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Effects of Accounting Choices and Estimates on the Value Relevance Inferences

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Abstract
Accounting choices and estimates allowable within a given accounting standard lies somewhere between aggressive or conservative approach and each has short-term effect of increasing or decreasing firm's accounting earnings and book values. Thus, posing challenges to both preparers and users of accounting information. More challenging to the users and preparers is preparing financial statements using the International Financial Reporting Standards (IFRS) that focused more on fair-value measurement. Recent evidence indicates that fair-value measurements allow opportunistic behaviour due to professional judgments at the option of executives and accountants required in the measurements process. These nexus in measurements has built up a huge concern over the practices of regressing market value of equities on accounting numbers without sufficient prove on the measurements sources. This paper proposes a framework that shows how investors' reliability judgment of accounting choices and estimates influences the relationship between accounting numbers and market value of equities. Highlights of the paper has important implication of providing fresh insight to researchers, users, financial reporting agencies and preparers on the effect of accounting choices and estimates on value relevance inference.

Keywords: Accounting Choice, Estimates, Share Prices; Relevance; Reliability
JEL Classification: E64, Q56

1. Introduction

In order to maintain market equity values and to ensure fair and efficient markets, Stock Exchanges all over the world required firms to provide relevant and reliable audited financial statement (Levitt, 2000). This is to stimulate existing and potential providers of funds and other stakeholders to assess their investments, credit decisions and optimal resources allocation (IASB, 2010). Based on value relevance concept, which is empirical conceptualisation of relevance and reliability (Barth, Beaver, & Landsman, 2001), numerous studies have examined the usefulness of accounting numbers based on data setsfrom developed, emerging and developing markets. A consensus in the literature is that accounting amounts are relevant and reliably represent what they purport to represent. However, the inference of joint test of relevance and reliability has been criticised for not always measuring relevance and reliability as claimed in the extent literature (Holthausen &

Watts, 2001; Wyatt, 2008)[1]. This is because the traditional value relevance regression does not allow researchers to judge the reliability of accounting numbers (Wyatt, 2008)[2]. Thus, the simplistic views of the associations between market-based measures and accounting numbers could influence value relevance inference (Lee, 2001; Aboody *et al.*, 2002). Being a complex construct (Maines & Wahlen, 2006), reliability has over the years remained a major source of disagreement among practitioners and academic researchers and a significant feature preserved in most of the previous value relevance studies (Holthausen & Watts, 2001; Wyatt, 2008). This concern is more alarming in countries with weak accounting and audit practices and ineffective enforcement.

This paper share in concern expressed by Holthausen and Watts (2001) and Wyatt (2008) on the limitation of value relevance inference to capture attributes (sub-notion) of reliability such as verifiability, neutrality, material error free and representational faithfulness that add up IASB criteria for reliability. However, literature has indicated reliability qualities here refer to as accounting principle choices and estimates disclosures are associated with reliability of accounting numbers. They could serve as indirect proxies for reliability (Jonas & Blanchet, 2000; Fields et al., 2001; Beest & Braam, 2013) and could influence investors' judgment of reliability. An important proposition to be addressed here is: if accounting numbers are assumed to be relevant and measure with some degree of reliability, would level of information about reliability qualities revise investor's judgments of reliability? If the answer is in the affirmative, this will be in support of the criticism that "value relevance test do not always measure relevance and reliability" as contended by Holthausen and Watts (2001), Maines and Wahlen (2006) and Wyatt (2008). Relatively few studies have attempted to investigate this possibility.In this paper, the researcher offers a proposition thatdisclosure of accounting choices and estimates could influence value relevance of accounting numbers.

The remainder of this paper is organised as follows. Next section presents previous studies that relate to earnings and book value with market equity values. This is followed with the discussion of reliability qualities. To link these relationships, valuation theory, market efficiency hypothesis, signaling theory and agency theory are usedto demonstrates the objective of the paper.

