SECRECY, MANDATORY IFRS ADOPTION AND EARNINGS QUALITY

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Abstract

This study examines the effect of mandatory IFRS adoption on earnings quality in countries which exhibit high financial secrecy. Earnings quality is proxied by signed abnormal accruals and earnings conservatism. Using 19,324 firm year observations from 14 countries over the period 1998-2011 and controlling for country level differences in investor protection, we find that firms in a high-secrecy country tend to report higher abnormal accruals and earnings conservatism, which results in lower earnings quality. On the other hand, we find that mandatory IFRS adoption improves earnings quality by decreasing abnormal accruals and earnings conservatism. Our study provides evidence of the interaction between national culture, as indicated by secrecy, and IFRS adoption and helps to explain differences in earnings quality across different jurisdictions following IFRS adoption.

Key Words: *Earnings quality; national culture; secrecy; mandatory IFRS adoption; signed abnormal accruals; earnings conservatism*

Secrecy and Mandatory IFRS Adoption on Earnings Quality

1. Introduction

As at May 2015, over 120 jurisdictions/countries around the world had adopted International Financial Reporting Standards (IFRS) in one form or another (Delloite, 2014). Obviously, all these countries have different cultures and institutional settings. Ball, Robin and Wu (2003) and Ball (2006) suggest that differences in institutional environments are likely to lead to differences in quality of financial reporting even though the same accounting standards are applied. Specifically, there is mixed evidence on the quality of financial reporting following IFRS adoption. While several studies document improved earnings quality following IFRS adoption (e.g., Barth, Landsman and Lang, 2008; Leuz, Nanda and Wysocki, 2003), others provide evidence of either no improvement or a decline in earnings quality (e.g., Gebhardt and Novotny-Farkas, 2011; Jeanjean and Stowlowy, 2008).

In this paper, we investigate the effect of national culture, as indicated by secrecy, on earnings quality following IFRS adoption. In particular, we explore whether mandatory IFRS adoption has any impact on earnings quality in countries with high financial secrecy. Our study is motivated by strong evidence that culture plays an important role in financial reporting choices and quality (Callen, Morel and Richardson, 2010; Desender, Castro and Leon, 2011; Doupnik and Perera, 2009; Feleaga, Dragomir and Fleaga, 2010; Gray and Vint, 1995; Salter and Niswander, 1995). Given that the countries that have adopted IFRS have diverse national cultures (in addition to other institutional differences), it is likely IFRS adoption will not have the same effect on earnings quality across all the adopting countries. There is a lack of evidence on the interaction between national culture and IFRS adoption and therefore our study is likely to inform the debate on why earnings quality varies across countries that have adopted IFRS.

We analyse 19,324 firm year observations across 14 countries over the period 1998-2011. We measure earning quality in two ways: magnitude of signed abnormal accruals and

earnings conservatism. Our measure of financial secrecy is based on the Financial Secrecy Index (FSI) of the National Tax Justice Network (2011). In signed abnormal accruals analysis, we find that signed abnormal accruals are higher in countries with high financial secrecy suggesting higher earnings management. However, the interaction between mandatory IFRS adoption and financial secrecy has a negative impact on earnings management as displayed by abnormal accruals. This result suggests that the effect of financial secrecy on earnings quality is mediated by mandatory IFRS adoption. We find similar results for earnings conservatism. The relation between secrecy and earnings conservatism is positive while the relation between mandatory IFRS adoption and earnings conservatism is negative. Moreover, the interaction between IFRS adoption and financial secrecy suggests that mandatory IFRS adoption decreases earnings conservatism. Our results are robust to several sensitivity tests, including an alternative measure of secrecy, an alternative measure of investor protection and variation in the composition of the sample.

Our study makes a single but important contribution to the cross-country literature on IFRS adoption. Specifically, our study provides evidence on how IFRS adoption can have differential impact on earnings quality depending on national culture, as indicated by the level of financial secrecy. Although the differential impact of IFRS adoption on earnings quality due to differences in institutional environments such as investor protection and enforcement of accounting standards have been documented, our study is the first one to document an interaction between IFRS adoption and national culture.

The remainder of our paper is organized as follows. We set out the theoretical framework and background in section 2 and hypothesis development in section 3. In section 4, we present the research design and sample selection process. We present the results and the results in section 5and, finally, the conclusion in section 6

2. Theoretical framework and hypotheses

Many researchers have addressed issues related to the importance of macro level factors and their impact on economic activity. Macro level factors include investor protection, the taxation system, judicial independence and the legal system, the financing system, and national culture. Several studies report that the legal regime of a country can influence the level of financial disclosure or accounting quality (Ball, Kothari and Robin, 2000; Jaggi and Low, 2000). The Investor protection regime is also a factor influencing earnings quality because lower earnings quality is less likely to occur in countries with stronger investor protection. For example, Hung (2000), using 17,743 firm year observations across 21 countries, finds that there is a negative relation between accrual accounting and the value relevance of financial statements in countries with weak investor protection regime. In addition, Leuz, Nanda and Wyscocki (2003) using data from 31 countries show that countries with 'arm's length' institutional features have lower levels of earnings management than do countries with 'insider' institutional characteristics.

Teets (2002) argues that earnings quality is a multidimensional concept affected by at least three sets of decisions: decisions made by standard setters, choices made by management among accounting methods, and judgments and estimates made by management in implementing the chosen method. In order to evaluate earnings quality, prior studies typically consider the magnitude of signed abnormal accruals (Francis and Wang, 2008, Houqe, van Zijl, Dunstan and Karim, 2012; and earnings conservatism (Givoly and Hayn, 2000; Artiach and Clarkson, 2014). Therefore, in this study we use both these proxies for earnings quality. DeFond and Park (2001) use an abnormal accruals measure and find a higher earnings response coefficient when abnormal accruals suppress the magnitude of earnings surprises, and a lower earnings response coefficient when abnormal accruals exaggerate the magnitude of earnings surprise. Francis and Wang (2008) use signed abnormal accruals analysis to detect the relation between investor protection and earning quality. Jeter and Shivakumar (1999) investigate the effectiveness of using abnormal accruals in detecting event-specific earnings management.

They find that the power of accruals models in detecting event-specific management varies across quarters depending on managerial incentives and opportunities for earnings management. In addition, earnings conservatism is a good indicator for earnings quality. LaFond and Watts (2007) argue that information asymmetry between inside and outside investors creates conservatism in financial statements. Moreover, information asymmetry is significantly positively associated with conservatism after controlling for other demands for conservatism. Thus, given information asymmetry, conservatism increases management manipulation of accounting numbers and thus reduces earnings quality.

2.1. Culture and earnings quality

National culture is considered to be a factor that influences the accounting system of a country. Hofstede (1980) found that four cultural dimensions can be used to describe the similarities and differences across cultures: individualism, power distance, uncertainty avoidance and masculinity. Based on Hofstede's cultural dimensions, Gray (1988) defined four widely recognized accounting values; professionalism, uniformity, conservatism and secrecy. He developed a model of the relation between Hofstede's cultural dimensions and accounting sub-culture and argued that there is a relationship between culture and accounting values. Gray and Vint (1995) tested the effect of culture on accounting information disclosure and found strong relations between societies' culture value (uncertainty avoidance and individualism) and accounting information disclosure.

Several other studies have examined Gray's model and the relationship between Hofstede's culture values and national accounting systems. Salter and Niswander (1995) tested Gray's model and found that it explained actual financial reporting practices but was weak in explaining legal and professional structures. Furthermore, they showed that the development of financial markets and the level of taxation enhance the explanations offered by Gray (1988).

