

Does Earnings Management Influence Dividend Policies? An Approach with Unlisted Firms

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Abstract

The goal of this paper is to analyze whether the firms' dividend policy is influenced by the existence of earnings management practices, particularly under different ownership contexts. In the paper, three well-known discretionary accruals methodologies are applied to measure earnings management. The empirical study relies on an innovative set of 4,258 unlisted private companies, representing a panel of around 20 thousand observations distributed over the period 2013-2017. The study is focused only in one European country to avoid different institutional and country characteristics that could bias the findings. Our first result reveals a positive statistically significant relationship between the earnings management and dividend policy, meaning that private non-listed companies managing earnings are more likely to distribute a higher level of dividends. However, a deeper analysis shows that the ability of earnings management practices to predict the dividend policy is driven by ownership concentration. Splitting the sample, we find that the positive influence of earnings management on dividend policy in non-listed private companies is statistically significant only in companies whose shareholders have control (more than 50% of share capital) as opposed to firms with non-concentrated ownership. Our results contribute for the literature around the quality of financial reporting, lengthening these thematic to include non-listed companies.

Key words: Earnings management, discretionary accruals, dividend policy, ownership concentration.

Introduction

In recent years, a vast number of academics have been interested in researching how and why earnings management practices occur. It is also well known that earnings management hides relevant information that stakeholders should discern. One of the topics that has been covered by earlier research is the association between the dividend policies of one company (e.g., amount and frequency of dividends paid out) and the evidence on the movement of earnings to a desired level of profits (e.g., discretionary accruals). Several studies find a positive association. The main reason pointed out is that companies incur in greater earnings management to increase their earnings and make their stocks more attractive. At the same time, they tend to boost dividend payments in order to increase dividend yield and, therefore, keep the stocks attractive too. However, there is also an extensive literature that indicates that managers prefer to keep a smooth dividend policy in order to avoid possible future dividend cuts. If dividends increase due to income-increasing earnings management, this may be hugely costly for a firm because discretionary accruals can reverse in the future. While total accrued earnings are a measure of firm performance, the non-discretionary part is based on managerial discretion, with potential effect on the earnings available for distribution among shareholders. Nonetheless, only a small number of studies have investigated earnings management and dividend policy in private (i.e. unlisted) companies, as opposed to the widely number of researches focused on public listed companies.

The main objective of this paper is to analyze whether earning management practices are associated with dividend policies in private (unlisted) companies. This topic is important because in many countries the bulk of economic activity is carried out by non-listed firms, smaller or bigger, accounting for a high rate of employment and performance activity (Claessens and Tzioumis, 2006). Furthermore, ownership structures of unlisted firms are very different from listed firms (e.g., dispersed ownership, professional management, external financing), but earnings management literature to date has given little attention to the non-listed ones. As such, this research considers an innovative panel of information since the sample includes only non-listed companies. Additionally, the link between earnings management and dividend policy across non-listed companies can vary to the extent that their ownership composition is different, which is also analyzed in this paper. The sample of the study consist of non-listed firms in Portugal for the period 2013-2017, totalizing 20,064 firm-year observations. First, we analyze the influence of earnings management practices (using discretionary accruals as proxy (e.g., Tsipouridou and Spathis, 2014) on the dividend policy of the company. Second, we add information about ownership structure and we analyze the influence of earnings management differentiating those that have more than 50% of share capital at the hands of a unique shareholder from all the others (e.g., Liljebloom and Maury, 2016). Finally, and additionally, we test our hypotheses in a subsample of companies whose owners have control (more than 50% of share capital) based on potential differences on the association between earnings management and dividend policy among companies whose majority of the capital is in the hands of a corporation or in the hands of an individual or family.

We contribute to the literature arguing that firms' dividend policy depends, most of the time, on management capacity and effort to fulfill shareholders requirements. To perform such assignment, managers can apply earnings management practices as an attempt to influence reported earnings by applying specific accounting methods (e.g., Akers *et al.*, 2007). Thus, the amount of dividends can be seen for a long time as a strategy to convince

investors about the persistence of firm's earnings (Linter, 1956) and the uncertain reaction of investors in case of a non-expected result may pressure the management board to perform earnings management as an attempt to manipulate the level of paid-out dividends. We also contribute to the literature arguing that dividend payouts are strongly related with minority shareholder rights (La Porta et al., 2000) and that ownership and dividends are related (Harada and Nguyen, 2011).

Overall, the results suggest a positive statistically significant relationship between earnings management and dividend policy (considering six different methodologies to estimate earnings management). It also predicts that the effect of earnings management on dividend policy is more pronounced in firms with a majority shareholder (more than 50% of share capital) as opposed to firms with non-concentrated ownership.

The remainder of the paper is as follows. Section 1 presents the literature review and hypotheses. Section 2 shows how the research is designed and section 3 evidences the results. Section 4 advances with a further analysis on ownership concentration. Section 5 concludes.

1. Literature Review and Hypotheses

1.1. Earnings management and dividend policy

Dividends (portion of corporate earnings) are usually proposed by the board of directors and approved by shareholders. Therefore, a dividend policy can be characterized as the standards by which a firm determines the amount of money it will pay as dividends (Tillier, 2013). The concept of "dividend policy" has captured the interest of economists over the last decades and has been subject to an intensive theoretical analysis and empirical examination (e.g., Linter, 1956; Miller and Modigliani, 1963; Shiller, 1986; Crockett and Friend, 1988; Myers, 1990; Officer, 1990; Twite, 2001; Frankfurter and Wood, 2002; Hail *et al.*, 2014; Chen and Gaviious, 2016; Wang, 2016).

