

Chapter 5

The Impact of Corporate Governance on Earnings Management of Portuguese Listed Firms



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Abstract This work aims to analyze the impact of corporate governance characteristics on earnings management of Portuguese non-financial listed firms, for the period 2012–2016. Using panel data, we regress discretionary accruals, a proxy of earnings management, against corporate governance characteristics and control variables. The main results show that only two corporate governance variables: the independence of the board of directors and the type of corporate governance model adopted (one-tier or two-tier), and one control variable: level of indebtedness, are relevant to explain firm's earnings management. Results show that discretionary accruals increase with the independence of the board of directors. Moreover, companies who adopt the two-tier model are less prone to increase accruals due to a greater separation of functions and supervision and an increase in the monitorization of opportunistic behaviors. Finally, this study provides evidence that a high level of indebtedness is a deterrent to earning management practices since creditors also monitor the company's financial situation.

Keywords Corporate governance · Earnings management · Accruals · Transparency · Portugal

5.1 Introduction

Earnings management thematic has gained prominence in the last years due to diverse financial scandals that lead to companies' bankruptcy. Some examples are the financial scandals of Enron, WorldCom, and Lehman and Brothers, in the U.S., Parmalat, in Italy, Banco Português de Negócios, Banco Privado Português, and Banco Espírito Santo in Portugal. Managers take advantages of the flexibility of

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GAAP (Generally Accepted Accounting Principles) and compute earnings in the way to show the company's financial situation that is more accurate to fill private benefits. The company's financial situation is changed, misleading all stakeholders in the decision-making process (Roychowdhury 2006). These situations called for the need to change corporate governance recommendations in order to protect investors and other stakeholders.

In fact, in Portugal, the IPCG (Instituto Português de Corporate Governance—Portuguese Institute of Corporate Governance 2018) that is responsible by corporate governance thematic has adapted the existing corporate governance recommendations to regulate the relationship among stakeholders and promote the firm's strategic orientation and performance.

This study analyzes the impact of corporate governance characteristics on earnings management. Studies that link these two thematic earnings management and corporate governance are scarce. Therefore, this research aims to fulfill this gap in the literature by showing which corporate governance characteristics are more relevant to avoid earnings management practices.

The sample analyzed includes 36 Portuguese companies listed on the Euronext Lisbon stock exchange from 2012 to 2016. Only the financial industry was deleted from the total of the Portuguese listed firms in Euronext Lisbon. The choice for listed firms is because these firms are the only ones obligated to publish a corporate governance report.

To measure earnings management, we use accruals. Three models of discretionary accruals estimation were used: Jones model (1991), Dechow and Dichev (2002) model, and Kothari et al. (2005) model. It should be noted that the model of Jones (1991) and the model of Kothari et al. (2005) are similar, since both use the regressions to control non-discretionary accruals and indirectly estimate the value of discretionary accruals. However, the model of Dechow and Dichev (2002) analyzes the quality of accruals through the relation between accruals and cash flows of the period and adjacent periods.

Subsequently, the empirical model of the present study was developed. It relates some characteristics of corporate governance, control variables, and discretionary accruals. The selected corporate governance characteristics were the percentage of independent members on the board of directors (following Fama and Jensen 1983; Beasley 1996; Peasnell et al. 2005); the percentage of ownership held by managers (following Ali et al. 2008; Hermawan et al. 2012; Amara 2017); the number of meetings held by the board of directors (following Vafeas 1999; Xie et al. 2003), the existence of a Big4 as auditor (following Deumes et al. 2012; Hermawan et al. 2012), and the corporate governance model the company adopted. Some control variables were also included, namely, company's size, level of indebtedness, and a dummy that assumes value 1 if the net result of the previous period is negative and zero otherwise.

The main results show that a higher level of independent members in the board of directors has a positive impact on earnings management, and that firms who adopt the dualistic model are less prone to manipulation. The impact of the boards' independence is contrary to our expectations but can be explained as most of the Portuguese

listed firms do not follow the independence recommendation which argues that one-third of the board of directors' members should be independent. Moreover, when there is a separation between the chairman and the CEO, which is usual in the dualistic model of corporate governance, the supervision increases, leading to a decrease in discretionary accruals. Finally, evidence shows that when the level of indebtedness increases, discretionary accruals decreases, suggesting that indebtedness works as a mechanism to control managers' opportunistic behavior, due to the existence of costs regarding debt contracts.

The rest of the chapter is organized as follows: after this introduction, the second section deals with the literature review of corporate governance, earning management thematic and the link between both, and hypotheses development. Then a description of the sample is provided; the proposed models are explained, and the selected variables are presented. Afterward, the results are presented and the chapter ends in where the conclusion is provided.

