

The effect of corruption on earnings management

ALEX AUGUSTO TIMM RATHKE

Universidade de São Paulo, Brasil

VERÔNICA DE FÁTIMA SANTANA

Universidade de São Paulo, Brasil

ISABEL COSTA LOURENÇO

Instituto Universitário de Lisboa, Portugal

MANUEL CASTELO BRANCO

Universidade do Porto, Portugal

Resumo

This study provides empirical evidence on the effects of corruption, as proxied by Transparency International's Corruption Perception Index, on earnings management. It tests the hypothesis of positive association between the countries' level of corruption and the level of earnings management using a sample of foreign firms with American Depositary Receipts (ADR) in the U.S. market. Findings indicate that corruption perception is related to higher incentives for firms to manipulate earnings in the case of emerging countries, while such results are not identified in developed countries.

Palavras chave: corruption, developed countries, earnings management, emerging countries.

The effects of corruption on earnings management

1. Introduction

This study analyzes the influence of country-level and firm-level incentives in the level of earnings management of foreign firms with American Depositary Receipts (ADR) in the U.S. market, highlighting the role of corruption as a determinant of accounting quality.

The classic definition of corruption as the “abuse of public power for private benefit”, very popular among economists and for many years used by the World Bank, is objectionable for many reasons, but especially for focusing on the public sector and being biased against the party who receives the undeserved benefits (the public official). The former objection have lead Transparency International (TI) to replace “public power” by “entrusted power” and define corruption as “the misuse of entrusted power for private benefit” (Errath et al., 2005, p. 2).

Although this latter definition is widely used nowadays, it is unable to deal with the objection of portraying corruption as a one-way process driven by the greed of the corrupt person with “entrusted power”. Hence, a more complex definition of corruption is needed. A possible solution is the definition proposed by Argandoña (2005, p. 252): corruption is “the act or effect of giving or receiving a thing of value, in order that a person do or omit to do something, in violation of a formal or implicit rule about what that person ought to do or omit to do, to the benefit of the person who gives the thing of value or a third party”.

The wide-ranging negative effects of corruption are legion. They include constrained economic growth, decreased trust in government and reduced legitimacy of market economy and democracy (Branco and Delgado, 2012). Given its detrimental effects, corruption is considered by many as a cancer in society (Everett et al., 2007).

Everett et al. (2007, p. 515) are adamant in asserting that “the issue of corruption is a problem and accounting can aid in its fight”. Although this may well be true, accounting researchers have left the relation between accounting and corruption almost untouched. About ten years ago, Riahi-Belkaoui (2004, p. 74) asserted that “one consequence largely ignored in the economic and accounting literature is the impact of corruption on the quality of accounting”. This consequence has remained largely unexplored in said literature. Few studies have explored the relation between the level of corruption and accounting quality (Kimbro, 2002; Riahi-Belkaoui, 2004; Wu, 2005; Riahi-Belkaoui and AlNajjar, 2006; Malageño et al., 2010; Houqe and Monem, 2013).

We add to this literature, in particular to the studies of Riahi-Belkaoui (2004) and Riahi-Belkaoui and AlNajjar (2006), by analyzing the relation of earnings management (a measure of accounting quality) with countries’ corruption levels. More specifically, we examine whether firms from countries presenting higher levels of corruption are more likely to have higher levels of earnings management than their counterparts from countries with lower levels of corruption.

The empirical study relies on foreign firms with ADR in the U.S. market that apply International Financial reporting Standards (IFRS). We thus guarantee the homogeneity of the sample, which is based on firms with greater incentives to transparency that apply a set of high quality accounting standards. Prior literature show a positive effect of IFRS adoption on foreign firms cross-listed in the US, namely in their accounting quality (Sun et al., 2011), in their credit ratings (Ling-Ching et al., 2013), and in the comparability of their financial information with US-GAAP amounts (Barth et al., 2012). Hence, contrary to Riahi-Belkaoui (2004) and Riahi-Belkaoui and AlNajjar (2006), our study is conducted in a setting of

relatively stable accounting environment, with firms providing high quality financial information somewhat comparable with that reported by US firms.

The research design controls for important factors that previous literature analyzed either as being linked with corruption, such as economic development, or with earnings management, such as the firms' size and profitability or the countries' institutional environment. A set of country-level and firm-level variables is thus included in this study.

The empirical findings suggest that only in the case of emerging countries there is a positive relation between the level of perceived corruption and the level of earnings management (there is a negative relation between the Corruption Perception Index and earnings management). In the case of emerging countries, there is strong evidence that companies from countries with high levels of perceived corruption are more likely to present higher levels of earnings management.