Earnings management involves the use of discretion in financial reporting with a specific objective of altering earnings to meet predetermined targets settle by shareholders, management team or even by predictive analysts. While Schipper (1989: 92) defines earnings management as the "*Purposeful intervention in the external financial reporting process with the intent of obtaining some private gain*", Healy and Wahlen (1999: 368) specify that it occurs when "*...managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.*". It is a strategy of generating accounting earnings, which "*... is accomplished through managerial discretion over accounting choices and operating cash-flows...*" (Phillips, 2003: 493), which can be described as an attempt to influence or manipulate reported earnings by using specific accounting methods, deferring or accelerating expense or revenue transactions, recognizing one-time non-recurring items, or using other methodologies to influence short-term earnings (Akers *et al.*, 2007).

The relationship between earnings management practices and companies' dividend policy has been under interest of earlier researches. If companies engage in strategies to smooth earnings, and if the amount of earnings achieved is the base for distribution of dividends, it is expectable that earnings management actions might have an influence on the dividend policy. One of the oldest references about this relation is studied by Lintner (1956), who advocate that the dividend policy is geared by earnings and must be constant unless

managers predict a new level of earnings in a near future. Even if indirectly, his conclusions unveil to the concept of earnings management and opened a new field of academic research that has been persecuted in the last decades. La Porta *et al.* (2000) infer that dividend policy associated with low earnings manipulation is adopted due to management's intention to build a strong reputation and to get access to capital markets. Furthermore, by performing a comparison between dividend-paying and non-dividend paying firms, Skinner and Soltes (2011) are able to show that the first [dividend payers] register more persistent earnings over the time, while Liu and Espahbodi (2014) show that dividend-paying firms engage in more earnings smoothing than non-payers through both real activities and accruals choice. These results might be consistent with persistent earnings management practices. However, the sign of both constructs is not consistent across different earlier researches.

Several studies find a positive influence of earnings management on dividend policy. The main reason pointed out is that companies incur in greater earnings management to increase their earnings and make their stocks more attractive. At the same time, they tend to boost dividend payments in order to increase dividend yield and, therefore, keep the stocks attractive. As such, *"when accounting earnings are lower than expected dividend levels, managers will have the incentive for an upward earnings management to prevent decreases in dividends"* (Lin *et al.*, 2014: 202), which can be seen as a potential positive relation between the constructs. Positive impact of earnings management on dividend yield is found by Farinha and Moreira (2007) by analyzing a sample of US-listed companies during the period 1987-2003, and by Rahim (2010) on a research carried out in Malaysia during the years 2003-2009, who also find a positive impact on dividend payout ratio. Daniel *et al.* (2008) evidence that companies tend to manage earnings upward through accruals-based earnings management when their earnings fall below an expected dividend level. Kasanen *et al.* (1996), using Finnish firms during 1970-89, show that firms tend to engage in earnings management in order to meet dividend-based target earnings, since major institutional shareholders in Finland are looking for high yields on their stock holdings and they expect smooth dividend streams. Similar results are obtained by Morghri and Galogah (2013), who find a positive influence of earnings management on dividend payout ratio of Iranian listed companies during 2006-2011, and by Chen and Gavius (2016) who predict that, based on an opportunistic conduct, managers inflate earnings in order to boost the amount of dividend per share. The common explanation is that entities take earnings management as a mechanism to increase earnings (and consequently their dividends) with the purpose of attracting investors and satisfy shareholders.

However, there is also an extensive literature that indicates that managers prefer to keep a smooth dividend policy in order to avoid possible future dividend cuts. If dividends increase due to income-increasing earnings management, this may be hugely costly for a firm because discretionary accruals can reverse in the future. He *et al.* (2017: 268) conjecture that *"dividend paying firms manipulate earnings less than their non-paying counterparts and that the strength of the relationship may vary with country-level investor protection and transparency"*, concluding that *"dividend payers have smaller abnormal accruals than dividend non-payers, suggesting that the former are less likely to engage in aggressive accruals management to conceal firm performance"*. The authors are able to show that paying dividends is associated with, and lead to, lower earnings management, which is also consistent with Easterbrook (1984), who concludes that dividends are important to reduce agency costs of free cash flow and to minimize suboptimal managerial behavior. A negative relation between earnings management and dividends is also found by Haider *et al.* (2012)

with Pakistani sample analysis during 2005-2009, and by Welker *et al.* (2017) based on a policy change in China in order to infer about the effect of a mandated dividend payout regulation on companies' financial reporting practices and correspondent cash dividend distributions. Specifically, Welker *et al.* (2017) find that since dividend payout ratio is calculated based on cash dividends over earnings, companies may be incentivized to influence their payout ratios through earnings management that decreases the denominator. Therefore, companies have an incentive to report negative discretionary accruals to lower earnings and increase dividend payout ratios.

The vast literature on earnings management covers usually public listed companies from different set of countries. Unlisted companies are frequently not included in past researches covering earnings management practices. But there are several countries, especially in Europe, where the number of private companies is too big compared with the number of public companies, although such firms are generally smaller in size. These companies are closely held structures, have bigger managerial ownership, capital providers typically take a more active role in management and regularly have insider access to corporate information (e.g. Van Tendeloo and Vanstraelen, 2008), and their financial statements, mostly influenced by tax objectives, are not publicly disclosed (e.g. Ball and Shivakumar, 2005). They are not so scrutinized, not followed by analysts, and not monitored by capital markets regulators. Most of the time they are not subject to certified audits and the main users of the financial statements are stakeholders other than shareholders (e.g., Van Tendeloo and Vanstraelen, 2008). However, every owner wants to receive dividends as a return for investments based on distribution of net income. While earlier researches cover the relationship between earnings management and several issues using only listed firms, a more deeply study using unlisted firms is justified, from which the relationship with dividend policy is here highlighted.

