

Impacts of other comprehensive income on earnings management

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Abstract

The study aimed to verify the impact of Other Comprehensive Income (OCI) in the earnings management (EM) practices in Brazilian publicly held companies. This research characterizes as descriptive, documentary and quantitative. The period of analysis encompasses 2010 to 2013. In addition to the OCI, EM variables such as Size (LnTam), Indebtedness (Endiv), Financial Leverage (AlavFin) and Operating Cash Flow (OCF). As a result, there was significant and positive correlation of OCI to the size of companies in 2010. In 2012, OCI presented significant negative correlation with OCF and Indebtedness. DA showed significant and negative correlation with Indebtedness in 2011 and 2012 and with Leverage in 2012, and in 2010 and 2012, there was significant and positive correlation to Leverage. It is concluded that it was not possible to confirm that OCI decreases EM levels nor its disclosure increases the transparency of accounting information for reducing informational asymmetry.

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1 INTRODUCTION

The availability of accounting information aims to assist managers in conducting organizations and serves as a basis for decision-making. The dissemination of information aims to reduce informational asymmetry and its description serves favorably to several stakeholders.

The promotion of Accounting in Brazil, starting from the adoption of the International Accounting Standards (IFRS), aimed to reduce informational asymmetry to users by increasing transparency. However, this information is an equation composed by users on one side and the company on the other. This informational equation has generated several informational researches, and this study was developed with focus on the potential of earnings management for companies.

Since 2009 and in accordance with IFRS, in Brazil, the Disclosure of Comprehensive Income is adopted with a basis on the Technical Pronouncement 26 - CPC 26 (R1). Comprehensive income corresponds to changes in equity that do not come from capital transactions between the company and its members (CPC 26 (R1)). The concept of comprehensive income in the country is new and still little discussed in organizations. This topic was object of study of Lin and Rong (2012) in Chinese companies. The authors tested the hypothesis that the higher the quality of the dissemination of information, the lesser the information asymmetry. This way, the chances of earnings management would be smaller. On the other hand, according to Lin and Rong (2012), the lower the quality of dissemination of information, the greater the difference in the degree of information asymmetry between investors and companies with shares traded on stock exchanges and, consequently, the greater the chances for earnings management.

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The Statement of Comprehensive Income was incorporated into the full, required set of financial statements in September 2009, through approval of the CPC Technical Pronouncement CPC 26, by the Securities and Exchange Commission of Brazil (CVM), which was issued by the Brazilian Accounting Pronouncements Committee (CPC). Hence, the approach of this research was focused on comprehensive income and earnings management in Brazil.

Earnings management incurs the intentional alteration of earnings, aiming to address particular motivations (MARTINEZ, 2006). The income alteration through Discretionary Accruals (DA), which are income accounts that generated profit but do not necessarily imply movement of cash and cash assets, can be considered earnings management. Performance indicators may influence the decision to increase the DA and manage results, or reduce negative accruals, resulting in the reduction of net income (IUDÍCIBUS; LOPES, 2004).

On the assumption that in some situations the manager can make accounting choices in order to recognize the effect of certain transactions in the income or owners' equity (OE), as in the case of some financial instruments, it is possible to assume that this OE group (Other Comprehensive Income - OCI) can be used to manage the profits of enterprises, both to increase it and decrease it. This way, the research problem that arises is: what is the impact of Other Comprehensive Income in the earnings management of Brazilian companies? Hence, the aim of this study is to analyze the impact of Other Comprehensive Income in the earnings management of Brazilian companies. The research is justified due to analyzing the description of companies' comprehensive income; how much do OCI values represent, keeping it in mind that the adoption of the accounting practice of OCI recording changes the value of profit; and what is the influence of these values in the discretionary accrual, a proxy of earnings management.

The influence of comprehensive income in the distribution of dividends was the focus of Kochiyama and Itou (2013). Coelho and Carvalho (2007) performed a conceptual analysis of comprehensive income and current operating profit. Mazzioni, Oro and Scarpin (2013) used net income and the comprehensive income to assess them as predictive measures of the performance of companies in the Brazilian electricity segment. However, few studies examining the effects and influences of ORA in particular were found.

The researches by Biddle and Choi (2006), Coelho and Carvalho (2007), Kanagaretnam, Mathieu and Shehata (2009), Macedo, Vilamaior and Pinheiro (2010), and Cahan et al. (2000) found no evidence to support that comprehensive income has greater explanatory ability of business performance regarding profit. Thus, it is perceived that studies are still inconclusive regard to the use and disclosure of comprehensive income or OCI in reducing information asymmetry and earnings management. Hence, this article aims to fill this research gap through analysis of OCI impact in DAs of companies listed in BM&FBovespa from 2010, the year SCA disclosure was adopted, until 2012, enabling contributions to the discussions mentioned on the topic.

2 THEORETICAL FRAMEWORK

In this literature review, concepts of Comprehensive Income are presented, followed by discussion on Disclosure and Information Asymmetry, as well as aspects related to Earnings Management.

2.1 Comprehensive Income

Accounting information intends to assist managers, serving as a basis for decision-making. Pinheiro, De Macedo and Vilamaior (2012) highlight that in the search for development and improvement of accounting information, the Financial Accounting Standard Board (FASB, 1997) issued Pronouncement 130, which determines that some gains, losses, revenues and expenses not carried out must be recorded in the owners' equity of companies with specific heading.

Brazil, in accordance with International Accounting Standards, adopts the development of the Statement of Comprehensive Income since 2009, based on the CPC Technical Pronouncement CPC 26 - CPC 26 (R1). This Pronouncement, in item 7, considers comprehensive income as a “change that occurs in owners’ equity during a period resulting from transactions and other events not derived from transactions with members in their capacity as owners”.

It states that comprehensive income comprises all the components of the income and OCI statements. In turn, OCI comprises revenue and expenditure items, including reclassification adjustments, not recognized in the income statement. OCIs include variation in revaluation reserve; gains and losses; and effective portion of gains or losses arising from hedge instruments. It is worth pointing out that for each of these components there is a specific statement determining the rules.

