Mandatory Adoption of IFRS and Earnings Management in Emerging Countries: The Role of National Culture

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Abstract

IFRS are recognized as standards with the potential to improve the quality of accounting information considering, among other factors, the fact that they are principles based rules and may, therefore, better reflect the companies' financial situation. However, institutional characteristics of the countries has been pointed out as potencial influencers on the effect of IFRS adoption. In this perspective, this study examines whether the characteristics of national culture (individualism, masculinity, aversion to uncertainty, long-term orientation indulgence and power distance), as proposed by Hofstede, Hofstede and Minkov (2010), are moderating factors on the potential impact of IFRS mandatory adoption on the quality of accounting information in emerging countries. The quality of information was measured through earnings management by accruals, based on the model of Jones (1991) modified by Dechow, Sloan and Sweeney (1995). Through a sample of 2,458 companies from 13 countries, totaling 18,163 firm-year observations, using regression models and controlling for several firm-individual characteristics, we identified that the dimensions of individualism, masculinity, aversion to uncertainty, long-term orientation and indulgence moderates the impact of IFRS adoption on earnings management levels in emerging countries. It was not possible to identify evidence that the power distance dimension exerts such influence. Taken together, the results of this study indicate that the national culture characteristics are able to moderate the effects of mandatory adoption of IFRS on earnings management practices. Overall, this study adds to the literature on the effect of cultural factors on accounting quality and fills a gap in the empirical literature about accounting and IFRS, which mostly addresses developed countries, by addressing emerging countries.

Keywords: cultural factors; earnings management; emerging countries.

1. INTRODUCTION

This research analyzes the influence of the International Financial Reporting Standards (IFRS) mandatory adoption on the level of earnings management in companies of emerging economies according to the cultural aspects of the countries investigated. More specifically, the objective is to analyze whether the transition from the Local Generally Accepted Accounting Principles (GAAPs) to the IFRS changed the practices of earnings management, and if these possible impacts on the quality of accounting information depends on national culture characteristics.

In general, IFRS are recognized as standards with the potential to improve the quality of accounting information, considering, among other factors, the fact that they are principles based rules and may, therefore, better reflect the companies' financial situation (Barth, Landsman, and Lang 2008). In this sense, Armstrong, Barth, Jagolinzer and Riedl (2010) comment that, in theory, IFRS are more rigorous in accounting alternatives and measurement requirements when compared to the local standards for several countries, making it possible for their application to reduce the accounting options (Wan Ismail, Kamarudin, Zijl, and Dunstan 2013), and to limit the opportunistic management criterion in the determination of accounting values, including emerging countries (Ho, Liao, and Taylor 2015; Lourenço, Branco, and Curto 2015; Wan Ismail, Khairul, Zij, and Dunstan 2013) where, in theory, enforcement of legislation is considered low (La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1998). However, the benefits obtained when applying IFRS are not conclusive, in the sense that there are empirical researches that present an increase in the quality of the information after the IFRS adoption (Barth et al. 2008; Chen, Tang, Jiang, and Lin 2010; Sun, Cahan, and Emanuel 2011; Lourenço et al. 2015; Nouri and Abaoub 2014), and others that present quality reduction (Ahmed, Neel, and Wang 2013; Ball 2006; Lin, Riccardi, and Wang 2012). In this way, aspects related to private incentives of companies, as well as institutional factors, could bring different impacts to the quality of the information after the IFRS adoption (Gray, Kang, Lin, and Tang 2015).

The literature that investigates the effects of the institutional environment on accounting practices generally considers the level of economic development of countries as a relevant factor of these implications (Nobes 2011). In this sense, the adoption of IFRS in less developed countries continues to be a recent phenomenon and, therefore, less exploited when compared to the investigations carried out in developed economies (García, Alejandro, Sáenz, and Sánchez 2017), despite the importance of these countries to relevant international organizations such as the World Bank (Chen, Hope, Li, and Wang 2011). In general, the researches that address the effects of IFRS on earnings management in emerging countries are designed with multicontinental samples, considering developed and emerging countries as a whole (Armstrong et al. 2010; Barth et al. 2008); and they do not isolate specific phenomena related to the institutional environment of developing economies. In this discussion, it is emphasized that the few existing research on earnings management in less developed countries tend to focus on China (Chen, Lee, and Li 2008; Liu, Yao, Hu, and Liu 2011; Noronha, Zeng, and Vinten 2008; Shan 2015, Wang, and Campbell 2012; Yang, Chi, and Young 2012; Zhang, Uchida, and Bu 2013), thus demonstrating relevant study opportunities that add knowledge about IFRS convergence process in the emerging countries.

