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# Heterogeneity in earnings quality between different classes of companies after IFRS adoption: evidence from Brazil

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## ABSTRACT

This paper aims to investigate the existence of heterogeneity in earnings quality between different classes of companies after the adoption of the International Financial Reporting Standards (IFRS). IFRS adoption is generally associated with an increase in the quality of financial statements. However, companies within the same country are likely to have different economic incentives regarding the disclosure of information. Thus, treating companies equally, without considering the related economic incentives, could contaminate earnings quality investigations. The case of Brazil is analyzed, which is a country classified as code-law, in which tax laws determined accounting practice and in which IFRS adoption is mandatory. First, Brazilian companies listed on the São Paulo Stock, Commodities, and Futures Exchange (BM&FBOVESPA) were separated into two classes: companies issuing American Depositary Receipts (ADRs) before IFRS adoption and companies that did not issue ADRs until the adoption of IFRS. Then, this second class of companies was grouped, using cluster analysis, into two different subclasses according to economic incentives. Based on the groups identified, the quality of accounting earnings is tested for each class of the companies before and after IFRS adoption. This paper uses timely recognition of economic events, value relevance of net income, and earnings management as proxies for the quality of accounting earnings. The results indicate that a particular class of companies began showing conditional conservatism, value relevance of net income, and lower earnings management after IFRS adoption. On the other hand, these results were not found for the two other classes of companies.

**Keywords:** IFRS, firm-level incentives, earnings quality, accounting information.

## 1. INTRODUCTION

The adoption of the International Financial Reporting Standards (IFRS) is normally associated with an increase in the quality of disclosed accounting information (Barth, Landsman & Lang, 2008). Arguments suggesting that IFRS adoption produces significant benefits for the capital market are based on the assumption that disclosure under IFRS increases the transparency and quality of financial statements. This reflects the fact that the IFRS framework is more capital market orientated and more comprehensive, especially with regards to disclosure, in relation to much of the national generally accepted accounting principles (GAAP).

However, there are also arguments suggesting that the effects of IFRS adoption on the capital market may be small or even insignificant. In particular, there are reasons to be skeptical in relation to the assumption that IFRS adoption *per se* means financial statements have greater informational content (Daske, Hail, Leuz, & Verdi, 2008). The evidence in various studies indicates a limited role for the accounting standards in determining the accounting quality observed; on the contrary, it emphasizes the importance of incentives in company accounting disclosure (Ball, Kothari & Robin, 2000; Ball, Robin & Wu, 2003; Burgstahler, Hail & Leuz, 2006).

Thus, adopting the IFRS framework may not be seen as a sufficient condition for companies from the same country to increase their quality. The existence of heterogeneity is thus expected among gains in informational quality. In other words, it is possible that certain classes of companies achieve informational gains in accordance with economic incentives, while other classes of companies do not increase their quality even when IFRS is adopted.

The case of Brazil is analyzed. Brazil is a country with a code-law tradition, mandatory IFRS adoption, and in which tax law determined accounting practice up until the rupture in accounting-tax compliance in 2007.

The rupture of the formal link between the Brazilian accounting standards for disclosure purposes and the tax rules occurred with the publication of Act n. 11,638/2007 (Brazil, 2007). This law aimed to update corporate legislation to enable the convergence process of the accounting practices adopted in Brazil. These two events were assumed to be relevant in reducing the dependency of the path of financial reporting in relation to the tax rules because companies began to be able to make changes that were not possible before.

Moreover, it bears mentioning that adoption of the IFRS framework in Brazil was carried out mandatorily.

Mandatory adoption of the international standards does not necessarily lead to higher quality accounting information, at least for those companies that do not have incentives to adopt. Viewed in another way, if IFRS adoption were voluntary, companies with fewer incentives to disclose would be less likely to adopt the IFRS framework in the first year of publication. As companies in the same country face different reporting incentives it is natural to assume that the quality of accounting information is also heterogeneous.

Thus, this paper aims to investigate the existence of heterogeneity in the quality of accounting earnings between different classes of Brazilian companies after the adoption of the international accounting standards. Conditional conservatism, value relevance, and earnings management were tested for the three classes of companies with different economic incentives for disclosing accounting information.

The first class of companies was called serious compliers. With the adoption of the international standards and decoupling from the tax laws, it is expected that one class of companies experienced an increase in quality after IFRS adoption. These companies would have sufficient economic incentives to abandon accounting-tax compliance and present greater quality in their disclosed set of accounting information.

Daske, Hail, Leuz, and Verdi (2013) indicate that bigger companies, with a greater need to obtain resources, greater growth opportunities, and lower levels of shareholder concentration, have more incentives to provide more transparent information. These variables were used, by means of cluster analysis, to identify companies with economic incentives to provide better quality accounting information.

The second class was called American Depositary Receipt (ADR). It is expected that the Brazilian companies that issued ADRs had better quality before 2008. The less developed Brazilian capital market led national companies with growth opportunities to seek external funding. Added to the fact that the US market is more demanding in relation to transparency and requires better quality accounting information, it is predicted that the class of Brazilian companies that issued ADRs would have better quality accounting information even before 2008, since these companies were already adopting accounting practices and policies that were closer to the international accounting standards.

Moreover, it is argued that there was another class



of companies with lower quality that did not achieve increased informational quality even with IFRS adoption. This class was called label compliers. It is argued that companies that receive little monitoring from the stock market may not exhibit improvements in terms of quality of information to be released in the periods following IFRS adoption, as a result of path dependence linked to taxation.

The results obtained from the tests indicate that the serious compliers class went on to exhibit conditional conservatism, value relevance of net income, and less earnings management after IFRS adoption. In contrast, the label compliers class did not exhibit conditional

conservatism, value relevance of net income, nor a reduction in earnings management after IFRS adoption. As for the results for the ADR class, these indicate conditional conservatism and value relevance of net income both before and after IFRS adoption.

