

# EARNINGS QUALITY AND GOVERNANCE QUALITY: A COMPARATIVE ANALYSIS BETWEEN TRADITIONAL AND NEW BRAZILIAN CAPITAL MARKETS

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## Abstract

This research focuses on the relationship between the quality of financial reporting and the level of corporate governance of Brazilian firms, particularly between *New Market* and *Traditional Market*. We measure earnings quality based on a widely used accruals model. Governance quality is represented by the type of market the firms chooses to be listed in. Firms that opt for the New Market must apply more stringent governance principles. The empirical analysis shows evidence of a positive relationship between the quality of financial reporting and the level of corporate governance. Thus, firms listed on the *New Market* characterized by better governance practices evidence better quality financial reporting.

**Keywords:** Earnings Quality, Corporate Governance, Accruals Model, Brazil, New Market, Traditional Market, BM&FBOVESPA

**Classification codes:** M41, G15, G30

## 1. INTRODUCTION

The quality of financial information in general and of earnings in particular is important for investors, creditors and other stakeholders in the firm. The quality of earnings is a function of the firm's fundamental performance and thus evidence about earnings quality is relevant to financial statement users in their economic decisions (Dechow *et al.*, 2010). The governance structure in place in the firm is another important mechanism for outside investors. Governance provides outsiders who are at an informational disadvantage some insurance that manager's actions are not self-interest but rather in benefit of outsider investors (Watts and Zimmerman 1986).

Prior accounting and finance literature has shown a link between earnings quality and governance structures (Dechow and Dichev 2002; Larcker *et al.* 2007). The aim of his study is to investigate this link in a particular setting: the *New Market* in Brazil stock exchange (BM&FBOVESPA). Specifically, we compare the earnings quality of Brazilian firms listed in the *Traditional Markets* with the earnings quality of firm listed in the *New Market* in the period 2001-2011. The adoption of stringent governance practices is the key differentiator of the *New Market*. In addition in the *Traditional Market* firms are not required to report financial information regularly on a quarterly based.

According to the rules of the Brazilian stock exchange (BM&FBOVESPA) for a firm to be listed in the *New Market* it has to adopt a set of corporate rules that increase the rights of shareholders and also put in place a more transparent and comprehensive financial information disclosure policy. Example of these rules are: (i) allows only

common stock; (ii) in the case of control sale, all shareholders have the right to sell their shares at the same price; (iii) if the company opt out of the list or cancel the contract with BM&FBOVESPA, will make a public offer to buy back the shares of all shareholders; (iv) the Board of Directors must be composed of at least five members, of which at least 20% must be independent with unified term of up to two years; (v) the company must commit to maintain at least 25% of shares outstanding; (vi) the disclosure of financial information must be complete, including quarterly reports reviewed by an independent auditor and, (vii) the company shall provide annual financial reports in an internationally accepted model.

The Brazilian *New Market* is a particularly interesting setting to test the relation between earnings quality and governance for several reasons. First, firms listed in the *New Market* are by definition adherent to high governance levels. This avoids having to define "good governance" which can be quite subjective given that governance encompasses a large variety of structures that often complement or substitute each other (e.g. board structure, manager characteristics, internal control systems and accounting and auditing mechanisms). Second, comparing the earnings quality for Brazilian firms ensures that all the sample firms are subject to the same legal, economic and institutional environment and thus reduces the problem of confounding effects. For example, all firms are subject to monitoring and supervision of the stock exchange authorities. Third, the Brazilian market is a growing and active market and represents one of the most important emergent markets in the world.

To measure earnings quality we rely in one of the most commonly used measure: the accrual

quality measure proposed by Dechow and Dichev (2002) based on the original model of Jones (1991). Although there are many different measures to assess earnings quality the accruals methods remain one of the most accepted and used (Francis *et al.* 2004)

## 2. PRIOR LITERATURE AND HYPOTHESIS

The relation between corporate governance and earnings quality is analyzed for example in Beasley (1996), Klein (2002) and Gaio and Raposo (2014). Governance problems are linked to problems in earnings quality (Imhoff, 2003; Parker, 2007; Sharma *et al.*, 2008).

