act of 1933 accompanied by the Federal Deposit Insurance Act of 1933 that government felt would instill confidence in the banking system and separate commercial banking from investment banking. The Act remained in place for sixty-six years until 1999, when The Gramm-Leach-Bliley Act was put into law to once again allow financial conglomerates made up of commercial banks, investment firms, and insurance companies. In 2008, a financial meltdown of the economy brought a sweeping new major piece of legislation, The Dodd-Frank Wall Street Reform and Consumer Protection Act was signed into law in 2010. This act brought the most significant changes to financial regulation since the Great Depression.

This study examines the legislative and regulatory overreaction in the economic crisis, as well as the contribution of Congress and the executive branch to some of the root causes to the economic crisis.

The basic findings of this study establish that regulatory overreaction could have long-term impact on a substantial number of financial institutions.

Keywords: Financial crisis, banking, Glass-Steagall, Gramm-Leach-Bliley, Dodd-Frank

INTRODUCTION

The most recent economic crisis appears to have several root causes, which can be attributed to laws intended to prevent financial crisis. For example, the Glass-Steagall Act was enacted to establish "firewalls" between commercial banks and industry. However, there was a concern that the separation of banks from industry was detrimental to the economy so sixty-six years later, Glass-Steagall was repealed by the passage of Gramm-Leach-Bliley Act in 1999 to allow banks, investment firms, and insurance companies to merge to form competitive enterprises. However, unintended consequences brought about near financial collapse. With the lines blurred between financial enterprises, risk taking reached new levels. Several major investment firms had to be rescued through government intervention. A few firms of substantial size collapsed. Involvement in the economic crisis was "equal opportunity" in nature involving several different administrations. Additionally, Congress repealed the 1933 Glass-Steagall Act that provided a "firewall" between different types of financial institutions and passed the Gramm-Leach-Bliley Act which allowed the acquisition or merger banks, investment companies, and insurance companies.

There are a number of factors that had an impact in the economic crisis; however, four appear to have had a major impact. Investment banks ability to acquire other financial firms, mortgages originated without proper credit underwriting and granted to borrowers who did not have the ability to pay, subprime loans with high rates to people who had poor or no credit, and an overheated economy that put businesses and consumers in a downward economic spiral.

What makes the subject unique is the overreaction by Congress by passing the Dodd-Frank Act containing 2,319 pages which included provisions that put burdens on financial institutions that not only impact the world and national markets, but also the individual citizens through consumer regulations so strict that the cost to implement tend to price the consumer out of most financial institutions. Additionally, regulatory reporting and compliance provisions are costly, especially to smaller financial institutions.

LITERATURE REVIEW

In examining the literature, there is substantial evidence relating to the issues of over regulation. For example, Bill Isaac (2012), former Chairman of the Federal Deposit Insurance Corporation commented that the Dodd-Frank Act could put half of the community banks out of business through excessive regulation. Further Isaac noted that sweeping reforms are a substantial burden. Mulhern (2011) expressed that the Dodd-Frank Act will have a substantial impact on consumers, businesses, financial institutions, and even the regulatory authorities. He also found that the Act moved power to regulate from various agencies, but even more important, it created a Bureau of Consumer Financial Protection that had absolute power relating to any consumer issues, and all other regulatory agencies are required to submit to their regulations. One specific sticking point under the Durbin Amendment that allowed the bureau to determine what fees were reasonable and proportional, but the Dodd-Frank Act did not define the terms. To further note the concern for the overreach by the Bureau of Consumer Financial Protection, White (2012) quoted Congressman Scott Garrett, R-NJ who said, "I find the method in which you (Richard Cordray) were appointed extremely offensive and a violation of the highest law of the land, the Constitution of the United States."

Kane (2012) studied the Dodd-Frank Act and found a number of flaws and noted that the proposed reform did not recognize or address the issues necessary to correct the purported problems. Stiglitz (2009) documented that excessive greed and risk-taking created by an overheated economy and high loan demand impacted credit quality throughout the financial industry. Further, he found that the major signs of an economic downturn manifested itself through sub-prime loan problems, overvalued real estate, higher fuel prices, and retail sales plummeting. Dodd (2007) noted before the crisis was recognized that the decline of the mortgage market was as much about poor structuring as it was about bad debts.

EARLY BANKING

From the early days of colonization of the nation, regulation of banks was virtually non-existent or spotty at best. Two attempts to establish a central bank ended in failure with the Second Bank of the United States not having its charter renewed in 1836. In fact, during the period from 1837 to 1866, banks were established, with a few exceptions, without any regulatory authorization. They tended to issue their own currency which was essentially treated like a clearing system of today. Bank "A" issued a currency that an individual used to purchase an item. This currency was passed from individual to individual before going back to bank "A" which might or might not still be in existence.

With the free-wheeling, reckless banking practices, Congress passed the National Banking Acts of 1863 and 1864 which allowed the federal government to impose a tax on banks to help pay for the Civil War. Structure came to the banking system with the Office of the Controller of the Currency being established in 1867 to regulate national banks. The various states saw the need to provide structure and regulation to establish banks, and therefore, required approval before establishing a bank. Politics and corruption caused continual problems with runs on banks. Therefore, the Federal Reserve Act of 1913 established the Federal Reserve System to be the "lender of last resort." The Federal Reserve System was to act as the central bank of the United States to provide a more stable monetary and financial system. It was developed in reaction to financial panic and bank failures that disrupted the economic system early in the twentieth century and caused financial vulnerability. At the time, there was no central banking system. There was no separation between commercial banking and investment banking so many of the firms would take the money of their depositors and use it for investment purposes. This continued until the Great Depression of 1929 in which the majority of the nation's banks failed.

Stage One Toward Over Regulation

The major legislative changes that occurred in 1933 which affected the depository banking industry was the Banking Act of 1933, also known as the Glass-Steagall Act, which substantially changed the National Bank Act 1864 and the Federal Reserve Act of 1913, and added the Federal Deposit Insurance Corporation to those agencies already regulating and monitoring the banking system. These changes were the direct result of a failing and turbulent economy and the recent stock market crash of 1929 that was a catalyst to the beginning of the Great Depression. The crash of the stock market was largely blamed on speculative loans to stockbroker and investors. Speculative lending was prohibited under Glass-Steagall.

This new regulatory environment created control over banks by separating commercial banking from investment banking, and preventing control of a banking organization by another industry. It also imposed specific regulation by one or more of the Office of the Controller of the Currency, Federal Deposit Insurance Corporation, and the Federal Reserve Bank. Additionally, states could grant bank charters but must have FDIC insurance. Each bank would be subject to periodic examination for safety and soundness.

In an effort to prevent financial disruptions related to liquidity problems, Congress formed the National Monetary Commission in 1907. The Federal Reserve System was established by Congress in 1913 as an outcome of the commission and was established to provide the nation's banks with a source to borrow funds for liquidity and to establish for the nation a safer and a more reliable monetary and financial system. The stated purpose of the act was "to provide for the establishment of Federal reserve banks, to furnish elastic currency, and to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States and for other purposes" (The Federal Reserve Act). The McFadden Act passed in 1927 allowed branch banking by federally chartered institutions located within states in which laws granted such authority to state-chartered banks.

With the failure of some 15,000 banks failed by 1933. Congress was forced to pass major legislation in 1933 which forever changed the banking industry with the passage of the Banking Act of 1933, also known as the Glass-Steagall Act. The primary purpose of the Act was to separate commerce from banking in order to reduce conflict The act forever changed how banks did business and how they were regulated. It established three distinct lines of business independent of each other – commercial banking, investment banking, and insurance. Several other acts were created such as the Federal Deposit Insurance Act of 1950, consolidating earlier FDIC legislation into one Act, and the Bank Holding Act of 1956 authorized the Federal Reserve Board authority to approval the establishment of any bank holding company. Additionally, the Truth in Lending Act of 1968 was intended to provide accurate disclosure of credit terms. However, none of these supplanted Glass-Steagall. The result of all these regulations amounted to a highly regulated banking industry.

With a downturn in the economy and banks starting to fail in significant numbers, the Financial Institutions Regulatory and Interest Rate Control Act of 1978 put controls and limitations on bank insider transactions. Additionally, the Act made provision for electronic funds transfers. In 1980, the Depository Institutions Deregulation and Monetary Control Act removed interest rate ceilings and allowed banks and saving institutions to pay interest on checking accounts through the use of negotiable orders of withdrawal accounts Koch and MacDonald (2012).

Problems in financial institutions persisted from the late 1980s to the early 1990s resulted in Congress passing the Financial Institutions Reform, Recovery, and Enforcement Act of 1989. to regain public trust in both the banking and savings sectors of the industry and to create the Resolution Trust Company as a temporary agency of the government to be responsible for managing and disposing of the assets of failed institutions. The Act also provided severe penalties for mismanagement of institutions. With the Federal Deposit Insurance Corporation Improvement Act passed in1991 increased supervision gave more control and regulatory authority to the FDIC.

Stage Two Toward Over Regulation

The Gramm-Leach-Bliley Act of 1999 continued the trend of deregulation. The Act repealed the Glass Steagall Act of 1933. It also removed restrictions within the Bank Holding Company Act, thus allowing bank holding companies affiliations with underwriting and

insurance companies. The Act also allowed bank holding companies the ability to engage in merchant banking, real estate transactions, and other similar or related transactions. The act also restricts consumer privacy practices and provides for access to borrowed funds through the Federal Home Loan Bank (Koch and MacDonald, 2012). With little turbulence in the banking industry, the question was raised as to why such sweeping regulation? Citi Bank acquired The Travelers Insurance Company in violation of the Federal Reserve Act, which caused Congress to think perhaps there should be fewer restrictions on the intermingling of banks, investment firms, and insurance company. This seemed rather unusual, since sixty-six years earlier these entities were separated because their combination at that time was one of the root causes of the Great Depression. Banking enjoyed good financial earnings and had few failures from 1995 to 2007, however, Gramm-Leach-Bliley resulted in more complex and global intuitions with excessive risk being taken and resulted in the economic meltdown in 2007.

Corporate scandal and loosely regulated complex transactions contributed to a failing economy. Additionally, terrorism resulted in The International Money Laundering Abatement and Financial Anti-Terrorism Act of 2001 (also known as the Patriot Act) attempted to prevent the United States monetary system from being used for terroristic or illegal acts,

Due to corporate scandals such as Enron and WorldCom, Congress passed the Sarbanes-Oxley Act. Sarbanes-Oxley legislation was passed in 2002. Fair and Accurate Credit Transactions Act of 2003 strengthened consumer rights for individuals who are victims of credit theft, inaccurate credit scores and inaccurate reporting. Deposit Insurance Reform Act of 2005 increased deposit insurance to $250,000 on retirement accounts and removed restrictions related to risk based insurance premiums in order to allow the FDIC to charge deposit insurance premiums based upon risk. The United State economy sunk into financial recession in 2007.

Stage Three Toward Over Regulation

The financial crisis of 2007 brought about a new interest in regulatory reform. The factors that contributed to the financial crisis were the meltdown of the subprime lending market and the housing market severe decline resulting in a collapse of the real estate prices. Mortgage backed securities contained a substantial number of mortgages that were not performing, destroying their value. The relaxed trend of regulations requiring mortgage documentation as well as non-traditional products such as interest only loans also played a key role in the collapse of the economy. In an attempt to mitigate the liquidity crisis the Troubled Asset Relief Program of 2008, creating a $750 billion dollar bailout fund. The original purpose of the bailout funds was to allow the purchase of distressed assets from financial institutions by the United States Treasury.

With the financial crisis bringing about unprecedented foreclosures on home mortgages, Congress passed Housing and Economic Recovery Act of 2008 which included several legislative acts. Also in 2008, the Fed amended Regulation Z, Truth in Lending Act, to provide consumer protection against unethical mortgage practices. The continuing decline from the financial meltdown of 2007 brought about serious debate in Congress about the need for sweeping financial institution regulatory reform. As a result, a divided Congress passed the Dodd- Frank Wall Street Reform and Consumer Protection Act in 2010. Passed as a response to

the late-2000s recession, it brought the most significant changes to financial regulation in the United States since the regulatory reform that followed the Great Depression. It made changes in the American financial regulatory environment that affect all federal financial regulatory agencies and almost every part of the financial services industry. The Act was designed to address the systemic risk within the financial industry that became apparent after the 2007 crisis and to correct the policy and systemic structural issues. Its first goal was to address the issue of regulatory gaps and give more to power to a single regulator and allow them more responsibility to mitigate the systemic risks within the system. The second structural issue that became apparent was in regards to large depositories, and how other nonbank financial institutions could be just as susceptible to liquidity issues and bank runs not seen since the 1930s. Third was also to address liquidity concerns for large financial institutions, but more so in addressing the amount of leverage used by those firms. Finally the Act was to address the regulation of "nonbank" activities, but activities that were related to the financial system and provide more consistent regulation to those activities, including payment, clearing, and settlement systems. Fourth and one of the most contentious provisions was to create a Consumer Protection Agency with total authority over all consumer issues, but with no appeal from its decisions.

