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The Asymmetric Market Valuation of Special Items and Accounting Conservatism

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ABSTRACT

This thesis investigates the asymmetric market valuation of both negative and positive special items as explained by accounting conservatism. I argue that special items, also known as nonrecurring operating gains and losses, have asymmetric market valuations, as tested using earning response coefficients (ERC). I believe that this difference in ERC between positive and negative special items can be explained by accounting conservatism. This thesis has two main findings: (1) an asymmetry exists in the valuation of positive and negative special items; and (2) the asymmetry can be explained by the idea of accounting conservatism, which is the tendency that firms report economic losses on a timelier basis than economic gains. The above two findings are supported by my empirical tests, which show that negative special items are more value relevant (i.e. have a higher ERC) than positive ones due to the fact that nonrecurring losses are impounded in earnings much quicker than nonrecurring gains. Thus, negative and positive special items are not valued equally by investors — an asymmetry exists. Furthermore, as the level of conservatism increases within a firm, this asymmetry of market valuation becomes larger, signifying that the value relevance of negative special items increases at a rate greater than that of positive special items.

Any questions or suggestions regarding the research can be forwarded to the author at mktrimble@eiu.edu.

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1. Introduction

The issue of the value relevance of special items to investors has been an area of much debate over the last few decades (Black et al., 2000; Cready et al., 2010; Elliott and Hanna, 1996; Francis et al., 1996). However, there has been no existing literature that connects the value relevance of special items and accounting conservatism. This research attempts to fill this gap in the literature by focusing on the market valuation of special items on the income statement and its relation with accounting conservatism. More specifically, I provide empirical evidence that the market valuation multiples of positive and negative special items are asymmetric and offer an explanation of this phenomenon based on accounting conservatism. As a result of my study, I find that positive special items, which are special accounting gains, have a valuation coefficient not significantly different from zero, as measured by the earnings response coefficient (ERC), while negative special items, which are special accounting charges, have a significantly higher valuation coefficient, as measured by ERC. This empirical finding led me to consider accounting conservatism as a potential explanation for the asymmetric valuation coefficients on positive and negative special items, as accounting conservatism has the tendency to delay the recognition of good economic news but accelerate the recognition of bad economic news.

Special items have been investigated in the accounting literature from a variety of perspectives. The research paper by Elliott and Hanna (1996) investigates the nature and the impact of special items on stock prices. According to Elliott and Hanna (1996, 135) special items are defined as large nonrecurring or unusual charges, both positive and negative, arising from the firm's earnings from continuing operations. This definition, which excludes income from discontinued operations and extraordinary items, has been adopted by the subsequent literature. After Elliott and Hanna (1996), additional research has shown significant interest in researching special items, partly driven by the fact that the frequency of special items reported in financial statements has increased dramatically in the last fifty years (Black et al., 2000; Cready et al., 2010; Elliott and Hanna, 1996; Francis et al., 1996).

Much of the literature on special items has been trying to understand the nature of special items and how different types of special items are valued differently by investors.

For example, Elliott and Hanna (1996), one of the first studies on special items, investigates the earnings response coefficient of special items in relation to the reporting frequency. They find that special items have a *lower* valuation coefficient when the firm frequently reports special items. This result is independently confirmed by Black et al. (2000) in their study which uses stock price level as the main dependent variable as opposed to the abnormal stock returns used by Elliot and Hanna (1996). In contrast, Cready et al. (2010), addressing almost the same research topic using a different kind of empirical design, find the opposite result to that reported by Elliott and Hanna (1996) and Black et al (2000). In particular, Cready et al. show that the firm has a *higher* valuation coefficient on special items when its frequency of reporting special items increases. Thus, this matter is not fully settled and conflicting results still exist in the accounting literature. Another study by Francis et al. (1996) separates special items into different categories, such as restructuring charges, gains/losses on sale of assets, impairment charges, etc., and they discover that investors value different categories of special items differently.

However, little research to date has linked the value relevance of special items with accounting conservatism, which, according to Basu (1997), Penman and Zhang (2002) and Watts (2003a), is one of the longest and most prevailing principles in accounting. In the accounting literature, accounting conservatism is commonly interpreted as the timely reporting of economic losses and the delayed recognition of economic gains (Basu, 1997; Givoly and Hayn, 2000; Holthausen and Watts, 2001; Khan and Watts, 2009; Penman and Zhang, 2002; Watts, 2003a; Watts, 2003b). This concept of accounting conservatism is also known as "conditional" conservatism according to Beaver and Ryan (2000)[1]. This concept indicates that firms require a lower verification threshold on reporting losses than gains, thus increasing the timeliness of the reported losses and decreasing the timeliness of reported gains. Additionally, Basu (1997) reports that the persistence of gains is significantly greater than the persistence of losses due to the fact that losses are generally

[1] Conditional conservatism is defined at news-dependent conservatism which means that whether the news is considered "good" or "bad" is the cause of the asymmetrical valuation of different accounting items (Wang et al., 2009). However, unconditional conservatism is considered news-independent conservatism

It was Beaver and Ryan's (2000) theory that unconditional conservatism should be measured using Basu's (1997) asymmetrical timeliness model and conditional conservatism should be measured using market-to-book.

transitory and have little to no effect on future cash flows whereas gains have been shown to have a much more persistent effect on future earnings (Watts, 2003b).

Despite the importance of accounting conservatism, the value relevance literature has rarely incorporated accounting conservatism into its research agenda. For example, Holthausen and Watts (2001) criticizes value relevance literature, partially on the ground that the value relevance research ignores accounting conservatism. However, because there is nothing in the value relevance literature that is fundamentally and conceptually inconsistent with accounting conservatism, researchers should theoretically be able to accommodate accounting conservatism in value relevance studies. As Barth et al. (2001) note,

> *"Value relevance studies can accommodate conservatism, and can be used to study the implications of conservatism for the relation between accounting amounts and equity values. In fact, value relevance research is a basis for establishing that some financial accounting practices are perceived by equity investors as conservative." (Barth et al., 2000, p. 78)*

I agree with Barth et al. (2001) in that the conservatism and value relevance literature are not irreconcilable, and that the value relevance literature is able to accommodate conservatism. In particular, I attempt to incorporate accounting conservatism in the particular research area of the value relevance of special items. The next two paragraphs outline the key argument of this paper.