Sudarwan and Fogarty (1996) showed that there is a relation between change in cultural values and change in accounting.

Desender et al. (2011) hypothesize that countries with higher levels of individualism or egalitarianism have lower levels of earnings quality; they also test the other cultural dimensions as part of the robustness analysis. They find evidence that various cultural groups have significant differences in earnings management. In particular, they find that individualism is highly significant and negatively related with earnings management whereas egalitarianism correlates positively with lower corruption and greater transparency in financial markets.

Accounting is clearly affected by organizational and national culture (Asiyaban and Abdoli, 2012). For example, Jaggi and Low (2000) research the impact of culture, market forces, and legal system on financial disclosures. They find that the relationship between the cultural value of individualism and financial disclosures is significant for code law countries but that uncertainty avoidance and power distance do not have significant effects on financial disclosure in either common law or code law countries. Given that the level of financial disclosure by firms in common law countries is higher than that in code law countries the influence of cultural values on financial disclosures by firms should be less important in common law countries. A few cross-country studies investigate the relation between culture and earnings quality as well as earnings management. Callen et al. (2011) use cross-country data to research the impact of culture and religion on earnings management. They find that earnings management is negatively and significantly related to individualism and positively related to uncertainty avoidance. This is consistent with the research of Richardson (2008). Using data from 47 countries and after controlling for economic development, Richardson indicates that the higher the level of uncertainty avoidance and the lower the level of individualism, the higher is the level of tax evasion across countries. In addition, Tsakumis, Curatola and Porcano (2007) investigate the relation between national cultural dimensions and

tax evasion across 50 countries and also find that uncertainty avoidance is positively associated with tax evasion levels. Higher individualism is associated with lower tax evasion across countries.

However, the impact of culture on earnings quality is still debatable as the empirical evidence is mixed. Han, Kang, Slater and Yoo (2010) find that earnings management decreases (increases) with uncertainty avoidance in weak (strong) investor protection countries. Furthermore, there is evidence that there is more earning management in individualistic societies than in collective societies; individualism has greater influence on earnings management in strong investor protection regimes, which is in contrast to the results of Callen et al. (2011). Guan and Pourjalali (2010) examine the possible impact of cross-country differences in culture on earnings management in 27 countries. The results indicate that uncertainty avoidance affects the direction of earnings management downwards; the higher the level of individualism, the higher the magnitude of earnings management.

2.2. IFRS adoption and earnings quality

The aim of the International Accounting Standards Board (IASB) is to develop a single set of high quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles (IASB, 2012). Armstrong, Barth, Jagolinzer and Riedl (2010) investigate the equity market reaction to adoption of IFRS in Europe. The results show that European investors and firms reacted positively to the adoption of IFRS and information quality improved with lower information asymmetry in the post-adoption period.

The adoption of IFRS as a common set of accounting standards improves earnings quality because it increases transparency. Additionally, financial statement comparability helps investors to evaluate potential investments in foreign capital markets more easily and with less risk (Doupnik and Perera, 2009, p.71). One set of global accounting standards reduces the cost of preparing worldwide consolidated financial statements and the cost of reconciliation

between different standards (Doupnik and Perera, 2009, p.71). Horton, Serafeim and Serafeim (2013) test for differences in forecast errors before and after mandatory compliance with IFRS. They find that IFRS improves the information environment. Specifically, after mandatory IFRS adoption, forecast accuracy and other measures of the information environment increase significantly. Similarly, for voluntary adoption. Another advantage of IFRS adoption is to increase market liquidity and decrease cost of capital for firms (Daske, Hail, Leuz and Verdi, 2008). However, Daske et al. (2008) find that the capital market benefits occur only in countries with strong enforcement regimes and in countries where the institutional environment provides strong incentives for firms to be transparent. Although the adoption of IFRS eliminates differences in national accounting requirements in these countries, earnings quality remains different across the countries (Houqe et al. 2012). This occurs because culture, the legal system and other factors can lead to different interpretations of standards and different levels of compliance across countries, leading to limited comparability of financial statements (Doupnik and Perera, 2009, p.105).

Research by Liu, Yao, Hu and Liu (2011) considers the impact of IFRS on accounting quality in China, a case where markets are disciplined mainly by regulators rather than market mechanisms. Using a sample of 870 firms over the 2005 to 2008 period, Liu et al. (2011) find that accounting quality improved after the mandatory adoption of IFRS-convergent standards in China with decreased level of earnings management and earnings smoothing and increased value relevance with respect to both stock price and returns. Chua, Cheong and Gould (2012) examine the impact of IFRS adoption on accounting quality in the context of the Australian capital market by focusing on earnings management, timely loss recognition and value relevance. Chua et al. (2012) find that the mandatory adoption of IFRS has generally enhanced earnings quality, especially in the form of less earnings smoothing behaviour. Similarly for loss

recognition and thus the results support there being an improvement in accounting quality after Australian listed companies moved from Australian GAAP to IFRS.

After the adoption of IFRS, the quality of earnings reported by Malaysian companies is relatively higher than before the adoption (Wan Ismail, Kamarrudin, van Zijl & Dunstan, 2012). Using 4010 observations over a six year period, Wan Ismail et al. (2012) find that adoption of IFRS increases earnings quality. Specifically, the absolute value of abnormal accruals is lower and the value-relevance of firm's earnings is higher after the adoption of IFRS. Evans, Houston, Peters and Pratt (2012) asked experienced financial officers from the U.S, Europe and Asia to participate in a web-based case exercise to compare earnings management under GAAP and IFRS. They found that financial officers under IFRS receive more allowable reporting discretion than those under GAAP but there was no evidence that IFRS leads to a greater likelihood of earnings management relative to GAAP. Thus a reporting system allowing higher levels of reporting discretion may not lead to more earning management (in total) but allow management to substitute accounting earning management for real earnings management (Evans et al. 2012). Contrary to the above studies, Jeanjean and Stolowy (2008) analyse the effect of the mandatory introduction of IFRS on earnings management in three first time adopters: France, Australia and the UK. Surprisingly, the degree of earnings management did not decline after the introduction of IFRS. In fact, in France it increased. They explain that management incentives and national institutional factors play an important role in framing financial reporting characteristics, probably more important than accounting standards alone.

3. Hypothesis development

Secrecy versus transparency reflects "a preference for confidentiality and the disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent, open, and publicly accountable approach"

(Doupnik and Perera, 2009, p.41). Gray (1988) argues that the accounting values of secrecy and conservatism have the greatest relevance for information disclosure in financial statements. In addition, he hypothesizes that a preference for secrecy is consistent with high level of uncertainty avoidance and power distance and low levels of individualism and masculinity. Doupnik and Perera (2009) suggest that secrecy and conservatism have a strong positive relation. Specifically, countries with high secrecy are expected to more strictly adhere to the notion of conservatism (high conservatism) in the measurement of assets and liabilities (Doupnik & Perera, 2009, p.43). Thus we draw on the relationship between cultural dimensions such as power distance, uncertainty avoidance, individualism and masculinity and earning management to hypothesize the relation between secrecy and earnings quality.

The relationship between cultural values and earnings management is a significant topic in accounting literature but the relationship between them remains unclear. Nabar and Boonlert-U-Thai (2007) show that earnings management is relatively high in countries with high uncertainty avoidance scores and relatively low in countries where English is the primary language. They conclude that culture is an important determinant of accounting choice and should be considered by standards setters developing international financial reporting rules.