In the conception of Hendriksen and Van Breda (1999, p. 208), comprehensive income corresponds to the “total variation of capital value, recognized by the transaction record or by the revaluation of the company for a specified period, with the exception of dividend payments and increase or decrease transactions of capital”. Hence, comprehensive income is broader than net income because it includes other variations of the net assets recognized in the period, which may stem from market values of negotiable instruments, in addition to value adjustments originated from the convergence into foreign currency. (HENDRIKSEN; VAN BREDA, 1999).

Statements, interpretations and guidelines regulating the accounting activity in Brazil require the preparation of a Statement of Comprehensive Income (SCI) be based on the sum of net income presented in the Statement of Period Income (SPI), with the OCI (IUDÍCIBUS et al., 2010). This way, total comprehensive income corresponds to changes in owners’ equity not originated from transactions between the company and its members.

As for the structure, items 82A of CPC 26 (R1) determines that SCI should at least include net income from the period, each OCI item should be classified according to its nature, as well as parts of OCI stemming from investee companies recognized through use of equity and the comprehensive income of the period. It also suggests that SCI be presented within the Statement of Owners’ Equity (SOE) or even through report itself. When disclosure occurs in its own statement, Iudícibus et al. (2010) highlights that its initial value should have net profit for the period calculated at SPI, followed by OCI.

Thus, OCI belongs to the changes in owners’ equity (OE) of companies; the account Owners’ Equity Valuation Adjustment itself may represent these values. In this regard, counterparts of increases or decreases in value attributed to assets and liabilities elements are recorded, as a result of their evaluation at fair value, while not computed in the income exercise, while the values recorded in this account should be transferred to the income exercise as the assets and liabilities are carried out (IUDÍCIBUS et al., 2010).

According to ICPC 10, this account was a counterpart of occasional adjustments in accounts of fixed assets in a situation where the entity might assign an initial fair value (using the concept of deemed cost) to fixed assets under the terms of items 21 to 29 of mentioned Interpretation, in accordance with the Brazilian accounting practice change and its initial adoption in 2010, with the convergence process of CPC 27 (Fixed) and CPC 28 (Investment Property). Thus, in the conception of Epstein, Nach and Bragg (2009), Comprehensive Income better demonstrates the performance of companies than Net Income, in that it includes all assets changes for the period, except those stemming from owner investments and their distributions.

An important difference between operating income and comprehensive income, according to Hendriksen and Van Breda (1999), is in the disclosure of net income. Operating profit emphasizes the current operating efficiency of the company and may be used for performance prediction and generation capacity of future income. On the other hand, proponents of the concept of comprehensive income point out that both the operating efficiency and future performance prediction of the company may be better elaborated if they are based on the full historical experience of the company in a set amount of years, seeing that operating net income is based on a single period and may be subject to verification in the future.

2.2 Earnings management

Earnings management, according to Healy and Wahlen (1999), happens when judgements regarding financial information and operational activities occur in order to change financial information or intentionally mislead investors about the economic performance of the company, or to influence contractual results that depend on accounting numbers. For Schipper (1989), earnings management is the intervention, conducted deliberately, in the process of external disclosure, with the aim of obtaining any private gain.

Martinez (2006) highlights that management directs results with specific purposes and not as an expression of the reality of the business. However, management of accounting income does not constitute accounting fraud, because it operates within the limits that accounting legislation prescribes. One of the most important products of accounting is the income, because with it, it is possible to assess company performance. However, this result may suffer accounting adjustments of discretionary nature, without any relationship with the enterprise business. These adjustments lead executives to manage earnings in a desirable manner.

In the decision-making of recognition of expenses and variability in accounting income, Martinez (2006) considers that depreciation expenses, expenses with provision to doubtful accounts and nonoperating revenues reduce the variability of accounting income. Variation in the amortization of premium and discount investments, provisions to loss in investments and revaluation reserves are related to actions to reduce income variability.

All income accounts that went into the profit calculation, but do not imply necessary movement of cash assets, are known as accruals, which, in a broad sense, is the difference between net income and net operating cash flow. Such accruals can be used for earnings management purposes. The accruals may be discretionary (discretionary accruals) and non discretionary (non discretionary accruals). The latter reflects business reality, whereas the former is artificial, with the sole purpose of managing accounting income (earnings management) (MARTINEZ, 2008).

DAs are proxies of accounting earnings management, where the challenge is estimating its value, which may be positive or negative. They represent the way the company manages its earnings, to improve or worsen them. It is possible to estimate the value of total accruals from the variations of specific items in the balance sheet, as income accounts do not always discriminate their amount precisely (MARTINEZ, 2008).

There are several modalities of earnings management, depending on the motivations involved in the process. Martinez (2006) highlights the three main ones, which are presented in Figure 1.

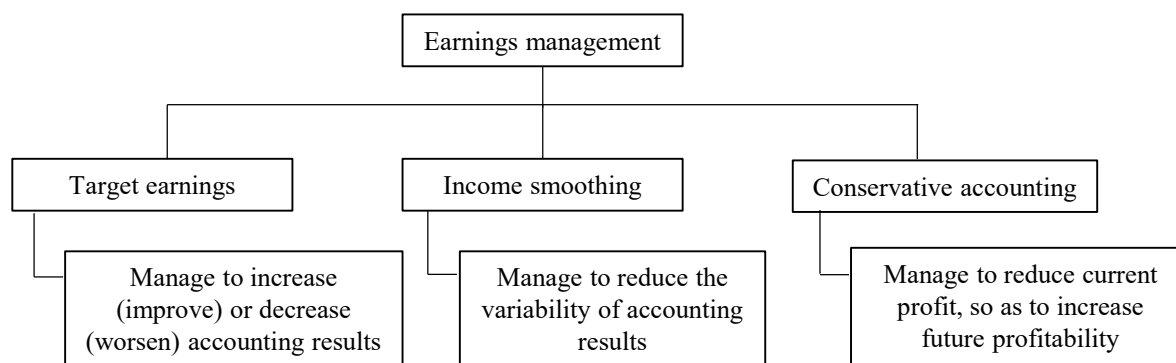


Figure 1. Results management modalities

Source: Adapted from Martinez (2006).