POSSIBLE SOLUTIONS

For those that follow the news, it is obvious that some of the members of Congress, most bankers, and a number of consumers are upset with the overreaching effect of the latest pieces of regulation that, in fact, still has approximately 400 pages to be filled-in. Perhaps, the most informed and notable critic of the Dodd- Frank Wall Street Reform and Consumer Protection Act of 2010, is former Federal Reserve Chairman Paul Volcker. Morgenson (2011) quoted Mr. Volcker in a recent article as follows:

> "By now it is pretty clear that it was faith in the techniques of modern finance, stoked in part by the apparent huge financial rewards that enabled the extremes of leverage, the economic imbalances and the pretenses of the credit rating agencies to persist so long."

Some of the proposals suggested by Mr. Volcker included increasing capital requirements, standardizing derivatives, and insuring that auditors are truly independent. He also noted that the enactment of Gramm-Leach-Bliley broke down the "firewalls" that separated banking, investments, and insurance. Volcker has proposed a return to a "firewalls" approach.

The difficulty to changing or modifying regulation is the need for good data to indicate the harm or damage caused by that specific regulation. The data needs to come from an independent source. The Texas Bankers Association has commissioned this author to conduct a study on the impact of current regulation on the banks within the state. All of the data has been collected, and is in the early stages of analysis. However, several things stand out without detailed analysis. First, the cost burden of regulation is excessive. Additionally, the regulations relating to mortgages is burdensome to consumer and banker alike. The Consumer Protection Act grants excessive power to agency director, without a right of appeal.

The solution lies with the President and the Congress of the United States, who will act based upon public pressure and resistance to the regulation. There appears to be pressure being applied by individuals and organizations.

CONCLUSION

While there is no doubt that the sensitivity of the financial system was uncovered with the recent economic crisis which in widespread recession, the passage of the Dodd-Frank Act has resulted in near paralysis of the financial system. Congress in their effort to stem the economic crisis and tighten the reins on the nation's financial system, passed the Act without over four hundred pages still incomplete, leaving financial institutions not knowing what the final impact will be. To give an example of the cost of regulation to banks in Texas during 2006, Texas Banker Record (2007) summarized a study by Sam Houston State University that found that the average bank in the state of Texas spent over $169,000 per year on regulation exclusive of bank examinations. Preliminary results of a current by Sam Houston State University study in 2013 indicate a potential cost approximating a $1,000,000 per bank per year cost of regulation. While there is growing pressure to overhaul the core of the financial system, the trends of the legislation regulating the financial industry have been over active. Regulation's intent is to provide balance to financial system; however, the reactive nature of the legislation has instituted weaknesses in the overall financial system. There are many questions that remain unanswered as Congress seeks to correct the system. The numerous financial agencies that have authority over the financial industry are designed to provide a safe banking environment for the nation; however, there is substantial confusion as to which agency has authority to regulate some of the provisions of the Dodd-Frank Act. Further complicating the regulatory environment is the creation of the Consumer Protection Act of 2013, which gave the consumer agency authority over all regulators, without oversight. While regulation is required to protect the nation's financial system, too much regulation can not only be burdensome to financial institutions, but severely impact the success of the economy.

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FOREIGN SUBSIDIARY CONSOLIDATION UNDER FASB 52: THE CASE OF THE FADING HONDURAN PLANT DURING PERIODS OF MODERATE INFLATION AND DEVALUATION

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ABSTRACT

Since the end of fixed exchange rates under the gold standard in the 1970s, researchers and practitioners have pointed out that the translation of foreign subsidiary financial statements and the subsequent consolidation of those foreign statements into the US parent's financial statement in accordance with FASB 52 provides little useful information because the data loses the context that the foreign subsidiary operates in. Previous research has pointed out that the recasting of foreign financial statements into US GAAP distorts information and that exchange rate conversion may also not provide any useful in formation in regards to price or value in the market where the subsidiary operates. However, previous research has not drawn from the extant literature on exchange rates, inflation, or influences on capital structure decisions sufficiently to provide valuable insight into why the translation and currency conversion might fail to provide accurate insight. This study reviews the theoretical and empirical literature in the areas of foreign currency exchange, inflation, and capital structure across different national context to better explain why the translation and consolidation of foreign subsidiary information is complex issue. Using data from Honduras from 1987 to 2010, we provide an example of how moderate inflation and currency devaluation can cause fixed assets to fade away. The paper also discusses various solutions suggested by previous researchers and provides additional suggestions.

INTRODUCTION

In the modern global economy it is common for US corporations to have subsidiaries in other nations. Operating across national borders greatly increases the complexity of business operations. Clearly, issues like culture (e.g., Hofstede, 1980, 1994; House, Hanges, Javidan, Dorfman, & Gupta, 2004; Schwartz, 1990) and language (e.g., Marschan-Piekkari, Welch, & Welch, 1999; Marschan, Welch, & Welch, 1997) complicate things for the managers running the

operations. However, with only two exceptions, under US generally accepted accounting principles (GAAP) if the parent owns over 50% of the voting stock of the foreign corporation the parent must prepare consolidated financial statements (Holt, 2004). This increases the complexity for the accountants because conducting business in multiple currencies and under different accounting standards also complicates financial reporting as the accountants must convert the financial statements of foreign subsidiaries to first comply with US generally accepted accounting principles (GAAP) and then convert the foreign currency amounts to US dollars unless the foreign currency is US dollars as is the rare case in Panama Ecuador, and El Salvador. At this point, the term convert is used to avoid confusion with *translation* and *remeasurement* that have specific meanings in this context.

Although the conversion of foreign subsidiary would seem straight forward at first glance, the process is complicated and researchers and practitioners argue that the converted financial information, in compliance with US GAAP, does not accurately reflect foreign subsidiary value (e.g., Aliber & Stickney, 1975; Duangploy & Owings, 1997; Hall, 1983; Holt, 2004, 2006; Ruland & Doupnik, 1988; Ziebart, 1985; Ziebart & Choi, 1998). As the fixed exchange rate system went away, Shapiro (1975) demonstrated that exchange rates, inflation, and the sector that the subsidiary operated in made determining value more complex than the "balance sheet" (p. 485) approach taken by accountants. After discussing the importance of understanding the particular business environment in which the foreign subsidiary operates, Holt (2004) states that "In fact, recasting from foreign GAAP to US GAAP is likely to destroy or distort relationships that are meaningful in the foreign environment" (p. 160).

This issue is not immaterial. There are many US corporations that have a significant portion of their operations outside of the US and a considerable number that derive the majority of their income through foreign subsidiaries. For example, a review of the financial statements of both McDonalds and Coca Cola indicates that international operations contribute more to shareholder value than US operations do. According to PriceSmart's (PSMT:NSDQ) 2013 10-K, 99% of its revenue from external customers came from its warehouse clubs in the Caribbean Islands and Latin America from Guatemala to Colombia. As US corporations increasingly look to emerging market economies in Asia, Latin America, and Africa for growth this trend will accelerate. In this paper we demonstrate how currency devaluation and moderate inflation, below the three-year cumulative 100% level that triggers remeasurement, effect asset valuation over time under the current rate method of translation.

We use the context of Central America to demonstrate. US MNCs have been operating in the region for over a century (Acker, 1988; Chapman, 2007; Valentine, 1916) and the region experienced a significant amount of foreign direct investment in many industry segments over the last 25 years. Several US corporations operating in the apparel and automotive components sectors have wholly owned manufacturing subsidiaries, called *maquillas* locally, in Honduras and other Central American nations. These factories exist solely to access the low-cost labor to manufacture products for export to sell in the US or other nations, not in the local market.

Virtually all the equipment and raw materials are imported to the subsidiary, they even pay rent in US dollars, and the only local currency cost is payroll and miscellaneous local expenses. The maquilla factories represent a case where the decision to use the temporal method is clear based on the close interaction with the US parent and no sales in the local market. To contrast US food and agriculture sector corporations, for example Cargill, Chiquita Brands, and Dole, also own subsidiaries in Honduras, El Salvador and other Central American nations. It would be wrong to assume that all the subsidiaries of one MNC fall into the same category. Some of these subsidiaries exist to produce products to sell in Central America while other subsidiaries produce product for export. Some of the food sector subsidiaries could be considered to operate independently since all the sales are in local currency; Cargill's Pollo Norteño could be one example since it produces chicken for the local market. However, Cargill also has subsidiaries that produce only for export that could be considered closely tied to the MNC with little exposure to foreign currency risk. One can also find subsidiaries like the former Polymer division of US parent Chiquita Brands. Polymer made all the PVC pipe and fittings for the banana plantations as well as the plastic bags. However, Polymer also sold PVC pipe and fittings as well as plastic bags and even plastic containers for home use to the local Central American market and the mix of local market and export was about even.

This demonstrates that any given MNC may have different divisions in the same nation that end up on opposite sides of the functional currency test. Many MNCs that have subsidiaries in Honduras also have subsidiaries in El Salvador. Interestingly, El Salvador eliminated its local currency in 2001 and adopted the US dollar for the national currency so exchange rates are no longer an issue, just some possible changes for El Salvador GAAP versus US GAAP. Honduras still uses the Lempira as its currency so exchange rates are an issue and this provides for an interesting comparison where nearly identical subsidiaries, such as a poultry processing facility selling to the local market with the local currency being the functional currency, would have very different valuations over time. Theoretically, these identical facilities could set just meters across the border from each other.

This paper proceeds as follows. First, the discussion covers US GAAP procedures related to the consolidation of international subsidiaries. Then, to provide a better understanding of why consolidation of foreign subsidiaries may not provide meaningful information as suggested by Holt (2004), Duangploy and Owings (1997), Ziebart and Choi (1998), and others the paper provides a brief review of the literature on currency exchange rates, inflation, and capital structure. Third, a review of suggested solutions in the extant literature provides further insight into the complexity of the issue. Finally, we provide additional suggests that might provide financial statement users with greater insight into a US firm's exposure to individual nations.

LITERATURE REVIEW

US GAAP Requirements for Consolidating Foreign Subsidiaries

Financial Accounting Standards Board Statement (FASB) 52 addresses two types of exchange rates, *historical* and *current*, and two translation methods, the *current rate* method and the *temporal rate* method. Historical exchange rates refer to the exchange rate that was in effect at the time the transaction took place while current exchange rates are those in effect at the time the financial report was created. However, only the temporal rate method uses historical exchange rates for assets values. Assets and liabilities translated at the current exchange rates are exposed to translation adjustment; however, balance sheet items translated at historical exchange rates do not change from balance sheet to balance sheet and do not have translation adjustment exposure. The exposure to translation adjustment "is referred to as balance sheet, translation, or accounting exposure" (Hoyle et al., p. 356). If the foreign currency appreciates the *net asset balance sheet exposure* results in a positive translation adjustment and a *net liability balance sheet exposure* results in a negative translation adjustment; foreign currency depreciation has the opposite effect. However, there is debate as to "whether the translation adjustment should be treated as a direct adjustment to owner's equity without affecting net income" (p. 356).

There are different implicit assumptions between the two methods of translation, current rate method or temporal method. These were established in SFAS 52 and incorporated into FASB Accounting Standards Codification Topic 830 in 2009. The temporal method assumes that the foreign subsidiary is very closely tied to the US parent and would do all of its accounting in US dollars if it could. The current rate method assumes that the foreign subsidiary is not very closely tied to the US parent and therefore operates independently. As a result, the current rate method looks at the foreign subsidiary as a net investment that is exposed to foreign exchange risk. The use of historical exchange rates for assets, and associated depreciation, under the temporal method fixes those amounts in US dollar terms; however, under the current rate method asset values are translated to US dollars every period and impacted by inflation and currency exchange fluctuations. SFAS 52 addressed the *disappearing plant* problem when subsidiaries operate in highly inflationary economies by requiring the use of the temporal method which carries assets at the exchange rate of the time of the original transactions; therefore, the value stays constant in US dollar terms. SFAS 52 identifies highly inflationary economies as those with cumulative inflation over 100% over three years. Here we provide an example that demonstrates that the effect is significant at lower rates of inflation.

Firms must decide which method applies to each foreign subsidiary. FASB created the concept of the *functional currency* to determine the degree of subsidiary integration. Aiken and Ardern (2003) address the determination of the functional currency and discuss the issue of how *stand-alone* or *integrated* the operations are with respect to the parent:

the ultimate decision as to classification should be based on the substance of the actual day-to-day interrelationships between the parent and the foreign subsidiary, rather than on the formal legal arrangements, there is no presumption as to the proper classification and the decision ultimately rests on the extent of the impact of changes in exchange rates on the cash flows from operations of the reporting entity. When this impact has finally been determined, there is still a judgment to be made as to whether the extent of that impact is great enough to place the foreign operation in one classification or the other (p. 331).

In some cases the decision is quiet clear, but in many situations management must evaluate elements including cash flow, expenses, financing, sale market, and intra-entity transactions to determine the subsidiary's functional currency. Because the current rate method results in reporting translation adjustments in stockholder's equity, hence not affecting net income, there could be a bias toward selecting the foreign currency as the functional currency. Doupnik and Evans (1988) found evidence of firms using the functional currency decision as a strategy to smooth income; however, Aiken and Ardern (2003) did not find evidence that the choice was opportunistic or deceptive.

Once the decision is made on the functional currency, the treatment is different. If the US dollar is determined to be the functional currency of the foreign subsidiary the financial statements, which contain foreign currency values, are remeasured into US dollars using the temporal method and the gains or losses are reported in operating income. Under the temporal method cash, receivables, and liabilities are remeasured into US dollars using the current exchange rate. However, plant, property, and equipment are remeasured into US dollars using the historical rate which was the rate in effect at the time of acquisition. This holds the value of fixed assets constant regardless of exchange rate fluctuations.