5.2 Literature Review and Hypothesis

5.2.1 *Corporate Governance*

Corporate governance thematic is not new. It refers to the relationships among the firm's stakeholders, and how firms are managed and controlled (Cadbury 1992). The first influential report in this area goes back to 1992 when the Cadbury Report was published in the United Kingdom. It argued that corporate governance is "the system by which companies are directed and controlled" (Cadbury 1992, 15). After that, several codes of corporate governance were published.

The OECD (Organization for European Economic Co-operation) has published in 1999 the corporate governance practices, which was revised in 2004 and 2015. They recommend that these practices should be adopted in all European countries since they are practices of good corporate governance. In Portugal, corporate governance recommendations were proposed in 1999 by CMVM (Comissão de Mercado de Valores Mobiliários—Securities Market Commission 2019). Later on, in 2006, the IPCG published the white book of corporate governance with the aim to increase information transparency (Silva et al. 2006). In 2015, the CMVM recognizes the lack of self-regulation about corporate governance and have empowered the IPCG to assume the responsibility of this thematic. The first corporate governance code of IPCG was published in 2016, and it was revised in 2018 (IPCG 2018). This code includes recommendations about corporate control, executive and non-executive managers, supervision, remuneration setting, risk management, financial information, and auditing. It aims to ensure fairness, transparency, and accountability in the firm relationship with all stakeholders. Good corporate governance practices should be followed by listed firms but are also suggested to non-listed ones.

Two theories are relevant to explain corporate governance thematic: agency and stewardship theories. The agency theory argues that managers not always act in the way to maximize the firm's and shareholders' value unless an appropriate governance structure is implemented to safeguard shareholder's interests (Jensen and Meckling 1976). To protect shareholder's rights and promote information transparency, board of directors should have independent members to balance the power in the boardroom, and it should be guaranteed the separation of positions of CEO and chairman of the board (Fama and Jensen 1983; Lisboa 2018).

The stewardship theory argues that the human being is complex, and managers want to have a good performance, which not always means the satisfaction of self-interests (Donaldson and Davis 1991). Based on this theory, a good corporate governance should assure the involvement of executive directors in the board to increase its effectiveness (Lisboa 2018).

5.2.2 Earnings Management

Managers are pressured to maximize the firm's value and to fulfill stakeholders' and financial investors' expectations. Thus, they can take advantage of their position and change the firm's financial report to mislead stakeholders about the firm's performance or to influence contracts (Healy and Wahlen 1999). This leads to earnings management, that is, a complex phenomenon.

According to Schipper (1989), earnings management is a purposeful intervention in the process of reporting financial information, with the aim to obtain private benefits both to the firms and to managers. This process does not mean the violation of the generally accepted accounting principles (GAAP) but the use of its flexibility and the choice of accounting treatments that best fit certain interests. Earnings management is used to hide the firm's current performance from shareholders or other stakeholders (Klein 2002).

There are diverse reasons that justify this practice. Healy and Whalen (1999) have grouped it into three groups: capital market-related incentives, contractual incentives, and governance regulation incentives. Managers can change financial information to mislead financial investors about the firm's value and thus changing its market price. Regarding contractual incentives, it can be divided into two types: bank or other loan providers and managers bonus. Financial information is managed not only to gain the approval of new loans but also to maintain the firm's cost of debt (Moreira and Pope 2007). Managers are also tempted to manage earnings to increase their wealth when it is based on a compensation scheme. Finally, firms want to pay less income tax or to meet some regulations, and thus earnings management is to avoid the failure of some directives, which can bring some additional cost and penalties to the firm.

Earnings management can be applied through accruals or real activity. Changing accruals is more vulnerable and easily detected by auditors. It can be done at the end of the period, while real activities should be done throughout the year (Roychowdhury 2006). Most of the studies focus on accruals as it is easier to detect (Peasnell

et al. 2005). Accruals can be discretionary when managers change financial information to produce the desired effects on the results. Examples include changing asset depreciation methods, the method of valuing inventories, impairment losses, and others (Healy 1985).

5.2.3 Relationship Between Corporate Governance and Earnings Management

The 2007/2008 financial crisis that started in the US and extended to all world, and the financial scandals due to earnings management practices and frauds, as Enron, Xerox, and Worldcom in the US, Parmalat, in Italy and Banco Espírito Santo in Portugal call the attention to failures in corporate governance practices (Einiba and Eltaweel 2012). For this reason, some studies analyze the impact of corporate governance characteristics on earnings management (e.g., Fama and Jensen 1983; Beasley 1996; Moreira and Pope 2007). Based on the literature review, the hypotheses of this study were established.