In the following section we review some relevant studies and develop the hypothesis. The third section is devoted to the research design. The fourth section presents the main results. Finally, in section five, the results are discussed and some concluding remarks are offered.

2. Background

Although there is a wealth of literature on both corruption and accounting quality, the same cannot be said about studies analyzing possible relations between the two. We were able to identify only five studies in this area: Kimbro (2002), Riahi-Belkaoui (2004), Wu (2005), Riahi-Belkaoui and AlNajjar (2006), Malagueño et al. (2010) and Houqe and Monem (2013).

Both Kimbro (2002), Wu (2005), Malagueño et al. (2010) and Houqe and Monem (2013) emphasize the role potentially played by accounting in curbing corruption. Kimbro (2002) performed a cross-country analysis of corruption on the basis of a model exploring the effects of economic, cultural, and monitoring/institutional variables on corruption. Regarding economic variables, her findings suggest that GNP per capita is inversely associated with the level of corruption, whereas high levels of economic growth is associated with higher levels of corruption. In the case of cultural values, power distance and individualism were found to be positively associated with corruption. Regarding the relations between the quality of the accounting and legal systems and corruption, Kimbro found that countries with good laws enforced by more effective judiciary, good financial reporting standards, and a higher concentration of accountants are likely to be less corrupt.

Wu (2005) used cross-country firm-level data from Asian countries to examine the relationship between corporate accounting practices and the level of bribery. This author found that although better accounting practices are helpful in reducing both the incidence of bribery and the amounts of bribe payments, merely conforming to high quality accounting standards alone does not necessarily bring down the incidence of bribery.

Malagueño et al. (2010) performed a cross-country analysis using data from 57 countries to examine the relation between corruption and two measures of accounting quality: the increased presence of BIG4 firms and perceived accounting quality (PAQ) data obtained from the survey administered annually by the World Economic Forum in its Global Competitiveness Survey. While controlling for several other variables considered in the literature, they found evidence of negative relationships between the perceived level of corruption and both the increased presence of BIG4 firms in countries and the PAQ. They conclude that "countries with more transparent reporting have lower levels of perceived corruption and that the level of perceived corruption may be reduced in a country by improving accounting and auditing quality" (Malagueño et al., 2010, p. 372).

Houqe and Monem (2013) used data from 166 countries, over the period 1996-2011, to investigate the role of accounting information in reducing corruption after controlling for the effects of political institutions and economic development. Their findings suggest that although the accounting environment has some positive effect in the control of corruption, its role is relatively minor and secondary to the effect of political institutions. They contend that the widely held view that countries intending to reduce corruption should invest in higher-quality accounting standards may not be true. Their findings also lead them to suggest that countries without strong political institutions that have adopted the IFRS are not likely to achieve a reduction in corruption by way of improved financial reporting unless political institutions are strengthened.

Although also exploring the relationships between accounting quality and corruption, both Riahi-Belkaoui (2004) and Riahi-Belkaoui and AlNajjar (2006) examined the determinants of earnings opacity internationally using data from 34 countries. Riahi-Belkaoui's (2004) results suggest the existence of a negative relationship between earnings opacity and the lack of corruption after controlling for economic development, human development, size of government and economic freedom. Based on an explanation resting on the impact of corruption as it uses the lack of accounting quality to "camouflage" the ill-gained results, Riahi-Belkaoui (2004, p. 82) concludes that "corruption creates a climate conducive to a low quality accounting."

The findings of Riahi-Belkaoui and AlNajjar (2006) indicate that earnings opacity is negatively related to the level of economic freedom and the level of quality of life and positively related to the rule of law, economic growth and the level of corruption. In addition, earnings opacity was surprisingly found as not related to various measures of accounting order, namely the level of disclosure, the number of auditors per 100,000 inhabitants and the adoption of international accounting standards. These authors conclude that "it is the social and economic climate rather than the technical accounting climate that is at the core of the lack of accounting quality in general and earnings opacity in particular" (Riahi-Belkaoui and AlNajjar, 2006, p. 189).

