International Research Symposium
Rajarata University of Sri Lanka

IRSyRUSl 2015

The Impact of International Financial Reporting Standards Convergence on Accounting Quality

Weerathunga P.R.[1]*, Udayakumara K.G.A.[2]
Department of Accountancy and Finance, Faculty of Management Studies, Rajarata University of Sri Lanka[1, 2]

ABSTRACT

This study examines whether the convergence of International Financial Reporting Standards (IFRS) is associated with higher accounting quality for Sri Lankan firms using a sample of 157 firms listed in Colombo Stock Exchange (CSE). The companies listed in CSE were mandated to adopt IFRS converged SLFRS in preparation of their financial statements with effect from 01st of January 2012. Prior to the full convergence of IFRS, Sri Lankan firms reported under Sri Lankan Accounting Standards (SLAS). Thus, this study compares several measures of accounting quality for Sri Lankan firms under two reporting regime to identify the improvement of accounting quality in post IFRS convergence. Following prior studies, this study uses eight individual measures of accounting quality related to earnings smoothing, managing towards earnings targets, timely loss recognition and value relevance. Firms are said to have improved accounting quality if they display lower levels of earnings smoothing, less management towards earnings targets, more timely loss recognition and higher levels of value relevance. The general results indicate that general, accounting quality of Sri Lankan firms is improved after fully convergence of IFRS in terms of displaying less management towards earnings targets and more timeliness of loss recognition. However, there is no evidence on improvement of accounting quality as been improved with regards to reducing earnings smoothing and improving value relevance. In addition, the results of this study revealed that earning smoothing has increased significantly following convergence of IFRS. Further, the value relevance of accounting numbers is very low under SLFRS.

KEY WORDS: *Accounting Quality, Convergence, IFRS, SLAS, SLFRS,*

[1]* Correspondent author: Weerathunga P R, weerathungaroshan@gmail.com

1. Introduction

IFRS are globally accepted high quality a single set of accounting standards developed by International Accounting Standards Board (IASB), which is formerly known as International Accounting Standards Committee (IASC). The primary objective of IFRS is to reduce information asymmetries between countries (Barth *et al*., 2008) and different users of the financial statements, primarily investors (Haller *et al*., 2009). Many studies investigating consequences of IFRS adoption have revealed that the accounting quality under IFRS is higher than that of under Local Accounting Standards. (Ball *et al*., 2003; Barth *et al*., 2008; Capkun *et al*., 2008). When the quality of financial statements is increased, it reduces the information asymmetries for different users (Street et al. 2000; Tarca, 2004; Ashbaugh *et al*., 2001; Gordon et al., 2010). However, whether or not the mandatory IFRS adoption led to a higher accounting quality is still controversial. Therefore, studies which examine the consequences of IFRS adoption provide an opportunity to understand how the IFRS are being applied and whether the required disclosures are useful to investors for equity decision. Currently, though there are number of empirical studies in other countries (Barth *et al*., 2008, Ball *et al*., 2003; Barth *et al*., 2008; Capkun *et al*., 2008) which examine the effects of mandatory IFRS adoption, there are few empirical researches in Sri Lanka in this regards. The purpose of this study, therefore, is to investigate whether or not the accounting quality of Sri Lankan firm has been increase following fully convergence of IFRS (in Sri Lanka SLFRS) in 2012.

The application of IFRS could increase the accounting quality if it removes the alternatives and increase the extent to which accounting measurements reflect the underline economic position and limit management's discretion to report accounting amounts that are less reflective of the firm's economic position and performance, e.g., by managing earnings. Further, the application of IFRS could enhance the transparency and comparability of information, consequently the value relevance of information is increased. Accounting quality could also be increased when adapting IFRS require the firms to recognize large losses in the period in which they occur rather than deferring them to future periods. A pivotal study on the voluntary adoption of IFRS was conducted by Barth et al. (2008). They examine whether the application of IFRS is associated with higher accounting quality than the application of non-US domestic accounting standards or not for a broad sample of firms in 21 countries. The authors measure accounting quality in terms of earnings smoothing, managing towards earnings targets, timely recognition of losses and value relevance. Barth et al. (2008) identified that the indications of better accounting quality are lower earnings smoothing and management towards earnings targets, more timely recognition of losses and higher levels of value relevance. The finding of the study reveals that generally firms applying IFRS exhibit less earnings smoothing, less managing of earnings towards targets, more timely loss recognition and higher value relevance compared to a matched sample of firms applying domestic standards. There have been several studies that examined accounting quality following IFRS adoption in terms of reductions in earnings management. For example, Jeanjean and Stolowy (2008) examined whether firms from the UK, France and Australia show changes in earnings management (operationalized as the ratio of small reported profits to small reported losses) post IFRS adoption. Based on data for 2002-2006, they did not find a reduction in earnings management. In fact, earnings management significantly increased in France. Similarly, Callao and Jarne (2010) find, based on their study of firms from 11 EU countries using data from 2003-2006, found that earning management has increased post IFRS adoption. The countries where earnings management (operationalized in terms of discretionary accruals) has increased the most are France and the UK. Callao and Jarne (2010) argue that the increase in earnings management observed might be attributable to additional flexibility and subjectivity that IFRS introduces in the reporting of certain items compared to local standards.

However, the intention of the application of IFRS is to enhance the true and fair view of the financial position and financial performance of an enterprise and ensure high degree of transparency comparability of financial statements. Therefore, it is reasonable to predict that accounting amounts determined in accordance with IFRS are of higher quality than those determined in accordance with previous Sri Lankan Accounting standard (SLASs). But, the firm's regulatory, enforcement, political, economical and attestation environment also affects accounting quality (Ball, Robin, and Wu, 2003). Even if high quality reporting standards are adopted, there is still a risk of no improvement in accounting quality may occur when firms have incentives and opportunities to manipulate their financial statements (Leuz, 2003). For instance, when there is a weak system of enforcement in a country, then the incentives of firm insiders to engage in earning manipulation and produce low quality reports may not be constrained (Ball,2001; Ball, 2006). The evidence of prior studies such as Ali and Hwnag (2000), Ball et al. (2000), Leuz et al. (2003), Burgstahler, Hail, and Leuz, (2006) suggest that countries where strong enforcement is established produce high quality financial information compared to weak enforcement countries. Therefore, there may be systematic differences in the consequences of IFRS adoption in strong enforcement countries and weak enforcement countries. Thus, it seems that the increase or decrease in accounting quality after IFRS adoption is depending upon different factors. Specifically, whether IFRS are of higher or low quality than local standards and the efficiency of enforcement mechanisms.