5.2.3.1 Hypotheses

The board of directors is the main decision-making body and the first defense for shareholders' interests against the opportunistic behaviors of managers. Its members can be dependent or independent. The Portuguese Company's Code (Código das Sociedades Comerciais—CSC) argues that an independent member is "A person who is not associated with any specific interest group in the company or that in any circumstance may affect his/her exemption from analysis or decision, namely by virtue of: (a) Hold or act in the name or on behalf of holders of qualifying holdings equal or greater than 2% of the share capital of the company; (b) Has been reelected for more than two terms, on a continuous or intercalated basis" (article 414, number 5, CSC). The corporate governance recommendation is that every firm should have at least one-third of independent members (recommendation number III. 4, IPCG 2018).

Independent members are more effective in monitoring managers and reducing agency problems between owners and managers than inside members. They can protect shareholders' interests, ensuring the reliability of information provided, and leading to an increase in the firm's performance (Fama and Jensen 1983). Beasley (1996), Klein (2002), and Peasnell et al. (2005) found that firms with more independent members engage less in earnings management practices due to management monitoring. Independent members do not seek self-interests as executive compensation, fraudulent assets, or mislead investors to meet individual aims (Dechow and Dichev 2002).

Therefore, we expect that large proportion of independent members in the board of directors has a positive impact to avoid earnings management. The first hypothesis naturally follows:

Hypothesis 1: Board of directors' independence has a negative impact on earnings management practices

Ownership structure is also an internal mechanism of corporate governance. The level of managerial ownership explains their opportunistic behavior.

Ownership concentration avoids or at least reduces agency costs between managers and owners as managers are at the same time owners and have greater motivation to control all decision-making as it directly influences their personal interests (Jensen and Meckling 1976). Thus, managers, when owners of the firm, avoid earnings management practices as they will be harmed (Fama and Jensen 1983). When managers are not owners of the firm, they can engage in earnings management due to diverse reasons: to increase their own bonus, to fulfill financial investors' expectation, to have better credit conditions, and to avoid penalties because some regulations are not meet, among others (Healy and Whalen 1999).

Ali et al. (2008) and Hermawan et al. (2012) found that when the level of managerial ownership increases, earnings management decreases due to the interest alignment between the principal and manager.

Although Amara (2017) found the opposite relationship, justified due to agency costs between major and minority owners, major owners have more information about the firm and can use it to increase their own benefits, expropriating minority's wealth (Yermack 1996).

Hypothesis 2: Managerial ownership has a negative impact on earnings management practices

Often board of directors' meeting suggests a high monitor and supervision of the firm's activity (Vafeas 1999). Thus, more annual meetings should be negatively correlated with earnings management as these meetings are a way to control the activity of the board. Xie et al. (2003) found this negative relationship, justifying that more meetings help to solve conflicts of interests and to control managers' opportunistic behaviors. This leads to the next hypothesis:

Hypothesis 3: The number of board of directors' meetings has a negative impact on earnings management practices.

The type of auditor can also impact earnings management. The auditor should be independent, qualified, and offer guarantees that the firm's financial information is realistic and correct (OECD 2016). The Big4 audit firms (Pricewaterhouse Coopers, Ernest & Young, Deloitte, KPMG) are the major audit firms around the world. Due to their dimension, financial investors usually are confident that their reports are credible and that they will report any information that is not truthful (Hermawan et al. 2012). Moreover, these companies want to sustain their presence and reputation in the market and thus should provide a high-quality audit to firms. A negative impact between firms audit by a Big4 and earnings management is expected.

Although, after the financial crisis of 2008, and financial scandals regarding frauds, Big4 audit firms lost confidence from financial investors as some of the firms that went to bankruptcy due to incorrect accounting practices were audit by one of the Big4.

Deumes et al. (2012) and Hermawan et al. (2012) did not found a statistically significant relationship between firms' audit by a Big4 and earnings management. Even if previous researchers did not find a statistical relationship between the audit firm and earnings management, we still expect that this relationship can be found in Portugal, due to the already detected frauds. Although the impact can be positive or negative, we did not forecast the sign of this relationship.

Hypothesis 4: The audit of a Big4 company impacts earnings management practices.

Every firm should adopt one corporate governance model. In Portugal, two types of models are allowed: one-tier (monistic or Latin model, and Anglo-Saxon model) and two-tier (dualistic model). In the one-tier model, the board has a hybrid structure, with both administrative and supervisory roles, while the two-tier model has an executive board, a board of directors, a supervisory, and an auditing board (CSC, article number 278).