Following these two latter articles, the study reported in this paper is premised on the idea that lower levels of corruption will be associated with lower levels of earnings management, used as a measure of accounting quality. Riahi-Belkaoui (2004) suggests two arguments that may be used to justify this thesis of a negative relationship between the corruption and earnings management. First, the rent seeking behaviour that constitutes corruption needs to be as concealed as possible from the eyes of the citizens and all those affected by it. Hence, a system of accountability flexible enough to veil the actions and consequences of corruption is needed. As Riahi-Belkaoui (2004, p. 74) puts it, there is "the need for a lower quality accounting for manufacturing a higher level of corruption." Second, high levels of corruption create an unethical atmosphere that leads individuals to have high levels of acceptance regarding such rent-seeking behaviour. These attitudes extend easily to other activities, including those pertaining to the collection and dissemination of accounting information. Riahi-Belkaoui (2004, p. 75) thus suggests that "one would expect a low quality of accounting from a country that tolerates or fails to reduce corruption." Therefore, the hypothesis to be tested is one of a positive association between the countries' level of corruption and the level of earnings management.

3. Research Design

This study aims to analyze the influence of country-level and firm-level incentives in the level of earnings management of foreign firms with ADR in the U.S. market, highlighting the role of corruption as a determinant of accounting quality.

In order to achieve this goal, we first establish a measure for earnings management and then built an empirical model that associates this measure with the two sets of variables, country and firm-level.

3.1 Sample and Data

Our sample comprises firms from 33 countries with ADR in the U.S. market that report their financial statements under IFRS. The empirical study is thus conducted in a setting of relatively stable accounting environment, without the need of controlling for the use of more developed accounting standards.

We use data from 2011 to 2013 in order to get the largest possible number of countries applying IFRS. The data used to compute the earnings management measure and the firm-level variables is collected from the Worldscope Database. The data used to compute the country-level variables is collected from the World Bank database.

After excluding extreme values (top and bottom 1%) the final sample consists of 1,281 firm-year observations, regarding 427 firms. Table 1 presents the distribution of these firm-year observations by country and by industry. We also segregate the observations according to the type of country, emerging or developed, based on the classification provided by the World Bank Database.

[TABLE 1 HERE]

Table 1, Panel A, shows that the observations from Brazil and South Africa represent 54% of the emerging countries data (17% of all observations). In Table 1, Panel B, we observe that Australia and United Kingdom account for 42% of developed countries data (29% of all observations). Table 1, Panel C, shows that most of the observations are from manufacturing and utilities industries.

3.2 Measure of Earnings Management

We use the magnitude of absolute discretionary accruals as a proxy for earnings management. According to Leuz et al. (2003), managers can use discretion to misstate their firm's economic performance, for example, overstating reported earnings in order to reach a target or report extraordinary performance in specific situations. The magnitude of discretionary accruals measures the extent to which managers exercise discretions in reporting earnings.

Greater magnitude of discretionary accruals reflects difficulties in accounting numbers in effectively measuring economic performance (Warfield et al., 1995). As income-increasing accruals and income-decreasing accruals can be used in earnings management, it is common to use the magnitude of absolute discretionary accruals. Greater magnitudes indicate greater level of earnings managements and lower accounting quality (Chen et al, 2010).

Discretionary (abnormal) accruals can be measured as the total accruals minus estimated non-discretionary (normal) accruals. Several models can estimate normal accruals. This study uses a modified version of the model proposed by Jones (1991).

Dechow et al. (1995) analyzed some alternative accrual-based models for detecting earnings management and found that the most powerful model is the modified version of the

model developed by Jones (1991). The original model uses a regression approach to identify non-discretionary factor by a linear relation between total accruals and change in sales and in property, plant and equipment (McNichols, 2001).

The model proposed by Jones (1991) starts with an expectation model for total accruals to control for changes in the economic circumstances, specifically the variation in revenues and the level of Property, Plant and Equipment. However, this model assumes that revenues are non-discretionary, while it is possible that managers accrue revenues at year-end, when the cash has not yet been received and it is questionable whether the revenues have been earned, resulting in an increase in revenues and total accruals through an increase in receivables (Dechow et al, 1995).

Therefore, Dechow et al. (1995) proposed a modified version of the Jones (1991) model, eliminating its tendency to measure discretionary accruals with errors when revenues are opportunistically modified. In this model, the non-discretionary accruals are estimated as equation (1) and (2):

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \alpha_2 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} \right) + \alpha_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (1)$$

$$NDA_{i,t} = a_1 \left(\frac{1}{A_{i,t-1}} \right) + a_2 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} \right) + a_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right). \quad (2)$$

Where, $TA_{i,t}$ is the total accruals for each firm at each period; $AT_{i,t-1}$ is the lagged total assets; $\Delta REV_{i,t}$ is the annual variation in revenues; $PPE_{i,t}$ is the Gross property, plant and equipment; and $\Delta REC_{i,t}$ is the annual variation in the net receivables.