Moreover, Callen et al. (2010) using a cross-country data set, the updated values of Hofstede (1980, 1991) and the cultural variables developed by Tang and Koveos (2008) find that earnings management is negatively related to the updated Hofstede (1980) cultural variable of individualism and positively related to uncertainty avoidance.

Kang, Lee, Jeffrey and Tay (2004) examine the relation between culture and accounting conservatism and show that managers from more conservative cultural environments tend to report lower estimates for future cash flows, which means that managers tend to make more conservative accounting choices. Moreover, cultural conservatism has more influence on managers' conservative accounting choices in code law countries where accounting is less

conservative than in common law countries. Kang et al. (2004) suggest that culture and legal regimes can largely be viewed as substitutes in explaining managers' conservative accounting choices. Similarly, Feleaga, Dragomir and Feleaga (2010) indicate that companies in 'conservative' countries do produce more conservative accounting. Countries with high conservatism are expected to have high secrecy (Doupnik and Perera, 2009). Thus the above results can be interpreted as: firms in high secrecy countries have more accounting conservatism.

The above discussion leads to the following hypothesis:

Hypothesis 1.*There is negative relationship between secrecy and earnings quality.*

Prior studies on IFRS adoption try to understand the relation between mandatory IFRS adoption and earnings quality (Horton et al. 2013; Chua et al. 2012;Liu et al. 2011; Armstrong et al. 2010;). The findings suggest that the mandatory adoption of IFRS, of itself, has a small or negligible effect on earning quality. Houqe et al. (2012) find that IFRS adoption per se does not lead to increased earnings quality. However, there is evidence that earnings quality increases with IFRS adoption in countries with strong investor protection regimes. Soderstrom and Sun (2008) review the impact of widespread IFRS adoption in the European Union on accounting quality. They argue that cross- country differences in accounting quality are likely to remain following IFRS adoption because accounting quality is a function of the firm's institutional setting, including the legal and political system of the country in which the firm resides.

Tendeloo and Vanstraelen (2005), using 636 firm year observations for the period 1999-2001 in Germany to investigate whether there are changes in earnings management between IFRS adopters and the companies reporting under German GAAP. The results suggest that IFRS does not impose a significant constraint on earnings management. Interestingly, without the possibility of using hidden reserves to manage earnings, companies adopting IFRS engage

in more earnings smoothing but this effect reduces if the company has a Big 4 auditor. However, taking into account hidden reserves, IFRS adopters show no difference in earnings management behaviour compared to others. Tendeloo and Vanstraelen (2005) conclude that the adoption of high quality standards is not a sufficient condition for high quality information in code law countries with a low investor protection regime such as Germany. Callao, Jarne and Lainez (2007) investigate the effects of IFRS on comparability and the relevance of financial statements in Spain by comparing financial information under Spanish GAAP and IFRS. The analysis reveals that Spanish firms applying IFRS continue to provide conservative financial information and adoption of IFRS did not increase value relevance.

In contrast with the above studies, Barth, Landsman and Lang (2008) compare accounting quality metrics for firms applying IFRS to those applying domestic standards (other than US GAAP) in the post-adoption period. The results show that firms applying IFRS have less earnings management, more timely loss recognition, and greater value relevance of accounting information. Thus, the firms applying IFRS have higher accounting quality in the post-adoption period than they do in the pre-adoption period.

Piot, Dumontier and Janin (2011) use a database of more than 5000 IFRS adopters from 22 European (EU) countries over the period 2001-2008 to measure the impact of IFRS on accounting conservatism within the EU. They find that conditional conservatism decreased under IFRS for mandatory adopters as proxied by the asymmetric timeliness of earnings while unconditional conservatism was higher under IFRS in the presence of a Big 4 auditor. Similar results were also found by André, Filip, & Paugam (2014). Lu (2012) investigated how accounting conservatism changes after mandatory IFRS adoption. Accounting conservatism will decrease if investors expect higher financial reporting quality after mandatory IFRS adoption but accounting conservatism will increase if investors expect accounting numbers to

be less verifiable. The study found that the level of accounting conservatism decreased after mandatory IFRS adoption.

Although the results are mixed we posit the following hypothesis:

Hypothesis 2. *There is a positive relationship between IFRS adoption and earnings quality.*

Some researchers argue that accounting does not operate in a vacuum: it is 'a product of its environment' (Armstrong et al. 2010). Culture is an important factor in the environment and thus differences in culture can have a significant impact on financial disclosures. Therefore, this study argues that culture and IFRS adoption will have a joint effect on earning quality. For example, Doupnik and Riccio (2006) suggest that national cultural values can affect accountants' interpretation of probability expressions used in IFRS, and as a result, differences in cultural values across countries could lead to differences in recognition and disclosure decisions based on those interpretations. They find strong support for that. Through culture's influence on the accounting value of secrecy, culture affects the interpretation of verbal probability expressions used to establish the threshold for when disclosures should be made

Many researchers question the success of IFRS when there are several factors such as investor protection, securities regulation and culture affecting financial report preparers' incentives. Narktabtee and Patpanichchot (2011) examine the impact of country-level and firm-level factors on the effectiveness of IFRS adoption by evaluating the change in value relevance of earnings and book value of equity during pre-and post-IFRS adoption. The results indicate that the adoption of IFRS improves value relevance in all cases except the case where investor protection is weak and firms have characteristics which allow managers to use managerial discretion. Thus, country-level and firm-level factors can impact on the effectiveness of IFRS adoption.

In view of prior studies, our expectation is that a high level of secrecy discourages managers to share information with outside investors and thus results in information

asymmetry. However, the adoption of high-quality standards mitigates the negative effect of secrecy and improves earnings quality. We develop the following hypothesis to test the joint effect of secrecy and IFRS adoption on earnings quality:

Hypothesis 3. *IFRS adoption reduces the negative effect of secrecy on earnings quality.*

4. Research design

4.1 Macro- level variables

In contrast to other studies, our main proxy for secrecy is the Financial Secrecy Index (FSI) obtained from the U.S. Tax Justice Network (2011). We use the Hofstede-Gray model only in our sensitivity tests. The FSI was introduced in an effort to understand global financial secrecy, corruption and illicit financial flows. The FSI is a comprehensive indicator of secrecy which comprises of both qualitative and quantitative measurements. Combining more dimensions as than in Gray's model, the qualitative side of FSI considers laws, regulations, cooperation with information exchange process, and other verifiable data sources (Tax Justice Network, 2011). The quantitative side considers each jurisdiction's share of offshore financial services. Countries are then classified as either a high secrecy country or a low secrecy country based on their Secrecy Score. Countries with a secrecy score above 50 are said to be in a high secrecy jurisdiction; and those with scores equal and below 50 are categorized as a low secrecy jurisdiction.