2. Empirical Research on Value Relevance of Accounting Numbers

The term "value relevance" connotes the ability of accounting numbers to summarise the information underlying the market value of equities (share prices) or returns expressed by statistical association (Francis & Schipper, 1999). Prior studies have examined this intuition worldwide and found evidence supporting the relative and incremental value relevance of

[1] According Holthausen and Watts (2001), the value-relevance literature is based on joint test of relevance and reliability criteria of FASB statements. However, "the tests do not always measure relevance and reliability". "There is an attribute of the FASB definition of reliability that may not be reflected in the significance of the estimated relation. That attribute is verifiability; as a result significant incremental association does not necessarily imply the numbers under consideration are reliable.

[2] "Conclusions from value-relevance studies are not reliable if important factors are left out of the tests. We cannot tell whether investors actually used the information item of interest or whether one accounting method is optimal relative to another, or easily understand why information is value-relevant. Overall, it is difficult to directly test reliability and only a few studies do this."

book value and earnings (seeBall & Brown, 1968; Francis &Schipper, 1999; Barth et al., 2008; Habib, 2008; Alali& Foote, 2012; Barth, Landsman, Lang, & Williams, 2012;Kim, 2013). Nevertheless, series of arguments have emerged on possible bias of value relevance inference due to the variations in accounting principle choices and estimates disclosures.

The pointer of the debate is the fact that accounting measurement system revolved around the existence of alternative measurement rules for valuation of firms' resources and obligations. Measurements alternatives that fall within GAAPs, lie somewhere between a conservative to aggressive accounting choices (Skinner, 1993; Rainsbury, Bardbury, & Cahan, 2009). Either of the techniques suggests some type of bias (Jonas & Blanchet, 2000) and has short-term effect of decreasing or increasing firm's accounting earnings and book values (Skinner, 1993; Fields *et al*., 2001; Rainsbury *et al*., 2009). The advocacy of fair value accounting rather than historical cost based measures for assets, has long been a major debate in financial accounting theory. Some scholars are of the view that accounting methods choices and estimates valuation for loans and long-lived assets are not reliably estimable (Sloan 1999; Aboody, Barth, & Kasznik, 1999). Similarly, there are accounting estimates and choices regarding research and development cost, goodwill, inventories, corporate income taxes, financial instruments and provision for bad debtare contending issues. The potential lack of reliability of accounting choices and estimates derives from uncertainties inherent in the management discretion (Aboody *et. al*., 1999). Managers with interest consistent with investors could use their discretion to enhance informativeness of book value and earnings (Fields et al., 2001). From the perspective of opportunism, both book values and earnings may be misrepresented by exploiting the flexibility in accounting measurement alternatives to report accounting transactions that are technically within GAAP but does not reflect the true and fair economic reality of the said accounting constructs (Maine & Wahlen, 2006, Elliot et al., 2006).For instance, there is limited knowledge of how economic constructs should map into accounting constructs by preparers impaired completeness of the annual reports (Maines & Wahlen, 2006). Human bias, either intentional or unintentional may bring about material error (Maines & Wahlen, 2006). Neutrality may also be questioned if preparers use inappropriate accounting choices to achieve a predetermined outcome in order to influence investors' behaviour in a particular direction (Skinner, 1993; Fields *et al*., 2001; Maines & Wahlen, 2006). Verifiability is violated when independent observers considered accounting methods used to depict economic construct as inappropriate (Holthausen & Watts, 2001).These events in financial reporting process could distort reported book value and earnings (Watts & Zimmerman, 1986). This is particularly true where there is weak audit process to monitor the activities of the management (DeAngelo, 1981; Rogers &Stocken, 2005; Prawitt, Smith, & Wood, 2009; Yasin & Nelson, 2012). Consequently, inference based on the product of the above practice could be biased as argued by Holthausen and Watts (2001), Maines and Wahlen (2006) and Wyatt (2008), suggesting the needs to investigate reliability qualities relative to share price-accounting numbers relation.

