

The relative persistence of accrual components of earnings post-IFRS: The Case of China

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Abstract- We respond to questions raised by regulators, standard-setters, and academics about whether the benefits of global accounting standards can be realized. The questions are particularly relevant to China, a country that has spent decades moving toward a more open, market-based economy but retaining government control in order to provide a social safety-net. We examine the relative persistence of the accrual components of earnings among China exchange-listed firms. We find overall that there is no difference in the persistence of accrual components in the period following initial IFRS convergence (2008-2014) but the persistence of accrual components improves in the period following further key IFRS convergence (2015-2016). We also find that voluntary disclosures enhance accrual persistence in the initial but not the further convergence period. Our contributions include reconciling mixed findings in related literature by considering a multi-period convergence, examining accounting quality in terms of relevance and faithful representation to consider the efficacy of IFRS adoption with adjustments, and the incremental effect of voluntary disclosure on accounting quality in China.

I. INTRODUCTION

Efforts to formulate and apply a single set of accounting standards world-wide began in the mid-1970s. During this time, countries that had advocated application of a set of global accounting standards agreed to establish the International Accounting Standards Committee (IASC). This committee would be responsible for the development and implementation of international accounting standards (IAS). Following a restructuring in 2001, the IASC emerged as the International Accounting Standards Board (IASB), responsible for the issuance of International Financial Reporting Standards (IFRS).

Regulators and accounting standard setters generally consider IFRS to be high-quality accounting standards and expect countries' capital markets and firms to realize several key benefits following IFRS adoption. Expected key benefits include greater financial reporting comparability, ease of transactions across borders, and greater financial reporting transparency. Improved transparency would lead to more efficient allocations of wealth within and across countries and lower companies' costs of capital.¹ As of 2017, 132 countries with stock exchanges have adopted IFRS. As to the IFRS version adopted, 64 countries adopted IFRS as issued by IASB, 34 as issued by European Union (EU), 3 as issued by IASB or EU, and 17 as locally adopted.²

¹ Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002 on the application of international accounting standards; required member states to adopt international accounting standards for each financial year starting on or after January 1, 2005, accessed 8/20/2017 at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32002R1606>

² PricewaterhouseCoopers LLP Report: IFRS adoption by country, accessed 12/2017 at: <https://www.pwc.com/us/en/cfodirect/issues/ifrs-adoption-convergence/ifrs-status-country.html>

Ball (2016) raises several concerns about whether IFRS adoption can deliver the expected benefits. For one reason, the underlying drivers of a global economy do not necessarily override country specific economic and political factors that influence domestic financial reporting choices (i.e., of the three largest economies in the world, the United States and Japan have yet to adopt IFRS, China has adopted IFRS, adjusted for domestic needs). Another reason is that IFRS standards are principles-based, affording managers more flexibility to apply their professional expertise as they make accounting choices. However allowing managers greater use of judgement may induce greater subjectivity. Finally, IFRS apply fair value measures more broadly to balance sheet components, which has the potential to introduce measurement error in accruals when transactions are incomplete. The benefits of IFRS then, may fall short of the standard-setter's goals to achieve financial reporting comparability and transparency within and across countries.

We address these specific concerns by considering the case of China, a country that has spent decades engaging in capital market reforms that include converging its standards to those of IFRS, though its initial convergence reflects adjustments to meet its domestic needs. In this study, we examine whether there is a difference in the relative persistence of the accrual components to the cash component of earnings following China's initial, substantial convergence to IFRS in 2007 (hereafter initial IFRS convergence), and secondly following further convergence to key IFRS in 2014 (hereafter further key IFRS convergence). The persistence of earnings reflects the relative usefulness of earnings to estimate next period earnings, and to determine firm value. Our persistence measure is based upon the magnitude of accruals and directly reflects an accruals based accounting system compared to a cash flow based system (e.g., Dechow and Schrand, 2004; Richardson, Sloan, Soliman, and Tuna, 2005). "The accrual component of earnings typically incorporates estimates of future cash flows, deferrals of past cash flows, allocations and valuations all of which involve higher subjectivity than simply measuring periodic cash flows" (Richardson et al., 2005, p. 439). Following Richardson et al., 2005, we measure accruals based upon an extended decomposition of the balance sheet to examine the relative persistence of accrual components based upon the expectation that more subjective accrual components will have lower persistence relative to less subjective accrual components. Therefore this study incorporates the IAS Conceptual Framework for Financial Reporting in which a key objective is for financial information to be useful. This is the broadest objective. The Framework defines useful as having the characteristics of relevance (the persistence of accrual components of earnings) and faithful representation (the relative subjectivity of accrual components of earnings).³

We collect a sample of 17,889 firm-year observations of firms that are listed on China's Shanghai and Shenzhen stock exchanges from 2001 – 2016. We partition this sample to consider whether there is a change in persistence in two different time periods; the first pre-to post-initial IFRS convergence (effective 1/1/2007).⁴ We find that accrual components have negative persistence relative to the cash component of earnings in the pre-initial IFRS convergence period (2001-2006). Working capital accrual components (current operating assets and current operating liabilities) have the lowest persistence compared to that of noncurrent operating and financial accrual components. However, the persistence of accrual components does not change in the post-initial IFRS convergence period (2008-2014).

In the second time period, pre-to-post further key IFRS convergence, we find significant differences between the persistence of accrual components in the post-period (2015-2016) compared to that of the pre-period (2007-2013).⁵ The persistence of working capital and noncurrent operating accrual components improves post additional convergence to key IFRS, though the persistence of the noncurrent operating asset component is lower than that of the working capital and noncurrent operating liability accrual components.

³ IASB-Framework of IAS Financial Statements-The Conceptual Framework for Financial Reporting 2010, Chapters 1 and 3.

⁴ For this sample subset there are 6266 observations pre-convergence (2001-2006) and 8,139 observations post (2008-2014). We deduct observations from the compliance year (2007).

⁵ For this second sample subset there are 8,116 observations pre-additional convergence (2007-2013) and 2,335 observations post-additional convergence (2015-2016). We deduct observations from the second compliance year (2014).

This suggests that manager flexibility provided by IFRS induces a greater degree of manager subjectivity with respect to the noncurrent operating asset accrual component of earnings. In all regression estimates, we control for important attributes of China's capital markets including whether the firm is a state-owned entity (SOE), the proportion of institutional shareholdings, and enforcement of accounting and market regulations. We also control for the co-movement of firm risk to that of the market.

We extend our analysis to consider the impact of the information environment on the relative persistence of accrual components of earnings. We exploit the uniqueness of China's earnings forecast regulations in which all exchange-listed firms must provide earnings forecasts if the firm expects a loss, a decline in earnings below negative fifty percent, a turnaround from profit to loss, or earnings growth above fifty percent.⁶ Consistent with theoretical models developed by Lambert, Leuz, and Verrecchia (2007) and Easley and O'Hara (2004) we expect that under mandatory convergence with IFRS, firm managers would have incentives to voluntarily provide earnings forecasts to increase investor assessment of the precision of future cash flows (earnings, accruals measures). We extend our persistence analysis by examining the effect of voluntary compared to mandatory earnings forecasts on the relative persistence of accrual components pre-to-post the two IFRS convergence periods (2007 and 2014). We estimate the persistence model for mandatory and voluntary earnings forecast groups.

In the pre-initial IFRS convergence period (2004-2006) we find that the negative persistence coefficients of working capital, noncurrent operating assets, and financial accrual components are significant in the voluntary group whereas the accrual components of earnings are not significantly different from zero in the mandatory group. In the post-initial IFRS convergence period (2008-2014), the persistence of working capital and financial liability accrual components increases (turns significantly positive) in the voluntary group whereas that of the mandatory group remains insignificantly different from zero. In the second further key IFRS convergence we find that the persistence of the mandatory and voluntary disclosure groups is similar to that of the pooled model estimate. We note some differences between the groups in the post-period; persistence of current operating liabilities is greater but noncurrent operating asset persistence is lower for the voluntary group. The results suggest that managers are more likely to voluntarily signal higher accruals quality (lower subjectivity) during the initial convergence when the benefits of convergence to IFRS are lower than in the second period of further-key IFRS convergence when the benefits are higher.

We make several contributions to the literature in our study of the case of China. Our measure of accounting quality (the persistence of accrual components relative to the cash component of earnings) directly reflects an important goal of the international standard setters, expecting financial information to be useful and defining useful in terms of relevance and faithful representation. Our finding that accrual components of earnings are more persistent post-additional key IFRS compared to the pre-period suggests that accrual components are more value relevant when adoption reflects a more complete body of IFRS. We add to the cross-country study of (Capkun, Collins, and Jeanjean, 2016) attributing mixed findings in the IFRS adoption literature to differences in the body of IFRS in effect at the time of adoption and degree of implementation guidance. This issue is particularly notable in the case of China which began to harmonize with IFRS as early as 1998 (Wu, Li, and Lin, 2014).

In addition, China has adopted IFRS with adjustments to meet domestic needs. In this study, the relative ranking of persistence coefficients identifies the more subjective (less representationally faithful) accrual components. The use of greater manager subjectivity may lower persistence and decrease the usefulness of accrual components for predicting future earnings (Francis, Lafond, Olsson, and Schipper, 2005). We view the results of this study as a necessary step to determine whether China's capital market will attain the full range of expected benefits under adjusted IFRS given standard-setters concerns about China becoming "... a full IFRS adopter, thus benefiting from full international recognition of its accounting

⁶ Each stock exchange provides exemptions to mandatory disclosures, typically for declines in net income greater than negative fifty percent or income growth exceeding 50 percent, under limited circumstances.

standards.”⁷ We expect these insights to be important to regulators and standard-setters within China and in the international community.

Finally, we contribute to the literature on voluntary disclosure, in this case our finding that mandatory-IFRS adoption changes the equilibrium voluntary disclosure decision (Lin and Yang, 2016). In China, where IFRS convergence is a multi-period process, managers’ voluntarily disclosures have impact on changes in the persistence of accrual components of earnings in the period that IFRS convergence benefits are relatively lower.

We proceed with the remainder of the paper by providing background information in Section II relating to China’s transition to a socialist market economy and its adoption of domestic accounting standards that substantially converge with IFRS. We follow with a review of the literature and hypothesis development in Section III, the empirical models, sample selection, and descriptive statistics in Section IV, the empirical results in section V, additional analysis in Section VI, and concluding remarks in Section VII.

II. Background

A. China’s recent economic transformation

Starting in the late 1970’s the People’s Republic of China began a transition from a centrally planned to a market-oriented economy. The 1979 adoption of the Law of the People’s Republic of China on Chinese-Foreign Equity Joint Ventures allowed foreign investment in China through the establishment of joint ventures with Chinese entities. The Chinese Government agreed to protect the interests and legal rights of these foreign joint ventures. The law prescribed minimum foreign investment requirements, governance and management of the joint venture, and encouraged joint ventures to purchase raw materials from China and sell their products abroad. Foreign direct investment contributed to substantial growth in China’s GDP, from an average of 6% per year during 1953 to 1978 to 9.4% during 1978 to 2012.⁸ During the 1980’s the government began efforts to develop a market-based system, gradually phasing out centrally planned pricing while further opening the door to foreign investment and trade.