We use the World Economic Forum (2012) data for all macro-level variables. We use five country-level variables; these are judicial independence, protection of minority shareholders' interests, regulation of securities exchange, irregular payments and bribes, and financing through local the equity market. Judicial independence is the idea that the judiciary needs to be kept separate from and independent of influence from other branches of government, citizens, or firms (World Economic Forum, 2012). The measure of judicial independence ranges from 1 to 7, where 1 signifies heavily influenced and 7 signifies entirely

independent. Strong judicial independence is an indicator for competitive advantage of a country. However, it does not guarantee that a country with strong judicial independence has effective enforcement of accounting regulation. In prior research, Houqe et al. (2012) use judicial independence to examine the investor protection environment. The legal rules create a country's structure of corporate ownership and finance (La Porta, Lopez- de-Silanes, Shleifer and Vishny, 1998). If a country with low judicial independence chooses to have only bank financing of firms then the country will adjust its laws accordingly to give better protection to banks, potentially at the expense of shareholders' interest (La Porta et al, 1998). In this case, the disclosure requirements can be limited, leading to lower quality of accounting information.

The second country-level variable is protection of minority shareholders' interests. In particular, it measures the extent to which there is protection for the rights of outside investors against errant and manipulative management by inside investors. More protection of minority shareholders' interest reduces opportunistic behaviour by managers and owners; therefore, the quality of accounting disclosure will improve. Prior research shows that countries with strong protection of minority shareholders' rights limits insiders' ability to acquire private benefits and reduces incentives for corrupt accounting practices (Francis and Wang, 2008; Leuz et al. 2003). Boonlert-U-Thai, Meek and Nabar (2006) find that earnings are less smooth in countries whose institutional characteristics are strong. Moreover, Francis, Khurana and Pereira (2003) document that financial disclosure is more transparent and national accounting standards require timelier reporting in a country with stronger investor protection. They also find evidence that higher quality standards and the enforcement of these standards is more likely to exist in countries with strong investor protection. Therefore, strong protection of minority shareholders' interests is associated with high quality accounting information (Hung, 2000).

The Regulation of securities exchange variable measures the ability of investors to benefit from the regulation and supervision of securities exchanges in countries (World

Economic Forum, 2012). Securities regulation can be measured by the disclosure requirement index and enforcement (La Porta, Lopez- de-Silanes and Shleifer, 2006). Specifically, disclosure requirements reveal disclosure in the areas of prospectus, compensation, shareholders, inside ownership, contracts and transactions (La Porta et al, 2006). Public enforcement indicates the market supervisors power, rule- making power and investigative power (La Porta et al, 2006). In our research we use the measure provided by the World Economic Forum. The index is scaled from 1 to 7 where 1 indicates that regulation of the securities exchange is ineffective and 7 indicates that regulation is effective.

The Irregular payments and bribes variable reflects how common it is for firms in a country to make undocumented extra payments or bribes connected with (1) imports and exports, (2) annual tax payments, (3) public utilities, (4) awarding of public contracts and licenses, (5) obtaining favourable judicial decisions (World Economic Forum, 2012).

The final macro-level variable considered is financing through the local equity market. This indicates the extent to which a company can raise money by issuing shares on the domestic stock market; it is an indicator of the efficiency of the financial market. It also reflects availability of financial services, affordability of financial services, ease of access to loans and availability of venture capital. The development of financial markets creates opportunity for companies to raise funds but it also has certain requirements, restrictions and guidelines to maintain the integrity of the financial system. Francis et al. (2003) find that higher quality accounting and auditing are positively related with financial development in countries whose legal systems support protection of investors.

4.2 Sample selection.

Company financial data for the period 1998 to 2011 was obtained from the Bloomberg Database. We excluded firm-year observations with missing values on dependent and independent variables. In addition, following prior research (Jaggi and Low, 2011; Francis and

Wang, 2008) we delete financial institutions such as banks and insurance companies (Standard Industrial Classification (SIC) 6000-6999). We also exclude observations with any variables registering in the top or bottom 0.5% of the range of the variables in order to mitigate the effect of outliners. Finally, we drop observations with the absolute value of studentized residuals greater than 3 in the abnormal accruals analysis and in the accounting conservatism analysis. As a result of this selection process our sample consists of 19,324 firm year observations from 14 countries for the period 1998-2011. The sample selection process is summarized in Table 1.

[Insert Table 1 here]

4.3 Signed abnormal accruals analysis

Large unexpected abnormal accruals implies greater management earnings and lower earnings quality. Many studies have used signed abnormal earnings as the measure of earnings quality (for example, Houqe et al. 2012; Francis and Wang, 2008). Some studies use absolute abnormal accruals. However, in this research we use signed abnormal accruals rather than absolute abnormal accruals, for two reasons. Firstly, the use of managerial manipulation to increase reported earnings is the main focus of the research. In addition, there is evidence that signed abnormal accruals give a better measure of earnings quality than the unsigned value of abnormal accruals (Hribar and Nichols, 2007).

Jones (1991) explains working capital accruals and depreciation as a function of sales growth and property, plant and equipment but her model only explains about 10% of the variation in accruals (Dechow, Ge and Schrand, 2010). Dechow, Sloan and Sweeney (1995) modify the Jones model to adjust for growth in credit sales, increasing the power of the model to yield a residual that is uncorrelated with expected revenue accruals and detects revenue manipulation (Dechow, Ge and Schrand, 2010). However, the modified model still contains the same limitations as the Jones model. In order to avoid that problem, Francis and Wang

(2008) suggest applying a linear expectation model adapted from DeFond and Park (2001) that uses a firm's own prior year accruals in calculating the expectation benchmark. This model has several advantages. Firstly, the model limits cross-country differences in accounting principles by using a firm as its own control to identify abnormal accruals. Moreover, the model performs reliably in international settings (Francis and Wang, 2008). Thus, using the DeFond and Park (2001) model, our predicted accruals are measured as follows:

Predicted accruals=

$$\frac{\left\{\left[Sales\ year\ t\ x\ \left(\frac{current\ accruals\ in\ year\ t-1)}{sales\ in\ year\ t-1}\right)\right]-\left[gross\ PPE\ in\ year\ t\ x\ \left(\frac{depreciation\ in\ year\ t-1}{gross\ PPE\ in\ year\ t-1}\right)\right]\right\}}{total\ assets\ year\ t-1} \quad (1)$$

Total accruals = (Earnings before extraordinary items - operating cash flows) / total assets

Abnormal accruals equals the firm's actual total accruals in year t minus predicted total accruals for year t.

Model (2) below is used to test Hypotheses 1, 2 and 3. That is, it is used to test whether financial secrecy and IFRS adoption affect signed abnormal accruals, after accounting for firm-level controls.

$Ab\_Accruals_{it} = \alpha_0 + \alpha_1 SEC + \alpha_2 IFRS + \alpha_3 SEC*IFRS + \alpha_4 INV + \alpha_5 LN\_SALES_{it} + \alpha_6 F\_LEV_{it} + \alpha_7 S\_GWTH_{it} + \alpha_8 \Delta PPE_{it} + \alpha_9 CFO_{it} + \alpha_{10} LAGLOSS_{it} + fixed\ effects \quad (2)$

where,

Ab_Accruals	= is the signed abnormal accruals of firm *i* in year *t*
SEC	= is the Financial Secrecy Index from Tax Justice Network (2011).
IFRS	= A dummy variable that takes the value of 1 for a given firm *i* in year *t* adopted IFRS mandatory basis and 0, otherwise.
INV	= Investor protection measured by the following five proxies
(i) JUD	- Judicial independence scores from World Economic Forum (2012)
(ii) MIN	- Protection of minority shareholders' interest scores from World Economic Forum (2012)
(iii) RSE	- Regulation of securities laws scores from World Economic Forum (2012)
(iv) IIPB	- Irregular payment and bribes scores from World Economic Forum (2012)
(v) FTEM	- Financing through local equity market scores from World Economic Forum (2012)
LN_SALES	= Size measured by natural logarithm of total sales of firm *i* in year *t*.

