The Impact of IFRS Adoption on Earnings Quality of Chinese Firms

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Abstract

This research examines whether the 2007 mandatory adoption of Accounting Standards for Business Enterprises (ASBE) by Chinese publicly traded companies had an impact on firms' earnings quality. Due to the close similarity between ASBE and International Financial Reporting Standards (IFRS), this study contributes to the growing literature on the impact of the proposed implementation of a single global set of reporting standards on the quality of financial disclosures.

Following prior research (such as Barth, Landsman, and Lang), we examine earnings smoothing as a proxy for the quality of reported earnings. Three separate measures are used: variability of net income, variability of net income relative to that of operating cash flows, and the correlation between accruals and cash flows. The data samples are from the Chinese Securities Market and Accounting Research database; they span a period of six years (2004-09).

Our results, consistent and robust across different measures, show less earnings smoothing after implementation of ASBE. Thus, we conclude that there was an enhancement in the quality of reported earnings subsequent to adoption of ASBE. This research is the first evidence on effects of mandatory implementation of IFRS-based standards in China, an important developing country.

Keywords : IFRS, ASBE, Earnigs Quality, China.

1. Introduction

On February 15, 2006, the Ministry of Finance of the People's Republic of China formally announced the issuance of the Accounting Standards for Business Enterprises (ASBE) and required their adoption by all Chinese publicly listed companies effective January 1, 2007. Consisting of a new "Basic Standard" and 38 "Specific Standards," ASBE replaced the existing Chinese Accounting Standards and an earlier version of ASBE. According to Deloitte (2006), these newly promulgated standards cover nearly all of the topics included in the International Financial Reporting Standards (IFRS) and are considered substantially in line with IFRS. The adoption of ASBE represents a radically different approach to recordation and reporting at a time of fast-moving reform in the Chinese economy. More importantly, the explicit recognition of IFRS by China marks a significant step on

the road towards a single, global accounting language (The Institute of Chartered Accountants of Scotland, 2010).

The objective of this research is to examine the effect of ASBE, an IFRS-based standard, on the earnings quality of Chinese publicly owned/traded companies. We adopt a basic construct to assess earnings smoothing as a proxy for earnings quality and compare this before and after the implementation of ASBE. Three measures that have commonly been applied in previous studies are used here: variability of net income, variability of net income relative to that of operating cash flows, and the correlation between accruals and cash flows.

We obtain our samples from the Chinese Securities Market and Accounting Research (CSMAR) database. A total of 3,498 firm-year observations for the three years before ASBE are compared to a total of 3,610 observations for the three years after ASBE implementation. We find higher variability of net income as well as higher variability of net income relative to cash flows in the post-ASBE period, suggesting that implementing IFRS-based accounting standards reduces earnings smoothing activities.

The next section provides a review of the relevant literature. The third section states the hypothesis and research design. The section following that describes the sample and reports the results. The last section provides a discussion of the outcomes, along with limitations of the research, and concludes the paper.

2.   REVIEW OF LITERATURE

International Financial Reporting Standards are a set of principles, frameworks, and regulationsdeveloped by the International Accounting Standards Board (IASB)that have the objective of increasing cross-border standardization of financial reporting (Carmona and Trombetta, 2008). Over the past decade many countries have altered their reporting requirements to become closer to IFRS. This movement has allowed the generation of an important and growing accounting research stream that seeks to identify the best way to compare financial reporting pre- and post-transition, and to illustrate lessons that could help future IFRS adopters as they go through the same process.

Recommendations from the IASB have been noted to concentrate on best accounting practices, to favour transparency, and to provide a more complete representation of company finances than individual country domestic requirements (Maines et al., 2003). A substantial accounting literature has evolved during the last decade that examines whether this is indeed the case.

