

ประโยชน์ของข้อมูลกำไรและประเภทของนักลงทุนในช่วงเวลาที่มีการใช้แนวคิดที่มุ่งเน้น
ความสำคัญของงบดุล



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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาบัญชีคุณวุฒิบัณฑิต

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ปีการศึกษา 2553

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

THE USEFULNESS OF EARNINGS INFORMATION AND INVESTOR
CLASSES DURING THE PERIOD OF BALANCE SHEET APPROACH



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A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy Program in Accountancy
Department of Accountancy
Faculty of Commerce and Accountancy
Chulalongkorn University
Academic Year 2010
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Thesis Title THE USEFULNESS OF EARNINGS INFORMATION AND
INVESTOR CLASSES DURING THE PERIOD OF
BALANCE SHEET APPROACH

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Field of Study Accountancy

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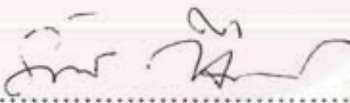
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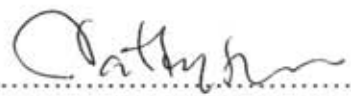
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สุนทรีย์ ตั้งศรีวงศ์ : ประโยชน์ของข้อมูลกำไรและประเภทของนักลงทุนในช่วงเวลาที่มีการใช้แนวคิดที่มุ่งเน้นความสำคัญของงบดุล. (THE USEFULNESS OF EARNINGS INFORMATION AND INVESTOR CLASSES DURING THE PERIOD OF BALANCE SHEET APPROACH)

อ. ที่ปรึกษาวิทยานิพนธ์หลัก : อ.ดร. ธัญลักษณ์ วิจิตรสาระวงศ์, 149 หน้า.

งานวิจัยนี้ได้ทำการศึกษาถึงผลกระทบของการเปลี่ยนแปลงแม่บทการบัญชีต่อประโยชน์ของข้อมูลกำไร ประเทศไทยได้ออกแม่บทการบัญชีในปี 2542 ซึ่งปฏิบัติตามมาตรฐานการบัญชีระหว่างประเทศและมุ่งเน้นความสำคัญของงบดุล ก่อนปี 2542 รูปแบบการจัดทำรายงานทางการเงินใช้แนวคิดที่มุ่งเน้นความสำคัญของงบกำไรขาดทุน

งานวิจัยนี้ไม่พบความแตกต่างในประโยชน์ของข้อมูลกำไรของทั้งสองแนวคิด และไม่พบว่าภายใต้แนวคิดที่มุ่งเน้นความสำคัญของงบดุล ประโยชน์ของข้อมูลกำไรจะมีแนวโน้มลดลง โดยประโยชน์ของข้อมูลกำไรวัดจากค่าสัมประสิทธิ์การตอบสนองต่อกำไร (Earnings Response Coefficient) ในช่วงการประกาศข้อมูลกำไร การศึกษาประโยชน์ของข้อมูลกำไรในแต่ละประเภทของนักลงทุนภายใต้ช่วงเวลาของแนวคิดที่มุ่งเน้นความสำคัญของงบดุล เพื่อทดสอบสมมติฐานว่าหากข้อมูลกำไรไม่มีประโยชน์นักลงทุนสถาบัน (Sophisticated) ควรจะใช้ข้อมูลกำไรน้อยที่สุด ผลการศึกษาพบว่าการซื้อขายของนักลงทุนสถาบันในช่วงการประกาศข้อมูลกำไรสัมพันธ์กับข้อมูลกำไรสูงที่สุด ในขณะที่นักลงทุนรายย่อย (Unsophisticated) มีขนาดของสัมพันธ์ต่ำที่สุด ค่าสัมประสิทธิ์การตอบสนองต่อกำไรสูงที่สุดในนักลงทุนที่มีความสามารถในการวิเคราะห์ข้อมูล (Sophisticated) เป็นสิ่งที่แสดงให้เห็นถึงประโยชน์ของข้อมูลกำไรภายใต้แนวคิดที่มุ่งเน้นความสำคัญของงบดุล และสอดคล้องกับแนวคิดที่ว่าประโยชน์ของข้อมูลทางการบัญชีจะเพิ่มขึ้นความมั่งคั่ง (Wealth) ของนักลงทุน

การใช้มูลค่ายุติธรรมแทนราคาทุนภายใต้แนวคิดที่มุ่งเน้นความสำคัญของงบดุล ทำให้มูลค่าของสินทรัพย์และหนี้สินสอดคล้องกับมูลค่าเชิงเศรษฐกิจมากขึ้น งานวิจัยนี้พบว่าในมูลค่าส่วนเพิ่มของความสัมพันธ์กับราคา (Incremental Value Relevance) ของมูลค่าทางบัญชีสูงกว่าข้อมูลกำไรในช่วงเวลาที่ใช้แนวคิดที่มุ่งเน้นความสำคัญของงบดุล

ภาควิชา การบัญชี
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##4983355426 : MAJOR ACCOUNTANCY

KEYWORDS : EARNINGS INFORMATION / BALANCE SHEET APPROACH / INVESTOR CLASSES

SUNTAREE TUNGSRIWONG: THE USEFULNESS OF EARNINGS INFORMATION AND INVESTOR CLASSES DURING THE PERIOD OF BALANCE SHEET APPROACH. THESIS ADVISOR: THANYALUK VICHITSARAWONG, Ph.D., 150 pp.

This study examines the effect of the shift in accounting conceptual framework on the usefulness of earnings information. In Thailand the conceptual framework was issued in 1999 which followed the International Accounting Standard (IAS) and oriented to the balance sheet approach. Prior to 1999, the model of financial reporting was based heavily on the income statement approach.

This study finds the insignificant differences in the usefulness of earnings information between these two approaches and finds no decline trend in usefulness of earnings information. The usefulness of earnings information is measured by earnings response coefficient around the earnings announcement date. The examination of the usefulness of earnings of each investor class under the period of balance sheet approach is to test the hypothesis that if earnings are useless, institutional (sophisticated) investors should rely less on earnings information. However, the finding shows that trading of institutional (sophisticated) investors around earnings announcement dates exhibits the greatest association with earnings information while the lowest for individual (unsophisticated) investors. The greatest ERC for sophisticated investors attests to the usefulness of earnings information under balance sheet approach.

Following the replacement of historical cost accounting with fair value accounting under balance sheet approach, the values of assets and liabilities more closely mirror their economic value. This study finds that book value provides more incremental value relevance than earnings in the period of balance sheet approach.

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Academic Year : 2010

ACKNOWLEDGEMENTS

I am very pleased to acknowledge the extensive support I received in writing this dissertation. My entire committee members, Associate Professor Vorasak Toommanon, Assistant Professor Pimpana Peetathawatchai, Dr. Natthawut Jenwittayaroje, Dr. Kanogporn Narktabtee, and Dr. Thanyaluk Vichisarawong, deserve my gratitude for all their help through the entire process of this dissertation as well as my entire Ph.D. education.

I am extremely indebted to my advisor, Dr. Thanyaluk Vichisarawong. This dissertation would not have been possible without her invaluable advice and encouragement. Associate Professor Vorasak Toommanon, Assistant Professor Pimpana Peetathawatchai, and Assistant Professor Kanogporn Narktabtee are my inspiration. In addition, I am greatly thankful to Dr. Natthawut Jenwittayaroje for his generous assistance in the process of data gathering and advice. I am extremely grateful to Chulalongkorn University and Naresuan (Phayao) University in providing me this great opportunity to pursue my Ph.D.

Finally, I am enormously grateful to my mother, Sajja Ketsub for her unconditional love rendered to me and my family; my husband, Sutthisak Tungsirwong, for his love, understanding and support; and my two little daughters, Sutthikarn and Boonsikarn Tungsriwong, for the wholeness they bring to my life.

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CHAPTER I

INTRODUCTION

1.1 MOTIVATION

Accounting earnings are the bottom line item on an income statement, which indicate performance of a firm and are of interest to both investors and financial practitioners. They use accounting earnings in their stock valuation with its value reflecting the firm's ability to generate a stream of earnings. Surveys reveal that investors and analysts consider earnings the single most important number about firms (Graham, Harvey, and Rajgopal, 2005). To investors, the usefulness of earnings means that the current earnings are the best predictor of the future stream of earnings that firm will produce. Thus, to investors, "good earnings" mean a metric that is highly persistent and predictive of future earnings (Dichev, 2008).

However, the quality of earnings can be affected by how accounting earnings are determined as per the accounting conceptual framework. The accounting conceptual framework offers two alternative approaches to preparing financial reports. The two approaches are the balance sheet approach and the income statement approach. These two approaches are different in their primary goals. The balance sheet approach views the proper valuation of assets and liabilities as the primary goal of financial reporting, with the determination of other accounting variables considered secondary and derivative. On the contrary, the income statement approach views the determination of revenues, expenses, and especially earnings as the primary goal of financial reporting. The latter emphasizes the proper determination of the timing and magnitude of the revenue and expense amounts, whereas balance sheet accounts and

amounts are secondary and derivative. The two major guiding principles of the income statement approach are revenue recognition and matching of expenses to revenues (Dichev, 2008).

On the history of conceptual framework which is the determination of earnings, in the late 1970's the U.S. financial accounting standards board (FASB) concluded that the balance sheet approach was the conceptual framework for standard-setting and financial accounting. FASB views that earnings are a "change in value" concept, and it is impossible to define a change in value concept before one defines "value"; thus, financial reporting should focus on the valuation of assets and liabilities. In 1989 the International Accounting Standard Board (IASB) issued a conceptual framework which was oriented toward the balance sheet approach. Under the balance sheet approach, earnings quality seems to be affected by the valuation of various assets due to the moving away from the matching concept but closer toward the fair value accounting. Dichev and Tang (2008) have documented the changing properties of accounting earnings over the last forty years. They present a declining trend of contemporaneous correlation between contemporaneous revenues and expenses, increased volatility of earnings, and declining persistence of earnings. They conclude that these changes in earnings properties destroy the forward looking usefulness of earnings information.

However, research to date has provided the evidence of the usefulness of earnings information. Efficient Market Hypothesis (EMH) claims that securities prices would react to disclosure of accounting earnings only if these numbers contain information about unexpected changes in the probability of distribution of future cash

flows of the firm and, thus, accounting earnings contain useful information about cash flows. To define the usefulness of earnings information, Ball and Brown (1968) state that “an observed revision of stock price associated with the release of the income report would thus provide evidence that the information reflected in income numbers is useful”. They empirically evaluate the usefulness of accounting earnings information and find investor reactions to annual earnings reports. They also present the significant association between abnormal stock returns and earnings surprise. Beaver (1968) provides the compelling evidence in the usefulness of earnings by showing that earnings announcement conveys new information to market participants as reflected in changes in the level or variability of securities prices or trading volume over a short time period around the event. Later researchers built on Ball and Brown’s and Beaver’s work by studying the usefulness of earnings in different settings, e.g., in different countries, using interim earnings compared with annual earnings (May, 1971; Brown and Kennelly, 1972; Joy, Litzenberger, and McEnally, 1977; Grant, 1980; Bamber 1987; Shores, 1990), or using a shorter earnings announcement period (Patell and Wolfson’s, 1984; Lee, 1992).

Prior studies in Thailand in which investor reactions to earnings announcement were examined also suggest the usefulness of earnings information (Vacharajittipan, 1991; Srisawadi, 1996; Narktabtee, 2000) and the increasing usefulness of earnings information from the period of 1979-1985 to that of 1986-1990 because of an increase in earnings quality (Srisawadi, 1996). However, of Thailand evidence, earnings determination follows the income statement approach which focuses on the matching concept as presented in the fundamental accounting assumption.

The important changes in Thai Accounting Standards (TAS) took place in 1999, almost two years after the Asian financial crisis. Before the 1997 Asian crisis, TAS was based on either the US Generally Accepted Accounting Principle (US GAAP), the International Accounting Standard (IAS), or local criteria, since the Institute of Certified Accountants and Auditors of Thailand (ICAAAT) believed them to be appropriate for the country at the time. After the Asian crisis, TAS was called upon for more internationally acceptable practice because a lack of the internationally acceptable practice was one cause of the poor disclosure and transparency that contributed to the 1997 crisis. The revolution in the Thai accounting standard then occurred in 1999 and the International Accounting Standard (IAS) was the main guideline in setting TAS. If an issue was not covered by the IAS, the US GAAP would be used. The Thai accounting conceptual framework also issued in 1999 is oriented more toward the balance sheet approach and fair value accounting while moving away from the matching concept.

As earlier explained, earnings are the single most important output of the financial reporting. Thus, improved financial reporting should lead to improved usefulness of earnings. However, Dichev and Tang (2008) documented that moving away from the matching concept and toward fair value accounting likely results in the worst earnings properties that increase volatility of earnings with declining persistence of earnings. Moreover, accounting literature provides evidence under the period of balance sheet approach and suggests that the value relevance of earnings has declined over time (Collins, Maydew, and Weiss, 1997; Brown, Lo, and Lys, 1999; Francis and Schipper, 1999). In addition, Collin et al. (1997) document the shifting in value relevance from earnings to book value. This documentation is consistent with

the view of the balance sheet orientation. Although prior literature examines the relationship between abnormal return and abnormal earnings, no research has directly examined the relationship between abnormal return (volume) and abnormal earnings associated with the shifting in accounting conceptual framework. Thus, the fact that the improvement of the Thai accounting standard which is oriented more toward the balance sheet approach improves or destroys the usefulness of earnings information warrants further investigation.

As discussed above, the changes in Thai accounting framework and Thai accounting standards likely affect earnings properties. Thus, the first objective of this study is to investigate whether there are differences in the usefulness of earnings information under the two approaches. To address this question, this study examines the usefulness of earnings information by measuring investor reaction in terms of both abnormal return and abnormal volume (event study). This study defines the usefulness of earnings information as the magnitude of earnings response coefficient (ERC), which represents the magnitude of the association between abnormal return (abnormal volume) and unexpected earnings (association study). The ERC reflects the intensity of investor reaction to a unit of earnings information. This study does not focus on the magnitude of abnormal return and abnormal volume to measure the differences in the usefulness of earnings information between the two periods because prior studies documented that abnormal return and abnormal volume increased over time but were not associated with the increase in informativeness of earnings information (Francis, Schipper, and Vincent, 2002a; Lansmand and Maydew, 2002). Thus, this study focuses on the magnitude of association between abnormal return (abnormal volume)

and unexpected earnings, i.e., ERC. However, this study also reports the abnormal return and abnormal volume around the announcement period.

The finding in the event study exhibits the significant abnormal return and abnormal volume during the event period, especially on the announcement date, in both periods of income statement approach and balance sheet approach. This finding suggests the usefulness of earnings information in the two periods. The association test indicates a greater earnings response coefficient (ERC) under the balance sheet approach than the income statement approach during the period of 1995 to 2008. However, when the crisis period (years 1997-1998) is excluded, as suggested in the prior literature that such a crisis affected return-earnings relationships (Bailes, King, and Graham, 2000), the greater earnings response coefficient (ERC) disappears in both return and volume analyses. The result is robust even when the mean or median adjusted model was used in calculating abnormal volume.

The second objective is to examine whether there is a decline in the usefulness of earnings over time after moving to the balance sheet approach (1999-2008) as suggested in Francis et al. (2002a). The examination of the over time change in the usefulness of earnings information under the period of balance sheet approach exhibits no trend in the ERC for return analysis. However, volume analysis shows a decline time trend in the ERC. The decline time trend for volume analysis and unchanged ERC for return analysis do not translate into a decline time trend in the usefulness of earnings information. Beaver (1968) suggests that the relationships between price and volume are consistent with economists' notion that volume reflects a lack of consensus regarding the price. The lack of consensus is induced by a new

piece of information, i.e., the earnings report. Since investors may differ in the way they interpret the report, some time may elapse before a consensus is reached, during which time increased volume would be observed. If consensus were reached on the first transaction, there would be a price reaction but no volume reaction. Thus, the decline in ERC for volume analysis but no trend in ERC for return analysis suggests no decline trend in earnings usefulness even after moving toward the balance sheet approach. Rather, there is an over time increase in consensus in price when earnings are released. The results are robust even when the mean or median adjusted model was used in the calculation of abnormal volume and also robust when loss cases from the estimation are excluded.

The insignificant difference in the ERC between the two periods and the evidence of no decline trend in ERC suggest that the usefulness of earnings information does not change after the changes of the Thai accounting standards and toward the new accounting conceptual framework. However, this result can be explained by Functional Fixation Hypothesis (FFH). The FFH maintains that investors treat a dollar of earnings the same irrespective of the structure of the earnings components, thus resulting in the same magnitude of ERC between the two determinations of accounting earnings.

In the context of FFH, however, all investors are not fixated on earnings as suggested by Hand (1990). Hand proposes Extended Functional Fixation Hypothesis (EFFH). He argues that unsophisticated investors are functionally fixated and thus fail to unscramble the true cash flow implications of accounting data. The empirical accounting and behavioral finance literature has documented the fixation of

unsophisticated investors on bottom line accounting numbers, especially accounting earnings (Aboody, 1996; Sloan, 1996; Xie, 2001; Barth, Clinch, and Shibano, 2003; Richardson, Sloan, Soliman and Tuna, 2005; Lev and Nissim 2006; Shi and Zhang, 2007).

In contrast to unsophisticated investors, sophisticated investors, especially institutional investors, behave differently. Sophisticated investors with superior abilities always accurately unscramble the true cash flow implications of accounting data. Unless earnings information is useful, sophisticated investors who have superior abilities and are more informed thus should rely less on earnings information at the earnings announcement period while unsophisticated investors fixate on earnings information and their trading is more associated with earnings information (earnings surprise) than sophisticated investors. Thus, the third objective is to investigate the usefulness of earnings information in each class of investor in the period of balance sheet approach.

Prior studies provided evidence that investors reacted to earnings announcement differently. However, their findings can be divided into two groups. First, the reaction of investors correlates positively with wealth of investors because of return to scale; that is, large investors react more than small investors (Cready, 1988; Lee, 1992; Kim, Krinsky, and Lee, 1997). Second, individual or small investors react to earnings announcement more than others. The latter is consistent with the EFFH view in that small individual investors are at a disadvantage in information acquisition abilities and/or resources; thus, they rely more on public information (Cready and Mynatt, 1991; Hakansson, 1977). Lee (1992) argues that the noise proxy

for investor classes leads to this mixed evidence, i.e., a large transaction size proxy for large investors, and a small transaction size proxy for small investors. The mixed evidence from prior studies necessitates a more precise proxy for investor classes; thus, rather than using a proxy for each class of investor, this study uses actual trades of each class of investor to examine their trading reaction to earnings announcement, as suggested by Perttunen, Schadewitz, and Vieru (2006).

The finding in the event study of each investor class shows that all investor classes exhibit abnormal net buying activity in both before and during the announcement period. This result reveals that forthcoming news (earnings announcement) stimulates investors to acquire private information (pre-event information) and to trade based on their private information. However, pre-event information does not subsume the usefulness of event-information (earnings announcement). Thus, investors also exhibit abnormal net buying activity during the announcement period.

The examination of the association between net buying activity in each investor class and unexpected earnings shows that institutional (sophisticated) investors, both domestic and foreign, exhibit the greatest earnings response coefficient while domestic individual investors (unsophisticated) exhibit the lowest earnings response coefficient. Moreover, dividing the institutional investors into domestic and foreign investors still gives the same results. That is, domestic institutional investors exhibit the greatest ERC while domestic individual investors show the lowest ERC.

The greatest ERC for sophisticated institutional investors attests to the usefulness of earnings information under balance sheet approach. The lowest ERC for unsophisticated individual investors is consistent with the notion that unsophisticated investors are unwilling to incur costs of learning accounting procedures; thus, they need not become proficient in accounting methodology to preserve or enhance the value of investments. Rather, they need only realize that they are uninformed about accounting procedures and, therefore, learn to rely on other sources of information (Tinic, 1990). The result is also consistent with the findings of Grinblatt and Keloharju (2000); and Barber and Odean (2008). They argue that increased individual trading around earnings announcement is the result of individuals trading on extreme price changes, and not information in the earnings announcement per se. Moreover, Taylor (2010) finds that individuals' trades around earnings announcement earn economically and statistically significant losses, and that these losses are significantly greater than the losses of non-announcement trades. He then concluded that these losses result from inefficient information processing.

The results are also consistent with those of Cready (1988), Lee (1992), and Kim et al. (1997) in that the usefulness of earnings information increases with wealth of investors because of return to scale and information processing ability. The finding in this study suggests that trading activity of individual investors (unsophisticated) are based less on information in accounting disclosure than that of institutional investors (sophisticated), so the disclosure itself is less relevant for individual than institutional investors. Thus, the results do not support both Functional Fixation Hypothesis (FFH) and Extended Functional Fixation Hypothesis (EFFH) but rather attest to the

usefulness of earnings information with the greatest ERC for sophisticated institutional investors.

Finally, this study further examines whether orienting more toward the balance sheet approach increases the value relevance of book value. Following Collins et al. (1997); King and Langli (1998); and Bailes et al. (2000), this study decomposes the total explanatory power of book value and earnings into the incremental component attributable to book value, the incremental component attributable to earnings, and the component common to both book value and earnings. The evidence in value relevance under the balance sheet approach shows the greater incremental value relevance of the book value than the incremental value relevance of earnings. In prior study, Bailes et al. (2000) present data in Thailand for the greater incremental value relevance of earnings than the incremental value relevance of book value in the period of income statement approach (1992-1996). The findings in this study are consistent with the finding by Collins et al. (1997) who suggested the shift in value relevance from earnings to book value. This finding is consistent with the view of balance sheet approach which emphasizes asset and liability valuation. Moreover, compared with Bailes et al. (2000), the value relevance of earnings is unchanged even after moving to the balance sheet approach.

In summary, this study is motivated by the revolution in the Thai accounting standards of 1999, especially the shift in the conceptual framework from the income statement approach to the balance sheet approach, which affects the earnings properties. The effect of regulation changes can be examined from investors' perspectives by comparing the extent of price reaction and volume reaction prior and

subsequence to the regulation change (Lev, 1988). The Stock Exchange of Thailand (SET) divides investors into three classes: foreign investors, domestic institutional investors, and domestic individual investors. To my knowledge, this study is one of the first attempts to use the actual trading data of these three classes of investors to analyze the usefulness of earnings by focusing on the earnings response coefficient of each class of investor. Thus, this study provides new insight into the examination of the usefulness of earnings information by investor class. The results indicate no change in the usefulness of earnings information after the accounting framework was oriented toward the balance sheet approach. The greatest ERC for institutional investors attests to the usefulness of earnings information and is unlikely to support earnings fixation hypothesis. Moreover, incremental value relevance of book value increases and incremental value relevance of earnings remains unchanged after moving to the balance sheet approach.

1.2 CONTRIBUTION

This study provides evidence of the usefulness of earnings information under the two conceptual frameworks and also focuses on investors' perspectives in measuring the usefulness of earnings information, thus focusing on the relationship between investor reaction (abnormal return and abnormal volume) and unexpected earnings surrounding the earnings announcement date. Although prior literature examines the relationship between abnormal return and abnormal earnings, no research has directly examined, until now, the relationship between abnormal return (volume) and abnormal earnings associated with the shifting in accounting conceptual framework. Thus, this study provides evidence of the usefulness of accounting

earnings in Thailand by comparing the usefulness of earnings information under the two approaches, i.e., the income statement approach and balance sheet approach.

First, this study contributes to the accounting standard setters by providing evidence of the changes in the usefulness of earnings information and value relevance of earnings and of book value after the change in the conceptual framework orientation. Thus, the empirical evidence will allow standard setters to decide what, if anything, should be done to address the situation. Second, this study contributes to information content literature by adding evidence to the effect of accounting regulation change on returns-earnings relationship. Third, this study also extends prior literature on information content by comparing the reactions among three classes of investors without noise proxies for investor classes. Instead of using transaction sizes as proxies for large and small investors, this study uses the actual trading activity of each class of investor based on the classification by the SET. Moreover, this study provides evidence of the association between trading activity for each class of investor and earnings information (earnings surprise). The results will both enhance our understanding of investors' behavior in utilizing accounting earnings information in their investment decisions and facilitate the drawing of a more complete picture of the usefulness of earnings information, especially in various classes of investors. Finally, results from this study indicate the usefulness of accounting information (both earnings and book value), thus encouraging all accounting information users, especially investors, to utilize accounting information in their investment decision.

1.3 STRUCTURE OF THE DISSERTATION

The study is divided into 7 chapters. Chapter I introduces the research and its motivation, objectives and contribution. Chapter II presents background of Thai Accounting Standard. Chapter III provides a literature review. Chapter IV discusses theory and hypothesis development. Chapter V presents the research design, including sample selection, data, model specifications, and variable measurement. Empirical findings, conclusions, and limitations are presented in chapters VI and VII.



CHAPTER II

THAI ACCOUNTING STANDARD

Thai Accounting Standards (TAS) and the Thai Auditing Standards were authorized by two professional organizations, i.e., the Institute of Certified Accountants and Auditors of Thailand (ICAAAT) and the Board of Supervision of Auditing Practice (BSAP). Before the 1997 crisis, TASs were based on either US Generally Accepted Accounting Principle (US GAAP), IAS or local criteria, as ICAAT believed them to be appropriate for the country. However, firms' financial statements were criticized as rarely complying fully with the national or international standards upon which they were based. Users of this information did not receive early warning signals about deteriorating financial conditions and were therefore unable to make timely adjustments. The lack of internationally acceptable practice in accounting was one cause of the poor disclosure and transparency that contributed to the 1997 crisis. In 1998, ICAAT promoted TAS as consistent with, or similar to IAS. However, in 1999, ICAAT issued ICAAT Announcement No.010/2540-2542, "Policy of Setting Thai Accounting Standards" so that IAS is now the main guideline for setting Thai Accounting Standards. If an issue is not covered by the international standards, US GAAP is considered the guideline.

The new law concerning accounting practice or the so-called "Accounting Profession Act B.E. 2547" became effective on October 23, 2004 and the Federation of Accounting Professional (FAP) was established in January 2005 to assume the responsibilities of the ICAAT. The newly established Federation of Accounting Professional (FAP) and the Accounting Professional Oversight Board (APOB) are the

offspring of the new legislation. The FAP is designed to act as a governing body with responsibilities such as licensing, registration, and drafting of conduct principles, while the APOB is the one who supervises the Federation's business and endorses Thai Accounting Standards. The law reflects a giant leap forward in efforts to enhance the quality of financial reporting (Kuntisook, 2008).