3. The Effects of Accounting Choices and Estimates on the Value Relevance Inferences

The fundamental criteria for deciding whether the recognition of an item will provide useful information are the criteria of relevance and reliability (IASB, 2010). Factors underlying reliability are found to influence investors' judgment of relevance of accounting numbers

(Kadous *et al*., 2012). It is possible that the degree of the strength or weakness in the perceived reliability could significantly influence investors' valuation process (Kadous *et al*., 2012). According to Botosan (2004) and Maines and Wahlen (2006), reliability is a complex construct and difficult to measure directly by only financial information. This is because information about the real economic construct is required to assure reliability. Nonetheless, non-financial information being increasingly used by investors to assess underlying economic phenomenon (Francis & Schipper, 1999) were found to enhance the perceived reliability of accounting information (Maines & Wahlen, 2006). In defence of Holthausen and Watts (2001), Maines and Wahlen (2006) and Wyatt (2008), many previously published papers have identified that reliability qualities have differential valuation and signaling effect (Rainsbury *et al*., 2009; Beest & Braam, 2013). This paper discussed how this intuition influences accounting numbers-share price relation.
Market based measures could be affected by accounting choices followed by a reporting entity (Jonas & Blanchet, 2000; Elliot *et al*., 2006; Maines & Wahlen; 2006) due to its effect on financial information quality (Rainsbury *et al*., 2009; Beest & Braam, 2013). Consistent with Wyatt (2008), reliability may be affected by the management discretion in financial reporting process. The effect is positive if the interests of the managers are consistent with that of the investors and it is expected to increase when valid arguments are presented to provide sound bases for accounting information reliability (Maines & Wahlen; 2006; Beest & Braam, 2013). It is potentially negative if management has incentive to opportunistically used discretion usually by opting for aggressive accounting policies to boost earnings numbers and book values (Skinner, 1993). Although both conservative and aggressive accounting choices are devoid of some bias (Jonas & Blanchet, 2000), since "assets and liabilities are measured in a context of significant uncertainties, managers, investors, and accountants have generally preferred that possible errors in measurement be in the direction of understatement rather than overstatement of net income and net assets" (FASB, 2008). Thus, from investors' viewpoint, choice of accounting method could affect the magnitude and sign of coefficient of carrying book values and earnings.

In a similar manner, Petroni (2003) describes accounting estimates as either accurate or opportunistic. It is accurate if estimation errors have zero mean. An intentional, large, income-increasing estimation error implies opportunism. Considering the importance of accounting estimates, Exposure Draft, *Fair Value Measurements* issued by FASB in June 2004 underscore the need for expanding estimates disclosures to "assist financial statement users in assessing the reliability of fair value estimates reported in the primary financial statements" (Elliott et al., 2006). Investors can judge the reliability of accounting estimates by observing information about the process disclosures and certain features of the estimates (Elliott et al., 2006). For instance, disclosure of footnotes in a financial statement provide process information for deferred taxes, depreciation expense, inventory and other estimated measures to aid assessment of the reliability of the said accounting amounts (Elliott et al., 2006).IFRS and other national GAAPs specified limit for estimating useful life for different non-current and intangible assets, provision for bad debt and other related assets and expenses that are routinely disclosed in financial statement. Deviation from what is allowable within GAAP may reflect either overstatement or understatement of book values and reported earnings (Elliott et al., 2006; Rainsbury et al., 2009). These notions have been

tested using experimental research designed (Elliott et al. (2006) but not in the context of long window association like value relevance study. Therefore, since the quality of estimates disclosure varies substantially between firms, evaluating how these estimates affect investors' valuation process could be a worthy exercise. This is particularly important in the reporting environment that increasingly relies on fair value measurement (AAA FASC 2005).

Thus, the potential use of manager's discretion in the fair value determination often induces information asymmetry in financial reporting process, which leads to agency costs that could threaten the reliability of fair value earnings (Song et al., 2010; Lee & Park, 2013). Nevertheless, several studies have provided good arguments that fair value hierarchy levels (Song *et al*., 2010; Lee & Park, 2013; Lu & Mande, 2014) and level of compliance with accounting choices and estimates (Bushee & Leuz, 2005; Kang & Pang, 2005; Hodgdon, Tondkar, Harless, & Adhikari, 2008; Hassan et al., 2009) effectively mitigate the reliability concern associated with reporting of other comprehensive income and its components. Thus, assessing the effect of accounting choices and estimates[3]on the value relevance of fair value earnings provides a better approach for extending the discussion of value relevance.