Barth et al. (2008) examined accounting quality of firms in 21 countries before and after the adoption of International Accounting Standards (IAS) under three lenses: earnings management, loss recognition, and value relevance of accounting amounts. They found that, indeed, accounting quality improved: applying IAS resulted in less earnings management, more timely loss recognition, and greater value relevance of accounting amounts. While their work represented the most comprehensive effort till that time, other researchers previously had empirically identified advantages in using IFRS. Daske et al. (2008) examined 26 countries and documented

a decrease in firms' costs of capital and an increase in equity valuations. They also found, though, that capital-market benefits occurred only in countries where there are incentives for transparency and in which legal enforcement of financial reporting rules is strong. Lang et al. (2003) found that when compared to foreign firms not listed in the U.S., firms that were cross-listed (i.e., in the U.S. and their home country) report accounting data of higher quality.

Several papers have addressed this issue specifically from an earnings management perspective. Basu (1997) provided a comprehensive discussion on the timeliness of earnings in the context of the principle of conservatism. Ball et al. (2000) compared financial disclosure and corporate governance in common law domiciles to that in code law countries and found that income is accounted for in a less timely fashion in code law countries. Leuz et al. (2003) examined differences in earnings reporting across 31 countries and found higher quality of earnings reporting in jurisdictions with stronger investor protection. Lang et al. (2006) reached the same conclusion when comparing U.S. firms' earnings with reconciled earnings from cross-listed non-U.S. firms.

Despite the unanimous findings that stronger legal and governance practices lead to improved earnings reporting, the evidence on whether IFRS helps remains mixed. Jeanjean and Stolowy (2008) examined earnings management before and after IFRS adoption during 2005 in three countries (Australia, France, and the U.K.) and found that earnings management did not decline after the transition, and, in fact, increased in France. Armstrong et al. (2010) studied stock market reactions to the 16 events leading to IFRS adoption in EU countries and documented many positive market reactions, an outcome consistent with net information quality benefits from IFRS adoption expected by investors. Meanwhile, investors seem to have concerns over IFRS enforcement for firms domiciled in code law countries. Focusing on German companies over the period of IAS implementation (1998-2002), Hung and Subramanyam (2007) obtained results that were consistent with the fair value orientation of IAS versus the income smoothing orientation of German GAAP. Paananen and Lin (2009) extended this test window from 2002 through 2006, a time corresponding to the period when voluntary and mandatory IFRS adoption took place, and found that accounting quality in Germany had not improved but actually worsened over this time period.

Contrary to the large amount of research done to understand the impact of IFRS adoption in European companies, there has been substantially less work on East Asian countries in general and on China in particular. Ball et al. (2003) examined the financial reporting quality of four common law countries in East Asia: Malaysia, Singapore, Hong Kong, and Thailand, but did not find higher quality of earnings reporting than that in code law countries. Their study underscores the importance of considering the incentives of managers and auditors besides the accounting standards that companies follow.

An early study on China done by Eccher and Healy (2000) looked at the usefulness of financial reports prepared following IAS precepts during the period of 1993 to 1997. They concluded that financial information about Chinese firms is no more

useful when prepared under IAS than when prepared using domestic standards. They attributed this to the absence of effective controls and financial infrastructure in China. Similarly, Zhou et al. (2009) investigated whether firms adopting IAS had higher earnings quality in China. The comparison was done between voluntary IAS adopters and non-adopters for the period 1994 to 2000. They found that adopting firms were less likely to smooth earnings, but that their tolerance for reporting losses was not lower than non-IAS adopters, nor was their recognition of loss more timely.

3.   HyPOTHESIS FORMULATION And RESEARCH DESIGN

As discussed above, the adoption of IAS/IFRS in different parts of the world has generated a great deal of interest concerning the impact on the quality of financial reporting of implementing a global set of accounting standards. Depending on the countries and the time periods examined, the findings clearly have been mixed. We contribute to this on-going discussion by focusing on one important economy, China, during the period when IFRS-based accounting standards were implemented by mandate.