F_LEV	= Leverage measured by total long term debt divided by shareholders' equity of firm i in year t.
S_GWTH	= Sales growth rate measured as sales in year t minus sales in year $t-1$ and divided by sales year $t-1$.
ΔPPE	Growth rate of gross PPE measured as gross PPE in year t minus the gross PPE in year $t-1$ and scaled by the gross PPE in year $t-1$.
CFO	= Operating cash flows for firm i in year t scaled by total assets.
LOSS	= A dummy variable that takes the value of 1 if firm i in year t reports negative income before extraordinary items and 0 otherwise.
Fixed effects are	
(i)Industry dummies	= a vector of dummy variables indicating industry sector membership.
(ii)Year dummies	= a vector of dummy variables indicating year.
(iii) country dummies	= a vector of dummy variables indicating country.

The coefficients of primary interest are those of the variables: SEC, *IFRS* and *SEC*IFRS*. The coefficient α_1 captures the effect of the level of secrecy on firms; the coefficient α_2 indicates the effect of IFRS adoption on signed abnormal accruals. Moreover, the coefficient α_3, on the interaction term, measures the joint effect of secrecy and IFRS adoption on accruals. If α_3 is significant and negative, there is evidence that IFRS adopters have higher earnings quality than non-IFRS adopters in a country with a high level of secrecy.

The choice of control variables reflects prior research (Houqe et al. 2012; Francis and Wang, 2008). Company size (*LN_SALES*) is included because it has a negative relation with accruals (Klein, 2002). Dechow and Dichev (2002) show that accruals are a function of current, past and future cash flows and find that smaller firms are more likely to report a loss and have more volatile cash flows, accruals, and earnings.. Klein (2002) points out that leverage (*F_LEV*) is positively related to accruals thus we control for leverage. Following the prior studies (Houqe et al. 2012; Francis, LaFond, Olsson and Schipper, 2005), we include growth in both sales and PPE as these variables can affect yearly accruals if the association between accruals and both sales and gross PPE (as the drivers of accruals) is nonlinear (Francis and Wang, 2008).

4.4 Earnings conservatism

Conservatism is an important convention in accounting but it is difficult to measure. Givoly and Hayn (2000) argue that conservatism is a selection criterion between accounting principles that leads to the minimization of cumulative reported earnings by deferring revenue recognition, recognizing all probable expenses, lower asset valuation and higher liability valuation. They thus suggest using the sign and magnitude of accumulated accruals as an empirical measure to gauge the degree of accounting conservatism. Moreover, the rate of accumulation of net negative accruals is an indication of the shift in the degree of conservative accounting (Givoly and Hayn, 2000). In our research, we examine the level of accounting conservatism resulting from both mandatory and discretionary policy choices before and after IFRS adoption. Therefore, in our view, the Artiach and Clarkson (2014) measure is the most suitable proxy to capture discretionary conservatism. We focus on non-operating accruals because non-operating accruals consist of accruals arising from managerial action resulting from accounting regulations and accruals arising from managerial discretion in the timing and amount of accounting policy choice and accounting estimates (Artiach and Clarkson, 2014).

In addition, non-operating accruals are not likely to exhibit economic characteristics unrelated to conservatism (Givoly and Hayn, 2000). The accumulation of non-operating accruals must be measured over a sufficiently long period to reveal persistence in accumulated accruals thus we use a six-year accumulation period which consistent with Ahmed et al. (2002), Artiach and Clarkson (2014) and Houqe, Kerr and Monem (2014). Similar to the Artiach and Clarkson (2014) model, our conservatism proxy is the average over a six year period of the ratios of non-operating accruals to total assets; the result is multiplied by -1 to produce an increasing measure of conservatism. Thus our measure is

$$\text{CONS} = -1 \times \left| \frac{1}{6} \sum_{t=1}^{6} \frac{\text{NOPACit}}{\text{TAit}} \right|$$

where, $NOPAC_{it}$ is non- operating accruals and TA_{it} is total assets, both for firm i at fiscal year-end t.

We use this proxy to investigate the relationship between culture and earnings quality as well as the relationship between IFRS adoption and earnings quality. Model (3) below is also used to test Hypotheses 1, 2 and 3 with, in this case, conservatism as the indicator of earnings quality:

$$Ear\_Cons_{it} = \beta_0 + \beta_1 SEC + \beta_2 IFRS + \beta_3 SEC*IFRS + \beta_4 INV + \beta_5 LN\_SALES_{it} + \beta_6 F\_LEV_{it} + \beta_7 MB_{it} + fixed\ effects \qquad (3)$$

where,
Ear_Cons = is the earnings conservatism of firm i in year t
MB = is the market to book ratio for firm i in year t

and where the other variables are defined as above.

The variables of interest are SEC, $IFRS$ and $SEC*IFRS$ and the sign of β_1, β_2 and β_3 shows the relation between secrecy, IFRS adoption and the joint effect on earnings quality, as indicated by earnings conservatism.

5. Empirical results

5.1. Descriptive statistics

[Insert Table 2 here]

Table 2 shows the number of firms and the number of firm- year observations for each country and gives descriptive statistics for the macro- level variables. Most of the firm year observations come from the United Kingdom with 7,856 observations (40.65%) while about 15% of the total sample comes from Singapore and 11.7% comes from Germany. Ireland and Portugal have the lowest representation with 1.1%, followed by Israel and Belgium with approximate 1.6% of the total firm-year observations. In a robustness test we exclude the larger countries.

The level of secrecy, *SEC*, has a wide range from 34 for Spain to 78 for Switzerland with UK at the low end of the interval and Singapore at the high end. Spain and Portugal have the lowest score for judicial independence, *JUD*, while Denmark has the highest score of 6.6. The value of the protection of minority shareholders variable, *MIN*, ranges from 3.7 for Italy to 5.6 for Singapore. For the regulation of securities laws variable, *RSE*, Singapore again has the highest score of 6; Spain has the lowest score of 3.7. For the irregular payment and bribes variable, *IIPB*, the scores range from 4.1 for Italy to 6.7 for Singapore and Denmark. Finally, for financing through the local equity market variable, *FTEM*, Hong Kong (5.4) and Singapore (5.0) have the highest scores while Spain has the lowest (3.3). Singapore, Hong Kong and Denmark score highest on the indicators of investor protection.

[Insert Table 3 here]

Descriptive statistics for the firm-level variables are reported in Table 3. The mean of *Ab_Accruals* is -0.012. The minimum value of *Ab_Accruals* is -0.0001 while the maximum value is 0.00562. In the sample, the mean of *Ear_Cons* is 0.00011 and the minimum and maximum values are 0.0002 and 0.00578 respectively. Approximately 59% of the observations reflect adoption of IFRS, 42% a net loss. *LN_SALES*, measured by the natural logarithm of total sales, has a mean of 5.1254 and standard deviation of 2.1045. Financial leverage (*F_LEV)* is 49.21%, the sales growth rate (*S_GWTH*) is 14.56%, and the growth rate of gross PPE (*ΔPPE*) is 15.68%.