According to Beasley (1996) and Klein (2002), to address problems that have been largely explained by the quality of accounting and auditing, it is necessary to initially address the corporate governance weaknesses. Gaio and Raposo (2014) report that earnings quality affects firm valuation. The results suggest a substitute relationship between corporate governance and earnings quality.

Regulators such as the US Securities and Exchange Commission (SEC) has highlighted the importance of compliance with good governance standards as a way to improve capital market informativeness and efficiency (SEC, 2016).

The existence of stricter regulation of financial reports led to a change in accounting practices of organizations with a renewed focus on the integrity of financial and non-financial information. The corporate governance issues are also concerned with the creation of good management accounting practices that can provide important information for administrators on issues such as strategic definition of the company (Seal, 2006).

Other authors, such as Bushman and Smith (2001), also define the governance role in financial accounting information as the use of control mechanisms. These mechanisms would facilitate efficient management in organizations.

Doyle *et al.* (2007) examined the relationship between quality of financial information, using models based on accruals and the quality of internal control. The authors found that firms with weak internal control have worse EQ values, this is worse quality of reported financial information. These results support the notion that the internal control environment which mirror governance practices is a key element to obtain high quality reporting.

The results of Kent *et al.* (2010) also evidence a positive relationship between level of corporate governance and the quality of financial information. The results of this research suggest that the existence of good governance and good financial information is important to reduce uncertainties in the entity's operating environment.

The empirical analysis presented in the article of Kent *et al.* (2010) provides a useful insight on the important issue of how the firms' governance structures affect the quality of the results of firms reported. This research adopted the empirical model developed by Dechow and Dichev (2002), as it was considered that the estimated accruals properly reflect the actual cash flows and is a direct measure, with less residuals and more reliable quality of results. In this research it was stated that to be a control of financial information disclosed weaker, it

leads to greater uncertainty of the company's environment for managers. Consequently, this phenomenon increases the probability of accrual estimation errors, resulting in information with lower reliability. Thus, it is fundamental that control practices to ensure compliance with financial reporting requirements, ensuring that the financial statements provide a true and fair view of the financial position of the company.

The relationship between governance, behavior of managers and organizational performance is of fundamental importance to professionals, scholars and even politicians. There is evidence that several statistical governance factors that are associated with the probability of getting results considered of good quality. However, there are still a variety of reasons such as taxation, or the capital market pressures that create incentives for the company to manipulate the results (Larcker *et al.*, 2007). In this context, the research carried out by Healy (1985), provides statistical evidence that changes in accounting procedures defaulted by managers, are often associated with the adoption or modification of their compensation plan through income earned.

However, according to Francis *et al.* (2008), in the reputation perspective, the "efficient procurement" provides that managers with greater reputation are less likely to take actions and decisions that result in poor quality of financial information. These managers are primarily affected, with regard to its human capital if they do account and disclose choices that reduce the quality of financial information. Typically, firms that evidences financial results with higher quality levels are associated with lower capital costs. Thus, it is expected that the leading managers avoid actions that increase those costs, to the extent that they are considered better informed than managers without a fixed and good reputation.

More recent studies, such as Mouselli *et al.*, (2012) examined the relationship between two risk information indicators: quality model based on accruals and quality of disclosure of financial information. The results suggest a positive relationship between EQ and voluntary disclosure of financial results. These results have implications for the efforts of regulators to encourage companies to improve the dissemination of information in order to increase the incentives of managers to meet the expectations of good financial results. When managers engage less in results management, the quality of financial results information is greater, and more information will be released. Based on statistical tests, investors tend to see companies with higher levels of disclosure and the likelihood of demonstrating the financial results with superior quality.

Taking into account the results in prior studies, we address the following important of question: does the creation of a separate market with high-quality governance rules results in transparent financial information? This is an important question given the costs of implementation and monitoring of the New Market for regulators and policy-makers. The answer to this question is also of upmost interest for investors who wish to understand whether information reported by firms in the New Market is more useful for decision-making.

