The Impact of Ownership Structure on Earnings Management: Evidence from Private Firms in the Benelux Region

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ABSTRACT

This research paper examines the impact of corporate ownership structure on earnings management in private Benelux firms. These countries have experienced a significant decline in the number of listed companies since peak. Despite the economic significance of private firms, significantly less is known about their financial reporting practices compared to public firms. This study explores how variations in ownership concentration, managerial ownership, foreign ownership, and private equity ownership influence earnings management. Earnings management is measured using discretionary accruals (DACC), estimated via the modified Jones model, and abnormal working capital accruals (AWCA), computed as per the DeFond and Park model. Data is obtained from Orbis and (semi-)public financial statements to calculate earnings management and gather information on firms' ownership structures. I run multiple regression models to test the magnitude and direction of earnings management, using absolute and signed values, respectively. Based on a sample size of 811 firm-years between 2019-2024 in the Benelux, the results show that foreign ownership is associated with a higher magnitude of earnings management. Private equity ownership is associated with a directional influence. I find no significant associations between either concentrated or managerial ownership and earnings management. Additionally, the regression model measuring the association with the magnitude of earnings management through AWCA was statistically significant. This study contributes to the limited literature on ownership structure and earnings management in private firms. The findings have practical implications for auditors, investors and policymakers.

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Note. During the preparation of this work, the author used AI tools in order to check for grammar and spelling. After using these tools, the author reviewed and edited the content as needed and takes full responsibility for the content of the work.

Keywords: *earnings management, ownership structure, ownership concentration, private firms, managerial ownership, foreign ownership, private equity ownership*

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1. INTRODUCTION

Accounting earnings are a fundamental measure of a firm's financial performance. However, accounting processes are inherently complex and susceptible to manipulation, particularly when firms stand to benefit from such practices. The most widely cited incentives include meeting analysts' forecasts (Athanasakou et al., 2009; Kasznik, 1999), compensation contracts (Guidry et al., 1999; Healy, 1985; Holthausen et al., 1995), avoiding debt covenant violations (DeFond & Jiambalvo, 1994), signaling managers' private information (Healy & Palepu, 1995), reducing political costs (Key, 1997; Watts & Zimmerman, 1986), stock-financed acquisitions (Erickson & Wang, 1999), and management buyouts (DeAngelo, 1986; Perry & Williams, 1994).

A common way to influence financial reporting is through earnings management (EM). While there is no universally accepted definition of EM, it is commonly described as the practice of generating accounting earnings through managerial discretion over accounting choices and operating cash flows (Phillips et al., 2003). EM occurs when managers exercise judgment in financial reporting and transaction structuring to distort financial reports, either to mislead stakeholders about the firm's economic performance or to influence contractually determined outcomes (Healy & Wahlen, 1999). The accounting literature divides EM into two groups: accrual-based earnings management (AEM) and real earnings management (REM). AEM refers to the manipulation of earnings through accrual accounting methods, thereby obtaining specific benefits through significant interference in the process of preparing financial reports for external users (Schipper, 1989). REM refers to real activities manipulation, where managers alter earnings by adjusting the timing or structure of operating, investing, or financial decisions (Enomoto et al., 2015). Examples are cutting discretionary expenses (R&D or marketing expenses), lowering sales prices to temporarily increase sales, and manipulating sales figures or building up inventory to reduce the costs of goods sold (Roychowdhury, 2006).