Descriptive statistics for the sub-sample for low secrecy countries (Panel B) shows that the mean of *Ab_Accruals* is -0.0013, *Ear_Cons* is 0.00010, *LN_SALES* is 5.125, *F_LEV* is 49.2%, and *S_GWTH* is 14.50%. 62% of the observations are for IFRS and 42% a net loss. Descriptive statistics for the high secrecy sub-samples (Panel C) indicate that the mean of *Ab_Accruals* is -0.0010, *Ear_Cons* is 0.0009, *LN_SALES* is 5.1224, *F_LEV* is 49.11%, and

S_GWTH is 14.16%. These values are lower than those of firms in low secrecy countries. Approximately 57% of the observations reflect adoption of IFRS and 35% a net loss.

[Insert Table 4 here]

Table 4, panel A, shows that *SEC* is positively related to signed abnormal accruals (*Ab_Accruals*) while *IFRS* is negatively related to *Ab_Accruals*. Given that the higher the level of *Ab_Accruals*, the lower the expected level of earnings quality, the results shown in the Pearson correlation matrix are consistent with our hypotheses 1 and 2. Table 4 panel B shows the Pearson correlation matrix for *Ear_Cons*. The results indicate that there is positive association between *Ear_Cons* and *SEC* while there is negative association between *Ear_Cons* and *IFRS*. This suggests that *Ear_Cons* is higher in countries with high level of secrecy but lower with mandatory adoption of IFRS. This result is in line with our hypotheses, suggesting that earnings quality is associated with secrecy and IFRS adoption.

5.2 Main results

5.2.1. Signed abnormal accruals

The signed abnormal accruals analysis is presented in Table 5. Each investor protection variable is tested once and we thus have five regression models. All models are significant with adjusted R^2 greater than 16%. The significance levels of the individual coefficients are reported as two- tailed p-values for asymptotic z-statistics as in Rogers (1993).

The coefficient on the secrecy variable is significant and positive (p<0.01) in all estimations. The positive sign of the coefficient on secrecy indicates that abnormal accruals are higher in high secrecy countries and the evidence thus supports Hypothesis 1 that high secrecy is associated with low earnings quality.

The coefficient on the *IFRS* variable is significant and negative (although at lower levels than for the secrecy variables), thus suggesting that adoption of IFRS reduces abnormal accruals in firms.

The interaction of secrecy with the IFRS variable measures the joint effect of secrecy and IFRS. The interaction term has a negative coefficient and is significant (p<0.01) in all models. A negative sign indicates that the adoption of IFRS reduces the effect of secrecy on earnings quality and the evidence thus supports Hypothesis 3.

[Insert Table 5 here]

5.2.2. Earnings conservatism

The earnings conservatism analysis is reported in Table 6 with five regression models. All models are significant with adjusted R^2 of around 21 percent. As in Table 6 the significance levels of individual coefficients are based on two- tailed p- values for asymptotic z-statistics.

The *SEC* variable captures the effect of secrecy on earnings conservatism. The coefficients are positive and significant (p<0.01) in all models. From these results we conclude that earning conservatism is higher in high secrecy countries than low secrecy countries.

The IFRS variable tests whether firms with IFRS adoption are more likely to report less earnings conservatism than non IFRS adopters. Overall, the evidence indicates that firms adopting IFRS report less earnings conservatism than non- adopting firms.

The interaction of IFRS with secrecy variable measures the joint effect of IFRS and secrecy on earnings conservatism. The coefficients are negative and significant in all models (p<0.01). On the basis of these results we conclude that the evidence consistently shows IFRS adoption reduces earnings conservatism in countries with high level of secrecy.

[Insert Table 6 here]

Overall, we observe the similar results across both signed abnormal accrual and earnings conservatism test. Earnings quality is lower in country with high secrecy level while earnings quality is higher in country with mandatory IFRS adoption. Signed abnormal accruals become smaller and earnings conservatism decreases following adoption of IFRS and the effect is stronger in high secrecy countries.

5.3 Robustness tests

5.3.1. Alternative proxy for secrecy

We examine the robustness of our results through an alternative measure for secrecy using Hofstede scores (1980) consistent with those used by Hope, Kang, Thomas & Yoo (2008). Gray (1988) argues that the higher a country ranks in the levels of uncertainty avoidance and power distance, the more likely it is to rank highly in secrecy. In addition, a preference for secrecy is consistent with low level of individualism (Gray,1988). Therefore, secrecy score is calculated as the sum of uncertainty avoidance (UA) and power distance (PD) scores less the individualism (IND) score (Hope et al. 2008). We take UA, PD and IND scores from Hofstede (1980). Our results (untabulated) based on this alternative measure for secrecy are qualitatively similar to those reported above in Tables 5 and 6.

5.3.2. Alternative proxy for investor protection

Many prior studies, such as Francis and Wang, 2008 and Leuz et al, 2003, have applied the anti-director rights index developed by La Porta et al. (1998). However, this index has been criticized for its ad hoc nature and for several conceptual ambiguities and mistakes in coding (Djankov, La Porta, Lopez-de-Silances, and Shleifer, 2008). Therefore, Djankov et al. (2008) introduce a revised and updated anti-director rights index based on laws and regulation applicable to publicly traded firms in May 2003. The revised index relies on the same basic dimensions of corporate law but has greater precision (Djankov et al. 2008).

We thus test the robustness of our results using the revised anti-director rights index from Djankov et al. (2008). Our results (untabulated) based on the use of this index are qualitatively similar to those reported above in tables 5 and 6.

5.3.3. Subsamples (2003 vs 2011)

We re-estimated all of the models reported in Tables 5 and 6 by considering observations for 2003 and 2011. Again the results (untabulated) were qualitatively similar to the results reported in Tables 5 and 6.

5.3.4. Deleting United Kingdom (UK), Singapore and Germany.

In order to obtain assurance that the countries with many observations do not drive the results, we retested both the signed abnormal accruals and earnings conservatism for 11 countries excluding United Kingdom, Singapore and Germany. For the resulting sample of 6,358 firm year observations, we found qualitatively similar results to those in Tables 5 and 6. We thus conclude that UK, Singapore and Germany do not drive the results.

6. Conclusion

We hypothesize that culture influences financial reporting quality. Specifically, we test whether the extent of secrecy in a country negatively impacts on earnings quality. Using 19,324 firm year observations from 14 countries, our evidence indicates that there is a negative relation between secrecy and earnings quality. This finding is consistent with findings in other cross-country studies. Hope et al. (2008) indicates that firms in more secretive cultures are less likely to hire a Big 4 auditor; the reason being that financial reporting quality of such firms is often low. Our results are also consistent with the finding from other cross-country studies that mandatory IFRS adoption improves earnings quality. We find that signed abnormal accruals are higher in countries with high financial secrecy suggesting higher earnings management. However, the interaction between mandatory IFRS adoption and financial secrecy has a negative impact on abnormal accruals. This result suggests that the effect of financial secrecy on earnings quality is mediated by mandatory IFRS adoption. We find similar results for earnings conservatism. The relation between secrecy and earnings conservatism is positive

while the relation between mandatory IFRS adoption and earnings conservatism is negative. Moreover, the interaction between IFRS adoption and financial secrecy is negative which suggests that mandatory IFRS adoption decreases the effect of secrecy on earnings conservatism. Thus, irrespective of whether abnormal accruals or conservatism is used to indicate earnings quality, it appears that adoption of IFRS decreases the negative effect of secrecy on earnings quality.

Our study has certain limitations which reflect the aggregated cross-country research design. Firstly, our analyses may not have considered the impact of other important macro level variables or investor protection variables on earnings quality. Secondly, the samples are taken from all developed countries and thus variety in the sample is relatively limited. Thirdly, secrecy and investor protection are difficult to measure. Finally, our study is based on only a relatively short period following adoption of IFRS and the long term impact may be different.