Also following Dechow et al. (1995), we calculate total accruals as the difference between the variation of current assets and the variation of current liabilities, minus variation on cash flow from operations and depreciation, plus the variation on debt in current liabilities. We calculate the absolute discretionary accruals separately for each industry, in order to isolate the effects of industry patterns.

3.3 Measure of corruption

As a measure of corruption we use the Corruption Perceptions Index, which is a leading measure of perceptions regarding corruption that ranks countries by perceived levels of corruption among public officials. A higher index indicates lower levels of perceived corruption. It has been launched in 1995 by Transparency International (a civil society organization founded in 1993 that has as its main purpose to combat corruption). Since then, it has been published annually. Hereafter the word corruption will be used to refer to perceptions of corruption.

3.4 Empirical Model

In order to evaluate the effect of each country-level and firm-level variable in the level of absolute discretionary accruals, we built the following model:

$$|DA| = f(\text{CountryLevel}, \text{FirmLevel})$$

$$|DA|_i = GGDP_i + CORR_i + CORR_i \cdot Em_i + PMI_i + PMI_i \cdot Em_i + EC_i +$$

$$\begin{aligned}
 &+EC_{it} \cdot Em_{it} + RINS_{it} + RINS_{it} \cdot Em_{it} + \\
 &+N_BIG_{it} + LEV_{it} + ROA_{it} + NEG_{it} + SIZE_{it} + \sum Industry + \varepsilon_{it} . \quad (3)
 \end{aligned}$$

where the variable *CORR* is the Corruption Perception Index and $CORR_{it} \cdot Em_{it}$ is its interaction with a dummy variable indicating the emerging countries. Besides the corruption index we add in our model the following country-level variables: GDP growth (*GGDP*), the level of protection of minority investors (*PMI*), the level of contracts enforcement (*EC*) and the influence of bankruptcy laws and insolvency process (*RINS*), for which we also add an interaction with the emerging countries ($Em_{i,t}$). The interactions are necessary to evaluate eventual differences of effect for these institutional variables for emerging and developed countries.

The set of firm-level variables we use comprises a dummy variable indicating firms audited by a non-Big 4 audit firm (*N_BIG*), a variable indicating the debt structure of each firm at each period (*LEV*), a dummy variable indicating firms reporting negative earnings (*NEG*), the firms' profitability (*ROA*) and the firms' size (*SIZE*).

4. Empirical Findings

4.1 Descriptive Statistics

Table 2 presents descriptive statistics for the regression variables, which includes either country-level or firm-level variables. Table 2 also shows descriptive statistics separately for emerging and developed countries.

[TABLE 2 HERE]

The mean values of all country-level variables are statistically different, when firms from emerging countries are compared to those from developed countries. The corruption perception index (*CORR*), that ranks countries based on their level of perceived corruption, the minority investors protection index (*PMI*), the enforcing contracts index (*EC*) and resolving insolvency index (*RINS*) are significantly higher in developed countries. Otherwise, we observe a significantly higher growth in gross domestic product (*GGDP*) in the emerging countries. However, the level of earnings management ($|DA|$) of firms from emerging and from developed countries is not statistically different.

Table 3 presents the mean values (of 2011 to 2013) of the country-level variables separately for each country. In the group of emerging countries, Singapore and Chile have the highest index of corruption perception, even above some developed countries, such as Greece, Hungary, Israel and Italy. At the lower position among the emerging countries are the Philippines, Mexico and Argentina, contrasting with some of the developed countries, such as Denmark, Finland, New Zealand and Sweden.

[TABLE 3 HERE]

4.2 Regression Results

Table 4 presents the results of the regression models performed in order to analyze the influence of country-level and firm-level incentives on the level of earnings management of firms with ADR in the U.S. market.

[TABLE 4 HERE]

Table 4, Column I, shows the analysis of the effect of country-level variables regarding the growth of gross domestic product (*GGDP*), corruption perception (*CORR*) and level of minority investors' protection (*PMI*) on the level of earnings management. This analysis also includes firm-level variables (*N_BIG*, *LEV*, *ROA*, *NEG* and *SIZE*) and dummies for industries based on the SIC codes. Besides, we included in the regression the interaction of *CORR* and *PMI* with a dummy for emerging countries, in order to analyze whether these country-level variables play a different role in the group of developed countries.

In Table 4, Column I, we observe that the *CORR* variable interaction with the dummy for emerging countries is negative (-0.0035), indicating a lower level of earnings management among emerging countries with lower perception of corruption. We interpret these results as consistent with the argument that favorable institutional factors create a supportive financial environment that reduces managerial incentives to manipulate earnings. It is interesting to note, however, that this effect only hold for the emerging countries, once the coefficient for general countries is not statistically significant.

