

**THE EFFECTS OF CORRUPTION ON EARNINGS MANAGEMENT**

**Isabel Costa Lourenço**

UNIDE, Lisbon University Institute (ISCTE-IUL), Portugal

**Alex Rathke**

University of São Paulo, Brazil

**Verônica Santana**

University of São Paulo, Brazil

**Manuel Castelo Branco**

Faculty of Economics, University of Porto, Portugal

**Área Temática:** A) Información Financiera y Normalización Contable

**Palabras clave:** corruption, developed countries, earnings management, emerging countries.

## THE EFFECTS OF CORRUPTION ON EARNINGS MANAGEMENT

### Abstract

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. Such results are not identified in developed countries.

**Keywords:** 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.

Research on earnings management has a long history (Healy and Whalen, 1999; Dechow and Skinner, 2000; Walker, 2013). One of the most widely accepted definitions of earnings management is that of Healy and Wahlen (1999, p. 368): “Earnings management occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.”

A wide diversity of behaviours may be encompassed within the notion of earnings management, ranging from those which comply with the accounting standards in place to those that violate said standards. In this perspective, Dechow and Skinner (2000) distinguish between behaviours that clearly demonstrate intent to deceive, which can be considered under the umbrella of fraudulent accounting, and behaviours that, although being aggressive, are acceptable ways for managers to exercise their discretion.

According to Healy and Whalen (1999, p. 380) earnings management may occur for a variety of reasons, including “to influence stock market perceptions, to increase management’s compensation, to reduce the likelihood of violating lending agreements, and to avoid regulatory interventions”. Graham et al. (2005) found that managers want to meet or beat earnings benchmarks to build credibility with the capital market, maintain or increase stock price, improve the external reputation of the management team, and convey future growth prospects. A recent paper by Dichev et al. (2013) estimated that about 20% of public firms manage their earnings figures, and that the typical management is about 10% of the earnings per share.

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 country-level and firm-level characteristics that previous literature analyzed as being linked with earnings management, such as the firms' size and profitability or the level of minority investors' protection or the level of contract enforcement.

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 firms from countries with higher 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 hypotheses. 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 and hypothesis

Many studies on earnings management consider the phenomena of corruption as a factor influencing earnings management. However, the majority of them do this in an indirect way by using a variable measuring the strength of legal environment, which is the average score of three legal variables used in La Porta et al. (1998): the efficiency of the judicial system, an assessment of the rule of law, and the level of corruption (Leuz et al., 2003; Shen and Chih, 2005, 2007; Chih et al., 2008; Douppnick, 2008; Van Tendeloo and Vanstraelen, 2008; Li et al., 2011).

González and García-Meca (2014) used a measure of the governability level of a country that considers the following three main indicators: control of corruption, rule of law, and government effectiveness. Following extant literature, these authors suggest that these indicators are important factors in measuring the way in which the governability of a country affects opportunistic behaviour in firms.

In spite of this, and although there is a wealth of literature on both corruption and accounting quality, studies analysing possible relations between the two are scarce. 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-Belkoui (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 earning 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 analyze the association between the level of earnings management of foreign firms with ADR in the U.S. market and the level of perceived corruption in their respective countries, we built the following model:

$$|DA|_{it} = CORR_{it} + PMI_{it} + EC_{it} + N\_BIG_{it} + LEV_{it} + ROA_{it} + NEG_{it} + SIZE_{it} + \sum Industry + \varepsilon_{it} \quad (3)$$

where the main independent variable, *CORR*, is the Corruption Perception Index computed by the Transparency International Organization. Besides the corruption index we add in our model the following country-level variables: the level of protection of minority investors (*PMI*) and the level of contracts enforcement (*EC*).

The set of firm-level variables 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*).