In 1992, the Fourteenth National Congress decided to establish a socialist market economy. Qian and Wu (2000) comment that the strategic plan to achieve this objective reflected two key developments; the beginning of a rules-based economic system and plans to reform State Owned Enterprises (SOEs) in a manner that emphasized property rights and ownership, suggesting the potential for privatization of SOEs.⁹ Sun and Tong (2003) provide a discussion of earlier government efforts to improve the profitability and efficiency of state-owned enterprises. Starting in late 1979, the government allowed SOEs to retain 3% of earned profit. However, this led to an unintended consequence of providing SOEs with the economic incentive to bargain or hide profits from the government, in turn reducing government revenues. In 1983 the government resolved to reduce its financial responsibility for SOEs. It required SOEs to borrow from banks and stopped allocating reserves to SOEs for capital investments. At this point SOEs already indebted to one another, increased leverage by borrowing from banks. The mounting indebtedness ultimately saddled the state banks with uncollectible loans. In 1987 following declining revenues and taxes from SOEs, the government focused on separation of ownership from control, paving the way for SOEs to manage their operations and pay taxes to the government. In 1992 consistent with its objective to establish a socialist market economy, the government allowed many of the stronger state-owned enterprises to become publicly

⁷ Remarks of Michel Prada in a presentation entitled ‘Accounting, markets and global economic growth’ delivered to the Shanghai National Accounting Institute, November 2014. Accessed on May 27, 2018 at: <http://archive.ifrs.org/Alerts/Conference/Documents/2014/Speech-Michel-Prada-Shanghai-November-2014.pdf>

⁸ World Economic Forum: A brief history of China’s economic growth. Accessed on 3/1/2018 at: <https://www.weforum.org/agenda/2015/07/brief-history-of-china-economic-growth/>

⁹ The Third Plenum of the Fourteenth Party Congress in November 1993 adopted the Decision on Issues Concerning the Establishment of a Socialist Market Economic Structure.

listed on the newly established Shanghai and Shenzhen stock exchanges. However, the government retained significant SOE shareholdings for the social safety net. The government let go of small SOEs through sales and combinations. This government-controlled privatization of SOEs significantly shaped the structure of the nascent Shanghai and Shenzhen stock exchanges. Sun and Tong (2003) find that China's share issue privatization of the larger and medium size SOEs is associated with improved economic performance following the reforms based on certain accounting measures of economic performance (earnings, sales adjusted for inflation, and employee productivity) though also documenting a decline in return on sales and earnings on sales following SOE share issue privatization.

Lin and Swanson (2008) consider the impact of China's market reforms on stock market integration within domestic, regional, and global markets. The study examines the impact of four reform policies; (1) the 1996 imposition of ten percent upward and downward stock price limits, (2) the 1999 securities law to provide investor protection and mandate corporate governance features of exchange-listed stocks, (3) the 2001 policy to allow domestic residents to trade B-shares, and (4) the 2002 provision allowing foreign investment by Qualified Foreign Institutional Investors (QFII). The authors document limited evidence of stock return causality in the periods following two of the reforms (the 1999 securities law and the first trades by QFIIs). They find broader evidence of domestic stock market integration via volatility transmission following the imposition of price limits and the 1999 securities law. There is no evidence of stock return causality between China's markets and regional markets, but there is evidence of volatility transmission between China's market and world markets following the first trade of approved QFII.

In 2005, the China Security Regulatory Committee (CSRC) set a new policy to reduce the extent of nontradable shares (the government or legal persons primarily held these shares).¹⁰ Nontradable shareholders had little incentive to support stock price performance because they could not profit from capital gains. The new policy allowed large shareholders and insiders to sell their holdings. The CSRC managed the share transformation by phasing-in the sale of nontradable shares and imposing wait times before trading of the newly created tradable shares could take place. The new policy allowed for transfer of some state held nontradable shares but curtailed such transfer to maintain state ownership in public companies beyond the reform period. Xiao (2015) posits that following the nontradable share reform, insiders (state and legal person shareholders) have new incentives to manage earnings upwards to profit from capital gains upon the sale of these shares. Xiao (2015) document an increase in earnings management (based upon total accruals and discretionary accruals) by China listed firms following nontradable share reform, with firms having blockholders and insider shareholders selling nontradable shares that exceeded fifty percent of outstanding shares most likely to manage earnings.

B. Globalization of accounting standards

In 2002, the Financial Accounting Standards Board (FASB) and the IASB entered into the "Norwalk Agreement", a commitment to enhance the comparability of financial reporting to achieve high-quality reporting for domestic and cross-border reporting. The initial implementation of this agreement involved cataloging all of the substantive differences between U.S. GAAP and IFRS, addressing differences that the standard setters could resolve in the near term, while also engaging in joint projects on specific topics. In April 2002, Robert Herdman, Chief Accountant, of the U.S. Securities & Exchange Commission (SEC) commented on "... the quality of the body of IAS and the financial reporting infrastructure necessary to support their consistent application and interpretation." Mr. Herdman turned his comments to the anticipated 2005 compliance requirement for EU companies to adopt IAS and stated:

"...having high-level, principle-based standards could create an issue on how to address the potential differing interpretations that can arise when the standards are applied in practice – not only by professionals from different countries, but also professionals from different audit firms, and in an environment of

¹⁰ Legal person is generally a large blockholder in only one or a few companies (i.e. institutional investors or management). Prior to the reform, government and legal persons held about 60 percent of total shares.

extensive and immediate change from practices these professionals have followed during their entire careers.”¹¹

Also, in 2002, the European Parliament and the Council of the European Union mandated adoption of IAS within the EU starting January 1, 2005 for all listed (community) companies. The regulation states: “This Regulation aims at contributing to the efficient and cost-effective functioning of the capital market. The protection of investors and the maintenance of confidence in the financial markets is also an important aspect of the completion of the internal market in this area. This Regulation reinforces the freedom of movement of capital in the internal market and helps to enable Community companies to compete on an equal footing for financial resources available in the Community capital markets, as well as in world capital markets.”¹²

1) China’s initial IFRS convergence in 2007 and further key convergence in 2014

In 2005, the Secretary-General of the China Accounting Standards Committee (CASC) and the Chairman of the IASB issued a joint statement acknowledging that for China:

“...convergence is one of the fundamental goals of their standard-setting programme, with the intention that an enterprise applying CASs should produce financial statements that are the same as those of an enterprise that applies IFRSs. How to converge with IFRSs is a matter for China to determine.”

The joint statement also provides the view of the IASB:

“The IASB notes that, in converging their national standards with IFRSs, some countries add provisions and implementation guidance not included in IFRSs to reflect the circumstances of those countries. This is a pragmatic and advisable approach with which China agrees.”¹³

As China continued to build the foundation for a market-oriented economy, in 2006 its Ministry of Finance (MOF) issued 38 financial accounting standards (ASBEs) to harmonize the country’s accounting standards with those of IFRS and to move lock step with an increasingly global economy. As of January 1, 2007, all listed companies in China were required to adopt the 2006 substantially converged accounting standards. In 2014, China’s MOF engaged in further key IFRS convergence. The MOF released three additional ASBEs effective 7/1/2014; Fair Value Measurement, Joint Venture Arrangements, and Disclosure of Interests in Other Subjects. The MOF also revised three existing ASBEs effective 7/1/2014; Long-term Equity Investment, Presentation of Financial Statements, and Consolidated Financial Statements. Given China’s unique institutional features, much had been accomplished. However, in contrast to the above statement made by the Chairman of the IASB in the November 2005 joint meeting, Michel Prada, Chair of the IFRS Foundation Trustees, noted some caution in his November 2014 speech:

“However, the greatest accounting challenge I see is that China has not fully received the international recognition it deserves by your efforts to move to global accounting standards. It is the same problem faced by any jurisdiction that chooses to adjust IFRS to meet local requirements. Other jurisdictions that have

¹¹ Speech by SEC Staff: Moving Toward the Globalization of Accounting Standards by Robert K. Herman, April 18, 2002. Accessed on 3/1/2018 at: <https://www.sec.gov/news/speech/spch554.htm>.

¹² Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002 on the application of international accounting standards. Accessed on 3/1/2018 at: <https://eur-lex.europa.eu/eli/reg/2002/1606/oj>.

¹³ Joint Statement of the Secretary-General of the China Accounting Standards Committee and the Chairman of the International Accounting Standards Board, accessed 8/31/2018 at: <https://www.iasplus.com/en/binary/pressrel/0511chinajointstatement.pdf>

adopted IFRS in full and without modification often assume that the adjustments must be substantial to warrant such a change. Of course, from the point of view of the IFRS Foundation, we think China is in a position to adopt full IFRS by eliminating minor differences and we would welcome China becoming a full IFRS adopter, thus benefiting from full international recognition of its accounting standards.”¹⁴

Section A. and this section B. indicate a lack of uniformity among standard setters over the efficacy of applying a set of international accounting standards around the world. The differing statements relative to China’s convergence based upon adjusted IFRS is particularly striking. Hence, whether convergence with IFRS in China improves accounting quality remains an empirical question.

III. REVIEW OF THE LITERATURE AND HYPOTHESIS DEVELOPMENT

A. Cross-country analysis of the effects of IFRS adoption

Barth, Landsman, and Lang (2008) examine whether IAS adoption improves accounting quality using a sample of firms from 21 countries during 1994-2003. The sample includes firms that voluntarily adopted IAS compared to firms matched by country and size that continued to apply domestic accounting standards (non-IAS). Barth et al. (2008) document that accounting quality is higher for IAS adoption firms than non-IAS firms following the IAS adoption year. IAS firms exhibit lower smoothing (higher variance of change in net income and the ratio of variance of change in net income to change in cash flow, less negative correlation of accruals to cash flows), more timely loss recognition, and greater value relevance than non-IAS firms. Barth et al. (2008) determine that the difference between IAS and non-IAS firms during the post-adoption years is not likely attributable to similar differences in economic characteristics between the groups in the pre-adoption years; overall accounting quality does not differ between IAS and non-IAS firms in the pre-adoption period. Furthermore, using each firm as its own control, Barth et al. (2008) find that IAS firms exhibit lower smoothing, more timely loss recognition and greater value relevance in the post-adoption than in the pre-adoption period, supporting the overall conclusion that the difference in accounting quality can be attributed to the use of IAS accounting standards.

Ahmed, Neel, and Wang (2013) examine a later time period (2002 – 2007) to consider the effect of mandatory IFRS adoption on accounting quality using a sample of firms drawn from 20 countries that mandated IFRS adoption in 2005, compared to a sample drawn from 15 countries that did not mandate IFRS.¹⁵ In contrast to Barth et al. (2008) this study of mandatory adopters generally documents lower accounting quality among IFRS than nonadopters in the post-IFRS (2006-2007) compared to the pre-IFRS period (2002-2004). Ahmed et al. (2013) find that IFRS adopters exhibit incrementally higher income smoothing in the post-IFRS period relative to nonadopters. There is no difference in managing earnings to meet targets between the groups (small positive earnings or analyst consensus forecasts) though nonadopters are less likely to manage earnings to meet targets in the post-IFRS period. IFRS adopters are more likely to report income-increasing accruals than nonadopters post-IFRS though there is no difference in signed accruals of nonadopters pre-to-post IFRS. This pattern also applies to earnings timeliness; the mandatory IFRS group report less timely loss recognition than nonadopters in the post-IFRS period, though there is no difference in the timeliness of loss recognition of nonadopters pre-to-post IFRS.

A third study by Capkun, Collins, and Jeanjean (2016) posits that mixed findings of the two studies described above can be attributable to different incentives of firms that voluntarily adopted the global standards either under the IASC (IASs) or under the IASB (IFRSs) compared to mandatory adopters.

¹⁴ Remarks of Michel Prada in a presentation entitled ‘Accounting, markets and global economic growth’ delivered to the Shanghai National Accounting Institute, November 2014. Accessed on May 27, 2018 at:

<http://archive.ifrs.org/Alerts/Conference/Documents/2014/Speech-Michel-Prada-Shanghai-November-2014.pdf>

¹⁵ Ahmed et al. (2013) match firms on the basis of industry, firm performance indicators, and the strength of enforcement in the country in which the sample firm is domiciled.