The Thai accounting conceptual framework was issued in 1999 to replace the fundamental accounting assumptions. The conceptual framework follows the International Accounting Standard (IAS) and is also oriented toward the balance sheet approach. At that time many standards were issued to replace the former standards. The new standards are moving away from the matching concept and more toward the balance sheet approach, especially toward fair value accounting. Prior to 1999, the fundamental accounting assumptions were used as significant principles in preparing financial reports. The fundamental accounting assumptions had been in use since 1979 and heavily based on the income statement approach until 1999. The matching concept was key to the Thai fundamental accounting assumptions as evidenced by the excerpt below:

“One of the significant functions of accounting is a matching of achievement (as measured by revenue) and effort (as measured by expense). The matching concept of expense and revenue represents a guideline to determine which transaction will be recognized as expenses in that particular accounting period. The procedure is first to recognize revenue in accordance with the concept of revenue recognition, and then recognize expense to match against the revenue.”

The Thai fundamental accounting assumptions used the cost concept in recording assets and liabilities as evidenced by the excerpt underneath:

“According to the cost concept, assets and liabilities are recorded on a historical cost basis i.e., an exchange value. Cost is a more appropriate indication of value than any other, as it is objective and can be computed in a straight forward manner, yet not subject to different individual judgments.”

However, these two assumptions were removed and the only two assumptions still remain in the new accounting conceptual framework are accrual and going-concern concepts. The changes in the properties of earnings likely happen because the balance sheet approach moves away from the matching concept and mandates various asset revaluations that result in an increasing number and magnitude of write-offs, “one-time” charges, and other nonrecurring items (Dichev, 2008). Examples are TAS 32: Property, Plant and Equipment; TAS 36: Impairment of Assets; TAS 40: Investment in debt and equity securities; and TAS 43 Business combination and the details are as below:¹

TAS 32: Property, Plant and Equipment (PPE) prescribes the accounting procedures for recognition, measurement, disclosure and other related issues of property, plant and equipment. After acquisition, an entity may choose to measure the PPE either: (a) at cost less accumulated depreciation and any accumulated impairment losses (cost model), or (b) at fair value (revaluation model). If fair value model is

¹ Angkarat Priebjrivat. The concise Thai Accounting Standards. The Stock Exchange of Thailand. 2005. Currently FAP has rearranged the Thai Accounting Standards to be consistent with IAS as shown in appendix B.

adopted, all assets within the same class of PPE must be revalued and updated consistently and regularly. Excess of fair value over cost of PPE should be directly credited to the revaluation surplus account in the equity. Decrease in fair value must be first deducted from the related revaluation surplus account in the equity; the remaining deficit, then, is recognized as loss in the income statement in the period incurred.

PPE are depreciated over their expected useful life. The expected residual value at the end of the asset's useful life is deducted from the asset's depreciable amount. The depreciation method and rate are reviewed annually. In case that the entity applies fair value model, the depreciable amount is re-estimated based on the new fair value and recognized in the income statement or in the production cost in the period incurred.

TAS 36: Impairment of Assets prescribes that an asset must not be carried in the financial statements at the amount higher than the recoverable amount through its use or sale. If the carrying amount exceeds the recoverable amount, the asset is determined impaired. The entity must reduce the carrying amount of the asset to its recoverable amount, and recognize an impairment loss in the period incurred. The standard also applies to group of assets (know as cash generating units)

TAS 40: Investment in debt and equity securities prescribes accounting treatments and disclosure of investments in certain debt and equity securities. At the time of acquisition, an entity recognizes all investments in securities at cost, and classifies all marketable securities, including both debt and equity securities, as

investments held for trading, or available for sale or held to maturity. All non-marketable equity securities are classified as the other investments. At the balance sheet date, investments in trading and available for sale securities are presented at fair value. The changes in fair value of trading securities are recognized in the income statement. Changes in fair value of available for sale securities are recognized as a separate item in the shareholders' equity. When there is an indication that an investment may be impaired, the entity must apply requirements of TAS 36: Impairment of assets.

TAS 43 prescribes the accounting treatment for an entity that undertakes a business combination (acquisition) to recognize the acquiree's identifiable assets and liabilities at their fair values in the acquirer's balance sheet. Any excess of the cost of the acquisition over the acquirer's interest in the fair value of the acquiree's net assets at the acquisition date is recognized as goodwill from the acquisition. The entity must test for goodwill impairment every year or more frequency and when there is an indication that goodwill may be impaired, the entity must apply requirements of TAS 36, Impairment of assets.

As discussed above, since 1999 the balance sheet approach has been the conceptual framework for standard-setting and financial accounting and firms are required to report earnings under this approach. The earnings under this approach are a "change in value" which is the change in a firm's stockholders' equity excluding transactions with the owners and is called "comprehensive income". The comprehensive income consists of net income as usually reported in the income statement and other comprehensive income which mainly consists of unrealized

holding gains or losses on available for sale securities, revaluation surplus of property, plant, and equipment, and foreign currency translation adjustments. However, TAS 35: Presentation of Financial Statement allows firm to issue either a statement of changes in stockholders' equity or a statement of comprehensive income. The mandate for issuing a statement of comprehensive income becomes effective in 2011; thus, a statement of comprehensive income is available only in some firms. Therefore, earnings from income statement are mainly used by investors. The earnings are likely to be affected by asset and liability revaluation related transactions that are directly recognized in the income statement. Examples of the transactions are the decrease in fair value of PPE (after deducted from the related revaluation surplus account in the equity) of TAS 32; impairment losses of TAS 36; and gains or losses on valuation of trading securities of TAS 40, especially in financial industry in which the earnings are more affected by TAS 40. Due to their normal operation, financial firms hold more marketable securities (i.e., investment held for trading) and firms are required to present the market securities at fair value².

Currently, FAP has rearranged the Thai Accounting Standards to be consistent with IAS. There are thirty TAS/IFRS that are in use at present, of which 24 correspond to IAS/IFRS and six do not, and three Thai Accounting Standard Interpretations (TSI). Details regarding the TAS are presented in the appendices. Appendix A presents the changes in Thai Accounting Standards in 1999 when the accounting conceptual framework emphasizing balance sheet approach was

² The examination which excludes financial firms provides the same results as full sample examination.

introduced.³ Appendix B presents the current TAS which corresponds to IAS/IFRS. Appendix C presents Thai Accounting Standard Interpretations (TSI).



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

³ Narktabtee (2000) provided this table in her dissertation.

CHAPTER III

LITERATURE REVIEW

3.1 THE USEFULNESS OF EARNINGS INFORMATION

Ball and Brown (1968) stated that “an observed revision of stock price associated with the release of the income report would thus provide evidence that the information reflected in income numbers is useful”. They empirically evaluated the usefulness of accounting earnings information and found investors’ reactions to annual earnings reporting. Afterward, many studies had examined the impact of accounting release on prices of securities (Brown and Kennelly, 1972; Joy et al., 1977; Beaver, Clarke, and Wright, 1979; Patell and Wolfson, 1979,1984; Beaver, Lambert, and Morse, 1980; Beaver, Lambert, and Ryan, 1987). The evidence suggests the relationship between abnormal returns and unexpected earnings around the earnings announcement date.

Beaver (1968) proposed the volume testing and argued that the relationships between price and volume were consistent with economists’ notion that volume reflected a lack of consensus regarding the price. The lack of consensus was induced by a new piece of information, i.e., the earnings report. The distinction between price and volume tests is that price test of earnings release reflects changes in the expectations of the market as a whole but volume test reflects changes in the expectations of individual investors. A piece of information may be neutral in the sense that it does not change the expectations of the market as a whole but it may greatly alter the expectations of individuals. In this situation, there would be no price reaction, but there would be shifts in portfolio positions reflected in volume. Beaver

was primarily concerned with whether the annual earnings announcement had “information content”. If there were any significant price changes and/or trading volume changes during the week of the announcement, then the annual earnings announcement was assumed to have had “information content”. Beaver found that the behavior of both the price reaction and volume reaction uniformly supported the contention that earnings reports possessed information content for individual investors and market as a whole.

Since Beaver (1968) a number of studies had examined the impact of accounting releases on trading volume (Kiger, 1972; Morse, 1981; Bamber, 1986, 1987; Ziebart, 1990). Kiger (1972) observed similar results to Beaver’s (1968) by examining price changes and volume changes during the three days surrounding quarterly earnings announcements. Morse (1981) argued that trading could occur prior to and after the public announcement as significant price changes. Rather than determining the existence or non-existence of information content in accounting announcement, Morse (1981) used daily data to examine when the market reacted relative to an earnings announcement and found that the most significant price change and excess trading volume occurred the day prior to and the day of the Wall Street Journal announcement. Bamber (1987) found that both magnitude and duration of the trading volume reaction to quarterly (with Bamber (1986) providing annual evidence) earnings announcements were increasing functions of unexpected earnings and decreasing functions of a factor affecting the availability of pre-disclosure information, e.g., firm size. Even after controlling for the firm size, unexpected earnings were still positively related to the magnitude and duration of the trading volume reaction. Ziebart (1990) further suggested that the degree of change in

abnormal trading activity was positively related to the degree of differing beliefs, as proxied by analysts' dispersion.

The evidence in price and volume reaction suggests that investors respond to the earnings information. This implies that the information reflected in income numbers is useful as suggested by Ball and Brown (1968) and Beaver (1968). In addition, Cready and Hurtt (2002) suggested that trading-based analysis was more powerful tests of investors' response to information event. Therefore, to conclude that investors do not respond to a public disclosure based on return analysis, researchers should confirm the non-response inference with trading-based measures to avoid wrong inference. Hence, this study investigates the usefulness of earnings information by observing both price and volume reactions to earnings announcement.

3.2 OVER TIME CHANGES IN THE INFORMATION CONTENT OF EARNINGS INFORMATION

Prior literature provides evidence that there is an increase in the information content of earnings announcement over time. Landsman and Maydew (2002) examined changes in the information content of earnings over the past three decades using two metrics, i.e., abnormal trading volume and abnormal return volatility. The evidence suggests an increase in over time informativeness of quarterly earnings announcement. Francis et al. (2002a, 2002b) found evidence consistent with Landsman and Maydew's (2002) in that the usefulness of earnings announcement, as measured by their absolute market responses, increases over time.

However, Francis et al. (2002a) documented that the increase over time in the magnitude of the market reaction is not attributed to an increase in the absolute amount of unexpected earnings conveyed in the announcement or to an increase in the intensity of investors' average reaction to a given piece of earnings information, but to the concurrent disclosures, especially the inclusion of detailed income statements. This explains an increase in the absolute market reactions to earnings announcement. In contrast, they found an overtime decline in the relation between unexpected returns and unexpected earnings as measured by the earnings response coefficient (ERC) over time. In addition, Lo and Lys (2001) found a decline in the usefulness of earnings over time. They examined the explanatory power of unexpected earnings information in explaining abnormal return volatility at earnings announcement. They found a decline in explanatory power of earnings, the evidence supported by Francis et al.'s (2002a).

The evidence in over time changes in information content of earnings announcement suggests the increase in market response to earnings announcement (abnormal return or abnormal volume). However, this increase in market reaction does not attribute to the increase in the informativeness of earnings. This study focuses on the informativeness of earnings information; thus, rather than using absolute market reaction (abnormal return or abnormal volume) to the announcement, this study uses the magnitude of relation between unexpected returns and unexpected earnings (Earnings Response Coefficient) to test the over time changes in the usefulness of earnings. The earnings response coefficient explains the intensity of investors' reactions per unit of unexpected earnings.

3.3 *CHANGES IN VALUE RELEVANCE OF EARNINGS*

The value-relevance literature assesses whether particular accounting amounts reflect information that is used by investors in valuing firms' equity. The literature provides evidence of the decline in value-relevance of earnings. Collins et al.(1997) investigated the changes in the value-relevance of earnings and book values over the past forty years. They found that the incremental value-relevance of bottom line earnings declined and shifted to book value. They documented that this shift in value relevance could be explained by the increasing frequency of negative earnings, changes in average firm size and intangible intensity across time, and the increasing frequency and magnitude of one-time items. This is consistent with the arguments by Dechev (2008) and Dichev and Tang (2008) who argued that during the last 40 years, the volatility of reported earnings doubled and the persistence of earnings was down by a third while little had changed in the properties of the underlying business fundamental.

The evidence in Francis and Schipper's (1999) is consistent with Collins et al's (1997). They assessed the change in value-relevance of financial statements over time. The finding showed that there was no systematic evidence that financial statements had lost their value-relevance over the forty-year period but they found the decrease in explanatory power of earnings over time. Test results of both high-technology and low-technology firms were similar to the findings for the full sample, suggesting that the high-technology firms had not experienced a greater decline in relevance than the low-technology firms.

However, Lev and Zarowin (1999) documented a systematic decline in the usefulness of financial information to investors over the past 20 years and found a weakening association between capital market values (stock price/return) and key financial variables, i.e., earnings, cash flows, and book value. They attributed their finding of decreased relevance of financial information to both the increased importance of unreported intangible assets and the failure of the financial reporting model to keep pace with and reflect the increased rate of change in the business environment.

In summary, the evidence in the value relevance literature suggests the decline in value relevance of earnings. One can infer from the literature that earnings decline in their informativeness. An additional test of value relevance in this study by examining value relevance of book value and earnings under the period of balance sheet approach which focuses on asset and liability valuation should exhibit greater value relevance of book value than earnings.

3.4 FUNCTIONAL FIXATION HYPOTHESIS (FFH) AND EXTENDED FUNCTIONAL FIXATION HYPOTHESIS (EFFH)

Functional Fixation Hypothesis (FFH) suggests that investors interpret accounting information without regard for the rules used to arrive at the information (Ijiri, Jaedicke, and Knight, 1966; Ball, 1972; Watts, 1982; Watts and Zimmerman 1986). It implies that investors treat a dollar of earnings the same irrespective of the structure of the earnings components. The empirical accounting and behavioral finance literature has documented the fixation of investors on bottom line accounting numbers, especially accounting earnings. Sloan (1996) documents that accruals are

negatively correlated with future returns, called “the accrual anomaly”. Sloan hypothesizes that accrual anomaly is due to mispricing, as investors fixate on reported earnings and fail to appreciate the lower persistence of accruals. Xie (2001) finds that the correlation with future abnormal returns is higher for discretionary accruals, a less persistent component of accruals, than that for total accruals. Richardson et al. (2005) examine the accrual components and confirm that less reliable accrual components are more strongly correlated with future abnormal returns. Shi and Zhang (2007) argue that, if investors fixate on reported earnings, future returns are related to not only accruals but also the responsiveness of the stock price to earnings (measured by earnings response coefficient: ERC). They find evidence to support the earnings fixation hypothesis. Other studies examine the differential market valuation of recognized versus disclosed accounting numbers even though they provide investors with the same information (e.g., Aboody, 1996; Barth et al., 2003). These results are consistent with fixation on bottom line recognized numbers.

However, all investors are not fixated on earnings as suggested by Hand (1990). Hand proposed the Extended Functional Fixation Hypothesis (EFFH) in which the stock price reaction to accounting data depends on the relative proportion of a firm’s stock held by sophisticated and unsophisticated investors. He argues that unsophisticated investors are functionally fixated and thus fail to unscramble the true cash flow implications of accounting data. Consequently, sometimes a firm’s stock price is set by unsophisticated marginal investors who are fixated on earnings. Lev and Nissim (2006) documented the persistence of accrual anomaly due to information processing and transaction costs in trading of unsophisticated individual investors.

Thus, unsophisticated investors fixate on reported earnings and fail to recognize the lower persistence of accruals.

Sophisticated investors, especially institutional investors, behave differently from other, less-well informed (unsophisticated) investors. Sophisticated investors who are superior in abilities always accurately unscramble the true cash flow implications of accounting data. Price (1998) found that informed investors appear to make greater use of accounting disclosures and non-earnings information to form more precise earnings expectations. Economic incentives are potentially important. Sophisticated institutional investors have large investment portfolios and therefore have much more to gain or lose from their investment decisions. Furthermore, the costs of engaging in in-depth firm analysis are lower for institutions, in part because of their superior access to databases and analytical tools (Bonner, Walther and Young, 2003). In conclusion, sophisticated institutional investors are more informed and more superior in abilities to gather and process information. Thus, trading activity of sophisticated investors associated with earnings information can attest to the usefulness of earnings information.

3.5 INVESTOR HETEROGENEITY

3.5.1 *Sophisticated and unsophisticated investors*

The finance literature presents evidence which supports that investors differ. The difference between investors is found to be attributable to their information level, and this information level refers to skill, ability, and resources. It refers, in addition, to the investors' available investment tools and management guidelines (Hakansson, 1977; Clements, 1999; Bernard and Thomas, 1989, 1990; and Bhattacharya, 2001).

The difference in information level can result in the variation of sophistication of investors, which in turn affects an investor's ability to extract value-relevant information from public sources. Given their advantage, sophisticated investors are apt to learn more from public information and thus likely to become informed investors (Indjejikian, 1991; Bushman, Gigler, and Indjejikian, 1996; Fisher and Verrecchia, 1999).

Institutional investors have large investment portfolios and therefore have much more to gain or lose from their investment decisions. Furthermore, the costs of engaging in in-depth firm analysis are lower for institutions, in part because of their superior access to databases and analytical tools (Bonner et al., 2003). These economic incentives and the advantage in lower cost of gathering information and higher information processing ability make institutional investor more informed and sophisticated. The evidence of investor performance also supports the superior performance of institutional investor. Grinblatt and Keloharju (2000) argued that sophistication of the investor is associated with investors' performance. They found foreign investors who have often professionally managed fund or investment banking houses (institutional) achieve superior performance while Finnish households exhibit inferior performance. Taylor (2010) investigated whether individual investors benefit from trading around earnings announcement. He finds that individuals' trades around earnings announcement earn economically and statistically significant losses. He further suggests that losses around earnings announcement are attributable to inefficient information processing. In addition, on the basis of information asymmetry, behavioral finance literature concludes that it is the institutional investor who is the better informed and in turn the more sophisticated trader (De Bondt, 1998).

In summary, the superiority in skill, ability, resources, and performance implies that institutional investors are more informed and more sophisticated than individual investors.

3.5.2 *Investors' reactions by classes of investors*

Since Beaver (1968), many studies have examined the impact of accounting releases on trading volume under the assumption of *homogeneous market participants* (Sample studies being Bamber, 1986, 1987; Ziebart, 1990; Ajinkya, Atiase, and Gift, 1991). However, investors may not be homogeneous; instead, they are heterogeneous. The source of heterogeneity may come from differences in preferences (i.e., risk aversion), differences in endowments, differences in information, and differences in sophistication. The heterogeneity of investors may result in differences in the processing of accounting information and then reaction.

As argued by Lev (1988), the usefulness of accounting information differs across various classes of investors, which implies that trading volume reactions of heterogeneous traders such as institutions and individuals may differ due to the information asymmetry between institutions (informed) and individual (uninformed). Thus, he emphasized the importance of focusing on investor classes. Kim and Verrecchia (1991a, 1991b) provided analytical research supporting Lev's argument. They documented that heterogeneous attributes among investors, such as differential private information and different degrees of risk tolerance, were closely associated to differences in trading reactions to public announcement. Cready (1988) provided the empirical evidence in trading response to earnings announcement. He found that the mean transaction size increased during the announcement period and concluded that

information value increased with wealth of investor. Lee (1992) provided similar evidence using intraday transaction data. Lee found that the volume reaction in small trades was weaker than the reaction in large trades. Kim et al. (1997) hypothesized that if institutional investors were indeed more responsive to earnings announcement at the firm level, the positive relation between abnormal trading volume and the fraction of institutional ownership should exist. They found this evidence which is consistent with Cready's (1988) and Lee's (1992).

In addition, Cready and Mynatt (1991) who examined the securities market responses around annual report release dates found no evidence of price response and little evidence of a volume of shares response, but found that the number of transactions increased significantly around the annual report dates. Contrary to the study of Cready (1988), the analysis of trading response stratified by transaction size shows evidence that the trading response occurs mostly with the smallest size strata. The finding of Cready and Mynatt (1991) is consistent with Hakansson's (1977) in that it suggests that small investors rely on the public information system (i.e., the annual report) while large investors rely more on pre-disclosure information in making investment decisions.

Prior studies infer the trading behavior of various types of investors by using trade size or institutional ownership as a proxy. Lee (1992) and Lee and Radhakrishna (2000) argued that trade size was not necessarily a good indicator of whether the trader was an individual or institution, nor whether the trader was sophisticated. These arguments were consistent with some evidence which indicated that sophisticated investors split orders and made smaller trades to reduce price impact of their trade

when they disagreed with the market price (Barclay and Warner 1993; Bernhardt and Hughson 1997; Diether, Lee, and Werner, 2007). Campbell, Ramadorai, and Vuolteenaho (2005) provided evidence that institutions tended to make both very large and small trades, while individuals tended to make medium-sized trades.

According to the theoretical work by Hakansson (1977), investors have varying information acquisition abilities and/or resources and their information acquisition patterns might also be diverse. The differences in ability and /or resource of each class of investor lead to differences in the information content of announcements. Hakansson further suggested that small investors tend to use final information sources.

Focusing on the difference in ability in information acquisition between foreign and domestic institutional investors¹, Brennan and Cao (1997) presented a model in which local and foreign investors have different endowments of information about the local stock market. It is often thought that information asymmetry works against foreign investors because of the difficulty of obtaining information about investment prospects in a distant location. Kim and Yi (2008) suggested that in emerging markets corporate governance was relatively weak and corporate ownership was highly concentrated in the hands of a few controlling shareholders or founding family members. A firm's affiliation with large business groups was prevalent and internal transactions among related parties were common. Moreover, value-relevant

¹ Bailey, Mao, and Sirodom (2007) suggest that most of foreign investors in Thailand are institutional investors.

(inside) information was often shared exclusively within the closely held network of related parties, including corporate insiders, affiliated or subsidiary firms within the same business group, substantial shareholders, main creditors, major customers, and suppliers. In this environment, domestic institutional investors are more likely to have informal channels through which they can communicate with insiders (CEO, board members, and controlling shareholders), compared with foreign investors. As a result, foreign investors are likely to be informationally disadvantaged in the local market compared with domestic institutions. Foreign investors may have to bear relatively high information costs to overcome this disadvantage. However, Grinblatt and Keloharju (2000) and Seasholes (2004) argued that foreign institutional investors have better resources, better experience, more access to expertise, and analytical talent. In summary, the differences in abilities and/or resources of each class of investor result in information asymmetry and subsequently in varying information content of announcement.

3.6 EARNINGS INFORMATION CONTENT IN THAILAND

In Thailand, Vacharajittipan (1991) is the first who examined the usefulness of accounting earnings in Thailand. She investigated the information content of quarterly accounting earnings announcement of the Thai stock market over the period from 1986 to 1990. By splitting the sample into two portfolios (good and bad earnings news), she concluded that there was information content of quarterly earnings announcement in Thailand. She also investigated the association between return and earnings and found a positive relationship between positive unexpected earnings and stock prices, but a negative relationship between negative unexpected earnings and stock prices.

Srisawadi (1996) extended Vacharajittipan's (1991) by examining an association between stock price changes and unexpected earnings during a long term period (twelve months) and testing whether returns-earnings relationship changed over time. The overall evidence from Srisawadi (1996) suggested that market reacted positively to the information contained in the quarterly earnings announcement. In testing whether returns-earnings relationship had changed over time, the author found the earnings association coefficient in the period of 1980-1985 to be insignificant and the earnings association coefficient in the period of 1986-1991 significant. The author stated that the findings resulted from the continuing improvement in accounting standards and market regulations, which contributed to the improvement in earnings quality over time.

Narktabtee (2000) investigated the incremental information content of earnings and cash flows from operation during the period of 1994-1997. The finding indicated that earnings provided incremental information content beyond cash flows. The evidence in information content of earnings suggested the positive relationship between abnormal return and earnings information in terms of both change and level of earnings. She also examined the effect of characteristics of earnings and cash flows from operation on their information content and found that both earnings and cash flow permanence had a positive effect on their information content.

This study will extend prior literature by comparing the differences in usefulness of earnings information under the income statement and balance sheet approaches. This study further examines the differences in usefulness of earnings

information among three classes of investors, which facilitate the drawing of a more complete picture of the implication of earnings announcement.



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CHAPTER IV

THEORY AND HYPOTHESIS DEVELOPMENT

4.1 THEORETICAL RELATION BETWEEN STOCK PRICES AND EARNINGS

Beaver (1989) developed a theoretical link between accounting earnings and stock prices. The theory linking the firm's earnings numbers to changes in the firm's market value (i.e., stock returns) is based on three assumptions about the information contained in earnings and share prices. Nichols and Wahlen (2004) described the three links relating earnings to stock returns as follows: First, the theory assumes that earnings (or more broadly, financial reporting) provide information to equity shareholders about current and expected future profitability. Second, the theory assumes that current and expected future profitability provides shareholders with information about the firm's current and expected future dividends. Third, the theory assumes that the share price equals the present value of expected future dividends to the shareholder. These three links imply that new accounting earnings information that triggers a change in investors' expectations of future dividends should correspond with a change in the market value of the firm. To test these theories with empirical data, researchers examine the associations between accounting earnings numbers and share prices (encompassing links 1-3), as well as the associations implied by each of the three links. Nichols and Wahlen (2004) illustrated these theoretical links in Figure A and described in more detail below.