This paper aims to contribute to the literature on the IFRS adoption process, particularly in emerging countries. More specifically, it aims to overcome the limitation in Brazilian empirical studies that tend to focus on the average effect of IFRS adoption. Thus, verification and investigation of each one of the three classes and their particularities may be viewed as this paper's main contribution.

## 2. THEORETICAL FRAMEWORK

### 2.1 IFRS Adoption and the Quality of a Firm's Accounting Information

IFRS adoption is generally associated with increased quality of financial statements. Greater earnings quality is expected to be associated with timely recognition of economic events, value relevance of accounting variables, and less earnings management (Barth et al. 2008).

Earnings based on the International Accounting Standard Board (IASB) norms are expected to be less managed than if based on the Brazilian norms, since the IASB aims to limit managers' discretionary power to report earnings that do not reflect company economic performance. Using a sample of companies from 20 European countries, Aubert and Grudnitski (2012) verified that a fall in earnings management occurred after the mandatory adoption of IFRS. Zéghal, Chtourou, and Sellami (2011) found evidence of a reduction in earnings management after the mandatory adoption of IFRS in a sample composed of 353 French companies.

The literature suggests that one characteristic of better quality accounting information is that large losses are recognized as they occur instead of being deferred to future periods (Leuz, Nanda & Wysocki, 2003). Ball and Shivakumar (2005) found that timely recognition of losses is less predominant in the United Kingdom in companies without market-traded securities than in companies that trade securities. Christensen, Lee, and Walker (2015) found that the voluntary adoption of IFRS in Germany is associated with a reduction in earnings management and more timely recognition of losses.

On the other hand, Ball and Shivakumar (2005) found that timely recognition of losses is less predominant in British companies without securities traded on the market

than in British companies that traded securities. Similarly, Ball (2001) argues that convergence with international accounting standards is unlikely to be achieved simply by harmonizing accounting norms. The author argues that uniform accounting norms were developed to satisfy the needs of common law countries (such as the United States of America and the United Kingdom), in which disclosure of information reduces information asymmetry between managers and accounting statement users; in places in which the spread of private information prevails, this model would be unlikely to succeed.

Generally, these studies reveal that the economic incentives to disclose strongly affect the *de facto* application of the accounting standards, and thus different incentives, *ceteris paribus*, lead to differences in earnings quality.

### 2.2 Brazilian Institutional Environment and Adoption of the IFRS Framework

Up until Act n. 11,638/2007 (Brazil, 2007) was approved, the accounting system in Brazil was in a way tied to income tax (IR) calculations. The Brazilian Federal Revenue Service, via Decree-Law n. 1,598/1977 (Brazil, 1977), tied tax legislation to corporate legislation by establishing that taxable income would be calculated based on accounting earnings, considering some adjustments defined by the tax legislation.

Despite Act n. 6,404/1976 (Brazil, 1976) prescribing that bookkeeping should be carried out based on GAAP and that the differences found between tax and corporate legislation should be treated in an extra-accounting manner in the Book of Real Earnings (LALUR), there was an indirect tax influence leading companies not to use the accounting criteria. Companies sometimes abandoned

accounting practices that were considered more suitable from a corporate accounting point of view, in order not to have to pay tax earlier.

Moreover, Brazil had characteristics usually associated with low quality accounting disclosure – low legal enforcement, high government participation in accounting standards, high State participation in the economy, predominantly bank derived financing, a poorly developed securities market, and governance standards that left a lot to be desired (Ali & Hwang, 2000; Ball et al., 2000, 2003). Thus, Brazil would be a typical code-law tradition country, in which financial statements would not be prepared to inform investors, but rather to adhere to tax and regulatory requirements.

However, even in an environment with low quality accounting information and a fragile governance regime like that of Brazil, some companies could be faced with strong incentives to distance themselves from the low quality setting of their country in order to fund future investment projects (Lopes & Walker, 2008). Thus, companies with investment opportunities wishing to obtain external funding had strong incentives to increase the quality of financial statements, given the greater demand in these markets for better quality information. Therefore, even before IFRS adoption, there may have been a class of companies that presented better quality accounting information.

Thus, before the adoption of the international standards, the existence of two classes of companies can be noted, differing in relation to the quality of accounting information released. The class with the highest quality would be that composed of companies issuing securities in the international market. In contrast, the other companies did not have, up until IFRS adoption, sufficient economic incentives to disclose better quality accounting information.

The publication of Act n. 11,638/2007 (Brazil, 2007) and of Act n. 11.941/2009 (Brazil, 2009) legitimized the accounting convergence process, the decoupling of corporate and tax rules, the reduction in government interference in issuing corporate rules, and the powers of the Accounting Pronouncements Committee (CPC) for elaborating pronouncements aimed towards this convergence.

With the adoption of the international standards and decoupling from the tax rules, it is possible that one class of companies with lower quality information experiences increased quality with the adoption of the IFRS framework. Companies that are monitored by the stock market more could have sufficient incentives to abandon accounting-tax compliance and present greater quality in their set of disclosed information.

It is argued that these companies did not have sufficient economic incentives before IFRS adoption up until, for example, issuing securities on the international market. Moreover, the link itself between the norms for disclosure and tax purposes could be seen as an obstacle for these companies in adopting better quality information.

This class of companies would be the only one that would face a significant variation in terms of accounting information quality. The class with greater quality before IFRS adoption could continue to be engaged in disclosing greater quality accounting information, and would therefore not undergo significant changes in accounting information quality.

As for the class of companies with economic incentives not centered on capital market disclosure, these would continue with a similar level of accounting-tax similarity, even after IFRS adoption, and thus would not present an increase in the quality of disclosed accounting information.

### 3. METHODOLOGICAL PROCEDURES

#### 3.1 General Overview

The tests are structured in two steps. In the first step, the companies listed on the São Paulo Stock, Commodities, and Futures Exchange (BM&FBOVESPA) were separated into three classes. The companies were grouped in terms of economic incentives given by the equities market, as well as their respective qualities of accounting information prior to IFRS adoption.