To our knowledge, studies analyzing the impact of the type of corporate governance model on earnings management do not exist. Campos (2015) has analyzed Portuguese listed firms and found that the type of board has an impact on firm's performance. He found that firms with the two-tier model have higher returns. Similar conclusions were found by Cunha and Martins (2007) who argued that the separation of the positions of CEO and the chairman of the board have impact on performance.

The dualistic model foresees more dispersion between the boards and more independence among members. This increases supervision, and thus earnings management practices can be avoided. The next hypothesis is established:

Hypothesis 5: Firms that adopt the two-tier model engage less in earnings management practices.

Not only corporate governance measures are relevant to explain earnings management. The firm's characteristics also impact it. The firm's size is one of those variables. Large-size firms are more monitored not only internally but also externally by financial investors, and their control is more sophisticated than those of small-size firms (Abadi et al. 2016). Moreover, large-size firms have benefits of saving costs from economies of scale, so their profits are usually higher compare to small-size firms.

Therefore, small-size firms are more motivated to engage in earnings management practices to cover their high marginal costs. Chen et al. (2010) and Abadi et al. (2016) found a negative relationship between firm's size and earnings management. The next hypothesis naturally follows:

Hypothesis 6: Firm's size has a negative impact on earnings management practices.

One reason for earnings management practice is related with debt contracts. Firms want to fulfill their contract covenants or have access to new debt contracts with good conditions. Therefore, the firm's leverage impacts earnings management. More indebted firms have more reasons to change financial statements in order to show a better financial situation and hide their financial problems. Klein (2002) and Abbadi et al. (2016) found a positive relationship between leverage and earnings management. Thus, the next hypothesis is as follows:

Hypothesis 7: Firm's leverage has a positive impact on earnings management practices.

Finally, the firm's previous net income can justify earnings management practices. Companies that present consecutively losses are more prone to change financial statements to show a better image, acquire confidence of all stakeholders, and sustain their presence in the market (Dechow and Dichev 2002). Moreira and Pope (2007) also found that firms with worse financial situation usually engage in earnings management because the cost of debt can increase. In fact, firms with losses have more financial problems and have the loss of confidence of all stakeholders, special suppliers, and customers. The last hypothesis is established:

Hypothesis 8: Previous losses have a positive impact on earnings management practices.

5.3 Sample and Methodology

5.3.1 *Sample*

The sample includes Portuguese non-financial listed firms. We choose Portugal because it is a country almost unexplored in all thematic due to its dimension. Moreover, diverse financial scandals related with earnings management and fraud (e.g., Banco Espírito Santo) were detected in the last years, calling the attention to study earnings management topic in this country. We linked corporate governance since it can protect investors from expropriation.

Only listed firms are obligated to do and publish corporate governance reports, which explains the choice of this type of firm. From the initial sample of the total firms listed in the Euronext Lisbon (49 firms), we deleted the financial industry due to its accounting singularities that could impact results. Moreover, firms that did not have available corporate governance report were also excluded as it was not possible to analyze the main aim of this work.

The sample period is from 2012 till 2016, 5 years of analysis. The final sample is unbalanced with 172 observations, of 36 companies.

The financial information was collected from SABI database, while corporate governance information was collected in CMVM website, where companies' corporate governance reports are published.

5.3.2 Models

5.3.2.1 Measuring Earnings Management

Earnings management is measured using discretionary accruals as it is easy to detect than real activities (Peasnell et al. 2005). There are various models to estimate discretionary accruals, as for example, Healy (1985), DeAngelo (1986), Jones (1991), Dechow, Sloan and Sweeney (1995), Dechow and Dichev (2002), and Kothari et al. (2005). We have selected three alternative models: Jones (1991) which is most extensively used in earnings management thematic, Dechow and Dichev (2002) that use a different perspective based on cash flows, and Kothari et al. (2005) which have adapted the Jones model, including a new variable to control the impact of performance.

For the three models, we first have to calculate total accruals, then non-discretionary accruals, and finally discretionary accruals, which is the proxy of earnings management. The followed procedures are explained after.

Using the Jones model (1991), total accruals are calculated using the following equation:

$$TA_{i,t} = c + \alpha_1 \times \frac{1}{A_{i,t-1}} + \alpha_2 \times \frac{\Delta Rev_{i,t}}{A_{i,t-1}} + \alpha_3 \times \frac{PPE_{i,t}}{A_{i,t-1}} \quad (1)$$

where TA is the total accruals, which is the variation of non-cash current assets, less the annual change in current liabilities, plus depreciations, divided by total assets of the previous year; A is the total assets; ΔRev is the annual change in revenues; PPE is the net value of property, plant, and equipment; i represents the firm; and t represents the fiscal year analyzed.