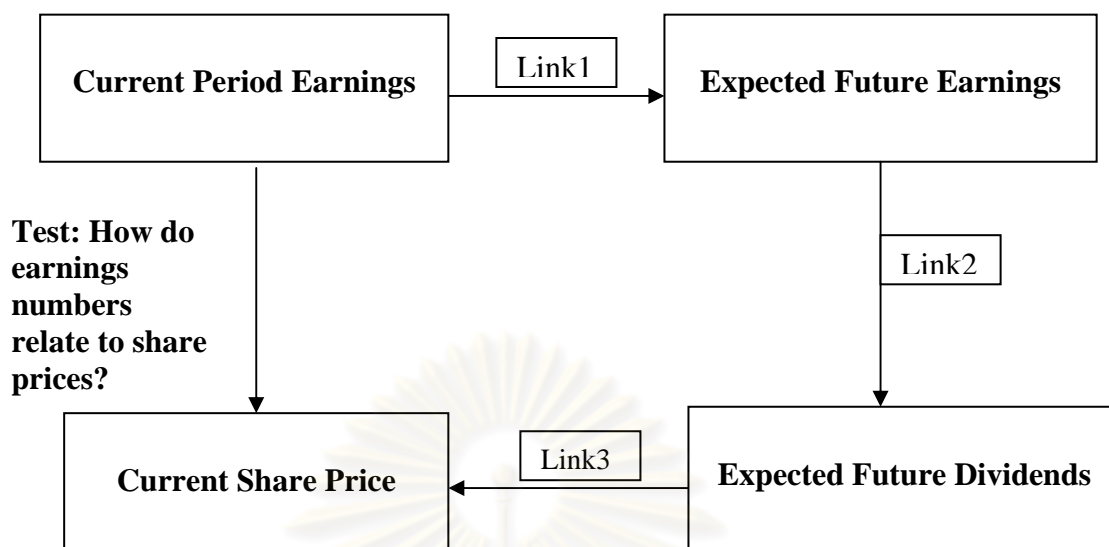


Figure A. The three links relating earnings to stock returns

Link 1 in the three-link framework assumes that the current period earnings number provides two important elements of information useful for developing dividend expectation: (1) information about current period wealth creation and (2) information about future earnings. First, firms measure earnings using accrual accounting principles, which measure the effects of transactions and events on shareholders' equity (apart from capital transactions with shareholders). Therefore, the current period earnings number summarizes important information about the wealth created by the firm for equity shareholders during the period. Second, current period earnings and related financial statement data provide useful information to predict future earnings. For example, firms' income statements commonly distinguish between operating income, which captures the results of the firms' ongoing operations that will likely recur in the future, and special items (e.g., nonrecurring gains or losses, extraordinary items, and discontinued operations), which are not part of

ongoing operations and therefore are less likely to affect the firms' performance in the future periods. In fact, firms depend on financial reporting to convey credible information about their ability to generate future wealth for equity shareholders and other stakeholders.

Link 2 in the three-link framework assumes that current and future earnings represent wealth created by the firm that will ultimately be distributed to equity shareholders through dividends. Thus, current earnings and forecasts of future earnings indicate future dividend-paying ability, which shareholders can use to develop expectations of future dividends. Shares of stock entitle the shareholders to share in any dividend distributions. Link 3, therefore, represents the classical approach to equity valuation, which views share value as the present value of the future dividends the shareholder expects to receive over the remaining life of the firm. Current period earnings numbers (and related financial reports) provide the shareholders with information to develop expectations for those future earnings, which aid in developing expectations of future dividends, which ultimately form the basis for share value. These three links from current earnings to future earnings to future dividends to share value provide an intuitive framework for understanding the relationship between earnings and share value.

The three-link framework predicts that current earnings are related to current share prices. However, the intensity of relationship between current share prices and current earnings is dependent on how much of the current and past earnings are expected to persist in the future earnings expectation. If changes in the conceptual framework orientation and the accounting standards cause earnings to become more

volatile and less persistent, this framework predicts that the relationship between current share prices and current earnings is weakening.

Moreover, there are two hypotheses for predicting investor reaction to earnings disclosure: Efficient Market Hypothesis (EMH) and Functional Fixation Hypothesis (FFH). The EMH claims that securities prices would react to disclosure of accounting earnings only if these numbers contain information about unexpected changes in the probability of distribution of future cash flows of the firm and thus accounting earnings contain useful information about cash flows. An important suggestion of the EMH is that investors learn to distinguish between changes in reported accounting numbers that are caused by fundamental economic factors that affect cash flows and those that are prompted purely by accounting methods. Thus, if earnings lose their forward looking information, investors will rely less on earnings information

In contrast to the EMH, the FFH maintains that individual investors interpret accounting information without regard for the rules used to arrive at the information (Ijiri et al., 1966; Ball, 1972; Watts, 1982; Watts and Zimmerman 1986). It implies that investors treat a dollar of earnings the same irrespective of the structure of the earnings.

4.2 INFORMATION ASYMMETRY

The information asymmetry hypothesis suggests that at least some relevant information is known to some but not all parties involved. The theoretical work by Hakansson (1977) demonstrated that when investors had varying information

acquisition abilities and/or resources, their information acquisition patterns might also be diverse. Hakansson further suggested the difference in information acquisition abilities and/or resources led to differences in the information content of announcement.

The models by Kim and Verrecchia (1991a, 1991b, 1994, 1997) and by Demski and Feltham (1994) showed that investors were asymmetrically informed before the anticipated announcements. They also documented that the asymmetry may increase since a forthcoming public announcement stimulates rational investors to acquire private information. Moreover, the asymmetric information models of Brennan and Cao (1997) and Brennan, Cao, Strong, and Xu (2005) suggested that less informed investors are more sensitive to new information and, consequently, respond more elastically to new information than informed investors. Hence, information asymmetry before public news leads to differences in information content of announcements among classes of investors.

4.3 HYPOTHESES

The theoretical links developed by Beaver (1989) suggests the relationship between accounting earnings and stock prices. This study hypothesizes that there is a relationship between stock returns and earnings. However, in the first link of Beaver's (1989) framework, the relationship between future earnings and current earnings is represented in terms of the stochastic process that is perceived to be describing earnings over time. Many studies have suggested the processes that are perceived to govern the time series behavior of accounting (e.g., Miller and Rock, 1985; Kormendi and Lipe, 1987; Collins and Kothari, 1989; and Easton and Zmijewski, 1989). Under

this perspective, events occurring within a particular period may be transitory and not be expected to have the same impact on earnings in subsequent periods. Thus, the link between current earnings and future expected earnings will depend on how much of the current and past earnings are expected to persist in the future earnings expectation. This means that persistence of earnings affects the relationship between return and earnings.

In addition, Dichev and Tang (2009) argued that earnings volatility arose from two factors, i.e., volatility due to economic shocks and volatility due to problems in the accounting determination of income. Dichev and Tang (2008) suggested that moving away from the matching concept and toward the balance sheet approach led to an increase in earnings volatility and a decrease in earnings persistence. Thus, this study hypothesizes that there are differences in the relationships between unexpected returns and unexpected earnings (earnings response coefficient: ERC) under the income statement and balance sheet approaches. Specifically, there is a decline in the ERC after moving toward the balance sheet approach. The first and second hypotheses are presented as follows:

H1: Earnings response coefficient under the balance sheet approach is lower than that of the income statement approach.

H2: There is a decrease in the earnings response coefficient over time.

The theoretical argument in prior studies suggested that there are heterogeneous attribute among investors. They have varying information acquisition abilities and/or resources and the differing availability of investment tools and

management guidelines. Thus, they have different private information and asymmetry informed before public announcement (Hakansson, 1977; Lev, 1988; Kim and Verrecchia, 1991a, 1991b, 1994, 1997 and Demski and Feltham, 1994). Private information led investors to trade before the announcement to exploit their private information. More informed investors also possess more precise signals and higher quality information because they are more sophisticated (De Bondt, 1998). Therefore, the information asymmetry theory implies that more informed and sophisticated investors exploit their trading before public news release and rely less on such public announcement (Udpa, 1996; Brennan and Cao, 1997; Brennan, et al., 2005; Baik, Kang, and Kim, 2010). Moreover, if earnings are less useful, the more informed and sophisticated investors who are not fixated on earnings information should rely less on earnings information. Hence, this study examines the usefulness of earnings information during announcement period in each investor class and compares usefulness of earnings information between each pair of classes based on their information advantage and sophistication.

First, this study compares domestic individual investors with institutional investors. Lev (1988) argued that individuals (representing small investors) were less informed than institutions (representing large investors) because institutional investors tended to have lower marginal costs with respect to information gathering. Thus, domestic individual investors relied more on public information than did domestic institutional investors. Moreover, the extended functional fixation suggested that unsophisticated individual investors are fixated on earnings (Hand 1990); thus, individual's trading is more associated with public information. According to Bailey et al. (2007), most foreign investors in Thailand were domestic institutional investors.

Thus, this study first combines domestic institutional investors and foreign investors as institutional investors, compares the ERC of domestic individual investors and that of institutional investors, and predicts that during announcement period the earnings response coefficient of domestic individual investors will be higher than that of institutional investors. The third hypothesis is as follows:

H3: The earnings response coefficient of domestic individual investors is higher than that of institutional investors.

However, domestic institutional investors and foreign investors differ in their information advantages (Kim and Yi, 2008; Brennan and Cao, 1997; Baik et al., 2010). Therefore, this study also compares earnings response coefficient of domestic individual investors with those of domestic institutional investors and foreign investors. As documented by Bailey et al. (2007), most foreign investors in Thailand were the institutional investors. Hence, compared with domestic individual investors, foreign investors had better resources, better experience, more access to expertise, and analytical talent (Grinblatt and Keloharju, 2000; Seasholes, 2004). Thus, foreign investors are more informed and more sophisticated but rely less on public information than do domestic individual investors, leading to a lower relationship between their trading activity and earnings information. This study expects that the earnings response coefficient of domestic individual investors will be higher than that of foreign investors. The hypotheses 3a and 3b are presented as follows:

H3a: The earnings response coefficient of domestic individual investors is higher than that of domestic institutional investors.

H3b: The earnings response coefficient of domestic individual investors is higher than that of foreign investors.

Between domestic institutional investors and foreign investors, the latter might have disadvantages in gaining access to private information that corporate insiders have vis-à-vis the former, especially in countries that have weak corporate governance (Kim and Yi, 2008). Brennan and Cao (1997) suggested that information worked against foreign investors because of the difficulty in obtaining information about investment prospects in a distant location. In addition, Baik et al. (2010) examined the informational role of geographically proximate institutions in a stock market and they found evidence consistent with informed trading of local institutional investors. They suggested that local institutional investors possessed private information about the future prospects of firms which allowed them to exploit their informational advantages. Thus, compared to local institutional investors, foreign investors relied more on earnings information, leading to a higher relationship between their trading activity and earnings information. This study predicts that the earnings response coefficient of foreign investors will be higher than that of domestic institutional investors. The fourth hypothesis is the following:

H4: The earnings response coefficient of foreign investors is higher than that of domestic institutional investors.

CHAPTER V

RESEARCH DESIGN

5.1 DATA AND SAMPLE SELECTION

The sample includes all firms listed in the Stock Exchange of Thailand with the following criteria:

1. Returns and earnings information are available on Data-Stream.
2. Volume and trading activity (buy and sell) are available on market micro structure from the Stock Exchange of Thailand (SET).
3. Announcement dates are available on Set-Smart.

The sample period for testing the differences in ERC's under the two approaches covers 1995 to 2008. The income statement approach is from 1995 to 1998 and that of the balance sheet approach from 1999 to 2008. This study, however, excludes the 1997 to 1998 financial crisis period. The sample period for testing the differences in ERC's among three classes of investors is based on the data available on market micro structure from SET, which are from 2000 to 2008.

5.2 METHODOLOGY

5.2.1 Event study

This study employs the event study to detect the information content of earnings and to measure both price and volume reactions. The t-statistic is employed to test the significant abnormal returns and abnormal volumes.

5.2.1.1 Estimation window

In order to measure the abnormal returns, the market adjusted returns are used to estimate the expected returns and the estimation window (non-event period) starts from 249 trading days before event window (similar to Atiase and Bamber 1994; Kross, Ha, and Heflin, 1994; Bamber, Barron, and Stober, 1997). The same estimation window is used in the estimation of the expected volume.

5.2.1.2 Event window

Three event windows will be employed in this study, i.e., (-1, +1), (-15, -1), and (+1, +15). The (-1, +1) return window is designed to test whether there is an instantaneous market reaction to the announcement of earnings. The (-15, -1) window is designed to test whether there is an anticipatory price change to quarterly earnings information prior to the announcement date and to capture investor behavior if there is information leakage. The (+1, +15) window is designed to check how much of the market reactions persist and to capture the investor behavior after an announcement (Srisawasdi, 1996).

5.2.2 Association study

This study investigates the relationship between returns and earnings in the short window and compares this relation between the two accounting conceptual frameworks. Cumulative abnormal return and cumulative abnormal volume are calculated over the three days around earnings announcement date (Landsman and Maydew, 2002).

5.3 VARIABLE MEASUREMENT

5.3.1 Unexpected earnings

Unexpected earnings (UE) are the actual quarterly earnings subtracted by expected earnings which derive from the two models, i.e., seasonal random walk without drift model (SRW) and industry adjusted model. This study will employ the absolute value of the expected earnings as the deflator, following the method used in prior studies (e.g. Foster, Olsen, and Shevlin, 1984; Collins and Kothari 1989).

$$UE_{it} = \frac{E_{it} - \hat{E}_{it}}{\left| \hat{E}_{it} \right|}$$

Where UE_{it} = Unexpected quarterly EPS for firm i in quarter t

E_{it} = Reported EPS for firm i in quarter t

\hat{E}_{it} = Expected EPS for firm i in quarter t

5.3.1.1 Earnings expectation

Although prior studies suggest that analysts' forecasts are more accurate in providing earnings expectation, the availability of analysts' forecast in Thailand, especially on quarterly forecasts, is limited. Thus, this study employs two earnings expectation models, i.e., seasonal random walk without drift model (SRW) and industry adjusted model.

Seasonal random walk without drift model (SRW)

The seasonal random walk without drift model is used by many researchers, for example, Brown and Kennelly (1972), and Foster (1977), as an earnings

expectation model. This model assumes a seasonal pattern in quarterly earnings as follows:

$$\hat{E}_{it} = E_{i,t-4}$$

Let E_{it} be reported earnings per share (EPS) for firm i and \hat{E}_{it} be expected EPS for firm i in quarter t .

Industry adjusted model

The industry adjusted model is employed as an earnings expectation to mitigate industry effect (Ayers and Freeman, 1997). The industry adjusted model is calculated by subtracting the median of earnings per share in year $t-1$ quarter i for industry j from the firm's earnings per share in year t quarter i .

5.3.2 *Market reaction measurement*

5.3.2.1 *Cumulative abnormal return (CAR)*

CAR is calculated as the summation of abnormal returns during the event period as below:

$$CAR_{it} = \sum_{i=1}^{\tau} AR_{it}$$

Where CAR_{it} = Cumulative abnormal return of firm i at time t

AR_{it} = Abnormal return of firm i at time t

Abnormal return is calculated as below:

$$AR_{it} = R_{it} - \hat{R}_{it}$$

Where R_{it} = Daily return of firm i at time t

\hat{R}_{it} = Expected daily return of firm i at time t

The expected return is estimated during estimation window by the market model as follows:

$$R_{it} = a_0 + b_1 R_{mt} + u_{it}$$

Where R_{it} = Daily return of firm i at day t

R_{mt} = Daily market returns at day t

5.3.2.2 Cumulative Abnormal Volume (CAV)

CAV is calculated as the summation of abnormal volumes during the event period as below:

$$CAV_{it} = \sum_{i=1}^{\tau} AV_{it}$$

Abnormal volume is then estimated as:

$$AV_{it} = V_{it} - \hat{V}_{it}$$

Where V_{it} = Daily volume traded of firm i at time t

\hat{V}_{it} = Expected daily volume traded of firm i at time t

As noted by Bamber et al. (1997), “there is no generally accepted method of measuring unexpected (or abnormal) trading volume”. As a result, this study uses several measurements including market-adjusted daily trading volume, mean-adjusted daily trading volume, and median-adjusted daily trading volume.

Market-adjusted trading volume

$$V_{it} = a_{it} + b_{it} V_{mt} + u_{it}$$

Where V_{it} = firm's relative trading volume (No. of shares of firm i traded in day t / No. of shares outstanding for firm i on day t)

V_{mt} = SET relative trading volume (No. of shares traded for all SET firms in day t / No. of shares outstanding for all SET firms in day t)

u_{it} = volume residual for firm i on day t

Median-adjusted trading volume, Mean-adjusted trading volume

Following Bamber (1987), Atiase and Bamber (1994), and Bamber et al. (1997), this study first calculates the median (mean) daily percentage of shares traded for a specific firm during the non-event period, and then subtracts the median(mean) non-event percentage of shares traded from the firm's percentage of shares traded in the event window.

5.3.2.3 Cumulative net buying activity (CNetBuy)

In this study, investors are divided into three classes following the classification by the Stock Exchange of Thailand (SET). Three classes of investor are as follows:

1. Domestic individuals
2. Domestic institutional investors
3. Foreign investors

To investigate the reactions of these three classes of investors, this study uses net buying activity which is abnormal buying subtracted by abnormal selling activity. The advantage of using trading activities is that they provide more details of trading behavior of each class of investor; for example, what type of news (good/ bad news)

leads specified class of investor to buy or sell securities. Cumulative net buying activity is calculated as follows:

$$CNetBuy_{it}^j = \sum_{i=1}^T (ABUY_{it}^j - ASELL_{it}^j)$$

Where $CNetBuy_{it}^j$ = Cumulative abnormal net buy activity for firm i of

investor class j at quarter t

$ABUY_{it}^j$ = Abnormal buying activity for firm i of

investor class j at quarter t

$ASELL_{it}^j$ = Abnormal selling activity for firm i of

investor class j at quarter t

In order to model the abnormal trading activity, this study employs the mean-adjusted model. This measurement follows Perttunen et al. (2006). Moreover, this approach can mitigate the possible heteroscedasticity.

$$ABUY_{it}^j = \frac{BUY_{it}^j}{\frac{1}{57} \sum_{t=-60}^{-4} BUY_{it}^j} - 1$$

$$ASELL_{it}^j = \frac{SELL_{it}^j}{\frac{1}{57} \sum_{t=-60}^{-4} SELL_{it}^j} - 1$$

Where BUY_{it}^j = Buying activity of investor class j at time t

$SELL_{it}^j$ = Selling activity of investor class j at time t

Net buying activity may be interpreted as the abnormal buy-sell imbalance as a fraction of total non-event trades.

5.3.3 Control variables

The predictability of earnings and various firm-level characteristics systematically affect the relation between unexpected returns and unexpected earnings. The following are control variables which are included in the regression to mitigate these influences on measurement of the earnings response coefficient.

Time (TIME)

Landsman and Maydew (2002) documents an upward trend in abnormal return and abnormal volume. This study include a time trend variable, *TIME*, which takes on value year t less 1994, to allow for possible time trends in abnormal return and abnormal volume.

Firm size (SIZE)

Bamber (1986, 1987) documented the negative relationship between trading volume and firm sizes at earnings announcement. Atiase (1985) and Grant (1980) documented the differential reaction of price to earnings announcement between large firms and small firms. Thus, firm sizes (*SIZE*) are a proxy for the amount of information available to the firm, market liquidity, or other basic cross-sectional differences among firms, with size measured as natural logarithm of the market value of common shares outstanding.

Earnings predictability (PREDICT)

Lipe (1990) provided a measure of earnings predictability as it was reflected in the variance of the earnings shocks (i.e., as variance increased, the predictability decreased). Francis, Lafond, Olsson, and Schipper (2004) followed his study by

measuring earnings predictability using the square root of the estimated error-variance from the earnings-persistence equation which was estimated by a ten-year rolling. Lipe (1990) found that a negative relation existed between unexpected returns and predictability of earnings. This study measures earnings predictability as follows:

Earnings persistence equation:

$$\frac{Earn_{j,t}}{TotalAsset_{j,t-1}} = \alpha + \delta_1 * \frac{Earn_{j,t-1}}{TotalAsset_{j,t-1}} + V_{j,t}$$

Where $Earn_{j,t}$: Firm's net income before extraordinary items in year t

$Earn_{j,t-1}$: Firm's net income before extraordinary items in year t-1

Earnings predictability;

$$Pred_{j,t} = \sqrt{\sigma^2(\hat{V}_{j,t})}$$

Where $\sigma^2(\hat{V}_{j,t})$: Estimated-error variance of firm j in year t, calculated from earnings persistence equation

Growth (GROWTH)

The market value to book value of equity is used as a proxy for the firm's economic growth opportunities. Since future earnings are affected by the growth opportunities, the higher the market to book values of equity ratio, the higher the expected earnings growth. Thus, there is a positive relation between growth and earnings response coefficient (Collins and Kothari 1989).

Negative earnings (LOSS)

Negative earnings are an indicative variable for negative earnings before extraordinary items. Hayn (1995) suggested that because shareholders had a liquidation option, losses were not expected to perpetuate. Losses were thus less informative than profits about the firm's future prospects. Han also documented that firms reporting negative earnings had smaller earnings response coefficients than firms reporting positive earnings. Thus, negative earnings are negatively related to the earnings response coefficient.

Leverage (LEV)

Following Landsman, Maydew, and Thornock (2010), LEV is computed as total liability scaled by total asset and it is predicted that *LEV* is negatively related to earnings response coefficient. A highly leveraged firm has a greater degree of financial and default risks.

5.4 MODEL SPECIFICATION

The following models are used in the association study.

Hypothesis 1: Earnings response coefficient under balance sheet approach is

lower than that under income statement approach. The model is as follows:

$$CAR_{itq} = \beta_0 + \beta_1 UE_{itq} + \beta_2 D + \beta_3 D UE_{itq} + \sum_{k=4}^6 \beta_k CONTROLS_{itq} + \varepsilon_{itq} \quad (1)$$

$$CAV_{itq} = \beta_0 + \beta_1 UE_{itq} + \beta_2 D + \beta_3 D UE_{itq} + \sum_{k=4}^6 \beta_k CONTROLS_{itq} + \varepsilon_{itq}$$

Where CAR_{itq} = Cumulative abnormal return of firm *i* for quarter *q* and earnings announcement made in year *t*

CAV_{itq}	=	Cumulative abnormal volume of firm i for quarter q and earnings announcement made in year t
UE_{itq}	=	Unexpected quarterly earnings per share of firm i for quarter q and earnings announcement made in year t
D	=	Dummy variable taking the value 0 in period 1995-1998 and 1 in period 1999-2008
$CONTROLS_{itq}$	=	$(TIME_{itq} + SIZE_{itq} + LOSS_{itq})$
ε_{it}	=	Random disturbance for firm i for quarter q and earnings announcement made in year t

Only three control variables are included in this model due to limited data availability. If there is a decline in the earnings response coefficient after moving toward the balance sheet approach, parameter β_3 is negatively significant.

Hypothesis 2: There is a decline in the earnings response coefficient over time.

To test for over time change in ERC's, this study follows Francis et al. (2002a). In addition, this study also tests the relation between unexpected volume and unexpected earnings. The model is as follows:

$$CAR_{itq} = \beta_0 + \beta_1 UE_{itq} + \beta_2 UE_{itq} \times TREND_{itq} + \beta_3 TREND_{itq} + \sum_{k=4}^8 \beta_k CONTROLS_{itq} + \varepsilon_{itq} \quad (2)$$

$$CAV_{itq} = \beta_0 + \beta_1 UE_{itq} + \beta_2 UE_{itq} \times TREND_{itq} + \beta_3 TREND_{itq} + \sum_{k=4}^8 \beta_k CONTROLS_{itq} + \varepsilon_{itq} \quad (3)$$

Where CAR_{itq} = Cumulative abnormal return of firm i quarter q and earnings announcement made in year t

CAV_{itq}	=	Cumulative abnormal volume of firm i quarter q and earnings announcement made in year t
UE_{itq}	=	Unexpected earnings of firm i quarter q and earnings announcement made in year t
$TREND_{itq}$	=	$t - 1998$ and t take value from 1999-2008
$CONTROLS_{itq}$	=	$(SIZE_{itq} + LOSS_{itq} + LEV_{itq} + GROWTH_{itq} + PREDICT_{itq})$
ε_{itq}	=	Random disturbance for firm i for quarter q and earnings announcement made in year t

This study expects to find the negative time trend of earnings response coefficient (β_2) under the period of balance sheet approach.

Hypothesis 3, 3a, 3b, 4

Hypothesis 3: *The earnings response coefficient of domestic individual investors is higher than institutional investors.*

Hypothesis 3a: *The earnings response coefficient of domestic individual investors is higher than domestic institutional investors.*

Hypothesis 3b: *The earnings response coefficient of domestic individual investors is higher than foreign investors.*

Hypothesis 4: *The earnings response coefficient of foreign investors is higher than domestic institutional investors*

The model testing these four hypotheses is show below:

$$CNetBuy_{it}^j = \beta_0 + \beta_1 UE_{it} + \varepsilon_{it} \quad (4)$$

Where $CNetBuy_{it}^j$ = Cumulative abnormal net buy activity for investor class j at year t .

UE_{it} = Unexpected earnings of firm i at year t .

ε_{it} = Random disturbance for firm i for year t .

The model is run by classes of investors because of net buying activity is a dependent variable. This study compares the differences in relation between net buying activity and unexpected earnings among three classes of investors. This study also partitions earnings into positive and negative unexpected earnings (UE) and also regresses $CNetbuy$ on both positive and negative UE 's separately.

In summary, this study investigates the usefulness of accounting earnings information under two approaches, i.e., the income statement approach and the balance sheet approach. The event study and association study are employed and both return metric and volume metric are used. This study focuses on the informativeness of earnings information, thus examining the changing relation between abnormal return and abnormal volume and unexpected earnings.

Based on investor heterogeneity and suggestions by prior studies which documented that information content may differ in each class of investor, this study focuses on each class of investor. Moreover, this study compares the differences in the relation between net buying activity and unexpected earnings among these three classes of investors.

5.5 ADDITIONAL TEST

This study further investigates whether value relevance of earnings is lower than value relevance of book value after moving toward the balance sheet approach. The valuation model of a firm's equity can be expressed as a function of its earnings and book value (Ohlson, 1995). This model becomes popular in accounting research to examine the relevance of financial data by regressing the stock price on earnings plus book value as follows:

$$P_{it} = \alpha_0 + \alpha_1 E_{it} + \alpha_2 BV_{it} + \varepsilon_{it}$$

Where P_{it} = Share price of firm i at end of quarter q in year t.

