DOES MANDATORY ADOPTION OF INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS/SLFRS) DETER THE EARNINGS MANAGEMENT OF SRI LANKAN FIRMS?

K.G.A. UDAYAKUMARA[1], P.R. WEERATHUNGA[2]

Department of Accountancy and Finance, Faculty of Management Studies, Rajarata University of Sri Lanka[1, 2] udayakga@gmail.com[1], weerathungaroshan@gmail.com[2]

Abstract

The aim of this study is to examine the earnings management behavior of Sri Lankan firms following mandatory adoption of International Financial Reporting Standards (IFRS/SLFRS). Especially, this study investigates whether the mandatory adoption of IFRS/SLFRS in the Sri Lanka (SL) has resulted in less earnings management for SL firms. Prior to the adoption of IFRS/ SLFRS for financial years beginning 1 January 2012, SL firms reported under Sri Lankan Accounting Standards (SLAS). Thus, this study predicted that the earnings management has decreased significantly after mandatory adoption of IFRS/SLFRS in 2012. The sample this study consists of 157 firms listed on the Colombo Stock Exchange and data were collected from financial years 2009/2010 to 2013/2014. This study uses five individual measures of earnings management relating to earnings smoothing, managing towards earnings targets. Firms are said to have reduced their earnings management if they display lower levels of earnings smoothing, less management towards earnings targets. Contrary to the prediction, the results of this study reveal that SL firms exhibit higher level of earnings smoothing after mandatory adoption of IFRS/SLFRS and thereby indicative of higher level of earnings management. However, consistent with the prediction SL firms display lower level earnings management in term of less managing towards earning targets. The level of earning management is one aspect of reporting quality of a firm. Therefore, lower level of earnings management is in turn reflects better reporting quality. Thus, these findings suggest that there is room for further improvement in order to ensure that firms consistently apply the requirement of IFRS/ SLFRS and make improvements in all aspects of reporting quality.

Key Words: Earnings Management, Mandatory Adoption, IFRS/SLFRS, Sri Lankan Firms

Introduction

This paper examines the effects of mandatory adoption of International Financial Reporting Standards (IFRS) in Sri Lanka on January 01, 2012 on earnings management of Sri Lankan firms. Especially, this paper investigates whether earnings management of SL firms deters or improves after the IFRS adoption controlling for changes of firm characteristics. Reduced earning management is good indication of accounting quality of a firm. Thus,

understanding the effects of IFRS adoption on earnings management in Sri Lanka is of potential interest to regulators and accounting standards setting bodies. Moreover, results of this paper is of particular important to the Institute of Chartered Accountants of Sri Lanka (CA Sri Lanka) as it can help to the institute evaluates the consequences of its decision. Finally, analysts, investors, and other users may also find it useful to understand the effects of IFRS adoption on accounting quality to potentially reassess how they use accounting information.

Background

Accounting Standards evolved through the time and there have been big changes over the years. The biggest and the most important change of the accounting standards in history is introduction of International Financial Reporting Standards (IFRS). In 2005, the European Union (EU) decided to introduce IFRS. Thereby, all EU listed companies were obligated to prepare their consolidated financial reports in accordance with these rules, in order to obtain comparability between several financial statements. Despite the fact that, The International Accounting Standards Board (IASB) has been committed to working towards converging different accounting standards worldwide, In recent years, more than 100 countries including Brazil, Canada, China, Japan and India have agreed to require or allow adoption of IFRS, or have established timelines for the adoption of IFRS. But, still we can notice some differences between Domestic Accounting Standards (DAS) and IFRS. IFRSs are shareholder-oriented and promote the fair value approach presentation by incorporating more information into the financial reports (Dunne et al. 2008). According to many recent studies, it is very clear that the mandatory adoption IFRS includes many benefits, for instance, higher comparability of financial statements among companies operating in different countries, lower transaction costs, access to international capital through facilitated cross-border listings, and greater international investment (Dunne et al., 2008; Aharony et al., 2010). Moreover, Barth et al. (2006) provide evidence that IFRS convey new information to the market. This assists investors in making informed decisions, predictions of a firm's future financial performance and signal higher accounting quality through transparency. Therefore, IFRS would tend to reduce earnings manipulation and enhance stock market efficiency.