As noted in Figure 1, the modality target earnings consists of managing income to achieve certain profit goals, regardless of period income. With the modality income smoothing, the objective is to reduce income variability and stabilize them at some level. Finally, conservative accounting consists in the company worsening their current income to improve future income. As an example, there is anticipation and recognition of expenses in the period, which could be recognized in future periods.

Companies can adopt different models to detect earnings management practices, such as: Healy (1985), DeAngelo (1986), Dechow and Sloan or Sector Model (1991), Jones (1991), Dechow, Sloan and Sweeney (1995) (or modified Jones), Kang and Sivaramakrishnan (1995) (or KS model), Pae (2005), Leuz, Nanda and Wysocki (2003), Barth, Landsman and Lang (2008).

One of the most used models in the literature, especially in studies with Brazilian companies, is the KS model. This model includes operating expenses and deals with receivable accounts for handling occasional problems associated to revenue manipulation (MARTINEZ, 2008). To fix the problem of simultaneity, the method of instrumental variables is employed. The KS model operates directly with balance sheet accounts, avoiding the undesirable problem of comparing currency values in different periods. This methodological detail is specially relevant in Brazil, considering the inflationary aspect that could compromise the comparability between two exercises. According to Martinez (2008) and Thomas and Zhang (2001), there is no perfect model, but the KS model is the one that provides the best results. Due to this, DAs were determined using the KS model.

2.3 Related studies

Based on the presentation and contextualization conducted on the topics comprehensive income and earnings management, Chart 1 was designed, featuring the description of some major studies on the topics.

Authors	Main results
Dhaliwal, Subramanyam and Trevezant (1999)	Did not find clear evidence that the global result (comprehensive income) is more strongly associated to the return of net profit, in terms of explanatory power.
Biddle and Choi (2006)	The findings indicate that the approach of comprehensive income is more useful to decision-making of information content, predictability, and contract of executive compensation. Different income definitions provide varying usefulness in decision-making for different applications, a useful decision being the disclosure of comprehensive income components separately, corroborating with IASB's position in demanding information disclosure.
Coelho and Carvalho (2007)	Performed conceptual analysis of comprehensive income and current operating profit by seeking evidence in Brazilian companies of the financial sector, between 2001 and 2004. The findings indicate significant differences in profit disclosed by the two concepts in financial statements, not existing disclosure of the differences found between reported profit and owners' equity increment, not even in explanatory notes.
Lin and Rong (2012)	A study conducted in 391 Chinese companies in 2009 found that the disclosure of OCI is negatively related to the earnings management in these companies. Thus, it is assumed that disclosure of other comprehensive income can reduce earnings management in order to make the public better understand the performance of a particular company, reducing information asymmetry.
Pinheiro, De Macedo and Vilamaior (2012)	The results showed that the occasional recognition of OCI in income would cause greater volatility in the net profit of enterprises, with no defined tendency in increasing or decreasing it.
Mazzioni, Oro and Scarpin (2013)	There is no evidence that the comprehensive income of t0 has higher predictive ability than net profit of t0 in predicting income of t1 results for electric companies of 2010 and 2011.
Kochiyama and Itou (2013)	The coefficient of variation for comprehensive income is significantly higher than other accounting revenues. Negative OCI impact dividends, i.e. it leads to lower dividends.

Chart 1. Previous studies

Source: Research data

In Chart 1 are synthesized studies related to the topic found between 1994 and 2013. Evidence that comprehensive income has greater explanatory ability than profit can be found in the studies by Dhaliwal, Subramanyam and Trezevant (1999), Newberry (2003), Pinto (2005), Soutes and Schvirck (2006), Gallon et al. (2009), Resende, Pinheiro and Maia (2011). Otherwise, the investigations of Biddle and Choi (2006), Coelho and Carvalho (2007), Kanagaretnam, Mathieu and Shehata (2009), Macedo, Vilamaior and Pinheiro (2010), and Cahan et al. (2000) found no evidence to support that comprehensive income has greater explanatory ability of business performance regarding profit.

This way it was possible to observe the existence of research gap concerning the impact of OCI in earnings management. This is due to the fact that studies are inconclusive as to the positive or negative influence of different income concepts on performance indicators in the best explanation of profit, predictive ability of these, reduction of information asymmetry with the quality of information disclosed, as well as in the level of earnings management.

3 METHODOLOGICAL ASPECTS OF THE RESEARCH

In this chapter, the methodological classification of this research, population and sample of the study, as well as the data collection and analysis procedures, are presented.

3.1 Research Method

As to the nature, this research can be classified as applied, since it aims to identify a particular behavior (earnings management) practiced by the companies listed on the BM&FBovespa. Regarding the objectives of this research, it is classified as descriptive, since it relates earnings management to comprehensive income. As to the approach towards the problem, this research has quantitative characteristics, since it uses statistical techniques for the collection and treatment of data. As for the technical procedures, the research is documentary.

3.2 Population and sample

The population that constitutes this study is comprised by publicly held companies listed on the BM&FBovespa from 2010 to 2013. To compose the sample, the companies must be listed in the period of 2010 and have values under Comprehensive Income and other information necessary for the data collection. The initial sample was composed of 77 companies. From this sample, were excluded: financial and insurance institutions, since their economic and accounting regulations are significantly different from other branches of economic activities; and companies that did not have enough information available to generate DA, a variable that is dependent of the regressions conducted. Exclusion of outlier companies, i.e. businesses with residue bigger than four times the value of the standard deviation of residue of all companies, was also considered. Outlier companies were excluded to solve heteroscedasticity problems, as Fávero et al., 2009, recommend. A composition of the final sample is described in Table 1.