Among the various factors related to the institutional environment in which companies are inserted, the national culture stands out. In this perspective, it should be noted that, according to Gray (1988), accounting values are derived, among other aspects, by the cultural values of each nation. Thus, it becomes possible to understand that the national culture can affect the various decisions related to the accounting choices, which would eventually interfere in the choices related to earnings management (Guan, Pourjalali, Sengupta, and

Teruya 2005). Among the several researches about the countries' cultural aspects, Hofstede (1980, 2011) stands out in characterizing the national culture of more than 140 countries - through an extensive survey type research - in six dimensions (power distance, individualism, masculinity, aversion to uncertainty, long-term orientation and indulgence), supporting the development of empirical analysis in various fields, including accounting. In this discussion, the findings of Guan et al. (2005) and Nabar and Boonlert-U-Thai (2007) are the firsts to deal specifically with issues related to national culture influences on earnings management.

Thus, in searching for more accurate evidence on the impacts of the national culture on the levels of earnings management before and after IFRS, this study gathers as sample 2,458 firms from 13 emerging countries that have mandatorily adopted IFRS between the period analyzed (2000 to 2016), totaling 18,163 year-company observations. In the proposed econometric model, the absolute value of the discretionary accruals of the firms analyzed was considered as dependent variable, based on the model of Jones (1991) modified by Dechow, Sloan and Sweeney (1995), and as independent variables the characteristics of the national culture of the respective countries analyzed - according to the six cultural dimensions proposed by Hofstede (2011). Our results suggest that, with the exception of power distance dimension, national culture moderates the impact of IFRS adoption in earnings management levels in emerging countries.

This study contributes to the previous research in at least three aspects. First, it is possible to identify researches that analyze the relationship between earnings management level and national culture (Gray et al. 2015, Han, Kang, Salter, and Yoo 2010; Nabar, and Boonlert-U-Thai 2007; Paredes, and Wheatley 2017). However, due to the different methodologies used, as well as the diversity of sample selection criteria of these studies, the results are not conclusive. Nabar and Boonlert-U-Thai (2007) and Han et al. (2010), for example, present empirical evidence of positive relationships between the level of individualism of society and earnings management practices. On the other hand, Guan et al. (2005), Doupnik (2008) and Desender, Castro & León (2011) present negative relationship between the constructs. Such divergences open space for more discussions on the subject. It is also worth mentioning that this literature is still quite recent, making it possible to elaborate new research in order to give maturity to it.

This study also adds to the literature by providing evidence about the transition from the local GAAP to the IFRS – characterized by several authors as higher quality standards (Armstrong et al. 2010; Barth et al. 2008, Glaum, Baetge, Grothe, and Oberdörster 2013, Lang, and Stice-Lawrence 2015). By presenting empirical evidence of possible interference of the culture aspects on earnings management before and after the adoption of IFRS, this study may raise discussions with regulators, or even investors, regarding the efficiency (or not) of IFRS as a mechanism to containing earnings management practices and the role developed by the national culture in this change in potential unethical behaviors.

Finally, the sample of this study, when including only firms from emerging countries, fills a gap in the empirical literature, which mostly addresses developed countries (Gray et al. 2015). Researches investigating the possible effects of national culture on the impacts of IFRS on the accounting system in emerging countries addressed issues related to compliance (Borker 2012a) and barriers to the convergence process (Borker 2012b) in a number of countries. In this way, we are looking for a maturation of the literature when presenting results from 13 developing economies that contribute significantly to the economic development of several regions of the world.

The remainder of the paper is organized as follows. Section 2 discusses the relationship between the national culture and the quality of the accounting information and hypotheses development. Section 3 describes the research design and Section 4 presents the empirical findings. Finally, Section 5 presents summary and conclusions.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. IFRS and earnings management

The IFRS adoption worldwide resulted in the international application of a common set of financial reporting standards. Initially adopted in Europe in 2005, soon after many other countries demanded or allowed its application In this context, it is possible to conjecture that, in general, both investors and the market respond positively to the movement towards the adoption of IFRS, since these international standards are expected to result in better financial reporting quality, and therefore have the potential to reduce information asymmetry between the company and its stakeholders, reducing the risk of information and, consequently, the cost of capital (Armstrong et al. 2010).

In general, therefore, IFRS are recognized with the potential to improve the quality of accounting information, because, among other factors, are recognized as principle-based rules, and may, therefore, better reflect the company's financial position (Barth et al. 2008). In this sense, Ball, Robin and Wu (2003) comment that, in theory, IFRS are more rigorous regarding accounting alternatives and measurement requirements when compared to the local standards of several countries, making it possible to reduce the margin of accounting options and limit the opportunistic management criterion in determining accounting values.

In this discussion, it should be emphasized that empirical studies that focused on the influence of the adoption of IFRS on the earnings management are not conclusive, presenting positive results [management reduction] (Barth et al. 2008; Chen, Tang, Jiang, and Lin 2010; Sun, Cahan, and Emanuel 2011; Nouri, and Abaoub 2014), with negative results [increase in management] (Ball, 2006; Jeanjean, and Stolowy 2008, Lin et al. 2012). These divergences also remain in research that has focused on analyzing specifically the emerging countries companies.