Moreover, during the passage of time from the early voluntary IAS adoption to that of mandatory IFRS adoption in 2005 the respective standard setters revised existing IASs and introduced a significant body of new IFRSs. The later body of standards provide managers even greater flexibility and, in some cases, limited implementation guidance. These factors likely led to relatively lower accounting quality in the later periods under the new IFRS. Capkun et al. (2016) examine several settings to test these hypotheses using a sample spanning a broader time period of 1994 to 2009 that they partition into three groups; (1) early adopters that voluntarily adopted old IAS/IFRS prior to 2004, and then transitioned to new IAS/IFRS after the 2005 mandatory adoption (2) late adopters in countries that permitted early adoption that did not adopt the new IAS/IFRS until the 2005 mandate (3) mandatory adopters in countries that did not permit early adoption that adopted the new IAS/IFRS in accordance with the 2005 mandate. This study documents less smoothing, no significant difference in earnings management to meet earnings targets (avoid losses) and increased timely loss recognition for early adopters in the post old IAS/IFRS period, generally consistent with higher accounting quality and the findings of Barth et al. (2008). However, early adopters that transition from old to new IAS/IFRS exhibit more smoothing, and less timely recognition of losses in the post transition period. Late adopters that transition from domestic GAAP to new IAS/IFRS also exhibit more smoothing, less timely loss recognition, as well as evidence of managing earnings to avoid losses, as do mandatory adopters that transition from domestic GAAP to new IAS/IFRS. Cross section analysis comparing early adopters to matched late adopters finding no difference in accounting quality (smoothing, meeting earnings targets, or timeliness of earnings) when both groups applied domestic GAAP, less smoothing and more timely loss recognition by early adopters under old IAS/IFRS than matched late adopters under domestic GAAP, and limited evidence of more smoothing by early adopters than matched late adopters when both groups applied new IAS/IFRS. Overall, Capkun et al. (2016) reconcile their findings to those of Barth et al. (2008) and Ahmed et al. (2013) noting that examining a longer time period post-2005 IFRS adoption includes the effects of adopting additional standards that are broader, more principles-based, and offer less detailed implementation guidance. The impact of these features of IFRS explains the post-2005 adoption evidence of lower accounting quality. Further evidence suggests that the differences in earnings management are not likely attributable to changes in firms' incentives.

Horton, Serafeim, and Serafeim (2013) examine whether firm's information environment improves following mandatory IFRS adoption, and if any documented improvement may be attributable to comparability effects (an expected benefit of IFRS) or to earnings management effects. The researchers examine a cross-country sample of IFRS adopters, mandatory IFRS adopters, and non-IFRS adopters (though these firms are domiciled in mandatory adoption countries) from 2001-2007. They employ analyst forecast accuracy as a proxy for the firm's information environment and find that forecast accuracy improves in the post-adoption period for mandatory IFRS adopters with limited evidence of forecast accuracy improvement for voluntary adopters, compared to non-IFRS adopters. To test comparability effects the study considers three different groups based upon the composition of analyst portfolios that include (1) firms with the same domestic GAAP that switched to IFRS, (2) firms with different domestic GAAPs that all switched to IFRS, (3) firms with the same domestic GAAP but only some firms in the portfolio switch to IFRS. The results indicate that post-mandatory IFRS adoption information benefits are even greater than in the pre-mandatory period for the group of firms with different domestic GAAPs that all adopt IFRS under a mandatory regime, attributing the improvement to comparability effects.

Li and Yang (2016) examine a sample drawn from 26 countries to determine the effects of mandatory IFRS adoption on voluntary disclosure (earnings forecasts) pre-to-post the 2005 year of adoption. The study documents an increased likelihood of issuing earnings forecasts and a greater frequency of forecasts post-IFRS adoption compared to control groups of all non-IFRS adopters, and a propensity matched group of non-IFRS adopters. The study also documents that within the same countries, in the period prior to mandatory IFRS adoption, voluntary adopters are more likely to issue earnings forecasts than firms applying domestic GAAP, while in the period following mandatory IFRS adoption, mandatory adopters are more likely to issue earnings forecasts. Further analysis documents these effects for both common

law and code law countries, with code law countries exhibiting a catching up effect (lower disclosure levels pre-IFRS with no difference in disclosure levels post-IFRS).

B. Effects of IFRS adoption: the case of China

1) Earnings properties

Liu, Yao, Hu, and Liu (2011) document that smoothing measures exhibit greater volatility (indicative of lower smoothing and higher accounting quality), and that value relevance of earnings is greater in the post-IFRS adoption period of 2007-2008 compared to the pre-adoption period of 2005-2006. Wu, Li, and Lin (2014) examine earnings timeliness of China's domestic GAAP compared to IFRS during a longer time span in which China engaged in accounting reforms and harmonization of its standards to IFRS (1998-2005) and a convergence period (2007-2009). Wu et al. (2014) use a sample of firms that have listed A-shares and B-shares. Such firms must provide financial reports under China GAAP and IFRS until 2007. The study documents lower earnings timeliness under China GAAP compared to IFRS during partitioned periods of pre-harmonization, initial, and further harmonization (1994-1997, 1998-2000, and 2001-2005 respectively). The study further documents that the earnings timeliness under China GAAP is lower in the post-harmonization than in the pre-harmonization period and is also lower in the convergence period than the further harmonization period. Overall, the authors conclude that IFRS convergence does not improve accounting quality in China.

a) Earnings management

Hou, Jin, Wang, and Zhang (2016) examine the impact of mandatory IFRS adoption on accounting quality (proxied by discretionary accruals) and investment efficiency in China from pre-adoption (2003-2006) to post-adoption (2007-2010) periods, finding a reduction in accounting quality in the post-adoption period. Their study also documents reduced investment efficiency; for state owned enterprises lower investment efficiency is through both under-and-over investment, while for non-state-owned enterprises lower investment efficiency is through under-investment post-IFRS adoption.

Cang, Chu, and Lin (2014) consider the effect of analyst coverage on earnings management among China listed firms during the period 2003-2009. The study documents a positive association between analyst coverage and above-the-line earnings management (analysts coverage has a pressure effect) and a negative association between analyst coverage and below-the-line earnings management (monitoring effect). Finally, IFRS adoption may enhance the monitoring effect of analyst coverage on below the line earnings management. He, Wong, and Young (2012) consider earnings management to be a potential unintended consequence of the initial IFRS convergence; applying fair value measures is associated with managers' incentives to avoid reporting losses. In the post-initial IFRS convergence period they find that firms incurring fair value losses (gains) on trading securities are more (less) likely to structure the sale of available-for-sale securities to realize gains. This relation also exists among firms that would report net losses if there were no offsetting fair value gains on these securities. The study also provides evidence of firm's strategic effort to avoid losses (positive net income that would be negative in the absence of fair value gains on debt restructuring) is associated with abnormal fair value gains on debt restructuring.

Fan, Thomas, and Wang (2015) provide evidence of an empirical irregularity in the distribution of firms at the benchmark of earnings decreases in excess of negative fifty percent; firms manage earnings to avoid a regulatory mandate to disclose earnings decreases below this threshold. However, the initial 2007 IFRS convergence reduces the likelihood of this type of earnings management.

2) The information environment of China's capital market

Cheung, Jiang, and Tan (2010) consider the relation between transparency and firm value using a sample of Fortune 100 Chinese listed companies over the period of 2004-2007. The researchers develop a measure of transparency that considers both mandatory and voluntary information disclosure related to

corporate governance practices.¹⁶ The study documents that firm value (measured as Tobin's Q and market-to-book ratio) is increasing with increases in the disclosure measure overall. However, Cheung et al. (2010) also document that the positive association is driven by voluntary disclosures; the mandatory disclosure index is not related to either firm value proxy.

3) Hypotheses

As discussed in Section II, China has taken significant actions to transform its economy from a centrally planned economy toward a market-oriented economy that provides opening for foreign participation, domestic private company participation, and domestic asset pricing based on market trading. China entered the World Trade Organization in 2001 and surpassed Japan to become the second-largest economy in the world in 2010, exerting influence on the global economy. Studies that examine accounting and market performance relative to specific key economic reforms generally provide evidence of post-reform improvements in China (e.g., Sun and Tong, 2003; Lin and Swanson, 2008).

China's significant effort to substantially converge its domestic accounting to IFRS has the potential to enhance the economic benefits already achieved through its structural reforms. However, the significant judgment that management applies to recognize accruals, and the wider use of fair value measures under IFRS raises the possibility that persistence of the accrual components of earnings may be lower in the post-initial IFRS convergence period relative to the pre-IFRS period. Moreover, the initial 2007 convergence reflects adjustments from IFRS to reflect the country's domestic needs. For example, China's ASBE 4 allows only the cost model whereas IFRS allows both the cost and revaluation models for property, plant, and equipment. China's ASBE 5 reflects a more restrictive condition precluding fair value measurement of biological assets than does IAS. China's ASBE 2 allows only the equity method to account for jointly controlled interests whereas IFRS allows the proportionate consolidation or the equity method. IFRS requires the revaluation model for intangible assets whereas ASB6 does not. IFRS allows recovery of impairment prior period impairment losses whereas ASBE 8 does not. This is not intended to be a complete compilation of the differences. Other differences exist and some differences relate to accounting for changes in government ownership and for subsidies provided to state-owned enterprises. Given this discussion, and mixed findings in the empirical literature with respect to accounting quality in China, following the initial IFRS convergence, we state our first hypothesis in the null:

HYPOTHESIS 1: The persistence of accrual components of earnings is not different following China's 2007 initial convergence to IFRS compared to the pre-convergence period.

The discussion in Section II provides contrasting views of the standard-setters that emerged over time, raising a question about any accounting quality differences that would ensue following China's convergence to adjusted IFRS in 2007. However, Capkun, et al. (2016) attribute mixed evidence in the literature to the effects of adopting additional standards that are broader, more principles-based, and offer less detailed implementation guidance in the post-2005 period compared to earlier transition periods. We note that exchange listed firms had seven years to adapt to the changes making it possible that a further convergence in 2014, extending the comprehensiveness of China's convergence to IFRS may result in an improvement in accounting quality. We therefore provide a directional prediction in our second hypotheses as follows:

¹⁶ The index reflects Organisation for Economic Co-operation and Development (OECD) Principles of Corporate Governance. OECD considers its principles to be a guide to international harmonization of best practices in corporate governance that embraces economic, legal, and cultural differences across countries. Accessed at OECD (2015), *G20/OECD Principles of Corporate Governance*, OECD Publishing, Paris. <https://doi.org/10.1787/9789264236882-en>.

HYPOTHESIS 2: The persistence of accrual component of earnings improves in the period following China's 2014 further key IFRS convergence compared to the pre-convergence period.

Following theoretical models that firm managers would have incentives to voluntarily disclose to increase investor assessment of the precision of future cash flows (earnings, accruals measures) we posit that voluntary disclosure would enhance the persistence of earnings components of initial and further key convergence with IFRS. This expectation is also consistent with existing literature (e.g., Cheung et al., 2010; Horton et al., 2013; Li and Yang, 2016). We therefore state our final hypotheses as follows:

HYPOTHESIS 3: Voluntary disclosure enhances the persistence of accrual components of earnings following China's initial IFRS convergence in 2007 and further key IFRS convergence in 2014 compared to the respective pre-convergence periods.

IV. EMPIRICAL MODELS, SAMPLE SELECTION, AND DESCRIPTIVE STATISTICS

A. Empirical models

We follow the methodology of Richardson et al. (2005) to examine the persistence of accrual components of earnings among China exchange-listed firms. We believe this model is best suited to a study of whether a change in accounting quality is associated with a set of international accounting standards because earnings persistence is a direct measure of several important uses of earnings; as a summary of current performance, an indicator of current period earnings that are sustainable, and as a measure of firm value (Dechow and Schrand, 2004). Hence, use of the Richardson et al. (2005) methodology provides results about the sustainability of accrual components of earnings, and usefulness of such information in estimations of future earnings.

Our tests of the persistence of the accrual components of earnings among China exchange listed firms uses the following models:

$$ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 TACC + \rho_3 POST + \rho_4 POST * ROA_t + \rho_5 POST * TACC + \Sigma CONTROLS_t + u_{t+1} \quad (1)$$

Where ROA = operating income. TACC reflects a balance sheet measurement approach and is equal to the sum of the change in working capital ΔWC , noncurrent operating ΔNCO , and financing ΔFIN accrual components. POST equals one in 2008-2014 (H1), or 2015-2016 (H2) and zero otherwise. We scale each accrual component and ROA by average total assets. For our tests of Hypotheses (1) and (2), we consider the significance and sign of the coefficient of the interaction variable ρ_5 , to determine whether there is a change in persistence of the accrual component of earnings post-IFRS 2007 for Hypothesis (1) and post-IFRS 2014 for Hypothesis (2) relative to the respective pre-periods.

