IFRS Adoption, Institutional Quality and Foreign Direct Investment Inflows: A Dynamic Panel Analysis

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ABSTRACT

Manuscript type: Research paper.

Research aims: This study examines whether developing countries that had adopted the International Financial Reporting Standards (IFRS) experience better foreign direct investment (FDI) inflows than non-adopting countries. Linked to that, the study also examines the moderating role of country-level institutional quality in the relationship between IFRS adoption and FDI inflows.

Design/ Methodology/ Approach: A panel data of 116 developing countries covering the period of 1996 to 2013 was used for the empirical analysis. The efficient two-step System Generalised Method of Moments (GMM) estimation technique with Windmeijer corrected standards errors and orthogonal deviations was employed to examine the dynamic empirical relations.

Research findings: Results demonstrate that IFRS adoption, on its own, does not affect the amount of FDI inflows to developing countries. However, from the interaction noted between IFRS adoption and institutional quality, it is observed that countries that

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adopted the IFRS experience better FDI inflows when the institutional quality is present.

Theoretical contribution/ Originality: This study extends knowledge on the IFRS-FDI nexus by examining the role of institutional quality in the relationship.

Practitioner/ Policy implication: The findings of this study suggest that the decision to adopt the IFRS should not be undertaken as a stand-alone strategy. Instead, it should be taken in tandem with other institutional reforms which are aimed at improving institutional quality.

Research limitation/ Implications: Developing countries that have adopted the IFRS as well as those that are planning to adopt it should therefore, consider pursuing rigorous institutional developmental reforms as a means of complementing their adoption decision.

Keywords: Developing Countries, FDI, GMM, IFRS Adoption, Institutional Quality.
JEL Classification: M41, M48

1. Introduction

The need to have a global set of accounting standards that can be uniformly applied by all has been a contentious issue in financial reporting for decades. It is believed that the differences in national accounting standards and practices affect cross-national comparisons of financial information. This issue has been recognised as an important informational barrier to cross-border investment (Ahearne, Griever, & Warnock, 2004). Previous studies (Ahearne et al., 2004; Tweedie & Seidenstein, 2005; Brennan & Cao, 1997) suggest that a greater comparability of accounting information facilitates international transactions, minimises exchange costs and provides a more efficient allocation for resources. Due to the numerous benefits that can be drawn from the comparability of accounting information, many countries, in the last ten years, have chosen to adopt the International Financial Reporting Standards (IFRS). Following the widespread adoption of the IFRS, several studies (Ahmed, Neel, & Wang, 2013; Barth, Landsman, & Lang, 2008; Chen, Tang, Jiang, & Lin, 2010) began investigating the economic consequences of the IFRS adoption, but mostly at the firm-level. Nonetheless, the macroeconomic implications particularly, the cross-border investment benefits of the IFRS adoption, have recently,

received much research attention. At its evolution stage, studies (Chen, Ding, & Xu, 2014; Gordon, Loeb, & Zhu, 2012; Louis & Urcan, 2014; Márquez-Ramos, 2011; Zhu, 2014) generally suggest that countries that adopt the IFRS experience better FDI inflows than non-adopting countries.

The key argument generated by these studies imply that differences in national accounting standards constitute an important source of information asymmetry for foreign investors which discourages investments in foreign markets. The adoption of the IFRS by countries is therefore considered to be relevant in reducing such asymmetric information thereby promoting FDI inflows. While the link between the adoption of the IFRS and FDI inflows has received some empirical support, the role that quality institutions play in the IFRS-FDI inflow nexus is yet to be ascertained. As Cieslewicz (2014) observed, the accounting system of a country does not exist independently of the influences of that particular country's underlying institutions. This implies that quality institutions are critical for the accounting system of a country to function. According to Wysocki (2011), the form, efficiency, and quality of any accounting system are influenced in part by other institutions. Without strong supporting institutions, the financial reporting in a country is likely to be ineffective. In line with this belief, Wehrfritz and Haller (2014) argued that institutional factors may directly influence the application of the IFRS and its economic outcomes.

Based on the above arguments, prior studies (Soderstrom & Sun, 2007; Wysocki, 2011; Wehrfritz & Haller, 2014) have suggested that examining the economic consequences of changing accounting standards should not be done in isolation of the underlying institutions. While the effect of quality institutions on foreign investment attraction has been established in literature (Buchanan, Le, & Rishi, 2012; Morrissey & Udomkerdmongkol, 2012; Bénassy-Quéré, Coupet, & Mayer, 2007; Asiedu, 2006; Busse & Hefeker, 2007; Daude & Stein, 2007), the exact role that quality institutions play in the relationship between IFRS adoption and FDI inflows, has remained unclear. Due to this lack of certainty, the current study aims to address the gap by examining the moderating role of quality institutions in the IFRS-FDI nexus. Specifically, this study makes reference to the six indicators of institutional quality (political stability and absence of violence, voice and accountability, government effectiveness, regulatory quality, rule of law, and control of corruption) as proposed by the World Governance Indicators to be particularly relevant when examining the relationship between IFRS adoption and

FDI inflows. It is hypothesised that the adoption of the IFRS alone, by a country, may not be adequate in promoting FDI inflows unless there is support from strong institutions. Accordingly, it is predicted that a strong institutional infrastructure base that is characterised by low level corruption, stable political environment, effective governance, quality regulation, rule of law enforcement, and the liberty of the masses to freely express themselves, is critical in attracting FDI inflows to a country, post-IFRS adoption.

To examine the empirical relations, this study employs the dynamic panel Generalised Method of Moments (GMM) estimator together with the Windmeijer corrected standard errors and orthogonal deviations. The GMM estimation technique enables the study to correctly model the FDI inflows as a dynamic variable, thereby accounting for the possibility of previous inflows influencing future flows. Moreover, the GMM approach also addresses possible endogeneity concerns which previous related studies have mostly ignored. Findings of this study indicate that the IFRS adoption, on its own, does not affect the amount of FDI inflows to a country. In line with the expectations of this study however, the interaction of the IFRS adoption and institutional quality, has a positive influence on FDI inflows. This is an indication that quality institutions can favourably alter the relationship between the IFRS adoption and FDI inflows. Thus, findings of this study have shown empirically that the economic benefit of adopting IFRS at country level depends on the strength of a country's institutions contrary to existing studies that sought to portray that merely adopting IFRS is enough to attract FDI inflows to a country.