Another very important aspect that influenced to the national accounting systems, at the accounting quality, cultural differences. A study conducted by Hope (2003) revealed that financial reporting and disclosures are affected by culture in which firms operate. According to Finch (2009) culture is "the collective programming of the mind which distinguishes the members from one human group from another". Further, he stated that human group shares its own social norms, consisting of common characteristics such as value systems. There are huge differences between cultures and reducing such differences are very difficult and time-consuming process, even in the globalized and integrated economy. To demonstrate existing cultural differences, Hofstede (2008) in his cross-cultural study categorized countries according to the cultural differences he observed in his study. According to Hofstede (2008) the main cultural differences between countries are individualism versus collectivism, large versus small power distinct, strong versus weak uncertainty avoidance and masculinity versus femininity. These cultural differences affects, to high extent, financial reporting, and due to this produce differences between financial statements in different countries. Hence, there is no doubt, that due to those differences in cultures, the improvement or decline in accounting quality in post IFRS adoption period may not solely be depend upon whether IFRS are of higher or low quality than Local Accounting Standards.

According to the above argument, it can be noted that whether or not application of IFRS improve the accounting quality is still in doubt. Because changes in accounting quality may be affected by different factors, that are not attributable to financial reporting systems, such as political, economical, cultural and enforcement environment. Even though many prior studies found that there is improvement in accounting quality in the post IFRS adoption period, these results cannot be generalized to the developing countries, because most of these studies are based on developed countries such as UK, Germen, France, etc. Therefore, the following research question will be addressed in this study.

"Does accounting quality improve in term less earning management, timely loss recognition and higher value relevanceafter full convergence of IFRS in 2012?"

The remainder of this paper is organized as follows. The second section reviews previous studies related to the IFRS adoption and its consequences in international jurisdictions. Research design and the methodology are presented in the section three. Results are then discussed, followed by concluding remarks.

2. Literature Review

Several studies have been conducted to investigate the accounting quality in post IFRS adoption period using earning management approach. Studies such as Jeanjean and Stolowy (2008) investigate earning management of the UK, France and Australia following mandatory adoption of IFRS. The proxies that they used were the ratio of small reported profit to small reported losses. In addition, their study was conducted based on data for 2002 to 2006. However, they find that earning management has not been reduced under IFRS. In fact, earning management significantly increase in France. Similarly, Callao and Jarne (2010) find, based on their study of firms from 11 EU countries using data from 2003-2006, that earnings management has increased post IFRS adoption. The countries where earnings management (operationalised in terms of discretionary accruals) has increased the most are France and the UK. Callao and Jarne (2010) argue that the increase in earnings management observed may be attributable to additional flexibility and subjectivity that IFRS introduces in the reporting of certain items compared to local GAAPs.

Ahmed et al. (2012) examined the changes in accounting quality using data from 2002- 2007 from 20 countries that adopted IFRS and 15 countries that did not. Their results indicate that firms that adopt IFRS exhibit significant increases in income smoothing and aggressive reporting of accruals, and a significant decrease in timeliness of loss recognition compared to benchmark firms that do not adopt IFRS. However, the results do not indicate significant differences across IFRS and benchmark firms in meeting or beating earnings targets. In line with the explanations provided by Callao and Jarne (2010), Ahmed et al. (2012) attribute their findings to the greater flexibility and managerial discretion provided by IFRS compared to domestic GAAP. Ahmed et al. (2012) find that their results primarily hold for firms in strong enforcement countries. Therefore, the authors argue that the enforcement mechanisms in these countries were not able to counter the initial effects of greater flexibility in IFRS relative to domestic GAAP.

When the UK firms adopt IFRS mandatorily for the first time in 2005, they had to restate their previous year's financial statements according to IFRS guidelines. This was a good opportunity for the researchers to compares IFRS statement to UK GAAP statements. Horton and Serafein (2009) examine whether the disclosure of these IFRS reconciliation adjustments to previously disclosed UK GAAP accounts have information content. The evidence indicated that differences in earnings per share between UK GAAP and IFRS figures for the prior year's accounts are positively and significantly associated with share price, indicating that investors find the reconciliations value relevant. Further analysis reveals that the values of the positive reconciliation adjustments are significantly associated with share prices even before the date the reconciliations are disclosed to investors through the first set of IFRS financial statements. In contrast, the negative reconciliation adjustments are associated with share prices only after the reconciliations are disclosed. The authors argue that this is consistent with the premise that managers communicate good news even prior to IFRS adoption, as opposed to bad news which was revealed only after the firm adopted IFRS. Thus, IFRS appears to provide a medium through which negative information is revealed more reliably to investors.

A recent study that carries out a pre-post IFRS adoption comparison of accounting quality is done by Chen, Tang, Jiang and Lin (2010). Their sample includes publicly listed companies in 15 member states in the EU. Accounting quality is measured in terms of earnings smoothing, management towards earnings targets, and magnitude of absolute discretionary accruals, accruals quality and timely loss recognition. Data for the pre- adoption period is collected from 2000-2004 while the IFRS period includes 2005- 2007. The results provide some evidence of improvements in accounting quality. That is, post IFRS adoption there is evidence of less managing earnings toward a target, a lower magnitude of absolute discretionary accruals and higher accruals quality. However, the results also indicate higher levels of earnings smoothing and less timely recognition of losses in the IFRS adoption period.