Then, informational quality measurements were selected and tested for each one of the three classes of companies before and after 2008. Value relevance, conditional conservatism, and earnings management were tested. The regression models were estimated for the quality tests using the ordinary least squares model with heteroscedasticity-robust standard errors – variant HC1.

The sample is composed of Brazilian companies listed on the BM&FBOVESPA during the period from 2003 to 2014. The observations used in the tests only contemplate companies that have financial information for the whole period analyzed.

Companies from the financial sector were excluded, since they created comparison difficulties, given the specificities both in tax legislation and in the rules determined by the Brazilian Central Bank. Moreover, observations classified as outliers were excluded, defined as observations above or below three standard deviations in relation to the standardized average for the variable of interest (Fávero, Belfiore, Silva & Chan, 2009).

The data were collected from the Economática<sup>\*</sup> database during the first quarter of 2015. Table 1 presents the number of observations for each test.

**Table 1** *Number of observations for each test*

Test		Class	Observations (n)
Before 2008	Conditional conservatism – Basu (1997)	ADR	500
		Serious compliers	442
		Label compliers	2,820
	Value relevance – earnings model	ADR	537
		Serious compliers	476
		Label compliers	2,964
After 2008	Conditional conservatism – Basu (1997)	ADR	664
		Serious compliers	881
		Label compliers	5,188
	Value relevance – earnings model	ADR	661
		Serious compliers	878
		Label compliers	5,199
	Earnings management model – discretionary accruals	ADR	800
		Serious compliers	911
		Label compliers	4,992

ADR = American Depositary Receipt (class of companies with economic incentives to disclose both before and after 2008); label compliers = class with low economic incentives for improving accounting information quality after International Financial Reporting Standards (IFRS); serious compliers = class with economic incentives for improving accounting information quality after IFRS.

**Source:** Elaborated by the authors.

### 3.2 Separation of the Companies Before 2008

To validate the ADR variable as the proxy for greater quality, value relevance and conditional conservatism were tested for the companies that issued securities both on the BM&FBOVESPA and on the New York Stock Exchange (NYSE) during the period from 2003 to 2007. If these companies in fact had better quality, they would present conditional conservatism and value relevance of accounting numbers before the adoption of the IFRS framework.

Moreover, value relevance and conditional conservatism were tested for the sample of companies listed on the BM&FBOVESPA, but which did not have ADRs in 2007. It is predicted that this class did not exhibit value relevance and conditional conservatism before 2008.

### 3.3 Separation of the Companies After 2008

Daske et al. (2013) use economic incentive variables to separate the companies that adopt IFRS seriously from those that adopt it only as a label. The authors assume that companies classified as serious adopters would improve their disclosure strategy with IFRS adoption. On the other hand, the other companies, the label adopters, would adopt the IFRS framework without any significant change in disclosure.

Daske et al. (2013) indicate that bigger companies, with a greater need for obtaining resources, greater growth opportunities, and a lower level of shareholder concentration, would be classified as serious adopters, and thus have incentives for providing more transparent information.

Beck, Demirgüç-Kunt, and Maksimovic (2005) argue that bigger companies are better able to absorb disclosure costs, are more sensitive to visibility in order to attract capital, and are normally subjected to higher disclosure requirements by multiple shareholders and institutional shareholders and by political and social stakeholders. Santos, Ponte, and Mapurunga (2014) find that company size causes a significant positive impact on the levels of Brazilian company compliance with the disclosure required by IFRS. In accordance with the paper from Daske et al. (2013), the size proxy used in this paper is the natural logarithm of market value.

The more funding is needed, the more a company is liable to adopt convergence practices in a way that improves its funder evaluations (Francis Khurana, Martin & Pereira, 2008). According to the paper from Daske et al. (2013), the need for funding is measured by the liabilities/assets ratio.

Companies with strong growth opportunities are likely to need external financing to fund present and future investment projects. These companies need to voluntarily commit in some way to not depriving their investors by adopting more rigorous accounting practices. According to the paper from Daske et al. (2013), a company's opportunity for growth is measured by the market-to-book (MTB) ratio.

Shareholder concentration is defined as the sum of the two biggest shareholders with voting rights. It is predicted that the greater the shareholder concentration, the lower the stock market monitoring would tend to be, and therefore the lower the demand for better quality financial statements.

This paper used the four variables and proxies used in the paper from Daske et al. (2013) and added the variables volume traded and effective rate of income tax/social security contribution (IR/CSSL) on net income to identify companies with economic incentives to improve the quality of disclosed accounting information.

With regards to the volume traded variable, the adverse selection hypothesis determines that when a group of shareholders has privileged information, there is an atmosphere of asymmetry of information that reduces liquidity (Glosten & Milgrom, 1985; Grossman & Stiglitz, 1980). It is predicted that the greater the volume traded, the greater a company's incentive to disclose better quality information.

The effective rate of income tax for legal entities (IRPJ)/CSSL is defined as the ratio between current IRPJ/CSSL expenditure and income before IRPJ/CSSL (EBT). Scholes, Wolfson, Erickson, Maydew, and Shevlin (2002) argue that large shareholders that stay close to companies have an incentive to monitor managers' tax planning activities and that these firms probably choose tax planning opportunities involving permanent accounting-tax differences, even if these opportunities reduce accounting earnings. It is predicted that the lower the stock market monitoring, the lower the effective rate of IRPJ/CSSL would tend to be.

It is assumed that the class of companies with lower informational quality before 2008 was divided into two subclasses after IFRS adoption: companies that continued with the accounting-tax link (label compliers), and the second class that came to have higher quality accounting information (serious compliers).

To separate these companies, the cluster analysis statistical technique was used. It aims to maximize the homogeneity of objects within the classes and maximize heterogeneity between the other classes (Fávero et al., 2009).



The information on the economic incentive variables relates to 2007, since if there were economic incentives for a company to disclose better quality information to investors, these incentives should already exist in 2007.

It is predicted that the companies from the serious compliers class are relatively bigger, trade greater volumes, have a relatively higher effective IR-social security contribution (CS), greater growth opportunities, greater funding needs, but in contrast, have lower shareholder concentration.