This paper contributes to literature by examining the moderating role of country-level institutional quality on the IFRS adoption and FDI inflows nexus using data from several developing countries across the world. Unlike prior studies that only examined the effect of IFRS adoption on FDI inflows, this study highlights the conditions under which developing countries can harness the economic benefits of adopting the IFRS. Employing data from developing countries is relevant as prior IFRS studies have largely been restrictive and particularly skewed towards developed economies, especially member states of the European Union (Barth & Israeli, 2013; Barth et al., 2008; Chen et al., 2010; Christensen, Hail, & Leuz, 2013). Developing countries are essentially different from the developed world and there exist wide variations both at country-level and firm-level governance mechanisms (Aggarwal, Klapper, & Wysocki, 2005). Most developed economies for

instance, already had very sophisticated domestic accounting standards before adopting the IFRS. Thus, on average, the impact of the IFRS adoption in developing countries could be greater than developed countries (Gordon et al., 2012; Ismail, Kamarudin, van Zijl, & Dunstan, 2013).

The findings in this study have very important implications. First, the results demonstrate that the type of accounting standards that are applicable in a country can be helpful in promoting FDI inflows to that country. Second, understanding the link between adoption of the IFRS and quality of the country's institutions is key to identifying the medium through which a country can enhance cross-border investment benefits, upon adopting the IFRS.

The remainder of this paper is organised as follows: Section 2 reviews prior related literature and develops the hypotheses for the study; Section 3 describes the research design and data. Section 4 discusses the results and Section 5 concludes the study.

2. Related Literature and Hypotheses Development

2.1 IFRS Adoption and FDI

Empirical studies focusing on IFRS adoption and FDI inflows are limited, fairly recent and they emerged out of the necessity to provide country-level evidence of the IFRS impact. While the primary benefit of adopting a single set of international accounting standards is to enhance financial statements' comparability for users across countries (Horton, Serafeim, & Serafeim, 2013), it has been argued that a worldwide adoption of IFRS would facilitate cross-border investment flows (Bova & Pereira, 2012; Tweedie & Seidenstein, 2005). Two different strands of economic theories: the Information Asymmetry Theory and Dunning's Eclectic Paradigm (OLI paradigm) have been the dominant theories employed by existing studies in examining the IFRS-FDI link. From the perspective of the Information Asymmetry theory, it has been argued that differences in national accounting standards and practices constitute an important source of information asymmetry to foreign investors (Ahearne et al., 2004). On the basis of this notion, studies (Chen et al., 2014; Gordon et al., 2012) have thus suggested that a collective adoption of the IFRS by countries could lead to a reduction in information asymmetries between firms and their external parties (domestic and foreign investors). This can therefore, increase the attractiveness of such countries to FDI inflows (Gordon et al., 2012). Usually, the fear of

making an adverse selection by a foreign investor due to the existence of information asymmetry may discourage investors from exploring foreign markets. Therefore, a decrease in the information asymmetry that is obtained by a country, after its IFRS adoption, can reduce the perceived risks of investors considering to invest in that country. This, indirectly, lowers the overall cost of doing business in that country. Economies where the general cost of doing business is relatively low are more attractive destinations to foreign investors.

From the perspective of the OLI paradigm, the accounting system used by a country is considered to be a major component of the country's institutional infrastructure. It has a critical role in enhancing the country's locational attractiveness to foreign investment inflows (Chen et al., 2014). Investors are typically attracted to locations where the accounting information quality is high. This is because the provision of quality accounting information is a reflection of the level of a country's corporate transparency (Chipalkatti, Le, & Rishi, 2007). Since highly transparent countries are more preferred as destinations by foreign investors (Gelos & Wei, 2005), the adoption of IFRS should enhance the locational attractiveness of the country. Against the background that existing empirical studies can associate IFRS adoption with improvement in reporting quality, as compared to most national accounting standards (Barth et al., 2008; Chen et al., 2010; Chua, Cheong, & Gould, 2012), it thus appears that IFRS adoption could also promote the overall FDI inflows to a country. On the basis of this argument which is consistent with other existing empirical studies (Márquez-Ramos, 2011; Chen et al., 2014; Gordon et al., 2012), the current study predicts that to the extent that a country's adoption of the IFRS can improve the comparability and quality of the country's accounting information, and subsequently reduces information asymmetries to foreign investors, it should enhance the attractiveness of the adopting country to foreign investors. Thus, the first hypothesis formulated is:

H_1: There is a positive relation between adoption of IFRS by a country and total amount of FDI inflows to that country.

2.2 IFRS Adoption, Institutional Quality and FDI Inflows

While the benefits of adopting high-quality accounting standards have received some empirical support, it has also been argued that high-quality accounting standards alone may be insufficient for achieving any

economic outcome unless they are supported by a strong institutional framework. For instance, Akisik (2013) argued that an effective regulatory environment, consisting of a legal framework, good auditing and ethical standards, and competent accounting professionals, are crucial in enhancing the benefits of adopting high-quality accounting standards. It has been acknowledged in prior studies (Cieslewicz, 2014; Wehrfritz & Haller, 2014; Walker, 2010; Wysocki, 2011) that accounting, in general, does not exist independently of the influence of other variables, especially the underlying institutions. As argued by the proponents of '*New Institutional Accounting*' research (Wysocki, 2011; Cieslewicz, 2014; Wehrfritz & Haller, 2014), there is an interrelationship between institutions and the effective application of IFRS. From another perspective, Wysocki (2011) points out that the implementation of IFRS is likely to be ineffective in a country that has weak institutional infrastructure and predicts the likelihood of negative spillover effects for other countries in the IFRS network. In line with this belief, Wehrfritz and Haller (2014) posited that institutional factors may directly influence the application of IFRS and its economic outcomes.

Since studies suggest that the adoption of IFRS alone may be of little consequence in terms of economic outcomes unless it is supported by a strong institutional framework and that the quality of institutions is believed to be closely related to reducing information asymmetries (Busse & Hefeker, 2007), it can be deduced that institutions may be critical in enhancing cross-border investment benefits of IFRS. Thus, the hypothesis formulated is:

H_2: Quality institutions moderate the relationship between IFRS adoption and FDI inflows to a country.

3. Research Design

3.1 Sample Selection and Data

This study focuses on all countries that are classified as developing economies by the United Nations statistical division criteria. Consequently, a total of 116 developing countries were included in the final empirical analysis, purely due to data availability (see Appendix A for details). This study relies on secondary data sources for the analysis. Data on the FDI was sourced from the World Development Indicators (WDI) database published by the World Bank. Data on the IFRS adoption status of countries were obtained from the Internet database

of IAS Plus, operated by Deloitte Global Services Limited (http://www.iasplus.com/en-us) and the websites of PricewaterhouseCoopers, IFRS Foundation and IASB. These sources provide relevant information on the IFRS adoption status of countries. Data on institutional quality was obtained from the World Governance Indicators, published by the World Bank. With the exception of data on capital account openness which was sourced from Chinn and Ito's Index (Chinn & Ito, 2008), data for all other control variables for the current study were obtained from the WDI database.