As managers can apply earnings management practices as an attempt to influence reported earnings by applying specific accounting methods (e.g., Akers *et al.*, 2007), the amount of dividends can be seen as a strategy to convince investors about the persistence of the firm's earnings (Linter, 1956) and the uncertain reaction of investors in case of a non-expected result may pressure the management board to perform earnings management. Several studies provide clear evidence about the relationship between earnings management and dividend paying status although with mixed signaling results. While Easterbrook (1984), Haider *et al.* (2012), Welker *et al.* (2017) and He *et al.* (2017) found evidence about a negative relationship between dividend policy and earnings management, in the opposite direction, other authors such as Farinha and Moreira (2007), Daniel *et al.* (2008), Lin *et al.* (2014) and Chen and Gaviious (2016) advocate a positive relationship between the constructs. We are not aware of any earlier research on this relationship using a sample including only unlisted companies. Thus, our first hypothesis is formulated in the null to find out whether an association exists. Accordingly:

H1. Earnings management practices are not associated with dividend policy, *ceteris paribus*.

1.2 The role of the ownership structure on the association between earnings management and dividend policy

Usually, majority ownership concentration is treated as the enough level to keep managerial ownership or control over a given entity. If ownership is widely dispersed,

shareholders have no sufficient incentives to overlook management closely since the benefits are too small in relation to the costs of monitoring. On the contrary, when the ownership is concentrated in a few numbers of owners, they have more stake in the firm and thus they are more likely to monitor managers' actions (Usman and Yero, 2012). The relationship between ownership structure and earnings management is identified in former literature. Considering Taiwanese listed firms from 1997-2007, Lin (2011) find evidence that when managerial ownership is less than around 10%, managers might engage in opportunistic earnings management behaviors and, as managerial ownership increases, managers may easily engage in efficient earnings management practices in order to improve a firm's value. Farooq and Jai (2012), investigating the effect of ownership structure on accruals-based earnings management for Morocco firms during the period 2004-2007, find that large shareholders such as institutions have a negative impact in terms of earnings management. Similar results are obtained by Warfield *et al.* (1995) and Alves (2012) that infer a negative relationship between accruals-based earnings management and ownership. Particularly Alves (2012), using a sample of 34 non-financial listed Portuguese firms concerning the period from 2002 to 2007, suggests that discretionary accruals as a proxy for earnings management are negatively related both to managerial ownership and to ownership concentration.

Based on earlier evidence on the relation between ownership structure and earnings management in listed companies, we aware whether the potential effect of earnings management on dividend policy can vary according to different levels of ownership concentration, but in private non-listed companies. The concentration level can be seen as a mechanism of internal governance, which typically leads to an agency conflict between the largest shareholders and the minority shareholders (Gedajlovic and Shapiro, 2002; Goh *et al.*, 2013) allowing controlling shareholders to conspire with managers to deplete the resources of the minority shareholders (Short, 1994). Once the effect of shareholders' concentration is known, it is then important to establish its relationship with dividend policy. Jeong (2013) showed that a large shareholder ownership is a significant determinant of dividend smoothing in Korea. Mancinelli and Ozkan (2006) analyzed the relationship between dividend policy and ownership structure in an Italian sample and found evidence about a negative relationship between the voting rights of the largest shareholder and dividend payouts. Similar results are obtained by Harada and Nguyen (2011) and Truong and Heaney (2007). The firsts documented that firms with higher ownership concentration pay lower dividends, in the case of a sample of companies in Japan. The latest found that dividends are negatively related to ownership concentration by studying the relationship between the largest shareholder and dividend policy in a sample of 8279 listed firms in 37 countries. However, the theory about the signal of the relationship between agency costs and dividend distribution is not consensual. For example, Jensen (1986) showed that high dividend payouts mitigate agency costs due to the pressure to reduce free cash flows that could be expensed on unprofitable projects. Similar results are inferred by Eckbo and Verma (1994). The authors showed that majority shareholders prefer the distribution of dividends in an effort to lessen agency costs.

Our second hypothesis is thus related with the role of the large shareholders moderating the influence of earnings management on the dividend policy. Consequently:

H2: The earnings management-dividend relationship is more pronounced in companies with a majority shareholder than in companies with non-concentrated ownership, *ceteris paribus*.

2. Research Design

2.1 Sample and Data

Portugal is an ideal country to perform a research interrelating dividend policy and earnings management using unlisted companies. In 2016, the percentage of unlisted companies classified as small and medium sized was about 99.9% of the total (cf. www.pordata.pt/en/), and all companies, regardless the industry, are obliged to submit official accounts to the Portuguese Tax Authorities. We use Bureau van Dijk – Sabi® to collect our data and, as Van Tendeloo and Vanstraelen (2008), we also use a five-year information distributed over the period 2013-2017. This database does not have information about financial and non-financial firms, banks, insurance companies and other financial firms, usually removed from earlier research (e.g., Im *et al.*, 2015; Ho *et al.*, 2015; Van Tendeloo and Vanstraelen, 2008). Our population consists of all non-financial and unlisted Portuguese companies, with a total of 367,482 observations. Then, we consider some specific criteria in order to select an appropriate robust sample with comparable information, resulting in 21,290 firm-year observations for a total of 4,258 unlisted companies. The set of companies included in the final sample has some common aspects namely, i) all pursue a profitable business activity, ii) are not start-ups, and iii) all registered a minimum threshold of operating revenue and dividends paid to the shareholders in (at least) one of the years of the research. The largest portion of firms is from industries classified in group G (wholesale and retail trade, repair of motor vehicles and motorcycles) and from Group C (manufacturing activities), representing 26.6% and 23.7%, respectively. The remaining percentage is distributed among different business activities such as, agriculture, extractive industry, construction, education, health activities, among others. Additionally, we eliminate extreme outliers, and winsorize at 1% level (top and down) all the accounting items need to construct our variables, leading to a sample of 20,064 firm-year observations. Table 1 presents details.