The Dechow and Dichev (2002) model calculate total accruals using operational cash flows of different years:

$$TA_{i,t} = c + \alpha_1 \times OCF_{i,t-1} + \alpha_2 \times OCF_{i,t} + \alpha_3 \times OCF_{i,t+1} \quad (2)$$

where OCF is the operational cash flow.

The Kothari et al. (2005) model is an adaptation of the Jones model that includes a new variable to deal with the company's performance. The total accruals are calculated using the following model:

$$TA_{i,t} = c + \alpha_1 \times \frac{1}{A_{i,t-1}} + \alpha_2 \times \frac{\Delta Rev_{i,t}}{A_{i,t-1}} + \alpha_3 \times \frac{PPE_{i,t}}{A_{i,t-1}} + \alpha_4 \times ROA_{i,t} + \varepsilon_{i,t} \quad (3)$$

where ROA is the return on assets (net income divided by total assets).

The coefficients obtained to calculate TA (α) are used to estimate the non-discretionary accruals (NDA). Finally, the difference between total accruals and non-discretionary accruals represent the discretionary accruals (DA):

$$DA_{i,t} = TA_{i,t} - NDA_{i,t} \quad (4)$$

5.3.2.2 Analyzing the impact of firm's characteristics on discretionary accruals

After calculating the discretionary accruals, the proxy of earnings management, we have analyzed the impact of corporate governance characteristics on it. Control variables were also included. The estimated model is the following:

$$DA_{i,t} = c + \beta_1 \times BOD_Ind_{i,t} + \beta_2 \times BOD_Ow_{i,t} + \beta_3 \times BOD_Meet_{i,t} + \beta_4 \times DAud_{i,t} + \beta_5 \times DModel_{i,t} + \beta_6 \times Size_{i,t} + \beta_7 \times Lev_{i,t} + \beta_8 \times DNI_{i,t} \quad (5)$$

In the next table, the list of independent variables is presented and explained how these variables were calculated based on previous researches (Table 5.1).

5.4 Results

Table 5.2 presents the summary statistic of the variables presented above, namely, mean, median, maximum, minimum, and standard deviation.

Analyzing Table 5.2, the following facts emerge:

- (1) Discretionary accruals are in mean negative to the Jones (1991) and Kothari et al. (2005) models, but positive to the Dechow and Dichev (2002) model. This result is explained as the model of Kothari et al. is an adaptation of the Jones model, while the model of Dechow and Dichev estimates discretionary accruals using other information, namely, cash flows. Similar results were found by Lisboa (2017) who analyze earnings management of Portuguese listed firms. Moreover, the standard deviation is high suggesting the existence of earnings management practice in some companies.
- (2) On average, board of directors' independence is 19%, which is smaller than the recommended (should be one-third). Similar results were found by Faria (2015) when analyzed the same market for the period of 2009-2013, although

Table 5.1 Independent variables

Hypothesis	Acronym	Independent variable	Formula	Previous researchers
H1	BOD_Ind	Board of directors' independence	Number of independent directors/total number of directors	Beasley (1996), Peasnell et al. (2005)
H2	BOD_Ow	BOD ownership	Percentage of ownership of board of director's members	Ali et al. (2008), Hermawan et al. (2012), Amara (2017)
H3	BOD_Meet	BOD annual meetings	Number of annual meetings of BOD	Vafeas (1999), Xie et al. (2003)
H4	DAud	Type of auditor	Dummy variable which is one when the auditor is one of the Big4 and zero otherwise	Deumes et al. (2012), Hermawan et al. (2012)
H5	DModel	Type of corporate governance model	Dummy variable which is one when the corporate governance model adopted is one-tier and zero otherwise	–
H6	Size	Company's size	Natural logarithmic of total assets	Chen et al. (2010), Abbadi et al. (2016)
H7	Lev	Company's leverage	Total liabilities/Total assets	Klein (2002), Abbadi et al. (2016)
H8	DNI	Losses in the previous year	Dummy variable which is one when net income of the previous period is negative and zero otherwise	Dechow and Dichev (2002), Moreira and Pope (2007)

it is much smaller than the percentage found by Amara (2017) to the French market (44%). The minimum value is zero, which means that some companies do not have any independent members while the maximum value is 78%.

- (3) In mean, the percentage of managerial ownership is 38%. Similar value was found by Amara (2017) to the French market, while Ali et al. (2008) and Hermawan et al. (2012) found a smaller percentage (10%) to Malaysia and Indonesia. Once again, the difference between some firms is evident as some have 0% while others have 94%.
- (4) The mean number of board of directors' meetings is 12. In some firms, the board only meets once a year while in other meet 59 times per year. Xie et al. (2003) found a smaller number (in mean) of eight meetings per year to the US firms.