Since ASBE made fundamental changes to Chinese accounting standards, we expect to see a positive impact on the quality of earnings. However, China's apparent lack of effective controls and enforcement mechanisms might allow managers to engage in earnings manipulation activities even under the new rules. In addition, during the last decade China has begun converging to international accounting standards, and so an immediate comparison between the two periods (pre- and post-ASBE) will not necessarily result in significant differences.

Using earnings smoothing behaviour as our proxy, we propose the following hypothesis to determine whether adoption of IFRS during 2007 in China impacts the quality of earnings reporting:

H_0: Mandatory adoption of ASBE in China affects earnings smoothing.

Following previous studies, such as Barth et al. (2008), we use three measures to assess earnings smoothing. Our first measure is the variability of the change in annual net income (NI). We compute firms' change in net income from the prior year and regress this change (scaled by total assets) on a set of control variables. The variance of residuals from the regression serves as our proxy for earnings smoothing activities. The foundational concept supporting this is that if firms smooth earnings they should have small fluctuations in earnings from one year to the next.

The control variables for this model include asset size, yearly sales growth, equity issuance, debt issuance, financial leverage, and asset turnover. Each of these control variables has been identified in prior studies as attributable to earnings volatility. We also add firms' listing status and industry grouping as additional controls.

$$NI_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 DISSUE_{it} + a_5 LEV_{it} + a_6 TURN_{it} + a_7 OCF_{it} + a_8 DLIST_{it} + a_{9-13} IND_{it} + e_{it} \qquad (1)$$

Where:

SIZE   =   the natural logarithm of end of year total assets;

GROWTH	=	percentage change in sales;
EISSUE	=	percentage change in common stock;
DISSUE	=	percentage change in total liabilities;
LEV	=	end of year total liabilities divided by end of year equity book value;
TURN	=	sales divided by end of year total assets;
OCF	=	annual net cash flow from operating activities divided by end of year total assets;
DLIST	=	an indicator variable that equals one if the firm issues both A and B shares;
IND	=	dummy variables for industry effects, based on CSMAR's five classifications.

Our second measure of smoothing is the ratio of the variability of the change in net income to the variability of the change in operating cash flows (OCF). The variance of the residuals from the regression of operating cash flow changes (scaled by total assets) on the control variables represents the variability of OCF. If firms manage earnings through discretionary accruals, the variability of net income change should be lower than that of the change in cash flows. Thus, a low ratio is indicative of earnings smoothing.

Similar to equation (1) above, the variability of OCF is obtained as follows:

$$OCF_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 DISSUE_{it} + a_5 LEV_{it} + a_6 TURN_{it} + a_7 OCF_{it} + a_8 DLIST_{it} + a_9\text{-}13 IND_{it} + e_{it} \tag{2}$$

The third measure used to assess smoothing of earnings is the Spearman partial correlation between the residuals of accruals and the residuals of operating cash flows. We compute accruals (ACC) as net income minus operating cash flows (scaled by total assets). Since firms can use accruals to smooth the variability of earnings, a more negative correlation between cash flows and accruals is indicative of earnings management. As equations (3) and (4) show, we compute separate regressions of cash flows and accruals on the set of control variables excluding cash flows. The Spearman correlation is based on the residuals from these two regression models.

$$OCF_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 DISSUE_{it} + a_5 LEV_{it} + a_6 TURN_{it} + a_7 DLIST_{it} + a_8 INDit + e_{it} \tag{3}$$

$$ACC_{it} = a_0 + a_1 SIZE_{it} + a_2 GROWTH_{it} + a_3 EISSUE_{it} + a_4 DISSUE_{it} + a_5 LEV_{it} + a_6 TURN_{it} + a_7 DLIST_{it} + a_8 IND_{it} + e_{it} \tag{4}$$

4. SAMPLE AND RESULTS

All sample companies are taken from the China Stock Market and Accounting Research database. ASBE became effective in 2007. We chose 2004 through 2006 as our pre-ASBE period and 2007 through 2009 as the post-ASBE period. The fact that all Chinese companies set their fiscal year end on December 31 makes the job of identifying samples in the two periods easier. However, as more companies became public over the years, the number of firms covered by CSMAR also grew. To ensure

that the comparison is done on largely the same set of firms in the two periods, we picked companies that were traded publicly in year 2004 as our base sample.