If the foreign currency is the functional currency of the foreign subsidiary the financial statements are translated using the current rate method and the translation is reported as adjustment to shareholder equity. Under the current rate method all assets and liabilities, including plant, property, and equipment, are translated into US dollars at the current rate; therefore, as we demonstrate here, the value of fixed assets fluctuates with exchange rates. SFAS 52 addresses this problem, but only in the case of very high inflation in the subsidiary's host country. Remeasurement under the temporal method is required when the foreign subsidiary is in a highly inflationary economy, 3 years cumulative inflation over 100%, because this addresses the disappearing plant problem.

Understanding Foreign Exchange Rates

An in depth discussion on the history of the currency exchange is beyond the scope of this paper; however, a concise explanation of precious metals, gold, silver, and bronze, as a currency and peg for paper money is required. The use of gold, silver, and bronze coins as

money dates back thousands of years and likely before the examples found of Roman Empire coinage and early Greece (e.g., Thompson, 2003). In the 1770s Great Britain halted the use of private bank notes and the Bank of England began to issue paper bank notes for the payment of small commercial transactions (see Duffy, 1982). These notes were, at least theoretically, backed by the gold and silver reserves of Great Britain; within a few years small denomination silver coins had disappeared from use. In modern times the post-WWII currency exchange rate system was a result of the Bretton Woods international monetary agreement of 1944. It set up a system where the US dollar was fixed to gold at a price of $35 per troy ounce and the currencies of other Bretton Woods signatories was pegged to the US Dollar. Under this system financial statement translation was much less difficult because there was a stable and clearly defined exchange rate with which to convert values; therefore, it was much like the foreign subsidiary actually using the US dollar. However, in the 1960s it became evident that the Bretton Woods gold standard had negative consequences for the US economy and in 1971 President Nixon began what would finally be the elimination of the reference of the US dollar to gold which effectively makes the US dollar a fiat currency (see Elwell, 2011).

In the economist's theoretical *perfect market* of international currency exchange factors such as the economic expansion and recession of a nation's economy, interest rates, balance of trade and the *law of one price* which is based on the no-arbitrage concept should determine the exchange rate of currencies with a great deal of accuracy. However, empirical evidence from data since the end of the gold standard indicates that the foreign exchange markets are not as efficient as one might think.

PPP and One Price. In short, purchasing power parity (PPP), which is based on the law of one price, holds that an identical item should have the same price regardless of the currency (see Balassa, 1965; Frenkel, 1978, 1981); in other words, in theory exchange rates should move in tandem with price (Froot & Rogoff, 1995). For example, a Big Mac and Coca Cola from McDonalds should have the same price in US dollar terms when the local price in foreign currency is converted to dollars. However a review of the annual Big Mac Index in the *Economist* newspaper demonstrates that this does not hold true. In fact, the Big Mac Index indicates that some currencies are over 50% over valued and others are over 50% undervalued in any given year and that some currencies have remained significantly undervalued or overvalued for a decade or more. Differences have even been observed in fast food chains in cross-border cities across the US-Mexican border; however, the prices seem to adjust quicker that the results reported in other studies (Blanco-González & Fullerton, 2006).

The fact is that even identical products like a Big Mac and Coca Cola have local components such as labor, overhead, and taxation that cause the cost in the local context to differ between countries; as a result, local prices are *sticky* and tend to adjust slowly (Rotemberg, 1982). However, while the prices on internationally traded commodities like petroleum, iron, and copper adjust more rapidly, Borenstein and Shepard (2002) demonstrated that one can see the sticky price phenomena in the lag between gasoline prices and crude oil price fluctuations. The

difference in prices across different national economies supports Holt's (2004) argument that consolidation of translated financial statements of foreign subsidiary is information taken out of context and this greatly diminishes the value, "In no way do these rates guarantee that the same basket of goods and services available in the US can be purchased in the foreign environment for the price indicated by the exchange rate, or for that matter, at any price" (p. 162).

Previous research has used the PPP theorem to evaluate the effectiveness of the translation methods permitted under SFAS 52 (e.g., Aliber & Stickney, 1975; Ziebart & Choi, 1998) and Ruland and Doupnik (1988) suggests that a PPP methodology be adopted to replace the current translation methods. However, this approach would not result in perfectly translated values because a time for measurement would need to be determined and empirical evidence of PPP is mixed (Rogoff, 1996). Country characteristics such as the difference in inflation between the US and the foreign nation as well as the region of the world can help explain adherence to or deviations from long-run PPP (Alba & Papell, 2007). In some cases prices readjust in months while in other cases it takes years for local prices to readjust after major currency fluctuations.

Uncovered Interest Parity. There are also other factors that create inefficiencies in the foreign exchange markets. Interest rates are of some interest in the context of this paper because SFAS 52 specifically addresses inflation rates in the subsidiary nation and interest rates are related to inflation (Fisher, 1930) and inflation impacts real returns and capital investment (Fama & Gibbons, 1982). The relationship between interest rates and inflation is often called the Fisher effect; however, it is not a perfect correlation or observable across all periods (Mishkin, 1992). Figure 1 demonstrates this to be the case for Honduras, especially during the initial periods of currency devaluation. Movements in inflation and interest rates are also associated with currency devaluations in developing and least developed nations such as the ones in this context (Edwards, 1989).

FIGURE 1
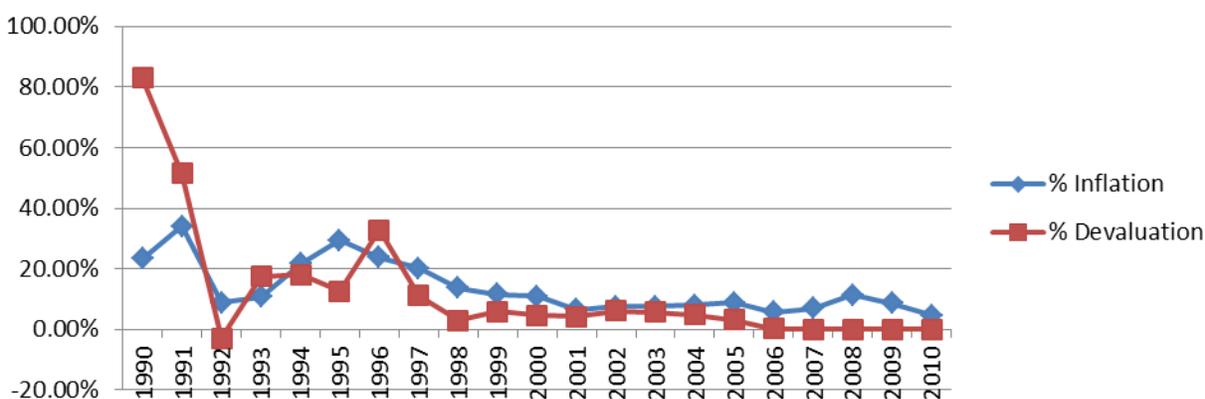
Theoretically the *law of one interest rate* should also hold; however, empirical evidence demonstrates that uncovered interest rate parity does not work well (e.g., Flood & Rose, 1999) and fundamentals do not help predict exchange rates (Engel & West, 2004). Although Aliber and

Stickney (1975) found that the deviations in the Fisher Effect were less than PPP, the fact that the currency carry trade--borrowing in one currency where interest rates are low and then depositing in another currency where interest rates are high--exists (e.g., Clarida, Davis, & Pedersen, 2009; Darvas, 2009; Galati, Heath, & McGuire, 2007) indicates that exchange rates and interest rates are not perfectly correlated. Some of this attributes to intervention into the foreign exchange market by central banks (Bonser-Neal & Tanner, 1996; Dominguez, 1998) as they pursue policies that reflect the needs of their national economy when it comes to international trade balances.

Differences in Capital Structure across Nations

The mix of debt and equity used to fund a company is commonly called the firm's capital structure and the ratio of money acquired though bank loans and/or bond offerings to the capital invested by shareholders is measured by the debt to equity ratio. Holt (2004) argues that the there are instances where the debt to equity ratio of a firm operating in a nation like Japan or South Korea may appear incredibly high by US norms but be right in line with the debt to equity norms for a firm operation in those countries. Why would this be the case?

In the 1950s Franco Modigliani and Merton Miller examined why managers might prefer to fund a firm with more equity or more debt as they prepared to teach a course on corporate finance for the first time. After a great deal of thought, they developed a theoretical model using a perfect world with no transaction cost, taxes, and the unrealistic assumption that both individuals and corporations could freely borrow any amount desired at the same interest rate. With this unrealistic model Modigliani and Miller (1958) determined that the amount of debt or equity used made no difference. While the use of this unrealistic model in and of itself seems unrealistic, what they demonstrated is that if debt or equity does not make a difference in the perfect world, then what factors do make a difference in the real world and this spurred numerous studies. Modigliani and Miller (1963) determined that tax policy was an important factor. Specifically the difference in corporate and individual tax rates as well as how dividends were taxed versus capital gains. Numerous subsequent studies identified additional important factors and several empirical studies have underlined the importance of national tax policy which in the case of most nations changes in response to economic conditions as well as political power shifts. This would lead one to suspect that capital structure could vary significantly from country to country and empirical evidence indicates that it does (Bancel & Mittoo, 2004; De Jong, Kabir, & Nguyen, 2008). The availability of public capital markets, such as stock exchanges and bond markets, in the foreign country can also be a factor (Desai, Foley, & Hines, 2004). Once again, this provides support for Holt's (2004) argument that consolidation of the financial information into the financial statements of the US parent lacks the contextual information necessary to provide the validity needed to properly inform the users of the information contained in those consolidated financial statements.

INFLATION, DEVALUATION, AND FADING PLANTS

As previously mentioned, SFAS 52 does address the disappearing plant problem that occurs when the subsidiary is in a highly inflationary economy, defined as three years of cumulative inflation of 100% of greater. This situation has occurred in a few countries in recent decades, among them, Mexico, Argentina, Brazil and Turkey. However, many more countries, especially lesser developed nations, have underwent currency devaluation over multiple years or even decades as governments used various currency pegging schemes to managed the nation's currency exchange rates in response to fiscal deficits. Inflation and adjustment of local prices follows significant changes in exchange rates and there are many factors that determine the period of adjustment for different items; therefore, devaluation and inflation are not perfectly correlated as one can see in the case of Honduras from 1990 to 2012 (see Figure 1.). An in-depth discussion of the relationship between inflation and devaluation is beyond the scope of this paper; however, Burstein, Eichenbaum, and Rebelo (2002), Edwards (1989), and Rodriguez (1978) provide valuable insight.

As we demonstrate, even without three years of cumulative inflation exceeding 100% fixed assets such as land and plant and equipment can fade away when the subsidiary's balance sheet is translated to US dollars using the current method. Under US GAAP land is not depreciated but it is also not adjusted upward if the fair market value of the land increases. This is on point where GAAP and International Financial Reporting Standards (IFRS) differ. FASB Accounting Standards Codification (ASC) Topic 360 does not allow revaluation; however, IFRS International Accounting Standard (IAS) 16 does allow an entity to measure plant, property, and equipment at fair value. Gordon (1998, 2001) examined data from Mexico from 1989 to 1995 when inflation ranged from 7% to 52% and, similar to IFRS 16, Mexican GAAP allowed revaluation to replacement cost. She found that the revaluation was significant regardless of the inflation rate and that the decision by the Mexican Institute of Public Accountants to discontinue the practice eliminated value-relevant information. The examples we provide here provides insight into how the current rate method distorts subsidiary value even in moderate inflationary economies.

In our first example we construct a hypothetical investment by a US MNC of $1million US in land and $1million US in a processing plant in 1990. The land is not depreciated and the plant is depreciated for 30 years using straight line depreciation with a 10% salvage value. Because different types of equipment would have different depreciation schedules we did not include equipment in our examples. We chose 1990 because that was near the beginning of when Honduras began to un-peg the Lempira from the historical rates in the range of 1.5 to 2 Lempiras for $1US. The year was also at the beginning of massive inflows of foreign direct investment, mostly from US MNCs, that lasted throughout the 1990s into the new millennium.