As a result of the global convergence of IFRS, the Institute of Chartered Accountants Sri Lanka (CA Sri Lanka) jointly with other regulatory bodies introduced the IFRS in 2011 in the form SLFRS and LKAS (however is it termed as International Financial Reporting Standards). Due to high technical nature of IFRS and other practical reasons the mandatory adoption of IFRS was post ponded to 2012. From 01st of January 2012 onward, all listed companies in Sri Lanka were required to prepare their financial statement in accordance with the requirements of IFRS.

Problem Statement

The primary objective of developing IFRS by International Accounting Standards Board (IASB) is to introduce a single set of high quality, globally accepted accounting and reporting standards that enhance the qualitative characteristics of general-purpose financial statements (IASCF, 2003). Succeeding the effort of IASB, more than 120 countries around the world have adopted or have set the time frame to adopt the IFRS by 2012 (IAS Plus, 2012). IFRS have been adopted almost two third of the countries throughout the world since these accounting standards may offer many benefits to the firms, for instance, IFRS enables higher comparability of financial statements of different firms operating in deferent countries. It may reduce the transaction cost and eliminating costs of preparing financial statements for different user groups (i.e. local and foreign) under different accounting standards (Kim, Li and Li, 2012). The users also can save time and cost of making decision when all financial statements are prepared using IFRS. Because, if the financial statements of different firms operating in different jurisdictions were prepared using different accounting standards, users had to understand multiple accounting standards consuming more time and money. Therefore, allowing firms to report under IFRS improves the transparency and higher comparability of financial statements enabling more efficient trading and improving access to international capital through cross border listing (Dunne et al., 2008). Consequently, it reduces the risk of law quality reporting and decrease the cost of capital for the firm.

Many studies have been conducted investigating the effect of mandatory IFRS adoption on earning management throughout the world. These studies have reported mixed results. Some studies revealed that earnings management has been reduced where as some other studies have reported that earnings management has not been reduced or earnings management has been increased after mandatory adoption of IFRS. A pivotal study on the voluntary adoption of IFRS is 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 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 have looked at accounting quality post IFRS adoption in terms of reductions in earnings management. For example, Jeanjean and Stolowy (2008) examine 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, that earnings 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.

According to above argument, it can be noted that whether or not mandatory IFRS adoption deter the earnings management is still in doubt. Because changes in earnings management may be affected by different factors, such as firm age, size, turnover, and other firm specific characteristics. Therefore, the problem statement of this study has set as follows.

"Does mandatory IFRS adoption deter the earnings management of the firms listed in Colombo Stock Exchange (CSE) in Sri Lanka"?

Literature Survey

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) examine 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 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.

Hypothesis Development

To develop testable research hypotheses, this section first defines earnings management and its related measures. Thereafter, this section highlights several argument made by previous studies regarding IFRS adoption on the earnings 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).

Healy and Wahlen (1999) define earning management as follows:
"Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers"

Consistent with Healy and Wahlen (1999), Leuz, Nanda and Wysocki (2003) define earnings management as the alteration of firms' reported economic performance by managers to either mislead some stakeholders or to influence contractual outcomes. Further and Scott (2009) defines earnings management

as the choice by the insiders of accounting policies, or actions affecting earnings, so as to achieve some specific reported earnings objective. This definition is considered to be more strict definition. However, earning management has generally been viewed as an outcome of managers' opportunistic behavior to maximize their current and future compensation. For example, managers tend to under-report earnings when realized earnings are sufficiently high, such that their bonus reaches the bonus cap or when they have ratcheted budgets; they over-report earnings when realized earnings fall between a lower and upper bound of bonus (Healy 1985;Holthausen, Larcker, and Sloan 1995; Guidry, Leone and Rock 1999; Murphy 2001). 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.

H1: Earning management of Sri Lankan firms has been decreased significantly after the mandatory adoption of IFRS (SLFRS)

Methodology

Populations and Sample

The population of this study is all the companies listed on CSE. As on the 01st of July 2014, there are 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. 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.