The central tenet of this paper is that accounting conservatism causes an asymmetry between the market valuation of positive and negative special items. In particular, positive special items have a lower market valuation (as estimated by ERC), while negative special items have a higher market valuation (as estimated by ERC). The reason is the following: due to accounting conservatism, good economic news is impounded in stock prices much quicker than can be reflected in earnings. Therefore, when a firm reports certain good news as a positive special item in the income statement, the stock price of the firm has already incorporated that good news in previous periods. In other words, positive special items are much delayed recognitions of some past good news. Hence, positive special

items should theoretically have very little relevance to stockholders in the current period as the same news has already been absorbed by stock prices an earlier period. Conversely, certain bad economic news is likely reflected in both stock prices and earnings as a negative special item in the same period because accounting conservatism means bad news is recognized much faster than good news. This implies that the earnings response coefficient for the negative special item is positive and more significant than positive special items.

In addition, positive special items have little information content to investors, and thus little value relevance, because substantial time have elapsed between the original event and its reporting in earnings, which gives investors ample opportunities to obtain the same information regarding that event from other non-earnings sources, such as management voluntary disclosures, analyst reports and sometimes, insiders. In contrast, for bad news, the time interval between the original event and its inclusion in earnings are relatively short, which means that investors would have fewer opportunities of obtaining sufficient information regarding the even from other sources. In this situation, the earnings release would provide investors a lot of useful information about the economic event and investors will adjust the stock price accordingly. Hence, it is contended from an information content perspective that positive special items have lower value relevance than negative special items.

To date, few empirical studies in the value relevance literature have incorporated accounting conservatism. An exception is the forthcoming study by Balachandran and Mohanram (2011), who argue that increased level of conservatism does not yield any change in the value relevance of earnings. Because Balachandran and Mohanram (2011) do not find any empirical evidence to support their argument that increased level of conservatism within a firm leads to any change in the value relevance of the firm's accounting information, the authors conclude that accounting conservatism and value relevance appears to be unrelated.

This study, however, finds the opposite empirical evidence to that of Balachandran and Mohanram (2011) by investigating specifically special items in the income statement. The finding shows that when accounting conservatism increases, the value relevance of positive special items decreases to a point of irrelevance, but the value relevance of

negative special items increases, as predicted. In my opinion, the difference between my empirical result and that of Balachandran and Mohanran (2011) is likely cause by two factors: First, Balachandran and Mohanran's study examines the value relevance of total earnings, which include many income and expense items. Some earnings items are more sensitive to accounting conservatism while some others are not. Therefore, Balachandran and Mohanram's general earnings test may not have sufficient statistical power to detect the subtle relationship between conservatism and value relevance. My research, instead, focuses on one particular type of earnings alone – special items – which as I argue later is quite sensitive to accounting conservatism. By focusing on special items, this study is able to detect a significant association between accounting conservatism and value relevance of special items. Second, the proxies for value relevance are different between these two papers. Balachandran and Mohanran (2011) utilize mainly *R squared* as a proxy for value relevance, while my paper applies earnings response coefficient (ERC) as a proxy for value relevance. This difference is, of course, a matter of the researcher's subjective choice, as both the *R squared* and the ERC are extensively used in the value relevance literature.

The remainder of this thesis is organized into seven sections. Section 2 offers a quick review of the literature on the value relevance of special items and the literature on accounting conservatism. Section 3 develops my hypotheses. Section 4 describes my sample data and specific calculations of data items. The empirical tests and results are discussed in section 5. In section 6, I discuss the merits and drawbacks of an alternative explanation for my empirical finding and avenues for future research. And finally, section 7 contains the conclusion and limitations of this thesis.

2. Literature Review

2.1 Literature on the value relevance of special items

Starting from Elliott and Hanna (1996), a number of empirical studies have explored the effect of nonrecurring gains and losses on firm returns. In particular, researchers have examined the value relevance of seemingly transitory, special items on the income statement to investors. It is theoretically hypothesized that special items should have limited value relevance to investor due to their largely transitory nature. But the empirical

findings are not as clear-cut and there has been some controversy as to the direction and magnitude of the value relevance of different types of special items.

Elliott and Hanna (1996) suggest that special items in general have lower value-relevance than ordinary operating items because of their transitory nature. This is supported by their empirical finding that the earnings response coefficient (ERC) for special items is lower than that of earnings from normal operations. Their second argument states that as the frequency of special items increases, the value relevance of a firm's special items further decrease. Their second argument can be interpreted as investors expect certain firms to report special items in consecutive quarters, such as the result of implementing a restructuring strategy over a period of time. Hence, investors would have anticipated further special items in future quarters and priced the entire restructuring strategy in the first quarter. As a result, subsequent quarters' special items would generate lower price reactions than the initial quarters that reported special items.

However, Cready et al. (2010) find that the value relevance of special items increases as the frequency of special items increases, which directly contradicts Elliott and Hanna's findings. Using a different research design, Cready et al. (2010) suggest that investors value special items more as ordinary business operations when special items have a higher frequency of occurrence. Cready et al. (2010) focus on the market valuation and frequency of nonrecurring items that are classified as transitory on a firm's income statement. They find that, on average, infrequently reported special items have generally low value relevance in the market because they are viewed as transitory gains and losses. Special items become an issue, however, when special items that are transitory in theory are in fact recurring. Cready et al. (2010) state two particular reasons as to why nonrecurring specialty items may occur frequently and become less transitory in firms: (1) the operating environment of the firm may impact its decision to classify expenses as transitory (2) management is misclassifying the expenses depending on their threshold of materiality as stated by their aggressive or conservative reporting methods. It can be assumed that there are industries where multiple nonrecurring expenses may be the norm. To test for the operating environment of a firm and its correlation with reoccurring special expense items, their research design includes a multitude of control variables to test for strong relationships between certain firm classifications and an increase or decrease in the

number of special items, thus increasing the robustness of the research design. Secondly, by narrowing the focus of the investigation to reoccurring expenses to "restructuring," which are highly discretionary in nature, the effect of management manipulation of earnings can be more easily evaluated.

In order to determine if multiple occurrences of special items are more or less relevant than single occurrences, the study by Black et al. (2000) investigates both trends of reporting and determines that multiple occurrences of nonrecurring items and single-reported charges are valuable to investors. However, single occurrence special items are both relevant and positively correlated to market value. Multiple occurrences, however, are also shown to be value relevant, but indicative of poor firm performance and financial instability, thus indicating the negative market value of multiple occurrences of special items.

Black et al.'s (2010) findings are consistent with those of Elliott and Hanna (1996), indicating that multiple prior special items have a negative effect on the earnings response coefficient of earnings. The former research, however, argues that if multiple past occurrences are the trend for a certain company then their most recent special item, either negative or positive, will have a negative impact on the firm's current stock return due to the market discounting the discretionary write-offs.

Francis et al. (1996) explore the causes and effects of special items, specifically those charges involving the impairment of assets. Their research investigates two main points: what factors indicate a firm's decision to report special items and how the market reacts to the announcement of a write-off. Their research was conducted before the implementation of SFAS No. 121, which specified guidelines for reporting special items, and therefore their research focuses on mainly discretionary special items. Without valid regulation on reporting nonrecurring gains and losses, the concept of management incentives to declare write-offs is investigated as a cause of reporting special items.