As shown in Table 1, there were a total of 1,432 firms in CSMAR for year 2004 that were traded on either the Shenzhen Stock Exchange or the Shanghai Stock Exchange. This group serves as the baseline sample for the remaining five years. Among this group, 86 firms had trading in both A shares and B shares (dual-listed firms). Since the same financial data for both types of shares are included in CSMAR, we exclude the B shares of these 86 companies. So, the sample becomes smaller by this extraction of duplicate data. Furthermore, for 2004 alone we remove 98 firms due to the unavailability of 2003 data that are needed to compute year-to-year changes in our models' variables. These companies were not traded publicly prior to 2004.

We pooled all the observations from each of the two time periods. After excluding a few companies that did not have all the financial data needed for the analysis, we arrived at 3,926 and 3,992 firm-year observations in the pre- and post-ASBE period, respectively. Following prior studies that winsorize the data sample to exclude extreme outliers in the 1 percent or 5 percent tails, we trim 1 percent of the observations at each end of the frequency distributions of all the continuous variables. This leads to our final firm-year observations of 3,498 for the three years before ASBE and 3,610 for the three years beginning with 2007.

Table 1

Sample Construction

	Pre-ASBE			Post-ASBE		
	2004	2005	2006	2007	2008	2009
Original number of firms	1,432	1,432	1,432	1,432	1,432	1,432
Firms with A and B dual listings	-86	-86	-86	-86	-86	-86
Firms lacking prior-year data	-98	0	0	0	0	0
Firms missing financial data	-3	-5	-6	-11	-11	-24
	1,245	1,341	1,340	1,335	1,335	1,322
Total firm-year observations by period:		3,926			3,992	
1% & 99% tails of variables' distributions		-428			-382	
Final sample: number of firm-year observations		3,498			3,610	

	Pre-ASBE (N = 3,498)				Post-ASBE (N = 3,610)			
	Mean	Std Dev	Min	Max	Mean	Std Dev	Min	Max
Test Variables								
ΔNI	0.0016	0.0705	-0.4350	0.5041	0.0052	0.0805	-0.4703	0.7667
ΔOCF	0.0094	0.0914	-0.6808	0.6076	0.0080	0.1021	-1.2302	0.7708
ACC	-0.0366	0.0899	-1.7956	0.5270	-0.0276	0.1018	-1.5392	0.9971
OCF	0.0551	0.0727	-0.2040	0.2831	0.0559	0.0800	-0.2304	0.3507
Control Variables								
SIZE	21.3154	1.0034	18.3241	27.5629	21.6503	1.1880	17.3178	27.4877
GROWTH	0.1967	0.3771	-0.8255	2.9965	0.1676	0.4914	-0.8130	5.7484
EISSUE	0.0921	0.2140	-0.0224	1.0000	0.1118	0.2530	0.0000	1.5926
DISSUE	0.1912	0.3939	-0.5946	2.8392	0.2076	0.5133	-0.6840	4.9290
LEV	1.4176	1.6223	-5.3428	17.5138	1.4493	1.6528	-7.1009	16.5883
TURN	0.6604	0.4557	0.0257	2.7121	0.6927	0.4685	0.0265	2.7367
DLIST	0.0660	0.2484	0.0000	1.0000	0.0640	0.2448	0.0000	1.0000