Table 1 Sample selection with data collected from SABI on December 2017

Panel A: selected firms

Selection criterion of SABI	Selected items of SABI	Selection effect	No. of rejections	Search result
Portuguese status	Active companies	Drop off inactive or those involved in liquidation or bankruptcy processes	-	367,482
Legal form	Limited liability company, One-person company with limited liability, Foreign entity, Limited partnership	Drop off companies that do not have the goal of profit maximization.	1,646	365,836
Consolidation code	U1 (companies with unconsolidated accounts only)	Drop off Consolidated financial statements	928	364,908
Date of incorporation	Up to and including 31/12/2009	Drop off companies whose year of incorporation was not at least three years prior to 2013	164,911	199,997
Dividends paid	Minimum payment of EUR 1 in any 2013 to 2017.	Drop off companies without a min.level of dividends distributions	194,763	5,234
Operating revenue	Minimum of EUR 100 thousand in any 2013 to 2017	Drop off companies without a min. level of operating revenue in order to exclude small businesses	976	4,258 (cont.)
Total number of firms:				4,258

Panel B: Industry classification using the Portuguese Activity Code (CAE Rev. 3)⁽²⁾

Group	Industry Group	Number of firms	%
G	Wholesale and retail trade; repair of motor vehicles and motorcycles (#45-#47)	1,132	26.6%
C	Manufacturing activities (#10-#33)	1,008	23.7%
M	Consulting, scientific, technical and similar activities (#69-#75)	314	7.4%
H	Transport and storage (#49-#53)	249	5.8%
Others	Such as agriculture, extractive industry, construction, education, health activities, among others.	1,555	36.5%
Total number of firms:		4,258	100%
Initial number of Firm-year observations:		21,290	100%
Panel C: Final sample after dropping outliers			
(-) Outliers for the dependent variable		(-786)	
(-) Outliers for the independent variables		(-440)	
Final number of Firm-year observations:		20,064	
Distribution of observations by year:			
2013		3,974	
2014		4,025	
2015		4,012	
2016		4,023	
2017		4,030	

2.2. Regression model

2.2.1. The relationship between earnings management and dividend policy

We test our hypotheses of whether the dividend policy is associated with earnings management by estimating an ordinary least square regression model where the *Dividend Policy* (DP) is the dependent continuous variable and *Earnings Management* (EM) is the test variable, controlling for some variables usually included in prior literature, as follows:

$$DP_{it} = \alpha_0 + \beta_1 EM_{it} + \sum \beta_m CONTROL_{it}^m + \varepsilon_{it} \quad (1)$$

Earlier researchers measure *Dividend Policy* using proxies such as dividend yield (e.g., Adelegan, 2003; Farinha and Moreira, 2007; Farooq *et al.*, 2018) and dividend payout ratio (Rafique, 2012; Aguenau *et al.*, 2013; Kazemi *et al.*, 2014). However, these indicators are supported on public market share prices, which is not possible to apply in our sample. To overcome, we rely on two other indicators as proxies for dividend policy. One is supported in Aguenau *et al.* (2013), who defines dividend policy by the *Payout Ratio* (PoR) which is the percentage of earnings (net income) attributed to the shareholders paid out as equivalent to dividends, calculated dividing the earnings paid by the total net income. The other one is relied on Balachandran *et al.* (2013), who defines dividend policy by the total earnings paid during the financial year divided by total assets (DIVa). As such, the dependent variable DP Equation (1) is calculated using two formulas, namely, *PoR* and *DIVa*, as follows:

$$PoR = \frac{Dividends}{Net\ income} \quad (2)$$

$$DIVa = \frac{Dividends}{Assets} \quad (3)$$

Our main independent variable is an *Earnings Management (EM)* measure. Earnings management measures are very disseminated in related literature, based on the capacity of accruals to increment cash-based transactions with accrual-based estimates to best encapsulate the financial performance of a company at financial year-end (e.g., Balachandran *et al.*, 2013). It is widely spread that total accruals can be drill down in two components: non-discretionary and discretionary. The non-discretionary component represents the accruals resulting from firm's normal operation whereas discretionary component represents accruals resulting from management's earnings manipulation (Jones, 1991), and can be supported in the degree of flexibility allowed by accounting standards in the measurement of some current accruals (related with expenses). Such flexibility can lead to subjective management judgment, giving managers the opportunity to manipulate earnings in order to meet their expectations and motivation (e.g., Tsipouridou and Spathis, 2014; Lin *et al.*, 2014). Those current accruals for which managerial discretion is available are known as *discretionary current accruals* and are the path through which earnings management may take place (Balachandran *et al.*, 2013). Generally, discretionary accruals are used to measure earnings management and literature states that companies with high discretionary accruals in absolute terms tend to have more expressive earnings management (e.g., Dechow *et al.*, 1995) and the positive discretionary accruals imply earnings management to increase reported earnings numbers and vice versa with negative discretionary accruals. The use of discretionary accruals as a proxy for the *Earnings Management (EM)* requires firstly the computation of total accruals (TA)¹, which can be done using the following formula, known as the balance sheet approach:

$$TA_{it} = \Delta CA_{it} - \Delta Cash_{it} - \Delta CL_{it} - \Delta DCL_{it} - DEP_{it} \quad (4)$$

Then, the fitted values of the non-discretionary accruals (ie, normal levels predicted) are subtracted to total accruals (TA) resulting in the discretionary component used for EM (ie, the residuals). A large range of models to measure accruals has been presented and used in the academic literature. Some examples are Healy (1985), DeAngelo (1986), Dechow and Sloan (1991), Jones (1991), Dechow *et al.* (1995), Kasznik (1999), Kothari *et al.* (2005), and Raman and Shahrur (2008). Most of the recently applied models are derived from the Jones (1991) model. Notwithstanding, some authors, such as Peasnell *et al.* (2000) and Klein (2002), suggest that the modified Jones model presented by Dechow *et al.* (1995) is more effective in the detection of sales-based manipulations in comparison with the original Jones model. Recent models include additional conditioning variables (Kasznik, 1999, Kothari *et al.*, 2005, Raman and Shahrur, 2008). Peasnell *et al.* (2000) recommend the application of more than one model to infer about discretionary accruals in order to guarantee consistent results.