Wan Ismail et al. (2013), investigating the adoption of IFRS in Malaysia through a sample of 4,010 company-year observations over a period of three years before and after IFRS adoption show empirically that the absolute value of discretionary accruals is significantly lower after the adoption of the new set of accounting standards, suggesting an improvement in accounting information quality. In the same perspective, Lourenço et al. (2015) examined the reported profits of Brazilian companies in the period from 2004 to 2011, comprising moments before and after the mandatory adoption of IFRS, obtaining empirical evidence of earnings discontinuities reported around the zero threshold before, but not after, the adoption of IFRS – which suggests a decline in the practices of earnings management by Brazilian companies after the adoption of international standards.

On the other hand, when analyzing earnings management from the perspective of recognition of small positive earnings with a sample of 540 companies from South Africa and Turkey, Chebaane and Othman (2013) presented evidence that the mandatory IFRS adoption is not associated with a reduction in the management of earnings toward small positive earnings in the emerging markets analyzed. Authors also point out that the recognition of small profits increased significantly after the IFRS adoption by companies in Turkey, linked to the legal system Code Law, when compared to companies in South Africa, belonging to the Common Law legal system. Hessayri and Saihi (2015), investigating the volume of discretionary accruals of companies in the United Arab Emirates, Morocco, South Africa and the Philippines, found no evidence of lower profitability management after the change for IFRS.

Despite the contrary empirical evidence, considering that IFRS are intended to be a single set of high quality accounting standards to promote transparent and comparable information to inform economic decisions (Chen et al. 2010); taking into account the intense discussions by regulators about the potential for improving the quality of information through

IFRS specifically for emerging economies (IFRS 2016), as well as the increasing mobilization of several countries in the implementation of these standards, we hypothesize the following:

H_1: The IFRS adoption reduces the level of earnings management.

2.2. Moderating Effect of the National Cultural on the Relationship between IFRS and Earnings Management

Given the evident contradictions of the empirical results presented by previous literature, more recent studies discuss the possibility of these contradictions being linked to the institutional characteristics of the countries (Ahmad-Zaluki, Campbell, and Goodacre 2011; Flores, Weffort, Silva, and Carvalho 2016), including the national culture (Gray et al. 2015).

According to Nabar and Boonlert-U-Thai (2007), the national culture is a determining factor for accounting decisions and should be considered by the regulatory bodies that establishes and requires the IFRS adoption. Hofstede (2011) defines culture as "collective mental programming that distinguishes members of one group or category of people from others." The author states that the concept of culture is more commonly associated with ethnic groups, countries and organizations, but can also be applied to different professional groups, gender, generations or social classes. Based on this concept, and as richly detailed in its 2011 paper, Hofstede, through access to a global questionnaire applied to IBM employees, and subsequently replicated to employees of another company (non-nominated), defined six dimensions of national culture, namely: aversion to uncertainty, individualism, power distance, masculinity, long-term orientation and indulgence. Thus, over the years, according to the author, replications of the study contributed to validate the findings of the initial studies.

Gray (1988), proposes that national standards for the development of accounting systems, regulation of the profession and financial administration and dissemination may be related to cultural factors. This seminal paper became the trigger for a series of empirical research that sought to assess the relationship between cultural and accounting issues, such as disclosure, information quality, and transparency (Gray et al. 2015; Guan et al. 2005; Nabar, and Boonlert-U-Thai 2007). Thus, in line with Hofstede (1980), Hofstede, Hofstede and Minkov (2010) and more detailed in Hofstede (2011), a question is asked about a possible relation between the dimensions of the national culture and the level of earnings management practiced by managers.

2.2.1. Aversion to Uncertainty

Regarding the levels of aversion to uncertainty as a dimension of national culture, it is conjectured that the more society avoids uncertainty, the greater its tendency towards smoothing earnings and signaling through earnings (Nabar, and Boonlert-U-Thai 2007), consequently encouraging earnings management practices. Along the same line, analyzing developed and emerging countries, Doupnik (2008) related earnings smoothing practices as a way to control future earnings, confirming the tendency that this dimension is related to a greater earnings management. In its empirical study, the relationship between aversion to uncertainty and earnings management was positive and statistically significant. Thus, we expect the adoption of IFRS to have a greater effect – in order to improve the information quality of the earnings – in countries with higher levels of uncertainty aversion given the propensity of these countries to manage their results. Therefore, we hypothesize that:

H_2: The reduction of the level of earnings management after IFRS adoption is ***greater*** *in countries with* ***higher*** *level of* ***Aversion to Uncertainty****.*