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Table 1

Sample selection process

	Number of firm-year observations
No. of observations with no missing values on dependent and independent variables	20,625
- Observations of financial institutions(SIC 6000-6999)	(324)
- Observations by any variables registering in the top or bottom 0.5%	(752)
- Observations with │Studentized residuals│>3	(225)
Study sample	**19,324**

Table 2

Number of firm-years and Descriptive statistics for macro-level variables

Country	Number of firm	Number of firm-year observations	Secrecy level	SEC	Investor Protection (INV)				
					JUD	MIN	RSE	IIPB	FTEM
Austria	72	368	High	66	5.5	4.8	4.7	5.8	3.6
Belgium	89	318	High	59	5.3	5.0	5.0	5.7	3.9
Denmark	159	812	Low	40	6.6	5.5	5.5	6.7	4.2
Germany	752	2,254	High	57	6.3	4.8	4.5	5.9	4.0
Hong Kong	178	898	High	73	6.1	5.0	5.6	6.2	5.4
Ireland	49	216	Low	44	6.3	4.5	3.9	6.1	2.9
Israel	59	316	High	58	6.2	5.2	5.5	5.7	4.6
Italy	156	385	Low	49	4.0	3.7	4.3	4.1	3.6
Netherlands	201	1,285	Low	49	6.3	5.2	5.2	6.2	4.1
Portugal	56	217	High	51	3.9	4.5	4.9	5.1	3.4
Singapore	496	2,856	High	71	5.6	5.6	6.0	6.7	5.0
Spain	149	645	Low	34	3.9	4.3	3.7	5.0	3.3
Switzerland	154	898	High	78	6.4	4.9	5.6	6.3	4.6
United Kingdom	1,287	7,856	Low	45	6.2	5.2	5.1	5.9	4.6
	3,857	**19,324**							

SEC is the Financial Secrecy Index from Tax Justice Network (2011). Investor Protection *(INV)* is the investor protection measured by five proxies (1) *JUD* is the judicial independence scores from World Economic Forum (2012), (2) *MIN* is the protection of minority shareholders' interest scores from World Economic Forum (2012), (3) *RSE* is the regulation of securities laws scores from World Economic Forum (2012), (4) *IIPB* is the irregular payment and bribes scores from World Economic Forum (2012), and (5) *FTEM* is the financing through local equity market scores from World Economic Forum (2012) .

Table 3

Descriptive statistics for firm-level variables

Variable	Mean	Median	S.D	Minimum	Maximum
Panel A: Full Sample (n=19,324)					
Ab_Accruals	-0.0012	-0.0010	0.0114	-0.0001	0.00562
Ear_Cons	0.00011	-0.0009	0.0110	0.0002	0.00578
IFRS	0.59	1	0.4561	0	1
LN_SALES	5.1254	5.8970	2.1045	4.3678	7.5624
F_LEV	0.4921	0.5124	0.2695	0.1259	0.6594
S_GWTH	0.1456	0.1652	0.1132	0.0895	0.8765
MB	4.1520	4.9875	2.1342	2.1458	6.8795
ΔPPE	0.15680	0.17856	0.11245	0.10254	0.25789
CFO	0.14523	0.13254	0.10254	0.08974	0.21031
LOSS	0.42	1	0.24513	0	1
Panel B: Low- Secrecy sub-samples					
Ab_Accruals	-0.0013	-0.0011	0.0113	-0.0001	0.00560
Ear_Cons	0.00010	-0.0008	0.0111	0.0001	0.00570
IFRS	0.62	1	0.4560	0	1
LN_SALES	5.1250	5.8901	2.1040	4.3670	7.5620
F_LEV	0.4920	0.5120	0.2690	0.1250	0.6590
S_GWTH	0.1450	0.1650	0.1130	0.0890	0.8760
MB	4.1521	4.9870	2.1340	2.1450	6.8790
ΔPPE	0.15681	0.17850	0.11240	0.10250	0.25780
CFO	0.14658	0.14253	0.10254	0.10245	0.20194
LOSS	0.42	1	0.24510	0	1
Panel C: High- Secrecy sub-samples					
Ab_Accruals	-0.0010	-0.0009	0.0104	-0.0000	0.00501
Ear_Cons	0.0009	-0.0008	0.0101	0.0001	0.00538
IFRS	0.57	1	0.4510	0	1
LN_SALES	5.1224	5.887	2.1045	4.3698	7.5614
F_LEV	0.4911	0.5114	0.2615	0.1249	0.6544
S_GWTH	0.1416	0.1622	0.1112	0.0815	0.8565
MB	4.1220	4.9475	2.1142	2.1258	6.8695
ΔPPE	0.15280	0.17156	0.11215	0.10154	0.25189
CFO	0.12245	0.12453	0.10245	0.0987	0.21032
LOSS	0.35	1	0.21233	0	1

Ab_Accruals is the signed abnormal accruals of firm *i* in year *t* under DeFond and Park (2001) model (Francis and Wang 2008 and Houqe *et al.,* 2012). *Ear_Cons is* based on the Givoly and Hayn (2000) and Artiach and Clarkson (2012) accruals based measure of conservatism. *IFRS* takes the value of 1 for a given firm *i* in year *t* adopted IFRS mandatory basis and 0, otherwise. *LN_SALES* is natural logarithm of total sales of firm *i* in year *t*. *F_LEV* is the end of year total long term debt divided by end of year shareholders' equity of firm *i* in year *t*. *S_GWTH* is the sales growth rate, defined as the sales in current year minus sales in prior year and divided by sales in prior year for firm *i* in year *t*. ΔPPE is the growth rate of gross PPE, defined as the gross PPE in current year minus the gross PPE in prior year and divided by the gross PPE in prior year for firm *i* in year *t*. *CFO* is the operating cash flows for firm *i* in year *t* scaled by total assets. *LOSS* takes the value of 1 if firm *i* in year *t* reports negative income before extraordinary items and 0 otherwise.

Table 4

Pearson Correlation Matrix

Panel A: Abs- accruals sample (N= 19,324)

	Ab_Accruals	*SEC*	*IFRS*
Ab_Accruals	1		
SEC	0.4010***	1	
	(0.000)		
IFRS	-0.2045***	-0.3012***	1
	(0.000)	(0.000)	

Panel B: Ear_Cons sample (N= 19,324)

	Ear_Cons	*SEC*	*IFRS*
Ear_Cons	1		
SEC	0.3510***	1	
	(0.000)		
IFRS	-0.125***	-0.2010***	1
	(0.000)	(0.000)	

Note: Coefficient p-values applied two-tail

Ab_Accruals is the signed abnormal accruals of firm *i* in year *t* under DeFond and Park (2001) model (Francis and Wang 2008 and Houqe *et al.,* 2012). *Ear_Cons is* based alternatively on the Givoly and Hayn (2000) and Artiach and Clarkson (2012) accruals based measure of conservatism. *SEC* is the Financial Secrecy Index from Tax Justice Network (2011). *IFRS* takes the value of 1 for a given firm *i* in year *t* adopted IFRS mandatory basis and 0, otherwise.