We control for differences in ownership structure, market risk, and enforcement sanctions that may influence firms reporting decisions INSTITUT, SOE, BETA and SANCTION respectively. INSTITUT is the proportion of institutional to total shareholdings. SOE equals one if the firm is a state-owned enterprise, 0 otherwise. BETA is a measure of the correlation of the systematic risk of the firm's equity securities to that of the market. SANCTION equals one if the firm violated securities laws, listing exchange laws, and accounting regulations (promulgated by MOF, CSRC, Shanghai and Shenzhen stock exchanges and other regulators). Finally, we control for industry and province fixed effects.

The following model reflects the initial decomposition of total accruals (TACC):

$$ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 \Delta WC + \rho_3 \Delta NCO + \rho_4 \Delta FIN + \rho_5 POST + \rho_6 POST * ROA_t + \rho_7 POST * \Delta WC + \rho_8 POST * \Delta NCO + \rho_9 POST * \Delta FIN + \Sigma CONTROLS_t + u_{t+1} \quad (2)$$

For our test of Hypotheses (1), we consider the significance and direction of the interaction variables of post with changes in working capital, noncurrent operating or financing accruals respectively (coefficients ρ_7 , ρ_8 , and ρ_9) to determine whether there is a change in persistence of the accrual components of earnings

post-IFRS 2007 for Hypothesis (1) and post-IFRS 2014 for Hypothesis (2) relative to the respective pre-periods.

The following model reflects the extended decomposition of the accrual components:

$$\begin{aligned} ROA_{t+1} = & \rho_0 + \rho_1 ROA_t + \rho_2 \Delta COA + \rho_3 \Delta COL + \rho_4 \Delta NCOA + \rho_5 \Delta NCOL + \rho_6 \Delta FINA + \\ & \rho_7 \Delta FINL + \rho_8 POST + \rho_9 POST * \Delta COA + \rho_{10} POST * \Delta COL + \rho_{11} POST * \Delta NCOA + \rho_{12} POST * \Delta NCOL + \\ & \rho_{13} POST * \Delta FINA + \rho_{14} POST * \Delta FINL + \Sigma CONTROLS_t + u_{t+1} \end{aligned} \quad (3)$$

For our test of Hypothesis (1), we consider the significance and direction of the interaction variables of post with changes in the components of working capital, noncurrent operating or financing accruals respectively (coefficients $\rho_9, \rho_{10}, \rho_{11}, \rho_{12}, \rho_{13}, \rho_{14}$) to determine whether there is a change in persistence of the fully disaggregated accrual components of earnings post-IFRS 2007 for Hypothesis (1) and post-IFRS 2014 for Hypothesis (2) relative to the respective pre-periods.

We follow Richardson et al. (2005) definitions of accrual components with some adaptation to reflect differences in balance sheet accounts since our sample consists of publicly listed firms in China. We provide the accrual component of earnings definitions in Appendix 1. For our tests of Hypothesis 3 we estimate the above models using a subsample of annual observations (2004-2016) among firms that have provided at least one disclosure. We partition the model estimates based upon whether the firm provided a voluntary or mandatory earnings forecast.

We estimate pooled OLS regressions of the above models, clustered by year, with bootstrap standard errors (Cameron and Miller, 2014) with the exception noted above for tests of Hypothesis 3. We winsorize all continuous variables that we include in the models at the 1% and 99% levels to control for the influence of extreme observations.

B. Sample selection

We select our sample from the CSMAR database, which includes financial statement information of all firms publicly listed on the Shenzhen and Shanghai stock exchanges. Public companies that are listed in China generally list A-shares that can be traded by domestic investors and Qualified Foreign Institutional Investors. Only 74 public companies also list B-shares that can also be traded by nonresidents of China. Since companies that list B-shares apply IFRS to prepare their financial reports we start with 30,668 firm-year observations of companies that list only A-shares for the sample period starting with 2001 and ending with 2016. We deduct 766 firm-year observations of firms in the financial industry because these firms are subject to regulations that could limit the comparability of their measures of accrual components. Consistent with the literature on China firms, we deduct 1,609 observations of firms having high delisting risk (ST firms). We deduct 4,978 firm-year observations that are missing values of data items used to measure the variables. We impose the requirement that each firm must have observations in the pre-and-post periods, thus reducing our sample further by 5,426 observations resulting in a final sample of 17,889 firm-year observations. To conduct our hypotheses tests we use subsamples of the final sample. Our tests of Hypothesis (1) spans the period of 2001-2014 and omits the 2007 initial convergence, resulting in 14,405 firm-year observations. Our tests of Hypothesis (2) spans the period of 2007-2016 and omits the 2014 further key initial convergence year, resulting in 10,451 firm-year observations.¹⁷

In order to test Hypothesis (3) relative to the incremental effect of voluntary disclosure on the persistence of earnings components we split our sample into two groups; mandatory and voluntary earnings forecasters using RESSET data. To limit variation in the mandatory forecast requirements between the Shanghai and Shenzhen stock exchanges, we collect earnings forecast data starting 2004. Using this shorter time frame, and deducting firms that have never disclosed, our sample is reduced to 8,407 firm-year observations from 2004-2016. Our tests of Hypothesis (3) with respect to the initial IFRS convergence omits annual observations from 2007, resulting in 6,392 remaining firm-year observations. Our tests of Hypothesis

¹⁷ We omit the convergence year following Ahmed et al. (2013).

(3) with respect to the further key IFRS convergence omits annual observations from 2014, resulting in 6,051 remaining firm-year observations.

C. Descriptive statistics

Table 1 provides descriptive statistics partitioned by time period. Panel A presents the initial sample partition that we employ to examine Hypothesis 1, relative to the pre-to-post initial IFRS convergence on 1/1/2007. We observe that both the mean values of next period and current period return on assets are greater in the post-IFRS period (mean differences significant at the 1% level). The same is true with respect to total accruals and its components, working capital and financing accruals (mean differences significant at the 1% level). However, the mean value of noncurrent operating accruals decreased in the post-IFRS period (mean difference significant at the 5% level). With respect to the components of total accruals in the pre-period, we note that the mean value of ΔWC is negative, ΔNCO is positive, and ΔFIN is negative (attributable to a higher mean value of financial liabilities $\Delta FINL$ over financial assets $\Delta FINA$). Increases in financing (debt) is supporting growth of noncurrent operating assets on average during this period. This relation continues in the post-period following the initial, substantial convergence to IFRS. In this period, the mean value of ΔWC is larger with a larger proportion of the increase explained by current operating assets (ΔCOA). A possible explanation relates to the importance of the manufacturing sector in the economy in China, and a change in inventory cost flow assumptions. In the post-period, the use of the last in-first-out assumption is not allowed. If the average manufacturing firm applied the last in-first out-inventory cost estimation in the pre-period with increasing costs, the inventory component of working capital accruals could increase on average in the post-initial IFRS convergence period.

Table 1, panel B presents the later sample partition that we employ to examine Hypothesis 2, relative to the pre-to-post-further key IFRS convergence in 2014. We observe that both the mean value of next period return on assets is greater in the post-IFRS period though that of current period return on assets is lower (significant at the 1% and 5% levels respectively). There is no difference in the mean value of working capital accruals pre-to-post IFRS 2014, though the mean value of nonoperating and financing accrual components decreased (significant at the 1% level). The decrease in noncurrent operating accruals be attributable to a decrease in noncurrent operating assets while the decrease in financing accruals can be attributable to an increase in financing assets.

Table 2 provides correlations of the model variables. We find a significant negative correlation between ΔWC and ΔFIN components (magnitude of -0.328), as well as between ΔNCO and ΔFIN (magnitude of -0.451). This is consistent with reducing financing assets or increasing financing liabilities to support growth in working capital and noncurrent operating assets. However, the correlations of extended decomposition of the accrual components show that the strongest correlations are between current operating assets and financing liabilities (0.383), and noncurrent operating assets and financing liabilities (0.440), hence increases in financing liabilities are driving the negative correlations between both ΔWC , ΔNCO , and ΔFIN .

V. EMPIRICAL RESULTS

A. Tests of Hypothesis 1

Panel A of Table 3 provides tests of Hypothesis (1) in null form that the persistence of accrual components of earnings is no different in the period following the initial IFRS convergence (2008-2014) compared to the prior period (2001-2006). We observe from the Model (1) estimate that the persistence of total accruals ρ_2 is negative (-0.0387) and significant at the 10% level in the pre-period, and the coefficient of the interaction variable ρ_5 is not statistically significant in the post-period. The results of Model (2) indicate that the working capital accruals component ρ_2 is negative (-0.0804) and significant at the 1% level. The coefficient of the interaction variable ρ_7 , is also insignificant. Finally, Model (3) results of the extended accrual decomposition documents that the negative persistence of the working capital component of accruals noted in Model (2) is attributable to both current operating asset and current operating liability components;

the coefficients of ρ_2 and ρ_3 are negative (-.0817 and -.0880 respectively) though the coefficients of the interaction variables ρ_9 ρ_{10} are not statistically significant. Model 3 further documents negative coefficients of noncurrent operating accrual and financing asset components ρ_4 and ρ_6 (-0.0278 and -0.0642) with significance at the 10% and 5% levels respectively. The coefficients of the interaction variables ρ_9 , ρ_{10} , ρ_{11} , ρ_{12} , ρ_{13} , ρ_{14} are not significant. Overall, the tests support Hypothesis (1) that there is no difference in the persistence of accrual components in the period following initial IFRS (2008-2014) compared to the pre-initial IFRS convergence period (2001-2006).

B. Tests of Hypothesis 2

Panel B of Table 3 provides tests of Hypothesis (2) that the persistence of accrual components of earnings improves in the period following the further key IFRS convergence (2015-2016) compared to the prior period (2007-2013). These model estimates document results that are similar to those of the pre-initial convergence period, as discussed above, but further documents less negative and in some cases small positive coefficients of accrual components of earnings in the period following further key IFRS convergence (2015-2016). In all three models, the post indicator is positive and significant at the 1% level. In Model (1), the coefficient of the total accrual interaction variable is positive, ρ_5 (0.0415) and significant at the 1% level. Moreover, Model (2) documents positive coefficients of the working capital and noncurrent operating accrual components, ρ_7 and ρ_8 (0.0535 and 0.0425) that are significant at the 5% and 1% levels respectively. The Model (3) estimate documents that the coefficients of the current operating asset, current operating liability, noncurrent operating asset, and noncurrent operating liability interaction variables, ρ_9 , ρ_{10} , ρ_{11} , and ρ_{12} (0.0731, 0.0606, 0.0379, and 0.0652 respectively) are positive and significant at the 1% except for that of the noncurrent operating liability interaction which is at the 5% level. Finally, the coefficient of the financing liability interaction variable, ρ_{14} (0.0248) is positive though significant at the 10% level. The relative magnitude of accrual components in the post-period indicates that persistence of noncurrent operating assets is lower than both current operating asset and liability components. This is consistent with adjustments related to accounting for nonoperating assets that continue to exist even following the additional body of IFRS that China adopted in 2014. We also note that the persistence of the cash component of earnings declines in the post-further key IFRS period, the coefficients of the interaction variable of the cash component (POST x ROA) is negative in Models (1), (2), and (3) respectively (-0.1270, -0.1350, -0.1378) and significant at the 10% and 5% levels. We discuss this result in Section 6 to follow. Overall, the results provide support of our Hypothesis (2) that the persistence of accrual components of earnings improves in the period following further key IFRS convergence (2015-2016) compared to the prior period (2007-2013).

C. Tests of Hypothesis 3- pre-to-post initial IFRS convergence

Table 4 provides results of our model estimations for tests of Hypothesis (3) with respect to the initial IFRS convergence in 2007 in which we partition the sample based upon 2 groups; mandatory and voluntary disclosers. We observe that few accrual coefficients in the mandatory group are significant across the three model estimates; in the period prior to initial IFRS convergence the coefficient of working capital and financing accrual components of Model (2) are negative, ρ_2 and ρ_4 (-0.1700 and -0.0910) significant at the 10% and 5% levels respectively. The coefficient of the financing accrual interaction is positive in the post-period ρ_9 (0.0910) through significant at the 10% level.