A study focusing purely on accounting quality of UK firms post IFRS adoption is Iatridis (2010). His sample excludes financial institutions and consists of 241 firms listed on the LSE. The results revealed that firms report less smooth accounting numbers, more timely recognition of losses and a lower frequency of small profits post IFRS adoption, which is indicative of less earnings management. In addition, based on regressions of accounting numbers and market measures (such as share price and returns) the author finds that the IFRS amounts are more value relevant than UK GAAP amounts. The author states that his findings show that the implementation of IFRS has reduced the scope for earnings management, is related to more timely loss recognition and more value relevant accounting measures. However, the sample period of this study is limited to 2004 for the pre-adoption period and 2005 for the post- adoption period that undermines the reliability of the results. In addition, this study excludes firms from the financials industry that limits the generalizability of the results given that a high percentage of firms on the LSE are from the financials industry.

Aubert and Grudnitski (2011) investigate the impact of IFRS adoption by identifying significant differences in return on assets (ROA) amounts for firms calculated under local accounting standards and restated IFRS figures for the 2004 financial year (as stated in the 2005 annual reports). The evidence shows significant differences between ROA under local accounting standards and IFRS figures for firms from Belgium, Finland, France, Germany, the Netherlands, Norway, Sweden, Switzerland and the UK. However the authors did not find any evidence that IFRS earnings numbers are more value relevant or timely compared to local standards, indicating that while mandatory IFRS adoption may have an impact on firm reporting numbers, these changes may not necessarily translate to more informative and high quality financial reports.

Verriest, Gaeremynck and Thornton (2012) also investigated the IFRS adoption process. Specifically they examine the association between corporate governance strength (based on variables such as board independence, board functioning and audit committee effectiveness) and firms' compliance and disclosure choices made by first- time IFRS adopters. The results indicate considerable diversity in compliance and disclosure between firms. The evidence shows that firms with stronger governance mechanisms engage in more transparent IFRS restatements, comply with IFRS more rigorously and provide better disclosure quality than firms with weaker governance. Thus, the authors highlight the importance of stronger governance guidelines in promoting higher adoption quality.

Hung and Subramanyam (2007) conducted similar studyusing 80 German firms to compare the effect of IFRS adoption on the financial statement to those using German GAAP. They compare the restated financial statement with the financial statement prepared under IFRS in the adoption year. Results indicate that the book value calculated using restated financial statement and financial statement under IFRS are value relevant, but not value relevance for earning. In addition, they found that total assets and book value are significantly higher under IFRS and there is a higher variability in book value and earnings under IFRS. Finally, they find that the adoption of IFRS require the firms to recognize larger loss frequently. When the UK firms adopt IFRS mandatorily for first time in 2005, they had to restate their previous year's financial statements according to IFRS guidelines. This was a good opportunity for the researchers to compares IFRS statement to UK GAAP statements. Horton and Serafein (2009) examined whether the disclosure of these IFRS reconciliation adjustments to previously disclosed UK GAAP accounts have information content.The evidence indicated that differences in earnings per share between UK GAAP and IFRS figures for the prior year's accounts are positively and significantly associated with share price, indicating that investors find the reconciliations value relevant. Further analysis reveals that the values of the positive reconciliation adjustments are significantly associated with share prices even before the date the reconciliations are disclosed to investors through the first set of IFRS financial statements. In contrast, the negative reconciliation adjustments are associated with share prices only after the reconciliations are disclosed. The authors argue that this is consistent with the premise that managers communicate good news even prior to IFRS adoption, as opposed to bad news which was revealed only after the firm adopted IFRS. Thus, IFRS appears to provide a medium through which negative information is revealed more reliably to investors.

Davalle, Onali and Magarini (2010) also investigate whether value relevance (operationalized in terms of the relationship between accounting numbers and market data) increased after IFRS adoption. Their results for the overall sample (with firms from Germany, Spain, France, Italy and the UK) indicate that the value relevance of earnings has increased post IFRS adoption while the value relevance of book value of equity has decreased. However, further analyses on individual country data provides mixed evidence whereby the influence of earnings on share price increased in Germany, France and the UK while the influence of book value of equity decreases in each of the countries excluding the UK. In addition, the authors analyzed changes in the earning smoothing and timeliness of losses and the results do not provide any evidence that earnings smoothing has decreased and timeliness of losses increased for firms in any of the sample countries post IFRS adoption. The authors argue that these results provide evidence that the IASB's aim to improve cross-border comparability of financial statements by means of harmonization of accounting standards and improvements in accounting quality may not have been achieved.

3. Methodology

3.1 Population and Sample

The population of this study is all the companies listed on CSE. As on the 01st of July 2014, there were 292 companies listed on CSE representing 20 business sectors. However, the final sample of the study consists of 157 companies. Following is the sampling procedures of the study. First, all the companies listed under Banking, Finance and Insurance industry sector were excluded, since the regulatory and enforcement mechanisms for these companies are far different from that of for other companies[1]. Thus, accounting quality of these companies may be higher than other companies even prior to mandatory adoption of IFRS (SLFRS). Second, the companies with non-March financial year ending were excluded from the sample.

[1]Banking, Finance and Insurance companies are govern by specific regulations*(i.e. Banking Act no. 30 of 1988, Finance Business Act no 42 of 2011, Finance Leasing Act no. 56 of 2000 and Insurance Industry Act no. 42 of 2000)* in addition to Company Act no. 07th of 2007, SLFRSs and Listing rules etc. These additional regulations require these companies to disclose more information and to be more transparent.

The reason for this is the companies with December financial year ending (non- March) have not prepared their financial statements for the year of 2014 at the time of this study is conducted. Some analysis performed in this study required at least two year of data for pre and post IFRS (SLFRS) comparison. Since IFRS (SLFRS) was mandated in 2012, it is unable to obtain two years of post IFRS (SLFRS) adoption data for companies with December financial year ending. Third, companies quoted on or after 31st March 2010 were excluded due to the sample period of the study spans from financial year 2009/2010 to 2013/2014. Finally, several companies were excluded from the final sample due to insufficient of data available over the sample period.