E_{it} = Earnings per share of firm i at end of quarter q in year t.

BV_{it} = Book value (equity) per share of firm i at end of quarter q in year t.

ε_{it} = Other value relevant information of firm at end of quarter q in year t, independent of earnings and book value.

Following Collins et al. (1997), King and Langli (1998), Bailes et al. (2000), this study decomposes the total explanatory power of book value and earnings into the incremental component attributable to book value, the incremental component attributable to earnings, and the component common to both book value and earnings. The following models are used to compare the incremental value relevance of earnings and book value.

Model 1

$$P_{it} = \alpha_0 + \alpha_1 E_{it} + \alpha_2 BV_{it} + \varepsilon_{it} \quad (5)$$

Model 2

$$P_{it} = \alpha_0 + \alpha_1 E_{it} + \varepsilon_{it} \quad (6)$$

Model 3

$$P_{it} = \alpha_0 + \alpha_1 BV_{it} + \varepsilon_{it} \quad (7)$$

This study uses the explanatory power (adjusted R^2) from models 1 to 3 as measures of relative value relevance. Incremental value relevance is defined as the explanatory power of book value (earnings) over and above that of earnings (book value). The incremental value relevance of book value (earnings) is derived by subtracting the relative value relevance of earnings, model 2, (book value, Model 3) from total value relevance, model 1. Value relevance common to both book value and earnings is derived by subtracting both book and earnings incremental value relevance from total value relevance.

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CHAPTER VI

RESULTS

6.1 DESCRIPTIVE STATISTICS

The sample in this study includes all firms listed in the Stock Exchange of Thailand during the period of 1995 to 2008. This study excludes observations that have missing values for our variables of interest, i.e., *CAV* and *CAR*, and control variables. The study also excludes the top and bottom 1% of each variable to mitigate the effects of extreme observation. The final sample includes 9,017 firm-quarter earnings announcements. Table 1 presents descriptive statistics for *CAV*, *CAR*, *UE* and control variables used in the estimation of equations (1) through (3). The 9,017 firm-quarter earnings announcements consist of 4,404 and 4,613 firm-quarter earnings announcements for positive and negative unexpected earnings, respectively. Means (medians) of *CAR* for positive and negative unexpected earnings are 0.009 (0.003) and -0.013 (-0.007). Means (medians) of *CAV* for positive and negative unexpected earnings are 0.073 (-0.023) and -0.200 (-0.061), respectively. Means (medians) of *UE* for positive and negative unexpected earnings are 1.402 (0.762) and -1.131 (-0.636). The signs of means *CAR* and *CAV* show the same sign as that of *UE*; that is, when *UE* is positive, *CAR* and *CAV* have the positive values; and when *UE* is negative, *CAR* and *CAV* have negative values.

Table 2 presents descriptive statistics for *CAV*, *CAR*, *UE* and control variables under the income statement approach and the balance sheet approach. The total sample of 9,017 firm-quarters consists of 1,899 and 7,118 firm-quarter earnings announcements under the income statement approach and the balance sheet approach,

respectively. When the sample is divided into positive and negative unexpected earnings of each approach, for the income statement approach, the firm-quarter earnings announcements consist of 802 and 1,097 firm-quarter earnings announcements for positive and negative unexpected earnings; and 3,602 and 3,516 firm-quarter earnings announcements for positive and negative unexpected earnings under the balance sheet approach. For positive *UE*, the mean *CAR* (*CAV*) of the period under the balance sheet approach are greater than mean *CAR* (*CAV*) of the period under the income statement approach (0.010 (0.093) > 0.007 (-0.017)) but lower mean *UE* (1.376 < 1.516). As for negative *UE*, the absolute values of mean *CAR* (*CAV*) of the period under the balance sheet approach are greater than mean *CAR* (*CAV*) of the period under the income statement approach (0.014 (0.232) > 0.008 (0.099)) but again lower absolute value of mean *UE* (1.024 < 1.476).

The above descriptions with regard to positive and negative *UE*'s reveal inconsistency between mean *CAR* (*CAV*) and mean *UE* when Thai accounting standard and conceptual framework have changed. That is, while the magnitude of mean *CAR* (*CAV*) increases, the magnitude of mean *UE* decreases. However, there is consistency in the signs of mean *CAR* and *CAV* and *UE* in both cases. That is, when *UE* is positive, *CAR* and *CAV* have positive values; and when *UE* is negative, *CAR* and *CAV* have negative values, except for the mean of *CAV* under the income statement approach which has a negative value when *UE* is positive.

6.2 EVENT STUDY

Table 3 presents mean abnormal return and mean abnormal volume under the period of income statement approach for 15 days before and 15 days after earnings

announcement. Panel A of Table 3 presents the mean abnormal return and mean abnormal volume for positive *UE*. There is positive significant abnormal return but insignificant abnormal volume on the date of earnings announcement, day $t = 0$. The abnormal return remains positively significant after the announcement date (days $t+3$, $t+7$, $t+8$, and $t+11$ to $t+14$). Volume reaction to earnings announcement is negatively significant before and after earnings announcement. This result reveals that investors decrease their trading activity before and after information release and increase their trading activity on the day of information release

Panel B Table 3 presents the mean abnormal return and mean abnormal volume for negative *UE*. There are negative significant abnormal return and abnormal volume on the date of earnings announcement. Volume reaction to earnings announcement is negatively significant in all days during the announcement period. This result reveals that investors decrease their trading activity when bad news is released. However, the significant abnormal return and abnormal volume on the days immediately surrounding the earnings announcement reflect the usefulness of earnings announcement and are consistent with prior literature by Ball and Brown (1968); Beaver (1968); Landsman and Maydew (2002); and Landsman et al. (2010).

Table 4 presents the mean abnormal return and mean abnormal volume under the period of balance sheet approach 15 days before and 15 days after the earnings announcement date. Panel A of Table 4 presents the mean abnormal return and mean abnormal volume for positive *UE*. There are positive significant abnormal return and abnormal volume on the date of earnings announcement. Volume reaction to earnings announcement is negatively significant before and after earnings announcement.

Panel B of Table 4 presents the mean abnormal return and mean abnormal volume for negative *UE*. There are negative significant abnormal return and abnormal volume on the date of earnings announcement. Just as in the period of income statement approach, volume reaction to earnings announcement is negatively significant in all days in the event window. The negative significant abnormal volumes 15 days before and 15 days after the earnings announcement date in both panels A and B reveal that investors reduce their trading activity before and after information release. Moreover, investors increase their trading activity on the announcement date only when good news is released. The significant abnormal return and abnormal volume surrounding the announcement date reflect the usefulness of earnings announcement. However, the balance sheet period exhibits more days of significant abnormal return prior to the announcement date. This finding means that the market is in anticipation of the forthcoming news.

Figures 1 and 2 plot the mean abnormal returns in the event time surrounding the earnings announcements for the two periods. Figure 1 plots abnormal return for positive *UE* and Figure 2 plots abnormal return for negative earnings. The two figures show the higher absolute value of abnormal return for the period of balance sheet approach in both positive and negative *UE*'s at earnings announcement dates. Figures 3 and 4 present the analogous event-time graphs for abnormal volumes. The same Figures also show the higher absolute value of abnormal volume for the period of balance sheet approach in both positive and negative *UE*'s at the earnings announcement dates.

Taken together, the significance of abnormal return and abnormal volume surrounding earnings announcement date indicates the usefulness of earnings information in the periods of both income statement approach and balance sheet approach. However, at the earnings announcement date (i.e., day 0), the figures show that the absolute values of both return and volume reaction are greater for the balance sheet approach than those of the income statement approach. The next section presents the association between abnormal return (abnormal volume) and unexpected earnings of the two periods.

6.3 ASSOCIATION STUDY

6.3.1 The Earnings Response Coefficient (ERC) under two conceptual frameworks

Tables 5 and 6 compare the association between earnings and *CAR* (*CAV*) under the periods of income statement approach and balance sheet approach. Table 5 examines full sample regression and Table 6 excludes the crisis period (years 1997-1998) from the examination. Recall that *D* takes on values of one under the period of balance sheet approach and zero under the period of income statement approach. Variable *DUE* represents the intensity of investors' reaction to earnings announcement after issuing the new conceptual framework, i.e., the balance sheet approach. Column (1) regresses *CAR* (*CAV*) on *UE*, and then control variables are added in column (2). Column (3) regresses *CAR* (*CAV*) on *UE* and *DUE*; then control variables are added in column (4). Only three control variables are included in this section due to unavailability of data prior to 1999.

In Panel A of Table 5 which examines *CAR*, *UE* coefficients are positively significant in all columns. This result indicates the association between investor

reaction, abnormal return, and earnings information during the announcement period and that earnings information is useful. The indicator variable, *D* coefficient, is insignificant in both columns (3) and (4). This result reveals that the investor reactions, i.e., abnormal return, are not significantly different in the two periods. However, *DUE* coefficient is positively significant in both columns (3) and (4) when control variables are added. This result shows greater intensity of investor reaction to a unit of earnings information during the announcement period with a higher ERC under the balance sheet approach. In column (4), most of the control variable coefficients are significant as predicted except *TIME* coefficient. The coefficient on *TIME* is insignificant, the coefficient on *SIZE* is negatively significant, and the coefficient on *LOSS* is -0.109 and highly negatively significant with t-stat, -9.192, as predicted. The finding in panel A indicates the association between *CAR* and *UE*, which reveals the usefulness of earnings information; and the higher earnings response coefficient (ERC) under the period of balance sheet approach for return analysis also reveals the greater usefulness of earnings information.

In Panel B which examines *CAV*, *UE* coefficients are positive only in columns (1) and (2). *D* coefficient is insignificant in both columns (3) and (4). This result suggests that the investor reactions, i.e., abnormal volume, are not significantly different between the two periods. *DUE* coefficient is positively significant in both columns (3) and (4) where control variables are added in the equation. In column (4), control variable coefficients, *TIME* and *SIZE*, are insignificant but *LOSS* is negatively significant as predicted. The insignificant coefficients on *UE* in columns (3) and (4) due to the usefulness of earnings information under the balance sheet approach are dominating the usefulness of earnings information under the income statement

approach. The finding in Panel B, volume analysis, is the same as the finding in Panel A, return analysis; that is, there is indifference in investor reactions, i.e., abnormal volume, under the two periods but greater intensity of investor reaction to a unit of earnings information during the announcement period, thus a higher ERC under the balance sheet approach.

As documented by Bailes et al. (2000), the crisis period affected the relationship between return and earnings; thus, this study examines the association between *CAR* (*CAV*) and *UE* under the two periods by excluding the crisis period (1997-1998) from the estimation. Column (1) in Table 6 regresses *CAR* (*CAV*) on *UE*, and then control variables are added in column (2). Column (3) regresses *CAR* (*CAV*) on *UE* and *DUE*; then control variables are added in column (4). In Panel A of Table 6 which examines *CAR*, *UE* coefficients are positively significant in all columns, which suggests the usefulness of earnings information during the announcement period. *D* coefficient is insignificant in column (3) but positively significant in column (4) where control variables are added. This result indicates greater investor reaction under the period of balance sheet approach, thus consistent with the finding in event study. However, the association between *CAR* and *DUE*, i.e., *DUE* coefficient, is insignificant in both columns (3) and (4). This finding suggests that although the investor reaction under the balance sheet approach is greater, this is not due to the increase in the intensity of investor reaction to a unit of earnings information, ERC, during the announcement period. All control variables are negatively significant as predicted. The examinations when excluding the crisis period show a greater adjusted R^2 ($0.044 > 0.041$) in the full model (column 4).

In Panel B which examines *CAV*, *UE* coefficients are positive and significant only in columns (1) and (2). *D* coefficient is negatively significant in column (3) but insignificant in column (4) where control variables are added in the equation. *DUE* coefficient is insignificant in both columns (3) and (4) where control variables are added in the equation. This result suggests that the investor reaction, i.e., abnormal volume, and intensity of investor reaction to a unit of earnings information, ERC, during the announcement period are not different between the two periods. All control variables are negatively significant as predicted. The negative significance of coefficients on *TIME* variable in both panels A and B is inconsistent with Landsman and Maydew's (2002). This result reveals an over time decline in return reaction and volume reaction surrounding the earnings announcement date.

In summary, the higher earnings response coefficient (ERC) under the balance sheet approach disappears when excluding the crisis period from the estimation. Moreover, the model gives a greater adjusted R^2 ($0.044 > 0.041$) for return analysis and a slightly different adjusted R^2 for volume analysis ($0.010 > 0.009$). These findings are consistent with the finding in Bailes et al. (2000) in that a crisis affected the relation between return and earnings relation. The positive and significant *UE* coefficient, ERC, indicates the usefulness of earnings information; however, the indifference in ERC, *DUE* coefficient, under the two approaches reveals that there is no increase or decrease in usefulness of earnings after the revolution of Thai accounting conceptual framework and Thai accounting standard. Thus, the result from Table 6 does not support hypothesis 1. Two possible explanations are investors' fixation on earnings and the usefulness of earnings information even after moving to balance sheet approach. This paper further investigates these two explanations in section 6.4.

6.3.2 Time trend analysis under the balance sheet approach

Table 7 provides evidence in time trend analysis under the period of balance sheet approach. Column (1) in Table 7 regresses *CAR (CAV)* on *UE*, and then control variables are added in column (2). Column (3) regresses *CAR (CAV)* on *UE* and *UE*TREND*; then control variables are added in column (4). *UE*TREND* variable indicates the time trend of the intensity of investor reaction to a unit of earnings information, ERC, during the announcement period. *TREND* variable takes on values of year $t-1998$. In Panel A which examines *CAR*, *UE* coefficients are positively significant in all columns, suggesting the usefulness of earnings information. *UE*TREND* coefficients are insignificant in both columns (3) and (4) when control variables are added. This result reveals no time trend in the intensity of investor reaction to a unit of earnings information, ERC, during the announcement period for return analysis. Thus, the results suggest the unchanged usefulness of earnings information in the period under balance sheet approach for return analysis. In columns (2) and (4) where control variables are added, all of the control variable coefficients are insignificant except *LOSS*. The *LOSS* coefficient is highly negatively significant.

In Panel B which examines *CAV*, *UE* coefficients are positively significant in all columns, indicating the usefulness of earnings information. The *UE*TREND* coefficients are negatively significant in both columns (3) and (4). This result reveals the declining time trend in ERC which indicates the decline in the intensity of investor reaction to a unit of earnings information during the announcement period. All of the control variable coefficients are insignificant.

In summary, the finding in panel A indicates no time trend in ERC in the period of balance sheet approach, meaning that there is no time trend for an increase or decrease in the usefulness of earnings information. Thus, the finding in return analysis does not support hypothesis 2. However, the decline time trend for volume analysis is inconclusive. Beaver (1968) suggested that relationships between price and volume are consistent with economists' notion that volume reflects a lack of consensus regarding the price. The lack of consensus is induced by a new piece of information, i.e., the earnings report. Since investors may differ in the way they interpret the report, some time may elapse before a consensus is reached, during which time increased volume would be observed. If consensus were reached on the first transaction, there would be a price reaction but no volume reaction, assuming homogeneous risk preferences among investors. If risk preferences differ, there still could be a volume reaction, even after equilibrium price had been reached. Thus, the decline in ERC for volume analysis but no trend in ERC for return analysis suggests the over time increase in consensus in price when earnings are released and indicates that earnings information remains useful even having moved toward the balance sheet approach.

Because of highly negative significance of *LOSS* coefficient and the suggestion by the prior study that the inclusion of loss cases in the estimation could bias the ERC (Hayn, 1995), this study further divides samples into profit and loss cases to strengthen the results in Table 7. The results are in the next section.

6.3.3 Time trend analysis under the balance sheet approach: Profit cases and loss cases

Tables 8 and 9 present the time trend analysis under the period of balance sheet approach for the profit and loss cases, respectively. In Tables 8 and 9, columns (1) regress CAR (CAV) on UE , and then control variables are added in column (2). Column (3) regresses CAR (CAV) on UE and $UE*TREND$; then control variables are added in column (4).

In Panel A of Table 8 which examines CAR , the coefficients on UE are positively significant in all columns, which suggest the usefulness of earnings information in return analysis of profit cases. The coefficients on $UE*TREND$ variable are insignificant in both columns (3) and (4) when control variables are added. This result reveals no time trend in the intensity of investor reaction to a unit of earnings information, ERC, during the announcement period. Thus, for profit cases there is no change in the usefulness of earnings information in the period under balance sheet approach for return analysis. All control variable coefficients are insignificant in both columns (2) and (4).

In Panel B of Table 8 which examines CAV , the coefficients on UE are positively significant in all columns, which suggest the usefulness of earnings information in volume analysis of profit cases. The coefficients on $UE*TREND$ variable are negatively significant in both columns (3) and (4). This result reveals the decline time trend in ERC, which indicates a decline in the intensity of investor reaction to a unit of earnings information during the announcement period even though loss cases are excluded from the estimation. These findings are consistent with

the findings in Table 7. All control variable coefficients are insignificant except the positively significant coefficient on *LEV* which is inconsistent with prediction.

Table 9 examines time trend analysis for loss cases. In Panel A which examines *CAR*, the coefficients on *UE* are positively significant only in columns (1) and (2). Consistent with Hayn (1995) who documented that the loss cases were less informative than the profit cases, ERC's of loss cases are thus lower than those of profit cases in all columns. The coefficients on *UE*TREND* variable are insignificant in both columns (3) and (4). This result indicates no time trend in the usefulness of earnings information. All control variable coefficients are insignificant except the positively significant coefficient on *GROWTH* as predicted. In Panel B which examines *CAV*, the coefficients on *UE* are insignificant in all columns. This result is also consistent with that of Hayn (1995). Again, the ERC's of loss cases are lower than those of profit cases in all columns. The coefficients on *UE*TREND* variable are insignificant in both columns (3) and (4).

Taken together, the evidence in Tables 8 to 9 suggests the usefulness of earnings information even after moving to the balance sheet approach. Moreover, the results are robust even when excluding loss cases from examination.

6.4 TRADING REACTION BY CLASS OF INVESTOR

Table 10 presents net buying activity (abnormal buying activity subtracted by abnormal selling activity) around the earnings announcement date of each investor class. This table shows whether an event causes net buying activity to deviate from the corresponding average net buying activity during the non-event period. Panel A

reports net buying activity for positive unexpected earnings. Domestic individual investors exhibit negative abnormal net buying activity before the announcement date, day $t = -10$, and day $t = -2$; and also exhibit negative net buying activity on the announcement date, i.e., day $t = 0$. Moreover, domestic individual investors exhibit this behavior even after the announcement date (days $t = +4$ to $t = +7$, $t = +10$ to $t = +13$). This result reveals that domestic individual investors increase their selling activity after good news, and this behavior is to realize their capital gain. This finding is consistent with those of Odean (1998) and Grinblatt and Keloharju (2000), both of whom showed that domestic individuals tended to cash in on winning shares. Grinblatt and Keloharju further suggested that the domestic individual investors tend to be contrarian, i.e., buying past losers and selling past winning stocks.

For domestic institutional investors, in positive unexpected earnings they exhibit positive net buying activity (i.e., increase their buying activity) early of event period (day $t = -11$) and negative net buying activity in days $t = -1$ and $t = -2$ but no significant net buying activity immediately after the announcement date. This trading behavior of domestic institutional investors is consistent with that of informed investors who tend to trade before information release with more accurate information.

For foreign investors, in positive unexpected earnings foreign investors exhibit positive net buying activity early before the announcement date and negative net buying activity few days before the announcement date. That is, they increase their buying activity for sell near the announcement date to realize their short-term gain. However, foreign investors also exhibit positive net buying activity after the

announcement date. The increase in buying activity after good news is consistent with the finding by Grinblatt and Keloharju (2000). Grinblatt and Keloharju found that foreign investors tend to be momentum investors, i.e., buying past winning stocks and selling past losers.

Panel B presents net buying activity for negative unexpected earnings. For domestic individual investors, they exhibit negative abnormal net buy activity before the announcement date. That is, they increase their selling activity before bad news. However, they exhibit positive net buying activity immediately after the announcement date. Trading behavior of domestic individual investors is consistent with the contrarian strategy as discussed above.

For domestic institutional investors, negative unexpected earnings lead domestic institutional investors to increase selling activity before and on the announcement date but no significant net buying activity immediately after the announcement date. In negative unexpected earnings, foreign investors exhibit negative net buying activity early of event period (day $t = -9$ to $t = -14$) and also exhibit negative net buying activity immediately after announcement (days $t = +1$ and $t = +2$). Trading behavior of foreign investors is consistent with the momentum strategy as discussed above.

In summary, domestic individual investors tend to be contrarians, i.e., selling past winners and buying past losers, while foreign investors tend to be momentum investors, i.e., buying past winning stocks and selling past losers. Domestic institutional investors tend to be informed investors by trading only before

information release according to the forthcoming news to exploit their informational advantage.

Table 11 presents mean absolute value of earnings response coefficients (ERC) of two investor classes, individual and institutional investors, in the period of balance sheet approach. The mean of ERC is obtained from model (4) by regressing cumulative net buying activity, *CNetbuy*, of each investor class on the unexpected earnings, *UE*, for each year and ERC is the β_1 . In all columns, institutional investors exhibit a greater ERC than individual investors (0.053>0.023 for all cases analysis, 0.081>0.043 for positive UE and 0.102>0.055 for negative UE). Similar to Table 11, Table 12 presents mean absolute value of earnings response coefficient (ERC) but divides investors into three classes: domestic individual, domestic institution, and foreign investors. In the columns of all cases and positive UE, institutional investors exhibit the greatest mean of ERC while the domestic individual investors exhibit the lowest ERC mean (0.067>0.033>0.023 for all cases, 0.065>0.047>0.043 for positive UE). In negative UE, institutional investors also exhibit the greatest mean of ERC (0.137) while individual investors exhibit a greater ERC than foreign investors (0.055>0.051).

Table 13 presents the mean differences of earnings response coefficients (ERC) between two classes of investors. The institutional investors exhibit the statistically significant greater ERC than individual investors in all columns. Mean differences for all cases analysis, positive UE, and negative UE are -0.030, -0.038, and -0.047, respectively. Table 14 presents the mean differences of earnings response coefficients (ERC) among three classes of investors. In the all cases analysis,

domestic institutional investors exhibit the statistically significant greater ERC than domestic individual investors and foreign investors, mean difference are -0.044 and -0.034, respectively. For positive *UE*, ERC's for all classes of investors are insignificantly different. However, in negative *UE*, the finding shows that ERC for domestic institutional investors is greater than those of domestic individual investors and foreign investors with mean differences being -0.082 and -0.086, respectively.

Taken together, all investor classes exhibit abnormal net buying activity both before and during the announcement period. This result reveals that forthcoming news (earning announcement) stimulates investors to acquire private information (pre-event information) and to trade based on their private information. However, pre-event information does not subsume the usefulness of event-information (earnings announcement). Thus, investors also exhibit abnormal net buying activity during the announcement period.

The association test shows that domestic institutional investors exhibit greater association between their cumulative net buying activity and unexpected earnings of securities that they trade (i.e., greater ERC) than domestic individual investors and foreign investors while domestic individual investors exhibit the lowest ERC. These findings do not support hypotheses 3, 3a, 3b, and 4. However, this finding is consistent with those of Cready (1988), Lee (1992), and Kim et al. (1997). They found that trading activity of large investors increased more than that of small investors during the announcement period. The finding in this study is also consistent with those by Ohlson (1975), Wilson (1975), and Hilton (1980). They conclude that the usefulness of earnings information increases with wealth of investors because of

return to scale (i.e., the larger the investor, the lower the marginal cost of information gathering and processing cost).

In summary, the results attest to the usefulness of earnings information and are unlikely to support the earnings fixation hypothesis because institutional (sophisticated) investors exhibit the greatest ERC while individual (unsophisticated) investors the lowest ERC.

6.5 ADDITIONAL TEST: THE VALUE RELEVANCE EXAMINATION

This study hypothesizes that the usefulness of earnings information declines under balance sheet approach; thus, to complete the finding in the usefulness of accounting information, this study further tests whether the relationship between market price and book value is higher than the relationship between market price and earnings in the period of balance sheet approach. This study examines the incremental value relevance of book value and of earnings. Incremental value relevance is defined as the explanatory power of book value (earnings) over and above that of earnings (book value).

Table 15 presents the relationships between price and book value and earnings. Model 1 presents the quarterly regression of price on book value and earnings, model 2 presents the quarterly regression of price on earnings, and model 3 presents the quarterly regression of price on book value. The last three columns present the R^2 increments of book value, earnings, and the components common to both book value and earnings, respectively. The incremental value relevance of book value (earnings) is obtained by subtracting the relative value relevance of earnings

(book value) from total value relevance. Value relevance common to both book value and earnings is obtained by subtracting both book and earnings incremental value relevance from total value relevance. Comparing model 2 to model 3, the adjusted R^2 of book value is greater than that of earnings for all quarters except quarter 3 of year 2006. In addition, the R^2 increment also reveals the greater incremental R^2 of book value than earnings for all quarters except quarter 3 of year 2006. The last row presents the means of R^2 increments of book value, earnings, and the components common to both book value and earnings. The mean of R^2 increment of book value is greater than that of earnings. In summary, the results indicate the greater R^2 increment of book value than that of earnings.

Bailes et al. (2000), based on data in Thailand, examined the value relevance of market value of equity to book value and earnings. They documented the greater mean R^2 increment of earnings than that of book value in 1992-1996, which was the period under income statement approach. Compared with Bailes et al's (2000), this study finds the greater mean R^2 increment of book value than that of earnings in 1999-2008, which was the period under balance sheet approach. This result reveals shifting in greater value relevance from earnings to book value. The result is consistent with the view of balance sheet approach which emphasizes asset and liability valuation.

6.6 SENSITIVITY ANALYSIS

This study performs sensitivity check on the results reported in Panel B of Tables 5 to 9 (volume analysis). The sensitivity test is divided into two folds: first

using the Mean and Median adjusted model to compute cumulative abnormal volume and second employing the industry adjusted model as expected earnings.