Year	Inflation	3 Yr Cumulative	Exchange L. / $US	Annual Change	3 Yr Cumulative
1987	2.49%	10.20%	1.8557095		
1988	4.49%	11.33%	2.2037976	18.76%	
1989	9.85%	16.83%	2.118048	-3.89%	
1990	23.32%	37.66%	3.8731901	82.87%	97.73%
1991	33.97%	67.15%	5.8649504	51.42%	130.40%
1992	8.76%	66.06%	5.6980896	-2.85%	131.45%
1993	10.75%	53.48%	6.6910367	17.43%	66.01%
1994	21.73%	41.24%	7.9077547	18.18%	32.77%
1995	29.46%	61.94%	8.9119868	12.70%	48.31%
1996	23.83%	75.03%	11.835833	32.81%	63.69%
1997	20.18%	73.47%	13.153333	11.13%	56.64%
1998	13.70%	57.70%	13.540833	2.95%	46.89%
1999	11.63%	45.50%	14.345	5.94%	20.02%
2000	11.02%	36.34%	15.014255	4.67%	13.55%
2001	6.49%	29.14%	15.651284	4.24%	14.85%
2002	7.66%	25.17%	16.612905	6.14%	15.05%
2003	7.65%	21.80%	17.544575	5.61%	15.99%
2004	8.05%	23.35%	18.41135	4.94%	16.69%
2005	8.85%	24.54%	18.997817	3.19%	13.73%
2006	5.62%	22.51%	19.027233	0.15%	8.28%
2007	6.91%	21.37%	19.027112	0.00%	3.34%
2008	11.46%	23.98%	19.029883	0.01%	0.17%
2009	8.67%	27.04%	19.027308	-0.01%	0.00%
2010	4.70%	24.83%	19.026876	0.00%	0.00%

Table 1
Inflation and Exchange Rate Data for Honduras

Inflation Data from the International Monetary Fund and Exchange Rate Data from the Honduras Central Bank

From 1987 through 2010 Honduras never experienced a point where three year cumulative inflation exceeded 100%; however, it is interesting that the three year cumulative change in the exchange rate did exceed 100% in 1991 and 1992 (see Table 1). This makes for an interesting discussion since SFAS 52 uses the inflation rate as a trigger for remeasurement using the temporal method while the values are actually translated using the exchange rate. As demonstrated in this case (see Figure 1 and Table 1) and previous research (e.g., Burstein et al., 2002; Edwards, 1989; Rodriguez, 1978) inflation and devaluation can differ significantly. In light of this one could argue that the cumulative change in interest rates may be a more relevant trigger. As demonstrated in this example, the largest portion of the fading of the plant and property occurred in the early years when the three year cumulative devaluation was near or above 100% while cumulative inflation remained below 70%. Over the twenty year period the difference in the current rate method and the temporal rate method amounts to 79.64% with the 1990s accounting for most of that difference. Table 2 provides a comparison of the two translation methods over this period.

	Plant with	Current	Temporal		Current	Temporal	Temporal	
Year	30 yr Depreciation	Translation Method	Translation Method	Land	Translation Method	Translation Method	Minus Current	Percentage Difference

Table 2

Comparison of Current Rate and Temporal Rate Methods of Translation

Year	Plant with 30 yr Depreciation	Current Translation Method	Temporal Translation Method	Land	Current Translation Method	Temporal Translation Method	Temporal Minus Current	Percentage Difference
1990	L. 3,873,190	$1,000,000	$1,000,000	L. 3,873,190	$1,000,000	$1,000,000	$0	0.00%
1991	L. 3,756,994	$640,584	$970,000	L. 3,873,190	$660,396	$1,000,000	-$669,020	-33.96%
1992	L. 3,640,799	$638,951	$940,000	L. 3,873,190	$679,735	$1,000,000	-$621,314	-32.03%
1993	L. 3,524,603	$526,765	$910,000	L. 3,873,190	$578,862	$1,000,000	-$804,373	-42.11%
1994	L. 3,408,407	$431,021	$880,000	L. 3,873,190	$489,796	$1,000,000	-$959,183	-51.02%
1995	L. 3,292,212	$369,414	$850,000	L. 3,873,190	$434,605	$1,000,000	-$1,045,982	-56.54%
1996	L. 3,176,016	$268,339	$820,000	L. 3,873,190	$327,243	$1,000,000	-$1,224,418	-67.28%
1997	L. 3,059,820	$232,627	$790,000	L. 3,873,190	$294,465	$1,000,000	-$1,262,908	-70.55%
1998	L. 2,943,624	$217,389	$760,000	L. 3,873,190	$286,038	$1,000,000	-$1,256,573	-71.40%
1999	L. 2,827,429	$197,102	$730,000	L. 3,873,190	$270,003	$1,000,000	-$1,262,895	-73.00%
2000	L. 2,711,233	$180,577	$700,000	L. 3,873,190	$257,968	$1,000,000	-$1,261,455	-74.20%
2001	L. 2,595,037	$165,803	$670,000	L. 3,873,190	$247,468	$1,000,000	-$1,256,729	-75.25%
2002	L. 2,478,842	$149,212	$640,000	L. 3,873,190	$233,143	$1,000,000	-$1,257,645	-76.69%
2003	L. 2,362,646	$134,665	$610,000	L. 3,873,190	$220,763	$1,000,000	-$1,254,572	-77.92%
2004	L. 2,246,450	$122,014	$580,000	L. 3,873,190	$210,370	$1,000,000	-$1,247,616	-78.96%
2005	L. 2,130,255	$112,132	$550,000	L. 3,873,190	$203,876	$1,000,000	-$1,233,993	-79.61%
2006	L. 2,014,059	$105,851	$520,000	L. 3,873,190	$203,560	$1,000,000	-$1,210,588	-79.64%
2007	L. 1,897,863	$99,745	$490,000	L. 3,873,190	$203,562	$1,000,000	-$1,186,693	-79.64%
2008	L. 1,781,667	$93,625	$460,000	L. 3,873,190	$203,532	$1,000,000	-$1,162,843	-79.65%
2009	L. 1,665,472	$87,531	$430,000	L. 3,873,190	$203,560	$1,000,000	-$1,138,910	-79.64%
2010	L. 1,549,276	$81,426	$400,000	L. 3,873,190	$203,564	$1,000,000	-$1,115,010	-79.64%

Given that both inflation and devaluation were less in the 2000s than in the 1990s and the fact that El Salvador adopted the US dollar as its currency in 2001 we provide a hypothetical

example of a US MNC investing identical amounts in plant and equipment in both countries in 2001. It would be possible for these plants to be literally sitting insight of each other just across the shared border. Again, we used the same investment amounts and depreciation schedule as in the first example. Even a period of lower inflation and devaluation, 17.74% of the plant and property of the Honduras subsidiary faded away within nine years (see Table 3). Although we were unable to locate any study or government data, based upon our experience working in the region with MNCs and owning real estate during the period of this study, land in commercially viable areas adjusted to devaluation almost immediately in US dollar. In fact, most commercial property for sale, and virtually all commercial property for lease to foreign firms was advertised in US dollars.

Table 3							
Hypothetical Identical Plant Constructions in Honduras and El Salvador in 2001							
Year	Honduras Plant with 30 yr Depreciation	Honduras Land	Current Translation Method	El Salvador Plant with 30 yr Depreciation	El Salvador Land	El Salvador Minus Honduras	Percentage Difference
2001	L. 15,651,284	L. 15,651,284	$2,000,000	$1,000,000	$1,000,000	$0	0.00%
2002	L. 15,181,746	L. 15,651,284	$1,855,969	$970,000	$1,000,000	-$114,031	-5.79%
2003	L. 14,712,207	L. 15,651,284	$1,730,648	$940,000	$1,000,000	-$209,352	-10.79%
2004	L. 14,242,669	L. 15,651,284	$1,623,670	$910,000	$1,000,000	-$286,330	-14.99%
2005	L. 13,773,130	L. 15,651,284	$1,548,831	$880,000	$1,000,000	-$331,169	-17.62%
2006	L. 13,303,592	L. 15,651,284	$1,521,760	$850,000	$1,000,000	-$328,240	-17.74%
2007	L. 12,834,053	L. 15,651,284	$1,497,092	$820,000	$1,000,000	-$322,908	-17.74%
2008	L. 12,364,515	L. 15,651,284	$1,472,200	$790,000	$1,000,000	-$317,800	-17.75%
2009	L. 11,894,976	L. 15,651,284	$1,447,722	$760,000	$1,000,000	-$312,278	-17.74%
2010	L. 11,425,438	L. 15,651,284	$1,423,078	$730,000	$1,000,000	-$306,922	-17.74%

SUGGESTED ALTERNATIVES

The extant literature on currency exchange rates, ppp, and capital structure differences across national contexts provides a significant amount of support for the argument that foreign subsidiary consolidation fails to accurately reflect firm value. Exchange rates and prices do not stay perfectly in-sync and there are political and financial market issues that are unique to every specific nation that influence the capital structure decision. However, this does not mean the operations of foreign subsidiaries are unimportant or trivial; in numerous cases, PriceSmart is but one example, the foreign subsidiaries make up the majority of the US parent's assets and income. Nonetheless, determining the proper reporting methodology is a perplexing task. The idea behind consolidated financial statements, even if one looks at strictly domestic companies, is based on

efficiency in financial reporting. One financial statement for a firm with subsidiaries is much more efficient than publishing dozens or hundreds of financial statements as a filing for the parent. Therefore, even in the international context, one must balance the need for valid information against the need for information efficiency in financial reporting.

A range of possible improvements exist in the literature. Ruland and Doupnik (1988) suggest that FSAB drop the current methodologies in FSAB 52 and adopt a PPP approach that incorporates trend analysis. However, as Ruland and Doupnik (1988) point out, policy makers must decide the time horizon to assess PPP and the appropriate time period to test for trends. Given that many studies have demonstrated that PPP adherence varies widely depending on the time period selected as well as the countries included in the study, one has to wonder if it is possible to establish standards that will universally apply to each subsidiary country that would result in accuracy that is better than the current methods. Beyond that, with financial statements being prepared on a quarterly and yearly basis firms would need accurate and timely data to perform such analysis; even in developed nations such as the US there is a lag in publishing much of the data needed and it is often revised at a later date. Duangploy and Owings (1997) also suggest abandonment of the current translation methods; however, they suggest replacement with a global multicurrency accounting system that would essentially provide real-time financial statements in all of the currencies that a MNC operated with. They correctly point out that such a global reporting system promises to emerge in the 21st century; but at this point into the 21st century no such system appears available to the thousands of small and medium enterprises operating in multiple countries and even most of the firms that would be considered large do not have such systems in place. Nonetheless, even with everything recorded in multiple currencies at the time of the transaction, the issue still arises as to how to value long-term assets such as property, plant, and equipment in response to significant currency fluctuations. As the extant literature on exchange rates, interest rates, and inflation indicates, exchange rates and inflation do not adjust in real time, in fact it can take years; therefore, real-time reporting would also have issue in terms of reporting accurate value.

Oxelheim (2003) discusses the need for a better understanding of the macroeconomic variables that effect firm performance. He suggests that firms develop a macroeconomic uncertainty strategy (MUST) analysis which is built on a multivariate framework and include it on external reporting. The result would be identification of individual risk factors and the effect each has on the parent organization. Holt (2004), suggest a different approach, "Instead of presenting this ownership in a consolidation format, the information objectives of financial reporting can be better achieved through the use of the equity method of presenting the investment in the subsidiary, the majority interest in the earnings of the subsidiary, and the subsidiary's dividends receivable by the parent" (p. 163).

About the only thing that is clear when it comes to foreign subsidiary financial statement translation is that the critics cited herein do have some very valid arguments. The problem is that the world economy is an extremely complex interconnected system; therefore, for any given

nation different factors have a different impact on exchange rates and inflation. As previously discussed, FSAB 52 uses inflation as s trigger for remeasusment but inflation and exchange rates can move erratically, even in opposite directions on occasions, and take years to synchronize as one can see in the case of Honduras

As firms become increasingly global, financial statement users need to be better informed to come to conclusions about the exposure that firms have to each country that they operate subsidiaries in. Currently, US consolidated financial statements fail to provide a sufficient insight. For example, Pricesmart operates in 13 countries in Central America, the Caribbean, and Colombia; however, they breakdown the reporting into only three segments, Latin America, Caribbean, and the US headquarters. This provides the user of the financial information with little insight into how exposure to Honduras, or performance in Honduras for that matter, differs from Antiqua, Nicaragua, or Panama. We are not picking on PriceMart, they are in compliance with GAAP and Security and Exchange Commission rules, we simply use that example because the firm operates in our region of interest and we are familiar with its operations. Arguably, financial statement users need more information to evaluate these complex MNCs.

The variety of suggested improvements provides further evidence of the complexity of the problem. However, we concur that there is room for improvement. As we have demonstrated, the currency exchange rate and inflation are not always aligned and this leads one to question why inflation is the trigger for remeasurement using the temporal rate method when the real issue for the change in value is the exchange rate. Our example also pointed out that a significant portion of the value of fixed assets can fade away even at moderate levels of inflation and devaluation under the current rate method. As previously discussed, IFRS does allow an entity to measure plant, property, and equipment at fair value while US GAAP does not. However, one could argue that the three-year cumulative 100% inflation trigger for remeasurment is in fact a form of revaluation to fair value. Perhaps some form of a currency exchange rate measure over three or more years would provide a better trigger that would allow remeasurment of fixed assets.

DISCUSSION AND CONCLUSION

Based on the evidence from this and previous studies, the most obvious conclusion is that it appears that financial statements need to provide at least some minimal information about the exchange rates used for translation and how much each nation contributed to the parent's income and/or owner's equity to give some insight into the degree of individual country exposure.

We also suggest that the US parent's filing could be stated in three sections. The first section would be only the US operations and the second section would combine only foreign operations with sufficient information to identify the portion each individual country represents. Then the third section consolidates both US and foreign financial statements to provide insight similar to the current consolidated statement. Then, in this world of digital publication and

computerized accounting data, these multinational firms could provide a supplement with the financial statements from each foreign subsidiary in local currency, or at least consolidation at the country level, so that interested parties could inform themselves in greater detail using information that retains the host-country context that the foreign subsidiary operates in and provides the financial statement user to accurately identify the parent's exposure to any one particular nation. This solution does not address all of the issues related to currency exchange rates, inflation, and capital structure decisions; however it does provide more information that will assist financial statement users to better understand a MNC's exposure to individual country risks. Beyond that, the issue of the fading plant under the current rate method remains unsolved until US GAAP changes to either allow for fair value adjustments or the trigger for remeasurment under the current rate method is change to address the plant fade issue during periods of moderate inflation and devaluation as demonstrated in this study.