3.2 Empirical Specification

A panel data of the sampled countries, covering the period of 1996 to 2013 was employed to analyse the study objectives. We chose the year 1996 as the base period for the study because that is the year that data on institutional quality measures for the study became available. Also, the year 2013 was chosen as the cut-off point for data collection since at the time of the study, the most recent data for most of the study variables were available up to that year only. The data were transformed from the 18-year annual observations to three non-overlapping years, from 1996 to 2013. In total, this provided a six-time period data for the empirical analysis i.e., years 1996-1998, 1999-2001, 2002-2004, 2005-2007, 2008-2010 and 2011-2013. We averaged the dataset to minimise the impact of data volatility on our estimations and at the same time, to smoothen the effect of strong cyclical factors that may be present in the yearly data (Ali, Fiess, & MacDonald, 2010; Law & Habibullah, 2009). Averaging the data also reduces the number of observations with zeros or missing values which would otherwise, have been omitted from the regression models. To examine our empirical relations, a linear dynamic panel regression model, which captures the effect of lagged FDI inflows similar to prior studies (Busse & Hefeker, 2007; Asiedu, 2013; Lucke & Eichler, 2016; Asiedu & Lien, 2011), is estimated as follows:

$$y_{it} = \alpha_1 y_{it-1} + \alpha_2 IFRSDUMMY_{it} + \alpha_3 INSTQUA_{it} + \alpha_4 (IFRSDUMMY_{it} * INSTQUA_{it}) + \alpha_5 CONTROLS_{it} + \varepsilon_{it}$$

Where y_{it} is the dependent variable FDI inflows measured as the log of net FDI inflows expressed as a percentage of GDP. y_{it-1} represents the first lag of the dependent variable y and α_1 represents the coefficient of the lag of FDI. IFRSDUMMY captures the adoption of IFRS by a country. This was measured as a dummy '1' if the country has adopted

IFRS and '0' otherwise. The variable 'INSTQUA' represents the proxy for institutional quality. There are six indicators of country-level institutional quality: voice and accountability (VOICE), political stability and absence of violence (PSTAB), government effectiveness (GOVT), regulatory quality (REGQUA), rule of law (RULELAW) and control of corruption (CORRUPT). To measure institutional quality, each of the indicators was individually measured on a scale of -2.5 to 2.5 with higher values denoting better institutions. Similar to prior studies (Agbloyor, Gyeke-Dako, Kuipo, & Abor, 2016; Kose, Prasad, & Taylor, 2011), a composite measure was obtained by computing the simple average of the six indicators. α_4 represents the coefficient of interaction of IFRS adoption and institutional quality. CONTROLS is a vector of control variables capturing the known set of FDI determinants other than IFRS adoption and institutional quality whilst the error term in the regression model is represented by ε_{it}.

3.3 Selection of Control Variables

Empirical studies on the determinants of FDI have identified a number of factors that explain differences in FDI flows across countries. Despite the considerable amount of research done on FDI determinants, there is still no agreement on one common theoretical model that can be used on the determinants of FDI flows (Busse & Hefeker, 2007; Gordon et al., 2012). Nonetheless, variables such as: openness to trade (TRADEOPEN) is usually measured by the ratio of imports and exports to GDP (Agbloyor, Abor, Adjasi, & Yawson, 2013; Busse & Hefeker, 2007; Gordon et al., 2012); natural resources endowment (NATURES) is measured as total natural resource rents as a percentage of GDP (Asiedu, 2006; Lucke & Eichler, 2016); level of infrastructural development (INFRAS) is measured by the number of mobile cellular subscriptions (per 100 people) (Asiedu, 2002; 2006; Gordon et al., 2012); financial openness (FINOPEN) is measured by the degree of capital account openness of a country (Agbloyor et al., 2013); market size is measured by GDP per capita (GDPPC) (Busse & Hefeker, 2007; Gordon et al., 2012; Lucke & Eichler, 2016); and macroeconomic policy inadequacies is often proxied by inflation (INFLATION) (Busse & Hefeker, 2007). All these are part of the variables that have been documented predominantly by existing studies as they were observed to have significant associations with FDI inflows, on a persistent basis. All these variables are included in this study as controls in our estimated model. A detailed description of each variable, measurement and data source, is provided in Table 1.

Table 1: Variable Description, Measurement and Source of Data

Variable	Measurement	Source
FDI	Natural logarithm of net inflows of foreign direct investment scaled by GDP	World Development Indicators (WDI) database published by World Bank
TRADEOPEN	Absolute value of exports plus imports as percentage of GDP	World Development Indicators (WDI) database published by World Bank
GDPPC	Natural logarithm of gross domestic product per capita in constant US dollars as a percentage of population	World Development Indicators (WDI) database published by World Bank
FINOPEN	The index ranges from −1.83 to +2.5. The higher the value the more open a country is to cross-border capital transactions	Chinn and Ito (2008)
INSTQUA	The simple average of six dimensions of worldwide governance indicators: VOICE, PSTAB, GOVT, REGQUA, RULELAW, CORRUPT	The Worldwide Governance Indicator database 2010 prepared by Daniel Kaufmann, World Bank Economics Research Group (Kaufmann, Kraay, and Mastruzzi, 2010)
INFLATION	Annual growth rate of the GDP implicit deflator	World Development Indicators (WDI) database published by World Bank
NATURES	Sum of oil rents, natural gas rents, coal rents, mineral rents, and forest rents as a percentage of GDP	World Development Indicators (WDI) database published by World Bank
INFRAS	Number of mobile cellular subscriptions per 100 people	World Development Indicators (WDI) database published by World Bank
IFRSDUMMY	Dummy variable equal to 1, if a country has adopted IFRS; 0, otherwise.	IAS Plus, http://www.iasplus.com/country/useias.htm, IASB and IFRS, http://go.ifrs.org/global-standards, PricewaterhouseCoopers, www.pwc.com

3.4 *Empirical Method of Estimation*

In this study, the Generalised Method of Moments (GMM) estimation technique is used to estimate the dynamic empirical relations. Developed by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998), the GMM estimators have been used increasingly in recent times due to its superior advantage as an estimation technique. The GMM estimator can effectively handle the problem of unobserved heterogeneity; it allows for a dynamic relation of the dependent variable while also controlling for endogeneity biases (Wintoki, Linck, & Netter, 2012). Thus, the GMM estimators avoid the dynamic panel bias besides handling critical modelling issues such as fixed effects and endogeneity of explanatory variables better (Nickell, 1981; Roodman, 2006). Due to its inherent flexibility, the GMM also accommodates unbalanced panels and controls heteroskedasticity and autocorrelation (Roodman, 2006).

