Journal of Current Practice in Accounting and Finance (JCPAF)
Volume.13, Number 5; May-2022;
ISSN: 2836-9584 | Impact Factor: 6.23
https://zapjournals.com/Journals/index.php/Accounting-Finance
Published By: Zendo Academic Publishing

EXPLORING THE RELATIONSHIP BETWEEN ECONOMIC DEVELOPMENT AND IFRS INFORMATION COMPARABILITY

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Article Info

Keywords: IFRS, Economic Development, Comparability, Legal Jurisdiction, China.

Abstract

This paper examines the relationship between the level of economic development and International Financial Reporting Standards (IFRS) information comparability following the standards adoption in China in 2007. Using a sample of matched firm-pairs from Mainland China and Hong Kong, the study shows that comparability is higher for companies from more developed regions in the pre-convergence period, but not in the post-convergence periods. The study also highlights that companies based in less developed regions with code law legal jurisdiction have more to gain from IFRS convergence, contrary to popular belief. The investigation extends to testing the effect of within-country variations in economic development on IFRS information comparability, which has not been addressed in the comparability literature. This study contributes to the understanding of the factors influencing IFRS comparability, which should be factored into future cross-country studies.

INTRODUCTION

The dramatic increase in global investment activities demands for more comparable accounting information across countries, which was the primary motivation for the creation of the International Accounting Standard Board (IASB) and its predecessor, the International Accounting Standards Committee (IASC) (Camfferman & Zeff, 2007). According to the IASB, its mission is to improve accounting standards comparability across countries by creating "a single set of high quality, understandable, and enforceable global accounting standards that requires transparent and comparable information in general purpose financial statements" (IASB, 2010).

After decades of efforts, the IASB's International Financial Reporting Standards (IFRS) have been adopted or accepted by over 130 countries and all major stock exchanges in the world (IASB, 2015). Several studies have examined whether the widespread adoption of IFRS has led to increased information comparability, and generally conclude that accounting information comparability is affected by both standard quality and reporting environment (Ball, 2006; Barth, Landsman, & Lang, 2008; Bradshaw & Miller 2008). Code law versus common law legal systems is frequently used as a proxy for the reporting environment. While the difference in legal

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systems captures an important dimension of the reporting environment, namely investor protection, it does not capture all important dimensions of the reporting environment, and can be misleading (Ball et al. 2003). Other factors such as social/economic infrastructure, development of information intermediaries and institutional investors, integrity of management and local government, honesty, transparency, and accountability of politics, and degree of corruption may also affect reporting quality. These factors are more closely related to levels of economic development than to legal systems (Aidt 2009, Blackburn et al. 2006). Given the significant variations in levels of economic development across countries with the same legal origin, this study extends the comparability literature by examining the effect of another dimension of the reporting environment, namely levels of economic development on IFRS information comparability. We hold the legal systems variable constant by focusing on a single code law legal jurisdiction. Specifically, we examine the effect of variations in levels of economic development across regions in China on information comparability when Chinese Accounting Standards (CAS) substantially converged with IFRS in 2007. We choose China for our study because there are significant variations in levels of economic development across regions in China (He, Wong, & Young, 2012), which allow us to test the effect of levels of economic development on information comparability upon IFRS convergence without the need to control for country-level characteristics. In addition, since the institutional environment in China where accounting plays more of a contracting role is incompatible with that underlying IASB's conceptual framework, which emphasizes the informational role of accounting, our findings can shed further insight on IFRS information comparability in an incompatible institutional environment.

The comparability measure used in this study was developed by De Franco, Kothari, and Verdi (2011) and was subsequently used in several comparability studies (Barth et al., 2012; Yip & Young, 2012; Francis, Pinnuck & Watanabe, 2013). We compute cross-country comparability scores for Chinese companies using firm-pairs of companies from Mainland China (A shares) and Hong Kong (HK shares) matched by industry and size. We choose A-HK pairs to compute comparability scores for two reasons. First, since Hong Kong adopted IFRS in 2005 and with China following in 2007, it gives us a unique test window, i.e., 2006, allowing us to isolate the effect of comparability gain from IFRS convergence in China by holding the standard variable in Hong Kong constant. That is, since the accounting standard variable is constant in Hong Kong during the sample period, any changes in information comparability will likely be attributable to IFRS convergence in China. Second, while Mainland China and Hong Kong are one country, they have different legal systems and levels of investor protection: Mainland China has a code law legal system with low investor protection whereas Hong Kong has a common law legal system with high investor protection (He et al., 2012). This setting also enables us to gain additional insights regarding IFRS information comparability across different legal origins.