Data

This study focuses on Sri Lankan firms listed on CSE, because these firms are required to report their financial statements according to IFRS (SLFRS) for financial periods starting from 1 January 2012. The first set of IFRS (SLFRS) compliant annual reports were provided in 2013 by these firms. The data collected for this study covers the time period from 2009 to 2014. Therefore, the sample period for this study includes three years under SLAS reporting and two years under IFRS (SLFRS) reporting. The names of all the companies listed on the CSE, along with their quoted date, industry sector, market capitalization and 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.

[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.*

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.

Measures of Earning Management

Earning Smoothing

The first earnings smoothing metric used in this study determines the extent to which managers has reduced the variability of reported earnings. 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:

$$\Delta NIit = \alpha 0 + \alpha 1SIZEit + \alpha 2GROWTHit + \alpha 3EISSUEit + \alpha 4LEVit + \alpha 5DISSUEit + \alpha 6TURNit + \alpha 7OCFit + \alpha 8AUDit + \alpha 9CLOSEit + \varepsilon it \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

In this equation, ΔNI is the change in net income before extraordinary items scaled by total assets at the end of the financial year; SIZE is the natural logarithm of book value of total assets at the end of the financial year; GROWTH is annual percentage change in sales at the end of the financial year; EISSUE is annual percentage change in book value of equity at the end of the financial year; LEV is end of year total liabilities scaled by end of year book value of equity; DISSUE is annual percentage change in total liabilities at the end of the financial year; TURN is annual sales scaled by total assets at the end of the financial year; OCF is annual net cash flow from operating activities scaled by total assets at the end of the financial year; AUD is an indicator variable is set to one if the firm's auditor is PricewaterhouseCoopers, KPMG or Ernst & Young and zero otherwise; CLOSE is the closely held shares by firms at the end of financial year calculated as one minus percentage of publicly held shares.

The residual derived from the above equation (1) are named as ΔNI*. Then, the cross sectional variance of ΔNI* for each companies over pre-post IFRS (SLFRS) time period is calculated. To test for the normality of variance of ΔNI*, a Lilliefors test was carried out using Eviews 8.1. Since the variance of ΔNI* is not normally distributed, the Wilcoxon signed rank test for the differences in median is used to examine whether the variance of ΔNI* is significantly differ under IFRS (SLFRS) and SLAS. A significant variability of ΔNI* is indicated that less earning smoothing by managers and therefore better accounting quality.

Based on the previous studies such as Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010). 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.

$$\Delta OCFit = \alpha 0 + \alpha_1 SIZEit + \alpha_2 GROWTHit + \alpha_3 EISSUEit + \alpha_4 LEVit + \alpha_5 DISSUEit + \alpha_6 TURNit + \alpha_7 OCFit + \alpha_8 AUDit + \alpha_9 CLOSEit + \varepsilon it \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

In here, ΔOCF is the change in annual net cash flow from operating activities scaled by total assets at the end of the financial year and other variables are same as above. The residuals derived from this regression were denoted by ΔOCF*. Then, ΔNI* calculated as per equation 1 for each company divided by corresponding ΔOCF* and resulting variable is the ratio of change in net income over change in cash flows (ΔNI*/ΔOCF*) and then calculated the crosssectional variance of ΔNI*/ΔOCF* for each company over pre-post IFRS time periods. Then after, the variance of ΔNI*/ΔOCF* is tested for normality and is not normally distributed (Appendix A). Therefore, the Wilcoxon signed rank test for differences in medians is used to determine whether the variability of ΔNI*/OCF* is significantly different under SLAS and IFRS. A higher variability of ΔNI*/OCF* is indicated less earning smoothing and therefore better accounting quality.