With respect to the voluntary group, Model (1) documents that the persistence of total accruals improves in the period following the initial IFRS convergence compared to the preceding period; the coefficient of total accruals, ρ_2 (-0.0678) and significant at the 1% level; the coefficient of total accrual interaction, ρ_5 (0.0381) at the 10% significance level. Model (2) documents that the coefficients of working capital and financing accrual components in the pre-period are negative, ρ_2 and ρ_4 respectively (-0.1096, -0.0575) each significant at the 1% level compared to the positive post-period coefficients, ρ_7 and ρ_9 (0.0507, 0.0597) each significant at the 1% level. The results of Model (3) document that the improvement in the working capital accrual component in the post period applies to both current operating assets and current

operating liabilities; coefficients of the respective interactive variables ρ_9 and ρ_{10} are positive (0.0604, 0.0826) and significant at the 1% level. The improvement in the financing component noted in Model (2) applies to financing asset and financing liability components, the interactive coefficients are positive ρ_{13} , and ρ_{14} (0.1427, 0.0748) and significant at the 10% and 1% levels respectively. The magnitude of persistence coefficients of current operating and financing liabilities in the post- initial IFRS relative to that of other accrual components, suggest lower subjective judgment by managers, consistent with the assessment of Richardson et al. (2005). Overall these results support Hypothesis (3) that voluntary disclosure enhances the persistence of accrual components of earnings following China's initial IFRS convergence in 2007.

Table 5 provides results of our model estimations for tests of Hypothesis (3) with respect to the further key IFRS convergence in 2014 in which we partition the sample based upon 2 groups; mandatory and voluntary disclosers. We observe among the mandatory disclosure group Model (1) results that the persistence of total accruals improves; the coefficients of total accrual, and total accruals interaction variable, ρ_2 and ρ_5 are respectively negative and positive (-0.0295, 0.0418) each significant at the 1% level. Model (2) documents a negative coefficient of the noncurrent operating accruals component, ρ_3 (-0.0217) that is not significant though the coefficient of the interaction variable for this component is positive, ρ_8 (0.0558) and significant at the 1% level. Model 3 documents positive interaction variable coefficients post-additional convergence for current and noncurrent operating asset accrual components ρ_9 and ρ_{11} (0.0781 and 0.0475) that are significant at the 5% and 1% levels respectively. We also note that for this group the coefficient of the cash component of earnings (ROA) is lower than that of the voluntary group in the period preceding the 2014 further key IFRS convergence. Furthermore, across the three model estimates the interaction ROA variable is negative and significant, indicating a decline in the persistence of the cash component of earnings in the post compared to the pre-2014 convergence periods. We conduct additional analysis related to this in Section 6 to follow.

We observe among the voluntary group that the magnitude and significance of the accrual components in the post 2014 period is comparable to that of the mandatory group. As a result, we conclude that the voluntary disclosure post 2007 (the initial IFRS convergence) has a stronger enhancement effect. A possible explanation is that managers have stronger incentives to provide voluntary disclosures when the benefits of IFRS convergence in terms of the persistence of accrual components of earnings are lower.

VI. EXTENDED ANALYSIS

We extend our analysis to include an examination of the relative persistence of cash components of earnings (Dechow, Richardson, and Sloan, 2008). We decompose cash into three sub-components (the change in the cash balance retained by the firm, cash distributions to equity providers, and cash distributions to debt providers). Dechow et al. (2008) provide evidence that the relatively high persistence of the cash component relative to the accrual components of earnings is primarily driven by cash distributions to equity providers. The authors further document that cash distributions to debt providers and changes in firms' retained cash balances have lower persistence, more similar to that of accruals. We adapt the Dechow et al. (2008) model to consider the pre-post periods around the initial 2007 IFRS convergence and the further key 2014 IFRS convergence in China. We provide the detailed variable definitions in the Appendix.

Table 6 provides the descriptive statistics of the variables employed in the Dechow et al. (2008) model. Panel A provides the pre-post measures around the initial IFRS convergence. We note that in the post-period of 2008-2014, average free cash flows (FCF) is less negative compared to that of the pre-period of 2001-2006 (the post-coefficient is -0.021 compared to the pre-coefficient -0.031 and difference is significant at the 1% level). Concerning the components of cash in the post compared to pre-initial IFRS periods, the average change in retained cash (Δ CASH) increased (coefficient of 0.022 compared to 0.001), the average distribution to equity holders (DIST_EQ) is more negative (coefficient of -0.026 compared to -0.006) and the average distribution to debt holders (DIST_D) is less negative (coefficient of -0.018 compared to -0.027). We note that average current period and next period earnings are significantly higher post-initial IFRS (2008-2014) compared to the pre-period (2001-2006). On average, firms are more

profitable and are increasing cash held in the enterprise. At the same time, firms are raising capital (issuing more equity than debt) with no significant difference in mean accruals, following initial IFRS convergence.

But in the post-further key IFRS period, average current period earnings are significantly lower and only next period earnings are significantly higher. Noted mean differences are at the 1% level. Overall, the univariate data indicate that free cash flows have a similar pattern to that of current period earnings, and the increase in retained cash relates to the excess of the net increase in capital received from equity investors and the net reduction in debt in the post-compared to the pre-period.

Panel A of Table 7 documents the model estimation reflecting the relative persistence of cash components in the period following the initial IFRS convergence (2008-2014) compared to the prior period (2001-2006). Model 1 estimates the persistence of earnings documenting that the coefficient of earnings (INCOME) is positive and significant at the 1% level in the pre-period, but there is no change in the post-period (the coefficient of POST x INCOME is not significantly different than zero. Model 2 estimates the relative persistence of net operating accruals compared to free cash flows. In the pre-initial IFRS period, we observe that both the coefficient of the accrual and free cash flows are positive and significant at the 1% level, (0.4405 and 0.4735). Though the persistence of accruals is lower than that of FCF, the magnitude of the difference in our results among China firms is smaller than that of US firms examined by Dechow et al. (2008). Model 3 estimates the relative persistence of cash components; the change in the retained cash component (Δ CASH) and the net distribution of cash to both debt and equity providers of capital (DIST). The results of Model 3 contrast the expectation and results documented by Dechow et al. (2008). The persistence coefficient of Δ CASH is 0.3527 while that of DIST is 0.3383. Each coefficient is significant at the 1% level, but the magnitude of the difference is also small. Model 4 estimates a further decomposition of DIST to reflect net distribution to equity holders (DIST_EQ) and to debt holders (DIST_D). The persistence coefficients respectively are 0.3261 and 0.3462, each significant at the 1% level. The Model 4 results also contrast that documented by Dechow et al. (2008). In all cases, there is no difference in the persistence of the accrual component of earnings in the period following the initial-IFRS convergence compared to the prior period. This is consistent with the results of the Richardson et al. (2005) model (Table 3, Panel A).

Panel B of Table 7 provides the results of model estimates in the period following the further key IFRS convergence (2015-2016) compared to the prior period (2007-2013). The tenor of the results in Panel B is very similar to that reported in Panel A. The absence of findings with respect to changes in the persistence of total accruals following further key IFRS convergence is not consistent with the results documented in Table 3, Panel B.

Overall, the results of this extended analysis are not consistent with that of Dechow et al., 2004. The persistence of changes in the balance of retained cash is not lower than that of distributions to debt or equity holders (DIST), discounting an explanation of manager hubris; holding reserved cash and making less profitable investments in the future. Nor is the persistence of DIST_EQ higher than that of DIST_D. A possible explanation of this result is the large proportion of listed firms that are SOEs in China. The support the government provides to SOEs including ready access to bank loans may still serve as a signal of future profitability.

VII. CONCLUSION

Questions have been raised by regulators, standard-setters, and academics over whether the benefits of a set of global accounting standards can be realized. Several reasons for these questions have been put forward. Within a given country, economic and political factors influence domestic financial reporting choices and these factors may outweigh the global interconnectivity of economic transactions. Another reason is that IFRS standards are principles-based; on the one hand this can afford managers more flexibility to use their professional judgment to represent their firm's economic performance, on the other hand managerial judgement may induce greater subjectivity, potentially inducing bias and lack of precision in measurements. Finally, IFRS apply fair value measures more broadly to balance sheet components, which has the potential to introduce measurement error in accruals when transactions are incomplete.

Each of these considerations are relevant to China, a country that has spent decades to move toward a more open, market-based economy, yet retaining an element of control by the government to provide a social safety net for its population. In this study, we examine accounting quality in China, following two key points in time that signify substantial effort to adopt IFRS, a set of global accounting standards expected to provide comparability and transparency of financial reporting around the world. China's initial substantial convergence to IFRS became mandatory on January 1, 2007. China subsequently mandated adoption of a further set of IFRS standards on July 1, 2014. We collect a sample of 17,889 firm-year observations of firms listed on China's Shanghai and Shenzhen stock exchanges from 2001 – 2016. We follow the methodology of Richardson et al. (2005) to examine the persistence of accrual components of earnings among China exchange-listed firms. We believe this model is best suited to a study of whether a change in accounting quality is associated with a set of international accounting standards because earnings persistence is a direct measure of several important uses of earnings; as a summary of current performance, an indicator of current period earnings that are sustainable, and as a measure of firm value.

We find overall that there is no difference in the persistence of accrual components in the period following initial IFRS (2008-2014) compared to the pre-initial IFRS convergence period (2001-2006). However, the persistence of accrual components of earnings improves in the period following further key IFRS convergence (2015-2016) compared to the prior period (2007-2013). Finally, we find that voluntary disclosure enhances the persistence of accrual components of earnings following China's initial IFRS convergence in 2007, but not following the later convergence in 2014, suggesting that managers have incentives to voluntarily disclose when the persistence of accrual components is lower.

We make several contributions to the literature. We help to reconcile heretofore mixed empirical findings by factoring into our analysis a multi-period convergence process. Our study can inform regulators and standard setters about the efficacy of adopting IFRS with adjustments. We provide further insight on the role of voluntary disclosure to enhance accounting quality, and the equilibrium decision about the timing of such disclosure. We make the caveat that further work is needed to examine the nature of the disclosures, and the robustness of our results to other approaches to the partitioning of earnings components.

Appendix

Panel A: Variable Definitions of Accrual Components of Earnings in tests of Hypotheses 1-3

Accrual Component	Short Name	US Data Items	CSMAR (China) Data Items
Current Operating Assets	COA	Current Assets – Cash – Short Term Investments	A001100000 - A001101000 - A001107000
Current Operating Liabilities	COL	Current Liabilities – Debt in Current Liabilities	A002100000 - A002101000
Noncurrent Operating Assets	NCOA	Total Assets – Current Assets – Investment and Advances-Other	A001000000 - A001100000 - A001202000 - A001203000
Noncurrent Operating Liabilities	NCOL	Total Liabilities – Current Liabilities – Long-term debt	A002000000 - A002100000 - A002201000
Financing Assets	FINA	Short Term Investments + Investments & Advances - Other	A001109000+ A001207000 up to year 2006; A001107000+ A001202000 +A001203000 starting 2007
Financing Liabilities	FINL	Long term debt + Debt in Current Liabilities + Preferred Stock	A002201000 + A002101000 + A003112101
Working Capital	$WC_t = COA_t - COL_t$ $\Delta WC = WC_t - WC_{t-1}$		
Noncurrent Operating	$NCO_t = NCOA_t - NCOL_t$ $\Delta NCO = NCO_t - NCO_{t-1}$		
Financing	$FIN_t = FINA_t - FINL_t$ $\Delta FIN = FIN_t - FIN_{t-1}$		
Total Accruals	$TACC = \Delta WC + \Delta NCO + \Delta FIN$		
Rate of Return	ROA	Operating Income after Depreciation	
Panel B: Variable Definitions of Accrual Components of Earnings-extended analysis			
Total Accruals			
Change in noncash Assets		Total Assets – Cash	$\Delta(A001000000 - \Delta A001101000)$
Change in nondebt liabilities		Total liabilities – Debt in Current Liabilities - Long-term debt	$(\Delta A002000000 - \Delta A002101000 - \Delta A002201000)$
Total accruals	Accruals	Change in noncash Assets – Change in nondebt Liabilities	See above
Income	INCOME	Net Income	B002000101
Free Cash Flows	FCF	Income – Total Accruals	
Change in Cash	$\Delta Cash + Short\text{-}term\text{ investments}$	$\Delta(Cash) + \Delta ST\text{ Investments}$	$\Delta A001109000 + \Delta A001101000$
Net distribution to equity	DIST_EQ	-(Total Assets-Total Liabilities – Income)	$-(\Delta A001000000 - A002000000 - B002000101)$
Net distribution to debt	DIST_D	-(Debt in Current Liabilities + Long Term Debt)	$-(\Delta A002101000 + \Delta A002201000)$

* All variables are scaled by average total assets.