Private firms form the backbone of Europe's economy, representing over 99% of businesses and 64% of the labor force in 2022 (Di Bella, 2023). Over the past decades, there has been a decrease in public firms and a continuous increase in private firms in the U.S. and Europe. More companies are going private (de-listing)[1] (Lipschultz, 2023), and are deciding to stay private for longer, resulting in a steady decline in the number of public companies. The decline of publicly listed companies is especially observable in the Benelux. Luxembourg, the Netherlands and Belgium have lost 92%, 75% and 60% of their listed companies since peak, respectively (Eckbo, 2025). When researching public firms, researchers are often unable to distinguish between the impact of accounting-based monitoring and capital market pressures on EM, struggling to determine a cause. Moreover, previous research indicates that in the absence of capital market pressures, firms still have incentives to manage earnings (Coppens & Peek, 2005), such as reducing taxable income or meeting lending requirements. Most research to date has focused on EM in the context of public firms. Despite being the predominant type of firm in most countries, relatively little is known about the financial reporting practices of private companies (Ball & Shivakumar, 2005; Chen et al., 2011; Hope & Vyas, 2017). This is an important area which requires further research as it could prevent optimal capital allocation due to information asymmetries between the firm and external stakeholders. It is an economically significant yet scarcely researched area. More than public firms, private firms rely heavily on the quality of financial reporting to access external financing (Agarwal & Hauswald, 2010; Donelson et al., 2017). Prior studies show that attributes of private firms' financial statements have a strong influence on their ability to access credit and the cost of debt they incur (Allee & Yohn, 2009; Gassen & Fülbier, 2015; Minnis, 2011; Vander Bauwhede et al., 2015). The primary reason research on private firms is limited to date is due to the scarcity of publicly available information. Logically, it doesn't make a lot of sense for private firms to engage in EM as its long-term negative consequences offset the current benefits. Managing earnings can over time lead to damage of managerial credibility, reduction in reliability of internal performance assessments, and increases the likelihood of reputational harm. In contrast, this strategy would make sense for public companies who experience capital market pressure, where favorable views on the short term may outweigh the long-term negative effects (see Michielen, 2018). Nonetheless, previous research shows that private firms engage in higher levels of EM and that capital market forces largely improve the informativeness of earnings (Burgstahler et al., 2006). Surprisingly, despite studies concluding that private firms manage their earnings more than their public counterparts (Burgstahler et al., 2006; Michielen, 2018), other research presents conflicting findings, noting that privately held firms exhibit less EM (Beatty et al., 2002) and have higher earnings quality (EQ). These inconsistencies, coupled with the fact that studies on EM practices of private firms are limited, highlight the need for further research.

The structure of ownership may play a crucial role in agency related issues (Demsetz & Lehn, 1985). Previous literature even suggests that ownership structure and board characteristics are generally treated as the most important factors of corporate governance in limiting AEM (Adams et al., 2010; Shleifer & Vishny, 1986). An agency relationship arises when the principal (shareholders) consents to the agent (management) acting on their behalf, whose interests may not always be aligned (Jensen & Meckling, 2019). Previous research on ownership structure has suggested that controlling ownership is a significant driver of EM (Bao & Lewellyn, 2017). In theory, large shareholders can exert influence over financial reporting and manipulate earnings to extract private benefits. Conflicting research suggests that firms characterized by a concentrated ownership structure, with large shareholders, achieve greater credibility of their financial reporting by providing close scrutiny over their EM activity (Grimaldi, 2017).

Private firms are characterized by a smaller division between ownership and control. They are often owned by company management or by shareholders who have a personal relationship with the management (Fama & Jensen, 1983). This might suggest that managers have less incentive to manage earnings due to the reduced owner-manager agency conflicts. However, private firms may understate earnings to minimize taxable income. Furthermore, they face less scrutiny from analysts, auditors, and regulators, resulting in a reduction in external checks and thus a greater opportunity to influence financial reporting. In contrast, public companies in general have a more dispersed ownership. As research on the impact of ownership structure specifically on private firms is limited, this paper aims to provide new insights on this relation. Various studies have stated that managers play a key role in the extent to which firms engage in EM as managers' and shareholders' goals are not always aligned. Managerial ownership (MAN) may result in an alignment of interests

[1] This trend reflects that in recent years, more public companies have been taken private than have gone public through IPOs.