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.

$$OCFit = \alpha 0 + \alpha_1 SIZEit + \alpha_2 GROWTHit + \alpha_3 EISSUEit + \alpha_4 LEVit + \alpha_5 DISSUEit + \alpha_6 TURNit + \alpha_8 AUDit + \alpha_9 CLOSEit + \varepsilon it \ldots\ldots\ldots (3)$$

$$ACCit = \alpha 0 + \alpha_1 SIZEit + \alpha_2 GROWTHit + \alpha_3 EISSUEit + \alpha_4 LEVit + \alpha_5 DISSUEit + \alpha_6 TURNit + \alpha_8 AUDit + \alpha_9 CLOSEit + \varepsilon it \ldots\ldots\ldots (4)$$

Where ACC is annual net income before extraordinary items less annual cash flow from operating activities, scaled by total assets at the end of the financial year and the other variables are defined as in Equation (1). ACC* and OCF* are tested violations of normality using the Lilliefors test (Appendix A). The null hypotheses of a normal distribution was rejected for ACC* and OCF*. Therefore, the Spearman rank order correlation test is used to examine the extent of the correlation between ACC* and OCF*. Finally, the correlation coefficients from the Spearman rank order correlation tests were investigated for the significance in the differences between the various groups under comparison. A lower negative correlation between the residuals of Equation (3) and (4) is indicative of lower earnings smoothing, thereby better accounting quality.

Managing towards earning targets

Managers tend to avoid showing small losses in their financial statement using accounting choices (Burgstahler and Dichev 1997, and Degeorge et al. 1999). Normally managers are encouraged not to reporting losses of any magnitude. However, even if they hide small losses using accounting discretion they are unable to hide large losses (Leuzet al. 2003). 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:

$$IFRS\,(0,1)it = \alpha 0 + \alpha 1 SPOSit + \alpha 2 SIZEit + \alpha 3 GROWTHit + \alpha 4 EISSUEit + \alpha 5 LEVit + \alpha 6 DISSUEit + \alpha 7 TURNit + \alpha 8 OCFit + \alpha 9 AUDit + \alpha 10 CLOSEit + \varepsilon it \ldots\ldots\ldots\ldots (05)$$

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 less managing towards earning targets.

Data Analysis and Results

Descriptive Analysis

Table 1 presents the descriptive statistics for each of test and control variables pooled over the sample period. In order to reduce the effects of extreme observations, variables have been winsorised at the 2.5 and 97.5 percentiles. The test and control variables are presented in the order they appear in the earning management metrics.

Table 1: Descriptive statistics for test and control variables

	Mean	Median	Maximum	Minimum	Std. Dev.	Obser.
Test Varia bles						
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
Control V ariables						
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

The ΔNI variable (defined as change in net income scaled by total assets at financial year end) has a mean of 0.014 during sample period while median value is 0.011 and maximum and minimum values are 0.131, -0.095 respectively. The mean for operating cash flows scaled by end of year total assets (OCF) for the whole sample period is 0.056 while the median is 0.053. The changes in operating cash flow variable (ΔOCF) is calculated as the change in annual net cash flow from operating activities scaled by total assets at financial year end. The pooled sample mean and median figures for the ΔOCF are 0.011 and 0.013 respectively. The mean value of accruals (ACC) over the sample period is 0.006 (Table 1). This variable is defined as annual net income less annual cash flow from operating activities, scaled by end of year total assets. Positive accruals indicate that firms have more accounting earnings than cash flows.

Firm size (SIZE) is measured as the Natural logarithm of book value of total assets at the end of the financial year. Table 1 shows that the mean value of firm size over the whole sample period is 9.401 and the median is much closer at 9.430 which is reflective of the low standard deviation of 0.662. An annual sale scaled by end of year total assets (TURN) shows overall mean and median levels of 0.787 and 0.635 respectively for the whole sample period (Table 1). Firm level leverage (LEV) is computed as total liabilities divided by end of year book value of equity. The overall mean level of leverage is 0.805 and the median is 0.577 reflecting the relatively high standard deviation of 0.779 (Table 1). The overall mean (median) level of equity issuance is 0.186 (0.106) (Table 1). Debt issue is computed as the percentage change in end of year total liabilities (DISSUE) and the overall mean (median) for the period is 0.219 (0.090) (Table 1).