In order to analyze whether the effect of corruption in the level of earnings management is higher in the emerging countries, when compared to developed countries, we add in model (3) interactions of each of the country-variables (*CORR*, *PMI* and *EC*) with a dummy that indicates the type of country (emerging *versus* developed). These interactions are necessary

to evaluate any differences in the effect of these institutional variables between emerging and developed countries.

#### 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 assumes higher values for countries with a lower level of perceived corruption, the minority investors protection index (*PMI*) and the enforcing contracts index (*EC*) are significantly higher in developed 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]

Table 4 presents correlations for the continuous variables included in the regressions. Consistent with established results in the accounting literature, the absolute value of discretionary accruals is negatively and significantly associated with the firms' profitability and size, when one considers the full sample. Considering only the emerging countries, firms more leveraged present a higher level of absolute discretionary accruals while larger firms present lower values of discretionary accruals. When considering the sample of developed countries, one sees that bigger, more leveraged and more profitable firms tend to present less absolute discretionary accruals. The results for the full sample show that the main independent variable used in this study (CORR) has a significant and positive univariate relationship with the variables PMI and EC, at the country-level, and a negative relationship with the variables ROA and SIZE.

Interestingly, the correlation with PMI is 0.1437 for the full sample, but is much stronger for the sample of the emerging countries (0.4053) and is negative (-0.0753) for the sample of developed countries, suggesting a different relationship between corruption and minority investors' protection in developed and emerging countries. Further, corruption is only correlated with PMI in the emerging countries, but is significantly associated with EC, LEV, ROA and SIZE in the developed countries. The correlation between PMI and the other variables also varies between the two groups of countries, also presenting opposite signs regarding EC and LEV.

Regarding the firm-level variables, leveraged is also different between the two groups. While bigger and more profitable firms tend to be more leveraged in emerging countries, in developed countries, firms with these characteristics tend to be less leveraged.

[TABLE 4 HERE]

## **4.2 Regression Results**

Table 5 presents the results of the regression models performed in order to analyze the association between the level of earnings management of foreign firms with ADR in the U.S. market and the level of perceived corruption in their respective countries.

[TABLE 5 HERE]

The dependent variable used in the analysis is the absolute value of discretionary accruals of each firm and the main independent variable is the Corruption Perception Index computed by the Transparency International Organization. In order to control for alternative explanations for the level of earnings management, the model also includes a set of country-level (PMI and EC) and firm-level (*N\_BIG*, *LEV*, *ROA*, *NEG* and *SIZE*) variables. The regression is estimated with industry fixed effects and with robust standard errors.

Table 5, Column I, shows the results of the analysis of the entire sample without taking into account any differences between emerging and developed countries. The results provide empirical evidence that any of the country-level variable coefficients, including CORR, are statistically significant. Regarding the firm-level variables, the coefficients of ROA and Size are negative and statistically significant, while the coefficient of the variable NEG is positive and also statistically significant. It seems that larger and profitable firms are less likely to engage in earnings management practices. These findings are consistent with previous studies as those of Chen et al. (2010) and Barth et al (2008).

Table 5, Columns II and III, shows the analysis of the entire sample but capturing any differences between emerging and developed countries. Column II shows that the coefficient of the main independent variable (CORR) is negative and statistically significant but only in the group of firms from emerging countries (CORR x E). It seems that, in the emerging countries, a lower level of perceived corruption (which means a higher value of the Corruption Perceptions Index) is associated with a lower level of earnings management, which does not happen in developed countries.

Table 5, Column II, also shows that the coefficient of the variable PMI is negative and statically significant, which means that a higher level of minority investors' protection is associated with a lower level of earnings management. These results are consistent with the argument that favorable institutional factors create a supportive financial environment that reduce managerial incentives to manipulate earnings. However, the coefficient of the interaction term of the variables PMI and E is positive and statistically significant, which means that, in the emerging countries, the relationship between the level of investors' protection and the level of earnings management can not be found or, at least, is smaller when compared to developed countries.

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.