Because prior research do not cover earnings management in unlisted companies, we are going to test the three most used models: (i) Dechow *et al.* (1995) - modified Jones model, (ii) Kasznik (1999), and (iii) Kothari *et al.* (2005), as proxies for our independent variable. These three models are presented dividing all the variables by lagged total assets (to reduce

¹ Academic researches (e.g., Dechow *et al.*, 1995) defined total accruals as the sum of discretionary and non-discretionary accruals of a firm in a specific period.

heteroscedasticity) and the absolute value of residuals from those abnormal accruals' models are the proxy for *EM* measure. Raman and Shahrur (2008) model is not applied because it proposes to use the ratio of 'book-to-market' as a measure of the growth opportunities which can only be applicable for companies with public market capitalization. So, our measure of EM is the discretionary component of accruals using three different models, specifically, EM_{Dechow} , (Equation 5), $EM_{Kasznik}$ (Equation 6) or $EM_{Kothari}$ (Equation 7), as follows:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \left[\frac{1}{A_{it-1}} \right] + \alpha_2 \left[\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}} \right] + \alpha_3 \left[\frac{PPE_{it}}{A_{it-1}} \right] + \varepsilon_{it} \quad (5)$$

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \left[\frac{1}{A_{it-1}} \right] + \alpha_2 \left[\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}} \right] + \alpha_3 \left[\frac{PPE_{it}}{A_{it-1}} \right] + \alpha_4 \left[\frac{CFO_{it}}{A_{it-1}} \right] + \varepsilon_{it} \quad (6)$$

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \left[\frac{1}{A_{it-1}} \right] + \alpha_2 \left[\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}} \right] + \alpha_3 \left[\frac{PPE_{it}}{A_{it-1}} \right] + \alpha_4 ROA_{it-1} + \varepsilon_{it} \quad (7)$$

We also control for variables commonly used in prior literature, and *Leverage*, *Profitability*, *Firms Size* and *Assets growth rate (AGR)* are added (Lee *et al.*, 2007), The *Leverage* ratio can be calculated as the sum of long-term and short-term debt, scaled by total assets (Francis *et al.*, 2011). *Profitability* ratio is calculated as the net income, scaled by total assets (i.e. ROA) (Burgstahler and Dichev, 1997). The control variable *Firms Size* is computed by the logarithm of total assets. *AGR* can be deducted by the total asset variation, in percentage (Lee and Mande, 2003). Following Hail *et al.* (2014), it will be also added the control variable *Total Equity* (calculated as total equity scaled by total assets). We also include an INDUSTRY dummy variable to control for the possible industry effect (e.g., Albrecht and Richardson, 1990; Ashari *et al.*, 1994; Sun and Rath, 2009) and a YEAR dummy variable to control for the possible year effect, as commonly used in prior literature. The inclusion of these variables enables the control for differences in the type of companies included in our sample (e.g., Lee and Mande, 2003). All variables are defined in detailed in the Appendix 1.

If the estimated coefficient β_1 for Equation (1) is statistically significant and different from zero at conventional levels, we are able to go forward to our second hypothesis, where the mediation role of ownership structure in the association between EM and DP is analyzed. Some authors found a negative relationship between large shareholders concentration and earnings management (e.g. Farooq and Jai, 2012; Alves, 2012). The same signal is described by some literature regarding the effect of large shareholders decisions on dividend payouts (e.g. Mancinelli and Ozkan, 2006; Harada and Nguyen, 2011). However, Eckbo and Verma (1994) described an opposite result by showing that majority shareholders prefer to distribute dividends in order to lessen agency costs. To analyze the potential effect of ownership on the association between earnings management and dividend policy, and hence investigate potential alternative enlightenments regarding the variation in EM in private firms, we include i) a variable OWNERSHIP, which assumes 1 if the firm has more than 50% of share capital at the hands of a unique shareholder and 0 otherwise; ii) an interaction term, $OWNERSHIP \times EM$, to examine whether the association of EM with DP is more pronounced in companies with a majority shareholder than in companies with non-concentrated ownership. We expect the coefficient of this interaction to be positive, confirming our second Hypothesis, H2, which is compound by the following Equation:

$$DP_{it} = \alpha_0 + \beta_1 EM_{it} + \beta_2 OWNERSHIP_{it} + \beta_3 EM_{it} \times OWNERSHIP_{it} + \sum \beta_m CONTROL_{it}^m + \varepsilon_{it} \quad (8)$$

2.2.2 Results and discussion

Table 2 reports the descriptive statistics and correlation coefficients. Panel A contains the descriptive statistics of the continuous variables of our basic Equation (1), for the full sample.

Table 2 Descriptive statistics, univariate analysis, and correlation

Panel A: Descriptive Statistics

Variable	Average	Median	Standard deviation	Minimum	Maximum
Full sample (Number of observations= 20,064)					
<i>DP:</i>					
PoR	0.51	0.00	1.13	-1.47	12.41
DIVa	0.04	0.00	0.08	0.00	0.60
<i>EM:</i>					
EM _{Dechow}	0.70	0.46	0.73	0.00	20.32
EM _{Kaszniak}	0.70	0.46	0.73	0.00	21.18
EM _{Kothari}	0.70	0.46	0.72	0.00	19.61
<i>Controls:</i>					
Leverage	0.18	0.09	0.28	0.00	16.34
Profitability	0.08	0.06	0.12	-0.95	2.89
Firms Size	6.72	6.67	0.70	4.36	10.14
AGR	0.06	0.02	0.60	-0.96	75.24
Total Equity	0.52	0.50	0.56	-19.69	60.35
Concentrated Ownership Sample (Ownership = 1; Number of observations=13,555)					
<i>DP:</i>					
PoR	0.56	0.00	1.19	-1.47	12.41
DIVa	0.49	0.00	0.10	0.00	0.60
<i>EM:</i>					
EM _{Dechow}	0.72	0.48	0.75	0.00	20.32
EM _{Kaszniak}	0.73	0.49	0.75	0.00	21.18
EM _{Kothari}	0.73	0.48	0.74	0.00	19.61
<i>Controls:</i>					
Leverage	0.18	0.77	0.31	0.00	16.34
Profitability	0.09	0.06	0.12	-0.95	2.06
Firms Size	6.80	6.75	0.73	4.36	10.14
AGR	0.61	0.19	0.70	-0.96	75.24
Total Equity	0.50	0.48	0.66	-19.69	60.35
Dispersed Ownership Sample (Ownership = 0; Number of observations=4,567)					
<i>DP:</i>					
PoR	0.40	0.00	1.00	-1.32	11.95
DIVa	0.03	0.00	0.06	0.00	0.60
<i>EM:</i>					
EM _{Dechow}	0.66	0.43	0.68	0.00	4.45
EM _{Kaszniak}	0.66	0.43	0.68	0.00	4.70
EM _{Kothari}	0.66	0.44	0.68	0.00	5.23
<i>Controls:</i>					
Leverage	0.18	0.11	0.20	0.00	1.93
Profitability	0.08	0.05	0.11	-0.55	2.89
Firms Size	6.51	6.53	0.57	4.50	9.09
AGR	0.06	0.03	0.28	-0.92	12.09
Total Equity	0.55	0.54	0.27	-1.30	3.80