### 3.4 Quality Tests

#### 3.4.1 Conditional conservatism.

The conditional conservatism model is based on the assumption that, at the time of recognizing a future economic loss contained a particular entity's income the capital market would timely recognize this loss in share returns (Brito, 2010). To test conditional conservatism, the Reverse Model of Associated Earnings to Returns from Basu (1997) is used:

$$EARN_{it} = \alpha + \beta_1 DR_{it} + \beta_2 Ret_{it} + \beta_3 DR_{it} * Ret_{it} + \epsilon_{it}$$

1

in which  $EARN_{it}$  are the earnings per share in company  $i$  for year  $t$ ,  $Ret_{it}$  is the return on the share price for company  $i$  in year  $t$ , and  $DR_{it}$  is the dummy that is 1 when the return on shares is negative and 0 otherwise.

Under the conservatism hypothesis, earnings will be more strongly related with negative returns than with positive returns, which implies  $\beta_2 + \beta_3 > \beta_2$ , or rather,  $\beta_3 > 0$ . A positive and significant  $\beta_3$  coefficient reveals the presence of conditional conservatism (Silva, 2013).

#### 3.4.2 Earnings management.

Earnings management is a tool used by managers so that accounting information is more optimistic in content than investors expect. Thus, earnings management is an

intentional intervention in external financial reports with the intention that the reports do not represent the intrinsic reality of a business (Gioielli, Carvalho & Sampaio, 2013).

In Brazil, the Modified Jones Model and KS Model are the most popular for detecting earnings management via accruals. Kothari, Leone, and Wasley (2005) are noted in proposing a model adjusted from the traditional Jones one, suggesting an analysis compared with performance, controlling discretionary accruals calculations with firms from a same group and compared with performance (Martinez, 2013). Kothari et al. (2005) present another model, which is a new modification of the Jones Model, including return on assets (ROA):

$$\frac{TA_{it}}{A_{it-1}} = \alpha \left( \frac{1}{A_{it-1}} \right) + \beta_1 \left[ \left( \frac{\Delta REV_{it} - \Delta AR_{it}}{A_{it-1}} \right) \right] + \beta_2 \left( \frac{PPE_{it}}{A_{it-1}} \right) + \beta_3 ROA_{it} + \epsilon_{it}$$

2

in which  $TA_{it}$  represents total accruals for company  $i$  in period  $t$ ,  $A_{it-1}$  represents total assets for company  $i$  in period  $t-1$ ,  $\Delta REV_{it}$  represents the variation in sales revenue of company  $i$  in period  $t-1$ ,  $\Delta AR_{it}$  represents the variation in the accounts receivable of company  $i$  in period  $t-1$ ,  $PPE_{it}$  represents the value of the assets of company  $i$  in period  $t$ , and  $ROA_{it}$  represents the return on the assets of company  $i$  in period  $t$ .

As the data for accrual calculations are only available after 2005, 2003 and 2004 were not used for the earnings management model.

To investigate the level of company earnings management after the adoption of the IFRS framework, the following equation was used (Silva, 2013; Tendeloo & Vanstraelen, 2005):

$$|DA|_{it} = \alpha + \beta_1 IFRS_{it} + \epsilon_{it}$$

3



in which  $[DA]_{it}$  represents the discretionary accruals of company  $i$  in period  $t$  and  $IFRS_{it}$  is a dummy that takes the value 1 for the years after the adoption of the international standards and 0 otherwise. If a particular company reduces its degree of earnings management after IFRS adoption, the  $\beta_1$  coefficient is expected to be negative and statistically significant.

### 3.4.3 Value relevance.

According to Barth, Beaver, and Landsman (2001), the informational content of accounting can be evaluated via value relevance studies, the aim of which is to analyze the

relevance of accounting information for investors. Value relevance tests aim to calculate whether an accounting value will be able to present a significant relationship with a market's prices. If this is the case, this value would be considered relevant by the investor for evaluating the economic-financial performance of an entity and would be reflected in market prices (Silva; 2013; Suzart, 2013).

The specification of the returns model or Earnings Response Coefficient (ERC) considered in this paper is similar to that adopted in the studies from Easton and Harris (1991) and Francis and Schipper (1999):

$$RET_{it+1} = \alpha + \beta_1 EBT_{it} + \epsilon_{it}$$

4

in which  $RET_{it}$  is the return on share  $i$  three months after the date of closing the accounting statements and  $EBT_{it}$

is the value of earnings before income tax divided by total assets.

## 4. RESULTS

### 4.1 Cluster Analysis

First, a correlation was carried out between the variables that indicate more or less stock market monitoring. Then, a cluster analysis was conducted of the companies listed on the BM&FBOVESPA and not classified in the ADR class.

#### 4.1.1 Correlation table.

The correlations between the variables that show

economic incentives (Table 2) have the signs predicted in the previous section. More specifically, all of the variables were negatively correlated with the shareholder concentration variable. For example, volume traded has a negative and statistically significant relationship with degree of shareholder concentration (-0.477\*\*\*).

**Table 2** Table of correlations between grouping variables

	Market value <sup>a</sup>	Liabilities/assets <sup>b</sup>	Market-to-book <sup>c</sup>	Volume traded <sup>d</sup>	Shareholder concentration <sup>e</sup>	Effective tax rate <sup>f</sup>
Market value <sup>a</sup>	1.000	-	-	-	-	-
Liabilities/assets <sup>b</sup>	0.052	1.000	-	-	-	-
Market-to-book <sup>c</sup>	-0.264***	-0.072	1.000	-	-	-
Volume traded <sup>d</sup>	0.594***	0.080	-0.123	1.000	-	-
Shareholder concentration <sup>e</sup>	-0.062	-0.142*	-0.158**	-0.477***	1.000	-
Effective tax rate <sup>f</sup>	0.041	0.123	0.175**	-0.062	0.112	1.000

\*, \*\*, \*\*\*: two-tailed statistical significance to 10%, 5%, and 1%, respectively; a: natural logarithm of average company market value in 2007; b: ratio between total company liabilities and assets in 2007; c: company book-to-market ratio in 2007; d: natural logarithm of average volume traded for companies in 2007; e: sum of two biggest shareholders with voting rights; f: ratio between current income tax on legal entity/social security contribution expenses on net earnings (IRPJ/CSSL) and earnings before IRPJ/CSSL.