The research by Francis et al. (1996) is unique in that they separate special items into different categories based on classification to test for different investor reactions. They found that inventory charges, which are generally mandatory, are viewed as a negative signal of future firm performance whereas goodwill impairment and restructuring charges have positive market reaction because they are thought to indicate an increase in future

economic performance. Additionally, Francis et al. (1996) conclude that the magnitude of the write-off increases along with historical industry trends, firm size, and a recent change in management. Additionally, poor past market performance was identified as another variable that increases the size of special items.

One way my research differs from Francis et al. (1996) is that I investigate the market reaction of nonrecurring special items separated into positive gains and negative losses and investigate their difference in market valuation. In comparison, Francis et al. (1996) investigates only negative special items – assets write-downs in particular – and ignores the nonrecurring gains.

2.2 Literature Review—Accounting Conservatism

Accounting conservatism has been the subject of intensive research in the last twenty years. The classic definition of accounting conservatism is: *"anticipate no profits but anticipate all losses"* (Bliss, 1924). Basu (1997) interprets conservatism as accountants' tendency to require higher degrees of verification for the recognition of gains than losses in accounting. Basu observes that because the verification standards are higher for good news than bad news, bad news is more timely reflected in earnings than good news. In addition, Basu (1997) reports that negative earnings are less persistent than positive earnings.

Using the asymmetric timeliness of earnings measure of conservatism, also known as the Basu (1997) measure, Basu (1997) shows that over the last fifty years the level of accounting conservatism has increased. Basu (1997) argues that one reason behind this trend is the increase in corporate and auditor legal liability and litigation risk in the last few decades.

The four theoretical explanations for accounting conservatism summarized by Watts (2003a) are as follows: (1) contracting explanation, (2) litigation risk explanation (3) tax incentive explanation, and (4) political cost explanation. One of the oldest justifications for accounting conservatism is contracting theory including both debt contract dividend constraint and compensation agreements between parties. It is argued that conservatism can decrease the agency costs in both debt and managerial contracts, which arises from the fact that the inside contractor has more information than the outside contractor, which

induces deadweight agency costs. Firms can also employ accounting conservatism to achieve tax benefits. Taxes are deferred for a period by accelerating expenses and deferring current and future gains. By decreasing the current year tax expense, firms can increase their firm value (Watts, 2003a). Finally, standard setters have an incentive to allow accounting conservatism in financial reporting despite the fact the Financial Accounting Standards Board (FASB) has supported standards that favor "unbiased" reporting of gains and losses which conflict with the conservatism principle (Watts, 2003a). Criticism, plus the higher political costs associated with banning conservatism, is why standard-setting bodies should support accounting conservatism; although this rarely is the case. In short, Watts (2003a) concludes that accounting conservatism is essential to financial reporting and standard setters in that it attempts to limit overcompensation of management and increase the verifiability of earnings.

In the conservatism literature, numerous methods for measuring accounting conservatism have been developed. A research paper by Wang et al. (2009) investigates five of the most commonly used and most effective ways of measuring accounting conservatism: (1) Basu's (1997) asymmetric timeliness of earnings measure, (2) Ball and Shivakumar's (2005) asymmetrical-cash-flow-to-accruals measure, (3) the commonly accepted market-to-book or the book-to-market ratio as investigated by Beaver and Ryan (2000), (4) Penman and Zhang's (2002) hidden reserves measures, and (5) Givoly and Hayn's (2000) negative-accruals measure. In addition, there are also the asymmetric persistence of gains and losses measures used by Basu (1997) and the new firm-specific measure of conservatism developed by Khan and Watts (2009) titled C-Score which is a firm-specific deviation from the classic Basu (1997) model of asymmetric timeliness of earnings measure.

The research by Penman and Zhang (2002) investigates the market' reaction to conservatism accounting. Using their well known hidden reserves measures of accounting conservatism, they find that investors systematically under-react to the earnings of a highly conservative form, apparently ignoring the fact the earnings under a high degree of conservatism will likely increase in the future due to the reversal of hidden reserves. This research is a challenge to the efficient market hypothesis because it assumes that the

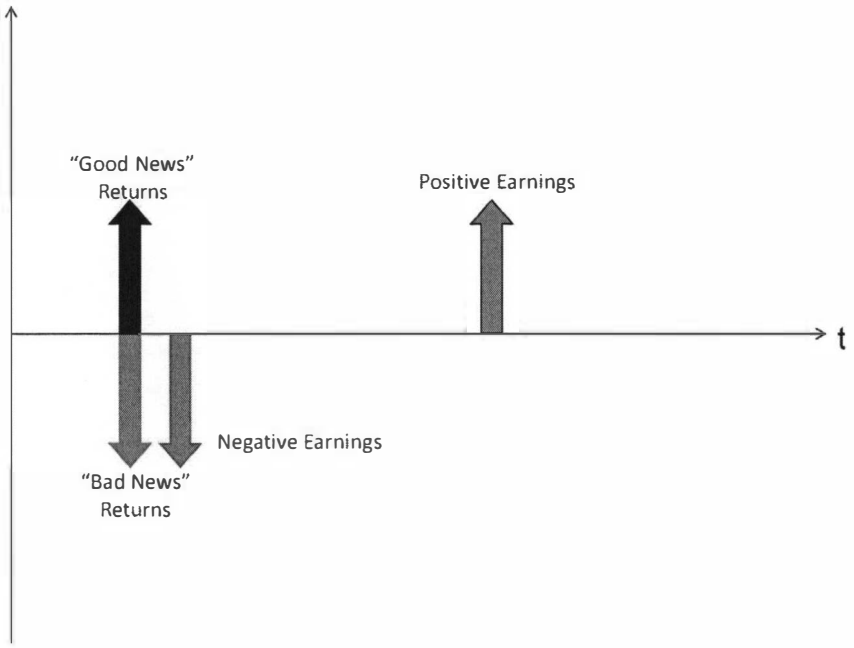
investors are not able to see through the distorting effect of accounting conservatism on the time-series property of earnings.

While the areas of the value relevance of special items and accounting conservatism have been heavily researched individually, there has been little research that explains the relationship between those two strands of research. One currently published paper that does address the connection between conservatism and value relevance in general is that by Balachandran and Mohanram (2011). However, this research is not specifically on special items. A study which tangentially discusses the implication of accounting conservatism for special items, in the context of connecting special items, goodwill, and CEO compensations, was Saito (2011). While not being the main focus of the Saito (2011) paper, the author does however mention that nonrecurring items are more timely representations of bad news than good news, as consistent with Basu (1997) and Watts (2003b), among others. However, different from our research, Saito's measure of accounting conservatism is of the unconditional type as proposed by Beaver and Ryan (2000). She does not apply any measures of conditional conservatism as I do in this paper (i.e. the Khan and Watts C-Score).