Specific to this study, the GMM technique is employed for two reasons. First, the GMM is helpful in addressing the endogeneity concerns of all the potential endogenous variables in the study. The decision to adopt IFRS is considered to be an attempt by developing countries to signal to the international community about the transparency in reporting practice with the aim of attracting funding (Lamoreaux, Michas, & Schultz, 2015). This means that the adoption decision is likely to be correlated with the error term in these countries which gives rise to endogeneity issues. In addition, some of the study variables, such as openness to trade, have been found to be theoretically endogenous (Busse & Hefeker, 2007). While the instrumental variable (IV) technique can be used to address endogeneity biases, it is difficult to find appropriate instruments that correlate with only the exogenous variables and not the error term in practice (Butkiewicz & Yanikkaya, 2006). The GMM estimator, however, uses 'internal' instruments that are contained within the panel itself and not outside the immediate data set. Hence, it overcomes the problem of finding appropriate instruments associated with the IV technique (Roodman, 2006; Wintoki et al., 2012). Second, the dynamic panel GMM estimator is appropriate for this study because, it allows for the treatment of the dependent variable for the study (FDI inflows) as a dynamic variable. According to Roodman (2006), the GMM estimator was designed for panel analysis whereby, current realisation of the dependent variable is influenced by past ones. Existing empirical studies suggest that FDI flows can be reinforcing; this

implies that past levels of FDI inflows influence current levels (Agbloyor et al., 2013; Asiedu & Lien, 2011; Busse & Hefeker, 2007).

3.5 Descriptive Statistics and Correlation Analysis

Results from the descriptive statistics of the variables used in the empirical analysis are presented in Table 2. Results show significant variations in the minimum and maximum values of the net FDI inflows to GDP. The total net FDI inflows to developing countries averaged approximately five per cent of the GDP over the study period while the GDP per capita averaged 4,675 US dollars. Among all the variables, GDP per capita recorded the highest variation in data, with a standard

Table 2: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
FDI	703	4.777	6.463	-3.721	82.677
TRADEOPEN	645	0.631	0.145	0.135	0.933
GDPPC	706	4674.820	8445.330	112.734	93200.100
FINOPEN	708	0.000	1.501	-1.889	2.390
INSTQUA	706	-0.366	0.686	-2.116	1.536
VOICE	708	-0.405	0.802	-2.168	1.444
PSTAB	706	-0.361	0.888	-2.514	1.285
GOVT	708	-0.348	0.748	-1.961	2.322
REGQUA	708	-0.326	0.769	-2.229	2.226
RULELAW	708	-0.400	0.760	-2.171	1.747
CORRUPT	708	-0.351	0.744	-1.979	2.346
INFLATION	701	10.718	44.028	-14.631	1048.360
NATURES	691	13.567	16.327	0.001	85.325
INFRAS	708	38.621	44.383	0.000	227.367
IFRSDUMMY	708	0.227	0.420	0.000	1.000

Note: FDI represents the Net inflows of foreign direct investment as scaled by GDP. TRADEOPEN represents openness to trade. GDPPC represents the GDP per capita. FINOPEN represents capital account openness. INSTQUA represents institutional quality. VOICE represents voice and accountability. PSTAB represents political stability. GOVT represents government effectiveness. REGQUA represents regulatory quality. RULELAW represents rule of law. CORRUPT represents control of corruption. INFLATION represents the rate of price change in the economy. NATURES represents natural resource endowment. INFRAS represents level of infrastructural development. IFRSDUMMY is a dummy variable that represents the adoption of IFRS by a country.

deviation of 8,445.33. Each of the six indicators of institutional quality also varied in the minimum and maximum values. The indicator, 'CORRUPT' recorded the highest score of 2.346, while 'PSTAB' recorded the lowest score of -2.5.

Table 3 presents the correlations for the variables used in the study analysis. The results of the pairwise correlation indicate that general multicollinearity is not a major issue as the extent of correlation among the independent variables is very low. Notable exceptions to both correlation matrixes are the six indicators of institutional quality and the aggregate measure of institutions. The six indicators exhibit a high pairwise correlation among each other with the aggregate institutional quality measure. This result is however expected, and also justifies the appropriateness in using the aggregate measure in the empirical analyses.

4.   Empirical Results

The results of the dynamic panel estimations using the System GMM estimator are presented in Table 4. Eight different regression results are shown. The initial result, as shown in the first column of Table 4 (Model 1), reveals the effect of the IFRS adoption on FDI inflows. The result in Model 1 demonstrates an insignificant relationship between the IFRS variable and the FDI inflows. This result suggests that, contrary to our prediction (see H_1), the adoption of the IFRS by a country does not influence the amount of FDI inflows to that country in any way. This outcome contradicts the findings of existing studies which associate IFRS adoption with growth in FDI inflows to countries (Chen et al., 2014; Gordon et al., 2012; Louis & Urcan, 2014; Márquez-Ramos, 2011; Zhu, 2014). Given that the coefficient of the IFRS dummy is also negative, the adoption of IFRS could even be harmful to the investment prospects of adopted countries. While the negative relationship between IFRS adoption and FDI inflows appears unusual, and somehow contradictory to theory, the results emphasise the need to further examine the conditions under which a country may derive the economic benefits of IFRS adoption.

From the results seen in Model 1, the measure of institutional quality was found to be positive and significantly associated with FDI inflows, at 0.01 significance level. This is an indication that quality institutions play an important role in promoting FDI inflows to countries. While the positive relationship between quality institutions

Table 3: Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.00														
2	0.1946*	1.00													
3	0.2328*	0.2360*	1.00												
4	0.1994*	0.4014*	0.3539*	1.00											
5	0.2739*	0.2015*	0.6818*	0.3213*	1.00										
6	0.1907*	0.1524*	0.4266*	0.2348*	0.7962*	1.00									
7	0.2893*	0.0891*	0.5280*	0.1690*	0.7751*	0.5391*	1.00								
8	0.2217*	0.1972*	0.7008*	0.3206*	0.9299*	0.6526*	0.5916*	1.00							
9	0.2781*	0.3033*	0.6365*	0.4462*	0.8891*	0.6756*	0.5215*	0.8845*	1.00						
10	0.2248*	0.1634*	0.6589*	0.2710*	0.9520*	0.6786*	0.7144*	0.9008*	0.8207*	1.00					
11	0.2159*	0.1614*	0.6426*	0.2591*	0.9212*	0.6312*	0.6489*	0.8908*	0.7963*	0.8993*	1.00				
12	-0.0787*	-0.0577	-0.1127*	-0.0618	-0.1836*	-0.1483*	-0.1586*	-0.1633*	-0.1880*	-0.1668*	-0.1370*	1.00			
13	-0.0147	-0.0127	0.0667	-0.0770*	-0.3607*	-0.4618*	-0.1642*	-0.3195*	-0.3577*	-0.2979*	-0.2947*	0.0764*	1.00		
14	0.3264*	0.4693*	0.4926*	0.2571*	0.3145*	0.2178*	0.2158*	0.3309*	0.3127*	0.2965*	0.2794*	-0.1599*	0.0451	1.00	
15	0.0701	0.2337*	0.1224*	0.1186*	0.1292*	0.1155*	0.1055*	0.1075*	0.1293*	0.1231*	0.0940*	-0.0303	0.1179*	0.2779*	1.00

Note: * Represents significance at 5%.
1 represents FDI; 2 represents TRADEOPEN (openness to trade); 3 represents GDPPC (GDP per capita); 4 represents FINOPEN (capital account openness); 5 represents INSTIQUA (institutional quality); 6 represents VOICE (voice and accountability); 7 represents PSTAB (political stability); 8 represents GOVT (government effectiveness); 9 represents REGQUA (regulatory quality); 10 represents RULELAW (rule of law); 11 represents CORRUPT (control of corruption); 12 represents INFLATION; 13 represents NATURES (natural resource endowment); 14 represents INFRAS (level of infrastructural development); and 15 represents IFRSDUMMY.