Table 2

Sample Descriptive Statistics

Table 2 notes: *NI* is the change in annual net income scaled by end of year total assets; OCF is the change in operating cash flows scaled by end of year total assets; ACC stands for accruals and is the difference between net income and operating cash flows, scaled by end of year total assets; OCF is the annual net cash flow from operating activities scaled by end of year total assets; SIZE is the natural logarithm of end of year total assets; GROWTH is the percentage change in sales; EISSUE is the percentage change in common stock; DISSUE is the percentage change in total liabilities; LEV stands for leverage and equals end of year total liabilities divided by end of year equity book value; TURN stands for assets turnover and equals sales divided by end of year total assets; DLIST is an indicator variable that equals one if the firm issues both A and B shares.

Table 2 reports the descriptive statistics of the test and control variables used in the regression models. The average change of net income in the post-ASBE adoption period is higher than that in the pre-ASBE period, but the average change of operating cash flows between the two periods remains fairly similar. In terms of the control variables, except for lower growth rate, firms in the post-ASBE period have slightly higher means in size, issuance of equity and debt, leverage, and asset turnover. Overall, observations in the two periods are fairly comparable. About 6 percent of the companies in the sample issued both A and B shares.

Comparisons of the earnings quality indicators between the two test periods are presented in Table 3. The first metric is concerned with the variability of change in net income. As shown, the variance of the residuals from equation (1) in the pre-ASBE period is 0.00456, significantly lower than 0.00626, the variance in the post-ASBE period. Since a lower variance is indicative of earnings management, companies appear to engage in fewer earnings smoothing activities after the adoption of ASBE. This is strong support for the hypothesized behavioural impact of IFRS adoption.

Table 3

Earnings Quality Comparisons

	Pre-ASBE (N = 3,498)	Post-ASBE (N = 3,610)
Variability of ΔNI	0.00456	0.00626***
Variability of ΔNI over ΔOCF	0.85876	1.01954
Correlation of ACC and OCF	-0.71154	-0.71120
***significant at the .01 level		

As described above in the research design section, the second metric assesses earnings variability by taking into account the variability of operating cash flows. We find that the ratio of the variance of change in net income to the variance of change in cash flows is lower before the implementation of the new accounting standards. There is, however, no statistical test that can be applied to determine whether the difference in ratios is significant or not. But the fact that the ratio

changes from less than 1 (0.85876) in the pre-ASBE period to larger than 1 (1.01954) in the post-ASBE period suggests that the difference in earnings variability is not merely a result of difference in cash flows variability. This finding is in line with the first one and provides further support that earnings smoothing seems to change (i.e., decline) from one period to the other.

The final measure relates to the correlation between accruals and operating cash flows. As expected, the associative sign of the correlation is negative; it is slightly more negative in the earlier period than in the post-ASBE one. Even though a more negative correlation indicates earnings management, the two correlation coefficients are not statistically different from each other, so no additional support to the findings comes from this comparison.

5.   Discussion and CONCLUSION

Our results provide support to the supposition that China's adoption of ASBE, an IFRS-based accounting standard, affects earnings quality. Specifically, there seems to be less earnings smoothing activity in the post-adoption time period than existed in the earlier comparison period.

Certainly our findings are consistent with Zhou et al. (2009) in that they found IAS adopters smoothed earnings less after ASBE implementation. Since they examined voluntary adopters from 1994 to 2000, which is a few years before the test period covered by this research, our findings are not completely comparable. Still, it is clear that firms adopting the new IFRS-based standards produce better quality earningswith our judgment being based on the earnings smoothing metric as a proxy that has high fidelity.

Our study is subject to several limitations. First, previous studies used different control variables, such as the firm's auditor and percentage of closely-held shares, in their regression models than were adopted in our models. Thus, inter-study comparability may not be appropriate. Second, we do not have the same firms in the two test groups; the results may be impacted in an unknown way because of this sample characteristic. Lastly, the year 2007 is included in our test; data from this transition year may be noisy. Additional analysis is needed to confirm the robustness of our results.

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