3.1 Data

This study focuses on Sri Lankan firms listed on CSE, because these firms required to report their financial statements according to IFRS (SLFRS) for financial periods starting from 1st January 2012. The data collected for this study covers the time period from 2009 to 2014. The names of all the companies listed on the CSE, along with their quoted date, industry sector, market capitalization were obtained from the CSE website. Annual reports and stock market data for these firms were also obtained from the CSE. All accounting data such as Turnover, Net profit, Total assets, Total Liabilities, Cash flow from operating activities, no. of Ordinary shares and Book value of equity were collected manually referring annual reports of each companies for the five years. This is ended up with 785 firms-year observations (157 firms into five years) of which 471 firms-year observations under SLAS reporting and 314 firms- year observations under IFRS (SLFRS) reporting. The pre-post IFRS comparison was carried out pooling these observations under SLAS and IFRS (SLFRS) separately.

3.2 Hypotheses Development

3.2.1 Accounting Quality

Accounting quality is a vague concept and has no clear definition. But previous researches have established several mechanisms for measuring accounting quality such as earning management, timely loss recognition and value relevance. In line with previous empirical studies such Lang et al. (2003), Lang et al. (2006), Barth et al. (2008), and Paananen and Lin (2009), this study will operationalize accounting quality in term of earning management, timely loss recognition and value relevance.

3.2.1.1 Earning Management

Earning management or earnings smoothing can be defined as under-reporting or over-reporting of earnings using discretionary accruals to reduce earnings volatility over the time (Dye 1988; Goel and Thakor 2003; Arya, Glover and Sunder 2003). Some studies argue that earning management has been reduced in the post IFRS adoption period so that earning quality is improved. Studies suggesting that the adoption of IFRS gains significant improvement in earning quality often depend on the idea that IFRS are, perhaps, more principle based than local accounting standards. Therefore, the financial statements prepared applying IFRS are providing more transparent and realistic information that reflect the firm’s underline economic position than those under local accounting standards. For example, most of the assets and liabilities are measured at fair value under IFRS, which may better reflect real economic value of the assets and liabilities. However, the prediction about firm’s assets depends on whether the assets are marketable or have an active market (Linsmeier 2013). In addition, the IASB has taken steps, in developing IFRS, to reduced alternative accounting treatments and to require accounting measurement that better reflect the firm’s real economic position and performance and that limit managements’ opportunistic decision in determining accounting amounts (Barth et al. 2008) and this in turn improve the earning quality. Therefore, based on these argument following hypothesis is developed.

H_1: Earning management of Sri Lankan firms has been decreased significantly after the full convergence of IFRS

3.2.1.2 Timely Loss Recognition

Timely loss recognition refers to the incremental timeliness of recognizing losses than profits into accounting earnings, which results from higher verifiability threshold of gain recognition than of loss recognition (Basu 1997; Watts 2003). Recognition of losses is considered timely if they are included in the financial statements as they occur instead of being spread over multiple future periods. Chen, Tang, Jiang and Ling (2010) conducted a study comparing accounting quality in pre and post IFRS adoption period. They have operationalized the accounting quality in term of absolute discretionary accruals, accruals quality and timely loss recognition. Data for the pre- adoption period is collected from 2000-2004 while the IFRS period includes 2005- 2007. The result of this study is indicative of improvement in accounting quality. They find that firms exhibit less earning management and more timely loss recognition in post IFRS adoption period. This is result also consistent with Barth et al. (2008). Firms' may tend to recognize large negative earning frequently under IFRS because IFRS are principle-based accounting standards that require insiders to recognize losses of any magnitude exactly in the period in which they occurred. Therefore, it is reasonable to predict that firms tend to recognize more losses under IFRS. Accordingly, following hypothesis is developed.

H_2: Sri Lankan firms have reported large negative earnings after full convergence of IFRS than before full convergence of IFRS

3.2.1.3 Value Relevance

There have been several studies, which focus on value relevance of accounting amounts after mandatory adoption of IFRS. These include Goodwin, Ahmed and Heaney (2008) and Ahmed and Goodwin (2006) from Australia; Gjerde, Knivsfla and Saettem (2008) from Norway; Horton and Serafeim (2009) and Christensen, Lee, and Walker (2007) from UK. There are also some studies focuses on multiple countries IFRS adoption and value relevance. For example, Capkun, Cazavan-Jeny, Jeanjean and Weiss (2007) for 7EU countries; and Wang (2008) for 14 EU countries find that no incremental value relevance under IFRS adoption. Studies conducted by Christensen, Lee, and Walker (2007) and Horton and Serafeim (2009) find that UK firms exhibit incremental price relevance under IFRS. Another study conducted by Capkunet. al. (2007) reveal IFRS financial statement convey more value relevant information relative to local UK GAAP. Wang (2008) observe the return and net income reconciliation under IFRS and find that is once again consistent with incremental value relevance for IFRS. All of the studies focus on mandatory IFRS adoption use incremental value relevance approach. The reason is that incremental value relevance approach test whether IFRS information has incremental explanatory power for share price. However, most of the previous empirical studies suggest that IFRS amounts are highly value relevant. Thus, following hypothesis are formulated.

H_3: Financial information of Sri Lankan firms is highly value relevant under IFRS

Based on the above discussion, it can be concluded that mandatory adoption of IFRS resulted in less earning management, more timely loss recognition and higher value relevance. Except few studies, all other studies are consistent with these findings. Therefore, in line with previous studies the last hypothesis is derived as follows.

H_4: Post IFRS) accounting quality of Sri Lankan firms is higher due to less earning management, more timely loss recognition and higher value relevance.

3.3 Research Model

As previously mentioned, the main objective of this study is to investigate whether or not mandatory IFRS adoption improve the accounting quality of Sri Lankan Firms. In line with previous studies, the accounting quality is measured in term of earning management, timely loss recognition and value relevance. Therefore, this study uses multivariate analysis based on following model.