Table 4: GMM Results IFRS Adoption and FDI Inflows

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Lag of FDI	0.445***	0.392***	0.486***	0.484***	0.462***	0.470***	0.457***	0.511***
	(0.0850)	(0.0643)	(0.0779)	(0.0805)	(0.0830)	(0.0734)	(0.0883)	(0.0787)
TRADEOPEN	0.0329	-0.187	-0.677*	-0.211	-0.00580	-0.577	-0.424	-0.538
	(0.372)	(0.346)	(0.399)	(0.385)	(0.364)	(0.374)	(0.386)	(0.382)
GDPPC	-0.240*	-0.276***	-0.247***	-0.203**	-0.111	-0.114*	-0.106	-0.153
	(0.135)	(0.0870)	(0.0871)	(0.0881)	(0.0698)	(0.0632)	(0.0937)	(0.0952)
FINOPEN	-0.0103	0.00603	0.00114	0.0299	0.0155	0.0180	0.0547	0.0361
	(0.0439)	(0.0375)	(0.0385)	(0.0382)	(0.0329)	(0.0401)	(0.0376)	(0.0365)
INSTQUA	0.935***	0.671***						
	(0.239)	(0.236)						
VOICE						0.371*		
						(0.192)		
PSTAB					0.259*			
					(0.142)			
GOVT								0.313
								(0.206)
REGQUA			0.610**					
			(0.243)					
RULELAW				0.453**				
				(0.212)				
CORRUPT							0.232	
							(0.226)	
INFLATION	0.132	0.162	0.135***	0.0918***	0.426	0.0898***	0.0594**	-0.0390
	(0.551)	(0.587)	(0.0394)	(0.0323)	(0.731)	(0.0287)	(0.0273)	(0.657)
NATURES	0.0119**	0.0103*	0.00870*	0.00531	-0.000391	0.00969*	0.00275	0.00366
	(0.00519)	(0.00528)	(0.00490)	(0.00474)	(0.00402)	(0.00557)	(0.00487)	(0.00403)

Table 4: (continued)

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
INFRAS	0.0947**	0.142***	0.154***	0.125***	0.0860*	0.135***	0.121***	0.111***
	(0.0465)	(0.0407)	(0.0391)	(0.0357)	(0.0437)	(0.0366)	(0.0363)	(0.0395)
IFRSDUMMY	-0.100	0.00556	-0.282	-0.330	-0.548	-0.715*	-0.0958	-0.272
	(0.156)	(0.141)	(0.392)	(0.308)	(0.334)	(0.388)	(0.366)	(0.360)
Interaction		0.575**	0.00575	0.00564	0.0136	0.0127	0.00188	0.00657
		(0.273)	(0.00793)	(0.00697)	(0.0102)	(0.00835)	(0.00852)	(0.00785)
Constant	2.328**	2.313***	1.695***	1.744**	1.241**	0.790	0.893	1.163
	(0.941)	(0.680)	(0.597)	(0.719)	(0.558)	(0.573)	(0.779)	(0.730)
Diagnostics								
Observations	528	528	528	528	528	528	528	528
Number of groups	116	116	116	116	116	116	116	116
Number of instruments	70	71	67	67	66	67	67	66
F	18.19	15.99	21.15	23.46	12.40	22.44	21.84	13.42
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR(1): z (p value)	-3.29	-3.25	-3.51	-3.43	-3.20	-3.45	-3.32	-3.51
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
AR(2): z (p value)	-1.35	-1.43	-1.48	-1.43	-1.45	-1.70	-1.60	-1.61
	(0.178)	(0.152)	(0.139)	(0.152)	(0.147)	(0.089)	(0.110)	(0.108)
Hansen: χ^2 (p value)	68.55	66.70	68.62	65.18	68.45	66.19	73.62	64.72
	(0.210)	(0.258)	(0.120)	(0.188)	(0.105)	(0.165)	(0.057)	(0.174)

Note: Standard errors are in parentheses, ***, **, * represents significance at p<0.01, p<0.05, p<0.1 respectively. FDI represents net inflows of foreign direct investment scaled by GDP. TRADEOPEN represents openness to trade. GDPPC represents log of GDP per capita. FINOPEN represents capital account openness. INSTIQUA represents institutional quality. VOICE represents voice and accountability. PSTAB represents political stability. GOVT represents government effectiveness. REGQUA represents regulatory quality. RULELAW represents rule of law. CORRUPT represents control of corruption. INFLATION represents the rate of price change in the economy. NATURES represents natural resource endowment. INFRAS represents level of infrastructural development. IFRSDUMMY is a dummy variable that represents the adoption of IFRS by a country.

and FDI inflows is well established in literature (Daude & Stein, 2007; Mina, 2007; Busse & Hefeker, 2007; Shah, Ahmad, & Ahmed, 2016; Lucke & Eichler, 2016; Buchanan et al., 2012), it is still unclear if IFRS adoption, in the presence of quality institutions, can positively impact on the amount of FDI inflows to countries. Motivated by the fact that some studies had argued that the effectiveness of the financial reporting system of a county may be dependent on the strength of its institutions, this study further examines if quality institutions can favourably moderate the relationship between IFRS adoption and FDI inflows. Thus, in the subsequent analysis, this study also examines the interactive effect of the IFRS adoption and the institutional quality on FDI inflows. Model 2 presents the results based on the product of the IFRS adoption and the composite measure of institutional quality, as a measure to capture their interactive effect on FDI inflows. In Models 3 to 8, the six indicators of institutional quality are used individually to estimate the regression model.