Table 5.2 Descriptive statistics

	Mean	Median	Maximum	Minimum	Std. Dev.
DA_Jones	-0.001	-0.006	0.934	-1.457	0.242
DA_D&D	0.001	0.017	0.967	-1.742	0.254
DA_K.et al.	-0.002	-0.009	0.931	-1.412	0.241
BOD_Ind	0.190	0.200	0.778	0.000	0.190
BOD_Ow	0.376	0.411	0.936	0.000	0.327
BOD_Meet	12.514	11.000	59.000	1.000	8.986
DAud	0.803	1.000	1.000	0.000	0.399
DModel	0.971	1.000	1.000	0.000	0.168
Size	19.870	19.700	23.850	15.070	1.586
Lev	0.500	0.480	2.520	0.000	0.340
DNI	0.272	0.000	1.000	0.000	0.446

This table presents descriptive statistics, namely, mean, maximum, minimum, and standard deviation, for the variables included in the model: DA (discretionary accruals), BOD_Ind (BOD independence), BOA_Ow (BOD ownership), BOD_Meet (number of BOD annual meetings), DAud (dummy variable which is one when the auditor is one of the Big4), DModel (dummy variable which is one when the corporate governance model is one-tier), Size (company's size), Lev (company's leverage), DNI (dummy variable which is one when net income of previous period is negative)

- (5) Most of the Portuguese listed firms are audit by a Big4 and adopted the one-tier corporate governance model. This last conclusion is justified since till 2006 only the one-tier model was allowed.
- (6) Finally, the dimension among the firms is similar; in mean, the leverage is 50%, and most firms have positive net income in the previous year.

In the next table, the correlation coefficients between the dependent and independent variables used in this work are presented (Table 5.3).

The three measures of earnings management, discretionary accruals, are highly correlated, which was already expected as are alternative variables of earnings management. None of the selected variables to explain earnings management is highly correlated, at least not to a significant extent.

Contrary to our expectations, more independent members have a positive relationship with discretionary accruals. This result can be explained as most of the firms in the sample do not fulfill the recommended number of independent directors. Similar result was found by Miranda (2014) and Faria (2015) to the Portuguese market, who suggest that in Portugal independent members are not effectively independent as they aim to have some benefits and business opportunities when they accept to be a member of the board of directors.

Large-size firms are positively correlated with discretionary accruals measured using dechow and Dichev model. Contrary to our expectations, large-size firms have more discretionary accruals measured using cash flows. Although firms with a higher dimension can have more free cash flows, their power in the market is high

Table 5.3 Correlation matrix

	DA_Jones	DA_D&D	DA_K.et al.	BOD_Ind	BOD_Ow	BOD_Meet	DAud	DModel	Size	Lev	DNI
DA_Jones	1	0.95	1.00	0.148*	0.12	-0.06	-0.05	-0.08	0.01	-0.301***	-0.152***
DA_D&D		1.00	0.95	0.147*	0.12	-0.04	0.02	-0.09	0.174**	-0.451***	-0.219***
DA_K.et al.			1.00	0.162**	0.12	-0.06	-0.05	-0.07	0.01	-0.290***	-0.11
BOD_Ind				1.00	-0.08	-0.228***	0.05	0.158**	0.210***	-0.04	-0.02
BOD_Ow					1.00	-0.11	0.10	0.184**	-0.09	-0.260***	0.00
BOD_Meet						1.00	-0.172**	-0.549***	0.226***	0.178**	-0.12
DAud							1.00	-0.08	0.284***	-0.12	-0.06
DModel								1.00	-0.394***	-0.08	0.10
Size									1.00	-0.172**	-0.283***
Lev										1.00	0.175**
DNI											1.00

*, **, *** Significant at the 10%, 5%, and 1% levels, respectively

and so have less problems than receiving earlier from customers and paying later to suppliers.

Leverage is negatively correlated with discretionary accruals, contrary to our expectations. This result suggests that leverage is an alternative mechanism to control managers, and thus their opportunity to engage in earnings management is reduced.

Firms with previous losses also have less discretionary accruals, contrary to our expectations. This result can be explained due to the type of firms analyzed: listed firms that usually have less problems to look for leverage and can look for the financial market to fulfill their financial firms. Moreover, we found that most of the firms in our sample have positive net income, so they are more concerned about reducing the payment of income than increasing their profits.