suggesting less opportunistic behavior by the management team. This can, in theory, have a significant effect on this study and thus MAN is another ownership variable that will be considered. The entrenchment and alignment theories and their effects will be explained in the literature review. In theory, the presence of foreign ownership (FO) might suggest an increase in information asymmetry due to geographic and cultural distance, potentially resulting in higher EM. However, previous research indicates that FO is negatively related to EM practices. This phenomenon will be further explored in the literature review. The unified economic climate and stable political environment of the Benelux make it an attractive region to invest in for foreign investors (EU and internationally), making this relationship particularly relevant and thus will be empirically tested in this study. Furthermore, private equity (PE) is a cornerstone of the European economy, present in every region, with approximately 27,645 companies across Europe being backed or owned by PE in 2022 (Invest Europe, 2024). As the name suggests, PE is an alternative investment class which invests in private firms that are not listed on a stock exchange. This ownership type is thus widely present in private firms, providing the opportunity to include it in this research. PE sponsors concentrate ownership in the hands of a few shareholders and closely monitor the management of their portfolio companies. It raises the question of whether boards involving PE investors are more effective in detecting and preventing EM. Drawing on prior research discussed in the literature review, suggesting an influence, this study includes PE ownership as an independent variable. Specifically, this paper aims to address a gap in the literature and answer the following question:

Does ownership structure, including different ownership types (managerial, foreign and private equity) influence earnings management practices in private firms within the Benelux?

This research contributes to the literature in several ways. First, it extends the empirical work of previous research documenting the magnitude of EM in private firms. Furthermore, this paper aims to better understand the role of ownership structure on EM within private firms. The variables included in this paper have been used when studying public firms. Understanding different influences of EM, especially within private firms, is crucial, as private firms have different incentives to manage earnings compared to public firms (e.g. tax planning motivations, less pressure from capital markets etc.). To the best of my knowledge, this is the first paper researching this impact on EM in private firms specifically within the Benelux. With the majority of firms in the Benelux being private and limited research being conducted specifically focusing on private firms, this study contributes to an economically significant yet scarcely researched area of study. This research also holds practical relevance for users of financial statements, including auditors, investors, banks, suppliers, customers or even employees by identifying ownership variables that may influence earnings quality. This study helps auditors detect potential manipulation and keeps investors well informed to make sound decisions. I study a sample of private firms in non-regulated markets, thereby avoiding the influences of capital market pressures and industry regulation. By focusing on firms located in the Benelux[2], I control for legal system quality, which is associated with fewer opportunities for companies to engage in EM. The shared cultural, economic, social and political background among the Netherlands, Belgium and Luxembourg provides high comparability (Davidov et al., 2007). Furthermore, privately held firms within the European Union face largely the same accounting standards as publicly traded firms.

This paper proceeds as follows. The first section introduces the existing theories and provides evidence on EM within private firms. After this, I present the hypotheses I developed that form the foundation of my study. This is then followed by the methodology used to test the hypotheses and the data I collected to perform this research. Finally, I discuss and analyze the results and provide concluding remarks on the academic and practical implications of my findings.

2. LITERATURE REVIEW

2.1 Theories on EM

Corporate scandals resulting in the fall of giant corporations such as WorldCom and Enron have highlighted the importance of transparent accounting practices. These cases have exposed the disastrous consequences of manipulative accounting practices, resulting in the introduction of the Sarbanes-Oxley Act (SOX)[3] of 2002 in the United States. Further scandals in countries all over the world have resulted in EM being extensively researched throughout the years. EM can mislead stakeholders into making decisions they might not have made under accurate reporting conditions (Callao et al., 2014), investors to make non-optimal investment decisions based on manipulated reported earnings (Dye, 1988; Lambert, 2001; Sunder, 1997) and harms society as a whole because it distorts efficient resource allocation.

2.1.1 EM in Private Firms

Burgstahler et al. (2006) state that private firms have a greater opportunity to engage in EM due to less observation from shareholders and mainly regulators. In their study, they recognize that corporate insiders of public firms use their earnings to communicate performance to outsiders. However, for private firms, earnings play a minor role in communicating performance to outsiders. In contrast, reporting may be governed by other considerations, such as minimizing taxes or determining dividend payments. This view is also prevalent in the study of Coppens & Peek (2005), who argue that private firms manage earnings downwards to reduce tax payments as they have fewer incentives to report good earnings. Ball & Shivakumar (2005) mention that the market demands higher quality earnings from public companies as investors might end up being reluctant supplying capital to firms with low EQ (see Burgstahler et al., 2006). This view suggests that being publicly listed is likely to be associated with higher reporting quality and thus be negatively related to EM. For private companies, the incentives lie in reducing the cost of debt capital or positioning themselves advantageously if they were to go public (Sundgren, 2007). Furthermore, private companies have the incentive to build up a reputation of unbiased reporting (Palepu et al., 2004), which would also be valuable if they were to go public in the future. These studies highlight a clear difference in EM motivations between private and public firms. Public and private firms face very different demands for accounting information.