The results presented in Table 5, Column III, are consistent with those found in Column II. The coefficient of the main independent variable (CORR) is negative while the estimate of the interaction term of CORR with the dummy D is positive, and they are both statistically significant. It seems that the level of perceived corruption explains the level of earnings management but only in the group of firms from emerging countries.

Table 5, Column III, also shows that the association between minority investors' protection and earnings management only hold in the group of firms from developed countries. Solely the coefficient of the interaction term of the variables PMI and D is negative and statistically significant. For firms located in emerging countries, which present higher levels of corruption perception, minority rights appear not to reduce managers' incentives to manipulate earnings.

Table 6 shows the analysis separately for the groups of firms from emerging and from developed countries. The results are consistent to those presented in Table 5.

[TABLE 6 HERE]



Overall, 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 emerging or developed. The results indicate that corruption perception (minority investors' protection) reduce firms' incentives to manipulate earnings for firms located in emerging (developed) countries, while such results are not identified in developed (emerging) countries.

## **5. Conclusion**

This study analyse 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 earnings management were considered.

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.
- Chih, H.-L., Shen, C.-H, and Kang, F.-C. (2008), "Corporate Social Responsibility, Investor Protection, and Earnings Management: Some International Evidence", *Journal of Business Ethics*, 79, 179-198
- Dechow, P. and Skinner, D. (2000), "Earnings Management: Reconciling the Views of Accounting Academics, Practitioners, and Regulators", *Accounting Horizons*, 14(2), 235-250.
- Dechow, P., Sloan, R. and Sweeney, A. (1995), "Detecting Earnings Management", *The Accounting Review*, 70(2), 193-225.
- Doupnik, T. S. (2008), "Influence of culture on earnings management: A note", *Abacus* 44(3), 317-340.
- 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.
- González, J. S. and García-Meca (2014), "Does Corporate Governance Influence Earnings Management in Latin American Markets?", *Journal of Business Ethics*, 121, 419-440.

- Healy, P. and Wahlen, J. (1999), "A Review of the Earnings Management Literature and Its Implications for Standard Setting", *Accounting Horizons*, 13(4), 365-383.
- 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.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. (1998), "Law and finance", *Journal of Political Economy*, 106, 1113-1155.
- Leuz, C., Nanda, D., and Wysocki, P. (2003). "Earnings Management and Investor Protection: An International Comparison", *Journal of Financial Economics*, 69, 505-527.
- Li, L., Francis, B. B. and Hasan, I. (2011), "A Cross-Country Study of Legal Environment and Real Earnings Management", *CAAA Annual Conference 2011*. Available at SSRN: <http://ssrn.com/abstract=1740036> or <http://dx.doi.org/10.2139/ssrn.1740036>
- 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.

- Shen, C.-H. and Chih, H.-L. (2005), "Earnings Management and Corporate Governance in Asia's Emerging Markets", *Corporate Governance*, 15(5), 999-1021.
- Shen, C.-H. and Chih, H.-L. (2005), "Investor Protection, Prospect Theory, and Earnings Management: An International Comparison of the Banking Industry", *Journal of Banking and Finance*, 29, 2675-2697.
- 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.
- Van Tendeloo, B. and Vanstraelen, A. (2008), "Earnings Management and Audit Quality in Europe: Evidence from the Private Client Segment Market", *European Accounting Review*, 17(3), 447-469.
- Walker, M. (2013), "How far can we trust earnings numbers? What research tells us about earnings management", *Accounting and Business Research*, 43(4), 445-481.
- 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**

---

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

---

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

	All Countries		Emerging Countries		Developed Countries		t-Stat. <sup>a</sup>
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
<b>Country-Level Variables</b>							
<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*
<b>Firm-Level Variables</b>							
<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

*CORR*: corruption perception index; *PMI*: index of minority investors protection; *EC*: index of contract enforcement; *LEV*: ratio between total liabilities and total assets; *ROA*: return on assets; *SIZE*: natural logarithm of total assets; */DA/*: absolute value of discretionary accruals.