### 3. RESEARCH DESIGN

To test the conjecture that firms in the *New Market* have better earnings quality than the firms included

$$EQ_{i,t} = \beta_0 + \beta_1 Market_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 Loss_{i,t} + Y_{i,t} + I_{i,t} + \varepsilon_{i,t} \quad (1)$$

EQ denotes earnings quality measured by the (Dechow and Dichev, 2002). Model explained below, *Market* is the variable of interest and takes the value of 1 if the firm is listed in the *New Market*, and zero if it is listed in the *Traditional Market*, *Size* denotes firm size measure as the natural log of total assets, *Leverage* denotes leverage and is measured as long term debt to total assets, *Loss* is an indicator variable that takes the value of one if the firm

in the *Traditional Market* of Brazil, we used the following multiple regression model (all variables are for firm *i* and year *t*):

experiences a loss and zero otherwise, *Y* represent year dummies, and *I* denote industries dummies.

The dependent variable *Earnings Quality (EQ)* is our proxy for the quality of financial information. It is measured as the negative of the absolute value of the residuals of the following accruals model (Dechow and Dichev, 2002), so that higher variables indicate better reporting quality.

$$\Delta WC_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t-1} + \alpha_2 CFO_{i,t} + \alpha_3 CFO_{i,t+1} + \mu_{i,t} \quad (2)$$

where:

•  $\Delta WC_{i,t}$  is working capital calculated as the change from year *t-1* to year *t* in accounts receivables, plus the change from year *t-1* to year *t* in

inventory, plus the change from year *t-1* to year *t* in other current assets, minus the change from year *t-1* to year *t* in accounts payable, minus the change from year *t-1* to year *t* in tax payable

$$\Delta WC_{i,t} = \Delta Accounts\ Re\ ceivable + \Delta Inventory + \Delta Other\ Curr\ Assets - \Delta Accounts\ Payable - \Delta Tax\ Payable \quad (3)$$

• CFO is cash flow from operations in year *t-1*, *t* and *t+1*.

All variables are scaled by total assets at the beginning of year *t*.

The Dechow and Dichev (2002) accruals model, which is based on Jones (1991) and Dechow *et al.* (1995), models the change in working capital accruals that is reflected in cash flow component of earnings. Working capital captures the *normal* operating conditions of the firm which are reflected in receivables, inventories and payables. The unexplained component of the model (i.e. the residual) represents the portion of working capital accruals not explained by the normal firm

conditions and thus it is interpreted as the abnormal portion of accruals. To estimate the residuals of the model we use all the firms in the Brazilian stock market. As we have no expectation regarding the direction of possible manipulations we use the absolute value of the residual as it is common in the literature (Burgstahler *et al.*, 2006). Higher residuals are indicative of higher abnormal accruals or higher earnings manipulation, i.e. poor earnings quality. To facilitate interpretation we multiply the value by minus one so that higher values of the measure indicate higher earnings quality (Burgstahler *et al.*, 2006). Thus the earnings quality measure is defined as follows:

$$EQ = abs(\mu_{i,t}) \times (-1) \quad (4)$$

Variables *Size*, *Lev* and *Loss* included in equation (1) represent firm specific conditions that have been found to influence the quality of firms' financial information.

*Size*. According to Dechow and Dichev (2002) large firms have more stable and predictable operations and therefore the estimated residuals are expected to be lower for larger firms. Thus we expected a positive relation between firm size and earnings quality.

*Leverage*. The existence of the debt can be a significant governance device (Shleifer and Vishny, 1997). In firms with higher debt ratio, managers have incentives to engage more in manipulations of financial information in order to meet the terms of debt contracts. These actions reduce the quality of financial information (Dechow *et al.*, 2010). We expect a negative relation between leverage and the earnings quality.

*Loss*. Losses are indicators of severe negative shocks to the firm. During loss periods financial information is likely to contain higher estimation errors given that it is necessary to estimate infrequent items such as restructuring charges

(Dechow and Dichev, 2002). We expected a negative relation between *Loss* and the earnings quality

We add to the model year fixed effects in order to control for macro-economic events affecting all firms, and industry fixed effects to control for industry differences in earnings quality.

### 4. DATA AND SAMPLE

The sample includes all listed Brazilian firms in the *New Market* and *Traditional Market* for the years 2001 to 2011. After deleting observations with missing values the sample comprises 4,431 observations for 579 firms. All financial data is obtained from Thomson Reuters Worldscope. Information about the two markets is collected directly from BM&FBOVESPA website.

The 4,431 observations are represented in five activity sectors, 8.5% of the observations are integrated in the agricultural sector, 19.3% in the industrial sector, 19.4% in the consumer goods sector, 31.4% are related to services and 21.4% are included in the financial sector. Of the total listed Brazilian firms included in the sample 21.7% are

listed in the New Market and 78.3% are listed in the Traditional Market.