2.2.2. Individualism

Societies characterized as more individualistic are marked by self-orientation, autonomy, low-context communication, and emphasis on individual achievement (Hofstede 2011). Thus, personal gain is likely to be an important motivator in highly individualized societies (Nabar, and Boonlert-U-Thai 2007). Based on the framework proposed by Gray (1988), high levels of social individualism are associated with accounting values such as optimism and flexibility (Han et al. 2010). Thus, it could be assumed that in countries with a more individualistic culture, managers would have incentives to manage results by pursuing their personal interests to the detriment of others. Thus, we hypothesize that:

H_3: The reduction of the levels of earnings management after IFRS adoption is ***greater*** *in countries with* ***higher*** *level of* ***Individualism.***

2.2.3. Power Distance

Countries with high levels of power distance, according to Hofstede (2011), are countries in which the less powerful individuals in a society accept and expect power to be distributed unevenly. According to Nabar and Boonlert-U-Thai (2007), managers with more decision-making power may be more likely to earnings management, since under these circumstances there would be less oversight and more conformism from other stakeholders about opportunistic behavioral suspicions. Similarly, Paredes and Wheatley (2017, 42) also comment that since managers in cultures with high levels of power distance have "the greatest power in operations management, it is likely that the power distance is positively associated with earnings management". Thus, we hypothesize that:

H_4: The reduction of the levels of earnings management after IFRS adoption is ***smaller*** *in countries with* ***higher*** *level of* ***Power Distance****.*

2.2.4. Masculinity

The masculinity dimension is related to the level of determination and high competitiveness of societies (Hofstede 2011). Countries with populations characterized as more masculine generally place great emphasis on performance, making managers to have ambitious career aspirations and prefer to work for prominent companies and earn high wages (Nabar, and Boonlert-U-Thai 2007). Competitiveness, then, could prompt managers to manipulate earnings in order to gain differentials over others. Empirical findings of Gray et al. (2015) also point in the direction of a positive association between masculinity and the level of earnings management. Therefore, we hypothesize that:

H_5: The reduction of the levels of earnings management after IFRS adoption is ***smaller*** *in countries with* ***higher*** *level of* ***Masculinity.***

2.2.5. Long-Term Orientation

Hofstede's long-term orientation dimension refers to how a society views future and changes. A society with low long-term orientation tends to value the maintenance of tradition and norms, being less friendly to social changes. Long-term orientation, however, would be associated with efforts in a more modern education as a way of preparing for the future. This dimension is less explored in empirical studies dealing with earnings management. Gray et al. (2015) point out that high long-term orientation is associated with a tendency towards long-term relationships and reputation preservation, seeking greater sustainability in results. Other studies, however, associate long-term orientations in general with earnings management. Zang (2012) argues that earnings management based on real operations is unlikely to increase the company's value in the long run as it can sacrifice business-friendly business decisions. Zhang and Gimeno (2016) analyzed the influence of long-term investors and CEOs on earnings management as a reflection of pressures from quarterly results, concluding that a long-term orientation tends to reduce this behavior in a sample of airlines. Taken together and considering similarly the aspects of long-term orientation in the cultural and corporate dimension, we hypothesize that:

H_6: The reduction of the levels of earnings management after IFRS adoption is ***greater*** *in countries with* ***higher*** *level of* ***Long Term Guidance****.*

2.2.6. Indulgence

The sixth dimension, called indulgence, was included only in Hofstede (2011) and Hofstede, Hofstede and Minkov (2010). According to Hofstede (2011), the dimension of indulgence refers to the pursuit of happiness and is related to how society views the basic human desire to seek happiness and "enjoy life". Because it is more recent, in the same way as the long-term orientation, this dimension was little explored in accounting empirical studies. Borker (2013), broadening Gray's (1998) studies, related indulgence as a cultural dimension with aspects of the accounting profession, associating a high level of indulgence with uniformity and secrecy (related to transparency) and a higher level of professionalism, which could signal a lower trend towards earnings management. Therefore, we hypothesize that:

H_7: The reduction of the levels of earnings management after IFRS adoption is ***greater*** *in countries with* ***higher*** *level of* ***Indulgence****.*

3. RESEARCH DESIGN
3.1. Sample and data

The empirical study relies on a sample of 2,458 firms from 13 emerging countries, which were selected based on the classification proposed by the International Monetary Fund (2017). We use data from the years 2000 to 2016. Given that the change from the local standards to IFRS did not occur in the same year in all countries, the pre-IFRS and post-IFRS periods differ from one country to another. The transition year was excluded from the analysis. The company's data was collected from the Compustat database.