Based on 47,452 pairs of comparability scores for the sample periods of 2006 (pre-IFRS convergence period) and 2010-2012 (post-IFRS convergence period), we document significant evidence on the relationship between levels of economic development and IFRS information comparability upon IFRS convergence in China. Specifically, comparability is higher for firms from more developed regions in the pre-IFRS convergence period, but not in the post-IFRS convergence periods. Furthermore, the relative magnitude of improvement in information comparability upon IFRS convergence is greater for firms from less developed regions. To the best of our knowledge, we are the first to examine the effect of withincountry variations in economic development on IFRS information comparability. Contrary to the popular belief, our findings suggest that firms from less developed regions in a code law legal jurisdiction actually have more to gain from IFRS convergence. Given that many jurisdictions that have not yet adopted IFRS are economically less developed countries with code law legal origins, our findings should be relevant to both standard setting bodies in these jurisdictions and the IASB.

This study contributes to the IFRS comparability literature in three ways. First, prior comparability studies frequently use code law versus common law legal systems as a proxy for reporting environment and find IFRS information comparability is affected by the difference in legal systems across countries. We document significant evidence suggesting that IFRS information comparability is also affected by levels of economic development. Since there are significant variations in levels of economic development across countries with the same legal

origin, our findings suggest that future cross-country IFRS comparability studies should also control for the effect of levels of economic development. Second, we find companies from economically less developed regions actually benefit more from IFRS convergence than companies from more developed regions. This finding contributes to the understanding of how the imbalance in economic development within a country relates to IFRS information comparability, which has not been addressed in the extant comparability literature. Since jurisdictions that have not yet adopted IFRS are largely less developed economies, our findings should be relevant to standard setting bodies in these countries and the IASB. Finally, using the A-HK firm-pair design for computing comparability scores, we find significant improvement in cross-country information comparability for companies from different legal origins, whereas prior comparability studies were inconclusive in such settings (Barth et al., 2012; Yip & Young 2012).

In addition to using a single-country setting to hold the legal system variable constant, we also performed additional sensitivity tests to control for comparability measures, ownership structures, firmlevel characteristics, and potential simultaneous correlations across firms and over time in our panel data. Our conclusions are unaltered.

The remainder of the study is organized as follows. The next section reviews the IFRS information comparability literature and develops the model. Sample selection procedures and the data are then described, followed by empirical tests and results. The last section summarizes and concludes the paper.

LITERATURE REVIEW AND MODEL DEVELOPMENT

Literature on IFRS Comparability and the Reporting Environment

Over the last two decades, globalization of financial markets has increased the demand for more comparable financial information. Over 130 countries have either adopted or permitted the use of IFRS with the stated objective of providing "a high degree of transparency and comparability of financial statements and hence an efficient function" of the capital market (European Union 2002: Art.1). The widespread adoption of IFRS has stirred up research interest on whether greater standard comparability has led to improved information comparability and whether the improved information comparability has led to increased capital market efficiency. Several studies find improved comparability upon IFRS adoption and a corresponding improvement in market efficiency (e.g., Barth et al., 2012; Yip & Young, 2012; DeFond et al., 2011; De Franco et al., 2011). These studies generally use a cross-country setting and suggest that both accounting standards and the reporting environment affect cross-country information comparability.

Legal origin is frequently used as a proxy for reporting environment in comparability studies (Barth et al., 2012; Yip & Young, 2012). While legal origin reflects, to certain degree, levels of investor protection, it provides an incomplete picture of the reporting environment, and can be misleading (Ball et al. 2003). There are other factors that may also affect reporting quality, but are not captured by the differences in legal origin. These factors include, but not limited to, social/economic infrastructure, development of information intermediaries and institutional investors, integrity, honesty, transparency, and accountability of politics, and degree of corruption. These factors are not captured by the simple classification of code law versus common law legal system. Instead, they are more closely related to levels of economic development (Aidt 2009, Blackburn et al. 2006). Furthermore, there are significant variations in levels of economic development across countries with the same legal origin, and many of IASB's constituents are developing countries with code law legal origins. Therefore, it would be interesting to understand whether IFRS information comparability is also affected by levels of economic development after controlling for differences in legal origin.