Accounting Quality = *f* (IFRS Adoption, firm level control variable)

3.6.1 Earning management measures

This study uses four earning management metrics where three of them are for earning smoothing and one is for managing towards earning targets. The first earnings smoothing metric is the variability of the change in net income (ΔNI) used in previous studies such as Lang et al. (2005), Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010). Earnings smoothing is indicated by a smaller variance in the ΔNI variable. However, the variance of changes in net income is affected by a several firm level factors that are not attributable to earnings smoothing. Therefore, this metric of earnings smoothing is based on the residual from the following equation of ΔNI on control variables:

$$\Delta NI_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 CLOSE_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where:

Size (SIZE) =	Natural logarithm of book value of total assets at the end of the financial year
Growth (GROWTH) =	Annual percentage change in sales at the end of the financial year
Equity Issue (EISSUE) =	Annual percentage change in book value of equity at the end of the financial year
Leverage (LEV) =	Annual percentage change in book value of equity at the end of the financial year
Debt Issue (DISSUE) =	Annual percentage change total liabilities at the end of the financial year
Turnover (TURN) =	Annual sales scaled by total assets at the end of the financial year
Cash flows (OCF) =	Annual net cash flow from operating activities scaled by total assets at the end of the financial year
Auditor (AUD) =	Indicator variable is set to one if the firm's auditor is PricewaterhouseCoopers, KPMG and Ernst & Young and zero otherwise
Closely Held shares (CLOSE) =	Percentage of closely held shares of the firm at the of the financial year

The second metric of earnings smoothing is constructed as the ratio of the variability of ΔNI divide by change in operating cash flows (ΔOCF). The change in net income (ΔNI) is divided by change operating cash flow (ΔOCF) since firms with more volatile cash flows tend to have more volatile earnings. If managers use discretionary accruals to smooth earnings, then the variability of earnings should be lower than the variability cash flows. Since the change in operating cash flows can be affected by other factors not related to earnings smoothing, ΔOCF is first regress with control variables.

$$\Delta OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 CLOSE_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Third earnings smoothing metric of this study is based on the Spearman correlation between accruals (ACC) and cash flows (OCF). Insiders may use their accounting discretion to conceal significant changes in a firm's operating cash flows by the early reporting of future revenues or delaying the reporting of current expenses to conceal poor current performance. They may also wish to hide stronger than expected current performance to create a buffer for the future (Leuz et al., 2003). Accruals and cash flows generally have a negative correlation, however, a larger negative correlation indicates earnings smoothing as managers react to poor cash flows by increasing accruals or concealing better than expected performance by decreasing accruals (Land and Lang, 2002; Drake et al., 2009). Same as with equation (1) and (2), the residuals for equation (03) and (04) are derived. These residuals were named as OCF* and ACC* respectively.

$$OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_8 AUD_{it} + \alpha_9 CLOSE_{it} + \varepsilon_{it} \text{.....................................} (3)$$

$$ACC_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_8 AUD_{it} + \alpha_9 CLOSE_{it} + \varepsilon_{it} \text{.....................................} (4)$$

The forth earning management measure is managing earning towards targets. Therefore, in this metric of earning management, it assesses the firms' tendency to manage earning towards target that is towards small positive net income. Following Burgstahler and Dichev (1997) 'small positive net incomes' is defined to be where net income scaled by total assets is between 0 and 0.01. A firm's tendency to report small positive earnings could be affected by a variety of factors unrelated to earnings management. Accordingly, instead of directly comparing the frequency of small positive net incomes between IFRS (SLFRS) and SLAS, this study uses the following pooled regression:

$$IFRS\ (0,1)_{it} = \alpha_0 + \alpha_1 SPOS_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \alpha_9 AUD_{it} + \alpha_{10} CLOSE_{it} + \varepsilon_{it} \text{..} (05)$$

In here, IFRS (0,1) is an indicator variable, which is given a value of one for observations under IFRS and zero for observations under SLAS. SPOS is an indicator variable set to one for observations where annual net income scaled by total assets is between 0 and 0.01 and zero otherwise (Lang et al., 2003). A negative coefficient for SPOS indicates that there is a lower frequency of small positive net incomes under IFRS compared to SLAS, therefore demonstrating better accounting quality.

3.6.3 Timely Loss Recognition measures

When a firm earns large negative losses, it is important to recognize such losses as they occur rather than deferring into multiple periods because it provides investors with more value relevant information and managers are forced to stem the losses faster (Ball and Shivakumar 2005). Therefore, this study investigates whether the firms recognize large losses as they incur. This study operationalized large losses (LNEG) as observation when annual net income scaled by total assets is less than -0.2 value of one is assigned and zero otherwise. A higher frequency of LNEG is indicative of better accounting quality as it shows that managers are recognizing large losses in the period in which it occur. The firm's likelihood of recognizing large losses as they occur may be depend upon several factors not attributable to earning management. Therefore, instead of comparing frequency of large losses (LENG) between pre and post IFRS period, timely loss recognition is measured as the coefficient of LENG variable from following equation (6), which is also included control variable.

$$IFRS\ (0,1)_{it} = \alpha_0 + \alpha_1 LENG_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \alpha_9 AUD_{it} + \alpha_{10} CLOSE_{it} + \varepsilon_{it} \text{...} (06)$$

In above equation, IFRS (0,1) is an indicator variable, which is given a value of one for observation under IFRS (SLFRS) and zero for observations under SLAS. LNEG is an indicator variable set to one for observations where annual net income scaled by total assets is less than -0.2 and zero otherwise. Accordingly, a positive coefficient for LNEG suggests that firms recognize large losses more frequently under IFRS compared to SLAS, and they therefore have better accounting quality.

3.6.4 Value Relevance measures

This study includes three measures of value relevance. First, value relevance measure is based on the association (adjusted R^2) from a regression of share prices on earnings and book value of equity derived from Ohlson (1995).Firms with superior accounting quality are expected to exhibit higher association between share prices and earnings because higher quality earnings should better reflects a firm's underlying economics (Ali and Hwang, 2000). Share price (P), is first regressed on industry indicator variable in order to control for mean differences in share price across industries. The residuals from this regression (MVPS*) are then regressed on book value of equity per share (BVPS) and net income per share (NIPS). Share price (MVPS) used in this study is the price of shares three months after financial year-end. The reason for this is that financial statements (annual reports) of firms are made available for the public mostly after three months time. Thus, the first value relevance measure is based in the adjusted R^2 from equation (7).

$$MVPS^*_{it} = \alpha_0 + \alpha_1 BVEPS_{it} + \alpha_2 NIPS_{it} + \varepsilon_{it} \text{ ....(7)}$$

A higher adjusted R^2 indicates that there is a closer association between earnings and share prices, therefore greater usefulness of financial information to users. Thus, a higher adjusted R^2 is indicative of better accounting quality.