3. Hypotheses development and empirical design

Prior research in accounting conservatism has shown that conservatism is characterized by the asymmetric timeliness of earnings. In particular, earnings under conservatism involve a more timely reflection of bad news than good news, as shown in the following graph. Therefore, when an accounting gain is observed in earnings, the economic news that generated such a gain has already happened prior to the reporting of earnings. Conversely, when an accounting loss is reported, the economic news that generated the loss is more likely to occur in roughly the same period in which the earnings are reported, or shortly before that.

Figure 1: Asymmetric timeliness of earnings under conservatism



For example, a piece of land gains market value in the first two years due to external market conditions. However according to US GAAP, the value of land is always carried as historical cost throughout the first two years, as revaluations is prohibited.[2] When the land is sold at the beginning of the third year at a price higher than the historical cost, a realized accounting gain is recognized in earnings, which is a positive special item. Because the stock price has already increased in response to the land price appreciation in the first two years, the stock price would not change much at the sales, which means that the stock price reaction to the sale of land at the beginning of the third year is zero. In other words, the earnings response coefficient for the positive special item reported in year three should be zero or very close to zero.

Conversely, if the firm's land value decreased in the first two years, accounting standards will force an impairment charge in those two years, and nothing at the third year – the year of the sale. Hence, the impairment charges, which are negative special items, will coincide in timing with the decreases of stock prices in the first two years. Thus, there would be a positive correlation between stock returns and the negative special items in the

[2] For IFRS, the rule allows the firm to revalue its Property, Plan and Equipment, but the gain should be reported in the statement of comprehensive income rather than in the income statement. So still, one cannot report the gain in the first two years in earnings.

first two years. Therefore, the earnings response coefficient for these negative special items is likely positive and large in magnitude. By comparing the zero (or near zero) earnings response coefficient of positive special items with the large and positive earnings response coefficient of negative special items, it is clear that there is an asymmetry between the market valuation (as measured by ERC) of positive and negative special items due to accounting conservatism.

Another common type of negative special item is restructuring charges. Generally speaking, firms have the tendency to recognize restructuring charges sooner than later, to the extent that accounting standard setters have to lay down strict rules regarding restructuring charges in order to prevent "big bath" accounting. This, however, does show that negative restructuring charges are generally speaking quite timely, and therefore contain more information content than positive special items.

Therefore, I predict that the following phenomena would happen:

1) Positive special items will have a much delayed recognition in earnings than negative special items, and therefore when a positive special item is reported in earnings the economic news associated with it would had already been incorporated in stock prices in prior periods. In contrast, negative special items are more timely recognitions of current economic news, which will be incorporated into the current period's stock prices.

2) The longer the period between the original economic event and the subsequent earnings release, the less information content is the earnings release, because the longer time period would enable the investors to gain more information about the nature and quantity of the economic event through other non-earnings means. For example, investors would learn more about the event through management's public disclosures, product information, marketing information, competitors, insider leaks, and financial analysts. As a result, the information in the subsequent earnings release pertaining to that economic event would be substantially preempted by those other information sources. Since good economic news results in more delayed earnings recognition

compared to bad economic news, it is likely that the information about the good news would be substantially conveyed to the market before the earnings release, leading to low incremental information content of the gain. Conversely, the accounting loss would contain more incremental information content than the gain since it is close to the original event time-wise.

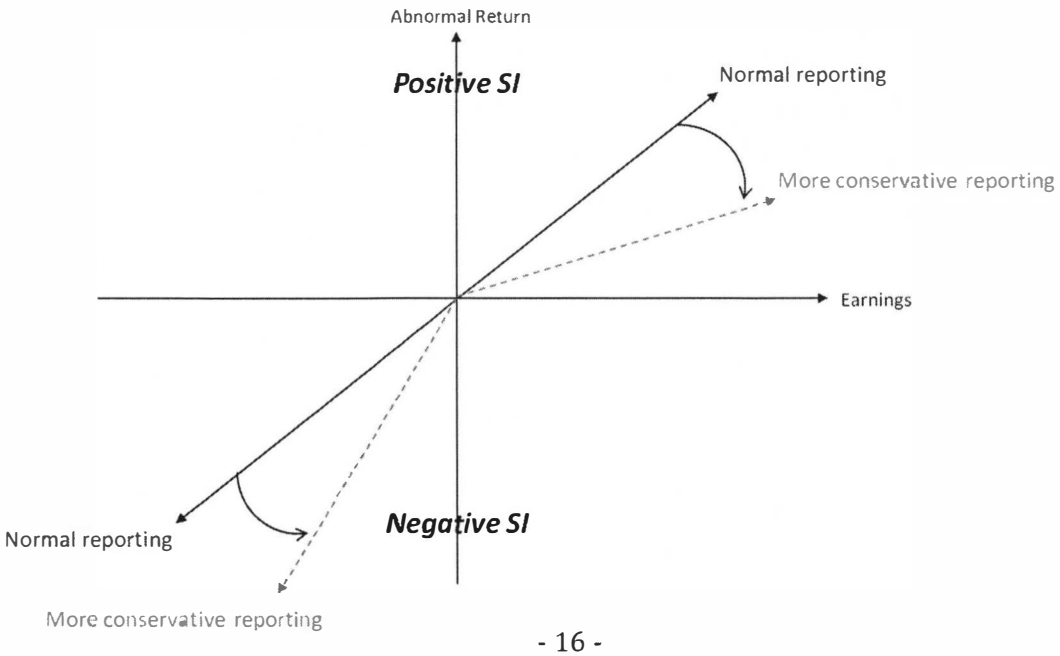
Because of the above two phenomena, I expect negative special items to have more market valuation impact than positive special items, which leads to my first set of hypotheses:

H1a: The earnings response coefficient (ERC) for negative special items is significantly positive.

H1b: The earnings response coefficient (ERC) for positive special items is not significantly different than zero.

Because the gains are recognized later in earnings than are compounded into stock prices, the value relevance of such gains is significantly smaller, even negative, to investors because they already are aware of the special item gain and discounted the firm value as such in previous quarters.

Figure 2: Market valuation of special items subject to conservatism



Additionally, as firm reports more conservatively, the value relevance of negative special items increases making the slope of the "more conservative reporting line" more steep (increasing) than the "normal reporting" line.