Table 1. Population and sample

Items	2010	2011	2012	2013
Total population	77	77	77	77
(-) companies without Comprehensive Income values		25	24	60
(-) companies without Discretionary Accrual values	-	4	8	4
(-) companies without values in other variables	-	-	1	-
(=) Partial sample	77	48	44	13
(-) financial and insurance institutions	2	2	2	13
(-) outliers	1	-	-	-
(=) Final sample	74	46	42	0

Source: Research data

The amount of observations (N) for each year was of: 74 companies in 2010; 46 companies in 2011; and 42 in 2012. In 2013, it was not possible to obtain a sample due to the exclusions performed. As shown in Table 1, compared to the previous years, in 2013, the amount of Comprehensive Income (variation of the account Equity Valuation Adjustment) disclosed decreased, seeing that the companies that disclosed more in 2013 were financial institutions. Following are details on the collection and analysis of data of these companies belonging to the sample.

3.3 Collection and analysis of data

Data collection was conducted in the database Economática®. The four-year period (2010 to 2013) was used as base, and data availability was considered in order not to reduce the sample substantially, given the number of independent variables collected. We opted not to include data prior to the year of 2010, due to the fact that the Statement of Comprehensive Income was not required by the standards of the Federal Accounting Council before this period, and the year of 2013 was not possible to operationalize due to data absence of the companies constituting the sample.

The KS Model by Kang & Silvaramakrishnan (1995) was adopted, as this model is the most appropriate for the Brazilian context. According to Martinez (2008) and Thomas and Zhang (2001), the KS Model is one of the best models to evaluate earnings management, as it operates directly in the balance sheet accounts, in an attempt to explain the extent of the Total Accruals. DAs are computed as residues of equation 2, in the following terms:

$$AT_{it} = \phi_0 + \phi_1[\delta_1 Rec_{it}] + \phi_2[\delta_2 Desp_{it}] + \phi_3[\delta_3 At.Imob_{it}] + \varepsilon_{it} \quad (1)$$

$$DA_{it} = AT_{it} - \{\phi_0 + \phi_1[\delta_1 Rec_{it}] + \phi_2[\delta_2 Desp_{it}] + \phi_3[\delta_3 At.Imob_{it}]\} \quad (2)$$

The variables Recit, Despit, At.Imobit are scaled in terms of total assets.

AT_{it} = Total Accumulations = (CGL – Depreciation & Amortization)

Rec_{it} = Net Revenue (excluding taxation)

$Desp_{it}$ = Costs of Operating Expenses before Depreciation & Amortization

WC = Working Capital excluding cash assets, short-term financing and provision for Taxes To Pay

$At.Imob_{it}$: Fixed Assets and Deferred Charges.

$C.Receber_{i,t-1}$ = Receivable Accounts at period t-1

$DEPREC_{i,t-1}$ = Depreciation Expenses

= $C.Receber_{i,t-1} / Rec_{i,t-1}$, where RA (receivable accounts)

= $(\Delta CG - CRec_{it}) / Desp_{i,t-1}$

= $DEPREC_{i,t-1} / A.Imob_{i,t-1}$

Martinez (2008) conceptualizes the total accrual as the variation of working capital without cash assets and short-term financing, which is subtracted from total depreciation and amortization, this being the ending balance measured in terms of percentage of total assets. If any tax provisions exist, these should also be excluded from the calculation of the total accrual.

Conceptually, a positive DA means that the company is managing its income in order to increase it. On the other hand, a negative DA implies that the organization adopts accounting practices that aim to reduce net income. With this conceptual basis, it was sought to relate accruals to the information on the variables presented in Table 3 by means of panel data regression, according to Equation 3:

$$DA = \beta_0 + \beta_1 Ln_Tam + \beta_2 Endiv + \beta_3 AlavFin + \beta_4 FCO + \beta_5 ORA + \varepsilon_{it} \quad (3)$$

OCI was used as an independent or explanatory variable. Variables related to the Natural Logarithm of Company Size (LnTam), Indebtedness (Endiv), Financial Leverage (AlavFin) and Operating Cash Flow (OCF) are used as control variables, as pointed in the study by Lin and Rong (2012). According to these authors, the expected effect of these variables on the degree of earnings management is negative for the size of the company, OCI, and for OCF; and positive for AlavFin and Endiv.

The authors explain that, to avoid political costs, managers often try to reduce the profits disclosed to present an image of non-profit organization to the public. The size of a company is widely adopted to replace political cost in studies related to political cost. Hence, the bigger the company, the smaller the degree of earnings management.

Regarding the flow, DA is adopted as a proxy of earnings management. Considering a given net income or operating income, the higher the cash flow, the lower the total accrual, therefore, the smaller the DA, hence, a negative coefficient for CFO is to be expected. For Defond and Park (1997), financial leverage refers somehow to accruals. Specifically, the higher the level of leverage, the lower the levels of assets and liabilities and the higher the accruals.

Chart 2 presents a description of the dependent and independent variables, as well as the literature that supports their use.

Variable	Acronym	Variable Name	Explanation	Authors
Dependent	DA	Discretionary Accruals	Proxy of earnings management	Paulo and Leme (2009); Lin and Rong (2012)
	LnTam	Size	Asset logarithm	Lin and Rong (2012).
	Endiv	Indebtedness	$\frac{PC + PNC}{\text{Total assets}}$	Martinez (2001); Coelho and Lopes (2007).
Independent	AlavFin	Financial Leverage	$\frac{PC + PNC}{\text{Equity}}$	Defond and Park (1997); Coelho and Lopes (2007); Klann (2011); Lin and Rong (2012).
	FCO	Operating Cash Flow	$\frac{OCF}{\text{Total assets}}$	Paulo and Leme (2009); Klann (2011); Lin and Rong (2012).
	ORA	Other Comprehensive Income	Valuation adjustment Owners' equity (OE) $\frac{(\text{year}_t - \text{year}_{t-1})}{\text{Total assets}}$	Lin and Rong (2012); Pinheiro, De Macedo and Vilamaior (2012).