The Imbalance in Economic Development across Regions in China

This study extends the comparability literature by examining the effect of variations in levels of economic development on IFRS information comparability after controlling for the difference in legal origin. Specifically, we test whether information comparability varies with respect to the different levels of economic development across regions in Mainland China. We choose China for our study for three reasons. First, by focusing on a single code law legal jurisdiction, we avoid the confounding effect of different legal origins on information

comparability in cross-country studies. Second, China is the world's largest developing economy and there are significant variations in economic development across regions within China. Fast-growing coastal regions are generally more developed in social/economic infrastructure, informational intermediaries, and institutional investors with less local government involvement than underdeveloped inland regions (He et al. 2012). This imbalance in economic development in Mainland China gives us an opportunity to test the effect of levels of economic development on IFRS information comparability without the need to control for potential confounding country-level factors that otherwise affect the validity of the test results (He et al., 2012). Finally, the informational environment in China is incompatible with that of IFRS because accounting plays a more powerful contracting role in Mainland China than the informational role underlying IASB's conceptual framework (He et al., 2012; Bruggemann et al., 2013). In summary, by focusing on Chinese companies, we can contribute to the understanding of how firms from less developed economies with a code law legal origin can benefit from IFRS adoption without the need to control for country-level differences in cross-country studies.

We use NERI index developed by Fan, Wang, & Zhu (2011) to measure the level of economic development across regions in China. NERI has been used in several recent studies as a proxy for regional development of market-based institutions and information intermediaries. For example, Bushman et al. (2013) uses the index as an indicator of the degree of bank market development; Luo, Wang, & Zhang (2013) use it as a measure of regional development of market-based institutions; and Lee, Walker, & Zeng (2013) use the index to assess the level of government decentralization and credit market development in different provinces of China. Key dimensions used in constructing the index are government and market relations, development of the non-state enterprise sector, development of commodity markets, factor markets, and market intermediaries. We use the aggregate index instead of component indicators because several key components of the index are related either directly or indirectly to levels of economics development. While not tabulated, our conclusions are unaltered using NERI component indicators instead of the composite index.

Empirical Models

We examine the relationship between levels of economic development and IFRS information comparability by addressing three related research questions. First, we examine whether overall information comparability is higher for firms from more developed regions. Our second research question examines whether information comparability improves for firms from both more developed and less developed regions upon IFRS convergence in China. Our last research question examines the difference in relative magnitudes of comparability improvement between companies from more developed and less developed regions upon IFRS convergence. These research questions are relevant because they are critical to the understanding of how the imbalance in economic development within a country relates to IFRS information comparability.

Comparability studies generally use either input-based measures or output-based measures in assessing accounting comparability (De Franco et al., 2011; Bradshaw & Miller, 2008; Bradshaw, Miller, & Serafeim, 2009). When input-based comparability measures such as accounting methods are used, researchers must decide which accounting choices to use, how to weigh them, and how to account for variations in their implementation. To avoid such challenges, this study adopts the output-based comparability metrics developed by De Franco et al. (2011) and used subsequently by several comparability studies (Barth et al., 2012; Yip & Young, 2012, Wang, et al., 2016). Specifically, we compute comparability scores (*CompAcc*) based on firm-pairs of companies from Mainland China (A shares) and Hong Kong (HK shares) matched by the two-digit SIC code and firm size. To examine whether levels of economic development are positively related to information comparability, we divide sample firms into more developed regions and less developed regions subsamples based on NERI index (Fan et al. 2011), and then compare the mean and median comparability scores between the two subsamples. While this study's single-country design mitigates the cross-country differences that affect comparability, the literature suggests that firm-level characteristics also affect information comparability. Consequently, we use the following regression equation to assess the effect of levels of economic development on comparability after controlling for firmlevel characteristics:

$$CompAcci,,t = \beta0 + \beta1 * EconLeveli,j,t + \beta2 * Sizediffi,j,t + \beta3 * Size\_mini,j,t + \beta4 * Leveragediffi,j,t + \beta5 * Leverage\_mini,j,t + \beta6 * MTBV\ diffi,j,t + \beta7 * MTBV\_\ mini,j,t + \beta8 * CFOdiffi,j,t + \beta9 * CFO\_mini,j,t + \beta10 * Lossprobdiffi,j,t + \beta11 * Lossprob\_mini,j,t + \beta12 * Std\_sales\_diffi,j,t + \beta13 * Std\_sales\_mini,j,t + \beta14 * Stdgrowthdiffi,j,t + \beta15 * Std\_growth\_mini,j,t + \beta_{16} * Std_{CF}O_{diffi,,t} + \beta_{17} * Std\_CFO\_min_i,j,t + \varepsilon_i,j,t \quad (1)$$

EconLevel is a dummy variable which equals to one for firms from more economically developed regions and zero otherwise. The other variables in the equation attempt to control for firm-level differences in firm size, leverage, market value to book value ratio, loss probability, sales, growth, and cash flows from operations. Our primary interest is the coefficient estimate for the economic development variable, β_1. A β_1 value that is significantly greater than zero would indicate that information comparability is positively related to levels of economic development. Given higher levels of economic development are usually accompanied by better infrastructure, more developed informational intermediaries and institutional investors as well as less interference from local government, we expect the coefficient estimate for *EconLevel* to be positive.