In order to minimize the effects of outlier observations, the company-level variables were winsorized at 1%. The final sample is composed of 18,163 company-year observations. Table 1 presents the sample distribution by country. The Malaysia, Poland and Brazil are the most representative countries, respectively, with 30%, 19% and 12% of the sample. The smallest representation is for Argentina, Colombia, Nigeria, Pakistan and South Africa, which together represent almost 10% of the sample.

Table 1 – Sample distribution by country

Country	IFRS adoption	Pre-IFRS		Post-IFRS		Total	
		Period	N	Period	N	Period	N
Argentina	31/12/2012	2000-2011	5	2013-2016	45	2000-2016	50
Brazil	31/12/2010	2000-2009	1,153	2011-2016	1,103	2000-2016	2,256
Chile	31/12/2010	2000-2009	643	2011-2016	697	2000-2016	1,340
Colombia	31/12/2015	2000-2014	240	2016	24	2000-2016	264
Malaysia	31/12/2012	2000-2011	3,832	2013-2016	1,620	2000-2016	5,452
Mexico	31/12/2012	2000-2011	741	2013-2016	317	2000-2016	1,058
Nigeria	31/12/2012	2000-2011	216	2013-2016	189	2000-2016	405
Pakistan	31/12/2007	2000-2006	97	2008-2016	309	2000-2016	406
Peru	31/12/2012	2000-2011	534	2013-2016	285	2000-2016	819
Phillippines	31/12/2010	2000-2009	528	2011-2016	674	2000-2016	1,202
Poland	31/12/2005	2000-2004	716	2006-2016	2,767	2000-2016	3,483
Russia	31/12/2012	2000-2011	469	2013-2016	465	2000-2016	934
South Africa	31/12/2005	2000-2004	106	2006-2016	388	2000-2006	494
Total	-	-	9,280	-	8,883	-	18,163

3.2. Earnings management measures

Among the several proxies of earnings management used in the literature, we selected the one based on the Jones model (1991), later modified by Dechow et al. (1995) with a view to controlling the possibility that revenue recognition is manipulated by managers – a factor not predicted in the model originally proposed by Jones (1991). In general, the discretionary accruals estimations according to Dechow et al. (1995) can be expressed in three steps. First, it starts with an expectations model for total accruals to control for changes in economic circumstances, as represented in Equation (1). Then, the estimated coefficients of Equation (1) are used to estimate firm-specific non-discretionary accruals (NAit) for the sample firms, as observed in Equation (2). Finally, discretionary accruals (DAit) are equal to the difference between the total increase and the non-discretionary provisions adjusted, according to Equation (3).

$$\frac{TA_{it}}{Ats_{it-1}} = \beta_0 \frac{1}{Ats_{it-1}} + \beta_1 \frac{\Delta Sales_{it}}{Ats_{it-1}} + \beta_2 \frac{GPPE_{it}}{Ats_{it-1}} + \varepsilon_{it} \quad (1)$$

$$NA_{it} = \hat{\beta}_0 \frac{1}{Ats_{it-1}} + \hat{\beta}_1 \frac{(\Delta Sales_{it} + \Delta AR_{it})}{Ats_{it-1}} + \hat{\beta}_2 \frac{GPPE_{it}}{Ats_{it-1}} \quad (2)$$

$$DA_{it} = \left(\frac{TA_{it}}{Ats_{it-1}}\right) - NA_{it} \quad (3)$$

Where:

NA_{it} = non-discretionary accruals for firm i in year t;

ΔAR_{it} = change in accounts receivable for firm i from year t-1 to year t.

TA_{it} = total accruals, calculated as firm i’s net income minus cash flows from operations in year t;

Ats_{it-1} = total assets for firm i in year t-1;

$\Delta Sales_{it}$ = change in sales for firm i from year t-1 to year t;

$GPPE_{it}$ = gross property, plant, and equipment for firm i in year t.

DA_{it} = discretionary accruals for firm i in year t.

Following prior literature (e.g. Doukakis 2014; Chen et al. 2010; Cohen, Dey and Lys 2008), the model was estimated in clusters with at least eight observations, segregating the parameter estimates for each year and industry. Using this approach, we expect to partially control the economic changes of the industries that can affect the dependent variables and allow the coefficients to vary over time.

3.3. Estimation model

To test the research hypotheses we estimated the following regression model to examine the effect of the IFRS adoption in emerging countries and the role developed by the national culture of each country:

$$|DACCRUALS|_{it} = \alpha_0 + \beta_1 IFRS_{it} + \beta_2 CULT_j + \beta_3 IFRS_{it} * CULT_j + \beta_4 SIZE_{it} + \beta_7 EBIT_{it} + \beta_8 DEBT_{it} + \beta_9 NETCASH_{it} + \beta_{10-16} \sum DummiesYear + \beta_{17-21} \sum DummiesIndustry + \varepsilon_{it} \quad (4)$$

Where:

|DACCRUALS| = absolute discretionary accruals calculated based on the Modified Jones model (Dechow et al. 1995);