4.1 The Moderating Effect of Institutional Quality in the Relationship between IFRS Adoption and FDI Inflows

The interaction of institutional quality and IFRS adoption produces very interesting and insightful outcomes. As can be seen in Model 2 of Table 4, the coefficient of the interaction term is positive and significantly associated with FDI inflows (p-value <0.05). This is in sharp contrast to our baseline results, as shown in Model 1. The present result, in effect, demonstrates that quality institutions favourably moderates the relationship between IFRS adoption and FDI inflows. While the economic benefits of adopting IFRS cannot be overemphasised, the positive impact of IFRS adoption on FDI inflows is largely conditioned by country-level institutional quality. By implication, adopting IFRS alone may not be enough to attract investors into a country when its institutional infrastructure is poor. Our findings, therefore, confirm H_2, i.e. country-level institutional quality favourably moderates the impact of IFRS adoption on FDI inflows. From the perspective of the Information Asymmetry theory and the OLI paradigm, it can be noted that while the adoption of IFRS reduces information asymmetry for foreign investors, thereby, improving the locational attractiveness of a country to FDI inflows, the findings of this study demonstrate that institutional quality is key in enhancing the cross-border investment benefits of adopting IFRS.

In the subsequent Models 3 to 8 as shown in Table 4, we examined the effect of each of the six indicators of institutional quality and their interaction with IFRS adoption on the predicted relationship. We conducted these tests to ascertain the relative contribution of each of the six institutional indicators on the estimated results. Results indicate that almost all the institutional quality indicators have a positive and statistically significant relationship with FDI. On the other hand, their respective interaction with the IFRS dummy produces a positive but an insignificant relationship with FDI inflows in all six regressions. The aggregate institutional quality measure favourably alters the impact of the IFRS adoption on FDI inflows. On their own, the individual measures do not significantly influence the IFRS adoption and FDI inflow nexus. These results, therefore, suggest that improvement in all the dimensions of institutional quality in a country is key in harnessing the economic benefits of the IFRS adoption.

Analysis of the results for the control variables demonstrates that the findings are generally consistent with the theories and current literature and are similar across Models 1 to 8 (Daude & Stein, 2007; Mina, 2007; Busse & Hefeker, 2007; Shah et al., 2016). In all the eight regressions, as can be seen from Table 4, the lag of the dependent variable remained positive and significant at one percent level thereby, justifying the appropriateness of using the dynamic panel GMM estimation technique. The level of infrastructural development enters all the eight regressions as significant and with a positive relationship with the FDI whilst natural resource endowment enters four of the eight regressions as positive and significant. This means that countries with good infrastructure base and abundant natural resources are more attractive destinations for the FDI inflows (Ali et al., 2010; Asiedu, 2006; Buchanan et al., 2012; Lucke & Eichler, 2016; Mina, 2007). The GDP per capita also enters five of the eight regressions as significant but with a negative coefficient, contrary to our expectation. Contrary to a number of studies (Chakrabarti, 2001; Onyeiwu, & Shrestha, 2004; Morisset, 2000) that found that economies with high GDP per capita (high growing economies) were more attractive as destinations for foreign investors, this finding suggests that high growing economies may also be less attractive destinations to foreign investors. As Buchanan et al. (2012) explained, the overall costs of doing business in high growing economies is usually high and the high costs tend to discourage foreign investors from investing. Typically, as an economy expands, the standard of living also rises thereby, leading to high labour costs and high

costs of capital. This can ultimately increase the cost of production. All things being equal, economies with high costs of production are often less attractive to foreign investors. Inflation has a positive and significant relationship with FDI. Openness to trade was significant in only one of the regressions whereas the degree of capital account openness remained insignificant in all the eight regressions.

In our last step, we exclusively ascertained the effect of the inter-action term on FDI inflows by dropping the IFRS adoption variable from the regression models. Results of these analyses are presented in Models 9 to 15 as shown in Table 5. Model 9 shows the results from the interaction of the aggregate institutional quality with IFRS adoption, while Models 10 to 15 show results of the interaction of the individual institutional quality measures with IFRS adoption. Generally, the results, as shown in Table 5, are not significantly different from the previous analysis that had included the IFRS adoption variable. Similar to the previous analysis, the interaction of IFRS adoption with the aggregate institutional quality indicator was found to be significant and positively related to FDI inflows, at 0.05 significance level. With the exception of the indicator control of corruption, all the remaining indicators were significant and positively related to FDI inflows while their respective interaction with the IFRS variable remained insignificant in all the regressions (see Models 10 to 15). Again, the lag of the dependent variable remained positive and highly significant at the one per cent level in all the regressions while the output for the control variables is not different from the previous analysis.

4.2 Robustness Check

Sensitivity checks were conducted to examine the robustness of the main findings. An alternative measure of the aggregate institutional quality (weighted average) was used. Specifically, a weighted average index of institutional quality was constructed and used to re-estimate the models. This measure of institutional quality, unlike the simple average index, accounts for the relative contribution of each indicator to the construct 'institutional quality'. Hence, it presents a more reliable and representative measure than the simple average index.

4.3 Construction of Weighted Average Institutional Quality Index

The weighted average institutional quality index was constructed by subjecting the six measures of institutional quality to Principal

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Table 5: GMM Results IFRS Adoption and FDI Inflows After Dropping the Adoption Dummy

VARIABLES	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
Lag of FDI	0.429***	0.476***	0.503***	0.516***	0.441***	0.451***	0.505***
	(0.0799)	(0.0765)	(0.0806)	(0.0835)	(0.0738)	(0.0876)	(0.0817)
TRADEOPEN	-0.0678	-0.733	-0.150	-0.140	-0.501	-0.472	-0.549
	(0.348)	(0.460)	(0.372)	(0.312)	(0.368)	(0.376)	(0.353)
GDPPC	-0.240***	-0.211**	-0.196**	-0.0986	-0.0996	-0.115	-0.182*
	(0.0916)	(0.0888)	(0.0827)	(0.0627)	(0.0616)	(0.0877)	(0.0938)
FINOPEN	-0.00721	0.00761	0.0332	0.0304	0.00938	0.0597	0.0420
	(0.0368)	(0.0377)	(0.0360)	(0.0310)	(0.0389)	(0.0378)	(0.0351)
INSTQUA	0.558*						
	(0.286)						
VOICE					0.474***		
					(0.170)		
PSTAB				0.303**			
				(0.120)			
GOVT							0.430**
							(0.206)
REGQUA		0.573***					
		(0.214)					
RULELAW			0.506***				
			(0.192)				
CORRUPT						0.289	
						(0.212)	
INFLATION	0.0673	0.125***	0.0978***	0.0873***	0.0872***	0.0643**	0.0890***
	(0.546)	(0.0403)	(0.0335)	(0.0277)	(0.0278)	(0.0264)	(0.0326)
NATURES	0.0107*	0.00837*	0.00657	0.000909	0.0104*	0.00406	0.00624
	(0.00645)	(0.00448)	(0.00475)	(0.00357)	(0.00525)	(0.00531)	(0.00476)

Table 5: (continued)