Source: Elaborated by the authors.

The results found are consistent with the results from other studies. For example, Rubin (2007) finds that the level of shareholder concentration is negatively related with the degree of liquidity of companies listed on the NYSE. Moreover, Zeng (2011) verified that Chinese companies with shareholder concentration present lower effective income tax rates.

The negative relationship between market value and shareholder concentration is consistent with the arguments from Demsetz and Lehn (1985): the bigger the company, *ceteris paribus*, the greater the market value of

a given fraction of the company. The higher price of the given fraction of the company should, in itself, reduce the degree of shareholder concentration.

#### 4.1.2 Cluster analysis.

In the cluster analysis the hierarchical grouping process was used with the link between groups method involving the squared Euclidian distance. After identifying two subclasses of companies from the result of the cluster analysis, the average was calculated for each variable for each one of the subclasses (Table 3).

**Table 3** Averages of variables for each subclass

	Market value	Liabilities/assets (%)	Market-to-book	Volume traded	Shareholder concentration (%)	Effective tax rate (%)
Average subclass A	14.39*	55.66	0.66	8.84***	33.69***	34.5***
Average subclass B	13.84*	53.61	0.65	7.26***	80.41***	18.6***

\*, \*\*, \*\*\*: two-tailed statistical significance to 10%, 5%, and 1%, respectively.

Source: Elaborated by the authors.

The variables in Table 3 signal more or less stock market monitoring of the companies. More monitoring is associated with a greater demand for quality accounting information, the aim of which is to ultimately help with decision making. As the IFRS framework is orientated towards the capital market and more comprehensive in relation to the Brazilian GAAP, companies with more market monitoring would have the incentive to increase the quality of their accounting information after IFRS adoption to signal commitment and transparency to the market.

Viewed in another way, companies with low stock market monitoring could be concerned, for example, with economizing on tax without leading to substantial changes in the disclosure of accounting information. If the financial information disclosed in fact stands apart from the accounting for tax purposes, it must be useful for decision making, with significant value relevance. Similarly, the information is timelier in character and must present conditional conservatism towards economic

events. These characteristics are not expected to be present in accounting information that is strongly influenced by tax aspects, since tax accounting does not focus on decision making.

Given the characteristics of subclass B – high shareholder concentration, low effective IRPJ/CSSL rate, and lower volume traded – it is assumed that these companies would not be engaged in providing higher quality accounting information, even after adopting the IFRS framework. A low effective IR rate would be indicative of emphasis on the use of different parameters to economize on tax payments. Thus, this class was called label compliers.

In contrast, the characteristics of subclass A – relatively low shareholder concentration, effective IRPJ/CSSL rate close to 34%, and greater volume traded in relation to subclass A – indicate that these companies have economic incentives which are strongly linked with providing relevant information to the market that monitors them. These are, therefore, the companies for which increased quality is expected after the adoption of the IFRS framework and would be called serious compliers.

**Table 4** Descriptive statistic for the grouping variables for serious compliers and label compliers classes*A – Serious compliers*

	Market value	Liabilities/assets	Market-to-book	Volume traded	Shareholder concentration	Effective tax rate
Mean	14.39	55.66	0.67	8.85	33.70	0.35
Median	14.30	52.80	0.59	8.65	32.01	0.29
Standard Deviation	1.46	15.34	0.29	1.39	13.68	0.30
Interval	6.61	72.58	1.44	4.58	55.34	1.30
Minimum	11.25	30.70	0.24	6.86	11.16	-0.05
Maximum	17.86	103.28	1.68	11.44	66.50	1.26

*B – Label compliers*

	Market value	Liabilities/assets	Market-to-book	Volume traded	Shareholder concentration	Effective tax rate
Mean	13.84	53.61	0.65	7.26	80.41	0.19
Median	14.09	53.63	0.65	6.94	87.06	0.25
Standard Deviation	1.69	14.32	0.31	1.47	16.91	0.23
Interval	7.34	79.60	1.81	6.33	56.13	1.32
Minimum	9.41	3.10	0.10	4.70	43.87	-0.74
Maximum	16.74	82.70	1.91	11.03	100.00	0.58

*label compliers* = subclass of companies with lower stock market monitoring;

*serious compliers* = subclass of companies with greater stock market monitoring.

**Source:** Elaborated by the authors.

In general, the means and medians of the variables of interest are consistent with the predictions. More specifically, the means and medians of the market value, volume traded, and effective IR/CS rate are greater for the

serious compliers class in relation to the label compliers class. Moreover, the mean and median of the shareholder concentration variable are lower for the serious compliers class in relation to the label compliers class.

## 4.2 Results for the Quality of Accounting Earnings Tests

Table 5 presents the results from the conditional conservatism evaluation for the three classes of companies in the period from 2003 to 2007.

**Table 5** Regression for the Reverse Model of Profit Associated to Returns for the three classes of companies in the period from 2003 to 2007.

$EARN_{it} = \alpha + \beta_1 DR_{it} + \beta_2 Ret_{it} + \beta_3 DR_{it} * Ret_{it} + \varepsilon_{it}$						
ADR			Serious compliers		Label compliers	
Variable	Coefficient	p	Coefficient	p	Coefficient	p
Intercept	0.920	0.000	0.644***	0.000	0.395*	0.099
$DR_{it}$	0.142	0.454	-0.083	0.543	-0.368	0.511
$Ret_{it}$	0.259	0.511	-0.055	0.819	-0.835	0.128
$Ret_{it} * DR_{it}$	1.499*	0.096	0.761	0.214	1.269	0.469
n	500		442		2,820	
R-squared (%)	0.7		0.7		0.07	
R-squared adjusted (%)	0.08		0.06		-0.04	
F statistic	2.2*	0.089	1.5	0.198	1.3	0.289

\*, \*\*, \*\*\*: two-tailed statistical significance to 10%, 5%, and 1%, respectively.