We found a stirring result regarding minor investors' protection: we find that a higher level of minority investors' protection in emerging countries is associated with a higher level of earnings management of (*PMI_E* 0.0003). We interpret these results as a potential impact of corruption level and legal enforcement over the effectiveness of laws protecting minor investors in emerging countries. For example, countries might determine particular laws to guarantee specific rights to minor shareholders. However, its effective application relies upon enforcement and Government conduct. Thus, for firms located in countries with higher corruption perception, rules protecting minor shareholders appear to not influence the reduction of earnings management.

Table 4, Column I, also shows the influence of firm-level variables on the level of earnings management. Leverage and the disclosure of losses are positively associated with manipulation of earnings (*LEV* 0.0108; *NEG* 0.0074), indicating a greater level of earnings management for firm with high debt and negative reporting earnings. On the other side, return on assets and size are negatively related with absolute discretionary accruals (*ROA* -0.0512; *SIZE* -0.0042), indicating that larger and profitable firms engage in less earnings management. These findings are consistent with previous studies as those of Chen et al. (2010) and Barth et al (2008).

Table 4, Column I, shows no significant association between absolute discretionary accruals and gross domestic product growth (*GGDP*), then we proceed the regression analysis excluding this variable. Table 4, Column II, demonstrate essentially the same results as those in Column I, except for a better indication of model adjustment, with a greater adjusted R-squared in Table 4, Column II (0.2191).

Further in the analysis, we include a variable to measure the influence of the level of contract enforcement (*EC*) on the level of earnings management and its interaction with the emerging countries dummy (*EC_E*). It is understood that the level of enforcing contracts is positively associated with financial reporting quality. Managers are likely to conform with their contractual responsibilities to financial reporting users in a legal environment with strong contracts enforcement. The results regarding enforcing contracts exam is observed in Table 4, Column III.

We find that the inclusion of *EC* and *EC_E* turn *PMI* to be relevant, as the later ones are themselves not significant for the model. The results regarding these two variables show interesting differences between developed and emerging countries. For emerging countries,

the corruption perception index remains negatively associated with the level of earnings management ($CORR_E$ -0.0037), which means that the level of corruption is positively associated with earnings management. Regarding the level of minority investors' protection, the results indicate that, for all countries, higher levels of protection is associated with lower levels of discretionary accruals. However, for emerging countries the effect is again the opposite, once PMI_E (0.0005) is positive and higher than PMI (-0.0001). As in Table 4, Columns I and II, we interpret these results as a potential impact of corruption and rules' enforcement over the effectiveness of minor investors' rights. Thus, for firms in general, the strength of minor shareholders legal protection is associated with a reduced level of earnings management. However, for firms located in emerging countries, which present higher levels of corruption perception, minority rights appear not to reduce managers' incentives to manipulate earnings.

Regarding firm-level variables, Table 4, Column III, presents essentially the same outcomes as those in Table 1, Columns I and II, that is, higher level of earnings management for firm with greater debt and negative reporting earnings (LEV 0.0106; NEG 0.0075); and lower level of earnings management for larger and profitable firms ($SIZE$ -0.0041; ROA -0.0512).

We also analyze the influence of bankruptcy laws and insolvency process of each country over the level of earnings manipulation. We include the resolving insolvency variable ($RINS$) and its interactions with dummy for emerging countries ($RINS_E$), and we present the regression results in Table 4, Column IV. When considering all firms in the sample, the variable is positively associated with the level of earnings management. However, it is negative for the emerging markets, once the coefficient of $RINS_E$ (-0.0002) is negative when compared with the coefficient of $RINS$ (0.0002). This result indicates that high quality of insolvency laws is associated with lower levels of absolute discretionary accruals, for firms located in emerging countries. The sign is consistent with the association between business regulatory quality and managements' incentives to improve quality of financial statements. The positive $RINS$ for general firms, however, is intriguing. We understand that, because the related variable includes measures of firms' recovery rate and easiness of proceedings, it might indicate that affirmative procedures to resolve bankruptcy issues incite earnings management, or firms are more comfortable to manipulate earnings when laws promote easy and rapid recovery process.

Table 4, Column IV, also shows negative PMI (-0.0002), positive PMI_E (0.0005), positive LEV and NEG (LEV 0.0112; NEG 0.0078), and negative ROA and $SIZE$ (ROA -0.0512; $SIZE$ -0.0040), consistent with results obtained in Table 4, Columns I, II and III.