Furthermore, the asymmetric timeliness of earnings is more profound if the degree of accounting conservatism is higher in a firm. The next question would be in which direction the asymmetry is traveling in response to an increase in accounting conservatism. It is my opinion that the value relevance of negative special items will increase (and become positive) as conservatism levels rises, because the earlier recognition of gains implies negative economic events(i.e. bad news) will almost instantaneously impact on both stock prices and earnings. Conversely, when conservatism increases, gains are further delayed, the stock returns would not respond much to the earnings, as it contains very little new information, which causes the ERC for gains to decrease to an insignificant level. This finding is consistent with previous special item value relevance papers that exclude positive special items due to a lack of explanatory power (Black et al., 1999; Cready et al., 2010; Elliott and Hanna, 1996; Francis et al., 1996) Hence, I have the following hypothesis:

H2a: The earnings response coefficient (ERC) for negative special items is increasing in the degree of accounting conservatism.

Naturally, I will investigate how conservatism influences the differential ERC between positive and negative special items, which leads to the final hypothesis as below:

H2b: The asymmetry between the earnings response coefficient (ERC) for negative and positive special items is increasing in the degree of accounting conservatism.

4. Data

The sample used a combination of Compustat and CRSP quarterly data over the nine years period between 2000 and 2009. The selection of raw sample was determined by excluding ADR firms and firms in the financial sector. To decrease survivorship bias, both inactive and current active firms are included in the raw sample. Following the common practice, the raw sample data was then trimmed according to the top and bottom 1% of standardized unexpected earnings (SUE), special items divided by book value of equity (SI1), earnings (X), abnormal return (ABRET), size, leverage (LEV), and market-to-book ratio (MTB). Furthermore, in order to concentrate on positive and negative special items, we delete those firm-year observations whose value of special item is zero.

SUE is calculated as the difference between earnings before extraordinary items in the present quarter *t* less special items and the lagged earnings of *t-4* less special items divided by the quarterly book value of equity for *t-4*. Size is defined as the natural log of the market value of equity. Leverage is calculated as the total of short-term (Compustat item #34) and long-term debt (Compustat item #9) scaled by the market value of equity. The size and leverage equations used were defined in the research paper by Khan and Watts (2009). Earnings (X) are calculated as earnings before extraordinary items (Compustat item #18) in the current quarter divided by the market value of equity (Compustat item MKVLT) of four quarters prior (*t-4*).

Abnormal returns are calculated using the definition by Cready et al. (2010) which states that ABRET is equal to quarterly market-adjusted stock return for a firm accumulated over the period from one trading day after the previous quarter's (*t-1*) earnings release date through the earnings release date of the current quarter (*t*). The variable abnormal return is not immediately collectable from a database. Instead, I collected the earnings release dates from Compustat which vary between firms, and even within in each firm between quarters. Then I used the CRSP database to collect *daily* firm return indexes from 1998-2008, and used CUSIP numbers from Compustat and CRSP to run a program to match the firm date to its respective daily return with a MySQL database. Furthermore, I also collected the market daily return indexes for 1998-2008 and merged the respective date for each earnings release date to the main dataset. Once I collected the firm specific return and associated market return, I calculated the abnormal return by

taking the difference between firm index returns and market index returns over each earnings announcement window for each firm-quarter.

After the above trimming procedure and deleting observations with missing values in any of the variables, the final sample is consisted of 32,160 firm-quarters ranging from years 2000 to 2009. The descriptive statistics for this dataset are displayed in Table 1. The mean (median) of special item scaled by the beginning quarter equity for the sample is -0.019 (-0.004), indicating that most special items are negative, which is consistent with the findings in the prior literature (Elliot and Hanna 1996, Francis et al. 1996). The mean (median) values for SUE, ABRET, and C_SCORE are 0.005 (0.004), 0.006 (-0.005), and 0.000 (0.001), respectively. Note that C_SCORE is the firm-specific measure of accounting conservatism used developed by Khan and Watts (2009). This measure is discussed in the following section.

Table 2 shows the correlation matrix used for this quarterly sample of data. The top right corner of the matrix is the Pearson correlations while the lower left hand corner is the Spearman rank correlations. The Pearson (Spearman) correlations for special items and C-Score are -0.049 (-0.072) indicating that as the level of conservatism increases, its correlation with special items decreases. Abnormal returns and C-Score have a positive Pearson (Spearman) correlation of 0.017 (-0.075) indicating that increasing conservatism levels results in larger abnormal returns. The relationship between special items and abnormal returns has the indication of a positive relationship due to a positive correlation coefficient of 0.062 (0.063).

5. Empirical Tests and Results

5.1 C-Score measure of accounting conservatism

I will test my hypotheses using a firm-year-specific measure of accounting conservatism called C-Score (Khan and Watts, 2009). It is imperative that the measure of accounting conservatism is firm-year-specific in this study. This criterion eliminates the use of the popular Basu (1997) measure as it is not firm-specific. The Penman and Zhang's hidden-reserves measure of accounting conservatism, although being firm-specific, is not used in this study because it has a higher data requirement than other

measures.[3] In the following paragraphs, I will discuss the functionality and calculation of the C-Score measures in detail.

The measure of conservatism adopted in this paper is the C-Score measure developed by Khan and Watts (2009). The C-Score measure is an extension of the asymmetric timeliness concept by Basu (1997) which is applied in a firm-year-specific context. Unlike the original Basu model, C-Score uses three instrumental variables - firm size, MTB ratio, and leverage levels - which have been empirically proven to vary with conservatism levels, to allow for Basu-type measure of conservatism on a firm-year level (Khan and Watts, 2009). Broadly speaking, C-score is a measure of "conditional" conservatism because it incorporates the idea of asymmetric timeliness of earnings.

The variables selected to be used in the C-Score calculation were deliberately chosen due to the fact that they incorporate the four main factors that cause changes in conservatism as defined by Watts (2003a): contracting, litigation, taxation, and regulation. The variables of MTB, size, and leverage are all affected by the firm's investment opportunity set thus using them in the equation for C-Score should ideally capture fluctuations in conservatism levels (Khan and Watts, 2009). Following Khan and Watts (2009), to calculate C-Score, the following cross-sectional regression is run each year over the ten years from 1999 to 2009:

$$\begin{aligned} X_i = {} & \beta_0 + \beta_1 D_i + R_i(\mu_0 + \mu_1 SIZE_i + \mu_2 MTB_i + \mu_3 LEV_i) \\ & + D_i R_i(\lambda_0 + \lambda_1 SIZE_i + \lambda_2 MTB_i + \lambda_3 LEV_i) \\ & + (\delta_0 SIZE_i + \delta_1 MTB_i + \delta_2 LEV_i + \delta_3 D_i SIZE_i + \delta_4 D_i MTB_i + \delta_5 D_i LEV_i) \\ & + \varepsilon_i \end{aligned} \quad (1)$$

Where

X : *yearly earnings*

D : *dummy variable defined as 1 if R<0 and 0 if R>0*

R : *yearly firm returns*

SIZE : *size of the firm calculated by the natural log of the market value of equity*

[3] The Penman and Zhang (2002) measure of conservatism requires available data on R&D expenses and advertising expenses, which are mostly missing from the Compustat database. If we adopt this measure, we would have to sacrifice too much data.