ADR = American Depositary Receipt (class of companies with economic incentives to disclose both before and after 2008);  $DR_{it}$  = dummy that is 1 when the return on a share is negative and 0 otherwise;  $EARN_{it}$  = earnings per share for company  $i$  in year  $t$ ; label compliers = class with low economic incentives for improving the quality of accounting information after International Financial Reporting Standards (IFRS);  $Ret_{it}$  = return on the share price of company  $i$  in year  $t$ ; serious compliers = class with economic incentives for improving the quality of accounting information after IFRS.

Source: Elaborated by the authors.

The results from the conditional conservatism test before IFRS adoption are consistent with the predictions made previously. The  $\beta_3$  coefficient is not statistically significant, whether for the serious compliers class, or for the label compliers class. Thus, it cannot be affirmed that these two sets of companies adopted mechanisms for timely recognition of economic losses before IFRS adoption. It is argued that these two classes of companies did not have, up until then, sufficient economic incentives for adopting mechanisms of conditional conservatism.

These results are consistent with the Brazilian empirical studies that have sought to investigate conservatism before 2008. Using a sample of Brazilian companies in the period from 1995 to 1999, Lopes (2001) identifies that economic losses are not timely recognized, measuring this recognition using the market model from Basu (1997). Costa, Lopes and Costa (2006) apply the same model from Basu (1997) to a sample of Latin American publicly-held companies covering the period from 1995 to 2001 and find that the accounting does not significantly incorporate

### 4.2.1 Results for the Reverse Model of Profit Associated to Returns for the three classes of companies before IFRS adoption.

economic return.

On the other hand, the  $\beta_3$  coefficient for the companies from the ADR class is positive and statistically significant, revealing that these companies adopted mechanisms for the timely recognition of economic losses before IFRS adoption.

Lang, Lins, and Maffett (2012) find that earnings management measurements are lower for companies that trade securities on the US stock exchange. Moreover, they find that the shares of companies with ADRs have increased liquidity and reduced cost of capital over time.

From the results obtained with the conservatism test, the ADR validation stands out in identifying a class with higher quality accounting information before 2008, as well as the non-validation of conditional conservatism for the serious compliers class before 2008. Thus, to identify whether there was an increase in quality for the serious compliers class, the conditional conservatism of this class after 2008 needs to be tested.



#### 4.2.2 Results from the value relevance model for the three classes of companies before IFRS adoption.

Table 6 presents the results from the value relevance evaluation for the three classes of companies from 2003 to 2007.

**Table 6** Regressions for the value relevance model for the three classes of companies from 2003 to 2007

$RET_{it+1} = \alpha + \beta_1 EBT_{it} + \varepsilon_{it}$						
ADR			Serious compliers		Label compliers	
Variable	Coefficient	p	Coefficient	p	Coefficient	p
Intercept	0.058	0.000	0.075***	0.000	0.103***	0.000
$EBT_{it}$	0.869**	0.028	0.543	0.156	0.036	0.538
n	537		476		2964	
R-squared (%)	0.9		0.4		0.02	
R-squared adjusted (%)	0.7		0.2		-0.01	
F statistic	2.2**	0.028	1.4	0.156	0.6	0.538

\*, \*\*, \*\*\*: two-tailed statistical significance to 10%, 5%, and 1%, respectively.

ADR = American Depositary Receipt (class of companies with economic incentives to disclose both before and after 2008); label compliers = class with low economic incentives for improving the quality of accounting information after International Financial Reporting Standards (IFRS);  $EBT_{it}$  = value of earnings before income tax divided by total assets;  $RET_{it+1}$  = return on share  $i$  three months after releasing the financial statements; serious compliers = class with economic incentives for improving the quality of accounting information after IFRS.

Source: Elaborated by the authors.

Due to the non-significance of the  $\beta_1$  coefficient, the existence of value relevance cannot be verified, whether for the serious compliers class, or for the label compliers class, before 2008. Thus, these companies would not have sufficient incentives to disclose accounting information that helped investors to form expectations in relation to the creation of future cash flows. Similarly, Nakao (2012) does not find value relevance of EBT before 2008, neither for companies belonging to the Ibovespa, or for companies not belonging to the Ibovespa.

On the other hand, the  $\beta_1$  coefficient for the ADR class companies is positive and statistically significant, providing evidence that the earnings disclosed by a company would be considered as relevant by investors for evaluating the economic-financial performance of the entity and would be reflected in market prices.

The conclusions reached with the results from the value relevance test are similar to those obtained with the conditional conservatism test. Validation of the ADR variable stands out as a proxy for greater quality before 2008, as well as the non-verification of value relevance of accounting earnings for the serious compliers class before 2008. Thus, to identify whether an increase in quality occurred for the serious compliers class, the value relevance of this class after 2008 needs to be tested.

#### 4.2.3 Results from the Reverse Model of Profit Associated to Returns for the three classes of companies after IFRS adoption.

Table 7 presents the results from the evaluation of conditional conservatism for the three classes of companies from 2008 to 2014.

**Table 7** Regressions for the Reverse Model of Profit Associated to Returns for the three classes of companies from 2008 to 2014

$EARN_{it} = \alpha + \beta_1 DR_{it} + \beta_2 Ret_{it} + \beta_3 DR_{it} * Ret_{it} + \varepsilon_{it}$						
ADR			Serious compliers		Label compliers	
Variable	Coefficient	p	Coefficient	p	Coefficient	p
Intercept	0.807	0.000	0.622***	0.000	0.344***	0.000
$DR_{it}$	0.021	0.860	-0.167**	0.027	-0.134	0.153
$Ret_{it}$	-0.082	0.849	-0.107	0.668	0.193	0.463
$Ret_{it} * DR_{it}$	2.320***	0.001	0.901**	0.016	0.325	0.427
n	664		881		5.188	
R-squared (%)	5.1		4.2		0.4	
R-squared adjusted (%)	4.7		3.9		0.4	
F statistic	8.8***	0.000	12.3***	0.000	7.6***	0.000

\*, \*\*, \*\*\*: two-tailed statistical significance to 10%, 5%, and 1%, respectively.