## 5. RESULTS

### 5.1. Descriptive results

Table 1 describes summary statistics by industry. The value of the working capital variation is influenced by past, current, and future cash flows from operations (CFO). Brazilian firms have, on

average, positive operating cash flows, which mean that the revenues related to the operational activities generate receipts that cover the operational costs and subsequent outflows within the operational cycle. Only the agriculture sector has negative operating cash flows and simultaneously presents the highest working capital variation. The quality of financial reporting measured by the variable EQ is greater in industrials, services and financials and smaller in the commerce sector.

**Table 1.** Analysis of earnings quality by industry

Activity Sector	Mean					
	N	EQ	$\Delta$ Working Capital	CFO <sub>t</sub>	CFO <sub>t-1</sub>	CFO <sub>t-2</sub>
Agriculture	377	-0.11	0.06	-0.02	-0.01	-0.01
Industrials	854	-0.09	0.01	0.03	0.04	0.04
Commerce	858	-0.17	-0.02	0.04	0.07	0.04
Services	1,392	-0.09	0.02	0.06	0.06	0.07
Financial	950	-0.09	0.02	-0.02	0.04	0.04
Activity Sector	Median					
	N	EQ	$\Delta$ Working Capital	CFO <sub>t</sub>	CFO <sub>t-1</sub>	CFO <sub>t-2</sub>
Agriculture	377	-0.05	0.02	0	0	0
Industrials	854	-0.05	0.01	0.01	0.02	0.02
Commerce	858	-0.08	0.02	0.01	0.03	0.04
Services	1,392	-0.04	0.01	0.02	0.05	0.05
Financial	950	-0.03	0	0	0.01	0.01

Table 2 reports descriptive evidence for the variables used in the multiple linear regression model. Brazilian firms have average leverage of 67%, and about half of the firms have a maximum

leverage ratio of 26%. Firms in the traditional market are more leveraged, and report more losses in the sample period. The size of the firms is similar in both markets.

**Table 2.** Summary statistics by market

	N	Mean	Standard Dev.	P25	P50	P75
<b>Panel A: All Firms</b>						
Earnings Quality	4,431	-0.11	0.26	-0.12	-0.05	-0.02
Size	4,431	13.51	2.44	12.2	13.75	15.01
Loss	4,431	0.29	0.46	0	0	1.00
Leverage	4,431	0.67	6.6	0.09	0.26	0.4
<b>Panel B: By market</b>						
<b>Traditional Market</b>						
Earnings Quality	3,470	-0.11	0.29	-0.12	-0.05	-0.02
Size	3,470	13.38	2.56	11.93	13.55	15.01
Loss	3,470	0.32	0.47	0	0	1.00
Leverage	3,470	0.78	7.45	0.09	0.25	0.4
<b>New Market</b>						
Earnings Quality	961	-0.09	0.11	-0.11	-0.05	-0.02
Size	961	14.00	1.92	13.15	14.08	15.02
Loss	961	0.21	0.41	0	0	0
Leverage	961	0.27	0.19	0.11	0.27	0.4

Taking into account the calculation of earnings quality EQ (i.e. higher values represent higher reporting quality), we observe that the average quality of financial reporting is greater in the New Market (-0.09) where firms have better levels of governance. In the Traditional market average earnings quality is -0.11. In Table 3 we report univariate tests comparing EQ of firms in the two markets. The difference in EQ is statistically

significant at the 1% level for the mean and at the 10% level for the median.

These univariate results suggest that Brazilian firms with best governance practices listed in the New Market disclose better quality financial reporting. Thus, the reported financial information is more reliable and useful for investors' decision making.

**Table 3.** Tests of EQ by market

Market	N	Mean	Median
Traditional Market	3,470	-0.11	-0.05
New Market	961	-0.09	-0.05

Test difference in mean EQ p-value <0.001

Test difference in median EQ p-value 0.071

Pearson correlations are reported in Table 4. There is a positive correlation between the variables *market*, *size* and *EQ*. Again the correlation analysis

indicates that when a firm is listed in the market *New Market* earnings quality is also higher.