To examine whether information comparability improves for firms from both more developed regions and less developed regions upon IFRS convergence in China, we compare comparability score between pre- and post-IFRS convergence periods for both the more developed and less developed regions subsamples, respectively. In addition, to control for firm-level characteristics on test results, we estimate the following regression equation for the more and less developed regions subsamples, respectively:

$$CompAcci,,t = \beta0 + \beta1 * Standardi,j,t + \beta2 * Size\_diffi,j,t + \beta3 * Size\_mini,j,t + \beta4 * Leverage\_diff_{i,j,t} + \beta_5 * Leverage\_min_{i,j,t} + \beta_6 * MTBV\_\ diff_{i,j,t} + \beta_7 * MTBV\_\ min_{i,j,t} + \beta_8 * CFO\_diffi,j,t + \beta9 * CFO\_mini,j,t + \beta10 * Lossprob\_diffi,j,t + \beta11 * Lossprob\_mini,j,t + \beta12 * Std\_sales\_diff_{i,,t} + \beta_{13} * Std\_sales\_min_{i,j,t} + \beta_{14} * Std\_growth\_diff_{i,j,t} + \beta_{15} * Std\_growth\_min_{i,,t} + \beta_{16} * Std\_CFO\_diff_{i,j,t} + \beta_{17} * Std\_CFO\_min_{i,j,t} + \varepsilon_{i,j,t} \quad (2)$$

Standard is a dummy variable which equals to one for post-IFRS convergence periods and zero otherwise. The other variables in the equation are used to control for firm-level differences and are defined the same as above. Our primary interest is the coefficient estimate for the standard variable, β_1, for each of the two subsamples. A β_1 value that is significantly greater than zero would indicate that information comparability improves for that subsample upon IFRS convergence. Based on findings in the comparability literature, we expect β_1 to be positive for the more developed region subsample. Given the weak and mixed findings on comparability improvement for companies from code law legal jurisdictions, it is not clear whether information comparability improves upon IFRS convergence for firms from less economically developed regions in a code law legal jurisdiction. Therefore, we do not make predictions for β_1 for the less developed region subsample, and view it as an empirical issue.

To assess the difference in relative magnitude of comparability improvement between the more and less developed regions upon IFRS convergence in China, we add an interaction term of IFRS convergence and levels of economic development, $Standard_{i,j,t}$ * $EconLevel_{i,j,t}$, to the regression equation. Specifically, we estimate the following regression equation:

$$CompAcc_{i,,t} = \beta_0 + \beta_1 * Standard_{i,j,t} + \beta_2 * EconLevel_{ijt} + \beta_3 * Standard_{i,j,t} * EconLevel_{i,j,t} + \beta_4 * Size\_diff_{i,j,t} + \beta_5 * Size\_min_{i,j,t} + \beta_6 * Leverage\_diff_{i,j,t} + \beta_7 * Leverage\_min_{i,j,t} + \beta_8 * MTBV\_\ diffi,j,t + \beta9 * MTBV\_\ mini,j,t + \beta10 * CFO\_diffi,j,t + \beta11 * CFO\_mini,j,t + \beta12 * Lossprob\_diff_{i,j,t} + \beta_{13} * Lossprob\_min_{i,j,t} + \beta_{14} * Std\_sales\_diff_{i,j,t} + \beta_{15} * Std\_sales\_min_{i,j,t} + \beta_{16} * Std\_growth\_diff_{i,j,t} + \beta_{17} * Std\_growth\_min_{i,j,t} + \beta_{18} * Std\_CFO\_diff_{i,j,t} + \beta_{19} * Std\_CFO\_mini,j,t + \varepsilon i,j,t \quad (3)$$

All other variables are defined the same as above. Our primary interest is in the coefficient estimate of the interaction term of IFRS convergence and levels of economic development, $Standard_{i,j,t}$ * $EconLevel_{i,j,t}$. Since

$Standard_{i,j,t}$ is defined as one for post-convergence periods and $EconLevel_{i,j,t}$ is defined as one for firms in more developed regions, a positive coefficient estimate for the interaction term means that the improvement in comparability is greater for firms from more developed regions upon IFRS convergence in China. Consistent with the literature, we expect the coefficient estimates for $Standard_{i,j,t}$, $EconLevel_{i,j,t}$, and $Standard_{i,j,t} * EconLevel_{i,j,t}$ to be positive.