Multivariate results and hypotheses testing

Earning smoothing

Table 2: Variability of residuals of changes in net income (ΔNI*) (Prediction SLAS < IFRS (SLFRS)

Test for Equality of Medians Between ΔNI* of SLAS and IFRS (SLFRS)					
Sample: 1 157 Included observations: 157					
Method		**df**	**Value**	**Probability**	
Wilcoxon/Mann-Whitney			**4.597**	**0.000**	
Kruskal-Wallis		1	**21.140**	**0.000**	
Category Statistics					
Variable	**Count**	**Median**	**Overall Median**	**Mean Rank**	**Mean Score**
SLAS	157	**0.0019**	92	181.057	0.267
IFRS (SLFRS)	157	**0.0006**	65	133.942	-0.267
All	314	0.0012	157	157.500	2.260

ΔNI* is the residuals from Equation 1: $\Delta NI_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 CLOSE_{it} + \varepsilon_{it,}$ where ΔNI is the change in net income scaled by total assets at financial year-end. SIZE is the natural logarithm of the total assets at financial year-end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. LEV is total liabilities scale by book value of equity at financial year-end. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. AUD is an indicator variable set to one if the firm's auditor is PricewaterhouseCoopers, KPMG or Ernst & Young and zero otherwise. CLOSE is the percentage of closely held shares at the end of the year.

Agency theory suggests that managers have an incentive to conceal a firm's current poor performance if their remuneration and other rewards are tied to firm performance (Jensen and Meckling, 1976). Managers may also underreport strong performance in order to give themselves a buffer in future periods of poor performance (Beidleman, 1973; Moses, 1987; Beattie et al., 1994). This is referred to as earnings smoothing. The first set of accounting quality metrics used in this study considered whether earnings smoothing reduced after the adoption of IFRS (SLFRS). These results are presented in Table 2.

The first earnings smoothing metric is the variability of change in net income (ΔNI*) (Table 2). A higher variance for ΔNI* indicates that the firms are less likely to smooth their earnings (Barth et al., 2008). Accordingly, this study predicted that firms will display higher variability of ΔNI* under IFRS (SLFRS) compared to SLAS. The change in net income (ΔNI) can be influenced by firm specific factors that are unrelated to changes in accounting standards. Therefore, ΔNI were first regressed for each sample year on the corresponding firm level control variables (presented in Equation 1). That is, this regression was estimated nine times (for each year in the final sample) by using observations for the 157 firms in the final sample. The residuals from the first level regressions were named ΔNI*. Then ΔNI* were pooled for each firm for the three years under SLAS and the two years under IFRS (SLFRS). This allowed me to calculate the variance of ΔNI* for each firm under SLAS and IFRS (SLFRS). Hence this process ended up with 157 observations for the variance of ΔNI* for each time period. As the results of the Lilliefors test, the normality assumption for the variance of ΔNI* for SLAS and IFRS (SLFRS) is rejected. Therefore, the Wilcoxon rank sum test for differences in medians (paired sample) was used to assess whether the variance of ΔNI* was significantly different for firms, under SLAS and IFRS (IFRS). Table 4.8shows results for the Wilcoxon rank sum test and for some other test provided by Eviews 8.1 statistical software including the median values for the variance of ΔNI* of each time period. Contrary to the prediction, the median variance of ΔNI* is higher under SLAS compared to IFRS (SLFRS) (0.0019 versus 0.0006). In addition, the difference in medians is statistically significant indicating that the higher earning smoothing in post IFRS (SLFRS) time period. Therefore, H1 is not supported by these results.

Table 3: Variability of ratio of changes in net income over change in cash flows (ΔNI*/OCF*) (Prediction SLAS < IFRS (SLFRS)

Test for Equality of Medians Between ΔNI*/OCF* of SLAS and IFRS (SLFRS)						
Sample: 1 157 Included observations: 157						
Method	**df**	**Value**	**Probability**			
Wilcoxon/Mann-Whitney		**4.131**	**0.000**			
Kruskal-Wallis	1	**17.071**	**0.000**			
Category Statistics						
Variable	**Count**	**Median**		**Overall Mean**	**Mean Rank**	
					Median	**Score**
SLAS	157	**2.9691**	95	178.668	0.233	
IFRS (SLFRS)	157	**0.7125**	62	136.331	-0.233	
All 314	1.7243	157		157.500	0.000	

ΔNI* is the residuals from **Equation 1**: $\Delta NI_{it} = \alpha 0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha 3\, EISSUEit + \alpha 4 LEVit + \alpha 5 DISSUEit + \alpha 6 TURNit + \alpha 7 OCF_{it} + \alpha 8 AUDit + \alpha 9 CLOSEit + \varepsilon_{it,}$ where ΔNI is the change in net income scaled by total assets at financial yearend. SIZE is the natural logarithm of the total assets at financial year-end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. LEV is total liabilities scale by book value of equity at financial year-end. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. AUD is an indicator variable set to one if the firm's auditor is PricewaterhouseCoopers, KPMG or Ernst & Young and zero otherwise. CLOSE is the percentage of closely held shares at the end of the year.