Chart 2. Study variables

Source: Research data

Lin and Rong (2012) used two alternative variables (ratios of assets and debts) for the variable referring to financial leverage. This study used only financial leverage (AlavFin). Regarding the variable OCI, the difference between annual balances of the account Equity Valuation Adjustments (Year t — Year $t-1$) was used, due to it representing changes affecting OE, but which are not or have not yet been recognized in the income summary.

In order to analyze the data, initially the normality of the sample was checked by Kolmogorov-Smirnov test (KS), in which it was found that the data are normal. Heteroscedasticity tests were performed with data from the variables in Table 2, and the results were shown to be adequate. To perform analysis of panel data, the residue autocorrelation (Durbin-Watson) and multicollinearity (VIF) tests were used. The results were adequate and are presented and discussed together with the remaining data analyses. In addition to the multivariate analysis of panel data, variable data were additionally analyzed through descriptive statistics and Pearson correlation analysis, as will be shown next on the section about the analysis of the research results.

4 DESCRIPTION AND ANALYSIS OF THE RESULTS

This section presents the results obtained based on what was defined as the goals of this research, and is divided into three subsections. The first refers to descriptive analysis, followed by univariate statistical analysis and, finally, by regression analysis of panel data.

4.1 Descriptive analysis

Table 2 presents the descriptive statistics for the dependent and independent variables of the model: Discretionary Accrual (DA); Size of the company (LnTam); Indebtedness (Endiv), Financial Leverage (AlavFin), Operating Cash Flow (FCO) and Other Comprehensive Income (OCI).

Table 2. Descriptive statistics

Year	Variables	N	Descriptive statistics			
			Minimum	Maximum	Mean	Standard deviation
2010	DA	74	-0.865	1.844	0.511	0.387
	LnTam		11.979	20.069	14.928	1.577
	Endiv		0.016	1.645	0.572	0.232
	AlavFin		-33.600	4.500	0.271	6.129
	FCO		-0.104	0.288	0.063	0.071
	ORA		-0.249	0.111	0.001	0.036
2011	DA	46	-0.166	1.476	0.707	0.277
	LnTam		12.179	20.211	15.004	1.699
	Endiv		0.093	1.128	0.582	0.225
	AlavFin		-33.319	21.498	1.886	6.964
	FCO		-0.182	0.172	0.054	0.064
	ORA		-0.050	0.442	0.010	0.066
2012	DA	42	-0.016	1.593	0.798	0.328
	LnTam		12.350	20.334	15.282	1.751
	Endiv		0.062	1.896	0.643	0.316
	AlavFin		-9.449	26.358	2.864	5.565
	FCO		-0.082	0.264	0.048	0.068
	ORA		-0.372	0.004	-0.015	0.063

Source: Research data

With respect to the variables shown in Table 2, it was observed that they have high values of standard deviation, which indicates instability regard to variations. Those that presented standard deviation higher than the average in 2010, 2011, and 2012 were AlavFin, OCF and OCI. An increase in the annual average of DA values was observed from 2010 to 2012. The mean is positive in all years and indicates the occurrence of management to increase profit. The year of 2010 had the lowest minimum (-0.865) also the highest maximum (1.844) between the years, being, therefore, the year with less stability in the comparison of DA between companies.

The OCI values of the companies analyzed are the values with greater instability throughout the years, referring to minimum and maximum values, as well as mean and standard deviation. Considering the mean of this variable, it is observed that, in 2011, higher positive values were recorded in other comprehensive income (0.010). In other years, the average values were lower and reached negative values in 2012 (-0.015). The year of 2010 was the period that reflected the variation of OCI for deemed cost, according to ICPC 10.

As for the LnTam variable, an increase in the size of the companies throughout the period is observed. A reduction in the average value of the OCF in the period was also observed. The maximum value of this variable had a reduction from 2010 to 2011 and an increase from 2011 to 2012. As for the Endiv variable, the mean increased from 2010 to 2012.

When handling AlavFin, which represents the level of financial resources from long-term outsider capital in relation to equity, a consecutive increase in the period is observed. The discussion of the results found for the correlation of the variables described is presented as follows.

4.2 Univariate statistical analysis

Through the statistical program SPSS®, the Pearson's Correlation Matrix of the variables was designed. Table 3 presents the correlation between the variables studied according to the research construction.

It is observed in Table 3 that there exists no correlation above 65.7% with the dependent variable DA, neither are there many significant correlations between independent variables during the three years analyzed. Hence, based on the analysis of these correlations, it is possible to see these results indicate absence of multicollinearity.

DAs have significant and negative correlation with Endiv in 2011 (54%), and 2012 (65.7%), and with AlavFin in 2012 (30.5%). They also show significant and positive correlation with AlavFin in 2010 (35.9%) and 2011 (42.2%). Lin and Rong (2012) argue there is a positive relationship between DAs, indebtedness and financial leverage, based on the fact that the most indebted or leveraged companies would have greater incentives to raise their results through DA. In this study, however, the findings confirm this result only for the leverages in 2010 and 2011.

LnTam presented significant and positive correlation of 30.7% with OCI in 2010. It is possible to observe, with help from the control variable Size, that the biggest companies also recorded higher OCI values in 2010. According to Lin and Rong (2012), disclosure of OCI in the Income Statement will improve the transparency of financial statements, reduce information asymmetry and, consequently, reduce earnings management. This positive correlation can also be explained by the fact that the transactions recorded in the OCI are typical of larger companies, such as adjustments in financial instruments, exchange rate change of investments in controlled companies abroad, among others.