VARIABLES	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
INFRAS	0.116***	0.155***	0.117***	0.0880**	0.120***	0.129***	0.128***
	(0.0417)	(0.0523)	(0.0350)	(0.0368)	(0.0331)	(0.0365)	(0.0328)
INTERACTION	0.591**	-0.00216	-0.00274	-0.000927	-0.00208	-0.000869	-0.000779
	(0.259)	(0.00260)	(0.00345)	(0.00311)	(0.00281)	(0.00300)	(0.00322)
					(0.170)		
Constant	2.135***	1.418**	1.764***	1.072**	0.826	0.930	1.340*
	(0.733)	(0.562)	(0.672)	(0.494)	(0.550)	(0.756)	(0.737)
Diagnostics							
Observations	528	528	528	528	528	528	528
Number of groups	116	116	116	116	116	116	116
Number of instruments	52	67	67	67	67	67	67
F	15.14	21.75	25.06	31.91	31.47	25.10	26.05
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR (1): z	-3.28	-3.58	-3.46	-3.33	-3.36	-3.31	-3.50
(p value)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
AR (2): z	-1.43	-1.49	-1.37	-1.61	-1.89	-1.59	-1.54
(p value)	(0.154)	(0.137)	(0.171)	(0.107)	(0.058)	(0.112)	(0.124)
Hansen: χ^2	50.67	67.32	64.48	72.37	64.58	72.62	67.55
(p value)	(0.169)	(0.143)	(0.232)	(0.082)	(0.229)	(0.079)	(0.160)

Note: Standard errors are in parentheses, ***, **, * represents significance at $p<0.01$, $p<0.05$, $p<0.1$ respectively. FDI represents net inflows of foreign direct investment scaled by GDP. TRADEOPEN represents openness to trade. GDPPC represents log of GDP per capita. FINOPEN represents capital account openness. INSTQUA represents institutional quality. VOICE represents voice and accountability. PSTAB represents political stability. GOVT represents government effectiveness. REGQUA represents regulatory quality. RULELAW represents rule of law. CORRUPT represents control of corruption. INFLATION represents the rate of price change in the economy. NATURES represents natural resource endowment. INFRAS represents level of infrastructural development. IFRSDUMMY is a dummy variable that represents the adoption of IFRS by a country.

Component Analysis (PCA). This is to determine the weight of each component. The PCA procedure is an indicator reduction procedure that normally transforms a number of correlated variables into a smaller set of uncorrelated variables called principal components, which account for most of the variance in a set of observed variables. A summary of the results derived from the PCA is presented in Appendix B. Here, the first principal component that was derived from the six indicators has eigenvalues that are greater than one, accounting for 71.63 per cent of the total variations. This makes it the most appropriate among the other linear combination of the six indicators. Hence, the first principal component of the PCA was used in obtaining the weights for the institutional quality index. Using the weighted average institutional quality index, the regression models were re-estimated and the results are as presented in Table 6.

The first column of Table 6 (Model 16) projects the results of IFRS adoption and FDI inflows, without the interaction term. Model 16 of Table 6 shows the results with the introduction of the interaction term, while Model 17 shows the results with the interaction term after the IFRS adoption variable was dropped. Using the weighted average measure of institutional quality, our empirical findings remained largely the same. The IFRS dummy, on its own, remained insignificantly related to FDI while the interaction of IFRS and weighted average institutional quality index was significant and positively related to FDI, in all instances (with or without the IFRS dummy in the regression).

4.4 Diagnostic Tests

Checks for consistency of the estimates for all the regressions were done using the Hansen test of over-identifying restrictions and the Arellano and Bond test for second-order serial correlation in the error term. Results from these two specification tests clearly indicate that each of the regressions is appropriately specified. As reported in Tables 4, 5 and 6, the results of the Hansen test for over-identifying restrictions in all the regressions failed to reject the null hypothesis (the Hansen test was performed under the null hypothesis that the instruments were valid). This means that the instruments used were valid in all the estimations and there is no correlation between the instruments and the error term. The results of the Arellano-Bond test for autocorrelation in the first difference of residuals, at the first and second orders, as shown in Tables 4, 5 and 6, also confirm the absence of a second order serial correlation

Table 6: GMM Results Using Weighted Average Aggregate Institutional Quality Measure

VARIABLES	Model 16	Model 17	Model 18
Lag of FDI	0.394***	0.392***	0.429***
	(0.0692)	(0.0642)	(0.0799)
TRADEOPEN	0.0365	-0.187	-0.0686
	(0.330)	(0.346)	(0.348)
GDPPC	-0.299***	-0.277***	-0.240***
	(0.0850)	(0.0871)	(0.0913)
FINOPEN	0.0125	0.00697	-0.00648
	(0.0351)	(0.0373)	(0.0367)
INSTQUA	0.889***	0.672***	0.557*
	(0.223)	(0.234)	(0.284)
IFRSDUMMY	-0.165	0.00645	
	(0.114)	(0.141)	
INFLATION	0.366	0.167	0.0707
	(0.701)	(0.589)	(0.549)
NATURES	0.0107**	0.0102*	0.0106
	(0.00541)	(0.00526)	(0.00642)
INFRAS	0.130***	0.142***	0.116***
	(0.0387)	(0.0408)	(0.0417)
INTERACTION		0.568**	0.585**
		(0.272)	(0.259)
Constant	2.704***	2.323***	2.133***
	(0.657)	(0.677)	(0.729)
Observations	528	528	528
Number of groups	116	116	116
Number of instruments	71	71	52
F	15.88	15.91	15.14
Prob>F	0.000	0.000	0.000
AR (1): z	-3.38	-3.25	-3.28
(*p* value)	(0.001)	(0.001)	(0.001)
AR (2): z	-1.31	-1.43	-1.42
(*p* value)	(0.190)	(0.153)	(0.155)
Hansen: χ^2	71.13	66.68	50.72
(*p* value)	(0.176)	(0.258)	(0.167)

Note: Standard errors are in parentheses, ***, **, * represents significance at p<0.01, p<0.05, p<0.1 respectively. FDI represents net inflows of foreign direct investment scaled by GDP. TRADEOPEN represents openness to trade. GDPPC represents log of GDP per capita. FINOPEN represents capital account openness. INSTQUA represents institutional quality. IFRSDUMMY is a dummy variable that represents the adoption of IFRS by country. INFLATION represents the rate of price change in the economy. NATURES represents natural resource endowment. INFRAS represents level of infrastructural development.

in all the regression models. In addition, the number of instruments in all the estimated regressions were less than the respective number of groups. This is in line with the theories (Roodman 2009). Finally, the 'F' test results in all instances also indicate that all the models tested are significant.