6.6.1 Using Mean and Median adjusted model to compute cumulative abnormal volume

Since there is no generally accepted method of measuring unexpected (or abnormal) trading volume (Bamber et al., 1997), this study repeats the previous examination in section 5.3.2.2 by measuring abnormal trading volume with the mean and median adjusted model. The results are as follows:

6.6.1.1 The Earnings Response Coefficient (ERC) under the two approaches

Tables 16 and 17 present sensitivity analysis to compare ERC's under the two approaches. Using mean and median adjusted model to measure abnormal volume, this study finds the same result as that measured by the market adjusted model as presented in Panel B of Table 5, the full sample analysis, and Panel B of Table 6 when excluding the crisis period from the estimation. In Tables 16 and 17, column (1) regresses *CAV* on *UE*, and then control variables are added in column (2). Column (3) regresses *CAV* on *UE* and *DUE*; then control variables are added in column (4). Panel A of Table 16 examines *CAV* which is calculated from the mean adjusted model. The coefficients on *UE* are positively significant only in columns (1) and (2). *DUE* coefficients are positively significant in both columns (3) and (4), thus the greater ERC after moving to the balance sheet approach. The coefficient on control variables is negatively significant as predicted except *SIZE* variable which is insignificant in both columns (2) and (4). Panel B examines *CAV* which is calculated from the median adjusted model. The results are the same as in Panel A. The coefficients on *UE* are

positively significant only in columns (1) and (2). *DUE* coefficients are positively significant in both columns (3) and (4). The results reveal the greater ERC for the period of balance sheet approach. The coefficients on control variables are also negatively significant as predicted except *TIME* variable which is insignificant in both columns (2) and (4). However, the adjusted R^2 is greater for the median adjusted model, columns (2) to (4).

Table 17 compares ERC's under the two approaches by excluding the crisis period (1997-1998) from the estimation. Panel A of Table 17 examines *CAV* which is calculated from the mean adjusted model. The coefficients on *UE* are positively significant only in columns (1) and (2). *D* coefficients are negatively significant in column (3) and insignificant in column (4) when control variables are added. This result indicates the insignificant difference in investor reaction to unexpected earnings under the two periods. *DUE* coefficients are insignificant in both columns (3) and (4). The indifferences in ERC between these two periods reveal that that the usefulness of earnings information does not change when the conceptual framework and accounting standard have changed. The coefficients on control variables are negatively significant as predicted except *SIZE* variable which is insignificant in both column (2) and column (4).

Panel B of Table 17 examines *CAV* which is calculated from the median adjusted model. The results are the same as in Panel A. The coefficients on *UE* are positively significant only in columns (1) and (2). *D* coefficients are positively significant in columns (3) and (4) when control variables are added. This result indicates the difference in magnitude of investor reaction to unexpected earnings

between the two periods. *DUE* coefficients are insignificant in both columns (3) and (4). The results reveal the same ERC for the two periods, meaning that the usefulness of earnings information does not change when the conceptual framework and accounting standard have changed. The coefficient on control variables is negatively significant as predicted except *TIME* variable which is positively significant in column (2) but insignificant in column (4). However, the adjusted R^2 is greater for the median adjusted model. Overall, the results are consistent with the main results in Tables 5 and 6.

6.6.1.2 Time trend analysis in the period of balance sheet approach

Tables 18 to 20 present the analogy of time trend analysis for abnormal volume. Panel A of Table 18 examines *CAV* which is calculated from the mean adjusted model. The results indicate positively significant coefficients on *UE* in all columns. This result suggests the usefulness of earnings information. Moreover, the result also reveals the negative time trend in ERC, coefficient on *UE*TREND*, under the period of balance sheet approach. While all control variables in Panel B of Table 7 are insignificant, in this table the control variables *LOSS* and *GROWTH* are significant as predicted. The control variables *SIZE* and *PREDICT* are insignificant while *TREND* and *LEV* are significant in the opposite direction to the prediction.

Panel B of Table 18 examines *CAV* which is calculated from the median adjusted model. The result indicates positively significant coefficients on *UE* in all columns and also exhibits a declining time trend in ERC, coefficient on *UE*TREND*, under the period of balance sheet approach. The control variables *SIZE* and *GROWTH* are significant as predicted. *TREND* and *LEV* are significant in the opposite direction to the prediction. The adjusted R^2 is also greater for the median adjusted model than the

mean adjusted model when control variables are added. The positively significant ERC (coefficient on *UE*) and a declining time trend in ERC (coefficient on *UE*TREND*) are consistent with the main result in panel B of Table 7.

Table 19 presents profit cases analysis for mean and median adjusted measurement. Both Panels A and B indicate positively significant coefficients on *UE* in all columns, suggesting the usefulness of earnings information. The result also exhibits a declining time trend in ERC, coefficient on *UE*TREND*, in both Panels A and B, which reveals a decline in the usefulness of earnings information. Table 18 presents loss cases analysis for the mean and median adjusted model. Both Panels A and B indicate insignificant coefficients on *UE* in all columns and the results suggest no time trend ERC. The coefficients on control variable *TREND* in both Panels A and B are negatively significant. The rest of control variables are insignificant except *PREDICT* which is negatively significant in Panel A. The negatively significant *TREND* variable is inconsistent with the prediction; however, this result suggests that the magnitude of *CAV* for loss cases declines over time. This reveals the over time decline in investor reaction to earnings for loss cases in the period of balance sheet approach.

In summary, the findings in Tables 18 to 20 for volume analysis (mean and median adjusted model) suggest the usefulness of earnings information. Moreover, the result suggests the greater usefulness of earnings information for profit cases than loss cases. However, the finding reveals a declining time trend in the usefulness of earnings information in the period of balance sheet approach. These findings are consistent with the main findings in Panels B of Tables 7 to 9.

6.6.2 *Industry adjusted model as expected earnings*

Tables 21 to 25 present analogous examinations of Tables 5 to 9 by using the median industry adjusted model as expected earnings. Tables 21 and 22 show the same result as Tables 5 and 6, that is, a higher ERC under the balance sheet approach but such a greater ERC disappears when excluding the crisis period from the sample period.

Table 23 presents time trend analysis, and the finding is also consistent with the finding in Table 7. The result suggests the usefulness of earnings information in the period of balance sheet approach. However, this finding reveals the declining time trend in the ERC in both return and volume analyses.

Table 24 presents the time trend analysis for profit cases. For profit cases, the results suggest the usefulness of earnings information in both return and volume analyses. However, while Table 8 reveals the over time decline in the usefulness of earnings information only in volume analysis, Table 24 suggests the over time decline in ERC in both return and volume analyses in the period of balance sheet approach but a lower adjusted R^2 for industry adjusted model.

Table 25 presents time trend analysis for loss cases. The results are also consistent with Table 9 in both return and volume analyses (Panels A and B); that is, loss cases exhibit the lower usefulness of earnings information than profit cases. Moreover, the result presents no time trend in the usefulness of earnings for loss cases.

CHAPTER VII

CONCLUSION

This study examines the usefulness of earnings information under the two accounting conceptual frameworks, i.e., the income statement and the balance sheet approaches. These two approaches are different in their primary goals. The income statement approach emphasizes the proper determination of the timing and magnitude of the revenue and expense amounts. On the contrary, the balance sheet approach views the proper valuation of assets and liabilities as the primary goal of financial reporting, with the determination of other accounting variables secondary and derivative. Thus, moving to the balance sheet approach should affect to earnings quality and then the usefulness of earnings information. In addition, this study examines the changes in the usefulness of earnings information, as reflected in the association between unexpected earnings and investor reaction around the earnings announcement date, after moving toward the balance sheet approach. This study measures investor reaction in both abnormal return and abnormal volume.

The finding indicates insignificant differences in the usefulness of earnings information under the balance sheet and income statement approaches. However, the significant earnings response coefficients (ERC) of both approaches indicate that investors use earnings information in their investment decisions, which in turn reveals the usefulness of earnings information to investors. The finding also indicates no decline time trend of earnings response coefficient (ERC) but an increase in consensus in price under the balance sheet approach. The two explanations for the insignificant differences in ERC are that investors are fixated on earnings information and that earnings information is really useful. Thus, this study further examines the

usefulness of earnings information in various classes of investors who vary in the level of information and sophistication to find out the true explanation. That is, if earnings lose their forward looking usefulness, the more informed and sophisticated investors will rely less on earnings information.

The event study of each investor class indicates that all classes of investors exhibit abnormal net buying activity before and on the announcement date. These findings suggest that forthcoming news (earning announcement) stimulates investors to acquire private information (pre-event information) and to trade based on their private information. However, pre-event information does not subsume the usefulness of event-information (earnings announcement). Thus, investors also exhibit abnormal net buying activity during the announcement period.

The finding in the association study indicates that domestic institutional investors (informed and sophisticated) exhibit the greatest ERC while domestic individual investors (uninformed and unsophisticated) the lowest. The greatest ERC for sophisticated institutional investors attests to the predictive ability of earnings for future cash flow and indicates the usefulness of earnings information under balance sheet approach. The lowest ERC for unsophisticated individual investors is consistent with the notion that unsophisticated investors are unwilling to incur costs of learning accounting procedures; thus, they need not become proficient in accounting methodology to preserve or enhance the value of investments. Rather, they need only realize that they are uninformed about accounting procedures and, therefore, learn to rely on other sources of information. The finding is also consistent with the argument

that the usefulness of earnings information increases with wealth of investors because of return to scale and higher information processing ability.

The finding in value relevance under the balance sheet approach shows the greater incremental value relevance of book value than the incremental value relevance of earnings. In prior study, Bailes et al. (2000) presented data in Thailand for the greater incremental value relevance of earnings than the incremental value relevance of book value in the period of income statement approach (1992-1996). Compared with Bailes et al. (2000), the incremental value relevance of earnings information is unchanged while the incremental value relevance of book value after moving to balance sheet approach increases. Taken together, the evidence suggests the usefulness of earnings information even after moving to the balance sheet approach.

Findings from this study are evidence of the changing usefulness of earnings information associated with changes in the accounting conceptual framework and accounting standard which is the determination of earnings. However, this study does not intend to debate whether the adoption of domestic GAAP is more or less beneficial to investors than that of IFRS. The limitation of this study is the data availability because no pre-1994 accounting data are available on Set-Smart database nor on DataStream, especially quarterly data, thus limiting the sample period in this study to the period of 1995 to 2008. In addition, pre-1999 data on trading activity of each investor class (market micro structure from SET) are unavailable.

Although the new conceptual framework, i.e., the balance sheet approach, was issued in 1999, the Thai Accounting Standards have undergone continual changes

under the balance sheet approach and followed International Financial Reporting Standard. The full adoption of IFRS is expected in 2011; thus, future research should examine whether the full adoption will affect earnings quality or the informativeness of earnings information.



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References

- Aboody, D. (1996). Recognition versus disclosure in the oil and gas industry. Journal of Accounting Research 34: 21-32.
- Ajinkya, B. B., Atiase, R. K., and Gift, M. J. (April 1991). Volume of trading and the dispersion in financial analysts' earnings forecast. The Accounting Review 66 (2): 389-401.
- Atiase, R. K. (Spring 1985). Predisclosure Information, firm capitalization, and security price behavior around earnings announcements. Journal of Accounting Research 23 (1): 21-36.
- Atiase, R. K., and Bamber, L. S. (1994). Trading volume reactions to annual accounting earnings announcements. Journal of Accounting and Economics 17: 309-329.
- Ayers, B., and Freeman, R. N. (1997). Market assessment of industry and firm earnings information. Journal of Accounting and Economics 24: 205-218.
- Ball, R. (Supplement 1972). Changes in accounting techniques and stock prices. Journal of Accounting Research 10:1-38.
- Ball, R., and Brown, P. (Autumn 1968). An empirical evaluation of accounting income numbers. Journal of Accounting Research 6: 159-178.
- Baik, B., Kang, J. K., and Kim, J. M. (2010). Local institutional investors, information asymmetries, and equity returns. Journal of Financial Economics 97: 81-106.
- Bailes, J., King, R., and Graham, R. (2000). The value relevance of accounting information during a financial crisis: Thailand and the 1997 decline in the value of the baht. Journal of International Financial Management and Accounting 11 (2): 84-107.

- Bailey, W., Mao, C. X., and Sirodom, K. (2007). Investment restrictions and the cross-border flow of information: Some empirical evidence. Journal of International Money and Finance 26: 1-25.
- Bamber, L. S. (Spring 1986). The information content of annual earnings releases: A trading volume approach. Journal of Accounting Research 24: 40-56.
- Bamber, L. S. (July 1987). Unexpected earnings, firm size, and trading volume around quarterly earnings announcements. The Accounting Review 3: 510-532.
- Bamber, L. S., Barron, O. E., and Stober, T. L. (October 1997). Trading volume and different aspects of disagreement coincident with earnings announcement. The Accounting Review 72 (4): 575-597.
- Barber, M. B., and Odean, T. (2008). All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. Review of Financial Studies 21: 786-818.
- Barclay, M. J., and Warner, J. B. (1993). Stealth trading and volatility: Which trades move price? Journal of Financial Economics 34: 281-305.
- Barth, M. E., Clinch G., and Shibano, T. (2003). Market effects of recognition and disclosure. Journal of Accounting Research 41(4): 581-609.
- Beaver, W. H. (1968). The information content of annual earnings announcements. Journal of Accounting Research (supplement): 6-92.
- Beaver, W. H. (1989). Financial reporting: An Accounting Revolution. 2 ed., Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
- Beaver, W. H., Clarke, R., and Wright, W. F. (Autumn 1979). The association between unsystematic security returns and the magnitude of earnings forecast errors. Journal of Accounting Research 17 (2): 316-340.

- Beaver, W., Lambert, R., and Morse, D. (1980). The information content of security prices. Journal of Accounting and Economics 2 (1): 3-28.
- Beaver, W. H., Lambert, R. A., and Ryan, S. (1987). The information content of security prices: A second look. Journal of Accounting and Economics 9 (2): 139-157.
- Bernard, V., and Thomas, J. (Supplement 1989). Post-earnings-announcement drift: Delayed price response or risk premium? Journal of Accounting Research: 1-36.
- Bernard, V., and Thomas, J. (December 1990). Evidence that stock prices do not fully reflect the implications of current earnings for future earnings. Journal of Accounting and Economics: 305-340.
- Bernhardt, D., and Hughson, E. (1997). Splitting orders. Review of Financial Studies 10: 69-101.
- Bhattacharya, N. (2001). Investors' trade size and trading responses around earnings announcements: an empirical investigation. Accounting Review 45: 654-682.
- Bonner, S. E., Walther, B. R., and Young, S. M. (2003). Sophisticated and unsophisticated investors' reaction to analysts' forecast revisions conditional on factors that are associated with forecast accuracy. The Accounting Review 78(3): 679-706.
- Brennan, M. J., and Cao, H. H. (December 1997). International portfolio investment flows. Journal of Finance 52 (5): 1851-1880.
- Brennan, M. J., Cao, H. H., Strong, N., and Xu, X. (2005). The dynamics of international equity market expectations. Journal of Financial Economics 77: 257-288.
- Brown, P., and Kennelly, J. W. (1972). The information content of quarterly

- earnings: An extension and some further evidence. Journal of Business 45 (3): 403-416.
- Brown, S., Lo, K., and Lys, T. (1999). Use of R² in accounting research: measuring changes in value relevance over the last four decades. Journal of Accounting and Economics 28 (2): 83-115.
- Bushman, R., Gigler, F., and Indjejikian. (1996). A model of two-tiered financial reporting. Journal of Accounting Research 34: 51-74.
- Campbell, J., Ramadorai T., and Vuolteenaho T. (2005). Caught on tape: Institutional order flow and stock returns. Working paper, Harvard University and University of Oxford.
- Clement, M. (June 1999). Analyst forecast accuracy: Do ability, resources, and portfolio complexity matter? Journal of Accounting and Economics 27: 285-303.
- Collins, D. W., and Kothari, S. P. (1989). An analysis of intertemporal and cross-sectional determinants of earnings response coefficients. Journal of Accounting and Economics 11: 143-81.
- Collins, D. W., Maydew, E. L., and Weiss, I. S. (1997). Changes in the value-relevance of earnings and book values over the past forty years. Journal of Accounting and Economics 24: 39-67.
- Cready, W. M. (Spring 1988). Information value and investor wealth: The case of earnings announcements. Journal of Accounting Research 26 (1): 1-27.
- Cready, W. M. and Hurtt D. N. (October 2002). Assessing investor response to information events using return and volume metrics. The Accounting Review 77: 891-909.
- Cready, W. M., and Mynatt P. G. (April 1991). The information content of annual

- reports: A price and trading response analysis. The Accounting Review 66: 291-312.
- De Bondt, W. F. M. (1998). A portrait of the individual investor. European Economic Review, 42(3): 831-844.
- Demski, J. S., and Feltham, G. A. (1994). Market response to financial reports. Journal of Accounting and Economics 17: 3-40.
- Dichev, I. D. (2008). On the balance sheet-based model of financial reporting. Accounting Horizons, 22 (4): 453-470.
- Dichev, I. D., and Tang, V. W. (December 2008). Matching and the changing properties of accounting earnings over the Last 40. Accounting Review 83 (6): 1425-1460.
- Dichev, I. D., and Tang, V. W. (2009). Earnings volatility and earnings predictability. Journal of Accounting and Economics 47 (1/2): 160-181.
- Diether, K., Lee K., and Werner I. (2007). Can short-sellers predict returns? Daily evidence. Working paper, Ohio State University, and Rutgers University.
- Easton, P. D., and Zmijewski, M. E. (1989). Cross-sectional variation in the stock market response to accounting earnings announcements. Journal of Accounting and Economics 11 (2/3): 117-141.
- Fisher, P., and Verrecchia, R. (1999). Public information and heuristic trade. Journal of Accounting and Economics 27: 89-124.
- Foster, G. (1977). Quarterly accounting data: Time-series properties and predictive ability results. The Accountings Review 52 (1).
- Foster, G. Olsen, C., and Shevlin, T. (1984). Earnings Releases, Anomalies, and the Behavior of Security Returns. The Accounting Review 56 (4). 574-603.
- Francis, J., and Schipper, K. (Autumn 1999). Have financial statements lost their

- relevance? Journal of Accounting Research 37 (2): 319-352.
- Francis, J., Schipper, K., and Vincent, L. (July 2002a). Expanded disclosures and the increased usefulness of earnings announcements. The Accounting Review 77 (3): 515-546.
- Francis, J., Schipper, K., and Vincent, L. (2002b). Earnings announcements and competing information. Journal of Accounting and Economics 33: 313-342.
- Francis, J., LaFond, R., Olsson, P. M., and Schipper, K. (2004). Costs of equity and earnings attributes. The Accounting Review 79: 967-1010.
- Graham, J. R., Harvey, C. R., and Rajgopal, S. (September 2005). The economic implications of corporate financial reporting. Journal of Accounting and Economics 40: 3-73.
- Grant, E. (Spring 1980). Market implications of differential amounts of interim information. Journal of Accounting Research 18(1): 255-268.
- Grinblatt, M., and Keloharju, M. (2000). The investment behavior and performance of various investor types: a study of Finland's unique data set. Journal of Financial Economics 55: 43-67.
- Hakansson, N.H. (April 1977). Interim disclosure and public forecasts: An econometric analysis and a framework for choice. Accounting review 52: 396-416.
- Hand, J. R.M. (1990). (October 1990). A test of the extended functional fixation hypothesis. The Accounting Review 65 (4): 740-763.
- Hayn, C. (1995). The information content of losses. Journal of Accounting and Economics 20: 125-153.
- Hilton, R. W. (Autumn 1980). Integrating normative and descriptive theories of information processing. Journal of Accounting Research: 477-505.

- Ijiri, Y. Jaedicke, R. K., and Knight, K. (1966). The effects of accounting alternatives on management decisions. Research in Accounting Measurement. American Accounting Association.
- Indjejikian, R. (1991). The impact of costly information interpretation on firm disclosure decisions. Journal of Accounting Research 29: 277-301.
- Joy, O. M., Litzenger, R.H., and McEnally, R. W. (Autumn 1977). The adjustment of stock prices to announcements of unanticipated changes in quarterly earnings. Journal of Accounting Research: 207-225.
- Kiger, J. E. (Spring 1972). An empirical investigation of NYSE volume and price reactions to the announcements of quarterly earnings. Journal of Accounting Research: 113-28.
- King, R. D., and Langli, J. C. (1998). Accounting diversity and firm valuation. The International Journal of Accounting 33 (5): 529-567.
- Kim J. B., I. Krinsky, and J. Lee. (1997). Institutional holdings and trading volume reactions to quarterly earnings announcements. Journal of accounting, auditing and finance 12 (1): 1-14
- Kim, O., and Verrachia, R. E. (Autumn 1991a). Trading volume and price reactions to public announcements. Journal of Accounting Research 29:302-321.
- Kim, O. and Verrachia, R. E. (1991b). Market reaction to anticipated announcements. Journal of Financial Economics 30 (2): 273-309.
- Kim, O., and Verrecchia, R. E. (1994). Market liquidity and volume around earnings Announcements. Journal of Accounting and Economics 17 (1/2): 41-67.
- Kim, O., and Verrecchia, R. E. 1997. Pre-announcement and event-period private information. Journal of Accounting and Economics 24 (3): 395-419.
- Kim J. B., and Yi C. H. (2008). Does trading by foreign investors contribute more to

stock price informativeness than trading by domestic institutions in emerging market? Korean Evidence. Working paper.

Kormendi, R., and Lipe, R. (1987). Earnings Innovations, Earnings Persistence, and Stock Returns. Journal of Business 60 (3): 323-345.

Kross, W., Ha, G., and Heflin, F. (July 1994). A test of risk clientele effects via an examination of trading volume response to earnings announcements. Journal of Accounting and Economics 18: 67-87.

Kuntisook, K. (2008). Accounting conservatism and controlling shareholder characteristics: An empirical evidence from Thailand. Doctoral Dissertation, Department of Accountancy, Faculty of Commerce and Accountancy, Chulalongkorn University.

Landsman, W. R., and Maydew, E. L. (June 2002). Has the information content of quarterly earnings announcements decline in the past three decades. Journal of Accounting Research 40 (3): 797-808.

Landsman, W. R., Maydew, E. L., and Thornok, J. R. (2010). The information content of annual earnings announcements and mandatory adoption of IFRS. Working paper.

Lee, C. M. C. (1992). Earnings news and small traders: An intraday analysis. Journal of Accounting and Economics 15: 265-302.

Lee, C. M. C., and Radhakrishna. (2000). Inferring investor behavior: Evidence from TORQ data. Journal of Financial Markets 3: 83-111.

Lev, B. (January 1988). Toward a theory of equitable and efficient accounting policy. The Accounting Review 13 (1): 1-22.

Lev, B., and Nissim, D. (2006). The persistence of accrual anomaly. Contemporary Accounting Research 23: 193-226.

- Lev, B., and Zarowin, P. (Autumn 1999). The boundaries of financial reporting and how to extend them. Journal of Accounting Research 37(2): 353-385.
- Lipe, R. (January 1990). The relation between stock returns and accounting earnings given alternative information. Accounting Review 65(1): 49-71.
- Lo, K., and Lys, T. (2001). Bridging the gap between value relevance and information content. Working paper, University of British Columbia and Northwestern University.
- May, R., (1971). The influence of quarterly earnings announcements on investor decisions as reflected in common stock price changes. Journal of Accounting Research Supplement (9): 119-163.
- Miller, M. H. and Rock, K. (September 1985). Dividend policy under asymmetric information. Journal of Finance 40 (4): 1031-1051.
- Morse, D. (Autumn 1981). Price and trading volume reaction surrounding earnings announcements: A closure examination. Journal of Accounting Research: 374-383.
- Narktabtee, K. (2000). The implications of accounting information in the Thai capital market. Doctoral Dissertation, University of Arkansas.
- Nichols, D. C., and Wahlen, J. M. (December 2004). How Do Earnings Numbers Relate to Stock Returns? A Review of Classic Accounting Research with Updated Evidence. Accounting Horizons 18 (4): 263-286.
- Odean, T. (1998). Are investors Reluctant to Realize their losses? The Journal of Finance 53 (5): 1775-1798.
- Ohlson, J. A. (1975). The complete ordering of information alternatives for a class of portfolio selection models. Journal of Accounting Research: 267-282.
- Ohlson, J. A. (1995). Earnings, book values, and dividends in equity valuation.

Contemporary Accounting Research 35: 83-96.

- Patell, J., and Wolfson, M. (1979). Anticipated information releases reflected in call option price. Journal of Accounting and Economics 1 (1): 117-140.
- Patell, J. M, and Wolfson, M. A. (1984). The intraday speed of adjustment of stock prices to earnings and dividend announcements. Journal of Financial Economics 13 (2): 223-252.
- Perttunen, J., Schadewitz H., and Vieru M. (January/March 2006). How investors trade around interim earnings announcements. Journal of Business Finance and Accounting 33 (1)&(2): 145-178.
- Price, R. E. (1998). Price responsiveness of informed investors to increases in financial statement disclosure quality. Working paper.
- Richardson, S. A., Sloan, R. G., Soliman, M. T., and Tuna, I. (2005). Accrual reliability, earnings persistence, and stock prices. Journal of Accounting and Economics 39: 437-485.
- Seasholes, M. (2004). Re-examining information asymmetries in emerging stock markets. Working paper, University of California, Berkeley.
- Shi, L., and Zhang, H. (May 2007). Can the earnings fixation hypothesis explain the accrual anomaly? Working paper.
- Shores, D., (1990). The association between interim information and security returns around earnings announcements. Journal of Accounting Research 28: 164-181.
- Sloan, R. G. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? The Accounting Review 71(3): 289-315.
- Srisawadi, P. (1996). The relationship between stock returns and earnings information in Thailand. Doctoral Dissertation, Boston University.
- Taylor, D. J. (January 2010). Individual investors and corporate earnings. Working

paper.