Hence, we observe that firms' characteristics are relevant to determine the level of earnings management for ADR issuing firms, regardless firms' location. The role of country-level variables, otherwise, appears to be conditioned to the firms' country, being developed or emerging. The results indicate that corruption perception reduce firms' incentives to manipulate earnings for firms located in emerging countries, while such results are not identified in developed countries. For the particular case of the level of minor shareholders rights, a potential relation between this variable and corruption perception might affect its effectiveness over earnings management for firms located in emerging countries. At last, general firms from countries with agile and plain insolvency regulation tend to present higher level of earnings management.

5. Conclusion

This study examined the relation between earnings management and countries' corruption levels by examining whether foreign firms with ADR in the U.S. market from countries presenting higher levels of corruption are more likely to have higher levels of earnings management than their counterparts from countries with lower levels of corruption. Control variables pertaining to important factors that previous literature detected as being linked with corruption and/or with earnings management were considered. Control variables related to firm-level factors were also included.

The empirical findings suggest that corruption perception is related to higher incentives for firms to manipulate earnings for firms located in emerging countries, while such results are not identified in developed countries. The findings confirm results of previous studies pertaining to the impact of corruption on accounting quality (Riahi-Belkaoui, 2004; Riahi-Belkaoui and AlNajjar, 2006). In addition, the study suggests the existence of threshold level of corruption, below which the effects on earnings management are no longer significant. This indicates that there may be a level of institutional development in terms of fight against corruption above which there is no significant impact of lack of tolerance regarding corruption on earnings management. Further studies are required to validate this possibility.

One of the main limitations of this study pertain to the corruption perceptions index, which is based on perceptions of corruption rather than on the real phenomenon. Further studies may combine this type of measure of corruption with more robust indicator.

6. References

- Argandoña, A. (2005), "Corruption and Companies: The Use of Facilitating Payments", *Journal of Business Ethics*, 60(3), 251-264.
- Barth, M., Landsman, W., Lang, M. and Williams, C. (2012), "Are IFRS-based and US GAAP-based Accounting Amounts Comparable?", *Journal of Accounting and Economics*, 54(1), 68-93.
- Branco, M. C. e Delgado, C. (2012), "Business, Social Responsibility and Corruption", *Journal of Public Affairs*, 12(4), 357-365.
- Chen, H., Tang, Q., Jiang, Y. and Lin, Z. (2010). "The Role of International Financial Reporting Standards in Accounting Quality: Evidence from the European Union", *Journal of International Financial Management and Accounting*, 21(3), 220-278.
- Dechow, P., Sloan, R. and Sweeney, A. (1995), "Detecting Earnings Management", *The Accounting Review*, 70(2), 193-225.
- Errath B., Brew P., Moberg J. and Brooks J. (2005), *Business Against Corruption – A Framework for Action*, United Nations Global Compact.
- Everett, J., Neu, D. and Rahaman, A. S. (2007), "Accounting and the Global Fight Against Corruption", *Accounting, Organizations and Society*, 32(6), 513-542.
- Houqe, N. and Monem, R. (2013), "Corruption, Political Institutions, and Accounting Environment: A Cross-Country Study", *International Journal of Accounting Symposium*, May 2013. Available at SSRN: <http://ssrn.com/abstract=2263630> or <http://dx.doi.org/10.2139/ssrn.2263630>
- Jones, J. (1991). "Earnings Management During Import Relief Investigations", *Journal of Accounting Research*, 29(2), 193-228.
- Kimbro, M. B. 2002. 'A Cross-country Empirical Investigation of Corruption and its Relationship to Economic, Cultural and Institutional Variables: An Examination of the Role of Accounting and Financial Statements Quality'. *Journal of Accounting, Auditing and Finance* 17(4), 325-349.
- Leuz, C., Nanda, D., and Wysocki, P. (2003). "Earnings Management and Investor