Endiv has significant and negative correlation with AlavFin in 2010 (33.4%), with OCF in 2011 (30.4%) and with OCI in 2012 (50.2%). OCF also shows significant and positive correlation with AlavFin in 2010 (27.4%) and negative with OCI in 2012 (47.3%). Based on Lin and Rong (2012), significant correlations between all independent variables and DA were expected to appear; however, only Endiv and AlavFin showed such behavior. All variables were analyzed through panel data regression, and the results are presented in the following section.

Table 3. Correlations between variables

Var	DA			LnTam			Endiv			AlavFin			FCO			ORA		
Year	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
N	74	46	42	74	46	42	74	46	42	74	46	42	74	46	42	74	46	42
DA	1	1	1	-0.114	-0.107	-0.30	-0.193	-0.540**	-0.657**	0.359**	0.422**	-0.305*	0.194	0.201	-0.206	-0.114	-0.128	0.218
a				0.332	0.478	0.850	0.100	0.000	0.000	0.002	0.004	0.049	0.097	0.180	0.190	0.333	0.395	0.165
LnTam				1	1	1	0.100	0.095	-0.057	0.162	0.149	0.097	0.001	0.120	-0.066	0.307**	-0.133	0.267
a							0.395	0.529	0.718	0.167	0.323	0.541	0.996	0.425	0.676	0.008	0.377	0.087
Endiv							1	1	1	-0.334**	0.014	0.120	-0.045	-0.304*	0.141	0.144	-0.185	-0.502**
a										0.004	0.928	0.449	0.703	0.040	0.375	0.221	0.219	0.001
AlavFin										1	1	1	0.274*	0.179	-0.064	-0.009	-0.058	0.152
a													0.018	0.235	0.687	0.938	0.700	0.338
FCO													1	1	1	0.131	-0.36	-0.473**
a																0.267	0.814	0.002
ORA																1	1	1

Source: Research data

Note: *. Correlation is significant at the level of 0.01 (2 tails). (a) Sig. (2 tails)

4.3 REGRESSION ANALYSIS OF PANEL DATA

To complement the analysis, regression of panel data on the variables of the study was performed with the Stata® software. Initially, analysis of model assumptions (fixed/random effects) was performed in order to check which model was more adequate to the data. According to Fávero et al. (2009), it is possible to obtain, through analysis of panel data, three common approaches: fixed effects, random effects, and pooled independent cross-sections or POLS (Pooled Ordinary Least Squares).

The Chow test (1960), which represents the F-test used to determine if the parameters of two multiple regression functions differ between each other (JOCELYN et al., 2009), was used in this study. The F-test showed significance at the level of 5%, which allowed for rejection of the model POLS. Subsequently, the Breusch-Pagan LM test was performed to verify if the random model would be appropriate for the data analyzed. The results were significant at the level of 5%, indicating the suitability of the random effects model. In order to confirm this, the Hausman test was applied, the results indicating non-adequacy to the fixed effects model. Thus, the random effects model was considered the best suited for data analysis. Table 4 presents the random effects analysis.

Table 3. Correlations between variables

Variables	Expected Sign	Coefficient	VIF
Constant		0.9712823***	
LnTam	-	-0.0095727	1.05
Endiv	+	-0.3734745***	1.07
AlavFin	+	0.0133574***	1.05
OCF	-	0.0368445	1.04
OCI	-	-0.5509945	1.08
Durbin-Watson		DW = 1.6900	
Shapiro-Wilk		SW = 0.9386	
Levene		F = 1.7142	
R ²		0.1868	
Sig.		0.0007	
Chow F-test		F = 2.16 Sig. F = 0.0004	
Breusch-Pagan LM		$\chi^2 = 9.52$ Sig. $\chi^2 = 0.010$	
Hausman Test		$\chi^2 = 12.43$ Sig. $\chi^2 = 0.0144$	

Source: Research data

Note: *significant at the level of 0.1 (90%); **significant at the level of 0.05 (95%); ***significant at the level of 0.01 (99%)

Table 4 describes the regression model of the period analyzed (2010 to 2012). It is noted that independent variables are effective to explain variations in DA, with significance level of 0.01. It was also found that the independent variables are responsible for 18.68% of the explanation of DA.

The regression model does not present problems of first-order autocorrelation between residues, since the Durbin-Watson test (DW) was shown to be around 2, according to that indicated by Maroco (2003). It was found through the Shapiro-Wilk test (SW) that residue distribution is normal (SW = 0.9386). Homoscedasticity was tested using the Levene test (F), which indicated a uniform variance of errors (F = 1.7142). As for multicollinearity, it was observed that the model presents adequate Variance Inflation Factor (VIF) for all variables, which indicates there are no multicollinearity problems.

It is highlighted that this study conducted robustness checks through the models by Jones (1991) and Jones Modified (1995). Such models did not show significance, which corroborates with Martinez (2008) and Thomas and Zhang (2001) in that the KS model is what provides the best results when considering the Brazilian scenario.

Thus, this research found a negative relationship between OCI and DA, as shown in the literature (LIN; RONG, 2012), although this relationship was not significant. However, the variables with statistical significance to DA were Endiv and AlavFin. Endiv presented negative effect, contrary to the expected. Leverage presented positive effect on DA, in accordance with the findings by Lin and Rong (2012). It is observed in Table 2 (descriptive statistics) that AlavFin increased considerably compared to Endiv in the period analyzed, i.e. there was a considerable increase in financial leverage through third-party capital, which may explain the results found in this research.

The sign of the coefficients of the variables LnTam (negative), AlavFin (positive), and OCI (negative) followed the expected, according to the study by Lin and Rong (2012). The variables that did not have the expected signs were: Endiv (with negative sign) and OCF (with positive sign).

The studies by Martinez (2001) and Coelho and Lopes (2007) did not find any significance for the effect of indebtedness in earnings management, unlike what is observed in this study. The results regarding the effect of the variable AlavFin in earnings management, as found by Defond and Park (1997), were negative, whereas this study showed a positive effect.