ΔOCF* is the residuals from **Equation 2**: $\Delta OCFi_t = \alpha 0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha 3 EISSUEit + \alpha 4 LEVit + \alpha 5 DISSUEit + \alpha 6 TURNit + \alpha 7 OCFit + \alpha 8 AUDit + \alpha 9 CLOSEit + \varepsilon it$, where ΔOCF is the change in operating cash flows available to ordinary shareholders at financial year end scaled by total assets at financial year end.

Firms with more volatile earnings may also have more volatile cash flows (Barth et al., 2008). Therefore, the second earnings management metric controls for this by scaling changes in net income by changes in operating cash flows (Table 3).As with the first earnings management metric, changes in operating cash flows (ΔOCF) for each year were regressed on the corresponding control variables shown in Equation 2. The residuals from these regressions are named ΔOCF* and are then used to scale ΔNI*. The resulting variable is the ratio of change in net income over change in cash flows (ΔNI*/ΔOCF*). As with the previous measure, the cross sectional variance of ΔNI*/ΔOCF* for each firm under SLAS and IFRS (SLFRS) was calculated. The Lilliefors test rejected the assumption of normality for the variance of ΔNI*/ΔOCF* under SLAS and IFRS (SLFRS). Thus, the Wilcoxon rank sum test was used for differences in medians to determine whether the variance of ΔNI*/ΔOCF* were significantly different under SLAS and IFRS (SLFRS). Similar to the first earnings management metric, a higher variance for ΔNI*/OCF* indicates that firms are less likely to manage earnings. Therefore, this study predicted that firms will display greater variability under IFRS (SLFRS) compared to SLAS. Table 3 shows that the median variance of ΔNI*/OCF* is 2.9691 under SLAS and 0.7125 under IFRS (SLFRS). This lower variance under IFRS is not consistent with the prediction. Thus, again is not supported by these results. However, this is also opposing to the prediction. That is the firms listed on CSE exhibit higher earning smoothing following IFRS (SLFRS) adoption.

The next measure of earnings smoothing investigates the correlation between accruals and cash flows (Table 4). Generally, correlations between accruals and cash flows display negative values. A larger negative correlation can indicate earning smoothing because managers may be responding to poor cash flow performance by increasing accruals (Land and Lang, 2002; Drake, Myers and Myers, 2009). Therefore, this study predicted that firms will display a less negative relationship between accruals and cash flows under IFRS (SLFRS) compared to SLAS. Similar to the previous two metrics of earnings management, both ACC and OCF were first regressed on the corresponding control variables (shown in Equations 3 and 4), where observations are pooled for the 157 sample firms separately for the three years under SLAS (471 observations) and the two years under IFRS (314 observations).Then residuals from these two regressions (ACC* and OCF*) were tested for violations of normality. The null hypothesis of a normal distribution was rejected for both variables (see annexure 03). Therefore, the Spearman Rank-order correlation was employed to investigate the extent of the correlation between ACC* and OCF*. Finally, differences between the correlation coefficients under SLAS and IFRS (SLFRS) were tested for significance. The correlation coefficient between ACC* and OCF* is -0.6995 under SLAS while - 0.6749 under IFRS (SLFRS), which is consistent with the prediction. However, the differences between correlation coefficient were not statistically significant ($z = 0.6399$, $p = 0.5228$). Therefore, except last measure (the correlation between accruals and cash flows) all other measures of earnings smoothing do not support H1 as they do not provide any evidence that firms listed on CSE reduced their level of earnings smoothing post IFRS (SLFRS) adoption.