SAMPLE SELECTIONS AND THE DATA

Our initial sample is obtained from the China Securities Market and Accounting (CSMAR) database. The sample period is from 2003 to 2012. Semiannual data from 2003 to 2006 and from 2007 to 2012 were used to estimate *CompAcc* measures for 2006 (pre-IFRS period) and 2010 to 2012 (post-IFRS periods), respectively. Since Hong Kong adopted IFRS in 2005 with China following in 2007, using 2006 as the preIFRS period allows us to isolate the effect of comparability gain from IFRS convergence in China by holding the standard variable in Hong Kong constant. We exclude financial and insurance firms from the sample because they have special operating characteristics and are subject to special accounting rules and additional regulations. We also exclude Chinese companies listed in Hong Kong (H shares) to minimize the effect of changes in enforcement in Hong Kong on test results. This procedure yields 47,452 pairs of *CompAcc* scores. Sample distribution by industry and year is reported in Table 1. To mitigate the influence of outliers, all regression variables in our final sample were winsorized at 1% and 99% levels.

TABLE 1 SAMPLE DISTRIBUTION

					Industry*
Apparel	100	103	95	85	383
Chemicals	783	792	688	601	2,864
Construction	1,811	2,071	1,980	1,970	7,832
Diversified	259	271	243	243	1,016
Drugs & health care	1,095	1,082	956	943	4,076
Electrical	733	729	664	503	2,629
Electronics	3,098	2,793	2,542	2,624	11,057
Machinery	235	245	0	0	480
			Year		
	2006	**2010**	**2011**	**2012**	**Total**
Metal producers	245	246	246	243	980
Oil & Gas	103	118	95	102	418
Recreation	254	234	252	210	950
Transportation	340	349	318	351	1,358
Utilities	583	628	583	516	2,310
Misc.	2,846	2,900	2,604	2,749	11,099
Total	12,485	12,561	11,266	11,140	47,452

*Industry classification from Worldscope Database.

EMPIRICAL TESTS AND RESULTS

Test of the Relationship Between Levels of Economic Development and Information Comparability

We use Equation 1 to test the relationship between levels of economic development and IFRS information comparability after controlling for firm-level characteristics that may affect comparability. The regression results from ordinary least squares (OLS) regression are reported in the first column of Table 2. The coefficient estimate

for the economic development variable, $EconLevel_{i,j,t}$ is 0.216, significant at 0.01 level. Since it was defined as one for more developed regions, the significantly positive coefficient estimate suggests that the comparability score is higher for the more developed region subsample after controlling for firm-specific characteristics.

TABLE 2 TESTS OF ECONOMIC DEVELOPMENT AND IFRS INFORMATION COMPARABILITY

Variables	***Compacc*$_{i,j,t}$**	
	OLS Regression	**Two-way Clustered**
Intercept	-0.171***	-0.171***
	(-14.42)	(-5.24)
$EconLevel_{i,j,t}$	0.216***	0.216***
	(2.81)	(2.75)
$Size\_diff_{i,j,t}$	0.005***	0.005***
	(11.87)	(7.59)
$Size\_min_{i,j,t}$	0.005***	0.005***
	(9.66)	(3.06)
$Leverage\_diff_{i,j,t}$	-0.038***	-0.038***
	(-9.75)	(-4.06)
$Leverage\_min_{i,j,t}$	-0.109***	-0.109***
	(-24.23)	(-4.55)
$MTBV\_diff_{i,j,t}$	0.001***	0.001***
	(14.82)	(5.85)
$MTBV\_min_{i,j,t}$	0.004***	0.004***
	(11.05)	(7.49)
$CFO\_diff_{i,j,t}$	-0.008	-0.008
	(-1.32)	(-0.58)
$CFO\_min_{i,j,t}$	-0.025***	-0.025*
	(-3.87)	(-1.86)
$Lossprob\_diff_{i,j,t}$	-0.092***	-0.092***