<sup>a</sup> 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**

<b>Emerging Countries</b>			
<b>Country</b>	<b>Corruption Perceptions Index</b>	<b>Protecting Minority Investors</b>	<b>Enforcing Contracts</b>
Argentina	3.30	50.00	65.13
Brazil	4.00	53.33	52.51
Chile	7.17	63.33	63.85
Mexico	3.27	56.67	62.74
Peru	3.67	64.44	57.40
Philippines	3.20	43.33	53.90
Poland	5.77	60.00	59.56
Russia	2.67	46.67	76.13
Singapore	8.83	93.33	89.54
South Africa	4.17	80.00	66.14
Turkey	4.70	60.00	66.13
<b>Developed Countries</b>			
<b>Country</b>	<b>Corruption Perceptions Index</b>	<b>Protecting Minority Investors</b>	<b>Enforcing Contracts</b>
Australia	8.47	56.67	77.20
Austria	7.20	50.00	81.55
Belgium	7.50	70.00	77.67
Denmark	9.17	63.33	68.79
Finland	9.10	56.67	75.58
France	7.07	56.67	77.80
Germany	7.90	50.00	76.74
Greece	3.67	37.78	49.38
Hong Kong	7.87	90.00	80.01
Hungary	5.17	43.33	73.36
Ireland	7.20	83.33	76.70
Israel	5.97	83.33	54.93
Italy	4.13	60.00	42.61
Korea	5.50	62.22	81.02
Netherlands	8.53	44.44	75.04
New Zealand	9.20	96.67	79.04
Norway	8.70	66.67	78.41
Portugal	6.20	60.00	69.95
Spain	6.20	50.00	63.05
Sweden	9.00	63.33	72.62
Switzerland	8.63	30.00	71.96
United Kingdom	7.60	80.00	68.70

**Table 4. Correlation Matrix**

All countries							
	DA	CORR	PMI	EC	LEV	ROA	SIZE
ADA	1	-	-	-	-	-	-
CORR	-0.0066	1	-	-	-	-	-
PMI	-0.0230	0.1437***	1	-	-	-	-
EC	0.0111	0.6292***	-0.0039	1	-	-	-
LEV	-0.0560	-0.0678	0.0367	-0.1843***	1	-	-
ROA	-0.3302***	-0.1341***	0.0482*	-0.0967***	0.0248	1	-
SIZE	-0.2965***	-0.0877***	-0.0540*	-0.1078***	0.3075***	0.4125***	1
Emerging Countries							
	DA	CORR	PMI	EC	LEV	ROA	SIZE
ADA	1	-	-	-	-	-	-
CORR	-0.0523	1	-	-	-	-	-
PMI	0.0794	0.4053***	1	-	-	-	-
EC	0.0002	-0.0674	0.2655***	1	-	-	-
LEV	0.1151**	0.0486	-0.1543***	-0.2535***	1	-	-
ROA	0.0432	-0.0257	0.0998**	0.1678***	-0.4453***	1	-
SIZE	-0.0856*	-0.0625	-0.2372***	-0.0534	-0.1682***	0.1310***	1
Developed Countries							
	DA	CORR	PMI	EC	LEV	ROA	SIZE
ADA	1	-	-	-	-	-	-
CORR	0.0649*	1	-	-	-	-	-
PMI	-0.0562	-0.0753**	1	-	-	-	-
EC	0.0459	0.5742***	-0.2366***	1	-	-	-
LEV	-0.1330***	-0.2133***	0.1109***	-0.2123***	1	-	-
ROA	-0.4249***	-0.0580*	0.0633**	-0.0699**	0.1177***	1	-
SIZE	-0.3606***	-0.1703***	-0.0106	-0.1489***	0.4534***	0.4514***	1

ADA: absolute value of discretionary accruals; CORR: corruption perception index; PMI: index of minority investors protection; EC: index of contract enforcement; LEV: ratio between total liabilities and total assets; ROA: return on assets; SIZE: natural logarithm of total assets.