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OCI VALUE RELEVANCE IN CONTINENTAL EUROPE: AN EXAMINATION OF THE ADOPTION OF IAS 1 REVISED

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ABSTRACT

The present study examines the value relevance of Other Comprehensive Income (OCI) in Continental Europe. Through an extensive data set covering firms in 19 countries from 1995 to 2010, we provide a comprehensive discussion of OCI value relevance over time, focusing in particular on the introduction of IAS/IFRS in 2005 and IAS 1 Revised in 2009. We discuss how the implementation of these standards has affected the extent to which the market takes OCI into account, finding an increase in OCI value relevance after the introduction of IAS/IFRS in 2005 and IAS 1 Revised in 2009. We also test what the drivers of these results we obtain are, in terms of differences between IAS and national GAAP and importance of the equity market. Our results are strengthened by a sensitivity test which examines these effects in companies with high / low OCI variability and by several other robustness tests.

KEYWORDS: Value Relevance, Other Comprehensive Income, IAS 1 Revised, Continental Europe

JEL DESCRIPTORS: M1, M40, M41, M48

INTRODUCTION

The current study aims to contribute to scholarly knowledge on the value relevance (defined as "(...) the association between accounting amounts and security market values" (Barth et al., 2001) of Other Comprehensive Income (OCI) in Continental Europe during the period 1995-2010. This research theme has been largely understudied in the European context, mainly because of the peculiarities of the accounting tradition in continental European countries (more focused on historical cost) compared to Anglo Saxon countries (more focused on fair value). Coherently with this interpretation, while the Financial Accounting Standard Board (FASB) required U.S. firms to separately present Other Comprehensive Income and Comprehensive Income in 1997, the IASB did so only in 2009, through the implementation of IAS 1 Revised. Academic studies on this research topic are scant, and, to the best of our knowledge, there is no

published study that examines the value relevance of OCI after 2008 and that introduces into the analysis some moderating variables of paramount importance, such as the importance of the equity market, the difference between national GAAP and IAS/IFRS and the variability of OCI.

Despite the lack of research, the issue has recently become particularly relevant following the International Accounting Standard Board issuance of IAS 1 Revised (effective from 2009), and because of the financial crisis, which has attracted the interest of investors and policy makers as to the changes in the fair value of companies' assets, which is a major component of OCI.

In order to investigate the issue, we collected an extensive dataset, covering firms belonging to 19 continental European countries over a 16-year period (from 1995 to 2010).

In the first part of the paper, we investigate the incremental OCI value relevance before and after the introduction of the IAS/IFRS in 2005. We study whether OCI was a relevant accounting item under national GAAPs and whether the introduction of IAS/IFRS caused any changes, finding that after its introduction, OCI value relevance increased. We go on to investigate whether this result is driven by countries with higher differences between national GAAP and IAS / IFRS, finding that increases in OCI value relevance were more pronounced in countries which were further from IAS/IFRS standards.

In the second part of the paper, we examine the impact of IAS 1 Revised (issued by the IASB in 2007 and mandatory from 2009 onwards) on OCI value relevance. This new standard, which specifically focuses on the presentation of OCI, may have increased its value relevance because of the increased transparency and clarity of its disclosure, coherently with the reporting location literature (see Hirst and Hopkins, 1998; Maines and McDaniel, 2000; Lee et al., 2006). We also test whether the increase in value relevance has been more pronounced in countries where the ability of firms to raise external funds in the form of equity (defined following Leutz et al., 2003; La Porta et al., 1997) was higher.

We found that the increases in value relevance were more pronounced in companies with less variable OCI, consistent with expectations. Results were also robust to some other specifications, discussed in the "sensitivity and robustness" paragraph.

The results we obtain may be of interest to both academics and regulators. Academic literature may employ our results as a first step towards a deeper analysis of accounting numbers' value relevance in different European countries. European regulators may be interested in actually seeing the effects of their activity over time (from the introduction of IAS/IFRS to the implementation of IAS 1 Revised) on the way in which investors make their economic decisions.

The rest of the paper is organized as follows: Section 1 provides a literature review on OCI value relevance in both the Anglo-Saxon and European contexts; Section 2 develops the hypotheses discussed in this work; Section 3 describes the methodology employed in the empirical analysis and provides some descriptive statistics on the sample; Section 4 and 5 report the results, the sensitivity analysis and the robustness tests and finally Section 6 concludes.

1. BACKGROUND

The literature on OCI value relevance received its impetus from the U.S. after 1997, the year FASB issued SFAS 130. Since then numerous empirical studies have investigated the value relevance of OCI items and comprehensive income as opposed to net income in the Anglo-Saxon context, with the value relevance often being operationalized as the predictive ability of accounting numbers to explain stock price changes. Results provided by this literature are mixed, as some studies find evidence of the value relevance of OCI items (Kanagaretnam et al., 2009; Chambers et al., 2007; Aboody et al., 1999; Choi et al., 2007; Easton et al., 1992), while others do not (Dhaliwal et al., 1999; Cahan et al., 2000; O'Hanlon and Pope, 1999; Brimble and Hodgson, 2005). Trying to make sense of the apparent conflicting results, Kanagaretnam et al. (2009) and Chambers et al. (2007) argue that the conflicting results are at least partially attributable to the use of as-if estimation techniques for OCI components in studies in the period prior to the adoption of SFAS 130 instead of as-reported data. More specifically, Kanagaretnam et al. (2009) build upon Dhaliwal et al. (1999) by employing actual components of OCI rather than as-if estimations and using both market returns and price models. They find that two out of the three components of OCI are value relevant. Similarly, Chambers et al. (2007) employ as-reported OCI data and find support for value relevance of OCI components. Biddle and Choi (2006) extend Holthausen and Watts (2001) intuition and propose: "different definitions of income may be more 'decision useful' in different applications" (Biddle and Choi, 2006). Thus, they investigate the usefulness of comprehensive income in different applications (predicting future values of net income, operating income and operating cash flow; compensation; contracting…) and they find that broader definitions of income are more decision-useful in investing applications, while narrower definitions of income are more useful in contracting applications.

Empirical research dealing with the issue of the OCI value relevance in the European context is scant. This is probably due to the fact that the IASB has only recently begun to actively deal with the issue of CI and OCI as well as the fact that pre national European GAAPs, traditionally based on historical cost rather than fair value measurements, have not generally given much relevance to the reporting of comprehensive income. Anecdotal evidence points to the view that European practitioners and academics have basically ignored OCI. This, together with the lack of comparable data for European markets, has led many researchers to focus on the relatively well-known Anglo-Saxon markets (US, UK, Australia and Canada). The only articles that, to the best of our knowledge, deal with the issue of OCI and comprehensive income in Europe are the following: Wang et al. (2006), Lin et al. (2007), Goncharov and Hodgson (2008), Ernstberger (2008), Pronobis and Zulch (2011) and Devalle and Magarini (2012). All these studies (with the partial exception of Pronobis and Zulch, 2011; Devalle and Magarini, 2012) focus on the pre-2005 period, thus before the mandatory adoption of IAS/IFRS, and generally find that OCI does not have any if only minimal incremental informative value for investors over

net income. Most importantly, none of the studies cited above specifically investigate the research theme of OCI value relevance after the IAS 1 Revised was implemented.

Pronobis and Zulch (2011) test the value relevance (defined in terms of predictive power) of comprehensive income and OCI items within German IFRS firms over the 1998-2007 period. According to the study's results, they find comprehensive income does not have any superior predictive power for a firm's future operating performance, as compared to net income and OCI items (both individual and aggregated). Devalle and Magarini (2012) compare the value relevance of Comprehensive Income and Net Income in Europe during the 2005-2007 period, and find that comprehensive income does not provide an unquestionable increase in value relevance beyond net income. The analysis of Wang et al (2006) performed on a sample of Dutch firms over the period 1988-1997 finds that aggregated OCI items are not value relevant and that reported net income is a more relevant measure of returns than clean surplus income. Goncharov and Hodgson (2008) employ a sample of European firms belonging to 16 different countries over the 1991-2005 period, finding that, even if some components of OCI are value relevant, net income is a better predictor of future cash flows than aggregated comprehensive income. Lin et al. (2007) test comprehensive income value relevance for a sample of European firms during the 1992-2004 period using as-if data. They find that comprehensive income is less value-relevant than both the bottom-line and operating income figures. Finally, Ernstberger (2008) focuses on a sample of German firms that voluntarily applied IFRS or U.S. GAAP during the 2001-2004 period. He finds that comprehensive income does not provide any incremental value relevant information beyond net income in explaining stock returns.

Some studies (see Turktas et al., 2013) focus on the way in which firms disclose the Comprehensive Income as a consequence of the introduction of the IAS 1 Revised (single or two statement choice), but failing to provide a comprehensive disclosure on OCI value relevance.

Our paper significantly contributes to the OCI value relevance literature because it analyses the European context, which has strong peculiarities if compared to the Anglo-Saxon one, in terms of corporate governance system, market development and regulation (see Leutz et al., 2003; La Porta, 1997). Therefore, the empirical results reached through the analysis of the Anglo-Saxon context cannot be extended *sic et simpliciter* to the European context. The differences within Europe make the interpretation of results more complex but on the other hand allow studying the impact of different national characteristics on value relevance. The present research also provides a comprehensive examination of OCI value relevance in Europe, employing a large sample of companies across many years (1995-2010) and belonging to a vast sample of countries (19 countries). No prior study did examine in such detail (including also some moderating variables of paramount importance, such as: equity market importance, difference between national GAAP and IAS/IFRS, OCI variability) the value relevance of OCI in Europe. Moreover, to the best of our knowledge, there is no published study that takes into account the value relevance of OCI after the implementation of IAS 1 Revised (therefore after 2009).

1.1 IAS 1 Revised

IAS 1 Revised was issued on the 6th of Septermber 2007, and become mandatory from 2009 onwards. Berfore the 2007 issuance, the IASB issued the exposure draft of IAS 1 Revised (on the 16th of March 2006) and the consultation gathered 130 comment letters on the standard. On the 17th of April 2008, the EFRAG issued its effect study and the relative endorsement advice. According to IAS 1 Revised, Other Comprehensive Income includes: changes in revaluation surplus (IAS 16 and IAS 38); actuarial gains and losses on defined benefit plans recognised in accordance with IAS 19; gains and losses arising from translating the financial statements of a foreign operation (IAS 21); gains and losses on remeasuring available-for-sale financial assets (IAS 39); the effective portion of gains and losses on hedging instruments in a cash flow hedge (IAS 39). An entity may present (i) a single statement of comprehensive income or (ii) two statements: an income statement displaying components of profit or loss and a statement of comprehensive income that begins with profit or loss (bottom line of the income statement) and displays components of other comprehensive income.

2. HYPOTHESIS DEVELOPMENT

The first research issue we intend to address is the impact of the adoption of IAS/IFRS in 2005 on OCI value relevance in Europe. This topic is relevant for two reasons. First, it addresses an under investigated issue, namely the value relevance of OCI in continental Europe in the post-2005 period. As reviewed above, previous empirical literature is silent (with the partial exception of Pronobis and Zulch, 2011; Devalle and Magarini, 2012) on the value relevance of OCI in Europe after the introduction of IAS/IFRS in 2005. Second, this is a first step in answering our main question of interest. If we intend to study the effects of the adoption of IAS 1 Revised on OCI value relevance it is criticial that we know whether the adoption of the IAS actually had an impact on the reporting environment in continental Europe.

Given the resources and time spent on studying, designing, and implementing the adoption of IAS by the European Union, as well as the current literature on the benefits of IFRS in improving disclosure quality, we expect to see an increase in OCI value relevance after 2005. Previous literature suggests that the introduction of IAS/IFRS in 2005 impacted both investors' expectations on the increase in reporting quality (see Armstrong et al., 2010; Pae et al., 2006; Comprix et al., 2003) as well as accounting quality itself (see Soderstrom and Sun, 2007; Devalle et al., 2010; Jermakowicz et al., 2007). According to Clarkson et al (2011), which studied the European and Australian context, IFRS enhanced comparability. More specifically, Armstrong et al. (2010), Pae et al. (2006) and Comprix et al. (2003) examine the market reaction to events signaling the forthcoming introduction of IAS/IFRS and find that investors generally reacted positively to such announcements. Soderstrom and Sun (2007) provide a literature review of the

articles dealing with the introduction of IAS/IFRS in Europe and conclude that the international accounting literature has generally found a positive impact of IAS/IFRS adoption on accounting quality. Devalle et al (2010) found that IFRS increased value relevance of earnings, despite decreasing the value relevance of the book value of equity and failing to significantly improve cross-border comparability of financial statements. Barth et al. (2008) find that firms adopting IAS/IFRS have less earnings management, more timely loss recognition and more value relevance of earnings, thus interpreting these findings as evidence of higher accounting quality. We extend such literature to the introduction of IAS/IFRS impact on OCI value relevance.

An increase in OCI value relevance due to IAS would be in line with the IASB 1989 Conceptual framework which required that accounting information be relevant to the decision making needs of the users. Given the lack of research on the effects of IAS adoption on OCI value relevance, we find it necessary to establish whether or not the adoption of IAS/IFRS affected the value relevance of OCI in continental Europe.