MTB : *the market-to-book ratio*

LEV : *firm leverage calculated by the sum of long-term and short-term debt scaled by the market value of equity*

The results of the regression (1) are summarized in Table 3. The coefficients are the mean coefficients from the regressions for the years from 1999 to 2009. Following the Fama-MacBeth procedure, the t-statistic is calculated as each mean coefficients divided by its respective standard deviations. These coefficients are then used to calculate CS for each firm over the time horizon by the following equation:

$$C - Score_i = \lambda_1 + \lambda_2 SIZE_i + \lambda_3 MTB_i + \lambda_4 LEV_i$$

The results of the CS calculation can be found in Table 3 and the descriptive statistics table in the appendix. Once calculated, the values were added to the dataset in order to later be used in the ERC regression models as an independent variable.

5.2 Test of Hypothesis 1

In order to test the H1, which predicts that the ERC for negative special items is greater than that of positive special items, we conduct the following control variable regression.

$$ABRET_{it} = \theta_0 + \theta_1 SUE_{it} + \theta_2 SI1_{it} + \varepsilon_{it} \quad (2)$$

where

ABRET : *the abnormal return is the quarterly market-adjusted stock return per firm collected over the period of one day after the earnings announcement date for the prior quarter (t-1) through the earnings announcement date for the current quarter.*

SUE : *the standardized unexpected earnings*

SI1 : *the special items reported in each quarter divided by beginning book value of equity*

The above regression model is adapted from Elliott and Hanna (1996) and Cready et al. (2010), which test how well abnormal stock returns are explained by the standard SUE variable, as well as equity-scaled special items (SI1). Elliott and Hanna (1996) argue that the ERC on special items (SI1) is smaller than that on normal earnings, which is proxied for by SUE, because special items are less persistent than normal earnings. Regression (2) allows two separate ERCs for positive and negative special items by separating the dataset into negative and positive special items and running the regression separately for each subset. The difference between negative and positive special items' ERC is captured by the coefficient θ_2. Hypothesis 1a implies that θ_2 should be significantly greater than zero for negative special items and hypothesis 1b states that θ_2 is not significantly different from zero for positive special items.

The actual result of estimating regression (2) with the sample data is reported in Table 4. The ERC (t-statistic) for negative special items θ_2 *is* 0.103 (4.567) and significant at 1% level. As predicted, the ERC for positive special items (θ_2) is 0.066 (0.779) and not statistically significant. These results are highly consistent with Hypotheses 1a and 1b.

5.3 Test of Hypothesis 2

To test Hypotheses 2a and 2b which argue that the ERC of positive and negative special items and the difference between them are changing as the degree of accounting conservatism increases, Regression model (3) is estimated separately for positive and negative special items, as follows:

$$ABRET_{it} = \beta_0 + \beta_1 SUE_{it} + \beta_2 SI1_{it} + \beta_3 C\_SCORE_{it} + \beta_4 SI1_{it} C\_SCORE_{it} + \varepsilon_{it} \quad (3)$$

where

ABRET : *the abnormal return is the quarterly market-adjusted stock return per firm collected over the period of one day after the earnings announcement date for the prior quarter (t-1) through the earnings announcement date for the current quarter.*

SUE : *the standardized unexpected earnings*

SI1 : *the special items reported in each quarter divided by beginning book value of equity*

C_SCORE : *the C-score conservatism measure for each firm*

According to Hypotheses 2a and 2b, I predict the following:

First, for negative special items, β_4, which is the interaction effect between negative special items and C-Score on abnormal returns, will be positive and significant. This positive β_4 indicates that as the degree of conservatism (i.e. C-score) increases, the earnings response coefficient (ERC) of negative special items also increases.

Second, for positive special items, β_4, which is the interaction effect between positive special items and C-Score on abnormal returns, will be negative, but not significantly different from zero. The two values of β_4, for negative and positive special items respectively, are significantly different from each other. Thus, the β_4 for negative special items minus the β_4 for positive special items would be significantly positive. In other words, when the degree of conservatism increases the asymmetry between the ERCs for negative and positive special items gets bigger.

The empirical results of estimation Regression (3) can be found in Table 5. Consistent with Hypothesis 2a, I found that the earnings response coefficient is significantly increasing for negative special items as the degree of conservatism increases (β_4 = 20.992, t-stat = 3.095). By comparison, the interaction effect between positive special items and C-Score (the proxy for conservatism) for abnormal return is negative (β_4 = -25.640, t-stat= -1.066), although not significantly, which indicates that the earnings response coefficient on positive special items is only weakly decreasing with the degree of accounting conservatism.

It is observable that the value of the coefficient β_4 is relatively large. This is due to the fact that the C-Score values are quite small for the majority of firms. In this case, perhaps the t-statistic is a better indicator for the strength of the effects of C-Score on the earnings response coefficient of special items. Lastly, it can be easily determined that the difference between these two coefficients is 20.992 - (-25.640) = 46.632, which is also statistically significant at the 5% according to a pooled-sample *t* statistic.

In summary of Section 5, my empirical results are consistent with the theoretical hypotheses using C-Score as a measure of accounting conservatism. The empirical evidence show that as the level of conservatism increases, the earnings response coefficient for positive special is not significantly different from zero, or irrelevant, indicating that for a very conservative firm, the gains reported as special items do not provide much value relevant information to the stock market. Conversely, the opposite is found for negative special items. Because accounting losses reported as negative special items, such as impairment charges and restructuring charges, are more timely reported, they tend to contain more value relevant information to investors. In addition, because of the short interval between the underlying economic event and the reporting of negative special items, stock returns and the earnings are more likely to be in the same period, which further increases the earnings response coefficient of negative special items.

6. An Alternative Explanation

While the result of regression (3) is consistent with Hypothesis 2, which is based on the rationale that accounting conservatism leads to a lower information content in positive special items than in negative special items, the empirical result is also consistent with an alternative explanation: the ERC for negative special items may be greater than the ERC for positive special items because negative special items may be more persistent than positive ones. Although this alternative explanation is just as justified by the results of regression (2), it however cannot easily explain the empirical findings of regression (3) which gives evidence of the strong relationship between accounting conservatism and the market valuation of special items.