IFRS = dummy variable that assumes 1 for observations referring to periods after mandatory IFRS adoption and 0, otherwise;

CULT = cultural dimensions of Hofstede (2011), represented by the indices of aversion to uncertainty, individualism, power distance, masculinity, long-term orientation and indulgence;

SIZE = natural logarithm of total assets;

EBIT = net profit divided by total assets;

DEBT = total liabilities divided by total assets;

NETCASH = operating cash flow divided by total assets;

This model has two main independent variables, one related to the type of accounting standards used (IFRS); and another related to the national culture of each country (CULT), represented by the six indexes referring to the dimensions proposed by Hofstede (2011). The model also includes a set of firm-level control variables (firm size, profitability, indebtedness and operating cash flow).

In order to test hypothesis 1, we estimate Equation (4) with the entire sample. We expect the coefficient of the variable IFRS, β_1, to be negative and statistically significant, which mean that the IFRS adoption is associated to a decrease in the level of earnings management. In order to test hypotheses 2 to 6, we also estimate Equation (4) with the entire sample. In this case, the main variable of interest is the interaction term of the variables IFRS and CULT. We expect the coefficient, β_3, to be statistically different from zero and to have a positive or negative sign depending on the different cultural dimensions analyzed (aversion to uncertainty, individualism, distance from power, masculinity, long-term orientation and indulgence), suggesting that the changes in the level of earnings management due to the transition to IFRS differs according to the national cultural of each country.

4. EMPIRICAL FINDINGS

Table 2 presents the descriptive statistics of the variables used in the empirical study. We observed, in general, a lower mean of the variable |DAccruals| in the post-IFRS (0.2832) when compared to the pre-IFRS period (0.1585). Thus, we highlight a possible improvement of accounting quality after the IFRS adoption. On the other hand, on average, it was not possible to identify discrepant values between the pre and post IFRS periods for the other variables.

Table 2 –Descriptive Statistics

	Mean	Median	SD	Min	Max
Entire Sample					
|DAccruals|	0.2222	0.0808	0.4758	0.0000	93.080
SIZE	71.432	66.735	27.204	0.0040	18.7726
EBIT	0.0899	0.0900	0.1272	-16.737	0.9995
DEBT	0.5074	0.4702	0.4211	0.0007	99.062
NETCASH	0.0641	0.0636	0.1193	-14.567	0.9419
Pre-IFRS period					
|DAccruals|	0.2832	0.1004	0.5703	0.0000	9.3080
SIZE	6.9066	6.3633	2.7597	0.0040	18.7726
EBIT	0.0900	0.0924	0.1371	-1.6737	0.9418
DEBT	0.5114	0.4617	0.4818	0.0007	9.9062
NETCASH	0.0626	0.0625	0.1268	-1.4408	0.9419
Post-IFRS period					
|DAccruals|	0.1585	0.0660	0.3394	0.0000	6.5980
SIZE	7.3904	6.9807	2.6564	0.1071	18.6138
EBIT	0.0898	0.0875	0.1159	-1.2789	0.9995
DEBT	0.5033	0.4780	0.3466	0.0022	9.3853
NETCASH	0.0657	0.0646	0.1109	-1.4567	0.8947

|DAccruals| is the absolute discretionary accruals calculated based on the Modified Jones Model (Dechow et al., 1995). SIZE is the natural logarithm of total assets. EBIT is the net profit divided by total assets. DEBT is total liabilities divided by total assets. NETCASH is the operating cash flow divided by total assets. Number of observation = 18,163.

Table 3 presents the mean value of the absolute discretionary accruals by country, segregating the observations before and after the IFRS adoption. In almost all the countries (except Argentina and Pakistan), the mean value of the absolute discretionary accruals in the post-IFRS period is significantly lower, when compared to the pre-IFRS period. Thus, in general, there is an increase in the information quality after the IFRS adoption, even in less developed economies, confirming the results presented by Lourenço et al. (2015) and Nouri and Abaoub (2014). Still in this discussion, Poland and Russia stand out as the economies that presented the largest decreases in the averages of the absolute value of discretionary accruals.