We propose the following:

Hypothesis 1: the incremental OCI value relevance over NI in the post- IAS period (2005-2010) is greater than the incremental OCI value relevance over NI in the pre- IAS period (1995-2004)

Before 2005, companies did employ national GAAP, which had different characteristics among different European countries. A stream of literature (among the others, see Ding et al., 2005; Street, 2002, Ding et al., 2007) focuses on the differences existing between national GAAP and IAS/IFRS, studying the determinants of such differences and their effects on the equity markets. Bartov et al. (2005), in particular, focus on the differences existing between German GAAP (that, according to the authors, follow the "stakeholder model") and IAS/IFRS (that follow the "shareholder model").

In the context of this study, it is relevant to test the different effects (in terms of increase/decrease of OCI value relevance) of the introduction of IAS in 2005 in countries in which the national GAAPs were more (less) divergent compared to the IAS. We expect the potential increase in value relevance being driven by countries where the accounting standards are less (non-aligned countries) rather than more (aligned countries) similar to IAS/IFRS before the adoption.

We propose the following hypothesis:

Hypothesis 1a: the incremental OCI value relevance over NI in the post- IAS period (2005-2010) is higher (lower) for non-aligned (aligned) countries.

Our second research question investigates the effect of the introduction of the revised version of IAS 1 on the incremental value relevance of OCI over NI.

On the one hand, IAS 1 Revised did not change the economic substance of OCI, but rather required it to be disclosed in a specific format. In other words, even if in the European accounting culture OCI did not have much relevance, investors could have calculated OCI even before the introduction of the new version of the accounting standard, given that all the information were already available in the financial statements. Therefore, it is possible that the enforcement of IAS 1 Revised would not alter investors' behavior.

On the other hand, IAS 1 Revised may have actually changed (more specifically, increased) OCI value relevance. Relying on previous studies, we propose two arguments supporting this prediction. First, a stream of literature (see Hirst and Hopkins, 1998; Maines and McDaniel, 2000) deals with the reporting locations of accounting measures of performance (and, more specifically, of OCI) suggesting that the way in which OCI is disclosed does matter in the investors' decision-making process. This stream of research indicates that users are more likely to use financial information when it is presented in a clear and simple manner. Hirst and Hopkins (1998) argue: "research in psychology suggests that information will not be used unless it is both available and readily processable (i.e. clear)", and they find evidence that investors are better able to estimate financial performance information when the information is disclosed in a statement of financial performance rather than in the statement of changes in shareholders equity. Similarly, Maines and McDaniel (2000) find that nonprofessional investors, in judging management and corporate performance, take into account OCI information only when it is presented in a statement of comprehensive income, rather than in a statement of stockholders' equity. They conclude that the format of the statements affects how nonprofessional investors weight comprehensive-income information.

The second argument supporting the increase in OCI value relevance relies on the empirical evidence provided by studies that employ pre- and post- SFAS 130 data. In particular, the comparison of the results of Dhaliwal et al (1999) and Chambers et al (2007) sggests that the mandatory disclosure of OCI did increase its value relevance. The two studies use the same methodology but pre-SFAS 130 (Dhaliwal et al., 1999) and post-SFAS 130 (Chambers et al., 2007) data with Chambers et al (2007) finding OCI being value relevant, while Dhaliwal et al (1999) do not, thus lending credence to the disclosure method effecting OCI value relevance.

Relying on the two arguments above, we propose the following Hypothesis:

Hypothesis 2: the incremental OCI value relevance over NI in the post- IAS 1 Revised period (2009-2010) is greater than the incremental OCI value relevance over NI in the pre- IAS 1 Revised period (2005-2008).

The present study employs a vast sample of firms belonging to different countries, which present significant differences among them. Europe has a vast and different cultural panorama, and we expect some of these differences to influence also the OCI value relevance analysis.

In particular, we focus on the differences existing in the way in which companies raise funds. They may raise financial sources through the equity or the debt market, and the importance of these two sources of financing varies greatly in the different countries under analysis. La Porta et al (1997) propose an index measuring the ability of companies in different countries to raise external funds in the form of equity and show that there is variation among countries.

There are several studies examining the value relevance of accounting numbers among different countries (see Alford et al., 1993; Ali and Hwang, 2000; Harris et al., 1994; Joos and Lang, 1994; Land and Lang, 2002; Bhattacharya et al., 2003) and some of them specifically argue that the association between accounting numbers and stock returns is stronger in countries where the equity market plays a more central role.

Relying on this literature, we propose the following hypothesis:

Hypothesis 2a: the incremental OCI value relevance over NI in the post- IAS 1 Revised period (2009-2010) is higher (lower) for countries in which the equity market is more (less) important.

3. RESEARCH DESIGN AND DATA

Traditionally, studies that investigate the value relevance of accounting measures have empirically examined this relation via statistical associations between operational market measures of value and accounting items. Two of the most common empirical models employed in the accounting literature to test for value relevance are "Price models" and "Return models". Price models are usually variations on the Ohlson (1995) model and use price levels as a dependent variable to investigate the relation. Return models, on the other hand, are based on the Easton and Harris (1991) model and analyze the association between annual per share returns and accounting numbers. While both models are used to arrive at value relevance, we rely on the return model specification to guide our exploration of OCI value relevance, because return models are the best suited in determining what is reflected in changes in value over a specific period of time (see Barth et al., 2001). Moreover, price models have been shown to have many statistical problems.

More formally, the following empirical specification is used to test our three hypotheses:

$$Ret_{it} = \alpha_0 + \beta_1 \frac{NI_{it}}{P_{it}} + \beta_2 \frac{\Delta NI_{it}}{P_{it}} + \beta_3 \frac{OCI_{it}}{P_{it}} + \beta_4 \frac{\Delta OCI_{it}}{P_{it}}. \tag{1}$$

Where Ret_{it} is firm i raw share return at year t, calculated as the average of the cumulative share return for 16, 17 and 18 months from 12 months prior through 4, 5, 6 months

after the fiscal year end.[1] NI_{it} is the net income per share of firm i and ΔNI_{it} is the change in NI during the year for firm i. Finally, OCI_{it} is other comprehensive income per share and ΔOCI_{it} is the change in other comprehensive income per share during the year for the firm. All our variables are deflated by the beginning of the year share price as done in previous studies to solve the scaling problem (see Brown et al., 1999; Gu, 2007). In using this emprical specification, we can examine the incremental value relevance of OCI by looking at the significance and magnitude of the coefficients on OCI and ΔOCI, in a sense looking at the significance of the OCI response coefficient above that of the earnings response coefficient. In other words, we are interested in how well OCI can explain the firms' returns above and beyond what is already explained by NI.[2]

To investigate if the new standards affected the value relevance of our parameters of interest OCI and ΔOCI_{it} we specify a multiplicative interaction model. The partial marginal effects of OCI and ΔOCI_{it} conditional on our time period of interest are operationalized through the interaction of our time period dummy variables and the OCI variables. Formally we test our two hypotheses with the following models:

Hypothesis 1

$$
\begin{aligned}
Ret_{it} = {} & \alpha_0 + \beta_1 \frac{NI_{it}}{P_{it}} + \beta_2 \frac{\Delta NI_{it}}{P_{it}} + \beta_3 \frac{OCI_{it}}{P_{it}} + \beta_4 \frac{\Delta OCI_{it}}{P_{it}} + \beta_5 post\,IAS_t + \beta_6 post\,IAS_t * \frac{NI_{it}}{P_{it}} \\
& + \beta_7 post\,IAS_t * \frac{\Delta NI_{it}}{P_{it}} + \beta_8 post\,IAS_t * \frac{OCI_{it}}{P_{it}} + \beta_9 post\,IAS_t * \frac{\Delta OCI_{it}}{P_{it}} + e_{it}
\end{aligned}
$$

(2))

Hypothesis 2

$$
\begin{aligned}
Ret_{it} = {} & \alpha_0 + \beta_1 \frac{NI_{it}}{P_{it}} + \beta_2 \frac{\Delta NI_{it}}{P_{it}} + \beta_3 \frac{OCI_{it}}{P_{it}} + \beta_4 \frac{\Delta OCI_{it}}{P_{it}} + \beta_5 post\,IAS\_Rev_t + \beta_6 post\,IAS\_Rev_t * \\
& + \beta_7 post\,IAS\_Rev_t * \frac{\Delta NI_{it}}{P_{it}} + \beta_8 post\,IAS\_Rev_t * \frac{OCI_{it}}{P_{it}} + \beta_9 post\,IAS\_Rev_t * \frac{\Delta OC}{P_{it}} \\
& + e_{it}
\end{aligned}
$$

(3))

In the case of Hypothesis 1 we run the regression in the 1995-2010 period with $post\,IAS_t$ as a dummy variable equal to 1 when IAS became mandatory i.e. for years 2005-2010, while for Hypothesis 2 we create $post\,IAS\_Rev_t$ as a dummy variable being equal to 1 when IAS 1 Revised became mandatory - years 2009-2010 - and we run it over the 2005-2010 sample period. We

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[1] Alternative return windows were also examined in the analysis, untabulated. Results do not change.

[2] This specification is in line with the incremental associated studies described in Holthausen & Watts (2001)

interact these indicator variables with our variables of interest OCI and ΔOCI to examine the incremental value post implementation of the standards. Finally, it is worth mentioning that many value relevance studies use the R^2 of the models to judge value relevance, but given we are interested in the structural change of OCI after the adoptions of the standards we believe that the interaction model better captures our interpretation of value relevance.[3]

Given the nature of our data set, which includes firm observations from different countries tracked over various years, we run the panel models as fixed effects, using both country fixed effects as well as firm fixed effects to test our hypotheses. The use of a traditional pooled OLS on the sample would have made the model susceptible to correlated omitted variables, i.e. unobserved effects, which would have made our models misspecified and produced biased inefficient estimates. Using the fixed effect panel method we can control for unobservable heterogeneity of companies and countries factoring out, if existent, a different fixed effect for each company, if using company fixed effect, or each country, if using a country fixed effect. The need to run a fixed effect panel model was verified by running a Hausman test which resulted in the rejection the null hypothesis of there being no correlation between fixed effects and the explanatory variables, thus necessitating a fixed effect model (the Hausman test soundly rejects the null that RE estimators are consistent). While the fixed effect model controls for the time invariant factors there is still the issue of firms within a certain country having correlated errors. As a result of this correlation, we run our tests using country clustered standard errors, ensuring that our standard errors are robust to heteroskedasticiy and to intra country correlations.

3.1 Sample Selection

We obtained accounting and stock market data on European listed firms from Worldscope and Datastream for the years 1995-2010. The sample consists of firms representing 19 continental European countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungry, Italy, Luxembourg, The Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden and Switzerland. We report the sample composition by country in Table 1.

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[3] This method has been used in previous studies (see Agostino et al., 2011)

Table 1: Sample composition by country

The table displays the country composition of our base sample, with each observation being a firm-year from each respective country

Country	Observations	Country	Observations	Counrty	Observations
Austria	416	Greece	417	Portugal	459
Belgium	765	Hungary	267	Slovenia	104
Czech Republic	122	Italy	1.162	Spain	1.114
Denmark	456	Luxemburg	119	Sweden	654
Finland	570	Netherlands	1.235	Switzerland	1.180
France	2.539	Norway	425	**Total**	**14.576**
Germany	2.373	Poland	198		

We exclude firms with missing stock market or accounting information on Worldscope and Datastream from our sample and winosrize all our variables at the 2nd and 98th percentiles to control for outliers.[4] Overall we are left with a sample of 14.576 firm year observations with which to conduct our study.

Given the extensive nature of our dataset, we are faced with the issue of measuring our variables over different national accounting regimes in the 90's and early 2000's as well as IFRS in 2005 with different requirements for reporting OCI. The majority of European national GAAPs in the mid 90's and early 2000's did not explicitly require full disclosure of Other Comprehensive Income. Additionally, neither Datastream nor Worldscope specifically provides a data item for Comprehensive Income consistently during our full window of observations. Thus, like previous research we overcome this obstacle by relying on the well-known Ohlson clean surplus formula to derive our comprehensive income and in turn the OCI measure we use in all of our tests.[5]

$$CI_t \equiv \Delta BV_t + d_t - N_t \quad (5)$$

---

[4] Tests were performed by dropping outliers rather than winsorizing and our results do not change.

[5] The use of this formula is well established in previous literature (see, among the others, O'Hanlon and Pope, 1999 and Lin et al., 2007).

$$OCI \equiv CI_t - NI_t \quad (6)$$

where ΔBV is the change in book value of ordinary and preferred shareholder funds during period t, d_t is dividends paid to all shareholders in the year, and N_t is the new equity issued during the year. To obtain other comprehensive income we subtracted out Net Income (NI) from this derived Comprehensive Income measure (CI). We thus use this as-if calculated OCI variable in order to have a consistent measure of OCI throughout our countries and years. We only utilized non-financial firms in our sample given the unique regulatory environment that surrounds these firms accounting systems. Finally, returns are calculated as the firms' average cumulative share return.[6]

3.2 Descriptive Statistics

We present descriptive statistics for our sample in Table 2. All of our independent variables are measured on a per-share basis and deflated by the lagged price per share.[7]

Table 2: Summary Statistics

Table 2 reports the descriptive statistics for our overall sample. All variables have been measured on a per-share basis deflated by the beginning of the year share price. We have also winsorized all our variables at the 2% and 98% level. Returns is the average cum-dividend stock return measured as the average of the three share return windows using 4, 5 and 6 month after the year end. NI is Net Income available to common shareholders and Change NI is the change in Net Income during the year. OCI is Other Comprehensive Income measured as Change in BV of Equity+Dividends-New Equity Issued-Net Income. Finally, change OCI is the change in OCI during the period.