I would like to point out that the alternative explanation that the asymmetry between the ERC of positive and negative special items is due to the different levels of earnings persistence is inconsistent with my regressions (3a,b). These two regressions clearly show a strong link between ERC and the degree of conservatism, but do not address the relationship between ERC and earnings persistence. In fact, according the Basu (1997) paper, the more conservative a firm is, the less persistent its accounting losses are relative to gains. This would mean that the negative special items would have *lower* earnings

response coefficient than would positive special items. This is clearly refuted by the empirical evidence presented in this paper.

The persistence and frequency of reporting special items is beyond the scope of this paper. However, it does leave room for additional research in the future on the asymmetric value relevance of accounting conservatism and persistence levels in regards to special item market valuation. I propose additional research on the topic of value relevance, using ERC tests, between frequency and persistence of special items and abnormal returns. Furthermore, I plan to test how this explanatory variable compares to this research on accounting conservatism as an explanation and run empirical tests to determine the difference between the two and determine which occurrence has the greater affect and thus more value to investors.

7. Conclusions and limitations

This paper offers theoretical and empirical evidence that the asymmetrical valuation of negative and positive special items can be, at least partially, explained by accounting conservatism. In particular, I examine how earning response coefficients (ERC) of both positive and negative special items respond to different levels of accounting conservatism. Consistent with my hypotheses, empirical tests illustrate that as levels of accounting conservatism increase, negative special items' ERC increases while positive special items' ERC decreases to a point of insignificance to investors. Therefore, it is likely that investors are valuing nonrecurring losses more highly than nonrecurring gains because accounting conservatism makes nonrecurring losses more timely, and thus more useful to investors, than nonrecurring gains. Thus, I conclude that conservatism is likely an important factor that influences the market valuation of special items.

This paper fills in the gap in the literature by linking the valuation of special items and conservatism. Most prior research on special items research typically discard positive special items from their samples, acknowledging a lack of value relevance for positive special items and disregards them all together from their empirical studies; this research, however, contributes to the literature by analyzing as to why a discrepancy in valuation coefficients exists between nonrecurring gains and losses. By doing so, this research

explicitly links value relevance research and accounting conservatism research, which not only has significant explanatory power for the valuation coefficient of special items but also has implications for other types of accounting earnings. The latter topic can be addressed in future research.

This paper has the following limitations: First, our research utilizes only one, albeit a strongly supported, measure for accounting conservatism – the Khan and Watts (2009) C-Score – which may not be the proxy that all researchers would agree to use to measure conservatism. The topic of measuring accounting conservatism has been the subject of intense debate recently and no conclusion as to the best measure of conservatism has yet been reached. Second, this paper does not address the issue of how the frequency of special items impacts on their value relevance. Incorporating the frequency issue into our paper would significantly raise the complexity and scope of the present paper, which is best left to future research. Third, by focusing on special items alone, this paper does not address how the value relevance of other types of earnings would interact with accounting conservatism. Doing that would take us much further outside the scope of the present study. But this is nevertheless a useful research topic to study in the future.

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Appendix

Table 1: Descriptive Statistics

	Mean	Median	Std. Dev	Q1	Q3
NI	19.406	2.084	151.689	-3.065	19.646
ABRET	0.006	-0.005	0.204	-0.115	0.108
SI1	-0.019	-0.004	0.056	-0.018	0.000
SALES	609.370	131.650	1594.621	30.980	480.250
TL	1703.000	281.400	4449.755	48.650	1188.000
TA	2732.000	610.700	6382.411	153.000	2210.000
MV	3224.860	862.732	6352.394	242.541	2862.574
ROE	-4.907	5.538	235.091	-8.481	13.852
ROI	-6.417	3.357	64.430	-5.634	8.801
EQUITY	1028.660	285.160	2243.954	82.510	911.850
EARNINGS	19.371	2.154	122.076	-2.818	19.255
SUE	0.005	0.004	0.090	-0.015	0.022
MTB	4.297	1.976	134.495	1.240	3.261
PRICE	24.300	14.500	503.334	6.381	26.920
SI	-11.118	-1.000	79.266	-5.758	-0.010
C_SCORE	0.000	0.001	0.003	-0.001	0.002

This table shows the descriptive statistics for a total of 32,160 firm-years ranging from 2000 to 2009. The mean, median, standard deviation (Std. Dev.), first (Q1) and third (Q3) quartiles are reported. NI is annual net income. ABRET is the quarterly-adjusted stock return accumulated from one trading day after the earnings announcement date for the prior quarter (t-1) through the earnings announcement date for the current quarter (t). SI is special items as defined by Compustat. SI1 is special items scaled by the book value of equity. Sales are the quarterly sales for the firms. TL is total liabilities or debt. TA is total assets. MV is market value of equity. ROE is return on equity. ROI is return on investment. Equity is the average of book value of firm equity. Earnings are income before extraordinary items (Compustat data item #8). Price is the closing stock price on the last day of the quarter averaged for total of examined firms from 2000-2009. SUE is defined as the difference between earnings in quarter t less special items and earnings in quarter t-4 less special items scaled by the quarterly book value of equity in quarter t-4. MTB is market-to-book ratio. C-Score is a firm-specific conservatism measure as created by Khan and Watts (2009).

Table 2: Correlation Matrix

	NI	ABRET	SI	SALE	TL	TA	MV	ROE	ROI	EQUITY	EARN	SUE	MTB	PRICE	CS
NI		0.055	0.196	0.451	0.452	0.498	0.613	0.039	0.129	0.519	0.957	0.120	0.002	0.147	-0.161
ABRET	0.139		0.062	0.012	0.019	0.022	0.058	0.029	0.055	0.024	0.055	0.075	-0.004	0.050	0.017
SI	0.339	0.063		0.041	0.032	0.045	0.060	0.046	0.228	0.064	0.204	-0.014	-0.078	0.061	-0.049
SALES	0.585	0.078	0.076		0.719	0.735	0.636	0.029	0.095	0.674	0.461	0.002	-0.005	0.148	-0.282
TL	0.513	0.075	0.060	0.921		0.977	0.710	0.030	0.079	0.814	0.449	0.006	-0.004	0.134	-0.362
TA	0.552	0.080	0.096	0.930	0.972		0.786	0.030	0.090	0.920	0.498	0.007	-0.007	0.149	-0.368
MV	0.625	0.119	0.123	0.844	0.852	0.914		0.044	0.144	0.828	0.623	0.033	0.003	0.215	-0.340
ROE	0.692	0.121	0.229	0.481	0.401	0.423	0.513		0.101	0.026	0.040	-0.008	-0.031	0.027	-0.030
ROI	0.673	0.115	0.245	0.444	0.328	0.373	0.492	0.950		0.099	0.133	0.042	-0.030	0.126	-0.150
EQUITY	0.570	0.083	0.147	0.879	0.871	0.954	0.920	0.422	0.408		0.525	0.009	-0.012	0.157	-0.332
EARN	0.970	0.141	0.345	0.594	0.519	0.557	0.629	0.706	0.686	0.573		0.126	0.002	0.151	-0.167
SUE	0.251	0.141	-0.053	0.071	0.052	0.046	0.101	0.188	0.175	0.037	0.259		0.040	0.022	0.011
MTB	0.282	0.127	0.017	0.082	0.105	0.084	0.366	0.364	0.344	0.025	0.281	0.040		0.003	-0.004
PRICE	0.592	0.150	0.148	0.653	0.627	0.664	0.755	0.600	0.591	0.670	0.597	-0.606	0.377		-0.133
C_SCORE	-0.468	-0.075	-0.072	-0.695	-0.720	-0.750	-0.781	-0.416	-0.393	-0.723	-0.477	-0.071	-0.297	-0.606	