Second and third value relevance metric of this study is based on the explanatory power (adjusted R^2) from regressions of net income on annual stock return. Following Barth *et al*. (2007) earning and return relationship is calculated separately for the firms with positive and negative returns. This is because the firm are divided into to two categorize as good new firms and bad new firms. Then, taking earning as dependent variable two reverse regressions were estimated for good news and bad news firms separately. Same as the equation (07), earning, measured as net income per share divided by share price at beginning of the year (NIPS/P), is first regressed on industry indicator variable to control for mean difference across industries. The residual from this regression is named as *[NIPS/P]** and which is then regress on annual stock return *(RETURN)*. Following Lang, Raedy, and Wilson (2006) and Barth, Landsman, and Lang (2008), annual stock return (*RETURN)is* measuredas the natural logarithm of the ratio of stock price three months after fiscal year end to stock price nine months before fiscal year end, adjusted for dividends.

$$[NIPS/P]^* = \alpha_0 + \alpha_1 RETURN_{it} + \varepsilon_{it} \text{...(8)}$$

As with previous equation (07), this regression was estimated separately for pre adoption and post adoption periods. A higher adjusted R^2 indicates that there is a closer association between earnings and return, therefore greater usefulness of financial information to users. Thus, a higher adjusted R^2 is indicative of better accounting quality.

4. Result and Discussion

4.1 Descriptive Statistics

Table 4.1 presents the descriptive statistics for all variables that pooled over sample period from 2010 to 2014.

Table 4.1: Descriptive statistics for test and control variables

	Mean	Median	Maximum	Minimum	Std. Dev.	Obser.
Test Variables						
ΔNI	0.014	0.011	0.131	-0.095	0.054	785
ΔOCF	0.011	0.013	0.201	-0.191	0.092	785
ACC	0.006	0.000	0.195	-0.140	0.080	785
OCF	0.056	0.053	0.244	-0.114	0.086	785
SPOS	0.084	0.000	1.000	0.000	0.278	785
LNEG	0.029	0.000	1.000	0.000	0.169	785
RETURN	0.050	0.085	1.859	-2.029	0.905	785
NIPS/P	0.117	0.061	0.706	-0.085	0.182	783
MVPS	199.628	70.500	1,300.000	4.900	332.981	785
BVPS	143.082	53.578	777.975	2.242	210.785	785
NIPS	12.975	4.112	79.375	-3.375	20.821	785
Control Variables						
LEV	0.805	0.577	2.919	0.018	0.779	785
GROWTH	0.178	0.133	1.085	-0.360	0.328	785
EISSUE	0.186	0.106	0.962	-0.193	0.275	785
DISSUE	0.219	0.090	1.845	-0.447	0.530	785
TURN	0.787	0.635	2.392	0.046	0.655	785
SIZE	9.401	9.430	10.530	8.024	0.662	785
OCF	0.056	0.053	0.244	-0.114	0.086	785
ADU	0.777	1.000	1.000	0.000	0.416	785
CLOSE	75.886	75.820	99.799	48.668	15.658	785

4.4 Multivariate results and hypotheses testing

Table 4.2 reveals that none of the earnings smoothing metrics supported for H_1 andH_4. Inconsistent with the prediction, earning management of SL firms has not decline after mandatory adoption of IFRS (SLFRS). Instead, earning smoothing has been increased significantly following IFRS (SLFRS) adoption. However, earning smoothing measured in term of correlation between accrual and cash flow has been decreased, but it is not statistically significant. There has been a decrease in managing towards earning targets measured in term of frequency of SPOS following IFRS (SLFRS) adoption. In addition, SL firms exhibit more timely loss recognition under IFRS (SLFRS) compared to SLAS. Therefore, H_2 and H_4 are supported by both of these accounting quality measures. Same as earning smoothing measures, none of the value relevance measures supported for $H_3$and H_4, indicating lower value relevance of accounting information under IFRS (SLFRS) compared to SLAS.

Table 4.2: Summary of the results of accounting quality metrics.

Earning Smoothing	**Prediction**	**SLAS**	**IFRS**	**Z-scores**	**H_1,H_4**
Variance of ΔNI*	SLAS < IFRS	0.0019	0.0006	4.597$^{(a)}$	Not supported
Variance of ΔNI*/ΔOCF*		2.9691	0.7125	4.131$^{(a)}$	Not supported
Correlation OCF* and ACC*		-0.6995	-0.6749	0.639$^{(b)}$	Not supported
Managing toward earnings targets	**Prediction**	**Coefficient**		**Wald stat**	**H_1, H_4**
Frequency of SPOS	Negative	-0.3534		-3.8599*	Supported
Timely loss recognition	**Prediction**	**SLAS**	**IFRS**	**Wald stat**	**H_2, H_4**
Frequency of LNEG	Positive	0.2981		2.9486*	Supported
Value relevance	**Prediction**	**SLAS**	**IFRS**	**Z-scores**	**H_3, H_4**
MVPS* and accounting numbers	SLAS < IFRS	41.84%	4.78%	-	Not supported
NIPS/P* and RETURN					
Good News		5.16%	1.87%	-	Not supported
Bad News		2.48%	- 0.56%		

* Significant at the p<0.001 levels. (a) Significant but contrary to the prediction. (b) Consistent with the prediction but not statistically significant.