ADR = American Depositary Receipt (class of companies with economic incentives to disclose both before and after 2008);  $DR_{it}$  = dummy that takes the value 1 when the return on a share is negative and 0 otherwise;  $EARN_{it}$  = earnings per share for company *i* in year *t*; label compliers = class with low economic incentives for improving the quality of accounting information after International Financial Reporting Standards (IFRS);  $Ret_{it}$  = return on the share price of company *i* in year *t*; serious compliers = class with economic incentives for improving the quality of accounting information after IFRS.

Source: Elaborated by the authors.

The companies that issued ADRs present conditional conservatism after the adoption of the international standards (positive and statistically significant  $\beta_3$  coefficient), indicating that the accounting brought forward recorded losses already incorporated in the share prices. When the results from Table 6 are taken together with the results from Table 4, it is concluded that the ADR class of companies continues using conditional conservatism mechanisms in their financial statements after IFRS adoption.

After the adoption of the IFRS framework, the serious compliers class of companies comes to present timely recognition of economic losses. The  $\beta_3$  coefficient is statistically significant and positive, consistent with more timely recognition of losses than economic gains. These results suggest that these companies experienced an increase in quality, probably as a result of the stock market demand for information.

For the label compliers class of companies, no change in conditional conservatism was verified after the adoption

of the IFRS framework, since the  $\beta_3$  coefficient is not statistically significant. The low economic incentives for disclosing better quality accounting information implies a lack of conditional conservatism, even with the adoption of the norms aimed towards protecting investors.

In investigating the effect of Act n. 11,638/2007 (Brazil, 2007) over the conditional conservatism of companies listed on the BM&FBOVESPA, Santos, Lima, Lima, and Freitas (2011) did not find any effect of the new rules over the degree of asymmetric recognition of losses and gains. In contrast to the study cited, the results obtained in this paper provide evidence of conditional conservatism at least for a particular set of companies.

#### 4.2.4 Results for the discretionary accruals model from Kothari et al. (2005) for the three classes of companies.

Table 8 presents the results from the earnings management evaluation for the three classes of companies.

**Table 8** Regressions for the discretionary accruals model for the three classes of companies after 2008

$[DA]_{it} = \alpha + \beta_1 IFRS_{it} + \varepsilon_{it}$						
ADR			Serious compliers		Label compliers	
Variable	Coefficient	p	Coefficient	p	Coefficient	p
Intercept	0.008	0.008	0.021	0.000	-0.005	0.332
$IFRS_{it}$	-0.013***	0.001	-0.029***	0.000	0.002	0.745
n	800		911		4,992	
R-squared (%)	1.1		7.6		0.00	
R-squared adjusted (%)	0.9		2.1		-0.00	
F statistic	-3.3***	0.001	-4.9***	0.000	0.3	0.745

\*, \*\*, \*\*\*: two-tailed statistical significance to 10%, 5%, and 1%, respectively.

ADR = American Depositary Receipt (class of companies with economic incentives to disclose both before and after 2008);  $[DA]_{it}$  = discretionary accruals of company  $i$  in period  $t$ ;  $IFRS_{it}$  = dummy that takes the value 1 for the years after the adoption of the international standards and 0 otherwise; label compliers = class with low economic incentives for improving the quality of accounting information after International Financial Reporting Standards (IFRS); serious compliers = class with economic incentives for improving the quality of accounting information after IFRS.

Source: Elaborated by the authors.

A reduction in earnings management is identified both for the serious compliers class and for the ADR class after the adoption of the IFRS framework. The  $\beta_1$  coefficient is statistically significant and negative, and consistent with the reduction in earnings management, thus showing these companies' concern with providing investors with more trustworthy information. However, no reduction in earnings management was identified for the class with low incentives for disclosing better quality information.

Convergence of the results found in the Brazilian literature on earnings management after IFRS adoption cannot be verified. The results from Joia and Nakao (2014) do not allow it to be affirmed that there was a fall in the level of earnings management with the introduction of the IFRS framework. Klann (2011), on the other hand, records that in Brazil, in the post-convergence period, there was an increase in the level of earnings management, unlike the behavior the author identified for England, where it

appears there was a decrease in earnings management. As for Silva (2013), he finds that discretionary accruals, a proxy for earnings management, decreased in the period of complete adoption.

The results involving no reduction in earnings management for the label compliers class and the evidence of the reduction in earnings management for the serious compliers and ADR classes after 2008 may help to explain the conflicting results in the Brazilian literature. It is concluded that segregation of the companies into classes helps to overcome the limitation of treating the companies in a homogenous way.

#### 4.2.5 Results for the value relevance model for the three classes of companies after IFRS adoption

Table 9 presents the results from the value relevance evaluation for the three classes of companies from 2008 to 2014.

**Table 9** Regressions for the value relevance models for the three classes of companies from 2008 to 2014

$RET_{it+1} = \alpha + \beta_1 LAIR_{it} + \varepsilon_{it}$						
Variable	ADR		Serious compliers		Label compliers	
	Coefficient	p	Coefficient	p	Coefficient	p
Intercept	-0.022	0.016	-0.035***	0.000	-0.007**	0.035
$EBT_{it}$	1.921***	0.000	1.901***	0.000	0.039	0.150
n	661		878		5,199	
R-squared (%)	5.2		6.4		0.06	
R-squared adjusted (%)	5.0		6.3		0.05	
F statistic	5.2***	0.000	7.3***	0.000	1.4	0.150

\*, \*\*, \*\*\*: two-tailed statistical significance to 10%, 5%, and 1%, respectively.