These results can be explained, as pointed out by Lin and Rong (2012), due to the fact the larger the cash flow from operating activities, the lower the total accrual, hence, the smaller the discretionary accrual will be. Thus, a negative coefficient for the cash flow from operating activities was expected, which was not confirmed in this study; however, the coefficients of this variable did not present significance.

For Lin and Rong (2012), the size of the company is widely adopted to replace political cost, therefore, the bigger the company, the smaller the degree of earnings management. However, in this study, no statistical significance was found for this variable.

5 FINAL CONSIDERATIONS

This study aimed to verify the impact of Other Comprehensive Income (OCI) in the earnings management in Brazilian companies listed on BM&FBovespa. To this end, a descriptive, documentary and quantitative analysis research was developed with the Brazilian companies listed on the BM&FBovespa during the period from 2010 to 2013. However, for sample composition, companies with data available in the period from 2010 to 2012 were kept, according to the methodology of this research.

The results show that the size of the company, widely adopted to replace political cost (LIN; RONG, 2012), showed no significance with Discretionary Accruals (DA). It is assumed that, in order to avoid political costs, managers often try to reduce the profits disclosed as to not present an image of an excessively profitable company to the public. However, this situation was not confirmed in this study.

Cash flow (OCF) also showed no significance. Considering a given net income or operating income, a higher cash flow from operating activities could suggest smaller maneuverable provisions (LIN; RONG, 2012); however, in this study, this situation did not confirm itself.

It was also observed that the variables with significant influence on Discretionary Accruals (DA) were Indebtedness (Endiv), with negative sign, contrary to the expected by Defond and Park (1997) and Lin and Rong (2012); and Financial Leverage (AlavFin), with positive sign, in accordance with what was found by Lin and Rong (2012). These variables were used as control variables by Lin and Rong (2012), since they are performance indicators and can influence the decision to increase Discretionary Accruals (DA) and manage results, or reduce negative accruals, resulting in the reduction of net income.

Based on the panel data regression performed, the relationship between the value of Other Comprehensive Income (OCI) and the levels of earnings management to improve the quality of the information disclosed was not confirmed. Thus, it is not possible to state that this comprehensive disclosure increased the transparency of accounting information to reduce information asymmetry between stakeholders on the performance, or to better understand the results of a company.

The disclosure of Other Comprehensive Income provides more transparency since it gives more details on disclosure of the income statement, as well as provides various stakeholders an insight on the company's income in the long term. As for the results of this study, although not showing significance to the variable Other Comprehensive Income (OCI), which does not allow for inferences on such findings, it was found that the sign of the coefficient for this variable was negative. This means that, the higher the value of comprehensive income, the lower are the DA values.

Therefore, there is indication that companies did not use Other Comprehensive Income (OCI) to manage their results in the period analyzed, which implies that the implementation of the Statement of Comprehensive Income (SCI) in Brazilian accounting did not provide increased informational asymmetry via earnings management. Thus, the long-term perspective in relation to the company's results provided by SCI may assist the various stakeholders in their decision making.

On the other hand, as the sign of the variable OCI was negative, it is inferred that companies with high values of Other Comprehensive Income could reduce their Discretionary Accruals (DA) in the current period in order to increase them afterwards, when OCI values are recognized in the income.

However, as no significance was found in the results for this variable, it is not possible to claim that this behavior is occurring. Thus, the results from Lin and Rong (2012) referring to the significant influence of Other Comprehensive Income (OCI) in earnings management cannot be confirmed with this study in Brazil, as there was no significance for this variable tested.

The KS models to detect earnings management through discretionary accruals is considered a limitation of this study, since these may present biases because of the difficulty of estimating the discretion of accruals. Another limitation regards sample selection, since the account Other Comprehensive Income (OCI) was presented only starting from 2010, and not all companies disclosed such information, hence the possibility of biased sample selection occurring. Such limitations do not invalidate the results obtained by this study.

Finally, this study contributed to already conducted research and with the discussion of the concept of comprehensive income in Brazil, which is new and still little discussed. It is suggested that further research be performed on this topic, including a longer period of analysis, in addition to other measures of the accounting information quality, such as value relevance, for instance.

REFERENCES

- BARTH, Mary E.; LANDSMAN, Wayne R.; LANG, Mark H. International Accounting standards and accounting quality. **Journal of Accounting Research**. v. 46, n. 3, p. 467-498, jun. 2008.
- BIDDLE, Gary C.; CHOI, Jong-Hag. Is Comprehensive income useful? **Journal of Contemporary Accounting & Economics**. v. 2, n. 1, pp. 1-32, Jun. 2006.
- COELHO, Antonio Carlos Dias; LOPES, Alexsandro Broedel. Avaliação da prática de gerenciamento de resultados na apuração de lucro por companhias abertas brasileiras conforme seu grau de alavancagem financeira. **Revista de Administração Contemporânea**, v. 11, n. SPE2, p. 121-144, 2007.
- COELHO, Antonio Carlos; CARVALHO, L. N. Análise conceitual de lucro abrangente e lucro operacional corrente: Evidências no setor financeiro brasileiro. **Brazilian Business Review**. v. 4. N. 2. mai/ago, 2007.
- COMITÊ DE PRONUNCIAMENTOS CONTÁBEIS - CPC. **CPC 26 (R1)** – Apresentação das demonstrações contábeis. Disponível em: < <http://www.cpc.org.br/mostraOrientacao.php?id=44> > Acesso em: 01 dez. de 2013.
- COMITÊ DE PRONUNCIAMENTOS CONTÁBEIS - CPC. **ICPC 10** – Interpretação sobre a Aplicação Inicial ao Ativo Imobilizado e à Propriedade para Investimento. Disponível em: < <http://www.cpc.org.br/mostraOrientacao.php?id=70> > Acesso em: 01 dez. de 2013.
- DECHOW, Patricia M.; SLOAN, Richard G.; SWEENEY, Amy P. Detecting earnings management. **The Accounting Review**. v. 70, n. 2, p. 193-225, 1995.
- DEFOND, Mark L.; PARK, Chul W. Smoothing income in anticipation of future earnings. **Journal of accounting and economics**, v. 23, n. 2, p. 115-139, 1997.