5. Conclusion and Recommendations

This study was conducted to provide some evidence of the macro-economic implications of IFRS adoption, across the globe. Specifically, the study provides new evidence on the relationship between IFRS adoption and FDI inflows. This was done by ascertaining the role that country-level institutional quality plays in the relationship. While prior studies acknowledge the existence of the interrelationship between institutions and the effective application of IFRS, studies on the consequences of IFRS adoption have mostly analysed their effects in isolation. Our study filled this important gap of the literature by examining the moderating effect of institutional quality in the IFRS-FDI nexus. Our study predicts that countries which adopt the IFRS experience better FDI inflows than non-adopting countries, and that country-level institutional quality favourably moderates this relationship. A panel data of 116 developing countries covering a period of 18 years, from 1996 to 2013, was employed and the empirical relations were analysed using the dynamic panel GMM estimator.

Unlike most existing studies that found IFRS adoption to be positively related to FDI inflows, our dynamic panel GMM result which addresses endogeneity concerns and also treats FDI as a dynamic variable, showed an insignificant relationship between IFRS adoption and FDI inflows. By implication, when properly modelled, IFRS adoption, on its own, does not affect the amount of FDI inflows to countries. Further, analysis involving the interaction of IFRS adoption and country-level institutional quality, however, yielded a positive and statistically significant relationship with FDI inflows. This confirms that country-level institutional quality favourably moderates the relationship between IFRS adoption and FDI inflows.

This paper makes some important contributions to the accounting and economics literature. First, the study showed that the benefits of adopting IFRS go beyond the traditional firm-level improvement in reporting quality. It further showed that at the country-level, there could be significant benefits in the form of FDI inflows from the adoption of

IFRS. Second, this study highlights the need for accounting researchers to pay careful attention to the important role of institutional quality when investigating the economic consequences of IFRS adoption. Results of this study demonstrated that IFRS adoption alone may not be enough for a country to derive the expected economic benefits unless the country is supported by quality institutions. This study thus empirically supports the existence of the interdependencies between a country's accounting system and the quality of its institutions. The findings have important implications for policy makers in developing countries. As the results suggest, adopting the IFRS for reporting purposes could be helpful in attracting FDI inflows to a country but its adoption alone is insufficient to promote FDI inflows to a country unless institutions are of higher quality. Therefore, it is recommended that the decision to adopt IFRS should not be undertaken as a stand-alone strategy, but in tandem with institutional reforms which are aimed at improving the quality of institutions. Developing countries that have adopted IFRS as well as those planning to do so, should consider pursuing rigorous institutional developments and reforms to complement their adoption decisions. This way, full benefits of IFRS adoption can be enjoyed. An important extension to this study will be to explore the impact of the legal origins of the sampled countries on the estimated results.

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Appendix A: Adoption Status of Sampled Countries

No.	Country	Adoption Status as at 2013		Year
		Yes	No	
1	Algeria	√		2010
2	Argentina	√		2011
3	Armenia	√		2011
4	Azerbaijan	√		2010
5	Bahamas, The	√		2013
6	Bahrain	√		2001
7	Bangladesh		√	
8	Barbados	√		2011
9	Belize		√	
10	Benin		√	
11	Bhutan		√	
12	Bolivia		√	
13	Botswana	√		2003
14	Brazil	√		2010
15	Burkina Faso		√	
16	Burundi		√	
17	Cabo Verde		√	
18	Cambodia	√		2012
19	Cameroon		√	
20	Central African Republic		√	
21	Chad		√	
22	Chile	√		2009
23	China		√	
24	Colombia		√	
25	Comoros		√	
26	Congo, Democratic Republic		√	
27	Congo, Republic		√	
28	Costa Rica	√		2001
29	Cote d'Ivoire		√	
30	Djibouti		√	
31	Dominica		√	
32	Dominican Republic	√		2013
33	Ecuador	√		2008
34	Egypt, Arab Republic		√	
35	El Salvador	√		2011
36	Equatorial Guinea		√	
37	Eritrea		√	
38	Ethiopia		√	
39	Fiji	√		2007

Appendix A: (continued)

No.	Country	Adoption Status as at 2013		Year
		Yes	No	
40	Gabon		√	
41	Gambia, The		√	
42	Ghana	√		2007
43	Guatemala	√		
44	Guinea		√	
45	Guinea-Bissau		√	
46	Guyana		√	
47	Haiti		√	
48	Hong Kong SAR, China		√	
49	India		√	
50	Indonesia		√	
51	Iran, Islamic Republic		√	
52	Iraq		√	
53	Israel	√		2011
54	Jamaica	√		2011
55	Jordan	√		2006
56	Kazakhstan	√		2013
57	Kenya	√		1999
58	Kuwait	√		1991
59	Kyrgyz Republic	√		2009
60	Lebanon		√	
61	Lesotho		√	
62	Liberia		√	
63	Libya		√	
64	Madagascar		√	
65	Malawi	√		2001
66	Malaysia	√		2012
67	Maldives		√	
68	Mali		√	
69	Mauritania		√	
70	Mauritius	√		2001
71	Mexico	√		2012
72	Mongolia	√		2002
73	Morocco		√	
74	Mozambique	√		2010
75	Namibia	√		2005
76	Nepal		√	
77	Nicaragua	√		2007
78	Niger		√	

Appendix A: (continued)

No.	Country	Adoption Status as at 2013		Year
		Yes	No	
79	Nigeria	√		2012
80	Oman	√		1986
81	Pakistan	√		2012
82	Panama		√	
83	Papua New Guinea	√		2001
84	Paraguay		√	
85	Peru		√	
86	Philippines	√		2005
87	Qatar	√		2010
88	Rwanda	√		2008
89	Samoa		√	
90	Saudi Arabia		√	
91	Senegal		√	
92	Seychelles		√	
93	Sierra Leone		√	
94	Solomon Islands		√	
95	South Africa	√		2005
96	Sri Lanka	√		2011
97	St. Lucia	√		2001
98	St. Vincent and the Grenadines		√	
99	Swaziland	√		2012
100	Syrian Arab Republic		√	
101	Tajikistan		√	
102	Tanzania	√		2004
103	Thailand		√	
104	Togo		√	
105	Tonga		√	
106	Trinidad and Tobago	√		1999
107	Tunisia		√	
108	Turkmenistan		√	
109	Uganda	√		1998
110	Uruguay	√		2011
111	Uzbekistan		√	
112	Venezuela, Bolivarian Republic	√		2008
113	Vietnam		√	
114	Yemen, Republic		√	
115	Zambia	√		2008
116	Zimbabwe	√		2010

Appendix B: Principal Component Analysis

Principal Component	Eigenvalue	% of Variance	Cumulative %
1	2.23	71.63	71.63
2	0.36	11.43	83.07
3	0.25	8.00	91.06
4	0.14	4.49	95.56
5	0.09	3.03	98.59
6	0.04	1.41	100.00

Variable	Factor Loading
VOICE	0.38
PSTAB	0.41
GOVT	0.44
REGQUA	0.39
RULELAW	0.42
CORRUPT	0.40