Table 3 – Absolute Discretionary Accruals Pre and Post IFRS by Country

Country	Pre-IFRS		Post-IFRS		Difference	t-test
	|DAccruals|	N	**|DAccruals|**	N		
Argentina	0.0886	5	0.5505	45	0.4618***	-6.9580
Brazil	0.1760	1,153	0.0976	1,103	-0.0783***	9.5686
Chile	0.1749	643	0.0768	697	-0.0981***	9.5929
Colombia	0.3212	240	0.1685	24	-0.1527**	3.0233
Malaysia	0.1552	3,832	0.0901	1,620	-0.0651***	14.6750
Mexico	0.1442	741	0.0787	317	-0.0655***	7.2812
Nigeria	0.2529	216	0.1255	189	-0.1274***	4.5798
Paquistan	0.0899	97	0.1479	309	0.0579***	-4.1400
Peru	0.2038	534	0.0771	285	-0.1267***	9.1202
Philippines	0.1696	528	0.0881	674	-0.0815***	5.9686
Poland	1.1196	716	0.2479	2,767	-0.8717***	22.2594
Russia	0.9714	469	0.3669	465	-0.6045***	8.1571
South Africa	0.1341	106	0.1021	388	-0.0320*	1.7423
Total	**0.2832**	**9,280**	**0.1585**	**8,883**	**-0.1247*****	**17.9925**

*, **, *** denote significance at 10%, 5% and 1%, respectively.

Table 4 presents the correlation matrix. With regard to the correlation between |DAccruals| and the variables of national culture (aversion to uncertainty, individualism, power distance, masculinity, long-term orientation and indulgence), we observe a negative correlation between the absolute discretionary accruals and the cultural dimensions of Power Distance and Indulgence, and a positive correlation with Individualism. We highlight also low values of correlation between independent variables, which could alleviate multicollinearity problems in the proposed econometric model.

Table 4 – Correlation matrix

	|DAccruals|	SIZE	EBIT	DEBT	NETCASH
SIZE	-0.10***				
EBIT	-0.045***	0.197***			
DEBT	0.067***	0.003	-0.191***		
NETCASH	-0.052***	0.183***	0.564***	-0.198***	
POWER	-0.052***	-0.186***	-0.130***	-0.080***	-0.076***
INDIV	0.199***	-0.278***	-0.037***	0.048***	-0.040***
MASCUL	0.037***	-0.213***	-0.015**	-0.016**	-0.021***
UNC	0.204***	0.191***	0.085***	0.069***	0.052***
LONGTERM	0.174***	-0.087***	-0.041***	0.068***	-0.035***
INDUL	-0.211***	0.251***	0.004	-0.001	0.019**

	POWER	INDIV	MASC	UNC_AV	LONGTERM
INDIV	-0.410***				
MASCUL	-0.043***	0.527***			
UNC	-0.742***	0.468***	0.004		
LONGTERM	0.237***	0.149***	-0.390***	0.091***	
INDUL	0.130***	-0.426***	-0.018**	-0.285***	-0.543***

|DAccruals| is the absolute discretionary accruals calculated based on the Modified Jones Model (Dechow et al., 1995). UNC, INDIV, POWER, MASC, LONG, INDUL = score of aversion to uncertainty, individualism, power distance, masculinity, long-term orientation and indulgence, respectively, from Hofstede (2011) cultural dimensions. SIZE is the natural logarithm of total assets. EBIT is the net profit divided by total assets. DEBT is total liabilities divided by total assets. NETCASH is the operating cash flow divided by total assets. Number of observation = 18,163.
*, **, *** denote significance at 10%, 5% and 1%, respectively.

Table 5 presents the summary statistics resulting from the estimation of Model (4) regarding the relationship between the national cultural of the countries and the level of earnings management. The estimate for the coefficient of the variable IFRS is always negative and statistically significant, which means that there is a negative relationship between the mandatory adoption of IFRS and the level of earnings management. It seems that an improvement in the quality of accounting information occurred in emerging countries after the IFRS adoption, These results allow us to confirm Hypothesis 1, and they are in line with other studies that showed the same effect in Brazil (Lourenço et al. 2015), China (Ho, Liao, and Taylor 2015), Malaysia (Wan Ismail et al. 2013), India (Rudra, and Bhattacharjee 2012) and multiples countries (Chen et al. 2010; Gray et al. 2015).