Panel B – Univariate Analysis

	(1) Concentrated Ownership Ownership = 1 n = 13,555	(2) Dispersed Ownership Ownership = 0 n = 4,567	(1) – (2)	
	Average	Average	Difference	p-value
DP:				
PoR	0.563	0.403	0.160	0.000
DIVa	0.049	0.027	0.022	0.000
EM:				
EM _{Dechow}	0.724	0.656	0.069	0.000
EM _{Kasznik}	0.726	0.657	0.069	0.000
EM _{Kothari}	0.726	0.658	0.068	0.000

Panel C: Pearson Correlation Coefficients

Variable	PoR	DIVa	EM Dechow	EM Kasznik	EM Kothari	Leverage	Profitability	Firms Size	AGR
DIVa	0.461**								
EM _{Dechow}	0.027**	0.074**							
EM _{Kasznik}	0.028**	0.075**	0.998**						
EM _{Kothari}	0.030**	0.083**	0.986**	0.993**					
Leverage	-0.047**	-0.139**	-0.016*	-0.015*	-0.016*				
Profitability	-0.010	0.420**	0.136**	0.137**	0.151**	-0.176**			
Firms Size	0.051**	-0.025**	-0.129**	-0.127**	-0.128**	0.120**	-0.080**		
AGR	-0.043**	-0.052**	0.237**	0.245**	0.235**	0.035**	0.168**	0.008	
Total Equity	-0.023**	0.018*	0.118**	0.125**	0.116**	-0.437**	0.221**	-0.017*	0.742**

* and ** means significant at 0.05 and 0.01 respectively. See Appendix 1 for the definition of variables.

Considering our proxies for the dependent variable *DP*, the average of *PoR* in the full sample is higher than the average of *DIVa*, because usually the size of the dividends over net income is higher than the level of dividends over total assets of a firm. The denominator of *PoR* can assume positive and negative values, consistent with the minimum amount for *Profitability*. A negative *PoR* means that firms distributed dividends in years of negative net income. The average result of *PoR* is consistent with Chansarn and Chansarn (2016), *DIVa* with Khan *et al.* (2017) and Gonzalez *et al.* (2017) and *Profitability* with He *et al.* (2017). The standard deviation is significantly higher in *PoR* (in comparison with *DIVa*) due to the amount of variation/dispersion of data. The average, median and standard deviation for the three proxies of *EM*, *EM_{Dechow}* (Equation 5), *EM_{Kasznik}* (Equation 6) or *EM_{Kothari}* (Equation 7), are very similar. The remaining results are slightly different from the literature which may represent the differences in terms of markets, years under analysis and/or type of companies (unlisted companies). Equivalent results are found when the full sample is divided into two subsamples, namely, concentrated versus dispersed ownership companies, which is necessary to apply Equation (8). However, the number of observations is dropped to 18,122 because of missing data about shareholders' structure of some companies (less than 1% of the total sample).

Panel B shows the results of the parametric independent samples t-tests for the differences in the means of the independent (*DP*) and dependent variables (*EM*). There is a

significant statistical difference ($p\text{-value}=0.000$) on all the variables when the sample is divided into two samples according to the level of ownership.

Panel C presents Pearson correlation matrix among all continuous variables of the basic research model, analyzing the relationship between the variables and predict potential multicollinearity concerns. The dependent variable (PoR or DIVa) are positively correlated with EM_{Dechow} , $EM_{Kasznik}$ or $EM_{Kothari}$, at a significance level of 5%. In general, the correlation results between dependent and control variables (*Leverage*, *Profitability*, *Firms Size*, *Assets growth rate* and *Total Equity*) are consistent in terms of signal and statistical significance. The correlation coefficients present, overall, low values suggesting that are no collinearity issues.

Table 3 reports the coefficients estimates, t-test and the p-values from Equation (1) and Equation (8). Panel A designs the first hypothesis. The three first (second) columns presents the results when the dependent variable is DP=PoR (DP=DIVa). Each column presents also the results according to the three models used to calculate EM (specifically: EM_{Dechow} , Equation 5; $EM_{Kasznik}$, Equation 6; or $EM_{Kothari}$, Equation 7). The results suggest a positive relationship between the engagement in earning management practices and the level of dividends paid, as expressed in the first column ($\beta_1=0.066$; t-test=5.776; p-value=0.000). This finding is valid regardless of the proxies used for measuring the dividend policy of a company (PoR or DIVa) and for the proxies for the discretionary accrual model employed (EM_{Dechow} , $EM_{Kasznik}$ or $EM_{Kothari}$), as appointed in all the other columns. These results are in line with prior findings of Kasanen *et al.* (1996), Farinha and Moreira (2007), Rahim (2010), Morghri and Galogah (2013) and Lin *et al.* (2014), who find firms that firms managing earnings are more prone to distribute dividends, and we extend these findings to unlisted companies also. Control variables reveals that unlisted firms with a higher percentage of debt and equity over total assets (*Leverage* and *Total Equity*, respectively) distribute less dividends, in line with Chansarn and Chansarn (2016) and Gonzalez *et al.* (2017) for a sample of listed companies. But, as opposed to the works of Aguenau *et al.* (2013) and Gonzalez *et al.* (2017) covering listed companies, bigger unlisted firms distribute more dividends.