	(-36.86)	(-13.67)
Lossprob_min$_{i,j,t}$	-0.042***	-0.042***
	(-9.79)	(-5.73)
Std_sales_diff$_{i,j,t}$	-0.022***	-0.022***
	(-4.72)	(-2.69)
Std_sales_min$_{i,j,t}$	0.001	0.001
	(0.13)	(0.11)
Std_growth_diff$_{i,j,t}$	0.000***	0.000***
	(16.00)	(6.80)
Std_growth_min$_{i,j,t}$	-0.020***	-0.020***
	(-11.85)	(-7.77)
Std_CFO_diff$_{i,j,t}$	-0.046***	-0.046***
	(-5.42)	(-3.86)
Std_CFO_min$_{i,j,t}$	0.150***	0.150***
	(7.29)	(2.76)
Industry Fixed Effects	Yes	Yes
Observations	47452	47452
Adjusted R^2	0.200	0.200

*, **, *** Denotes statistical significance at the 10%, 5%, and 1% levels, respectively, two-tailed.

The results reported in the first column of Table 2 are from OLS regression using panel data pooled across firms and over time. Standard errors from OLS will be consistent as long as the regression residuals are uncorrelated across firms and over time. However, such uncorrelatedness is unlikely to hold in our research context because of both market-wide shocks that induce correlation between firms and persistent firm-specific shocks that induce correlation over time (Thompson, 2011). To ensure that our results are robust to simultaneous correlation along the two dimensions, we adjust standard errors for correlation across firms and over time by clustering two-way (firm and time) using Petersen's two-way clustered method. We compute covariance estimator by adding the estimator that clusters by firms to the estimator that clusters by time and subtracting the usual heteroscedasticity-robust OLS covariance matrix. Results from the twoway clustered analysis are reported in the second column of Table 2. All major conclusions are unaltered.

Tests of Improvement in Information Comparability Upon IFRS Convergence

This section examines if companies from both more developed regions and less developed regions in China benefit from IFRS convergence. We compare the mean and median comparability scores for the pre- and post-IFRS convergence periods for the two subsamples, respectively. The comparison results are reported in Table 3. The mean and median comparison results between pre- and post-IFRS convergence periods for the more developed and less developed regions subsamples are reported in Columns 1 & 2 and Columns 3 & 4, respectively. Consistent with our prediction, the mean and median comparability scores of the more developed region subsample are significantly higher in the post-IFRS convergence period, suggesting that IFRS convergence improves information comparability for companies from more developed regions in China (see Columns 1 and 2 of Table 3). More importantly, there are also significant improvements in comparability scores for the less developed region subsample (see Columns 3 and 4 of Table 3). The mean (and median) comparability score for the post-IFRS convergence period is -0.081 (0.053), which is significantly higher than that for the pre-IFRS convergence period, indicating that even companies from less developed regions in China, a code law legal jurisdiction, benefit from IFRS convergence. Given a large number of IASB's constituents are developing economies with code law legal origins, our findings should be of interest to the IASB and securities regulators (Ball, 2006). Finally, we notice that the comparability score of the more developed region subsample is significantly higher than that of the less developed region subsample in the pre-IFRS convergence period, but such difference is diminished in the post-IFRS convergence period. This result suggests that firms from less

developed regions may have benefited more from IFRS convergence than firms from more developed regions, which is the subject of our investigation in the next subsection.

TABLE 3 COMPARABILITY SCORE BEFORE AND AFTER IFRS CONVERGENCE

	Compacc$_{i,j,t}$			
	More Developed Regions		**Less Developed Regions**	
	Mean	**Median**	**Mean**	**Median**
Pre-IFRS convergence (Less developed: N=6246; More developed: N=6239)	-0.089	-0.059	-0.092	-0.062
Post-IFRS convergence (Less developed: N=17612; More developed: N=17355)	-0.081	-0.052	-0.081	-0.053
The difference	-0.008***	-0.007***	-0.011***	-0.009***
(T-Value/Wilcoxon Z-Value)	(-6.29)	(-7.39)	(-9.28)	(-10.67)

*, **, *** Denotes statistical significance at the 10%, 5%, and 1% levels, respectively, two-tailed. Differences in means (medians) are assessed using a t-test (Wilcoxon rank sum test).

To ensure that the above comparison results are not driven by firm-level characteristics, we estimated Equation 2 for the more developed and the less developed region subsamples, respectively. The results are reported in Table 4. The coefficient estimates for the accounting standard variable from both OLS regressions and two-way clustered analyses are significantly positive for both subsamples, suggesting that information comparability improves for firms from both more developed and less developed regions in China.