- Protection: An International Comparison”, *Journal of Financial Economics*, 69, 505-527.
- Ling-Ching, A., Hsu, A. and Lee, E. (2013), “Does Mandatory IFRS Adoption Affect the Credit Ratings of Foreign Firms Cross-Listed in the U.S.?” *Accounting Horizons*, 27 (3), 491-510.
- Malagueño, R., Albrecht, C., Ainge, C. and Stephens, N. (2010), “Accounting and Corruption: A Cross-Country Analysis”, *Journal of Money Laundering Control*, 13 (4), 372-393
- Riahi-Belkaoui, A. (2004), “Effects of Corruption on Earnings Opacity Internationally”, *Advances in International Accounting*, 17, 73-84.
- Riahi-Belkaoui, A. and AlNajjar, F. K. (2006), “Earnings Opacity Internationally and Elements of Social, Economic and Accounting Order”, *Review of Accounting and Finance*, 5 (3), 189-203.
- Sun, J., Cahan, S. and Emanuel, D. (2011), “How Would the Mandatory Adoption of IFRS Affect the Earnings Quality of U.S. Firms? Evidence from Cross-Listed Firms in the U.S.” *Accounting Horizons*, 25(4), 837-860.
- Warfield, T., Wild, J. and Wild, K. (1995). “Managerial Ownership, Accounting Choices, and Informativeness Of Earnings”, *Journal of Accounting and Economics*, 20, 61-91.
- Wu, X. (2005), “Firm Accounting Practices, Accounting Reforms and Corruption in Asia”, *Policy and Society*, 24 (3), 53-78.

Table 1. Distribution of firm-year observations

Panel A. Emerging Countries	
Argentina	18
Brazil	141
Chile	36
Mexico	57
Peru	9
Philipines	9
Poland	3
Russia	45
Singapore	3
South Africa	78
Turkey	6
Total	405
Panel B. Developed Countries	
Austria	30
Austrália	168
Belgium	15
Denmark	15
Finland	15
France	75
Germany	93
Greece	3
Holand	36
Hong Kong	21
Hungary	9
Ireland	21
Israel	18
Italy	30
New Zeland	6
North Korea	27
Norway	24
Portugal	3
Spain	18
Sweden	27
Switzerland	18
United Kingdom	204
Total	876
Total number	1.281
Panel C. Industries	
Agriculture, Forestry, and Fishing (SIC 0)	12
Mining and Construction (SIC 1)	195
Manufacturing (SIC 2)	258
Manufacturing (SIC 3)	267
Utilities (SIC 4)	276
Wholesale Trade (SIC 5)	96
Finance, Insurance and Real State (SIC 6)	27
Services (SIC 7)	93
Services (SIC 8)	57
Total number	1.281

Table 2. Descriptive statistics for the country-level and firm-level variables

	All Countries		Emerging Countries		Developed Countries		t-Stat. ^a
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Country-Level Variables							
<i>GGDP</i>	1.8950	1.7377	3.0220	1.6446	1.3730	1.5192	-17.589*
<i>CORR</i>	6.5240	2.0032	4.1060	1.2026	7.6410	1.1169	51.388*
<i>PMI</i>	61.9701	13.3694	59.4067	11.5960	63.1553	13.9621	4.704*
<i>EC</i>	69.3411	9.5842	61.4353	8.1314	72.9961	7.8594	24.242*
<i>RINS</i>	68.5945	27.7792	35.5588	18.9179	83.8678	14.9981	49.208*
Firm-Level Variables							
<i>LEV</i>	0.5238	0.2380	0.5222	0.2408	0.5245	0.2368	0.163
<i>ROA</i>	0.0135	0.1844	0.0486	0.0870	-0.0027	0.2131	-4.667*
<i>SIZE</i>	15.2950	2.2719	15.3239	1.5564	15.2816	2.5361	-0.310
<i>/DA/</i>	0.0391	0.0433	0.0408	0.0421	0.0383	0.0438	-0.960

GGDP: growth of gross domestic product; *CORR*: corruption perception index; *PMI*: index of minority investors protection; *EC*: index of contract enforcement; *RINS*: index of insolvency and bankruptcy law; *LEV*: ratio between total liabilities and total assets; *ROA*: return on assets; *SIZE*: natural logarithm of total assets; */DA/*: absolute discretionary accruals.

^a Mean tests between emerging countries and developed countries.

* Indicate differences between emerging countries and developed countries at 0.01.