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



**Table 5. Regression results for the entire sample**

	I	II	III
<i>CORR</i>	0.0046 (0.555)	0.0011 (0.460)	-0.0030 (0.052)*
<i>CORR</i> x <i>E</i>	-	-0.0041 (0.045)**	-
<i>CORR</i> x <i>D</i>	-	-	0.0040 (0.045)**
<i>PMI</i>	-0.0001 (0.263)	-0.0002 (0.029)**	0.0003 (0.147)
<i>PMI</i> x <i>E</i>	-	0.0005 (0.031)**	-
<i>PMI</i> x <i>D</i>	-	-	-0.0005 (0.031)**
<i>EC</i>	-0.0001 (0.711)	-0.0001 (0.433)	-0.0003 (0.233)
<i>EC</i> x <i>E</i>	-	-0.0001 (0.563)	-
<i>EC</i> x <i>D</i>	-	-	0.0001 (0.563)
<i>N_BIG</i>	-0.0025 (0.621)	-0.0017 (0.736)	-0.0017 (0.736)
<i>LEV</i>	0.0097 (0.154)	0.0107 (0.121)	0.0107 (0.121)
<i>ROA</i>	-0.0506 (0.001)***	-0.0512 (0.001)***	-0.0512 (0.001)***
<i>NEG</i>	0.0074 (0.045)**	0.0073 (0.049)**	0.0073 (0.049)**
<i>SIZE</i>	-0.0041 (0.000)***	-0.0041 (0.000)***	-0.0041 (0.000)***
<i>Intercept</i>	0.1064 (0.000)***	0.1019 (0.000)***	0.1019 (0.000)***
Adj. R-Squared.	0.2129	0.2167	0.2167
F-Stat.	12.7367	18.7287	18.7287
p-value F-Stat.	0.000	0.000	0.000

OLS regressions with industry fixed effect.

*CORR*: corruption perception index; *PMI*: index of minority investors protection; *EC*: index of contract enforcement; *N\_BIG*: dummy indicating 1 for firms audited by a non-big 4 auditing firm; *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.

*E* is a dummy indicating 1 for emerging countries and 0 otherwise. *D* is a dummy indicating 1 for developed countries and 0 otherwise

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.

**Table 6. Regression results for the two groups of countries**

	<b>Emerging countries</b>	<b>Developed countries</b>
<i>CORR</i>	-0.0029 (0.071)*	0.0009 (0.487)
<i>PMI</i>	0.0004 (0.101)	-0.0002 (0.025)**
<i>EC</i>	-0.0001 (0.618)	-0.0002 (0.321)
<i>N_BIG</i>	0.0111 (0.134)	-0.0086 (0.171)
<i>LEV</i>	0.0352 (0.121)	0.0060 (0.435)
<i>ROA</i>	-0.0512 (0.001)***	-0.0586 (0.001)***
<i>NEG</i>	0.0143 (0.066)*	0.0105 (0.016)*
<i>SIZE</i>	-0.0024 (0.083)*	-0.0042 (0.000)*
<i>Intercept</i>	0.0405 (0.228)	0.1088 (0.000)***
Adj. R-Squared.	0.1105	0.2916
F-Stat.	3.1606	22.7212
p-value F-Stat.	0.000	0.000

OLS regressions with industry fixed effect with robust standard errors

*CORR*: corruption perception index; *PMI*: index of minority investors protection; *EC*: index of contract enforcement; *N\_BIG*: dummy indicating 1 for firms audited by a non-big 4 auditing firm; *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.

*E* is a dummy indicating 1 for emerging countries and 0 otherwise. *D* is a dummy indicating 1 for developed countries and 0 otherwise

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.