- Tinic, S. M. (1990). A perspective on the stock market's fixation on accounting numbers. The Accounting Review 65(4): 781-796.
- Udpa, S. C. (1996). Insider trading and the information content of earnings. Journal of Business Finance and Accounting 23(8): 1069-1095.
- Vacharajittipan, Suchitra. (1991). The information content of quarterly earnings: The case of Thailand. Doctoral Dissertation, George Washington University.
- Watts, R. L. (Spring 1982). Does it pay to manipulate EPS? Chase financial quarterly: 8-17.
- Watts, R. L., and Zimmerman, J. L. (1986). Positive Accounting Theory. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
- Wilson, R. (Spring 1975). Informational Economies of Scale. Bell Journal of Economics: 184-195.
- Xie, H. (2001). The mispricing of abnormal accruals. The Accounting Review 76 (3): 357-373.
- Ziebart, D. A. (April 1990). The association between consensus of beliefs and trading activity surrounding earnings announcements. The Accounting Review 65 (2): 477-488.



Appendices

ศูนย์วิทยทรัพยากร
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Appendix A

As of 1999, detail regarding Thai Accounting Standard

TAS No.	Title	Effective	Based on	Modification
-	Accounting Framework	1999	IASC	
1	Fundamental Accounting Assumption	1979	IAS No.1	Cancelled by framework of Preparation and Presentation of Financial
2	Accounting Policies	1979	IAS No.8	Cancelled by TAS No.35
3	Extraordinary Items	1979	IAS No.8	Cancelled by TAS No.39
4	Accounting Change	1979	IAS No.8	Cancelled by TAS No.39
5	Earnings Per Share	1979		Cancelled by TAS No.38
6	Revenue Recognition	1986	IAS No.18	Cancelled by TAS No.37
7	Accounting for Hire Purchase for Hirer	1987	IAS No.17	Cancelled by TAS No.29
8	Construction Contracts	1988	IAS No.11	Cancelled by TAS No.49
9	Properties, Plant and Equipment	1989	IAS No.16	Cancelled by TAS No.32
10	Depreciation Accounting	1988	IAS No.4	Cancelled by TAS No.32
11	Doubtful Accounting and Bad Debts	1989		
12	Accounting for Marketable Securities	1989		Cancelled by TAS No.40
13	Related Party Disclosures	1989	IAS No.24	Cancelled by TAS No.47
14	Accounting for research and Development Activities	1990	IAS No.9	Cancelled by TAS No.51
15	Capitalization of the Borrowing Costs	1990	IAS No.23	Cancelled by TAS No.33
16	Current Assets and Current Liabilities	1990	IAS No.13	Cancelled by TAS No.35
17	Accounting for Investments	1991	IAS No.25	Cancelled by TAS No.40
18	Accounting for Investments in subsidiaries And association	1991	IAS No.28	Cancelled by TAS No.45

Appendix A (Continued)

TAS No.	Title	Effective	Based on	Modification
19	Consolidated Financial Statements	1991	IAS No.27	Cancelled by TAS No.44
20	Accounting for Business Combinations	1991	IAS No.22	Cancelled by TAS No.43
21	Contingencies and Events Occurring After the balance sheet Date	1991	IAS No.10	Cancelled by TAS No.52,53
22	Valuation and Presentation of Inventories in the context of the Historical Cost	1991	IAS No.2	Cancelled by TAS No.31
23	Information to be Disclosed in financial Statements	1992	IAS No.5	Cancelled by TAS No.35
24	Reporting Financial Information by Segment	1994	IAS No.14	
25	Cash Flow Statements	1994	IAS No.7	
26	Accounting for Sales of Real Estate	1994		
27	Disclosures in the Financial Statements of Banks and Similar Financial Institutions	1995	IAS No.30	
28	Accounting for Convertible Debt Issued with Stock Purchase Warrants	1994		Cancelled by TAS No.48
29	Long-term Leasing	1996 public , 1999 for other business companies		Replace TAS no. 7

Appendix A (Continued)

TAS No.	Title	Effective	Based on	Modification
30	The Effect of Foreign Exchange Rate Change	1996	IAS No.21	
31	Inventory	1997	IAS No.2	
32	Property, Plant and Equipment	1999	IAS No.16	Replace TAS No.9 and 10
33	Borrowing Costs	1999	IAS No.23	Replace TAS No.15
34	Troubles Debt Restructuring	1998	SFAS No.15,114	
35	Presentation of Financial Statements	1999	IAS No.1(1997)	Replace TAS No.2,6,and23
36	Impairment of Assets	1999	IAS No.36(1998)	
37	Revenue	1999	IAS No.18 (1993)	Replace TAS No.6
38	Earnings per share	1999	IAS No.33(1997)	Replace TAS No5
39	Net Profit or Loss of the Period, Fundamental Errors, and Changes in Accounting Policies	1999	IAS No.8(1993)	Replace TAS No.3 and 4
40	Investment in Debt and Equity Securities	1999	IAS No.25,39, SFAS No.115	Replace TAS No.12 and 17
41	Interim financial Reporting	2000	IAS No.34	
42	Accounting for Special Investment Businesses	2000	AICPA	
43	Business Combinations	2000	IAS No.22(1998)	Replace TAS No.20

Appendix A (Continued)

TAS No.	Title	Effective	Based on	Modification
44	Consolidated financial Statements and accounting for Investments in Subsidiaries	2000	IAS No.27(1994) and IAS No.39(1998)	Replace TAS No.19
45	Accounting for Investments in Associates	2000	IAS No.28(1998) and IAS No.39(1998)	Replace TAS No.18
46	Financial reporting of Interests in joint Ventures	2000	IAS No.31(1998)	
47	Related Party Disclosures	2000	IAS No.24(1994)	Replace TAS No.13
48	Financial Instruments: Disclosure and Presentation	2000	IAS No.	Replace TAS No.28
49	Construction Contracts	2008	IAS No.11	Replace TAS No.8
51	Intangible Assets	2008	IAS No.38	Replace TAS No.14
52	Event After the Balance sheet Date	2005	IAS No.10	
53	Provisions, Contingent Liabilities and Contingent Assets	2005	IAS No.37	
54	Discontinued Operations	2005	IAS No.35	

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Appendix B

As of December 31, 2010 detail regarding the TAS compare to IAS/IFRS

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		Accounting framework	
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TAS 7	IAS 7	Cash Flow Statements	25
TAS 8	IAS 8	Accounting Policies, Changes in Accounting Estimates and Errors	39
TAS 10	IAS 10	Events after the Balance Sheet Date	52
TAS 11	IAS 11	Construction Contracts	49
TAS 14	IAS 14	Segment Reporting	24
TAS 16	IAS 16	Plant Property and Equipment	32
TAS 17	IAS 17	Leases	29
TAS 18	IAS 18	Revenue	37
TAS 21	IAS 21	The Effects of Changes in Foreign Exchange Rates	30
TAS 23	IAS 23	Borrowing Costs	33
TAS 24	IAS 24	Related Party Disclosures	47
TAS 27	IAS 27	Consolidated and Separate Financial Statements	44

Appendix B (Continued)

TAS/TFRS No.	IAS/IFRS	Title	From TAS No.
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TAS 31	IAS 31	Interests in Joint Ventures	46
TAS 32	IAS 32	Financial Instruments: Presentation	48
TAS 33	IAS 33	Earnings per Share	38
TAS 34	IAS 34	Interim Financial Reporting	41
TAS 36	IAS 36	Impairment of Assets	36
TAS 37	IAS 37	Provisions, Contingent Liabilities and Contingent Assets	53
TAS 38	IAS 38	Intangible Assets	51
TFRS 3	IFRS 3	Business combinations	-
TFRS 5	IFRS 5	Non-current assets held for sale and discontinued operations	-

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Appendix B (Continued)

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TAS102	-	Revenue recognition for real estate business	26
TAS103	-	Disclosures in the financial statements of bank and similar financial institutions	30
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Appendix C

Thai Accounting Standard Interpretations (TSI)

TSI	SIC	Title
2	12	Consolidation-special purpose entities
3	-	Hybrid instruments issued by financial institutions
9	-	Accounting for foreclosed assets



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Tables

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TABLE 1
Descriptive Statistics for Variables Used in Analyses (1995-2008)

Variables	Positive UE				Negative UE			
	N	Mean	Median	Std.Dev	N	Mean	Median	Std.Dev
<i>CAR</i>	4,404	0.009	0.003	0.051	4, 613	-0.013	-0.007	0.048
<i>CAV</i>	4,404	0.073	-0.023	1.733	4, 613	-0.200	-0.061	1.557
<i>UE</i>	4,404	1.402	0.762	1.880	4, 613	-1.131	-0.636	1.698
<i>SIZE</i>	4,404	7.256	7.103	1.667	4, 613	7.212	7.074	1.584
<i>LOSS</i>	4,404	0.120	0.000	0.319	4, 613	0.029	0.000	0.454

N = 9,017

This table presents the descriptive statistics for the sample. Cumulative abnormal return is calculated as $CAR_{it} = \sum_{i=1}^t AR_{it}$, where $AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt})$, R_{it} is the daily return of security i at day t and R_{mt} is the daily market returns of security i at day t , α_i and β_i are security i 's market model parameter estimates. Cumulative abnormal volume is calculated as $CAV_{it} = \sum_{i=1}^t AV_{it}$, where $AV_{it} = V_{it} - (\alpha_i + \beta_i V_{mt})$, V_{it} is the daily percentage of shares traded of security i in day t and V_{mt} is the daily percentage of shares traded for all firm in day t , α_i and β_i are security i 's market model parameter estimates. The market model parameter estimates, α_i and β_i , are calculated during estimation period (249 day before event period). *CAR* (*CAV*) is calculated as the summation of abnormal return (abnormal volume) during event period, $t - 1$ to $t + 1$ relative to earnings announcement date, $t = 0$. Unexpected earnings, *UE*, is calculates as the actual earnings per shares in quarter t minus the actual earnings per shares in quarter $t-4$. *SIZE* is the natural logarithm of the market value of equity for quarter t . *LOSS* is an indicator variable equal to one if actual *EPS* is less than zero.

TABLE 2
Descriptive Statistics Under The Two Accountings Conceptual Framework: Positive and Negative Unexpected Earnings

Panel A: Income statement Approach: N = 1,899								
Variables	Positive UE				Negative UE			
	N	Mean	Median	Std.Dev	N	Mean	Median	Std.Dev
<i>CAR</i>	802	0.007	0.003	0.055	1,097	-0.008	-0.002	0.054
<i>CAV</i>	802	-0.017	-0.045	0.845	1,097	-0.099	-0.066	0.589
<i>UE</i>	802	1.516	0.701	2.216	1,097	-1.476	-0.688	2.179
<i>SIZE</i>	802	7.029	6.847	1.665	1,097	6.865	6.633	1.581
<i>LOSS</i>	802	0.110	0.000	0.307	1,097	0.330	0.000	0.471
Panel B: Balance Sheet Approach: N = 7,118								
Variables	Positive UE				Negative UE			
	N	Mean	Median	Std.Dev	N	Mean	Median	Std.Dev
<i>CAR</i>	3,602	0.010	0.003	0.051	3,516	-0.014	-0.009	0.046
<i>CAV</i>	3,602	0.093	-0.020	1.874	3,516	-0.232	-0.059	1.752
<i>UE</i>	3,602	1.376	0.779	1.796	3,516	-1.024	-0.625	1.501
<i>SIZE</i>	3,602	7.307	7.168	1.663	3,516	7.320	7.216	1.570
<i>LOSS</i>	3,602	0.120	0.000	0.322	3,516	0.280	0.000	0.449

This table presents descriptive statistics under the two accountings conceptual framework and divided each approach into positive and negative unexpected earnings. Cumulative abnormal return and, *CAR*, cumulative abnormal volume, *CAV*, unexpected earnings, *UE*, and control variables are as defined in table 1.

TABLE 3
*Abnormal Return and Abnormal Volume Surrounding Earning Announcement
 Date in Period of Income Statement Approach (1995-1996)*

Panel A: Positive Unexpected Earnings				
Trading Day Surrounding Announcement	Abnormal Return		Abnormal volume	
	Mean AR	t-stat	Mean AV	t-stat
-15	-0.002	-1.965*	-0.031	-6.793***
-14	0.000	0.204	-0.029	-7.053***
-13	0.001	1.294	-0.015	-2.708***
-12	-0.000	-0.392	-0.022	-4.997***
-11	-0.001	-0.762	-0.019	-4.018***
-10	-0.000	-0.531	-0.025	-5.502***
-9	0.000	0.373	-0.032	-6.841***
-8	0.002	1.899*	-0.030	-6.587***
-7	-0.001	-1.319	-0.031	-6.873***
-6	-0.000	-0.364	-0.033	-7.011***
-5	-0.000	-0.446	-0.023	-4.837***
-4	0.001	1.569	-0.033	-7.292***
-3	-0.000	-0.054	-0.024	-4.659***
-2	-0.001	-1.259	-0.031	-6.264***
-1	0.003	2.498**	-0.012	-1.779*
0	0.007	5.566***	0.006	0.921
1	-0.000	-0.302	-0.016	-2.583**
2	0.000	0.438	-0.022	-3.256***
3	0.002	1.860*	-0.016	-2.670***
4	-0.000	-0.132	-0.023	-4.265***
5	-0.002	-1.868*	-0.017	-2.560**
6	0.001	1.088	-0.017	-2.487**
7	0.002	2.056**	-0.016	-2.530**
8	0.002	2.369**	-0.010	-1.406
9	0.000	0.034	-0.010	-1.183
10	-0.001	-1.086	-0.014	-1.812*
11	0.002	1.944*	-0.022	-3.622***
12	0.002	1.779*	-0.020	-3.644***
13	0.002	2.358**	-0.010	-1.711*
14	0.002	2.271**	-0.013	-2.140**
15	-0.001	-1.213	-0.012	-1.917*

Panel B: Negative Unexpected Earnings				
Trading Day Surrounding Announcement	Abnormal Return		Abnormal volume	
	Mean AR	t-stat	Mean AV	t-stat
-15	-0.001	-1.238	-0.033	-8.578***
-14	-0.001	-0.676	-0.026	-5.674***
-13	-0.001	-0.806	-0.029	-7.237***
-12	-0.002	-2.206**	-0.021	-4.586***
-11	-0.001	-1.075	-0.035	-9.531***
-10	-0.001	-0.739	-0.034	-8.858***
-9	0.003	3.313***	-0.033	-7.553***
-8	-0.001	-1.013	-0.036	-8.797***
-7	-0.002	-2.400**	-0.037	-8.409***
-6	-0.001	-1.023	-0.032	-6.367***
-5	0.001	0.994	-0.024	-4.728***
-4	-0.000	-0.227	-0.022	-4.069***
-3	0.001	0.507	-0.027	-5.893***
-2	-0.000	-0.241	-0.024	-4.797***
-1	-0.004	-4.162***	-0.022	-3.778***
0	-0.006	-5.457***	-0.025	-4.546***
1	-0.002	-1.665*	-0.042	-7.975***
2	0.001	0.629	-0.039	-7.844***
3	-0.000	-0.392	-0.025	-5.335***
4	-0.000	-0.139	-0.025	-4.663***
5	0.000	0.263	-0.032	-5.694***
6	-0.000	-0.421	-0.025	-4.155***
7	0.004	4.068***	-0.024	-4.178***
8	-0.001	-1.272	-0.025	-4.867***
9	0.000	0.409	-0.029	-5.652***
10	0.001	1.261	-0.028	-5.175***
11	-0.002	-2.773***	-0.028	-6.465***
12	-0.000	-0.222	-0.027	-5.193***
13	-0.001	-1.329	-0.021	-3.792***
14	-0.001	-0.571	-0.018	-3.165***
15	0.000	0.365	-0.018	-3.054***

This table presents mean daily abnormal return and abnormal volume around quarter earnings announcement date for the period of income statement approach. Abnormal return and abnormal volume are the firm's market model residuals on that day. The estimation period is 249 days before event window. Panel A present abnormal return and abnormal volume for positive unexpected earnings and Panel B present abnormal return and abnormal volume for negative unexpected earnings. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 4
*Abnormal Return and Abnormal Volume Surrounding Earning Announcement
 Date in Period of Balance Sheet Approach (1999-2008)*

Panel A: Positive Unexpected Earnings				
Trading Day Surrounding Announcement	Abnormal Return		Abnormal volume	
	Mean AR	t-stat	Mean AV	t-stat
-15	-0.000	-0.348	-0.050	-5.429***
-14	-0.000	-0.781	-0.020	-1.766*
-13	-0.000	-0.543	-0.030	-2.871***
-12	-0.001	-2.852***	-0.032	-3.174***
-11	-0.001	-3.185***	-0.060	-6.912***
-10	-0.000	-1.129	-0.072	-9.059***
-9	-0.001	-1.985**	-0.052	-6.037***
-8	-0.001	-3.960***	-0.067	-7.788***
-7	-0.001	-4.169***	-0.076	-8.045***
-6	0.000	0.167	-0.082	-8.807***
-5	-0.001	-2.128**	-0.058	-6.311***
-4	-0.001	-1.960*	-0.053	-5.443***
-3	0.000	0.811	-0.075	-8.101***
-2	0.000	0.560	-0.062	-6.558***
-1	-0.000	-0.184	-0.061	-6.400***
0	0.010	17.057***	0.122	9.624***
1	0.001	2.979***	0.057	4.645***
2	-0.000	-0.734	-0.008	-0.743
3	-0.000	-0.732	-0.020	-1.678*
4	-0.001	-1.672*	-0.031	-2.836***
5	-0.004	-1.079	-0.029	-2.654***
6	-0.002	-6.112***	-0.035	-3.316***
7	-0.002	-4.568***	-0.049	-4.731***
8	-0.001	-3.328***	-0.049	-4.946***
9	-0.002	-5.199***	-0.056	-5.973***
10	-0.000	-1.190	-0.052	-5.136***
11	-0.001	-4.067***	-0.058	-6.241
12	-0.001	-1.990**	-0.061	-6.447***
13	-0.000	-0.451	-0.046	-4.383***
14	-0.000	-0.405	-0.054	-5.435***
15	-0.000	-0.928	-0.054	-5.428***

Panel B: Negative Unexpected Earnings				
Trading Day Surrounding Announcement	Abnormal Return		Abnormal Volume	
	Mean AR	t-stat	Mean AV	t-stat
-15	-0.001	-1.961*	-0.062	-6.033***
-14	-0.001	-3.330**	-0.049	-4.439***
-13	-0.002	-5.829***	-0.073	-7.448***
-12	-0.001	-3.176***	-0.066	-6.793***
-11	-0.001	-3.231***	-0.073	-7.847***
-10	-0.001	-3.371***	-0.096	-10.981***
-9	-0.001	-3.138***	-0.087	-9.421***
-8	-0.001	-2.779***	-0.102	-11.083***
-7	-0.001	-2.377**	-0.100	-10.690***
-6	0.000	0.224	-0.086	-8.827***
-5	-0.000	-0.869	-0.090	-9.371***
-4	-0.001	-1.737*	-0.085	-9.157***
-3	-0.001	-2.509**	-0.098	-10.860***
-2	-0.001	-3.018***	-0.109	-11.300***
-1	-0.001	-1.913*	-0.105	-10.855***
0	-0.012	-25.161***	-0.055	-5.803***
1	-0.003	-8.136***	-0.108	-10.799***
2	-0.001	-3.248***	-0.130	-13.232***
3	-0.001	-1.601	-0.120	-11.649***
4	-0.001	-2.838***	-0.123	-12.174***
5	-0.001	-3.365***	-0.121	-12.298***
6	-0.001	-4.288***	-0.125	-13.655***
7	-0.002	-4.843***	-0.118	-12.635***
8	-0.001	-4.389***	-0.121	-13.095***
9	-0.000	-1.022	-0.128	-14.505***
10	-0.001	-2.201**	-0.110	-11.371***
11	-0.000	-0.810	-0.113	-11.270***
12	-0.000	-1.102	-0.109	-10.667***
13	0.001	2.196**	-0.085	-7.910***
14	0.001	2.672***	-0.083	-7.811***
15	-0.000	-0.883	-0.086	-8.405***

This table presents mean daily abnormal return and abnormal volume around quarter earnings announcement date for the period of balance sheet approach. Abnormal return and abnormal volume are the firm's market model residuals on that day. The estimation period is 249 days before event window. Panel A present abnormal return and abnormal volume for positive unexpected earnings and Panel B present abnormal return and abnormal volume for negative unexpected earnings. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 5
Full Sample Regression Analysis of the Usefulness of Earnings Information Under the Two Accounting Conceptual Framework

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.002*** (-4.464)	0.006** (2.435)	-0.001 (-0.973)	0.006** (2.261)
<i>UE</i>	0.171*** (16.453)	0.124*** (10.800)	0.083*** (4.434)	0.038* (1.943)
<i>D</i>			-0.015 (-1.439)	-0.012 (-0.732)
<i>DUE</i>			0.107*** (5.728)	0.106*** (5.672)
<i>TIME</i>		-0.012 (-1.688)		-0.002 (-0.103)
<i>SIZE</i>		-0.020* (-1.860)		-0.019* (-1.800)
<i>LOSS</i>		-0.110*** (-9.301)		-0.109*** (-9.192)
Adj R-square N = 9,017	0.029	0.038	0.033	0.041
Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.073*** (-4.205)	0.023 (0.264)	-0.062 (-1.630)	-0.002 (-0.027)
<i>UE</i>	0.080*** (7.643)	0.062*** (5.292)	0.017 (0.883)	-0.002 (-0.127)
<i>D</i>			-0.005 (-0.497)	0.011 (0.697)
<i>DUE</i>			0.077*** (4.065)	0.077*** (4.048)
<i>TIME</i>		-0.014 (-1.352)		-0.022 (-1.335)
<i>SIZE</i>		-0.001 (-0.096)		0.000 (0.019)
<i>LOSS</i>		-0.045*** (-3.705)		-0.045*** (-3.701)
Adj R-square N = 9,017	0.006	0.008	0.008	0.009

This table presents the results from OLS regression of *CAR* (*CAV*) on *UE* and *DUE*, *D* is an indicator variable equal to one for firm-years in the period of balance sheet approach and zero for firm-years in the period of income statement approach. *CAR*, *CAV*, *UE* and control variables are as defined in Table 1. Control variable *TIME* takes on value year t less 1994. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 6
Full Sample Regression Analysis of the Usefulness of Earnings Information Under the Two Accounting Conceptual Framework: Exclude Crisis Period (1997-1998)

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.003*** (-5.258)	0.005 (1.639)	-0.002 (-1.346)	0.010*** (2.823)
<i>UE</i>	0.171*** (15.564)	0.119*** 10.055	0.194*** (5.169)	0.144*** (3.819)
<i>D</i>			-0.005 (-0.477)	0.026* (1.723)
<i>DUE</i>			-0.024 (-0.633)	-0.031 (-0.829)
<i>TIME</i>		-0.005 (-0.454)		-0.031** (-2.034)
<i>SIZE</i>		-0.015 (-1.332)		-0.031*** (-2.752)
<i>LOSS</i>		-0.136*** (-11.218)		-0.146*** (-12.062)
Adj R-square N = 8,059	0.029	0.044	0.029	0.044
Panel B: Dependent variable - Cumulative Abnormal volume (CAV)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.150*** (-9.246)	-0.098 (-1.152)	-0.046 (-0.963)	-0.112 (-1.228)
<i>UE</i>	0.070*** (6.321)	0.044*** (3.639)	0.012 (0.304)	-0.013 (-0.330)
<i>D</i>			-0.026** (-2.333)	0.008 (0.504)
<i>DUE</i>			0.062 (1.626)	0.059 (1.549)
<i>TIME</i>		-0.036*** (-3.252)		-0.043*** (-2.698)
<i>SIZE</i>		0.018 (1.606)		0.019* (1.662)
<i>LOSS</i>		-0.069*** (-5.563)		-0.069*** (-5.579)
Adj R-square N = 8,059	0.005	0.010	0.005	0.010

This table presents the results from OLS regression of CAR (CAV) on UE and DUE, D is an indicator variable equal to one for firm-years in the period of balance sheet approach and zero for firm-years in the period of income statement approach. This table excluded crisis (1997-1998) from the examination. CAR, CAV, UE and control variables are as defined in Table 1. Control variable TIME takes on value year t less 1994. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 7
Time Trend Analysis of the usefulness of Earnings Information Under the Balance Sheet Approach (1999-2008)

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.003*** (-4.639)	-0.007* (-1.663)	-0.003*** (-4.638)	0.009* (-1.848)
<i>UE</i>	0.195*** (13.792)	0.149*** (8.837)	0.197*** (5.092)	0.151*** (3.428)
<i>UE* TREND</i>			-0.002 (-0.052)	-0.002 (-0.048)
<i>TREND</i>		0.026 (1.576)		0.027 (1.564)
<i>SIZE</i>		0.014 (0.866)		0.014 (0.866)
<i>LOSS</i>		-0.121*** (-6.895)		-0.121*** (-6.893)
<i>LEV</i>		-0.010 (-0.605)		-0.010 (-0.605)
<i>GROWTH</i>		0.004 (-0.283)		-0.004 (-0.282)
<i>PREDICT</i>		-0.003 (-0.166)		-0.003 (-0.165)
Adj R-square	0.038	0.050	0.038	0.050
N = 4,800				

Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.061** (-2.059)	-0.057 (-0.290)	-0.064** (-2.162)	-0.106 (-0.541)
<i>UE</i>	0.096*** (6.683)	0.097*** (5.620)	0.230*** (5.860)	0.231*** (5.143)
<i>UE* TREND</i>			-0.144*** (-3.667)	-0.144*** (-3.235)
<i>TREND</i>		-0.027 (-1.580)		-0.018 (-1.049)
<i>SIZE</i>		0.010 (0.624)		0.010 (0.590)
<i>LOSS</i>		-0.017 (-0.947)		-0.018 (-1.015)
<i>LEV</i>		0.026 (1.598)		0.026 (1.556)
<i>GROWTH</i>		0.017 (1.092)		0.018 (1.142)
<i>PREDICT</i>		0.007 (0.424)		0.008 (0.473)
Adj R-square	0.009	0.011	0.012	0.013
N = 4,800				

This table presents the results from OLS regression of *CAR* (*CAV*) on *UE* TREND*, to test for overtime change in earnings response coefficient (ERC). *CAR*, *CAV*, *UE* and 3 control variables, *SIZE* and *LOSS*, are as defined in Table 1. Control variable *TREND* takes on value year t less 1998. Leverage, *LEV*, is calculated as total liabilities scaled by total assets. *GROWTH* is calculated as market value of equity scaled by book value of equity. Predictability, *PREDICT*, computed as square root of the estimated error-variance from the earnings-persistence equation. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