Finally, board ownership (+), board of directors' meetings (-), audit by a Big4 company (-), and the adoption of the two-tier corporate governance model (-) have the expected impact on discretionary accruals, although this correlation is not statistically significant.

The results of the regression of earnings management against corporate governance determinants used in this study are presented in the next table (Table 5.4).

Table 5.4 Corporate governance impact on earnings management

	DA_Jones	DA_Dechow	DA_K.et al.
c	0.4107 **	0.4297	0.9258***
BOD_Ind	0.2197 **	0.2060**	0.2704***
BOD_Ow	0.0719	0.0514	0.0625
BOD_Meet	-0.0033	-0.0017	-0.0026
DAud	-0.0830 *	-0.0435	-0.0582
DModel	-0.2817 **	-0.2604**	-0.3822***
Size	0.1623	-0.0004	-0.0221*
Lev1	-0.174***	-0.2948***	-0.1855***
DNI	-0.0341	-0.0727*	-0.0498
Adjusted R ²	12.02%	22.46%	12.32%
F-statistic	3.9201***	7.1557***	3.9872***

This table presents the result estimation of the proposed model. Column 1—DA_Jones (discretionary accruals calculated using the Jones model), column 2—DA_D&D (discretionary accruals calculated using the Dechow and Dichev model), column 3—DA_K.et al. (discretionary accruals calculated using the Kothari et al. model). The explanatory variables are BOD_Ind (BOD independence), BOA_Ow (BOD ownership), BOD_Meet (number of BOD annual meetings), DAud (dummy variable which is one when the auditor is one of the Big4), DModel (dummy variable which is one when the corporate governance model is one-tier), Size (company's size), Lev (company's leverage), and DNI (dummy variable which is one when net income of previous period is negative)

*, **, *** Significant at the 10%, 5%, and 1% levels, respectively

The estimated model explains 12% of discretionary accruals, a proxy of earnings management using the Jones model, 22.5% of discretionary accruals using Dechow and Dichev model, and 12.3% of discretionary accruals calculated using the model of Kothari et al. Similar results were obtained by other researchers (e.g., Einiba and Eltaweel 2012; Abbadi et al. 2016). Moreover, analyzing the *F*-statistic, we can see that the model is relevant.

Board of directors' independence has a positive impact on discretionary accruals, contrary to the expectations of hypothesis 1. Corporate governance recommendations suggest a minimum of one-third of independent members, although most of the firms in the sample do not fulfill this recommendation. In mean, independent members represent 19% of the board of directors, which can explain this conclusion. Moreover, Miranda (2014) and Faria (2015) found similar results suggesting that besides the minimum of independence is not accomplished; independent members in Portugal are usually persons who aim to increase their personal benefits. Thus, these members may not act to protect shareholders' rights as they should but can work with managers and assume opportunistic behaviors.

Discretionary accruals are not influenced by managerial ownership; thus, hypothesis 2 is not validated. We supposed that the concentration of ownership in the hands of managers leads to diminish earnings management practices as the impact of these practices has a negative impact on the firm's and their personal wealth.

Board of directors' meetings have a negative impact on discretionary accruals although it is not statistically significant. Hypothesis 3 is not validated. This result can be justified due to the high volatility of the annual meetings of BOD, as the minimum is one annual meeting while the maximum is 59 meetings per year.

Firms audit by a Big4 have less discretionary accruals, at a level of significance of 10% when it is measured using the Jones model but is not statistically relevant for the other two alternative measures of earnings management. Hypothesis 4 is only partially confirmed. Big4 companies as want to maintain their reputation in the market and want to continue growing are more relevant to prevent earnings management practices.

Hypothesis 5 is validated; firms that adopt the two-tier model of corporate governance have less discretionary accruals. The inclusion of this variable to measure the impact on earnings management is new but we verify that it is statistically significant. Firms that adopt the two-tier model have more boards, the separation of positions between the chairman and the CEO, more independence among the members, and have a financial commission to control and manage risks. Therefore, as these firms are more prepared to monitor and supervise, earnings management practices are reduced.

The firm's size negatively impacts discretionary accruals measured using the Kothari et al. model but is not statistically significant to explain the other two proxies of earnings management. Thus, hypothesis 6 is only partially validated. Large-size firms are less prone to engage in earnings management since their monitoring system are more efficient. Similar results were found by Chen et al. (2010) and Abbadi et al. (2016).

The firm's indebtedness has a negative impact on earnings management, contrary to hypothesis 7. Our results show that firms with better financial situations are more prone to change financial information. This can be justified as leverage is an alternative way to control managers' opportunistic behaviors. Firms more indebted have less free cash flows available and need to cover their credit covenants. Thus, these firms have more difficulty to engage in earnings management practices.