References

- Ahmed, S.A., Neel, M., Wang, D., 2013. Does Mandatory Adoption of IFRS Improve Accounting Quality? Preliminary Evidence. *Contemporary Accounting Research*. 30, 1344-1372.
- Atwood, T.J., Drake, M.S., Myers, J.N., Myers, L.A., 2009. Do earnings reported under IFRS tell us more about future earnings and cash flows? 30, 103-121.
- Ball, R. (2016) IFRS – 10 years later. *Accounting and Business Research*, 46, 545-571.
- Barth, M.E., Landsman, W.R., Lang, M.H., 2008. International Accounting Standards and Accounting Quality. *Journal of Accounting Research*. 46,467-498.
- Cang, Y., Chu, Y., Lin, T.W., 2014. An exploratory study of earnings management detectability, analyst coverage and the impact of IFRS adoption: Evidence from China. *Journal of Accounting and Public Policy*. 33, 356-371.
- Capkun, V., Collins, D., Jeanjean, T., 2016. The effect of IAS/IFRS adoption on earnings management (smoothing): A closer look at competing explanations. *Journal of Accounting and Public Policy*. 35, 352-394.
- Cameron, A.C., Miller, D.L., 2014. A Practitioner's Guide to Cluster-Robust Inference. *The Journal of Human Resources*. 50, 317-372.
- Cheung, Y., Jiang, P., Tan, W., 2010. A transparency Disclosure Index measuring disclosures: Chinese listed companies. *Journal of Accounting and Public Policy*.29, 259-280.
- Dechow, P.M., Richardson, S.A., Sloan, R.G., 2008, The Persistence and Pricing of the Cash Component of Earnings. *Journal of Accounting Research*.46, 536-566.
- Dechow, P.M., Schrand, C.M., 2005. Earnings Quality. Research Foundation of CFA Institute.
- Francis, J., Lafond, R., Olsson, P.M., Schipper, K., 2005. Costs of Equity and Earnings Attributes. *The Accounting Review*.79, 967-1010.
- Fan, Y., Thomas, W.B., Wang, C., 2015. The Effect of Regulatory Benchmarks on Firm Reporting Behavior. *Journal of International Accounting Research*.14, 85-107.
- He, X., Wong, T.J., Young, D., 2012. Challenges for Implementation of Fair Value Accounting in Emerging Markets: Evidence from China. *Contemporary Accounting Research*. 29, 538-562.
- Hope, O., 2003. Disclosure practices, enforcement of accounting standards, and analysts' forecast accuracy: An international study. *Journal of Accounting Research*.41, 235-272.
- Horton, J., Serafeim, G., Serafeim, I., 2013. Does Mandatory IFRS Adoption Improve the Information Environment? *Contemporary Accounting Research*. 30, 388-423.
- Hou, Q., Jin, Q., Wang, L. and Zhang, G. 2016. Mandatory IFRS Adoption, Accounting Quality, and Investment Efficiency: Evidence from China. *China Journal of Accounting Studies*. 4, 236-262.
- Li, X., Yang, H.I., 2016. Mandatory Financial Reporting and Voluntary Disclosure: The Effect of Mandatory IFRS Adoption on Management Forecasts. *The Accounting Review*. 91, 933-953.
- Lin, A., Swanson, P.E., 2008. The Effect of China's Reform Policies on Stock Market Information Transmission. *Quarterly Journal of Finance and Accounting*. 47, 49-76.
- Liu, C. H., Yao, L. J., Hu, N. and Liu, L., 2011. The Impact of IFRS on Accounting Quality in a Regulated Market: An Empirical Study of China. *Journal of Accounting, Auditing & Finance*. 26, 659-76.
- Peng, S., Bewley, K., 2010. Adaptability to fair value accounting in an emerging economy A case study of China's IFRS convergence. *Accounting, Auditing & Accountability Journal*. 23, 982-1011.
- Qian, Y., Wu, J., 2000. China's Transition to a Market Economy: How Far across the River? Working Paper, University of Maryland.
- Richardson, S.A., Sloan, R.G., Soliman, M.T., Tuna, I., 2005. Accrual reliability, earnings persistence and stock prices. *Journal of Accounting and Economics*. 39, 437-485.
- Sun, Q., Tong, W., 2003. China share issue privatization: the extent of its success. *Journal of Financial Economics*. 70, 183-222.

- Wu, G.S., Li, S., Lin, S., 2014. The Effects of harmonization and convergence with IFRS on the timeliness of earnings reported under Chinese GAAP. *Journal of Contemporary Accounting & Economics*. 10, 148-159.
- Xiao. G., 2015. Trading and earnings management: Evidence from China's non-tradable share reform. *Journal of Corporate Finance*. 31, 67-90.

Table 1 Descriptive statistics

Panel A subsample – 2007

Variable	2001-2006					2008-2014					Mean Diff
	Mean	Std. dev.	Q1	Median	Q3	Mean	Std. dev.	Q1	Median	Q3	
ROA _{t+1}	0.030	0.077	0.008	0.032	0.065	0.036	0.072	0.007	0.031	0.068	-0.006***
ROA _t	0.029	0.073	0.009	0.033	0.064	0.036	0.073	0.007	0.032	0.069	-0.007***
TACC	0.020	0.115	-0.031	0.019	0.074	0.034	0.120	-0.024	0.025	0.080	-0.014***
ΔWC	-0.003	0.113	-0.057	0.001	0.054	0.010	0.111	-0.045	0.007	0.063	-0.013***
ΔNCO	0.045	0.116	-0.013	0.023	0.090	0.040	0.119	-0.014	0.020	0.074	0.004**
ΔFIN	-0.023	0.114	-0.079	-0.013	0.035	-0.017	0.108	-0.062	-0.003	0.034	-0.006***
ΔCOA	0.032	0.125	-0.023	0.025	0.083	0.047	0.122	-0.010	0.030	0.094	-0.015***
ΔCOL	0.036	0.102	-0.017	0.026	0.080	0.039	0.111	-0.017	0.026	0.086	-0.004**
ΔNCOA	0.047	0.111	-0.011	0.023	0.090	0.048	0.118	-0.008	0.024	0.079	-0.001
ΔNCOL	0.003	0.028	0.000	0.000	0.001	0.008	0.036	-0.001	0.000	0.007	-0.005***
ΔFINA	0.004	0.049	-0.008	0.000	0.013	0.002	0.032	0.000	0.000	0.000	0.002***
ΔFINL	0.027	0.104	-0.026	0.012	0.078	0.019	0.098	-0.027	0.002	0.059	0.008***
INSTITUT	0.030	0.061	0.000	0.004	0.029	0.341	0.218	0.149	0.335	0.510	-0.311***
SOE	0.723	0.447	0.000	1.000	1.000	0.640	0.480	0.000	1.000	1.000	0.083***
BETA	1.041	0.239	0.904	1.064	1.203	1.045	0.242	0.893	1.056	1.196	-0.004
SANCTION	0.108	0.310	0.000	0.000	0.000	0.141	0.348	0.000	0.000	0.000	-0.033***
N	6,266					8,139					

Panel B subsample – 2014

Variable	2007-2013					2015-2016					Mean Diff
	Mean	Std. dev.	Q1	Median	Q3	Mean	Std. dev.	Q1	Median	Q3	
ROA _{t+1}	0.035	0.074	0.007	0.032	0.068	0.043	0.060	0.013	0.036	0.068	-0.008***
ROA _t	0.038	0.076	0.008	0.034	0.072	0.035	0.064	0.007	0.029	0.063	0.004**
TACC	0.034	0.123	-0.025	0.025	0.083	0.049	0.135	-0.019	0.028	0.089	-0.015***
ΔWC	0.010	0.113	-0.045	0.008	0.065	0.011	0.113	-0.045	0.004	0.057	-0.001
ΔNCO	0.050	0.125	-0.010	0.027	0.087	0.041	0.131	-0.016	0.016	0.069	0.009***
ΔFIN	-0.027	0.114	-0.076	-0.011	0.027	-0.003	0.103	-0.040	0.000	0.042	-0.024***
ΔCOA	0.050	0.125	-0.010	0.032	0.097	0.044	0.129	-0.017	0.021	0.083	0.005*
ΔCOL	0.041	0.112	-0.017	0.027	0.089	0.034	0.107	-0.020	0.023	0.075	0.008***
ΔNCOA	0.058	0.123	-0.004	0.031	0.091	0.052	0.132	-0.007	0.018	0.072	0.006**
ΔNCOL	0.008	0.036	-0.001	0.000	0.007	0.011	0.046	-0.002	0.001	0.014	-0.003***
ΔFINA	-0.005	0.041	-0.001	0.000	0.000	0.006	0.035	0.000	0.000	0.003	-0.011***
ΔFINL	0.021	0.100	-0.027	0.004	0.063	0.010	0.094	-0.029	0.000	0.041	0.011***
INSTITUT	0.302	0.222	0.101	0.276	0.475	0.407	0.193	0.262	0.419	0.554	-0.106***
SOE	0.646	0.478	0.000	1.000	1.000	0.606	0.489	0.000	1.000	1.000	0.040***
BETA	1.056	0.231	0.921	1.065	1.193	1.150	0.218	1.026	1.167	1.290	-0.095***
SANCTION	0.138	0.345	0.000	0.000	0.000	0.125	0.330	0.000	0.000	0.000	0.013
N	8,116					2,335					

Table 2

Pearson (above the diagonal) and Spearman (below the diagonal) correlations

	ROA _{t+1}	ROA _t	TACC	WC	NCO	FIN	COA	COL	NCOA	NCOL	FINA	FINL	INSTITUT	SOE	BETA	SANCTION
ROA _{t+1}		0.641	0.212	0.081	0.134	0.008	0.155	0.090	0.136	-0.016	0.059	0.019	0.161	-0.026	-0.070	-0.144
ROA _t	0.727		0.407	0.240	0.242	-0.056	0.294	0.085	0.256	0.007	0.080	0.097	0.155	-0.020	-0.062	-0.136
TACC	0.236	0.372		0.423	0.436	0.136	0.331	-0.049	0.408	-0.026	0.225	-0.027	0.030	-0.047	-0.029	-0.052
ΔWC	0.075	0.178	0.400		-0.145	-0.338	0.581	-0.327	-0.121	0.051	-0.021	0.362	0.030	-0.050	0.018	-0.027
ΔNCO	0.157	0.256	0.347	-0.133		-0.451	0.116	0.279	0.933	-0.127	-0.128	0.422	-0.042	0.005	-0.025	-0.032
ΔFIN	0.029	-0.039	0.160	-0.328	-0.399		-0.344	-0.054	-0.450	0.028	0.392	-0.881	0.055	-0.008	-0.021	0.001
ΔCOA	0.171	0.274	0.295	0.540	0.113	-0.299		0.546	0.142	0.068	0.011	0.383	0.041	-0.047	-0.004	-0.028
ΔCOL	0.107	0.111	-0.078	-0.364	0.259	-0.009	0.469		0.285	0.030	0.033	0.076	0.014	-0.008	-0.027	-0.004
ΔNCOA	0.165	0.283	0.336	-0.095	0.910	-0.385	0.148	0.258		0.188	-0.093	0.440	-0.018	0.005	-0.008	-0.031
ΔNCOL	0.014	0.050	0.018	0.056	-0.083	0.000	0.102	0.059	0.173		0.111	0.035	0.067	-0.015	0.034	0.011
ΔFINA	0.058	0.073	0.167	-0.019	-0.073	0.270	0.012	0.035	-0.037	0.109		0.058	0.042	-0.014	0.010	-0.015
ΔFINL	-0.006	0.073	-0.070	0.346	0.368	-0.880	0.326	0.020	0.376	0.054	0.054		-0.039	0.003	0.027	-0.005
INSTITUT	0.165	0.159	0.078	0.046	0.013	0.045	0.079	0.037	0.051	0.090	0.071	-0.025		0.031	0.030	-0.032
SOE	-0.044	-0.035	-0.042	-0.053	0.014	-0.011	-0.051	-0.008	0.016	0.008	-0.020	0.006	0.004		0.064	-0.085
BETA	-0.107	-0.102	-0.031	0.014	-0.026	-0.016	0.002	-0.023	-0.008	0.018	-0.014	0.025	0.014	0.060		0.006
SANCTION	-0.142	-0.137	-0.058	-0.025	-0.040	-0.005	-0.029	-0.005	-0.044	0.006	-0.015	0.000	-0.035	-0.085	0.011	

Note: Text in bold indicates that the correlation is significant at $p < 0.10$.