The table shows the means of cross-sectional correlations for 32,160 firm-years from 2000-2009. The upper right triangle of the matrix is the Pearson correlations. The bottom left triangle is the Spearman correlations. NI is annual net income. ABRET is the quarterly-adjusted stock return accumulated from one trading day after the earnings announcement date for the prior quarter (t-1) through the earnings announcement date for the current quarter (t). SI is special items as defined by Compustat scaled by the book value of equity. Sales are the quarterly sales for the firms. TL is total liabilities or debt. TA is total assets. MV is market value of equity. ROE is return on equity. ROI is return on investment. Equity is the average of book value of firm equity at quarter-end. Price is the closing stock price on the last day of the quarter averaged for total of examined firms from 2000-2009. SUE is defined as the difference between earnings in quarter t less special items and earnings in quarter t-4 less special items scaled by the quarterly book value of equity in quarter t-4. MTB is market-to-book ratio. C-Score is a firm-specific conservatism measure as created by Khan and Watts (2009).

Table 3: C score regression using Fama-MacBath procedure

$$X_i = \beta_0 + \beta_1 D_i + R_i(\mu_0 + \mu_1 SIZE_i + \mu_2 MTB_i + \mu_3 LEV_i) + D_i R_i(\lambda_0 + \lambda_1 SIZE_i + \lambda_2 MTB_i + \lambda_3 LEV_i) + (\delta_0 SIZE_i + \delta_1 MTB_i + \delta_2 LEV_i + \delta_3 D_i SIZE_i + \delta_4 D_i MTB_i + \delta_5 D_i LEV_i) + \varepsilon_i$$

Indep. Variable	Pred. sign	Coefficient	t-stat
Intercept		-0.2137	-1.7779
D		-0.0263	-0.2480
RETURN	+	-0.0029	-1.5678
RET x SIZE	+	0.0004	1.3245
RET x MTB	-	0.0000	0.4284
RET x LEV	-	0.0001	0.0965
D x RETURN	+	0.0062	2.5487
D x RET x SIZE	-	-0.0009	-1.9761
D x RET x MTB	+	0.0000	-0.4026
D x RET x LEV	+	0.0000	-0.0100
SIZE		0.0377	2.1522
MTB		-0.0009	-0.2245
LEV		-0.0678	-0.9259
D x SIZE		0.0026	0.1694
D x MTB		0.0013	0.3382
D x LEV		0.0113	0.1862

This table shows the mean coefficients from annual regressions of earnings on the variables listed above from 1999-2009 which includes 51,300 firm years. D is a control variable which is equal to 1 if RETURN is negative and 0 if RETURN is positive. SIZE is the natural log of the market value of equity. MTB is market-to-book ratio. LEV is leverage which is calculated by the sum of long-term and short-term debt scaled by market value of equity. These variables were originally used in the paper by Khan and Watts (2009).

Table 4: Regressing abnormal returns on SUE and SI

$$ABRET_{it} = \theta_0 + \theta_1 SUE_{it} + \theta_2 SI1_{it} + \varepsilon_{it}$$

Indep. Variable	Pred. Sign	Coeff.	t-stat.	Signif.
		Positive Special Items (SI>0)		
Intercept		0.018	6.660	***
SUE	+	0.127	4.811	***
SI1	+/-	0.066	0.779	
		Negative Special Items (SI<0)		
Intercept		0.004	2.657	**
SUE	+	0.206	14.332	***
SI1	+/-	0.103	4.567	***

This table shows the regression coefficients, basic t-statistics, and the significance levels for hypothesis 1. The data used is from the Compustat database and covers 32,160 firm years ranging from 2000-2009. ABRET is the quarterly-adjusted stock return accumulated from one trading day after the earnings announcement date for the prior quarter (t-1) through the earnings announcement date for the current quarter (t). SI1 is defined as special items scaled by the book value of equity in the same quarter. SUE is defined as the difference between earnings in quarter t less special items and earnings in quarter t-4 less special items scaled by the quarterly book value of equity in quarter t-4. D is a control variable that stipulates that if SI<0, it will equal 1 otherwise the value is equal to 0. The significance code for this table is as follows: '***' for 0.01, '**' for 0.05, and '*' 0.10.

Table 5: Regressing abnormal returns on SUE and C-score

$$ABRET_{it} = \beta_0 + \beta_1 SUE_{it} + \beta_2 SI1_{it} + \beta_3 C\_SCORE_{it} + \beta_4 SI1_{it} C\_SCORE_{it} + \varepsilon_{it}$$

Indep. Variable	Pred. Sign	Coeff.	t-stat.	Signif.
		Positive Special Items (SI>0)		
Intercept		0.017	6.222	***
SUE	+	0.126	4.790	***
SI1	+/-	0.080	0.897	
C_SCORE		2.017	2.294	*
SI1: C_SCORE	-	-25.640	-1.066	
		Negative Special Items (SI<0)		
Intercept		0.003	2.201	*
SUE	+	0.207	14.354	***
SI1	+/-	0.081	3.251	**
C_SCORE		1.765	-4.022	***
SI1: C_SCORE	+	20.992	3.095	**

This table shows the coefficients from the regression that tests the conservatism measure of C-Score in a valuation equation designed for special items. The test is separated by sign of special items. The data used is from the Compustat database and covers 32,160 firm years ranging from 2000-2009. ABRET is the quarterly-adjusted stock return accumulated from one trading day after the earnings announcement date for the prior quarter (t-1) through the earnings announcement date for the current quarter (t). SI1 is defined as special items scaled by the book value of equity in the same quarter. SUE is defined as the difference between earnings in quarter (*t*) less special items and earnings in quarter (*t-4*) less special items scaled by the quarterly book value of equity in quarter (*t-4*). C-Score is a firm-specific conservative measure designed by Khan and Watts (2009). The significance code for this table is as follows: '***' for 0.01, '**' for 0.05, and '*' 0.10.