Variables	N	Mean	St. Dev.	25%	50%	75%
Return	14.576	0.23646	0.5870	-.14268	.13702	.47763
Net Income	14.576	0.05506	0.1111	.03245	.06489	.10126
Change NI	14.576	-0.00003	0.1123	-.03009	-.00083	.02594
OCI	14.576	0.0033	0.0954	-.02326	-.00060	.01271
Change OCI	14.576	-0.0096	1.0178	-.03061	0	.03086

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[6] Average cum-dividend stock return measured as the average of the three share return windows used 4, 5, 6 month after the year end to control for the timing in the company disclosure.

[7] See Brown et al. (1999)

In Table 2, we see that the mean value of Other Comprehensive Income is .003 while the average change in OCI is -.009. Mean NI in the sample is .055 while the mean change in Ni is -.00003. Finally, the mean return in the sample was .24.

Spearman rank correlation coefficients for all our variables for the overall sample are reported in Table 3 Panel A.

Table 3 - Panel A: Spearman Correlation Matrix

General Sample

	Return		Net Income		Change NI		OCI		Change OCI	
Return	1									
Net Income	0.2739	*	1							
Change NI	0.2199	*	0.5128	*	1					
OCI	0.0645	*	-0.0825	*	0.0241	*	1			
Change OCI	0.0025		-0.0453	*	-0.0462	*	0.1397	*	1	

* Indicates statistical significance at the 1 percent level or higher

Table 3 Panel A shows that unconditionally OCI is positively and significantly related to Returns while negative and significantly related to NI. We see the same relationship with the change in OCI variable. Overall, there is sufficient univariate evidence to conclude that OCI has some relation with the returns of the firms, specifically at the .01 level of significance. NI as shown in previous studies has a consistently significant and positive relationship with returns.[8]

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[8] We run the correlations on a per country basis and see that the general relationship is found in a majority of the countries but at various levels, with larger markets exemplifying a stronger relationship, untabulated.

Table 3 - Panel B: Spearman Correlation Matrix by period

1995-2004 Period

	Return		Net Income		Change NI		OCI		Change OCI
Return	1								
Net Income	0.2780	*	1						
Change NI	0.2117	*	0.4948	*	1				
OCI	0.0385	*	-0.0870	*	0.0055		1		
Change OCI	-0.0028		-0.0263		-0.0603	*	0.1807	*	1

2005-2008 Period

	Return		Net Income		Change NI		OCI		Change OCI
Return	1								
Net Income	0.3183	*	1						
Change NI	0.2313	*	0.5249	*	1				
OCI	0.1359	*	-0.0140		0.0662	*	1		
Change OCI	0.0095		-0.0947	*	-0.0449	*	0.0652	*	1

2009-2010 Period

	Return		Net Income		Change NI		OCI		Change OCI
Return	1								
Net Income	0.2533	*	1						
Change NI	0.2029	*	0.5632	*	1				
OCI	-0.0121	*	-0.1636	*	0.0043		1		
Change OCI	-0.0203		-0.0131		-0.0280		0.3320	*	1

* Indicates statistical significance at the 1 percent level or higher

In Panel B, we examine the results of the univariate correlation according to the different periods, relevant for the analysis hereby conducted, in order to decifer any time trends. We see that OCI, as well as NI, shows some correlation with returns throughout all the three periods. OCI and NI are also negatively and significantly correlated in two out of the three periods under analysis.

4. RESULTS

Table 4 displays the empirical results for Hypothesis 1:

Table 4

Hypothesis 1. OCI and NI value relevance after the introduction of IAS/IFRS in 2005

The dependent variable is per-share, deflated Returns. All variables are winsorized at the 2% level. Post_IAS equals to 1 for years 2005-2010.
Coefficients' significance: * p < 0.10; ** p<0.05; *** p<0.01. Standard errors in parenthesis.

Variable	(1)	(2)	(3)	(4)
Net Income	1.198***	1.550***	1.192***	1.107***
	(0.093)	(0.081)	(0.068)	(0.068)
Change_NI	0.526***	0.319***	0.527***	0.595***
	(0.094)	(0.074)	(0.070)	(0.070)
OCI	0.352***	0.344***	0.353***	0.295***
	(0.079)	(0.071)	(0.068)	(0.067)
Change_OCI	-0.001	-0.002	-0.001	0.001
	(0.010)	(0.006)	(0.006)	(0.006)
Post_IAS	-0.034**	-0.017	-0.030**	0.187***
	(0.013)	(0.012)	(0.011)	(0.019)
Post_IAS_NI	-0.016	-0.162	-0.035	-0.050
	(0.137)	(0.109)	(0.098)	(0.097)
Post_IAS_ChnNI	0.012	0.094	0.021	0.0223
	(0.128)	(0.101)	(0.097)	(0.096)
Post_IAS_OCI	0.346**	0.365***	0.346***	0.367***
	(0.123)	(0.104)	(0.099)	(0.098)
Post_IAS_ChnOCI	0.011	0.009	0.009	0.008
	(0.013)	(0.010)	(0.009)	(0.009)
Year				-0.031***
				(0.0021)
Constant	0.185***	0,147222	0.299***	61.247***
	(0.009)	(0.211)	(0.040)	(4.31)
Company Fixed	No	Yes	No	No
Country Fixed	No	No	Yes	Yes
Country Year Trend	No	No	No	Yes
Observations	14.576	14.576	14.576	14.576
R-squared	0.091	0.125	0.098	0.108
F	83.203	2.190	58.510	166

Our empirical results confirm that OCI value relevance increased in the post-IAS/IFRS adoption period. All four models specifications have the interaction variable, Post_IAS_OCI, significant and positive (at the 5% level in Model 1 and at the 1% level in Models 2, 3 and 4). This allows us to conclude that the introduction of IAS/IFRS in 2005 increased the value relevance of OCI. Consistent with previous studies, Net Income is significant and positively

associated with returns in all four specifications and it does not marginally increase its value relevance in the post 2005 period. OCI, on the other hand, garnered different levels of interests in the pre and post IAS 1 period because of the differences between national GAAP and IAS/IFRS in regards to this accounting item and as a result we see an increase in its significance.

These results are of interest because they fill a gap in the existing literature on the incremental value relevance of OCI in the European context. None of the articles reviewed in the background section (with the partial exception of Pronobis and Zulch, 2011 and Devalle and Magarini, 2012) provide empirical evidence on OCI value relevance in the post 2005 period. Our results also differ, to a certain extent, with those of Devalle and Magarini (2012), as they do not find Comprehensive Income to have any incremental value relevance over Net Income.

Overall, results from Table 4 confirm the view that OCI played a more central role for the markets after the introduction of IAS/IFRS. While pre IAS/IFRS investors in many of the European countries had all the necessary information to calculate OCI, they did not exploit this information. National European GAAP, traditionally based on historical cost rather than fair value measurements, had not generally given much relevance to comprehensive income and OCI, which would explain why the implementation of IFRS, with its new focus on fair value, would lead to an increase in OCI's value relevance in Europe.

We analyze whether this increase in value relevance after the adoption of IAS 1 was actually driven by the standard by looking at the effect of the introduction of IAS/IFRS on OCI value relevance in countries where the accounting standards are more (aligned countries) or less (non-aligned countries) similar to IAS/IFRS before the adoption. In doing this, we utilize two measures to capture the differences between pre-IAS European national GAAPs and IAS/IFRS. The two measures are adapted from the work of Street (2002), who employs the GAAP 2001 survey of country GAAP and IFRS in order to construct his measures and perform the analysis. The GAAP 2001 survey identifies 80 accounting measures in 62 countries and indicates for each measure whether the national GAAP standard is different from that of IAS/IFRS. Our first measure is defined as the "differences that could affect many enterprises", in other words a count of the major conceptual differences between the standards; the second measure is defined as "issues that could lead to differences for certain enterprises" which are usually minor differences between the standards. In other words, these two measures gauge the extent to which each country's GAAP differed from IFRS in 2001. While our test would be more powerful if we had specific differences in OCI reporting standards between national GAAPs and IFRS, we are unable to attain such information, thus we have these noisier proxies for the differences in each country.

Following this categorization, we separate the sample into non-aligned countries (highest difference score – top 20%) and aligned countries (lowest difference score – bottom 20%) for each of the two measures, in order to see whether the effect of the introduction of IFRS on OCI value relevance differed depending on the country's pre-IAS 1 differences. We predict that if the introduction of IAS/IFRS truly increased the disclosure environment, the effects of the post

period would be more pronounced for countries that were initially further from IFRS than for those countries whose standards were closer to those of IFRS.

Table 5

Hypothesis 1 a. OCI and NI value relevance after the introduction of IAS/IFRS in 2005 in aligned and non aligned countries

The dependent variable is per-share, deflated Returns. All variables are winsorized at the 2% level. Post_IAS equals to 1 for years 2005-2010. Model 1 is the country fixed effect (Model 3 of Table 4) run over the whole sample; Model 2 and 4 are run over the non-aligned counties; Model 3 and 5 are run over the aligned counties. Model 2 and 3 employ the measure "differences that could affect many enterprises" (see Street, 2002); Model 4 and 5 employ the measure "for certain enterprises issues that could lead to differences" (see Street, 2002). Coefficients' significance: * p < 0.10; ** p<0.05; *** p<0.01. Standard errors in parenthesis.

Variable	(1)	(2) Non-aligned countries	(3) Aligned countries	(4) Non-aligned countries	(5) Aligned countries
Net Income	1.192***	1.038***	0.930***	1.230***	0.995***
	(0.068)	(0.183)	(0.165)	(0.122)	(0.156)
Change_NI	0.527***	0.755***	0.625***	0.572***	0.5702***
	(0.070)	(0.184)	(0.169)	(0.130)	(0.1472)
OCI	0.353***	0.235	-0.375*	0.130	0.246
	(0.068)	(0.171)	(0.186)	(0.129)	(0.190)
Change_OCI	-0.001	0.026	0.213***	0.014	-0.004
	(0.006)	(0.022)	(0.049)	(0.029)	(0.037)
Post_IAS	-0.030**	-0.004	0.032	0.086***	-0.049
	(0.011)	(0.025)	(0.027)	(0.018)	(0.027)
Post_IAS_NI	-0.035	0.880***	0.190	-0.554***	0.924***
	(0.098)	(0.233)	(0.228)	(0.167)	(0.239)
Post_IAS_ChnNI	0.021	-0.593*	0.185	0.184	-0.709**
	(0.097)	(0.244)	(0.223)	(0.165)	(0.247)
Post_IAS_OCI	0.346***	0.587*	0.199	0.671***	0.401
	(0.099)	(0.239)	(0.246)	(0.171)	(0.263)
Post_IAS_ChnOCI	0.009	-0.018	-0.208***	-0.001	0.046
	(0.009)	(0.050)	(0.050)	(0.030)	(0.054)
Constant	0.299***	0.094***	0.130***	0.104***	0.136***
	(0.040)	(0.020)	(0.020)	(0.013)	(0.022)
Observations	14.576	2.305	2.281	4.882	2.048
Adjusted R-squared	0.098	0.141	0.109	0.093	0.135
F	58.510	41.931	30.851	55.390	35.332

According to the results displayed in Table 5, the general increase in the value relevance of OCI displayed in Table 4 (and reported in Table 5 Model 1) is driven by increases of value relevance in the countries with the greatest pre adoption differences between GAAPs and IAS/IFRS. Models 2 and 4 have been run over a sub sample of observations belonging to countries with high differences between their national GAAPs (before the introduction of IAS/IFRS) and IAS/IFRS, with the results showing that the significance of the OCI in the post IAS period being greater, .58 and .67, than those of the OCI in the more aligned countries sample, .19 and .40, as seen in Models 3 and 5. Additionally, the variable Post_IAS_OCI is significant in Models 2 and 4 (non aligned countries) and non-significant in Models 3 and 5 (aligned countries). These findings are consistent with our prediction that the effect of IAS/IFRS introduction would be higher for countries with greater differences between national GAAPs and IAS/IFRS, thus confirming Hypothesis 1a and further strengthening Hypothesis 1 that IFRS had an effect on the reporting environment and OCI value relevance. Overall, this supports the notion of heterogeneity in pre-IAS national GAAPs playing a role in our empirical findings.

These results pave the way for our second hypothesis, because they show that investors in European markets reacted to the change in accounting standards, in terms of OCI value relevance. Therefore, it is reasonable to test the effect of the introduction IAS 1 Revised, which dealt exclusively with OCI.

Table 6 presents our findings on the value relevance of OCI pre and post IAS 1Revised. It reveals that Net Income, change in Net Income (with the partial exception of Model 2) and OCI are significant and positive in the pre-IAS 1 Revised period. In the post-IAS 1 Revised period, OCI gains incremental explanatory power. According to the results displayed in Model 1, 2 and 3, the interaction variable Post_IASR_OCI is significant at the 1% level, while the interaction variable Post_IASR_ChnOCI (Model 4) is significant at the 5% level. The Year variable, representing the country year trend is significant at the 1% level. Overall, these results seem to confirm Hypothesis 2, since in the all the specifications the variables of interest are significant.