Table 3

Pooled OLS regressions of next year's rate of return on this year's rate of return and accrual components.

Model 1: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 TACC + \rho_3 POST + \rho_4 POST \times ROA_t + \rho_5 POST \times TACC + \Sigma CONTROLS_t + u_{t+1}$

Model 2: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 \Delta WWC + \rho_3 \Delta NCO + \rho_4 \Delta FIN + \rho_5 POST + \rho_6 POST \times ROA_t + \rho_7 POST \times \Delta WWC + \rho_8 POST \times \Delta NCO + \rho_9 POST \times \Delta FIN + \Sigma CONTROLS_t + u_{t+1}$

Model 3: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 \Delta COA + \rho_3 \Delta COL + \rho_4 \Delta NCOA + \rho_5 \Delta NCOL + \rho_6 \Delta FINA + \rho_7 \Delta FINL + \rho_8 POST + \rho_9 POST * \Delta COA + \rho_{10} POST * \Delta COL + \rho_{11} POST * \Delta NCOA + \rho_{12} POST * \Delta NCOL + \rho_{13} POST * \Delta FINA + \rho_{14} POST * \Delta FINL + \Sigma CONTROLS_t + u_{t+1}$

	Panel A – initial IFRS convergence			Panel B – further key IFRS convergence		
	(1)	(2)	(3)	(1)	(2)	(3)
	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}
Constant	0.0274*** (4.26)	0.0253*** (3.98)	0.0251*** (3.89)	0.0183 (1.30)	0.0183 (1.31)	0.0181 (1.35)
ROA	0.6764*** (19.74)	0.6919*** (21.95)	0.7028*** (24.28)	0.6360*** (28.69)	0.6441*** (28.63)	0.6434*** (27.34)
TACC	-0.0387* (-1.96)			-0.0441*** (-7.79)		
ΔWC		-0.0804*** (-4.35)			-0.0622*** (-8.39)	
ΔNCO		-0.0179 (-1.32)			-0.0401*** (-5.16)	
ΔFIN		-0.0124 (-0.67)			-0.0130 (-1.26)	
ΔCOA			-0.0817*** (-5.03)			-0.0603*** (-8.07)
ΔCOL			-0.0880*** (-4.04)			-0.0697*** (-6.45)
ΔNCOA			-0.0278* (-1.73)			-0.0400*** (-4.41)
ΔNCOL			-0.0028 (-0.12)			0.0183 (0.65)
ΔFINA			-0.0642** (-2.35)			0.0221 (0.50)
ΔFINL			-0.0078 (-0.35)			-0.0183 (-1.64)
POST	-0.0013 (-0.22)	0.0001 (0.02)	-0.0008 (-0.15)	0.0117*** (3.05)	0.0111*** (2.99)	0.0113*** (3.12)
POST × ROA	-0.0426 (-1.04)	-0.0501 (-1.31)	-0.0649* (-1.83)	-0.1270* (-1.96)	-0.1350** (-2.15)	-0.1378** (-2.03)

POST × TACC	-0.0006 (-0.03)			0.0415*** (5.17)		
POST × ΔWC		0.0183 (0.91)			0.0535** (2.44)	
POST × ΔNCO		-0.0144 (-0.79)			0.0425*** (4.66)	
POST × ΔFIN		0.0035 (0.15)			0.0119 (1.01)	
POST × Δ COA			0.0304 (1.60)			0.0731*** (4.48)
POST × ΔCOL			0.0185			0.0606***
POST × ΔNCOA			-0.0037 (-0.20)			0.0379*** (3.68)
POST × ΔNCOL			0.0097 (0.38)			0.0652** (2.47)
POST × ΔFINA			0.0561 (0.77)			-0.0138 (-0.21)
POST × ΔFINL			0.0036 (0.15)			0.0248* (1.95)
INSTITUT	0.0001 (1.58)	0.0001 (1.55)	0.0001* (1.69)	0.0003*** (3.29)	0.0002*** (3.26)	0.0002*** (3.53)
SOE	-0.0036** (-2.36)	-0.0037** (-2.51)	-0.0038** (-2.57)	-0.0066*** (-6.56)	-0.0065*** (-6.33)	-0.0065*** (-6.80)
BETA	-0.0127*** (-3.67)	-0.0116*** (-3.27)	-0.0109*** (-3.13)	-0.0131** (-2.49)	-0.0125** (-2.38)	-0.0121** (-2.35)
SANCTION	-0.0147*** (-4.56)	-0.0146*** (-4.59)	-0.0146*** (-4.59)	-0.0068*** (-2.84)	-0.0070*** (-2.86)	-0.0071*** (-2.91)
Industry indicators	yes	yes	yes	yes	yes	Yes
Province indicators	yes	yes	yes	yes	yes	Yes
N	14,405	14,405	14,405	10,451	10,451	10,451
Adjusted R2	0.438	0.443	0.444	0.431	0.434	0.435

All variables are defined in the Appendix.

z-statistics in parentheses based upon bootstrapped standard errors clustered by year.

* Significant at 10%.

** Significant at 5%.

*** Significant at 1%.

Table 4

OLS regressions of next year's rate of return on assets on this year's rate return on assets and accrual components in the pre-to-post further key IFRS convergence periods, partitioned by voluntary and mandatory disclosure groups.

Model 1: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 TACC + \rho_3 POST + \rho_4 POST \times ROA_t + \rho_5 POST \times TACC + \Sigma CONTROLS_t + u_{t+1}$

Model 2: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 \Delta WC + \rho_3 \Delta NCO + \rho_4 \Delta FIN + \rho_5 POST + \rho_6 POST \times ROA_t + \rho_7 POST \times \Delta WC + \rho_8 POST \times \Delta NCO + \rho_9 POST \times \Delta FIN + \Sigma CONTROLS_t + u_{t+1}$

Model 3: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 \Delta COA + \rho_3 \Delta COL + \rho_4 \Delta NCOA + \rho_5 \Delta NCOL + \rho_6 \Delta FINA + \rho_7 \Delta FINL + \rho_8 POST * \Delta COA + \rho_{10} POST * \Delta COL + \rho_{11} POST * \Delta NCOA + \rho_{12} POST * \Delta NCOL + \rho_{13} POST * \Delta FINA + \rho_{14} POST * \Delta FINL + \Sigma CONTROLS_t + u_{t+1}$

	Pre-to-post initial IFRS Convergence					
	Mandatory Group			Voluntary Group		
	(1)	(2)	(3)	(1)	(2)	(3)
	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}
Constant	0.0291 (1.35)	0.0274 (1.18)	0.0262 (1.18)	0.0452*** (3.82)	0.0388*** (3.31)	0.0380*** (3.31)
ROA	0.7120*** (7.81)	0.7229*** (8.75)	0.6778*** (5.95)	0.6565*** (12.56)	0.6610*** (12.85)	0.6777*** (14.36)
TACC	-0.1206 (-1.34)			-0.0678*** (-4.95)		
WC		-0.1700* (-1.91)			-0.1096*** (-5.06)	
NCO		-0.0638 (-1.34)			-0.0222* (-1.70)	
FIN		-0.0910** (-2.08)			-0.0575*** (-6.55)	
COA			-0.1206 (-0.97)			-0.1012*** (-6.48)
COL			-0.1066 (-1.30)			-0.1465*** (-13.56)
NCOA			-0.0428 (-0.87)			-0.0555*** (-3.25)
NCOL			-0.0340 (-0.23)			-0.0230 (-0.32)
FINA			0.0616 (0.58)			-0.1564** (-2.49)
FINL			-0.0882* (-1.73)			-0.0589*** (-3.98)
POST	-0.0060 (-0.71)	-0.0031 (-0.37)	-0.0057 (-0.65)	-0.0025 (-0.33)	0.0007 (0.09)	0.0007 (0.09)
POST × ROA	-0.2060**	-0.2073**	-0.1656	-0.0394	-0.0300	-0.0531

	(-2.09)	(-2.26)	(-1.37)	(-0.70)	(-0.54)	(-0.96)
POST × TACC	0.0908 (1.03)			0.0381* (1.82)		
POST × WC		0.1072 (1.13)			0.0507** (1.98)	
POST × NCO		0.0445 (0.89)			-0.0011 (-0.06)	
POST × FIN		0.0910* (1.66)			0.0597*** (6.53)	
POST × COA			0.0581 (0.44)			0.0604*** (2.88)
POST × COL			0.0175 (0.18)			0.0826*** (4.61)
POST × NCOA			0.0178 (0.33)			0.0391* (1.77)
POST × NCOL			0.0355 (0.22)			0.0452 (0.55)
POST × FINA			0.0567 (0.37)			0.1427* (1.92)
POST × FINL			0.0747 (1.20)			0.0748*** (4.13)
INSTITUT	0.0002* (1.86)	0.0002* (1.72)	0.0002* (1.68)	0.0001* (1.87)	0.0001* (1.73)	0.0001* (1.87)
SOE	-0.0044 (-0.87)	-0.0047 (-0.90)	-0.0046 (-0.99)	-0.0056** (-2.07)	-0.0058** (-2.10)	-0.0057** (-2.05)
BETA	-0.0125* (-1.72)	-0.0124* (-1.66)	-0.0108 (-1.49)	-0.0126** (-2.13)	-0.0106* (-1.82)	-0.0097* (-1.70)
SANCTION	-0.0169*** (-3.15)	-0.0172*** (-3.42)	-0.0169*** (-3.26)	-0.0171*** (-3.70)	-0.0173*** (-3.75)	-0.0174*** (-3.79)
Industry indicators	yes	Yes	yes	yes	yes	Yes
Province indicators	yes	Yes	yes	yes	yes	Yes
N	2,230	2,230	2,230	4,162	4,162	4,162
Adjusted R ²	0.334	0.340	0.339	0.454	0.459	0.460

All variables are defined in the Appendix.

z-statistics in parentheses based upon bootstrapped standard errors clustered by year.

* Significant at 10%.

** Significant at 5%.

*** Significant at 1%.

Table 5

OLS regressions of next year's rate of return on assets on this year's rate return on assets and accrual components in the pre-to-post further key IFRS convergence periods, partitioned by voluntary and mandatory disclosure groups.

Pooled OLS regressions of next year's rate of return on this year's rate of return and accrual components.