TABLE 4 REGRESSION RESULTS – IFRS CONVERGENCE AND ECONOMIC DEVELOPMENT

Compacc$_{i,j,t}$

Variables	**Less Developed Regions**		**More Developed Regions**	
	OLS	**Two-Way Clustered**	**OLS**	**Two-Way Clustered**
Intercept	0.216***	0.117		
	(2.81)	(1.40)	(2.75)	(1.60)
Standardi,j,t	0.005***		0.005*	
	(4.17)		(1.85)	
Size_diffi,j,t	0.005***	0.005***	0.005***	0.005***
	(11.87)	(11.01)	(7.59)	(5.83)
Size_mini,j,t	0.005***	0.005***	0.005***	0.005***
	(9.66)	(7.96)	(3.06)	(2.71)
Leverage_diff$_{i,j,t}$	-0.038***	-0.038***	-0.038***	-0.038***
	(-9.75)	(-9.66)	(-4.06)	(-3.95)
Leverage_min$_{i,j,t}$	-0.109***	-0.107***	-0.109***	-0.107***
	(-24.23)	(-23.08)	(-4.55)	(-4.40)
MTBV_diff$_{i,j,t}$	0.001***	0.001***	0.001***	0.001***
	(14.82)	(14.42)	(5.85)	(5.89)

MTBV_min$_{i,j,t}$	0.004***	0.004***	0.004***	0.004***
	(11.05)	(11.01)	(7.49)	(7.71)
CFO_diff$_{i,j,t}$	-0.008	-0.007	-0.008	-0.007
	(-1.32)	(-1.23)	(-0.58)	(-0.58)
CFO_min$_{i,j,t}$	-0.025***	-0.022***	-0.025*	-0.022
	(-3.87)	(-3.40)	(-1.86)	(-1.52)
Lossprob_diff$_{i,j,t}$	-0.092***	-0.093***	-0.092***	-0.093***
	(-36.86)	(-37.48)	(-13.67)	(-13.33)
Lossprob_min$_{i,j,t}$	-0.042***	-0.044***	-0.042***	-0.044***
	(-9.79)	(-10.46)	(-5.73)	(-5.67)
Std_sales_diff$_{i,j,t}$	-0.022***	-0.022***	-0.022***	-0.022***
	(-4.72)	(-4.64)	(-2.69)	(-2.70)
Std_sales_min$_{i,j,t}$	0.001	0.002	0.001	0.002
	(0.13)	(0.32)	(0.11)	(0.25)
Std_growth_diff$_{i,j,t}$	0.000***	0.000***	0.000***	0.000***
	(16.00)	(16.07)	(6.80)	(6.94)
Std_growth_min$_{i,j,t}$	-0.020***	-0.020***	-0.020***	-0.020***
	(-11.85)	(-11.70)	(-7.77)	(-7.81)
Std_CFO_diff$_{i,j,t}$	-0.046***	-0.046***	-0.046***	-0.046***
	(-5.42)	(-5.46)	(-3.86)	(-3.86)
Std_CFO_min$_{i,j,t}$	0.150***	0.146***	0.150***	0.146***
	(7.29)	(7.21)	(2.76)	(2.86)
Industry Fixed Effects	Yes	Yes	Yes	Yes
Observations	23858	23858	23594	23594
Adjusted R^2	0.188	0.188	0.215	0.215

*, **, *** Denotes statistical significance at the 10%, 5%, and 1% levels, respectively, two-tailed.

Test of the Relative Magnitudes of Comparability Improvement

This section assesses the relative magnitudes of comparability improvement for companies from more developed and less developed regions in China upon IFRS convergence using Equation 3. The regression results from OLS

regression are reported in Column 1 of Table 5. The coefficient estimates for the economic development variable and the IFRS convergence variable are both significantly positive at 0.01 level, which are consistent with the findings reported in Tables 2 and 3. More importantly, contrary to our prediction, the coefficient estimate for the interaction term, $Standard_{i,j,t}$ * $EconLevel_{i,j,t}$ is -0.572 (significant at 0.01 level), suggesting that companies from less developed regions actually benefit significantly more from IFRS convergence than companies from more developed regions. Prior China studies generally find that companies from less developed regions tend to explore the reporting latitudes more than companies from more developed regions (He et al. 2012). Our findings are consistent with the suggestion that IFRS convergence in China limited such opportunistic behavior, resulting in more comparability improvement for firms in less developed regions. The findings may also be attributable to the simultaneous introduction of enforcement actions by securities regulators when Chinese Accounting Standards converged with IFRS in China. The bundling of IFRS convergence with improvement in enforcement ensures that even companies from less developed regions would apply the IFRS-converged standards rigorously. The findings should be relevant to the securities regulators of those less developed countries with code law legal origins that have not yet adopted IFRS. Our result shows that they can benefit from IFRS adoption particularly if bundled with improvement in enforcement. Results using Petersen's two-way clustered test are reported in the second column of Table 5. The results are substantially the same as those reported in the first column suggesting that the results are not sensitive to the correlations across firms and over time in our panel data.