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TABLE 8
Time Trend Analysis of the Usefulness of Earnings information Under the Balance Sheet Approach (1999-2008): Profit cases

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	0.000 (-0.625)	-0.005 (-1.153)	0.000 (-0.626)	-0.006 (-1.215)
<i>UE</i>	0.158*** (10.101)	0.150*** (8.555)	0.153*** (3.729)	0.171*** (3.434)
<i>UE* TREND</i>			0.006 (0.135)	-0.022 (-0.443)
<i>TREND</i>		0.027 (1.460)		0.031 (1.522)
<i>SIZE</i>		0.004 (0.207)		0.004 (0.198)
<i>LEV</i>		-0.004 (-0.251)		-0.005 (-0.263)
<i>GROWTH</i>		-0.012 (-0.693)		-0.012 (-0.692)
<i>PREDICT</i>		0.004 (0.216)		0.004 (0.228)
Adj R-square	0.025	0.021	0.024	0.021
N = 3,996				

Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.049 (-1.570)	-0.106 (-0.526)	-0.048 (-1.540)	-0.251 (-1.229)
<i>UE</i>	0.114*** (7.223)	0.115*** (6.514)	0.269*** (6.549)	0.293*** (5.889)
<i>UE* TREND</i>			-0.168*** (-4.097)	-0.192*** (-3.831)
<i>TREND</i>		-0.020 (-1.077)		0.007 (0.353)
<i>SIZE</i>		0.007 (0.392)		0.006 (0.316)
<i>LEV</i>		0.037** (2.074)		0.035** (1.973)
<i>GROWTH</i>		0.027 (1.525)		0.027 (1.540)
<i>PREDICT</i>		0.017 (0.906)		0.019 (1.008)
Adj R-square	0.013	0.015	0.017	0.019
N = 3,996				

This table presents the results from OLS regression of *CAR* (*CAV*) on *UE* TREND* for profit cases, to test for overtime change in earnings response coefficient (ERC) for profit cases. *CAR*, *CAV*, *UE* and control variables, are as defined in Table 1 and Table 7. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 9
Time Trend Analysis of the Usefulness of Earnings information Under the Balance Sheet Approach (1999-2008): Loss cases

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.019*** (-8.636)	-0.029*** (-2.742)	-0.019*** (-8.652)	-0.033*** (-2.899)
<i>UE</i>	0.067* (1.855)	0.085** (2.122)	0.140 (1.557)	-0.012 (-0.109)
<i>UE* TREND</i>			-0.079 (-0.882)	0.109 (0.943)
<i>TREND</i>		0.036 (0.841)		0.062 (1.217)
<i>SIZE</i>		0.031 (0.761)		0.031 (0.760)
<i>LEV</i>		-0.016 (-0.377)		-0.012 (-0.285)
<i>GROWTH</i>		0.077** (1.905)		0.076* (1.872)
<i>PREDICT</i>		-0.025 (-0.586)		-0.023 (-0.537)
Adj R-square	0.003	0.008	0.003	0.008
N = 804				

Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.342*** (-3.067)	-0.044 (-0.076)	-0.342*** (-3.065)	0.056 (0.091)
<i>UE</i>	-0.040 (-1.090)	-0.014 (-0.340)	-0.036 (-0.398)	0.037 (0.330)
<i>UE* TREND</i>			-0.004 (-0.046)	-0.057 (-0.486)
<i>TREND</i>		-0.047 (-1.087)		-0.061 (-1.177)
<i>SIZE</i>		0.011 (0.271)		0.011 (0.272)
<i>LEV</i>		-0.002 (-0.058)		-0.004 (-0.104)
<i>GROWTH</i>		-0.024 (-0.593)		-0.024 (-0.575)
<i>PREDICT</i>		-0.016 (-0.362)		-0.017 (-0.386)
Adj R-square	0.000	-0.007	-0.001	-0.008
N = 804				

This table presents the results from OLS regression of *CAR* (*CAV*) on *UE* TREND* for losses cases, to test for overtime change in earnings response coefficient (ERC) for losses cases. *CAR*, *CAV*, *UE* and control variables, are as defined in Table 1 and Table 8. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 10
Net Buying Activity Around Earnings Announcement Date with Negative and Positive Unexpected Earnings in Each Investor Class

Panel A: Positive Unexpected Earnings

Day	Investor Class					
	Individual		Institutional		Foreign	
	Mean	t-stat	Mean	t-stat	Mean	t-stat
-15	-0.022	-1.484	-0.085	-1.144	0.023	0.471
-14	0.013	0.932	-0.034	-0.459	0.006	0.116
-13	0.006	0.399	-0.116	-1.549	0.072	1.352
-12	0.004	0.238	0.018	0.235	0.154	2.696***
-11	0.008	0.558	0.151	2.064**	-0.041	-0.777
-10	-0.024	-1.749*	0.026	0.326	-0.013	-0.236
-9	-0.006	-0.427	0.064	0.847	-0.021	-0.398
-8	-0.015	-1.171	0.056	0.665	0.006	0.118
-7	-0.015	-1.013	-0.099	-1.090	0.024	0.405
-6	-0.008	-0.534	-0.014	-0.163	0.028	0.518
-5	0.019	1.335	-0.109	-1.261	-0.135	-2.779***
-4	-0.009	-0.602	-0.009	-0.093	-0.060	-1.181
-3	-0.002	-0.156	-0.134	-1.474	-0.118	-2.048**
-2	-0.035	-2.453**	-0.154	-1.771*	-0.121	-2.353**
-1	0.004	0.264	-0.138	-1.729*	-0.110	-2.324**
0	-0.032	-1.814*	-0.091	-1.146	-0.044	-0.806
1	-0.057	-3.739***	-0.043	-0.521	0.110	2.310**
2	-0.016	-1.080	0.007	0.085	0.110	2.174**
3	-0.012	-0.855	-0.038	-0.478	0.145	2.528**
4	-0.030	-1.980**	0.067	0.775	-0.095	-1.777*
5	-0.044	-2.946***	0.123	1.332	-0.056	-1.009
6	-0.029	-1.876*	0.048	0.570	0.055	0.970
7	-0.049	-3.383***	0.012	0.146	0.061	1.039
8	-0.013	-0.766	-0.154	-1.583	0.070	1.141
9	-0.025	-1.554	-0.131	-1.474	0.032	0.536
10	-0.028	-1.690*	-0.055	-0.562	-0.036	-0.639
11	-0.069	-3.963***	0.006	0.059	-0.031	-0.526
12	-0.034	-1.950*	0.083	0.866	0.016	0.248
13	-0.064	-3.858***	0.185	1.753*	0.022	0.323
14	-0.009	-0.524	-0.053	-0.514	0.090	1.384
15	-0.005	-0.293	0.092	0.840	-0.040	-0.575

Panel B: Negative Unexpected Earnings

Day	Investor Class					
	Individual		Institutional		Foreign	
	Mean	t-stat	Mean	t-stat	Mean	t-stat
-15	0.013	0.827	-0.091	-1.083	0.014	0.299
-14	0.004	0.216	-0.141	-1.507	-0.084	-1.801*
-13	-0.017	-1.139	-0.045	-0.516	-0.171	-3.157***
-12	0.003	0.178	-0.145	-1.555	-0.150	-2.497**
-11	-0.028	-1.839*	-0.203	-1.983**	-0.234	-3.912***
-10	-0.035	-2.256**	0.032	0.295	-0.238	-4.582***
-9	-0.020	-1.351	-0.015	-0.153	-0.173	-3.108***
-8	-0.048	-2.730***	0.000	0.003	0.006	0.114
-7	-0.051	-3.332***	-0.045	-0.484	-0.060	-1.141
-6	-0.062	-4.030***	-0.094	-1.028	0.043	0.832
-5	-0.019	-1.279	-0.183	-1.780	-0.041	-0.767
-4	-0.031	-2.234**	-0.089	-0.833	0.038	0.710
-3	-0.002	-0.153	-0.009	-0.092	0.033	0.556
-2	-0.020	-1.625	-0.096	-0.897	-0.048	-0.880
-1	-0.013	-1.007	-0.285	-2.614***	0.021	0.402
0	-0.010	-0.715	-0.328	-3.819***	-0.010	-0.200
1	0.052	4.181***	0.053	0.581	-0.146	-3.348***
2	0.026	1.967**	0.110	1.191	-0.093	-1.793***
3	0.024	1.813*	0.108	1.379	-0.071	-1.323
4	0.033	2.684***	-0.011	-0.119	-0.063	-1.200
5	0.004	0.255	0.107	1.261	0.112	1.904*
6	0.025	1.784*	0.106	1.197	0.066	1.178
7	0.007	0.536	0.037	0.437	0.046	0.784
8	-0.014	-1.077	0.065	0.676	0.170	2.821***
9	-0.033	-2.394**	0.025	0.274	0.241	4.068***
10	-0.008	-0.535	-0.034	-0.332	-0.027	-0.448
11	0.003	0.154	-0.097	-0.786	0.008	0.124
12	0.015	0.841	-0.133	-1.122	0.195	2.689***
13	0.002	0.134	0.037	0.244	0.012	0.155
14	-0.018	-0.990	0.058	0.476	0.083	0.992
15	-0.050	-2.792***	-0.028	-0.205	0.069	1.032

This table presents mean daily net buying activity around quarter earnings announcement date. Net buying activity is the abnormal buy-sell imbalance as a fraction of total non-event trades. The estimation period is 57 days before day $t = -3$. Panel A present mean daily net buying activity for positive unexpected earnings in each investor class and Panel B present mean daily net buying activity for negative unexpected earnings in each investor class. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 11
Mean in Absolute Value of Earnings Response Coefficient (ERC) for Two Investor Classes: 1999-2008

Investor Class	ERC $CNetBuy_{it}^j = \beta_0 + \beta_1 UE_{it} + \varepsilon_{it}$		
	All cases	Positive UE	Negative UE
Individual	0.023	0.043	0.055
Institutional	0.053	0.081	0.102

This table present mean in absolute value of earnings response coefficient (ERC) for individual and institutional investors. Institutional investors are foreign and domestic institutional. ERC is the coefficient on UE variable from model (4) which is yearly regressed. Cumulative net buying activity, $CNetBuy$, is calculated as the summation abnormal net buying activity during event period, $t - 1$ to $t+1$ relative to earnings announcement date, $t = 0$, $CNetBuy_{it}^j = \sum_{i=1}^{\tau} (ABUY_{it}^j - ASELL_{it}^j)$. Unexpected earnings, UE , is calculates as the actual earnings per shares in quarter t minus the actual earnings per shares in quarter $t-4$.

TABLE 12
Mean in Absolute Value of Earnings Response Coefficient (ERC) for Three Investor Classes: 1999-2008

Investor Class	ERC $CNetBuy_{it}^j = \beta_0 + \beta_1 UE_{it} + \varepsilon_{it}$		
	All cases	Positive UE	Negative UE
Individual	0.023	0.043	0.055
Institutional	0.067	0.065	0.137
Foreign	0.033	0.047	0.051

This table present mean in absolute value of earnings response coefficient (ERC) for three classes of investors. ERC is the coefficient on UE variable from model (4) which is yearly regressed. Cumulative net buying activity, $CNetBuy$, is calculated as the summation abnormal net buying activity during event period, $t - 1$ to $t+1$ relative to earnings announcement date, $t = 0$, $CNetBuy_{it}^j = \sum_{i=1}^{\tau} (ABUY_{it}^j - ASELL_{it}^j)$. Unexpected earnings, UE , is calculates as the actual earnings per shares in quarter t minus the actual earnings per shares in quarter $t-4$.

TABLE 13
Mean Difference in Absolute Value of Earnings Response Coefficient (ERC) for Two Investor Classes

Investor Class	ERC					
	All cases		Positive UE		Negative UE	
	Mean Difference	t-stat	Mean Difference	t-stat	Mean Difference	t-stat
Individual vs. Institutional	-0.030	-1.812**	-0.038	-1.350*	-0.047	-2.411**

This table present mean difference in earnings response coefficient (ERC) between domestic individual investors and foreign investor. Institutional investors are foreign and domestic institutional. I assess the statistical significance by comparing the ten years (1999-2008) ERC using independent sample t-tests. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 14
Mean Difference in Absolute Value of Earnings Response Coefficient (ERC) for Three Investor Classes

Investor Class	ERC					
	All cases		Positive UE		Negative UE	
	Mean Difference	t-stat	Mean Difference	t-stat	Mean Difference	t-stat
Individual vs. Institutional	-0.044	-3.096***	-0.022	-1.098	-0.082	-2.736**
Individual vs. Foreign	-0.010	-1.323*	-0.004	-0.277	0.004	0.234
Foreign vs. Institutional	-0.034	-2.339**	-0.018	-1.062	-0.086	-2.710**

This table present mean difference in earnings response coefficient (ERC) among three classes of investors. I assess the statistical significance by comparing the ten years (1999-2008) ERC between each pair of classes using independent sample t-tests. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 15
The Value Relevance of Earnings and Book Value Under period of Balance Sheet Approach (1999-2008)

Year	N	Model 1				Model2			Model3			Incremental Adj. R ²		
		Constant	EPS	BV	Total adj R ²	Constant	EPS	Relative EPSadj R ²	Constant	BV	Relative BVadj R ²	BV	EPS	Common.
1999Q1	379	11.687 (6.436)	0.175 (3.641)	0.499 (10.386)	0.367	24.093 (15.549)	0.435 (9.384)	0.187	8.825 (5.306)	0.590 (14.181)	0.346	0.180	0.021	0.166
1999Q2	367	16.548 (8.537)	0.088 (1.858)	0.479 (10.172)	0.258	28.362 (16.146)	0.230 (4.512)	0.050	(16.107) (8.344)	0.505 (11.192)	0.253	0.208	0.005	0.045
1999Q3	359	12.437 (6.714)	0.096 (2.141)	0.585 (13.039)	0.392	28.302 (16.690)	0.326 (6.514)	0.104	10.695 (6.394)	0.622 (15.023)	0.386	0.288	0.006	0.098
2000Q1	359	12.325 (7.335)	0.190 (3.944)	0.507 (10.538)	0.387	22.524 (14.335)	0.447 (9.449)	0.198	10.899 (6.510)	0.603 (14.282)	0.362	0.189	0.025	0.173
2000Q2	352	11.567 (6.086)	0.175 (3.322)	0.480 (9.142)	0.354	22.354 (13.498)	0.452 (9.477)	0.202	9.555 (5.230)	0.581 (13.357)	0.336	0.152	0.018	0.184
2000Q3	345	9.734 (6.257)	0.156 (3.070)	0.518 (10.168)	0.378	19.164 (13.465)	0.441 (9.103)	0.192	8.620 (5.630)	0.604 (14.026)	0.363	0.186	0.015	0.177
2001Q1	354	8.898 (5.820)	0.351 (7.454)	0.424 (8.991)	0.468	15.647 (10.607)	0.591 (13.758)	0.348	8.349 (5.088)	0.623 (14.931)	0.386	0.120	0.082	0.266
2001Q2	354	10.955 (6.903)	0.315 (6.620)	0.455 (9.551)	0.470	18.395 (11.869)	0.580 (13.346)	0.334	10.369 (6.179)	0.638 (15.549)	0.405	0.136	0.065	0.269
2001Q3	343	7.538 (5.003)	0.257 (5.520)	0.532 (11.421)	0.503	15.770 (10.148)	0.563 (12.581)	0.315	7.532 (4.796)	0.680 (17.118)	0.461	0.188	0.042	0.273
2002Q1	352	7.779 (4.441)	0.353 (8.717)	0.510 (12.605)	0.552	18.293 (9.858)	0.594 (13.798)	0.350	9.303 (4.844)	0.677 (17.199)	0.456	0.202	0.096	0.254
2002Q2	357	7.502 (4.116)	0.415 (9.958)	0.442 (10.627)	0.563	15.526 (8.161)	0.654 (16.281)	0.426	9.895 (4.848)	0.667 (16.849)	0.443	0.137	0.12	0.306

TABLE 15 (Cont)

Year	N	Model 1 $P_{iqt} = \alpha_0 + \alpha_1 E_{iqt} + \alpha_2 BV_{iqt} + \varepsilon_{iqt}$				Model 2 $P_{iqt} = \alpha_0 + \alpha_1 E_{iqt} + \varepsilon_{iqt}$			Model 3 $P_{iqt} = \alpha_0 + \alpha_1 BV_{iqt} + \varepsilon_{iqt}$			Incremental Adj. R ²		
		Constant	EPS	BV	Total adj R ²	Constant	EPS	Relative EPSadj R ²	Constant	BV	Relative BVadj R ²	BV	EPS	Common.
2002Q3	357	7.868 (4.807)	0.298 (6.743)	0.541 (12.250)	0.584	17.853 (10.556)	0.641 (15.717)	0.409	7.065 (4.080)	0.730 (20.115)	0.531	0.175	0.053	0.356
2003Q1	357	5.570 (3.533)	0.410 (10.446)	0.485 (12.348)	0.624	13.473 (7.827)	0.682 (17.573)	0.464	7.772 (4.355)	0.715 (19.261)	0.510	0.160	0.114	0.350
2003Q2	378	6.319 (4.406)	0.379 (10.676)	0.542 (15.268)	0.618	15.367 (9.252)	0.620 (15.328)	0.383	9.236 (5.752)	0.711 (19.590)	0.504	0.235	0.114	0.269
2003Q3	374	10.828 (6.774)	0.371 (9.658)	0.509 (13.245)	0.581	20.896 (12.262)	0.621 (15.284)	0.384	12.318 (6.931)	0.691 (18.460)	0.477	0.197	0.104	0.280
2004Q1	399	8.639 (5.738)	0.398 (10.267)	0.487 (12.555)	0.637	16.844 (10.515)	0.704 (19.724)	0.494	8.894 (5.257)	0.737 (21.700)	0.541	0.143	0.096	0.398
2004Q2	411	7.167 (5.181)	0.282 (8.117)	0.613 (17.657)	0.622	18.055 (10.989)	0.580 (14.409)	0.335	7.457 (5.009)	0.751 (22.969)	0.562	0.287	0.060	0.275
2004Q3	416	5.415 (4.479)	0.331 (10.236)	0.605 (18.733)	0.666	15.823 (10.846)	0.621 (16.113)	0.384	6.012 (4.451)	0.764 (24.080)	0.582	0.282	0.084	0.300
2005Q1	436	4.854 (5.040)	0.434 (13.628)	0.511 (16.020)	0.700	11.113 (10.016)	0.724 (21.8490)	0.523	5.971 (5.212)	0.757 (24.122)	0.572	0.177	0.128	0.395
2005Q2	450	4.213 (4.268)	0.335 (9.404)	0.564 (15.838)	0.676	10.316 (9.095)	0.705 (21.029)	0.496	4.334 (4.017)	0.784 (26.688)	0.613	0.180	0.063	0.433
2005Q3	445	3.526 (4.510)	0.497 (18.0780)	0.501 (18.255)	0.755	9.664 (10.349)	0.756 (24.329)	0.571	4.610 (4.489)	0.759 (24.506)	0.575	0.184	0.18	0.391

TABLE 15 (Cont)

Year	N	Model 1 $P_{iqt} = \alpha_0 + \alpha_1 E_{iqt} + \alpha_2 BV_{iqt} + \varepsilon_{iqt}$				Model2 $P_{iqt} = \alpha_0 + \alpha_1 E_{iqt} + \varepsilon_{iqt}$			Model3 $P_{iqt} = \alpha_0 + \alpha_1 BV_{iqt} + \varepsilon_{iqt}$			Incremental Adj. R ²		
		Constant	EPS	BV	Total adj R ²	Constant	EPS	Relative EPSadj R ²	Constant	BV	Relative BVadj R ²	BV	EPS	Common
2006Q1	460	3.911 (4.704)	0.450 (15.373)	0.518 (17.704)	0.715	9.842 (9.975)	0.722 (22.361)	0.521	5.178 (5.088)	0.755 (24.628)	0.569	0.194	0.146	0.375
2006Q2	480	3.882 (4.628)	0.323 (10.840)	0.616 (20.678)	0.650	11.481 (11.067)	0.582 (15.640)	0.337	4.661 (5.000)	0.752 (24.931)	0.564	0.313	0.086	0.251
2006Q3	488	2.681 (3.631)	0.562 (21.808)	0.437 (16.975)	0.770	7.543 (8.790)	0.797 (29.064)	0.634	4.262 (4.126)	0.739 (24.187)	0.545	0.136	0.225	0.409
2007Q1	481	4.506 (4.531)	0.410 (11.822)	0.482 (13.897)	0.640	10.555 (9.973)	0.704 (21.722)	0.495	4.099 (3.632)	0.732 (23.537)	0.535	0.145	0.105	0.39
2007Q2	483	3.183 (3.380)	0.431 (15.455)	0.549 (19.668)	0.707	11.108 (9.720)	0.688 (20.814)	0.473	4.059 (3.532)	0.751 (24.928)	0.563	0.234	0.144	0.329
2007Q3	476	3.954 (3.907)	0.346 (10.650)	0.561 (17.269)	0.639	11.169 (9.500)	0.644 (18.326)	0.413	4.529 (4.030)	0.745 (24.310)	0.554	0.226	0.085	0.328
2008Q1	355	10.225 (5.124)	0.064 (1.379)	0.508 (10.906)	0.273	23.521 (12.889)	0.183 (3.490)	0.031	10.434 (5.237)	0.523 (11.530)	0.272	0.242	0.001	0.030
2008Q2	379	10.375 (4.627)	0.163 (3.735)	0.533 (12.248)	0.367	28.911 (14.791)	0.345 (7.140)	0.117	5.812 (3.039)	0.589 (14.153)	0.345	0.250	0.022	0.095
2008Q3	383	8.421 (4.398)	0.156 (3.319)	0.444 (9.417)	0.269	19.713 (11.907)	0.321 (6.618)	0.101	7.049 (3.722)	0.502 (11.321)	0.250	0.168	0.019	0.082
Mean											0.193	0.071	0.234	

This table presents the value relevance of earnings and book value under the period of balance approach. P_{iqt} is share price of firm i at end of quarter q in year t, E_{iqt} is earnings per share of firm i at end of quarter q in year t, and BV_{iqt} is book value (equity) per share of firm i at end of quarter q in year t. Incremental explanatory power is derived by subtracting relative from total information content. Common explanatory power is derived by subtracting incremental from total information content. T statistic shown in parentheses.