- DEFOND, Mark; PARK, Chul W. Smoothing income in anticipation of future earnings. **Journal of Accounting and Economics**, n. 23, p. 115-39, 1997.
- DHALIWAL, D; SUBRAMANYAM, K. R.; TREVEZANT, R. Is comprehensive income superior to net income as a measure of firm performance? **Journal of Accounting and Economics**, v. 26. Los Angeles: October, 1999.
- FÁVERO, Luiz Paulo Lopes; BELFIORE, Patrícia Prado; CHAN, Betty Lilian; SILVA, Fabiana Lopes da. **Análise de dados: modelagem multivariada para tomada de decisões**. Rio de Janeiro: Elsevier, 2009.
- GALLON, Alessandra Vasconcelos; SILVA, Tarcísio Pedro da; TOLEDO, Jorge Ribeiro de; HEIN, Nelson. Análise do ROA sobre as diferentes formas de apresentação do lucro nas empresas do nível 1 de governança corporativa da Bovespa. **BASE – Revista da Administração e Contabilidade da Unisinos**, v. 6, n. 1, pp. 49-58, jan./abr., 2009.
- HEALY, Paul M. The effect of bonus schemes of accounting decisions (Symposium on Management Compensation and the Managerial laboratory Market). **Journal of Accounting & Economics. Rochester**, v. 7, p. 85-107, 1985.
- HEALY, Paul M; WAHLEN, James M. A Review of the Earnings Management Literature and its Implications for Standard Setting. **Accounting Horizons**, vol.13, n. 4, p. 363-383, December, 1999.
- HENDRIKSEN, Eldon S.; VAN BREDÁ, Michael F.; **Teoria da contabilidade**. Tradução de Antonio Zoratto Sanvicente. São Paulo: Atlas, 1999.
- IUDÍCIBUS, Sérgio de; LOPES, A. B. (Coords). **Teoria avançada da contabilidade**. São Paulo: Atlas, 2004.
- IUDÍCIBUS, Sérgio de; MARTINS, Eliseu; GELBCKE, Ernesto Rubens; SANTOS, Arioaldo dos. **Manual de contabilidade societária: aplicável a todas as sociedades: de acordo com as normas internacionais e do CPC**. São Paulo: Atlas, 2010.
- JONES, Jeniffer J. Earnings management during import relief investigations. **Journal of Accounting Research. Oxford**. v. 29, n. 2, p. 193-228, aut. 1991.
- KANG, S. H.; SIVARAMAKRISHNAN, K. Issues in testing earnings management: an instrumental variable approach. **Journal of Accounting Research**, Rochester, 33 (2) p. 353-367, 1995.
- KANG, Sok-Hyon; SIVARAMAKRISHNAN, K. Issues in testing earnings management and an instrumental variable approach. **Journal of Accounting Research**. v. 33, n. 2, Autumn, 1995.
- KLANN, Roberto Carlos. **Gerenciamento de resultados: análise comparativa de empresas brasileiras e inglesas antes e após a adoção das IFRS**. 2011. 371 f. Tese (Doutorado em Ciências Contábeis e Administração) – Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau, Blumenau, 2011.
- KOCHIYAMA, Takuma; ITOU, Kunio. Does Comprehensive income influence dividends? **36º Congress Annual European Accounting Association**. Paris, France: 2013.
- LIN, Wang; RONG Men. Impacts of other comprehensive income disclosure on earnings Management. **Nankai Business Review International**. v. 3, n. 1, pp. 93-101, 2012.
- MARTINEZ, Antonio Lopo. **Gerenciamento dos resultados contábeis: estudo empírico das companhias abertas brasileiras**. 2001. Tese (Doutorado em Ciências Contábeis) - Faculdade de Economia, Administração e Contabilidade - FEA. Universidade de São Paulo, SP, Brasil, 2001.
- MARTINEZ, Antonio Lopo. Minimizando a variabilidade dos resultados contábeis: estudo empírico do income smoothing no Brasil. **Revista Universo Contábil**, ISSN 1809-3337, Blumenau, v. 2, n. 1, p. 09-25, jan./abr. 2006.
- MARTINEZ, A.L. Detectando Earning Management no Brasil: Estimando os Accruals Discricionários. **Revista de Contabilidade e Finanças - USP**, São Paulo, v. 19, n. 46, p. 7 - 17, janeiro/abril, 2008.
- MAZZIONI, Sady; ORO, Ieda Margaret; SCARPIN, Jorge Eduardo. Lucro *versus* resultado abrangente como medida preditiva do desempenho das empresas do setor elétrico brasileiro. **Registro Contábil**, v. 4, n. 3, p. 89-104, 2013.
- PAULO, Edilson; LEME, Jéssica Rodrigues. Gerenciamento de resultados contábeis e o anúncio dos resultados contábeis pelas companhias abertas brasileiras. **Revista Universo Contábil**, v. 5, n. 4, p. 27-43, 2009.

- PINHEIRO, Laura Taboada; DE MACEDO, Rodney Pereira; VILAMAIOR, Adriana Giarola. Lucro líquido versus lucro abrangente: uma análise empírica da volatilidade. **Revista Universo Contábil**, v. 8, n. 4, pp. 06-18, 2012.
- SOUTES, D. O.; SCHVIRCK, E. Formas de mensuração do lucro e os reflexos no cálculo do ROA. **Brazilian Business Review**. v. 3, n. 1, pp. 74-87, jan/jun. 2006.
- THOMAS, Jacob; ZHANG, Xiao-jun. Identifying unexpected accruals: a comparison of current approaches. **Journal of Accounting and Public Policy**, v. 19, n. 4, p. 347-376, 2001.