Table 4: Correlation between OCF* and ACC*

Spearman rank-order correlations				
	IFRS_ACC*	IFRS_OCF*	SLAS_ACC	SLAS_OCF*
IFRS_ACC*	1.0000			
IFRS_OCF*	**-0.6749**	1.0000		
SLAS_ACC*	0.0969	-0.0851	1.0000	
SLAS_OCF*	-0.0328	0.1537	**-0.6995**	1.0000

OCF* is the residual from **Equation 3**: $OCFit = \alpha 0 + \alpha 1 SIZEit + \alpha 2 GROWTHit + \alpha 3 EISSUEit + \alpha 4 LEVit + \alpha 5 DISSUEit + \alpha 6 TURNit + \alpha 7 AUDit + \alpha 8 CLOSEit + \varepsilon it$

ACC* is the residual from **Equation 4**: $ACCit = \alpha 0 + \alpha 1 SIZEit + \alpha 2 GROWTHit + \alpha 3 EISSUEit + \alpha 4 LEVit + \alpha 5 DISSUEit + \alpha 6 TURNit + \alpha 7 AUDit + \alpha 8 CLOSEit + \varepsilon it$, where ACC is annual net income less annual net cash flow from operating activities.

Managing towards small positive net income

The next accounting quality measure is the frequency of small positive net income (SPOS). The underlying principle of this measure is that firms prefer to manage their earnings and report small positive income figures rather than negative income. Therefore, this study predicted that firms will report a lower frequency of small positive net income under IFRS (SLFRS) compared to SLAS. SPOS is an indicator set to one when annual earnings scaled by total assets is between 0.00 and 0.01 and zero otherwise. The firms' percentages of SPOS under SLAS and IFRS (SLFRS) were not directly compared because a firm's reported level of SPOS may be affected by firm level specific factors that are unrelated to IFRS (SLFRS) adoption. Instead, as shown in Equation 5, SPOS was regressed along with other control variables on a dichotomous variable (IFRS), which is set to one for observations under IFRS (SLFRS) and zero for observations under UK GAAP. Therefore, all 785 observations in the final sample are included in this regression with the dependent variable (IFRS) differentiating between observations under IFRS (SLFRS) and SLAS. A negative coefficient for SPOS indicates that less frequency of SPOS under IFRS (SLFRS) compared to SLAS, providing evidence of higher accounting quality. The

coefficient for SPOS is reported in Table 5 while the Wald statistics are presented in Table 6 below. In analysis of small positive net income (SPOS) this study employed OLS estimation instead of logit estimation because the model rejected the assumption of homoscedasticity. Logit models are extremely sensitive to the effects of heteroscedasticity (Green 1993 cited in Barth 2006).

Table 5: frequency of SPOS

***IFRS*(0,1)it = α0 + α1*SPOS*it + α2*SIZE*it + α3*GROWTH*it + α4*EISSUE*it + α5*LEV*it + α6*DISSUE*it + α7*TURN*it + α8*OCF*it + α9*AUD*it + α*10CLOSEit* + *εit*,**				
Dependent Variable: IFRS				
Method: Least Squares				
Included observations: 785				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
SPOS	**-0.3534**	0.0915	-3.8599	**0.0001**
SIZE	0.3155	0.0679	4.6417	0.0000
GROWTH	0.0013	0.0895	0.0147	0.9882
EISSUE	-0.1464	0.0838	-1.7472	0.0810
LEV	-0.0776	0.0373	-2.0778	0.0381
DISSUE	0.1448	0.0523	2.7660	0.0058
TURN	-0.0998	0.1248	-0.8001	0.4238
OCF	0.1319	0.4286	0.3077	0.7583
ADU	-0.1735	0.0945	-1.8365	0.0667
CLOSE	0.0126	0.0023	5.2945	0.0000
C	-3.2942	0.6082	-5.4157	0.0000

R-squared	0.3712	Mean dependent var	0.2454
Adjusted R-squared	0.3631	S.D. dependent var	0.6240
S.E. of regression	0.3972	Akaike info criterion	1.0052
Sum squared resid	122.1225	Schwarz criterion	1.0706
Log likelihood	-383.5581	Hannan-Quinn criter.	1.0303
F-statistic	45.6981	Durbin-Watson stat	1.2413