ADR = American Depositary Receipt (class of companies with economic incentives to disclose both before and after 2008); label compliers = class with low economic incentives for improving the quality of accounting information after International Financial Reporting Standards (IFRS);  $EBT_{it}$  = value of earnings before income tax, divided by total assets;  $RET_{it+1}$  = return on share  $i$  three months after the release of financial statements; serious compliers = class with economic incentives for improving the quality of accounting information after IFRS.

**Source:** Elaborated by the authors.

First, due to the  $\beta_1$  coefficient being positive and statistically significant, the ADR class presents value relevance of net income after IFRS adoption.

Second, the class with economic incentives for disclosing better quality accounting information presents value relevance of earnings before IRPJ/CSSL after 2008. Adding the non-verification of value relevance after 2008, it is concluded that the serious compliers class experienced an increase in quality, this time measured via the value relevance test.

The results found support the results from the Brazilian literature on value relevance and IFRS adoption. Using data from 2010 and 2011, Silva (2013) finds value relevance of accounting information during the period of complete

adoption of the IFRS framework. Similarly, the results from Gonçalves, Batista, Macedo, and Marques (2014) reveal that accounting information became more relevant. Comparison between the  $R^2$  of the relevance regressions reveals that there was an increase in the explanatory power of share price via net earnings per share and net equity per share.

Finally, value relevance was not verified for the class with low economic incentives for disclosing accounting information after adopting the international standards. Thus, these companies would be unlikely to make the effort to provide accounting information that helped investors to form expectations in relation to the creation of future cash flows.



## 5. SUMMARY OF THE HYPOTHESES, TESTS, AND RESULTS

Table 10 presents the hypotheses, tests, and results from the paper.

**Table 10** Summary of hypotheses, tests, and results

	Test	Class	Hypothesis	Result
Before 2008	Conditional Conservatism – Basu (1997)	ADR	$\beta_3 > 0$ and significant	$\beta_3 > 0$ and significant
		Serious compliers	$\beta_3$ not significant	$\beta_3$ not significant
		Label compliers	$\beta_3$ not significant	$\beta_3$ not significant
	Value relevance – earnings model	ADR	$\beta_1 > 0$ and significant	$\beta_1 > 0$ and significant
		Serious compliers	$\beta_1$ not significant	$\beta_1$ not significant
		Label compliers	$\beta_1$ not significant	$\beta_1$ not significant
After 2008	Conditional Conservatism – Basu (1997)	ADR	$\beta_3 > 0$ and significant	$\beta_3 > 0$ and significant
		Serious compliers	$\beta_3 > 0$ and significant	$\beta_3 > 0$ and significant
		Label compliers	$\beta_3$ not significant	$\beta_3$ not significant
	Value relevance – earnings model	ADR	$\beta_1 > 0$ and significant	$\beta_1 > 0$ and significant
		Serious compliers	$\beta_1 > 0$ and significant	$\beta_1 > 0$ and significant
		Label compliers	$\beta_1$ not significant	$\beta_1$ not significant
	Earnings management model – discretionary accruals	ADR	There is no prediction	
		Serious compliers	$\beta_1 < 0$ and significant	$\beta_1 < 0$ and significant
		Label compliers	$\beta_1$ not significant	$\beta_1$ not significant

ADR = American Depositary Receipt (class of companies with economic incentives to disclose both before and after 2008).

Source: Elaborated by the authors.

The results obtained with the tests are consistent with the predictions. The serious compliers class came to exhibit conditional conservatism, value relevance of net income, and lower earnings management after IFRS adoption. The results for the ADR class indicate conditional conservatism

and value relevance of net income both before and after IFRS adoption. As for the label compliers class, the results do not indicate conditional conservatism, value relevance of net income, and reduced earnings management after IFRS adoption.

## 6. CONCLUSION

This paper verified that adoption of the IFRS framework cannot be seen as the only guide to accounting information quality. After all, if adoption of the IFRS framework was enough to increase the quality of accounting earnings, convergence would naturally be expected in Brazilian empirical papers that seek to verify quality gains since 2008. On the contrary, when the papers are analyzed together, the results appear conflictive. Thus, this paper aims to overcome the limitation found in the Brazilian literature from treating the companies in a homogenous way, the results for which generally capture the average effect for companies around IFRS adoption.

In general, the results from the tests are consistent with the predictions. The companies with economic incentives given by the stock market really achieve increased quality after adopting the IFRS framework. This set of companies starts to more timely recognize losses in relation to economic gains, disclosed earnings become value relevant, and they show evidence of reduced earnings management.

Moreover, evidence was found of accounting information quality for the ADR class. The companies from this class show conditional conservatism and value relevance of net income both before and after 2008. The identification of a class of companies with greater quality beforehand may be seen as a contribution from this paper. After all, international empirical papers have identified the existence of only two classes of companies (Daske et al., 2013). Therefore, verification of a third class, the differentiating characteristic of which is its quality before IFRS adoption, may be seen as an additional contribution from this paper.

Finally, conditional conservatism, value relevance, and lower earnings management were not identified for the set of companies with low economic incentives, whether before or after 2008. Quite probably, the path of these companies tends to depend on the previous accounting practices influenced by taxation.

One alternative study design to that used in this paper would be to separate the companies, taking only the level of accounting information quality into consideration. This way, increases in quality could be identified directly, rather than using variables, in order to verify higher or lower incentives for better accounting disclosure. However, the quality metrics used (conditional conservatism, earnings management, and value relevance) are not able to capture a measure of quality for each company, but do capture the existence or not of a measure of quality for a particular number of observations.

The results contribute to a line of research in the accounting literature that aims to understand the real motivations and incentives for elaborating accounting information (Ball et al., 2000, 2003; Ball & Shivakumar, 2005; Bushman & Piotroski, 2006), by showing that company variables play a key role in this process.

Moreover, Brazilian and international regulatory bodies may be interested in these results, since they show that the properties of financial statements depend on company incentives. This imposes a challenge for recent efforts by these bodies to consolidate convergence with the international accounting standards. The results suggest that a global and uniform set of accounting standards may not have the power *de facto* to make the properties of accounting numbers converge to the same level.

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