TABLE 16
Full Sample Regression Analysis of the Usefulness of Earnings Information Under
the Two Accounting Conceptual Framework: Mean and Median Adjusted Model
for Volume Analysis

Panel A: Dependent variable - Cumulative Abnormal Volume: CAV				
(Mean adjusted model)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.097*** (-4.178)	0.151 (1.234)	-0.025 (-0.357)	0.094 (0.706)
<i>UE</i>	0.089*** (7.704)	0.062*** (4.843)	0.007 (0.184)	-0.016 (-0.410)
<i>D</i>			-0.012 (-1.073)	0.021 (1.258)
<i>DUE</i>			0.086** (2.232)	0.081** (2.083)
<i>TIME</i>		-0.027** (-2.299)		-0.043** (-2.592)
<i>SIZE</i>		-0.005 (-0.448)		-0.004 (-0.292)
<i>LOSS</i>		-0.066*** (-5.023)		-0.067*** (-5.099)
Adj R-square	0.008	0.012	0.008	0.012
N = 8,731				

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**Panel B: Dependent variable - Cumulative Abnormal Volume: CAV
(Median adjusted model)**

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	0.645*** (26.856)	1.120*** (8.825)	0.208*** (2.851)	0.915*** (6.681)
<i>UE</i>	0.061*** (5.250)	0.082*** (6.440)	0.007 (0.171)	0.018 (0.455)
<i>D</i>			0.074*** (6.334)	0.066*** (4.032)
<i>DUE</i>			0.057 (1.468)	0.064* (1.654)
<i>TIME</i>		-0.055*** (-4.712)		0.008 (0.476)
<i>SIZE</i>		-0.084*** (-6.993)		-0.078*** (-6.450)
<i>LOSS</i>		0.044** (3.328)		-0.038*** (2.867)
Adj R-square N = 8,731	0.004	0.015	0.009	0.017

This table presents the results from OLS regression of *CAR* (*CAV*) on *DUE*, which is an indicator variable equal to one for firm-years in the period of balance sheet approach and zero for firm-years in the period of income statement approach. *CAR*, *UE* and control variables are as defined in Table 1. Control variable *TIME* takes on value year *t* less 1994. Cumulative abnormal volume, *CAV*, is calculated as $CAV_{it} = \sum_{i=1}^t AV_{it}$ where $AV_{it} = V_{it} - \hat{V}_{it}$, V_{it} is the daily percentage of shares traded for firm *i* in day *t* and \hat{V}_{it} is the mean (median) daily percentage of shares traded of security *i* in estimation window. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

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TABLE 17
Full Sample Regression Analysis of the Usefulness of Earnings Information Under
the Two Accounting Conceptual Framework, exclude 1997-1998: Mean and
Median Adjusted Model for Volume Analysis

Panel A: Dependent variable - Cumulative Abnormal Volume :CAV				
(Mean adjusted model)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.163*** (-7.937)	-0.030 (-0.055)	-0.038 (-0.614)	-0.065 (-0.553)
<i>UE</i>	0.065*** (5.617)	0.036*** (2.838)	0.003 (0.071)	-0.021 (-0.533)
<i>D</i>			-0.025** (-2.103)	0.014 (0.882)
<i>DUE</i>			0.065 (1.639)	0.059 (1.488)
<i>TIME</i>		-0.039*** (-3.352)		-0.051*** (-3.078)
<i>SIZE</i>		0.013 (1.054)		0.014 (1.163)
<i>LOSS</i>		-0.074*** (-5.733)		-0.075*** (-5.777)
Adj R-square	0.004	0.010	0.005	0.010
N = 7,377				

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**Panel B: Dependent variable - Cumulative Abnormal Volume :CAV
(Median adjusted model)**

<i>Independent Variable</i>	(1)	(2)	(3)	(4)
<i>Constant</i>	0.651*** (27.203)	1.129*** (8.957)	0.208*** (2.850)	0.915*** (6.705)
<i>UE</i>	0.054*** (4.645)	0.071*** (5.637)	0.000 (0.012)	0.010 (0.242)
<i>D</i>			0.075*** (6.438)	0.068*** (4.213)
<i>DUE</i>			0.056 (1.406)	0.061 (1.530)
<i>TIME</i>		0.055*** (4.743)		0.006 (0.365)
<i>SIZE</i>		-0.084*** (-7.015)		-0.078*** (-6.428)
<i>LOSS</i>		-0.037*** (2.908)		-0.032** (-2.447)
Adj R-square N = 7,377	0.003	0.013	0.009	0.016

This table presents the results from OLS regression of *CAR* (*CAV*) on *DUE*, which is an indicator variable equal to one for firm-years in the period of balance sheet approach and zero for firm-years in the period of income statement approach. This table excluded crisis (1997-1998) from the examination. *CAR*, *UE* and control variables are as defined in Table 1. *CAV* is calculated from mean and median adjusted model as defined in Table 14. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 18
Time trend Analysis of the Usefulness of Earnings Information Under the Two Accounting Conceptual Framework: Mean and Median Adjusted Model for Volume Analysis

Panel A: Dependent variable - Cumulative Abnormal Volume :CAV				
(Mean adjusted model)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.098*** (-2.833)	0.166 (0.735)	-0.100*** (-2.906)	0.133 (0.584)
<i>UE</i>	0.106*** (7.058)	0.087*** (4.893)	0.192*** (4.597)	0.165*** (3.417)
<i>UE* TREND</i>			-0.092** (-2.200)	-0.083* (-1.730)
<i>TREND</i>		-0.047*** (-2.627)		-0.042* (-2.293)
<i>SIZE</i>		0.002 (0.115)		0.002 (0.096)
<i>LOSS</i>		-0.050*** (-2.672)		-0.051*** (-2.702)
<i>LEV</i>		0.032* (1.885)		0.032* (1.864)
<i>GROWTH</i>		0.034** (2.064)		0.035** (2.095)
<i>PREDICT</i>		-0.004 (-0.223)		-0.004 (-0.203)
Adj R-square	0.011	0.015	0.012	0.016
N = 4,349				

**Panel B: Dependent variable - Cumulative Abnormal Volume: CAV
(Median adjusted model)**

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	0.696*** (19.529)	1.773*** (7.597)	0.693*** (19.443)	1.736*** (7.412)
<i>UE</i>	0.100*** (6.604)	0.105*** (5.955)	0.206*** (4.935)	0.188*** (3.933)
<i>UE* TREND</i>			-0.114*** (-2.737)	-0.088* (-1.862)
<i>TREND</i>		-0.043** (-2.394)		-0.037** (-2.041)
<i>SIZE</i>		-0.093*** (-5.416)		-0.093*** (-5.438)
<i>LOSS</i>		0.020 (1.066)		0.019 (1.035)
<i>LEV</i>		0.098*** (5.756)		0.098*** (5.735)
<i>GROWTH</i>		0.035** (2.128)		0.036** (2.162)
<i>PREDICT</i>		0.009 (0.509)		0.009 (0.531)
Adj R-square N = 4,349	0.010	0.034	0.011	0.035

This table presents the results from OLS regression of *CAR (CAV)* on *UE* TREND*, to test for overtime change in earnings response coefficient, ERC. *CAR*, *UE* and control variables are as defined in Table 8. *CAV* is calculated from mean and median adjusted model as defined in Table 14. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 19
Time trend Analysis of the Usefulness of Earnings Information Under the Two Accounting Conceptual Framework: Mean and Median Adjusted Model for Volume Analysis of Profit Cases

Panel A: Dependent variable - Cumulative Abnormal Volume: CAV				
(Mean adjusted model)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.042 (-1.136)	0.149 (0.629)	-0.043 (-1.148)	0.021 (0.089)
<i>UE</i>	0.100*** (6.046)	0.096*** (5.232)	0.231*** (5.235)	0.234*** (4.329)
<i>UE* TREND</i>			-0.142*** (-3.206)	-0.148*** (-2.720)
<i>TREND</i>		-0.026 (-1.305)		-0.005 (-0.229)
<i>SIZE</i>		-0.016 (-0.878)		-0.017 (-0.923)
<i>LEV</i>		0.044** (2.387)		0.042** (2.273)
<i>GROWTH</i>		0.041** (2.261)		0.041** (2.271)
<i>PREDICT</i>		0.025 (1.303)		0.027 (1.383)
Adj R-square	0.010	0.013	0.012	0.016
N = 3,622				

**Panel B: Dependent variable - Cumulative Abnormal Volume: CAV
(Median adjusted model)**

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	0.602*** (15.432)	1.548*** (6.303)	0.602*** (15.440)	1.461*** (5.836)
<i>UE</i>	0.139*** (8.445)	0.121*** (6.765)	0.262*** (5.949)	0.211*** (3.978)
<i>UE* TREND</i>			-0.132*** (-3.009)	-0.096* (-1.799)
<i>TREND</i>		-0.025 (-1.299)		-0.012 (-0.557)
<i>SIZE</i>		-0.100*** (-5.446)		-0.100*** (-5.476)
<i>LEV</i>		0.130*** (7.224)		0.128*** (7.145)
<i>GROWTH</i>		0.042** (2.358)		0.042** (1.707)
<i>PREDICT</i>		0.038** (1.999)		0.039** (2.051)
Adj R-square N = 3,622	0.019	0.049	0.021	0.050

This table presents the results from OLS regression of *CAR* (*CAV*) on *UE* TREND*, to test for overtime change in earnings response coefficient (ERC) for profit cases. *CAR*, *UE* and control variables are as defined in Table 8. *CAV* is calculated from mean and median adjusted model as defined in Table 14. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 20
Time trend Analysis of the Usefulness of Earnings Information Under the Two Accounting Conceptual Framework: Mean and Median Adjusted Model for Volume Analysis of Loss Cases

Panel A: Dependent variable - Cumulative Abnormal Volume: CAV (Mean adjusted model)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.484*** (-3.713)	-0.068 (-0.106)	-0.483*** (-3.702)	-0.101 (-0.147)
<i>UE</i>	-0.005 (-0.134)	0.005 (0.112)	-0.094 (-1.045)	-0.009 (-0.082)
<i>UE* TREND</i>			0.098 (1.092)	0.016 (0.134)
<i>TREND</i>		-0.128*** (-2.788)		-0.124** (-2.226)
<i>SIZE</i>		0.056 (1.298)		0.056 (1.300)
<i>LEV</i>		0.000 (0.003)		0.001 (0.014)
<i>GROWTH</i>		-0.009 (-0.213)		-0.009 (-0.220)
<i>PREDICT</i>		-0.097** (-2.147)		-0.096** (-2.129)
Adj R-square	-0.001	0.008	-0.001	0.006
N = 727				

Panel B: Dependent variable - Cumulative Abnormal Volume: CAV
(Median adjusted model)

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	0.867*** (6.658)	2.756*** (4.252)	0.867*** (6.658)	1.604*** (2.980)
<i>UE</i>	-0.004 (-0.109)	-0.016 (-0.387)	-0.036 (-0.405)	0.151 (1.340)
<i>UE* TREND</i>			0.036 (0.396)	-0.189 (-1.603)
<i>TREND</i>		-0.128*** (-2.793)		-0.178*** (-3.214)
<i>SIZE</i>		-0.057 (-1.312)		-0.059 (-1.366)
<i>LEV</i>		-0.034 (-0.774)		-0.040 (-0.901)
<i>GROWTH</i>		0.007 (0.156)		0.010 (0.237)
<i>PREDICT</i>		-0.061 (-1.347)		-0.066 (-1.466)
Adj R-square	-0.001	0.009	-0.003	0.012

N = 727

This table presents the results from OLS regression of *CAR (CAV)* on *UE*TREND*, to test for overtime change in earnings response coefficient, ERC. *CAR*, *UE* and control variables are as defined in Table 8. *CAV* is calculated from mean and median adjusted model as defined in Table 14. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 21
Full Sample Regression Analysis of the Usefulness of Earnings Information Under the Two Accounting Conceptual Frameworks. Using Median Industry Adjusted Model as an Earnings Expectation

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.003*** (-5.625)	0.017*** (5.875)	-0.002 (-1.494)	0.017*** (5.859)
<i>UE</i>	0.130*** (13.568)	0.090*** (8.596)	0.081*** (3.388)	0.002 (0.065)
<i>D</i>			-0.014 (-1.465)	0.007 (0.503)
<i>DUE</i>			0.055** (2.275)	0.095*** (3.957)
<i>TIME</i>		-0.017* (-1.700)		-0.024 (-1.636)
<i>SIZE</i>		-0.051*** (-5.045)		-0.051*** (-5.039)
<i>LOSS</i>		-0.132*** (-12.396)		-0.137*** (-12.771)
<i>Adj R-square</i> N = 10,520	0.017	0.033	0.017	0.034
Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.062*** (-3.702)	0.170** (2.053)	-0.055 (-1.578)	0.158* (1.884)
<i>UE</i>	0.062*** (6.417)	0.044*** (4.076)	0.027 (1.126)	-0.006 (-0.251)
<i>D</i>			-0.003 (-0.323)	0.024 (1.596)
<i>DUE</i>			0.040* (1.682)	0.053** (2.224)
<i>TIME</i>		-0.015 (-1.499)		-0.035** (-2.276)
<i>SIZE</i>		-0.017 (-1.637)		-0.016 (-1.551)
<i>LOSS</i>		-0.053*** (-4.814)		-0.056*** (-5.063)
<i>Adj R-square</i> N = 10,520	0.004	0.006	0.004	0.006

This table presents the results from OLS regression of CAR (CAV) on UE and DUE, D is an indicator variable equal to one for firm-years in the period of balance sheet approach and zero for firm-years in the period of income statement approach. CAR, CAV, and control variables are as defined in Table 1. UE is calculated by subtract median of earnings per share in year t-1 quarter i for industry j from the firm's earnings per share in year t quarter i. Control variable TIME takes on value year t less 1994. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 22

Full Sample Regression Analysis of the Usefulness of Earnings Information Under the Two Accounting Conceptual Framework. Exclude Crisis Period (1997-1998)

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.003*** (-5.974)	0.015*** (5.016)	-0.003 (-1.525)	0.013*** (4.131)
<i>UE</i>	0.142*** (13.819)	0.105*** (9.637)	0.248*** (3.947)	0.187*** (2.944)
<i>D</i>			-0.006 (-0.577)	0.017 (1.127)
<i>DUE</i>			-0.107* (-1.705)	-0.084 (-1.319)
<i>TIME</i>		-0.010 (-0.920)		-0.019 (-1.315)
<i>SIZE</i>		-0.050*** (-4.711)		-0.049*** (-4.558)
<i>LOSS</i>		-0.143*** (-12.935)		-0.143*** (-12.900)
Adj R-square N = 9,213	0.020	0.039	0.020	0.039
Panel B: Dependent variable - Cumulative Abnormal volume (CAV)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.056*** (-2.792)	0.181* (-1.770)	-0.029 (-0.492)	0.124 (1.106)
<i>UE</i>	0.063*** (6.095)	0.051*** (4.528)	0.068 (1.026)	0.045 (0.658)
<i>D</i>			-0.005 (-0.486)	0.020 (1.294)
<i>DUE</i>			-0.004 (-0.060)	0.005 (0.075)
<i>TIME</i>		-0.016 (-1.532)		-0.030** (-2.015)
<i>SIZE</i>		-0.014 (-1.265)		-0.012 (-1.045)
<i>LOSS</i>		-0.044*** (-3.877)		-0.046*** (-3.982)
Adj R-square N = 9,213	0.004	0.006	0.004	0.006

This table presents the results from OLS regression of *CAR* (*CAV*) on *UE* and *DUE*, *D* is an indicator variable equal to one for firm-years in the period of balance sheet approach and zero for firm-years in the period of income statement approach. This table excluded crisis (1997-1998) from the examination. *CAR*, *CAV*, and control variables are as defined in Table 1. *TIME* takes on value year *t* less 1994. *UE* is defined in table 19. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 23

Time Trend Analysis of the Usefulness of Earnings Information Under the Balance Sheet Approach (1999-2008): Using Median Industry Adjusted Model to Compute Expected Earning

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.003*** (-5.508)	0.002 (0.550)	-0.003*** (-5.482)	0.001 (0.209)
<i>UE</i>	0.141*** (12.991)	0.113*** (7.236)	0.188*** (8.208)	0.228*** (5.407)
<i>UE* TREND</i>			-0.053** (-2.307)	-0.123*** (2.938)
<i>TREND</i>		0.005 (0.345)		0.019 (1.138)
<i>SIZE</i>		-0.025* (-1.661)		-0.028* (-1.833)
<i>LOSS</i>		-0.150*** (-9.407)		-0.148*** (-9.276)
<i>LEV</i>		0.038** (2.558)		0.038** (2.572)
<i>GROWTH</i>		-0.002 (-0.105)		-0.001 (-0.091)
<i>PREDICT</i>		0.007 (0.430)		0.008 (0.484)
Adj R-square	0.020	0.042	0.020	0.044
N = 4,558				

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Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.049** (-2.079)	0.135 (0.773)	-0.049** (-2.075)	0.097 (-0.550)
<i>UE</i>	0.058*** (5.256)	0.079*** (4.882)	0.066*** (2.852)	0.160*** (3.636)
<i>UE* TREND</i>			-0.009 (-0.398)	-0.087** (-1.982)
<i>TREND</i>		-0.033** (-2.057)		-0.024 (-1.427)
<i>SIZE</i>		-0.006 (-0.408)		-0.009 (-0.557)
<i>LOSS</i>		-0.031* (-1.886)		-0.030* (-1.804)
<i>LEV</i>		0.047*** (3.027)		0.048*** (3.087)
<i>GROWTH</i>		0.017 (1.135)		0.017 (1.142)
<i>PREDICT</i>		-0.008 (-0.517)		-0.007 (-0.451)
Adj R-square	0.003	0.009	0.003	0.009
N = 4,558				

This table presents the results from OLS regression of *CAR (CAV)* on *UE*TREND*, to test for overtime change in earnings response coefficient, ERC. *CAR (CAV)* and control variables are as defined in Table 8. *UE* as defined in table 19. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 24
Time Trend Analysis of the Usefulness of Earnings Information Under the Balance Sheet Approach (1999-2008): Profit Cases

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	0.001* (1.014)	0.006 (1.267)	0.001 (0.881)	0.003 (0.661)
<i>UE</i>	0.103*** (8.381)	0.119*** (7.206)	0.159*** (6.133)	0.266*** (5.341)
<i>UE* TREND</i>			-0.064** (-2.464)	-0.159*** (-3.123)
<i>TREND</i>		0.002 (0.102)		0.027 (1.388)
<i>SIZE</i>		-0.041** (-2.464)		-0.045*** (-2.688)
<i>LEV</i>		0.050*** (3.051)		0.047*** (2.891)
<i>GROWTH</i>		-0.008 (-0.479)		-0.008 (-0.486)
<i>PREDICT</i>		0.004 (0.210)		0.003 (0.158)
<i>Adj R-square</i>	0.010	0.016	0.011	0.018
<i>N = 3,762</i>				

Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)

<i>Independent Variable</i>	(1)	(2)	(3)	(4)
<i>Constant</i>	0.000 (-0.001)	0.092 (0.494)	0.000 (-0.007)	0.006 (0.031)
<i>UE</i>	0.050*** (4.020)	0.088*** (5.242)	0.053** (2.046)	0.205*** (4.030)
<i>UE* TREND</i>			-0.003** (-0.130)	-0.126** (-2.431)
<i>TREND</i>		-0.027 (-1.557)		-0.007 (-0.379)
<i>SIZE</i>		-0.012 (-0.727)		-0.016 (-0.951)
<i>LEV</i>		0.063*** (3.785)		0.062*** (3.755)
<i>GROWTH</i>		0.023 (1.366)		0.022 (1.337)
<i>PREDICT</i>		0.004 (0.209)		0.004 (0.202)
Adj R-square N = 3,762	0.002	0.011	0.002	0.012

This table presents the results from OLS regression of *CAR (CAV)* on *UE*TREND*, to test for overtime change in earnings response coefficient (ERC) for profit cases. *CAR (CAV)* and control variables are as defined in Table 8. *UE* as defined in Table 19. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

TABLE 25
Time Trend Analysis of the Usefulness of Earnings Information Under the Balance Sheet Approach (1999-2008): Loss Cases

Panel A: Dependent variable - Cumulative Abnormal Return (CAR)				
Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.018*** (-9.073)	-0.033*** (-2.851)	-0.017*** (-8.704)	-0.030** (-2.413)
<i>UE</i>	0.029 (1.175)	0.076** (2.024)	-0.004 (-0.129)	0.123 (1.453)
<i>UE* TREND</i>			0.048 (1.416)	-0.056 (-0.625)
<i>TREND</i>		0.023 (0.559)		0.003 (0.063)
<i>SIZE</i>		0.034 (0.908)		0.032 (0.872)
<i>LEV</i>		-0.004 (0.527)		-0.004 (-0.105)
<i>GROWTH</i>		0.076** (2.084)		0.078** (2.117)
<i>PREDICT</i>		0.041 (1.102)		0.045 (1.093)
Adj R-square	0.000	0.006	0.001	0.006
N = 886				

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Panel B: Dependent variable - Cumulative Abnormal Volume (CAV)

Independent Variable	(1)	(2)	(3)	(4)
<i>Constant</i>	-0.323*** (-4.253)	0.209 (0.463)	-0.319*** (-4.151)	0.352 (0.717)
<i>UE</i>	-0.035 (-1.443)	-0.066* (-1.742)	-0.045 (-1.315)	-0.008 (-0.100)
<i>UE* TREND</i>			0.014 (0.409)	-0.068 (-0.755)
<i>TREND</i>		-0.083** (-2.069)		-0.106** (-2.103)
<i>SIZE</i>		0.015 (0.400)		0.013 (0.348)
<i>LEV</i>		-0.033 (-0.876)		-0.033 (-0.858)
<i>GROWTH</i>		-0.006 (-0.152)		-0.005 (-0.125)
<i>PREDICT</i>		-0.070* (-1.726)		-0.066 (-1.592)
Adj R-square	0.001	0.002	0.000	0.001
N = 886				

This table presents the results from OLS regression of *CAR (CAV)* on *UE*TREND*, to test for overtime change in earnings response coefficient (ERC) for losses cases. *CAR (CAV)* and control variables are as defined in Table 8. *UE* as defined in Table 19. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

FIGURE 1
Abnormal Return for Positive Unexpected earning for Period of Income Statement Approach (1995-1996) and Balance Sheet Approach (1999-2008)

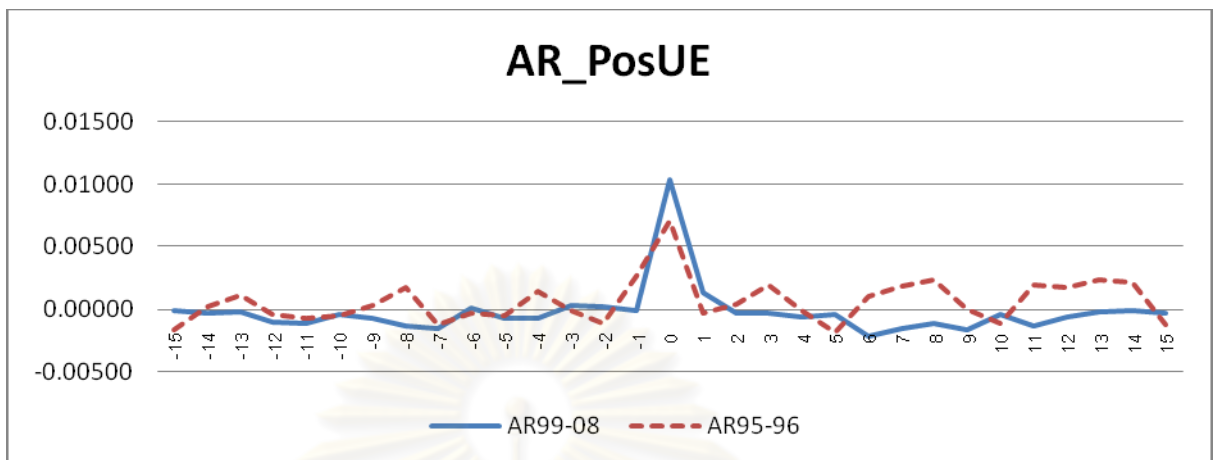
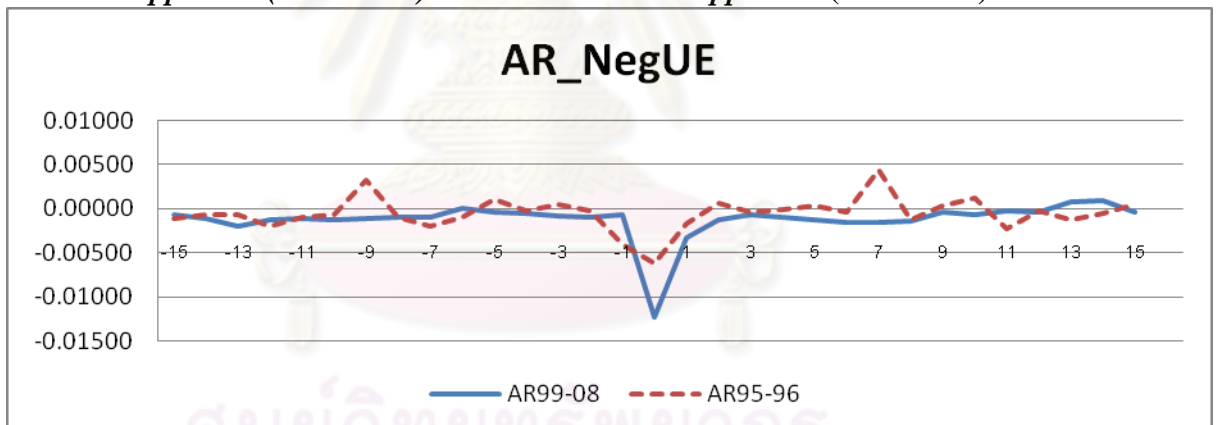


FIGURE 2
Abnormal Return for Negative Unexpected earning for Period of Income Statement Approach (1995-1996) and Balance Sheet Approach (1999-2008)



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FIGURE 3
Abnormal Volume for Positive Unexpected earning for Period of Income Statement Approach (1995-1996) and Balance Sheet Approach (1999-2008)

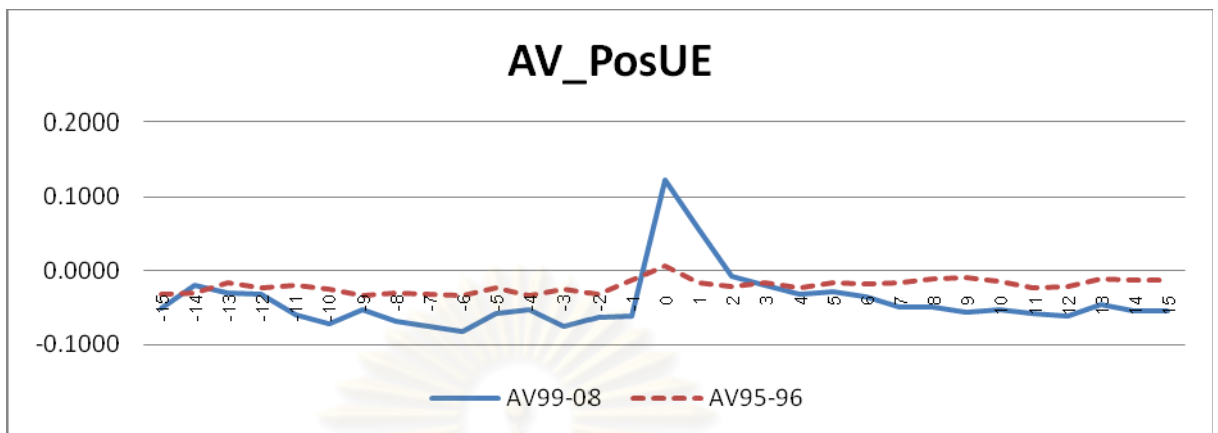
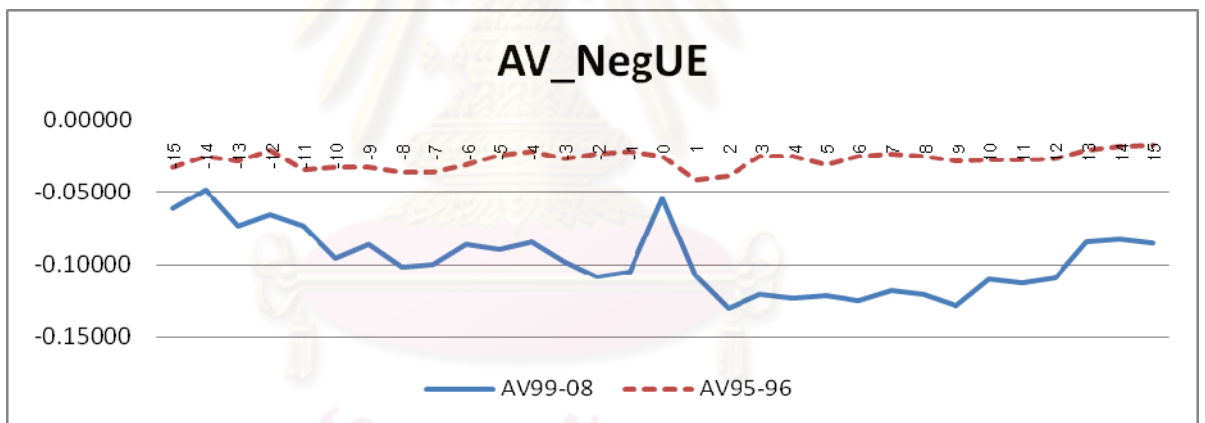


FIGURE 4
Abnormal Volume for Negative Unexpected Earning for Period of Income Statement Approach (1995-1996) and Balance Sheet Approach (1999-2008)



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BIOGRAPHY

Suntaree Tungsriwong received his bachelor's degree in accounting from Chiang Mai University, Thailand, in 1995. She received her master's degree in accounting from Chulalongkorn University in, 2000.

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