Table 6

Hypothesis 2. OCI and NI value relevance after the introduction of IAS 1 revised in 2009

The dependent variable is per-share, deflated Returns. All variables are winsorized at the 2% level. Post_IASR equals to 1 for years 2009-2010
Coefficients' significance: * p < 0.10; ** p<0.05; *** p<0.01. Standard errors in parenthesis.

Variable	(1)	(2)	(3)	(4)
Net Income	1.858***	2.607***	1.810***	1.201***
	(0.102)	(0.143)	(0.102)	(0.085)
Change_NI	0.448***	0.067	0.477***	0.202*
	(0.096)	(0.111)	(0.095)	(0.079)
OCI	0.860***	0.909***	0.861***	0.184**
	(0.086)	(0.094)	(0.085)	(0.072)
Change_OCI	0.016*	0.014	0.015*	0.011
	(0.007)	(0.008)	(0.007)	(0.005)
Post_IASR	0.266***	0.328***	0.268***	1.192***
	(0.016)	(0.017)	(0.016)	(0.021)
Post_IASR_NI	-1.012***	-1.575***	-1.016***	-0.301**
	(0.143)	(0.168)	(0.142)	(0.119)
Post_IASR_ChnNI	-0.131	-0.012	-0.161	0.193*
	(0.134)	(0.148)	(0.133)	(0.111)
Post_IASR_OCI	-0.667***	-0.952***	-0.632***	0.170
	(0.164)	(0.181)	(0.163)	(0.136)
Post_IASR_ChnOCI	-0.058	0.006	-0.064	-0.076**
	(0.036)	(0.039)	(0.036)	(0.030)
Year				-0.329***
				(0.005)
Constant	0.037***	-0.0275	0.162***	660.93***
	(0.011)	(-0.19)	(0.047)	(11.999)
Company Fixed	No	Yes	No	No
Country Fixed	No	No	Yes	Yes
Country Year Trend	No	No	No	Yes
Observations	7.176	7.176	7.176	7.176
Adjusted R-squared	0.133	0.152	0.147	0.401
F	123.149	1.969	46.779	458.78

In order to properly interpret the results of Table 6, it is important to point out the probable presence of a strong downward bias during our sample time period stemming from the global financial crisis and the European sovereign debt crisis that affected the European stock markets in the 2009-2010 period. While an analysis of the development of the two crises is not within the scope of the current work, it is common knowledge that the financial crisis spread from the US to continental Europe in late 2008, and that the two events are linked. Moreover, the

European sovereign debt crisis that manifested in 2009 still remains a pertaining issue today. The impact of the crisis on the results displayed above is confirmed by the fact that the variable intended to pick up the country year trend effects is significant at the 1% level and negative. In this case the "Year" variable is picking up the effect of the crisis by the significant negative coefficient, which shows the negative trend in returns throughout the time period.

Our results are, to a certain extent, consistent with those found in the literature dealing with the value relevance of accounting information (book values and earnings) in the context of a crisis (see Barth et al., 1998; Davis-Friday et al., 2002, 2006; Collins et al., 1997; Graham et al., 2000). These studies generally find that the value relevance of earnings measures of performance decreases during crises. The fact that the coefficient on our main variable of interest (OCI) is negative, may signal that investors, as a consequence of the financial crisis, over punish firms whose assets are more exposed to the fair value evaluation method, heavily discounting the OCI of these firms. This high discount for OCI would explain the negative coefficient we find. Since OCI is for the most part influenced by changes in the fair value of assets, we argue that the variable expressing the level of OCI is negative because of this reason. Overall the empirical results from Table 6 confirm Hypothesis 2, even with the effect of the crisis caveat as seen in the negative coefficients and the significance of the country year trend variable.

Hypothesis 2a aims at investigating whether the increase in OCI value relevance was higher for firms operating in countries in which the equity maret plays a more important role. The importance of the equity market is determined following Leutz et al (2003), which rely on the work by La Porta et al. (1997). In particular, the Importance of Equity Market is measured by the mean rank across three variables used in La Porta et al. (1997): (1) the ratio of the aggregate stock market capitalization held by minorities to gross national product, (2) the number of listed domestic firms relative to the population, and (3) the number of IPOs relative to the population.

Following this categorization, we run the regression on low (high) equity market importance countries, defined as the bottom (top) 20% countries, ranked by the importance of their equity markets. In particular, Models 1 and 4 reports the results of the regressions run over the whole sample of companies, as already shown in Table 6; Models 2 and 5 are run over the high equity market importance countries and finally Models 3 and 6 are run over the low equity market importance countries.

Consistently with expectations, Table 7 shows that the increase in value relevance was driven by firms operating in countries in which the importance of the equity market was higher.

Table 7

Hypothesis 2 a. OCI and NI value relevance after the introduction of IAS 1 revised in 2009 in high (low) equity markets importance countries

The dependent variable is per-share, deflated Returns. All variables are winsorized at the 2% level. Post_IASR equals to 1 for years 2009-2010. Model 1 is the company fixed effect (Model 2 of Table 6) run over the whole sample; Model 4 is the country fixed effect (Model 3 of Table 6) run over the whole sample; Model 2 and 5 and are run over the high importance of the equity market countries (top 20%); Model 3 and 6 are run over the low importance of the equity market countries (bottom 20%).   Coefficients' significance: * p < 0.10; ** p<0.05; *** p<0.01. Standard errors in parenthesis.

Variable	(1)	(2)	(3)	(4)	(5)	(6)
		High equity market importnance	Low equity market importnance		High equity market importnance	Low equity market importnance
Net Income	2.607***	2.780***	2.231***	1.810***	2.297***	1.451***
	(0.143)	(0.495)	(0.278)	(0.102)	(0.376)	(0.195)
Change_NI	0.067	0.905**	0.034	0.477***	1.155 ***	0.539***
	(0.111)	(0.422)	(0.218)	(0.095)	(0.356)	(0.192)
OCI	0.909***	1.064***	1.533***	0.861***	0.891***	1.405***
	(0.094)	(0.389)	(0.200)	(0.085)	(0.345)	(0.182)
Change_OCI	0.014	0.030	0.045	0.015*	0.116	0.061**
	(0.008)	(0.117)	(0.028)	(0.007)	(0.100)	(0.027)
Post_IASR	0.328***	0.286***	0.313***	0.268***	0.294***	0.249***
	(0.017)	(0.061)	(0.033)	(0.016)	(0.054)	(0.031)
Post_IASR_NI	-1.575***	-1.449**	-1.256***	-1.016***	-1.684***	-0.318
	(0.168)	(0.613)	(0.350)	(0.142)	(0.501)	(0.291)
Post_IASR_ChnNI	-0.012	-0.910***	0.276	-0.161	-0.525	-0.209
	(0.148)	(0.546)	(0.294)	(0.133)	(0.467)	(0.269)
Post_IASR_OCI	-0.952***	-2.208***	-0.646*	-0.632***	-1.585***	-0.297
	(0.181)	(0.598)	(0.356)	(0.163)	(0.522)	(0.326)
Post_IASR_ChnOCI	0.006	0.009	-0.069	-0.064	-0.100	-0.215***
	(0.039)	(0.144)	(0.080)	(0.036)	(0.122)	(0.020)
Company Fixed	Yes	Yes	Yes	No	No	No
Country Fixed	No	No	No	Yes	Yes	Yes
Country Year Trend	No	No	No	No	No	No
Observations	7.176	770	1.771	7.176	770	1.771
Adjusted R-squared	0.152	0.187	0.178	0.147	0.185	0.169
F	1.969	18.51	33.27	46.779	19.56	37.39

The coefficient of the variable Post_IASR_OCI in Model 2, when compared to the one in Model 3, is more significant (at the 1% level in Model 2 and at the 10% level in Model 3) and larger (-2.208 in Model 2 and -0.646 in Model 3). The results do not change if the regressions are run employing country fixed effects, in fact tabulated results show that the coefficient of the variable Post_IASR_OCI is more significant and larger when run over a sample of companies operating in countries where the equity market is more important. More specifically, the

coefficient of the variable Post_IASR_OCI in Model 5 is significant (while in Model 6 is not) and it is larger, when compared to Model 6 (-1.585 in Model 5 and -0.297 in Model 6).

These results confirm the evidence found by previous literature on value relevance in different institutional context (in particular, see Alford et al., 1993), which show that the value relevance of accounting numbers is higher in countries where the equity market plays a more central role.

All the above results rely on the return-specification model based on Easton and Harris (1991), in which the change specification captures the permanent aspect of earnings while the level specification captures the transitory aspect of earnings. Therefore, according to our results, investors seem to consider OCI more transitory in nature than NI. Moreover, given our empirical results and the nature of the Easton and Harris (1991) model, we argue that the level specification captures the nature of OCI better than the change specification.

5. SENSITIVITY AND ROBUSTNESS ANALYSIS

In this section we investigate whether our previous findings are robust to alternative explanations by conducting sensitivity and robustness tests on our hypotheses.

We first examine the effect of the introduction of IAS/IFRS in 2005 and of IAS 1 Revised in 2009 on OCI value relevance conditional on the accuracy or precision of the OCI measure, with the introduction of an OCI variability measure. We view that if OCI is less variable (as measured by a lower standard deviation, as defined by the rolling three year average standard deviation of OCI) then it follows that investors would put more weight, i.e. higher value relevance, on this measure than they would put in firms whose OCI is highly variable i.e. higher standard deviation. This prediction is based on the notion that performance measures are more informative the more precise they are, i.e. the lower standard deviation in the measure reflecting this precision.

Untabulated results show that OCI value relevance in the two periods of interest (2005-2010 for Hypothesis 1 and 2009-2010 for Hypothesis 2) increases at a larger rate for companies that have more consistent OCI. This result is consistent with previous literature which argues that less volatile accounting numbers will provide more value relevance (see Barth et al., 2001). It may also allow us to infer that those components of OCI that are less volatile (for instance, actuarial gains and losses on defined benefit plans) are the ones that are driving the results, in terms of value relevance, compared to those components that are more volatile (for instance, unrealized gain and losses on available for sale securities). Untabulated results show that OCI standard deviation (volatility) did not significantly change after the implementation of the two accounting standards under analysis (IAS 1 Revised and IAS/IFRS), thus strengthening the results of the sensitivity analysis that the standard is changing the reporting environement rather than it being a fuction of a change in the firm's operating cycle.

We go on implementing several robustness tests, and results do not change in any of the following specifications. First, we ran the regressions testing our hypotheses of interest on those companies included in all the periods of interest (pre-2005, 2006-2008 and 2009-2010). Second, we tested simultaneously Hypothesis 1 and Hypothesis 2, thus including in the same regression the dummy variables and the interaction variables of interest. Third, we ran the regressions about Hypothesis 1 and Hypothesis 1a excluding those companies which were IAS/IFRS early adopters, thus excluding those companies which implemented IAS/IFRS before 2005. Fourth, we tested whether the results about Hypothesis 1 and Hypothesis 1a significantly change when the 2009 and 2010 years (which may have biased the results since both years are affected by the IAS 1 Revised) are excluded from the regression. Finally, we tested whether the results displayed in the present study change when non-winsorized variables are employed and when only companies operating in the whole period are included in the regressions.

6. CONCLUSIONS

This study comprehensively analyses the OCI value relevance in the continental European context over time. The empirical results reported above confirm that, as a consequence of the introduction of the IAS/IFRS standards in Europe in 2005, OCI value relevance increased. Thus, investors operating in the continental European markets did react – in terms of a higher value relevance given to OCI numbers – to the introduction of the new accounting standards. This result is further strengthened through empirical analysis of the drivers of said increase, which shows that the value relevance of OCI increased more in countries where the differences between national GAAPs and IAS/IFRS were the highest.

Furthermore, the introduction of IAS 1 Revised in 2009, which required that OCI be disclosed separately, further increased the value relevance of OCI. This may, according to the reporting location literature, be due to the increased transparency of the information about accounting numbers. Companies operating in countries where the equity market is more important are shown to drive this result.

The study contributes to the accounting academic literature providing comprehensive empirical analysis and discussion of the role of OCI in continental Europe over time, showing that after the introduction of IAS/IFRS and after the introduction of IAS 1 Revised, OCI increased its value relevance. These results are of great importance for academics, because they cast some light on the under-studied issue of OCI value relevance in the European context. Moreover, the study may give some impetus towards a more complete understanding of the determinants of value relevance in the different European countries, which present significant differences among them.

Since the European market was traditionally based on historical rather than fair value measurement, the issue of OCI did not play a central role in the national GAAP. Nevertheless, the recent economic crisis has attracted the interest of investors and policy makers as to the

changes in OCI, as they are for the most part determined by fair value components. Our study is also important to policy makers, as they may be interested in knowing what the effect of the regulations they introduced is on the value relevance of accounting numbers.

      Future studies may further investigate the issue by examining the different accounting items that make up OCI in more details. Therefore, it may be interesting to analyse what it is that drives the value relevance of OCI (unrealized gains and losses on available, for sale securities, gains and losses on derivatives held as cash flow hedges, gains and losses resulting from translating the financial statements of foreign subsidiaries, etc.) and whether there are differences from country to country.

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