The results of this study are consistent with the results of prior studies on mandatory IFRS adoption such as Jeanjean and Stolowy (2008) who found that the pervasiveness of earnings management (operationalized in terms of small loss avoidance) did not decline after the introduction of IFRS in Australia, France and the UK. Similarly, Callao and Jarne (2010) fond that earnings management in terms of the level of discretionary accruals has increased in the UK post IFRS adoption. The results of this is also Consistent with Chen et al. (2010) who looked at listed firms in 15 EU member states and find that earnings smoothing in terms of the variance of ΔNI* increased after the adoption of IFRS. However, inconsistent with the results of this study the authors find that timeliness of loss recognition operationalized in terms of the frequency of LNEG decreased post IFRS adoption. Present study finds that significant increase in timeliness of loss recognition in SL firms post IFRS (SLFRS) adoption.

The part of finding of this study are similar to that of Devalle et al. (2010) who did not find a reduction in earnings smoothing (Variance of ΔNI*), while other part of findings are not similar because Devalle et al. (2010) find that a decrease in the timeliness of loss recognition (LNEG) for firms from the UK, Germany, Italy, France and Spain post IFRS adoption. Likewise, Ahmed et al. (2012) examined the accounting quality of firms from 20 countries including the UK. The authors found that income smoothing (operationalized in terms of variance of ΔNI*, variance of ΔNI*/ΔOCF*, correlation between OCF* and ACC*) increased post IFRS adoption. The results of Ahmed et al. (2012) also reveal that the timeliness of loss recognition decreased post IFRS adoption. The results of the present study for the management towards earnings targets supports & H_4 and H_1 are consistent with Chen et al. (2010) because they find a reduction in the frequency of small positive net incomes (SPOS) post IFRS adoption. In addition, the results for all three measures of value relevance in this study revealed that there is no closer association between accounting numbers and market measures under IFRS (SLFRS). Therefore, The findings related to value relevance measures of this study are inconsistent with most of prior studies such as Devalle et al. (2010), Iatridis (2010), Samarasekara (2013), report that the influence of earnings and book value of equity on market measures such as share price and returns increased in the UK post IFRS adoption.

5 Conclusion

The results for the full sample of 157 firms provided evidence of less managing towards earnings targets and more timely loss recognition for SL firms after full convergence of IFRS. However, the results did not show reductions in earnings smoothing or improved value relevance following convergence of IFRS. This implies that while there are benefits of applying IFRS (SLFRS) to SL firms, these benefits are not consistent across all aspects of accounting quality. The results for five out of eight measures of accounting quality used in this study did not show improvement in accounting quality following full convergence of IFRS because of several reasons, First, this study considered two years under IFRS (SLFRS) and during this immediate years following IFRS convergence accounting quality of the firms may not improved from all the aspect as firms need some time to understand and implement the IFRS. Second, the regulation and enforcement mechanism may not stronger enough, compared countries like UK, Germany and France, to force the firms to apply IFRS (SLFRS) genuinely to achieve expected benefit. Furthermore, each of the measures that are used in this thesis captures different aspects of accounting quality and it is reasonable to assume that the effect of IFRS (SLFRS) on each of these measures will not be uniform (Dechow, Ge and Schrand, 2010). The results for the full sample revealed that despite SLAS being perceived to be of high quality with few differences with international standards, SL firms benefited from the adoption of IFRS (SLFRS) through improvements in certain aspects of accounting quality, such as reductions in managing towards earnings targets and improvements in timeliness of loss recognition.

References

Ahmed, A., Neel, M. and Wang, D. (2013). Does Mandatory Adoption of IFRS Improve Accounting Quality? Preliminary Evidence. Contemp Account Res, 30(4), pp.1344- 1372.

Ali, A. and Hwang, L. (2000). Country-Specific Factors Related to Financial Reporting and the Value Relevance of Accounting Data. Journal of Accounting Research, 38(1), p.1.

Arya, A., Glover, J. and Sunder, S. (2003). Are Unmanaged Earnings Always Better for Shareholders?.Accounting Horizons, 17(s-1), pp.111-116.

Aubert, F. and Grudnitski, G. (2010). The Impact and Importance of Mandatory Adoption of International Financial Reporting Standards in Europe. Journal of International Financial Management & Accounting, 22(1), pp.1-26.

Ball, R. (2001). Infrastructure Requirements for an Economically Efficient System of Public Financial Reporting and Disclosure. Brookings-Wharton Papers on Financial Services, 2001(1), pp.127-169.

Ball, R. (2006). International Financial Reporting Standards (IFRS): pros and cons for investors.Accounting and Business Research, 36(sup1), pp.5-27.

Ball, R. and Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. Journal of Accounting and Economics, 39(1), pp.83-128.

Ball, R., Kothari, S. and Robin, A. (2000). Corrigendum to "The effect of international institutional factors on properties of accounting earnings"; [Journal of Accounting and Economics 29 (2000) 1–51]. Journal of Accounting and Economics, 30(2), p.241.

Ball, R., Robin, A. and Wu, J. (2003). Incentives versus standards: properties of accounting income in four East Asian countries.Journal of Accounting and Economics, 36(1-3), pp.235-270.

Barth, M., Landsman, W. and Lang, M. (2006). nternational accounting standards and accounting quality. Working Paper, Stanford University and University of North Carolina at Chapel Hill.

Barth, M., landsman, W. and Lang, M. (2008). International Accounting Standards and Accounting Quality. Journal of Accounting Research, 46(3), pp.467-498.

Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings1. Journal of Accounting and Economics, 24(1), pp.3-37.

Burgstahler, D. and Dichev, I. (1997). Earnings management to avoid earnings decreases and losses.Journal of Accounting and Economics, 24(1), pp.99-126.

Burgstahler, D., Hail, L. and Leuz, C. (2006). The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms. The Accounting Review, 81(5), pp.983-1016.

Callao, S. and Jarne, J. (2010). Have IFRS Affected Earnings Management in the European Union?.Accounting in Europe, 7(2), pp.159-189.

Capkun, V., Cazavan, A., Jeanjean, T. and Weiss, L. (n.d.). Earnings Management and Value Relevance During the Mandatory Transition from Local GAAPs to IFRS in Europe. SSRN Journal.

Capkun, V., Cazavan-Jeny, A., Jeanjean, T. and Weiss, L. (n.d.). Setting the Bar: Earnings Management During a Change in Accounting Standards. SSRN Journal.