Table 5 – Regression results

Variables	(1)	(2)	(3)	(4)	(5)	(6)
IFRS	**-0.3637******	**-0.2878******	**-0.4542******	**-0.5035******	**-0.3896******	**-0.5856******
	(-20.13)	(-11.66)	(-18.02)	(-15.56)	(-17.70)	(-26.74)
UNC	0.0048***					
	(27.86)					
UNC*IFRS	**-0.0013******					
	(-5.90)					
INDIV		0.0125***				
		(24.97)				
INDIV*IFRS		**-0.0066******				
		(-11.21)				
POWER			-0.0035***			
			(-15.07)			
POWER*IFRS			**-0.0003**			
			(-1.01)			
MASC				-0.0021***		
				(5.01)		
MASC*IFRS				**0.0010***		
				(1.91)		
LONG					0.0039***	
					(9.37)	
LONG*IFRS					**-0.0009***	
					(-1.79)	
INDUL						-0.0066***
						(-23.97)
INDUL*IFRS						**0.0019******
						(5.76)
SIZE	-0.0310***	-0.0096***	-0.0288***	-0.0232***	-0.0231***	-0.0104***
	(-27.19)	(-10.39)	(-24.69)	(-21.37)	(-19.74)	(-9.74)
EBIT	0.1487***	0.1763***	0.1724***	0.2366***	0.2387***	0.2064***
	(9.12)	(4.78)	(4.44)	(6.07)	(6.28)	(5.48)
DEBT	0.0807***	0.0701***	0.0905***	0.1178***	0.1060***	0.1105***
	(4.01)	(7.92)	(9.81)	(12.93)	(11.90)	(12.53)
NETCASH	-0.2283**	-0.2359***	-0.2449**	-0.2460***	-0.2286**	-0.2221***
	(-5.82)	(-6.01)	(-6.02)	(-6.00)	(-5.86)	(-5.58)
Dummies Years	*included*	*included*	*included*	*included*	*included*	*included*
Dummies Industry	*included*	*included*	*included*	*included*	*included*	*included*
F Test	120.05***	127.97***	110.11***	105.16***	105.99***	120.97***
R^2	0.2960	0.3257	0.2523	0.2356	0.2447	0.3053

Dependent variable is **|DAccruals|** – Absolute Discretionary Accruals calculated based on the Modified Jones Model (Dechow et al., 1995). IFRS = dummy variable that assumes 1 for observations referring to periods after mandatory IFRS adoption and 0, otherwise. UNC, INDIV, POWER, MASC, LONG, INDUL = score of aversion to uncertainty, individualism, power distance, masculinity, long-term orientation and indulgence, respectively, from Hofstede (2011) cultural dimensions. SIZE is the natural logarithm of total assets. EBIT is the net profit divided by total assets. DEBT is total liabilities divided by total assets. NETCASH is the operating cash flow divided by total assets. Industry = dummy variables for industries according to SIC code. Number of observation = 18,163. Estimated coefficients and standard errors are robust in terms of heteroskedasticity (White, 1980).
*, **, and *** denote significance at 10%, 5%, and 1%, respectively.

The results presented in Table 5 also show that the estimates for the coefficients of the variables UNC and INDIV are positive and statistically significant, which means that in countries with higher levels of aversion to uncertainty and individualism the accounting quality is lower, which confirm the findings presented by Nabar, and Boonlert-U-Thai (2007) and Han et al. (2010). On the other hand, the estimates for the coefficients of the variable INDUL are negative and statistically significant, which confirm the findings presented by Borker (2013). In this discussion, the coefficients of the variables MASC and LONG are negative and positive, respectively, conflicting with the results presented by Gray et al. (2015) and Zang (2012).

However, the estimates for the coefficients of the interaction terms of UNC, INDIV and LONG variables with IFRS are negative and statistically significant, which means that in countries with higher levels of aversion to uncertainty, individualism and long-term orientation the negative effect of the IFRS adoption on the level of earnings management is higher, when compared to the countries where these cultural factors present lower levels. These findings allow us to confirm Hypotheses 2, 3 and 6. In the same perspective, the estimates for the coefficients of the interaction terms of MASC and INDUL cultural factors variables with IFRS are positive and statistically significant, which means that in countries with higher levels of masculinity and indulgence the negative effect of the IFRS adoption on the level of earnings management is lower, when compared to the countries where these cultural factors present lower levels. These findings allow us to confirm Hypotheses 4 and 7.

The results presented in Table 5 also show that the estimate for the variable POWER is negative and statistically significant, which means that in countries with higher levels of distance of power the accounting quality is higher. However, the estimates for the coefficient of the interaction term of this two cultural factor with IFRS are not statistically significant. Therefore, it was not possible to confirm Hypothesis 4.

Taken together, the results of this study indicate that the national culture characteristics are able to moderate the effects of mandatory adoption of IFRS on earnings management practices.

5. CONCLUSION

This study sought to contribute to the literature on the influence of cultural factors on the impact of IFRS adoption on the quality of accounting information, measured through the level of earnings management by accruals. First, our study confirmed that the adoption of IFRS is associated with a lower level of earnings management, even in the case of emerging countries. Regarding cultural characteristics – with the exception of "distance of power" dimension – our results indicate that the national culture, as proposed by Hofstede (2011) and Hofstede, Hofstede and Minkov (2010) are able to moderate the effects of mandatory adoption of IFRS on earnings management practices.

More specifically, it was possible to demonstrate that in societies with higher levels of aversion to uncertainty, individualism and long-term distance, after the adoption of IFRS, there was a greater reduction in the level of earnings management. In the other hand, our results sustain that firms from countries with higher levels of masculinity and indulgence there was a lower reduction in the level of earnings management after the IFRS adoption. Thus, taken together, our results indicate that the national culture exerts a moderating effect on the quality of accounting information with respect to the impact of IFRS adoption on earnings management practices.

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