Tabela 3: Distribution of the country-level variables

Emerging Countries					
Country	Corruption Perceptions Index	Protecting Minority Investors	Enforcing Contracts	Resolving Insolvency	GDP Growth
Argentina	3.30	50.00	65.13	34.63	4.17
Brazil	4.00	53.33	52.51	18.22	2.07
Chile	7.17	63.33	63.85	35.30	5.10
Mexico	3.27	56.67	62.74	72.20	3.03
Peru	3.67	64.44	57.40	29.89	6.10
Philippines	3.20	43.33	53.90	5.02	5.87
Poland	5.77	60.00	59.56	43.72	2.67
Russia	2.67	46.67	76.13	44.57	3.00
Singapore	8.83	93.33	89.54	96.51	4.17
South Africa	4.17	80.00	66.14	37.67	2.67
Turkey	4.70	60.00	66.13	24.03	4.97
Developed Countries					
Country	Corruption Perceptions Index	Protecting Minority Investors	Enforcing Contracts	Resolving Insolvency	GDP Growth
Australia	8.47	56.67	77.20	87.32	2.83
Austria	7.20	50.00	81.55	82.22	1.33
Belgium	7.50	70.00	77.67	94.61	0.63
Denmark	9.17	63.33	68.79	94.67	0.37
Finland	9.10	56.67	75.58	96.21	0.13
France	7.07	56.67	77.80	49.82	0.73
Germany	7.90	50.00	76.74	87.26	1.47
Greece	3.67	37.78	49.38	45.16	- 6.00
Hong Kong	7.87	90.00	80.01	87.38	3.07
Hungary	5.17	43.33	73.36	41.59	0.27
Ireland	7.20	83.33	76.70	93.97	0.70
Israel	5.97	83.33	54.93	59.43	3.77
Italy	4.13	60.00	42.61	65.49	- 1.30
Korea	5.50	62.22	81.02	88.21	3.00
Netherlands	8.53	44.44	75.04	93.17	- 0.37
New Zealand	9.20	96.67	79.04	86.43	2.43
Norway	8.70	66.67	78.41	97.68	1.60
Portugal	6.20	60.00	69.95	78.26	- 1.97
Spain	6.20	50.00	63.05	79.87	- 0.90
Sweden	9.00	63.33	72.62	81.72	1.80
Switzerland	8.63	30.00	71.96	51.13	1.57
United Kingdom	7.60	80.00	68.70	95.33	1.03

Table 4. Regression results for firm-level and country-level variables

	I	II	III	IV
<i>GGDP</i>	-0.0001 (0.252)			
<i>CORR</i>	0.0011 (0.254)	0.0009 (0.311)	0.0010 (0.460)	-0.0006 (0.576)
<i>CORR_E</i>	-0.0035 (0.066)*	-0.0037 (0.047)**	-0.0037 (0.077)*	-0.0022 (0.267)
<i>PMI</i>	-0.0001 (0.122)	-0.0001 (0.122)	-0.0001 (0.068)*	-0.0002 (0.011)**
<i>PMI_E</i>	0.0003 (0.018)**	0.0004 (0.021)**	0.0005 (0.014)**	0.0005 (0.003)***
<i>EC</i>			-0.0001 (0.493)	
<i>EC_E</i>			-0.0001 (0.547)	
<i>RINS</i>				0.0002 (0.026)**
<i>RINS_E</i>				-0.0002 (0.050)*
<i>N_BIG</i>	-0.0015 (0.711)	-0.0014 (0.722)	-0.0016 (0.682)	-0.0016 (0.693)
<i>LEV</i>	0.0108 (0.040)**	0.0113 (0.030)**	0.0106 (0.044)**	0.0112 (0.032)**
<i>ROA</i>	-0.0512 (0.000)***	-0.0512 (0.003)***	-0.0512 (0.000)***	-0.0512 (0.000)***
<i>NEG</i>	0.0074 (0.022)**	0.0075 (0.020)**	0.0073 (0.024)**	0.0077 (0.016)*
<i>SIZE</i>	-0.0042 (0.000)***	-0.0041 (0.000)***	-0.0041 (0.000)***	-0.0039 (0.000)***
<i>Intercept</i>	0.0931 (0.000)***	0.0906 (0.000)***	0.1019 (0.000)***	0.0897 (0.000)***
Adj. R-Squared.	0.2166	0.2191	0.2209	0.2222
F-Stat.	19.7603	20.8402	18.7287	18.9675
p-value F-Stat.	0.000	0.000	0.000	0.000

OLS regressions with industry fixed effect.

GGDP: growth of gross domestic product; *CORR*: corruption perception index; *PMI*: index of minority investors protection; *EC*: index of contract enforcement; *RINS*: index of insolvency and bankruptcy law; *N_BIG*: dummy indicating 1 for firms audited by a non-big 4 auditing company; *LEV*: ratio between total liabilities and total assets; *ROA*: return on assets; *NEG*: dummy indicating 1 for firms with negative results; *SIZE*: natural logarithm of total assets.

CORR_E, *PMI_E*, *EC_E* and *RINS_E* are interactions between *CORR*, *PMI*, *EC* and *RINS* variables with a dummy indicating 1 for emerging countries, respectively.

Numbers outside parenthesis indicate estimated coefficient for each variable.

Numbers inside parenthesis indicate p-value for t-test of each variable.

***, ** and * represent significance at 0.01, 0.05 and 0.1, respectively.