TABLE 5 REGRESSION RESULTS – IFRS CONVERGENCE AND INFORMATION COMPARABILITY

	$Compacc_{i,j,t}$	
Variables	**OLS Regression**	**Two-way Clustered**
Intercept	0.163***	0.163***
	(-12.95)	(-5.18)
$EconLevel_{i,j,t}$	0.649***	0.649***
	(3.23)	(3.84)
$Standard_{i,j,t}$	0.010***	0.010***
	(4.50)	(2.78)
$EconLevel_{i,j,t}$ □ $Standard_{i,j,t}$	-0.572***	-0.572***
	(-2.80)	(-4.11)
$Size\_diff_{i,j,t}$	0.005***	0.005***
	(10.96)	(5.70)
$Size\_min_{i,j,t}$	0.005***	0.005***
	(7.88)	(2.70)
$Leverage\_diff_{i,j,t}$	-0.038***	-0.038***
	(-9.60)	(-3.94)
$Leverage\_min_{i,j,t}$	-0.106***	-0.106***
	(-22.94)	(-4.40)
$MTBV\_diff_{i,j,t}$	0.001***	0.001***
	(14.41)	(5.93)
$MTBV\_min_{i,j,t}$	0.004***	0.004***
	(10.98)	(7.72)
$CFO\_diff_{i,j,t}$	-0.007	-0.007
	(-1.23)	(-0.58)
$CFO\_min_{i,j,t}$	-0.022***	-0.022

	(-3.40)	(-1.53)
Lossprob_diff$_{i,j,t}$	-0.093***	-0.093***
	(-37.50)	(-13.29)
Lossprob_min$_{i,j,t}$	-0.044***	-0.044***
	(-10.54)	(-5.69)
Std_sales_diff$_{i,j,t}$	-0.022***	-0.022***
	(-4.68)	(-2.70)
Std_sales_min$_{i,j,t}$	0.001	0.001
	(0.18)	(0.15)
Std_growth_diff$_{i,j,t}$	0.000***	0.000***
	(16.23)	(7.02)
Std_growth_min$_{i,j,t}$	-0.020***	-0.020***
	(-11.76)	(-7.89)
Std_CFO_diff$_{i,j,t}$	-0.046***	-0.046***
	(-5.51)	(-3.96)
Std_CFO_min$_{i,j,t}$	0.145***	0.145***
	(7.16)	(2.86)
Industry Fixed Effects	Yes	Yes
Observations	47452	47452
Adjusted R^2	0.201	0.201

*, **, *** Denotes statistical significance at the 10%, 5%, and 1% levels, respectively, two-tailed.

CONCLUSION

Diversity in accounting standards across countries and the ensuing lack of comparable accounting information were the primary reasons for the creation of the IASB. Extant comparability studies find that IFRS adoption generally improves information comparability and that such improvement is affected by legal origins. This study extends the comparability literature by documenting significant evidence that comparability improvement is also affected by levels of economic development. Specifically, we find comparability is higher for firms from more developed regions in the pre-IFRS convergence period, but not in the post-IFRS convergence periods. While comparability improves for firms from both the more and the less developed regions upon IFRS convergence in China, the magnitude of improvement is significantly greater for firms from less developed regions. Given that many jurisdictions that have not yet adopted IFRS are economically less developed countries with code law legal origins, our findings should be relevant to both standard setting bodies in these jurisdictions and the IASB. Our findings also suggest that future comparability studies should also control for levels of economic development in research design.

ACKNOWLEDGEMENTS

We gratefully acknowledge the many valuable inputs and insightful comments on earlier versions of this manuscript from Prof. Jing Lu, Prof. Yang Yi, Prof. Jinsong Tan, Prof. Yan Tan, Prof. Jianguo Wei, Prof. Yuan Zhang, and Prof. Min Xiao.

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