Finally, previous negative net income has a negative impact on discretionary accruals measured using the Dechow and Dichev model but is not statistically significant to the other two proxies of earnings management. In fact, firms with losses have less cash flows, and the Dechow and Dichev model is estimated based on cash flows. Although the relation expected was the opposite, firms with losses could be more prone to manipulate their financial situation. We cannot forget that firms in our sample are listed firms that have a large dimension, and usually more profits than small- and medium-size enterprises. Thus, these firms are more prone to engage in earnings management to reduce the income tax for the period rather than to increase results, to have access to bank loans even because these firms have access to financial market to fulfill their financial needs. The mean value of this variable is near zero; it means that most of the firms in this sample present positive net income in the previous period, justifying this result.

As a synthesis, our results show that Portuguese firms have some singularities compared to firms from large-size countries. Contrary to our expectations, the independence of the board does not increase information transparency and contributes to increase accruals. This is explained since in mean the number of independent members is less than one-third, as recommended, calling the need to show the relevance of this board characteristic to increase the reliability of financial reports. Moreover, the separation of functions as well as the existence of debt holders works as deterrent of earnings management practices. These two factors of the firm help to reduce information asymmetry and thus to increase the transparency of results.

5.5 Conclusion

This study aims to see the impact of corporate governance in earnings management of Portuguese listed firms (non-financial firms). The choice to Portugal is because in the last years they had diverse cases of frauds that led to the firm's bankruptcy. Financial investors lost their confidence in firms' published information, and corporate governance recommendations have changed in order to protect investors and enhance information transparency. Only listed firms are obligated to publish corporate governance reports, which justify the choice for this type of firm. The final sample includes information of 36 Portuguese non-financial listed firms over the period 2012–2017. It is an unbalanced sample with a total of 172 observations.

To measure earnings management, we use discretionary accruals since it is an easier way to detect it (Peasnell et al. 2005). Discretionary accruals were calculated using three alternative models: Jones (1991) which is the more relevant model to

estimate accruals, Dechow and Dichev (2002) which have a different perspective and use cash flows to estimate accruals, and Kothari et al. (2005) which is an adaptation of the Jones model. We selected five corporate governance variables to explain earnings management and three control variables to deal with the firm's characteristics.

Estimating the panel data using ordinary least squares methodology, the main results show that when the number of independent members of the board of directors increases earnings management also increases. This result is explained because most Portuguese firms do not follow the recommendation of at least one-third of independent members, and some firms do not have any independent members. Moreover, these members can have personal aims to engage in earnings management in order to reach better positions in that or other firms in the future. Results also prove that firms that adopted the two-tier model of corporate governance are less prone to engage in earnings management practice as the number of boards increases; the independence is also higher and there are more mechanisms to control opportunistic behaviors. Moreover, in these firms, there is an effective separation of position between the chairman and the CEO. The level of indebtedness is also a way to monitor manager, because there are contractual clauses that must be fulfilled. Thus, higher leverage has a negative impact on earnings management.

This study is relevant because it brings together two themes that are intrinsically interconnected: earnings manipulation and corporate governance, although studies that analyze them together are still scarce. Moreover, we add a new corporate governance variable, the type of corporate governance model adapted: one-tier or two-tier model. This variable is relevant to explain earnings management, which can be related to the duality of the chairman and the CEO but also due to more supervision which avoid opportunistic behaviors. Additionally, we analyze the Portuguese market which is an interesting market for several reasons: (1) it was one of the countries where the financial crisis had a great impact, with the occurrence of several financial frauds; (2) it is a country whose regulator corporate governance practices have changed in 2016 because it recognizes its limitations to control and give more confidence to financial investors.

Our conclusions are not only relevant to the literature review but also to all stakeholders. Managers have more information that can be useful in the decision-making process; investors can understand how and the reasons firms engage in earnings management practices; the authorities can create effective ways to avoid changes in financial information and to promote more transparency; suppliers and customers can understand which determinants of the firm should be analyzed to see if the information is credible.

The goals we set ourselves were achieved, although this study, like others, is not without limitations. The results obtained are limited to listed firms, the period analyzed, and the methodology used. To the future, we suggest extending this analysis to other countries and the type of firms to confirm if the main conclusions are the same. In this study, we opted to measure earnings management using models based on accruals; however, there are other methods of detection of earnings management that can be used in a future perspective. There are other characteristics that can explain conclusions as macroeconomic factors that were not taken into account in

this study and could be considered in the future. Finally, the conclusions reached are a contribution to diverse stakeholders, but we are aware that stop earnings management practices are very difficult to achieve.

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