Table 5

*Ab_Accruals$_{it}$ = α$_0$ + α$_1$SEC + α$_2$IFRS + α$_3$SEC*IFRS + α$_4$INV + α$_5$LN_SALES$_{it}$ + α$_6$F_LEV$_{it}$ + α$_7$S_GWTH$_{it}$ + α$_8$ΔPPE$_{it}$ + α$_9$ CFO$_{it}$ + α$_{10}$LAGLOSS$_{it}$ + fixed effects*

Independent variables	INV = JUD Estimate (p-value)	INV = MIN Estimate (p-value)	INV = RSE Estimate (p-value)	INV =IIPB Estimate (p-value)	INV = FTEM Estimate (p-value)
SEC	0.0012***	0.0011***	0.0013***	0.0010***	0.0011***
	(0.000)	(0.001)	(0.004)	(0.005)	(0.001)
IFRS	-0.0001*	-0.0001**	-0.0000*	-0.0001**	-0.0001*
	(0.054)	(0.034)	(0.074)	(0.044)	(0.084)
SEC*IFRS	-0.0017***	-0.0016***	-0.0014***	-0.0013***	-0.0015***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
INV	-0.0080***	-0.0079***	-0.0081***	0.0084***	-0.0080***
	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)
LN_SALES	-0.0091**	-0.0090**	-0.0089**	-0.0090**	-0.0092**
	(0.068)	(0.060)	(0.058)	(0.060)	(0.058)
F_LEV	0.0015*	0.0014*	0.0013*	0.0014*	0.0013*
	(0.056)	(0.057)	(0.059)	(0.054)	(0.052)
S_GWTH	-0.0013*	-0.0011*	-0.0014*	-0.0013*	-0.0013*
	(0.084)	(0.094)	(0.064)	(0.074)	(0.064)
ΔPPE	-0.0012	-0.0010	-0.0010	-0.0010	-0.0011
	(0.258)	(0.216)	(0.202)	(0.251)	(0.234)
CFO	-0.0045***	-0.0042***	-0.0046***	-0.0049***	-0.0042***
	(0.002)	(0.004)	(0.000)	(0.001)	(0.002)
LOSS	0.0014*	0.0012**	0.0011*	0.0013*	0.0011*
	(0.065)	(0.045)	(0.075)	(0.069)	(0.060)
Intercept	0.0034***	0.0036***	0.0038***	0.0037***	0.0030***
	(0.004)	(0.003)	(0.001)	(0.002)	(0.006)
Fixed effects	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.1689	0.1725	0.1625	0.1714	0.1658
N	19,324	19,324	19,324	19,324	19,324

Note: Coefficient p-values applied two-tail and based on asymptotic Z-statistic robust to heteroscedasticity and country clustering effects using the method in Rogers (1993).

Ab_Accruals is the signed abnormal accruals of firm *i* in year *t* under DeFond and Park (2001) model (Francis and Wang 2008 and Houqe *et al.,* 2012). *SEC* is the Financial Secrecy Index from Tax Justice Network (2011). *IFRS* takes the value of 1 for a given firm *i* in year *t* adopted *IFRS* mandatory basis and 0, otherwise. *INV* is the investor protection measured by five proxies (1) *JUD* is the judicial independence scores from World Economic Forum (2011), (2) *MIN* is the protection of minority shareholders' interest scores from World Economic Forum (2011), (3) *RSE* is the regulation of securities laws scores from World Economic Forum (2011), (4) *IIPB* is the irregular payment and bribes scores from World Economic Forum (2011), and (5) *FTEM* is the financing through local equity market scores from World Economic Forum (2011) . *LN_SALES* is natural logarithm of total sales of firm *i* in year *t*. *F_LEV* is the end of year total long term debt divided by end of year shareholders' equity of firm *i* in year *t*. *S_GWTH is* the sales growth rate, defined as the sales in current year minus sales in prior year and divided by sales in prior year for firm *i* in year *t*. ΔPPE is the growth rate of gross PPE, defined as the gross PPE in current year minus the gross PPE in prior year and divided by the gross PPE in prior year for firm *i* in year *t*. *CFO* is the operating cash flows for firm *i* in year *t* scaled by total assets. *LOSS* takes the value of 1 if firm *i* in year *t* reports negative income before extraordinary items and 0 otherwise. *Fixed effects are* (i) *Industry dummies*, a vector of dummy variables indicating industry sector membership. (ii) Year dummies, a vector of dummy variables indicating Year (iii) Country dummies, a vector of dummy variables indicating country.

Table 6

Ear_Cons$_{it}$= β$_0$ + β$_1$SEC + β$_2$IFRS + β$_3$SEC*IFRS + β$_4$INV + β$_5$LN_SALES$_{it}$ + β$_6$F_LEV$_{it}$ + β$_7$MB$_{it}$ + fixed effects

Independent variables	INV = JUD	INV = MIN	INV = RSE	INV =IIPB	INV = FTEM
	Estimate (p-value)	Estimate (p-value)	Estimate (p-value)	Estimate (p-value)	Estimate (p-value)
SEC	0.0014***	0.0018***	0.0019***	0.0020***	0.0021***
	(0.001)	(0.000)	(0.003)	(0.000)	(0.000)
IFRS	-0.0000*	-0.0001**	-0.0000*	-0.0001*	-0.0000*
	(0.064)	(0.034)	(0.094)	(0.084)	(0.094)
SEC*IFRS	-0.0024***	-0.0025***	-0.0023***	-0.0022***	-0.0025***
	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
INV	0.0090***	0.0089***	0.0091***	-0.0095***	0.0078***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.004)
LN_SALES	-0.0082**	-0.0085**	-0.0086**	-0.0089**	-0.0090**
	(0.058)	(0.078)	(0.054)	(0.062)	(0.051)
F_LEV	0.0010*	0.0012*	0.0011*	0.0012*	0.0014*
	(0.066)	(0.067)	(0.069)	(0.074)	(0.062)
MB	-0.0010*	-0.0012*	-0.0013*	-0.0012*	-0.0012*
	(0.094)	(0.092)	(0.074)	(0.064)	(0.074)
Intercept	0.0044***	0.0046***	0.0048***	0.0047***	0.0050***
	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
Fixed effects	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.2213	0.2145	0.2125	0.2214	0.2014
N	19,324	19,324	19,324	19,324	19,324

Note: Coefficient p-values applied two-tail and based on asymptotic Z-statistic robust to heteroscedasticity and country clustering effects using the method in Rogers (1993).

Ear_Cons is based on the Givoly and Hayn (2000) and Artiach and Clarkson (2012) accruals based measure of conservatism. *SEC* is the Financial Secrecy Index from Tax Justice Network (2011). *IFRS* takes the value of 1 for a given firm *i* in year *t* adopted *IFRS* mandatory basis and 0, otherwise. *INV* is the investor protection measured by five proxies (1) *JUD* is the judicial independence scores from World Economic Forum (2011), (2) *MIN* is the protection of minority shareholders' interest scores from World Economic Forum (2011), (3) *RSE* is the regulation of securities laws scores from World Economic Forum (2011), (4) *IIPB* is the irregular payment and bribes scores from World Economic Forum (2011), and (5) *FTEM* is the financing through local equity market scores from World Economic Forum (2011) . *LN_SALES* is natural logarithm of total sales of firm *i* in year *t. F_LEV* is the end of year total long term debt divided by end of year shareholders' equity of firm *i* in year *t. MB is* the market to book ratio for firm *i* in year *t. Fixed effects are* (i) *Industry dummies*, a vector of dummy variables indicating industry sector membership. (ii) Year dummies, a vector of dummy variables indicating Year (iii) Country dummies, a vector of dummy variables indicating country.