Chen, H., Tang, Q., Jiang, Y. and Lin, Z. (2010). The Role of International Financial Reporting Standards in Accounting Quality: Evidence from the European Union.Journal of International Financial Management & Accounting, 21(3), pp.220-278.

Callao, S. and Jarne, J. (2010). Have IFRS Affected Earnings Management in the European Union?.Accounting in Europe, 7(2), pp.159-189.

Capkun, V., Cazavan, A., Jeanjean, T. and Weiss, L. (n.d.). Earnings Management and Value Relevance During the Mandatory Transition from Local GAAPs to IFRS in Europe. SSRN Journal.

Capkun, V., Cazavan-Jeny, A., Jeanjean, T. and Weiss, L. (n.d.). Setting the Bar: Earnings Management During a Change in Accounting Standards. SSRN Journal.

Chen, H., Tang, Q., Jiang, Y. and Lin, Z. (2010). The Role of International Financial Reporting Standards in Accounting Quality: Evidence from the European Union.Journal of International Financial Management & Accounting, 21(3), pp.220-278.

Devalle, A., Magarini, R. and Onali, E. (n.d.). Assessing the Value Relevance of Accounting Data after IFRS Introduction in Europe. SSRN Journal.

Dye, R. (1988). Earnings Management in an Overlapping Generations Model. Journal of Accounting Research, 26(2), p.195.

Finch, N. (2009). Towards an Understanding of Cultural Influence on the International Practice of Accounting. Journal of International Business and Cultural Studies, pp.1-6.

Gjerde, Ø., Knivsflå, K. and Sættem, F. (2008). The value-relevance of adopting IFRS: Evidence from 145 NGAAP restatements. Journal of International Accounting, Auditing and Taxation, 17(2), pp.92-112.

Goel, A. and Thakor, A. (2003). Why Do Firms Smooth Earnings?*. J BUS, 76(1), pp.151-192.

Goodwin, J., Ahmed, K. and Heaney, R. (2008). The Effects of International Financial Reporting Standards on the Accounts and Accounting Quality of Australian Firms: A Retrospective Study.Journal of Contemporary Accounting & Economics, 4(2), pp.89-119.

Gjerde, Ø., Knivsflå, K. and Sættem, F. (2008). The value-relevance of adopting IFRS: Evidence from 145 NGAAP restatements. Journal of International Accounting, Auditing and Taxation, 17(2), pp.92-112.

Goel, A. and Thakor, A. (2003). Why Do Firms Smooth Earnings?*. J BUS, 76(1), pp.151-192.

Goodwin, J., Ahmed, K. and Heaney, R. (2008). The Effects of International Financial Reporting Standards on the Accounts and Accounting Quality of Australian Firms: A Retrospective Study.Journal of Contemporary Accounting & Economics, 4(2), pp.89-119.

Gjerde, Ø., Knivsflå, K. and Sættem, F. (2008). The value-relevance of adopting IFRS: Evidence from 145 NGAAP restatements. Journal of International Accounting, Auditing and Taxation, 17(2), pp.92-112.

Goel, A. and Thakor, A. (2003). Why Do Firms Smooth Earnings?*. J BUS, 76(1), pp.151-192.

Goodwin, J., Ahmed, K. and Heaney, R. (2008). The Effects of International Financial Reporting Standards on the Accounts and Accounting Quality of Australian Firms: A Retrospective Study.Journal of Contemporary Accounting & Economics, 4(2), pp.89-119.

Hossfeld, C. (n.d.). Are IFRS Income Statements Comparable?. SSRN Journal.

Hung, M. and Subramanyam, K. (2007). Financial statement effects of adopting international accounting standards: the case of Germany. Rev Acc Stud, 12(4), pp.623-657.

Iatridis, G. (2010). International Financial Reporting Standards and the quality of financial statement information. International Review of Financial Analysis, 19(3), pp.193-204.

Jeanjean, T. and Stolowy, H. (2008). Do accounting standards matter? An exploratory analysis of earnings management before and after IFRS adoption. Journal of Accounting and Public Policy, 27(6), pp.480-494.

Lang, M., Lins, K. and Miller, D. (2003). ADRs, Analysts, and Accuracy: Does Cross Listing in the United States Improve a Firm's Information Environment and Increase Market Value?. Journal of Accounting Research, 41(2), pp.317-345.

Lang, M., Raedy, J. and Yetman, M. (2003). How Representative Are Firms That Are Cross-Listed in the United States? An Analysis of Accounting Quality. Journal of Accounting Research, 41(2), pp.363-386.

Lang, M., Smith Raedy, J. and Wilson, W. (2006). Earnings management and cross listing: Are reconciled earnings comparable to US earnings?. Journal of Accounting and Economics, 42(1-2), pp.255-283.

Leuz, C., Nanda, D. and Wysocki, P. (2003). Earnings management and investor protection: an international comparison. Journal of Financial Economics, 69(3), pp.505-527.

Ohlson, J. (1995). Earnings, Book Values, and Dividends in Equity Valuation. Contemporary Accounting Research, 11(2), pp.661-687.

Paananen, M. ad Lin, H. (2009). The Development of Accounting Quality of IAS and IFRS over Time: The Case of Germany.Journal of International Accounting Research, 8(1), pp.31-55.

Samarasekera, N. (2013). Accounting quality of UK firms under IFRS. [Doctor of Philosophy] esearch-repository.uwa.edu.au/files/.../Samarasekera_Nelunika_2013.pdf.

Street, D., Nichols, N. and Gray, S. (2000). Assessing the Acceptability of International Accounting Standards in the US: An Empirical Study of the Materiality of US GAAP Reconciliations by Non-US Companies Complying with IASC Standards. The International Journal of Accounting, 35(1), pp.27-63.

Tarca, A. (2004). International Convergence of Accounting Practices: Choosing between IAS and US GAA

Verriest, A., Gaeremynck, A. and Thornton, D. (n.d.). The Impact of Corporate Governance on IFRS Adoption Choices. SSRN Journal.

Watts, R. (2003). Conservatism in Accounting Part I: Explanations and Implications. Accounting Horizons, 17(3), pp.207-221.