Model 1: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 TACC + \rho_3 POST + \rho_4 POST \times ROA_t + \rho_5 POST \times TACC + \Sigma CONTROLS_t + u_{t+1}$

Model 2: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 \Delta WC + \rho_3 \Delta NCO + \rho_4 \Delta FIN + \rho_5 POST + \rho_6 POST \times ROA_t + \rho_7 POST \times \Delta WC + \rho_8 POST \times \Delta NCO + \rho_9 POST \times \Delta FIN + \Sigma CONTROLS_t + u_{t+1}$

Model 3: $ROA_{t+1} = \rho_0 + \rho_1 ROA_t + \rho_2 \Delta COA + \rho_3 \Delta COL + \rho_4 \Delta NCOA + \rho_5 \Delta NCOL + \rho_6 \Delta FINA + \rho_7 \Delta FINL + \rho_8 POST + \rho_9 POST * \Delta COA + \rho_{10} POST * \Delta COL + \rho_{11} POST * \Delta NCOA + \rho_{12} POST * \Delta NCOL + \rho_{13} POST * \Delta FINA + \rho_{14} POST * \Delta FINL + \Sigma CONTROLS_t + u_{t+1}$

	Pre-to-post further key IFRS Convergence					
	Mandatory group			Voluntary group		
	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}	ROA _{t+1}
Constant	0.0167 (0.84)	0.0193 (0.92)	0.0206 (0.99)	0.0325* (1.95)	0.0312* (1.91)	0.0302* (1.86)
ROA	0.5124*** (14.03)	0.5208*** (14.42)	0.5233*** (16.36)	0.6246*** (30.85)	0.6369*** (31.29)	0.6282*** (23.42)
TACC	-0.0295*** (-3.40)			-0.0343*** (-2.89)		
WC		-0.0599*** (-3.20)			-0.0527*** (-4.26)	
NCO		-0.0217 (-1.55)			-0.0321*** (-3.32)	
FIN		-0.0133 (-0.67)			-0.0023 (-0.42)	
COA			-0.0697** (-2.56)			-0.0364** (-2.36)
COL			-0.0925*** (-3.66)			-0.0512*** (-3.27)
NCOA			-0.0261** (-2.26)			-0.0210* (-1.71)
NCOL			0.0701 (1.05)			0.0243 (0.70)
FINA			0.1024 (1.19)			0.0127 (0.31)
FINL			-0.0351* (-1.70)			0.0093 (0.84)
POST	0.0135*** (3.70)	0.0136*** (3.93)	0.0135*** (4.08)	0.0003 (0.06)	-0.0003 (-0.07)	0.0009 (0.23)

POST × ROA	-0.2876* (-1.73)	-0.2899** (-1.96)	-0.2978* (-1.89)	0.0677 (1.62)	0.0556 (1.27)	0.0575 (1.33)
POST × TACC	0.0418*** (3.86)			0.0346*** (2.94)		
POST × WC		0.0340 (1.11)			0.0691*** (4.96)	
POST × NCO		0.0558*** (3.70)			0.0316*** (3.52)	
POST × FIN		0.0189 (0.77)			-0.0039 (-0.66)	
POST × COA			0.0781** (2.53)			0.0740*** (5.47)
POST × COL			0.0538 (1.56)			0.0702*** (4.61)
POST × NCOA			0.0475*** (3.68)			0.0206** (2.13)
POST × NCOL			0.0426 (0.72)			0.0673 (1.60)
POST × FINA			-0.0131 (-0.13)			-0.0693 (-1.21)
POST × FINL			0.0418 (1.25)			-0.0010 (-0.09)
INSTITUT	0.0004*** (3.06)	0.0004*** (3.01)	0.0004*** (3.29)	0.0002*** (3.24)	0.0002*** (3.15)	0.0002*** (3.36)
SOE	-0.0107*** (-4.53)	-0.0105*** (-4.43)	-0.0103*** (-4.47)	-0.0046* (-1.94)	-0.0043* (-1.78)	-0.0046* (-1.96)
BETA	-0.0064 (-0.84)	-0.0067 (-0.87)	-0.0064 (-0.89)	-0.0116*** (-2.67)	-0.0105** (-2.50)	-0.0099** (-2.31)
SANCTION	-0.0124** (-2.53)	-0.0126** (-2.56)	-0.0122** (-2.45)	-0.0096*** (-4.11)	-0.0096*** (-3.98)	-0.0098*** (-4.29)
Industry indicators	yes	yes	yes	yes	yes	yes
Province indicators	yes	yes	yes	yes	yes	yes
N	2,278	2,278	2,278	3,773	3,773	3,773
Adjusted R ²	0.313	0.317	0.323	0.452	0.454	0.454

All variables are defined in the Appendix.

z-statistics in parentheses based upon bootstrapped standard errors clustered by year.

* Significant at 10%.

** Significant at 5%.

*** Significant at 1%.

Table 6 Descriptive Statistics Additional Analysis

Table A Subsample – 2007

Variable	2001-2006					2008-2014					Mean Diff
	Mean	Std. dev.	Q1	Median	Q3	Mean	Std. dev.	Q1	Median	Q3	
INCOME _{t+1}	0.020	0.071	0.007	0.024	0.049	0.032	0.061	0.009	0.027	0.056	-0.011***
INCOME _t	0.018	0.069	0.007	0.025	0.048	0.031	0.064	0.009	0.028	0.057	-0.013***
ACCRUALS	0.049	0.158	-0.028	0.046	0.131	0.053	0.160	-0.027	0.041	0.119	-0.004
FCF	-0.031	0.138	-0.100	-0.020	0.045	-0.021	0.147	-0.081	-0.008	0.055	-0.010***
ΔCASH	0.001	0.090	-0.039	0.000	0.038	0.022	0.093	-0.022	0.010	0.056	-0.021***
DIST	-0.033	0.130	-0.091	-0.012	0.038	-0.044	0.157	-0.087	-0.010	0.035	0.011***
DIST_EQ	-0.006	0.076	-0.009	0.002	0.020	-0.026	0.113	-0.013	0.001	0.013	0.019***
DIST_D	-0.027	0.105	-0.078	-0.012	0.026	-0.018	0.098	-0.059	-0.002	0.027	-0.008***
INSTITUT	0.030	0.061	0.000	0.004	0.029	0.341	0.218	0.149	0.335	0.510	-0.311***
SOE	0.723	0.447	0.000	1.000	1.000	0.640	0.480	0.000	1.000	1.000	0.083***
BETA	1.041	0.239	0.904	1.064	1.203	1.045	0.242	0.893	1.056	1.196	-0.004
SANCTION	0.108	0.310	0.000	0.000	0.000	0.141	0.348	0.000	0.000	0.000	-0.033***
N	6,266					8,139					

Table B subsample – 2014

Variable	2007-2013					2015-2016					Mean Diff
	Mean	Std. dev.	Q1	Median	Q3	Mean	Std. dev.	Q1	Median	Q3	
INCOME _{t+1}	0.031	0.064	0.009	0.028	0.057	0.035	0.050	0.010	0.027	0.054	-0.003**
INCOME _t	0.033	0.065	0.010	0.030	0.059	0.030	0.052	0.008	0.024	0.051	0.003**
ACCRUALS	0.056	0.166	-0.027	0.044	0.125	0.060	0.176	-0.027	0.032	0.111	-0.004
FCF	-0.023	0.151	-0.084	-0.009	0.057	-0.030	0.172	-0.079	-0.002	0.055	0.007*
ΔCASH	0.025	0.094	-0.021	0.011	0.059	0.033	0.104	-0.016	0.017	0.064	-0.009***
DIST	-0.048	0.161	-0.095	-0.013	0.034	-0.061	0.192	-0.089	-0.008	0.033	0.013***
DIST_EQ	-0.027	0.115	-0.016	0.000	0.013	-0.052	0.152	-0.033	0.000	0.011	0.025***
DIST_D	-0.021	0.100	-0.063	-0.004	0.027	-0.009	0.094	-0.041	0.000	0.029	-0.011***
INSTITUT	0.302	0.222	0.101	0.276	0.475	0.407	0.193	0.262	0.419	0.554	-0.106***
SOE	0.646	0.478	0.000	1.000	1.000	0.606	0.489	0.000	1.000	1.000	0.040***
BETA	1.056	0.231	0.921	1.065	1.193	1.150	0.218	1.026	1.167	1.290	-0.095***
SANCTION	0.138	0.345	0.000	0.000	0.000	0.125	0.330	0.000	0.000	0.000	0.013
N	8,116					2,335					

Table 7

OLS regression estimates of next year's earnings on current year earnings components reflecting a decomposition of the cash component of earnings.

	Panel A – initial IFRS convergence				Panel B – further key IFRS convergence			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	INCOME _{t+1}	INCOME _{t+1}	INCOME _{t+1}	INCOME _{t+1}	INCOME _{t+1}	INCOME _{t+1}	INCOME _{t+1}	INCOME _{t+1}
INCOME	0.4356*** (11.71)				0.3862*** (10.37)			
ACCRUALS		0.4405*** (11.86)	0.3071*** (9.21)	0.3083*** (9.58)		0.3882*** (10.57)	0.2485*** (7.52)	0.2486*** (7.49)
FCF		0.4737*** (12.55)				0.4129*** (11.36)		
ΔCASH			0.3527*** (8.52)	0.3517*** (8.28)			0.2951*** (8.20)	0.2946*** (8.22)
DIST			0.3383*** (8.47)				0.2659*** (7.08)	
DIST_EQ				0.3261*** (6.09)				0.2642*** (7.27)
DIST_D				0.3462*** (10.11)				0.2678*** (6.72)
POST	-0.0001 (-0.01)	-0.0000 (-0.00)	-0.0011 (-0.16)	-0.0013 (-0.19)	0.0019 (0.32)	0.0012 (0.19)	0.0003 (0.05)	0.0001 (0.01)
POST × INCOME	-0.0410 (-0.88)				0.0202 (0.17)			
POST × ACCRUALS		-0.0438 (-0.94)	-0.0545 (-1.36)	-0.0549 (-1.41)		0.0208 (0.17)	0.0302 (0.35)	0.0308 (0.36)
POST × FCF		-0.0490 (-1.07)				-0.0109 (-0.09)		
POST × ΔCASH			-0.0555 (-1.12)	-0.0561 (-1.11)			-0.0063 (-0.07)	-0.0075 (-0.08)
POST × DIST			-0.0676 (-1.47)				0.0148 (0.16)	
POST × DIST_EQ				-0.0626 (-1.06)				0.0106 (0.11)
POST × DIST_D				-0.0657 (-1.59)				0.0261 (0.30)
INSTITUT	0.0002** (2.10)	0.0002** (1.96)	0.0003** (2.25)	0.0003** (2.27)	0.0003*** (4.27)	0.0003*** (4.03)	0.0003*** (4.77)	0.0003*** (4.79)
SOE	-0.0042** (-2.00)	-0.0043** (-2.08)	-0.0049** (-2.30)	-0.0049** (-2.30)	-0.0068*** (-8.27)	-0.0066*** (-7.64)	-0.0079*** (-7.96)	-0.0079*** (-7.97)
BETA	-0.0182*** (-4.22)	-0.0178*** (-4.27)	-0.0196*** (-4.47)	-0.0192*** (-4.28)	-0.0153*** (-2.97)	-0.0146*** (-2.88)	-0.0156*** (-2.99)	-0.0155*** (-2.95)

SANCTION	-0.0177*** (-4.54)	-0.0175*** (-4.46)	-0.0194*** (-4.77)	-0.0193*** (-4.78)	-0.0085*** (-3.27)	-0.0086*** (-3.24)	-0.0098*** (-4.08)	-0.0098*** (-4.06)
Constant	0.0402*** (4.85)	0.0404*** (4.98)	0.0463*** (6.27)	0.0456*** (6.24)	0.0348*** (3.40)	0.0344*** (3.31)	0.0389*** (3.62)	0.0387*** (3.60)
Industry indicators	yes							
Province indicators	yes							
N	14,405	14,405	14,405	14,405	10,451	10,451	10,451	10,451
Adjusted R ²	0.242	0.246	0.196	0.197	0.217	0.220	0.173	0.173

z-statistics in parentheses based upon bootstrapped standard errors clustered by year.

All variables are defined in the Appendix.

* Significant at 10%.

** Significant at 5%.

*** Significant at 1%.