Prob(F-statistic)	0.0000	Weighted mean dep.	0.4492
Wald F-statistic	23.5707	Prob(Wald F-statistic)	0.0000

Table 5: Significance of coefficient of SPOS

Wald Test			
Test Statistic	**Value**	**df**	**Probability**
t-statistic	**-3.8599**	774	**0.0001**
F-statistic	14.899	(1, 774)	0.0001
Chi-square	14.899	1	0.0001
Null Hypothesis: C(1)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(1)		-0.3535	0.0915

The results are consistent with the prediction because the coefficient for SPOS is negative (-0.3534) and significant at the p <0.01 levels. Therefore, is supported because the result shows that managing earnings towards targets less under IFRS (SLFRS) compared to SLAS.

Conclusions and Recommendation

Conclusion

The results for the full sample of 157 firms provided evidence of less managing towards earnings targets for SL firms after mandatory IFRS (SLFRS) adoption. However, the results did not show reductions in earnings smoothing following mandatory IFRS (SLFRS) adoption. **Limitation**

This study has its own limitation and this has to be considered in interpreting the results.

- Data for this study was confined to the first two years (2012/2013 and 2013/2014) after the mandatory adoption of IFRS (SLFRS). As firms need some time to understand and implement IFRS (SLFRS), the number of years under analysis in the post IFRS adoption time period is important (Ernstberger et al., 2008). Therefore, the first inherent limitation of this study is lack of enough time series of data to conclude the effect of IFRS (SLFRS) adoption.
- The proponent of the earnings management argued that managers may be engaging in smoothing earnings to provide a true indication of a firm's future cash flows (Scott, 2009). Therefore, managed earnings may be useful information to investors and in turn reflect better accounting quality. However, the measures used in this study do not distinguish between smoothness in earnings due to managers hiding the true performance of the firm or attempting to provide a better indication of future cash flows. Thus, it is a limitation of this study.

Recommendation

- As firms need some time to understand and implement IFRS (SLFRS), the number of years under analysis in the post IFRS adoption time period is important. Therefore, future studies can be conducted
  including number of years under IFRS (SLFRS).
- The earnings smoothing measures used in this study has its own limitation of not differentiate between smoothness in earnings due to managers hiding the true performance of the firm or attempting to provide a better indication of future cash flows. Therefore, the Future research in accounting quality would benefit by developing a more precise measure of earnings smoothing that is able to identify when managers are smoothing earnings to hide firm performance.

References

Aharony, J., Barniv, R. and Falk, H. (2010). The Impact of Mandatory IFRS Adoption on Equity Valuation of Accounting Numbers for Security Investors in the EU. *European Accounting Review*, 19(3), pp.535-578.

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.

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.

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

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

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.

Degeorge, F., Patel, J. and Zeckhauser, R. (1999). Earnings Management to Exceed Thresholds. *J BUS*, 72(1), pp.1-3

Dunne, T., Fifield, S., Finningham, G., Fox, A., Hannah, G., Hellia, C., Power, D. and Veneziani, H. (2008). The implementation of IFRS in the UK, Italy and Ireland. The Institute of Chartered Accountants of Scotland.

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

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

Guidry, F., J. Leone, A. and Rock, S. (1999). Earnings-based bonus plans and earnings management by business-unit managers. *Journal of Accounting and Economics*, 26(1-3), pp.113-142.

Healy, P. and Wahlen, J. (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons*, 13(4), pp.365-383.

Healy, P. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7(1-3), pp.85-107.

Holthausen, R., Larcker, D. and Sloan, R. (1995). Annual bonus schemes and the manipulation of earnings. *Journal of Accounting and Economics*, 19(1), pp.29-74.

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.

Kim, Y., Li, H. and Li, S. (2012). Does eliminating the Form 20-F reconciliation from IFRS to U.S. GAAP have capital market consequences?. *Journal of Accounting and Economics*, 53(1-2), pp.249-270.

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.

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.

Murphy, K. (2000). Performance standards in incentive contracts. *Journal of Accounting and Economics*, 30(3), pp.245-278.

Paananen, M. and 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.