Panel B presents the results of Equation (8) for the second hypothesis. Results suggest a positive association between EM and dividend policy (DP) when the payout ratio (PoR) is used, but statistical significant only when discretionary accruals are estimated using $EM_{Kasznik}$ (10%) and $EM_{Kothari}$ (5%). These results signal that firms engage in aggressive earnings management practices in order to maximize dividend distribution. Results also reveal that the higher the ownership concentration (OWNERSHIP), the higher the likelihood of bigger payout ratios, but the interaction with EM discloses that this variable do not mitigate nor intensify the association between EM and DP. Rather, when the ratio between dividends and total assets (DIVa) is used to measure DP, the positive association between EM and DP exists, but it is statistical significant (1% level) only for companies with a higher degree of ownership concentration. This finding is captured through the positive coefficient of the interaction variable OWNERSHIP with the dependent variable EM, regardless of the method used to estimate discretionary accruals. Our results do not corroborate Mancinelli and Ozkan (2006) and Harada and Nguyen (2011) that described a negative relationship between the voting rights of the largest shareholders and dividend payouts, but the novelty of the inclusion of non-listed private companies may also justify our findings. We believe the different results are related with the methodology used to calculate DP, since when PoR is used, the standard deviation of the variable is extremely high because a lot of companies distribute dividends even when net income is negative. But when DIV is used to estimate DP, the standard deviation is smaller, and we ratio of dividends paid is comparable with the size of the

companies regardless of the amount of earnings. This argument opens an avenue to future research.

Table 3 Multiple Regression Results for the period 2013-2017

Panel A: Hypothesis 1, Equation (1)

	DP = PoR			DP = DIVa		
	EM _{Dechow}	EM _{Kasznik}	EM _{Kothari}	EM _{Dechow}	EM _{Kasznik}	EM _{Kothari}
Constant	-0.120 (-1.435)	-0.122 (-1.463)	-0.128 (-1.532)	-0.001 (-0.106)	-0.001 (-0.130)	-0.001 (-0.184)
EM	0.066*** (5.776)	0.069*** (5.940)	0.072*** (6.261)	0.005*** (6.625)	0.005*** (6.774)	0.005*** (7.031)
Leverage	-0.305*** (-7.662)	-0.305*** (-7.658)	-0.304*** (-7.625)	-0.025*** (-9.250)	-0.025*** (-9.251)	-0.025*** (-9.222)
Profitability	-0.126* (-1.818)	-0.128* (-1.838)	-0.137** (-1.966)	0.299*** (64.279)	0.298*** (64.258)	0.298*** (64.023)
Firms Size	0.108*** (9.251)	0.108*** (9.262)	0.109*** (9.294)	0.003*** (4.253)	0.003*** (4.261)	0.003*** (4.283)
AGR	-0.026 (-0.997)	-0.027 (-1.054)	-0.028 (-1.105)	-0.014*** (-8.154)	-0.014*** (-8.206)	-0.014*** (-8.246)
Total Equity	-0.093*** (-3.156)	-0.093*** (-3.143)	-0.091*** (-3.076)	-0.006*** (-3.087)	-0.006*** (-3.078)	-0.006*** (-3.017)
INDUSTRY	Included	Included	Included	Included	Included	Included
YEAR	Included	Included	Included	Included	Included	Included
Adjusted R ²	0.012	0.012	0.012	0.203	0.203	0.204
N	20,064	20,064	20,064	20,064	20,064	20,064

Panel B: Hypothesis 2, Equation (8)

	DP = PoR			DP = DIVa		
	EM _{Dechow}	EM _{Kasznik}	EM _{Kothari}	EM _{Dechow}	EM _{Kasznik}	EM _{Kothari}
Constant	-0.234*** (-2.632)	-0.236*** (-2.664)	-0.245*** (-2.759)	-0.009 (-1.467)	-0.009 (-1.461)	-0.009 (-1.510)
EM	0.040 (1.610)	0.043* (1.713)	0.051** (2.027)	0.001 (.337)	0.000 (0.223)	0.000 (0.238)
Ownership	0.094*** (3.403)	0.094*** (3.406)	0.098*** (3.518)	0.012*** (6.741)	0.012*** (6.558)	0.012*** (6.410)
EMx Ownership	0.035 (1.242)	0.034 (1.214)	0.029 (1.041)	0.005*** (2.790)	0.006*** (3.016)	0.006*** (3.212)
Leverage	-0.269*** (-6.358)	-0.269*** (-6.353)	-0.267*** (-6.312)	-0.021*** (-7.272)	-0.021*** (-7.268)	-0.020*** (-7.223)
Profitability	-0.168** (-2.281)	-0.169** (-2.292)	-0.178** (-2.407)	0.306*** (61.944)	0.306*** (61.942)	0.306*** (61.746)
Firms Size	0.099*** (7.908)	0.100*** (7.921)	0.100*** (7.951)	0.002** (2.003)	0.002** (2.020)	0.002** (2.060)
AGR	-0.041 (-1.530)	-0.043 (-1.585)	-0.044 (-1.627)	-0.016*** (-8.987)	-0.016*** (-9.047)	-0.016*** (-9.105)
Total Equity	-0.068** (-2.152)	-0.067** (-2.141)	-0.065** (-2.071)	-0.002 (-1.026)	-0.002 (-1.023)	-0.002 (-0.959)
INDUSTRY	Included	Included	Included	Included	Included	Included
YEAR	Included	Included	Included	Included	Included	Included
Adjusted R ²	0.014	0.014	0.014	0.217	0.217	0.217
N	18,122	18,122	18,122	18,122	18,122	18,122

Conclusion

This paper focuses on the relationship between earnings management and dividend policy in different ownership contexts in order to enable an in-depth understanding of the role of the shareholders in the definition of firms' dividend decisions.