**Table 4.** Pearson correlations

	<i>EQ</i>	<i>Market</i>	<i>Size</i>	<i>Leverage</i>	<i>Loss</i>
<i>EQ</i>	1.00				
<i>Market</i>	0.04*	1.00			
<i>Size</i>	0.16*	0.10*	1.00		
<i>Leverage</i>	-0.11*	-0.03*	-0.11*	1.00	
<i>Loss</i>	-0.15*	-0.10*	-0.37*	0.08*	1.00

\* statistically significant at 5% level.

## 5.2. Multivariate analysis

To confirm the univariate evidence of a positive association between governance practices and the transparency of financial reporting we apply a multivariate analysis (equation 1). Table 5 presents the following four models: Column (1) shows the results for the model with all observations, including

the year and industry fixed effects. Column (2) reports the results for the model with all observations including only year fixed effects. The columns (3) and (4) presents the results of the model estimation excluding outliers using Kuh and Welsch (1980) criterion. We consider the possibility that extreme cases can influence our results.

**Table 5.** EQ

		<i>Dependent variable: Earnings quality (EQ)</i>			
		(1)	(2)	(3)	(4)
<b>Market</b>	<i>Coefficient</i>	0.02**	0.02*	0.01***	0.01***
	<i>t-stat</i>	(1.99)	(1.87)	(3.14)	(3.09)
<b>Size</b>	<i>Coefficient</i>	0.01***	0.01***	0.01***	0.01***
	<i>t-stat</i>	(6.36)	(7.29)	(6.19)	(8.24)
<b>Leverage</b>	<i>Coefficient</i>	-0.01***	-0.01***	-0.01***	-0.01***
	<i>t-stat</i>	(-5.52)	(-5.91)	(-2.82)	(-3.46)
<b>Loss</b>	<i>Coefficient</i>	-0.07***	-0.06***	-0.02***	-0.02***
	<i>t-stat</i>	(0.60)	(-6.87)	(-7.45)	(-7.07)
<b>Constant</b>	<i>Coefficient</i>	-0.1***	-0.3***	-0.4***	-0.6***
	<i>t-stat</i>	(-6.72)	(-8.07)	(-13.40)	(-15.74)
<b>Year dummies</b>		<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Industry dummies</b>		<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b>N° of observations</b>		4,431	4,431	4,155	4,155
<b>Adjusted R<sup>2</sup></b>		0.06	0.05	0.09	0.07

*t*-statistics in parentheses; \* (\*\*) [\*\*\*] denotes statistical significance at 10% (5%) [1%].

In all models in Table 5 we observe that the *EQ* variable is positively related with the type of market. Thus, when the company is listed in the *New Market*, instead of the *Traditional Market*, earnings quality increases. These results suggest that investors and regulators can rely on the positive informational benefits of the *New Market*. In other words, Brazilian firms of the *New Market* have better corporate governance structures supporting a more transparency financial reporting. Firm size is positively associated with earnings quality, more leveraged firms and firms with losses have power reporting quality.

The elimination of outliers and the inclusion or not of industry effects does not change our results.

## 6. CONCLUSION

Most of the literature argues that the level of corporate governance is positively related to the earnings quality (Doyle et al, 2007; Kent et al, 2010; Larcker et al., 2007). To find evidence of that relationship in an emerging market we analyze the case of the Brazilian markets, where firms can be listed in one of two markets depending on the standard of corporate governance levels they wish to commit to. Firms that follow high quality

governance principles can be listed in the *New Market* whereas the other firms are listed in the *Traditional Market*. Policy makers have chosen the two-layer market approach as a way to signal to investors (particularly foreign ones) the quality of the firms. Given that creating and monitoring a new market is costly, it is important to understand whether the *New Market* results in benefits for investors, namely in terms of more transparent information for decision-making. In this study we test whether firms included in the Brazilian *New Market* have more transparent information as measured by Dechow and Dichev (2002)'s accruals models.

The empirical results suggest that earnings quality of firms in the *New Market* are more transparent than earnings quality of firms in the *Traditional Market*. These results indicate that the best practice of corporate governance leads to more reliable financial information that is useful for stakeholders. Further, we found that firms have other characteristics influence the quality of financial reports. Large firms have better earnings quality, but firms with higher level of debt and higher incidence of losses show poor earnings quality.

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