Thus, using fair value hierarchy levels as a proxy for reliability, Song et al. (2010) and Lu and Mande (2014) partitioned samples of the quarterly reports of firms in the United States with fair value gains and losses on financial assets and liabilities into Level 1 to Level 3[4]. In a related study, Lee and Park (2013) classified fair value gains and losses into a less subjective component (available-for-sale marketable securities) and more subjective component (fair value change on the defined benefit plan, foreign currency translation and a change in derivative instrument). Nonetheless, because some financial assets could be measured using Level 2 and perhaps Level 3, partitioning other comprehensive income items based on the perceived degree of management subjectivity does not reflect the actual sense of reporting. It is therefore essential to extend Song et al. (2010) and Lu and Mande (2014) on the effect of fair value hierarchy levels for multiple components of other comprehensive income. Siekkinen, (2016) documented an evidence on how different investor protection environment affect value relevance of fair values. Usman, Amran and Shaari (2017) provided evidence on how corporate governance influence investors valuation of fair value earnings such as other comprehensive income.

Again, compliance with accounting requirements, which reinforces concerns about the reliability of accounting information, has remained a controversial issue in many reporting environments. Perhaps, the reluctance of firms to observe full compliance suggests violations in terms of disclosure requirement of relevant standards (Hassan et al., 2009; Mısırlıoğlu, Tucker, &Yükseltürk, 2013). This could exacerbate agency costs and hence threaten the reliability of accounting information (Hassan *et al.*, 2009; Braam & Beest, 2013). Thus, omission of compliance when investigating IFRS adoption may lead

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[3] In the extent literature, corporate governance practices, fair value hierarchy levels and firm's compliance with accounting standards have individually been associated with the reliability of accounting earnings. Thus, in this study, these variables are labelled as reliability factors for convenience.

[4] The value relevance of fair values based on Level 1 and Level 2 is greater than the value relevance of Level 3 fair values. More\over, the impact of corporate governance practice is more for Level 3 measurement.

researchers to draw incorrect conclusions, especially if noncompliance is widespread (Hodgdon *et al.*, 2008; Mısırlıoğlu *et al.*, 2013)[5]. The idea presented in this paper is important, given the dearth of empirical evidence linking the level of mandatory disclosures and firm value in developing economies (Bushee & Leuz, 2005; Kang & Pang, 2005; Hassan *et al.*, 2009; Tsalavoutas, 2009). With an emphasis on less developed markets, Verrecchia (2001) and Leuz and Wysocki (2008) call for future research that would investigate compliance with mandatory adoption of IFRS.

Theoretically, valuation theory provides an intuitive background for understanding the relationship between accounting numbers and equity market values given an efficient market setting (Beaver, 2002). To the extent that non-financial information such as reliability qualities discussed above represents plausible signal (reduced agency cost) and a means of assessing the reliability of accounting numbers, they are likely to influence accounting numbers and share price relation. Consequently, providing scholarly evidence on how this qualities influences investors and users behaviour will have theoretical and methodological implications in value relevance research.

4. Conclusion and Implications

Previous studies have presented rekindled arguments on the effects of accounting choices and estimates on the quality of financial statements. This paper builds on their attempts to understand the impact of reliability qualities on the relationship between accounting numbers and share prices. These types of disclosure hold promise for improving financial reporting and have several critical implications in capital market research. First, the proposed framework is about combining financial and non-financial data in value relevance research. If the model is validated, the findings may provide a more robust inference than model based on financial data alone. Second, it is believe that the approach will help to minimise the bias risk of value relevance inference of regressing share prices on accounting numbers without sufficient proves regarding accounting measurements and sources. Lastly, since this study proposed mapping accounting choices and estimates in value relevance regression, it will help to increases the investors' level of confidence on the quality of financial statements especially in an environment with weak accounting and auditing practices. Nevertheless, our inability to comprehensively discussed measures of sub-notion of reliability is the major caveat of this paper. We look forward to more research to test the impact of accounting choices and estimates on value relevance inferences.

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[5]Because companies differ in terms of electing accounting principle when re-measuring fair value of assets and liabilities, financial statement users are most likely to attach different weights to different levels of compliance (Hodgdon et al., 2008).

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