To force financial results to meet certain targets, managers and shareholders may apply real and accounting managerial strategies, well known as Earnings Management. Companies hold indeed, a few ways to revert those results to the shareholders (e.g. transfer pricing transactions); however, the most common is through dividends. Naturally, management capacity to influence whatever it is in a firm depends on its ownership position and its ability to exercise control (e.g. Usman and Yero 2012; Lin, 2011; and Alves, 2012). The economic principles preach that the role of a company is to maximize results. Nevertheless, it is imperative to raise an important question: do shareholders always want to maximize firms' dividend distribution? There is no closed answer for this. For this reason, an empirical analysis with the support of Bureau van Dijk – Sabi® database was conducted, aiming to analyze earnings management behaviors through discretionary accruals methodologies scrutinized by Dechow *et al.* (1995), Kasznik (1999) and Kothari *et al.* (2005), as well as the role of the previous methodologies in terms of firms' dividend distribution (measured by two variables – *Payout Ratio* – PoR and Dividends scaled by total assets – DIVa). The sample is composed by a set of listed and unlisted 4,258 Portuguese representing a panel of around 20 thousand observations, distributed over the period 2013-2017.

The basilar research hypothesis inferred by this paper is about the potential role of earnings management on dividend policy. Contrary to the results presented by He *et al.* (2017) but on the same path of Farinha and Moreira (2007) and Morghri and Galogah (2013), it is possible to infer a positive statistically significant relationship between the constructs in all the six different regressions of the model. Although these results are relevant *per se*, this paper is slightly beyond by perceiving the role of a majority shareholder with more than 50% of share capital on its capacity to mediate dividend policy through earnings management. Hence, the second hypothesis inferred about a possible more pronounced effect of EM on dividend policy in firms which have a majority shareholder (with more than 50% of share capital) against non-concentrated ownership firms, but only when dividend policy is evaluated through DIVa.

This study contributes to the academic literature in the following described ways: (i) the results give us a better understanding of the relationship between earnings management and dividend policy in a sample composed by non-listed private companies; (ii) it is possible to predict a positive statistically significant relationship between earnings management and dividend policy. Further analysis is suggested in future research, especially to investigate in more detail incentives for different levels of ownship concentration, which is being already developed by the authors.

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Appendix 1 – Variable definitions

Variable	Definition
Variables of Earnings Management (EM)	
EM _{it}	Earnings Management given by the discretionary accruals in absolute term of company <i>i</i> in year <i>t</i> , measured by Dechow <i>et al.</i> (1995) – <i>Modified Jones Model</i> , Kasznik (1999) – <i>Cash-flow Jones Model</i> and by Kothari <i>et al.</i> (2005) <i>Model</i> .
TA _{it}	Total accruals of firm <i>I</i> , period <i>t</i>
DA _{it}	Discretionary accruals of firm <i>I</i> , period <i>t</i>
NDA _{it}	Non-discretionary accruals of firm <i>I</i> , period <i>t</i>
ΔCA _{it}	Change in current assets for company <i>I</i> , period <i>t</i>
Δcash _{it}	Change in cash and cash equivalents for company <i>I</i> , period <i>t</i>
ΔCL _{it}	Change in current liabilities for company <i>I</i> , period <i>t</i>
ΔDCL _{it}	Change in debt included in current liabilities for company <i>I</i> , period <i>t</i>
DEP _{it}	Depreciation and amortization expense for company <i>I</i> , period <i>t</i>
A _{it}	Total assets in company <i>I</i> , period <i>t</i>
ΔREV _{it}	Sale revenues in company <i>I</i> , period <i>t</i>
ΔAR _{it}	Account receivable in company <i>I</i> , period <i>t</i>
PPE _{it}	Gross property, plant, and equipment in company <i>I</i> , period <i>t</i>
CFO _{it}	Cash flow from operations for firm <i>I</i> , period <i>t</i>
ROA _{it}	The return on assets ratio in company <i>I</i> , period <i>t</i>
α	Parameters to be estimated
ε _{it}	Error term, proxy for discretionary accruals
Variables of Dividend Policy (DP)	
DP _{it}	Dividend policy in company <i>i</i> , period <i>t</i> , inferred by applying PoR or DIV _a
PoR	Payout Ratio - ratio of dividends scaled by net income in company <i>I</i> , period <i>t</i>
DIV _a	Ratio of dividends scaled by total assets in company <i>I</i> , period <i>t</i>
Dividends _{it}	Total dividends paid by company <i>i</i> , period <i>t</i>
Net income _{it}	Net income of company <i>i</i> , period <i>t</i>
Total Assets _{it}	Total assets of company <i>i</i> , period <i>t</i>
Dependent Variables of main models	
CONTROL _{it}	Control Variables in company <i>i</i> , period <i>t</i> .
Leverage	Control variable given by the sum of long-term and short-term debt, scaled by lagged total assets.
Profitability	Control variable given by net income, scaled by lagged total assets.
Firms Size	Control variable given by the logarithm of total assets.
AGR	Control variable given by the Assets growth rate deducted by the total asset variation.
Total Equity	Control variable given by the total equity scaled by lagged total assets.
OWNERSHIP	Dummy variable, equal to 1 if the firm <i>i</i> , in period <i>t</i> , has more than 50% of share capital at the hands of a unique shareholder (corporate or individual/family), and 0 otherwise.
CORPORATE	dummy variable, equal to 1 if the firm <i>i</i> , in period <i>t</i> , has more than 50% of share capital owned by a firm, and 0 if majority owned by an individual/family.

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