Management buyout transactions[4] provide another incentive for managers in private firms to engage in EM. In such transactions,

[2] Benelux stands for Belgium, the Netherlands & Luxembourg. This economic union was introduced with the objective of bringing total economic integration.

[3] This act created strict new rules for accountants, auditors and corporate officers and imposed more stringent recordkeeping requirements.

[4] Management buyout (MBO) transactions refer to transactions where the existing management team of an operating company acquire a large part, or all of the company's shares.

managers can increase their chances of realizing capital gains by creating favorable buy and sell opportunities of the firm's shares for themselves (Spohr, 2005). Whereas public companies sell their shares in the public market, shares of private firms are often sold during merger and acquisition (M&A) transactions. In the context of M&A, buyers rely heavily on financial statements as their main source of information (Lajoux & Elson, 2009; Wangerin, 2019). Low quality financial statements can have various negative effects, such as making it more difficult for the buyer to assess the potential synergies of the deal (Povel & Sertsios, 2014), long lasting negotiations (Marquardt & Zur, 2015), low completion rates and a higher percentage of renegotiated deals (Skaife & Wangerin, 2013). Due to the higher ownership concentration in private firms, monitoring management may provide greater incentives (Shleifer & Vishny, 1986). Previous research argues that small owners may not be sufficiently incentivized to monitor management. In the next subsection, I provide an overview of the literature regarding ownership concentration and its effect on EM.

2.1.2 Ownership Concentration

As mentioned earlier, private firms typically are characterized by a smaller division between ownership and control, which in theory can have a significant effect on the extent to which a firm manages earnings. Fama & Jensen (1983) note that they are often owned by company management or by shareholders with a personal relationship with the management. Demsetz & Lehn (1985) and Shleifer & Vishny (1986) state that firms with a concentrated ownership realize more monitoring than firms with a dispersed ownership structure. This is due to the fact that small shareholders do not have a large enough stake in the firm to absorb the costs of monitoring the management. These findings align with the efficient monitoring hypothesis, which posits that large shareholders reduce the scope of managerial opportunistic behavior (Khalid et al., 2020). Research conducted on non-financial listed companies found that EM is negatively associated with both managerial ownership and ownership concentration (Alves, 2012). However, Bao & Lewellyn (2017) conclude in their study that controlling ownership is positively related to EM, suggesting a higher magnitude of EM. They hypothesize that this is the result of influence on the reporting policies of accounting information, in order to fulfill self-interested purposes. In a recent study focusing on private firms in Europe, significant results were found suggesting a relationship between concentrated ownership and EM (Stolk, 2023).

2.1.3 Managerial Ownership

Previous literature mentions two theories on managerial ownership and its relationship with EM (see Stolk, 2023). Firstly, the entrenchment effect refers to a situation where managers use their position to act in ways that only benefit themselves and not the shareholders of the firm. When holding a large ownership stake, managers may decide to engage in EM if they tend to personally benefit from it (Claessens et al., 2002). On the other hand, the alignment effect counters the entrenchment effect and states that when managers have a significant stake in a company, their interests become better aligned with the overall interests of the firm (see Shleifer & Vishny, 1986). Furthermore, previous research (focused specifically on UK private firms) states that when managerial ownership is low, firms tend to engage in more EM when faced with poor performance (O'Callaghan et al., 2018). Other researchers argue that when managers own a large portion of the shares of a firm, they have less incentive to manipulate reported accounting information (Warfield et al., 1995). This coincides with the alignment theory, where an increase in managerial ownership results in an alignment of the interests of managers with those of shareholders.

2.1.4 Foreign Ownership

Foreign investors have seen a rise in the diversity of their portfolios with the notable reductions in barriers to international investments. High information asymmetry may suggest that EM is prevalent in firms with foreign ownership. This view is supported in various studies suggesting that foreign investors are often at an information disadvantage. This is due to geographic distance, language and cultural barriers, differences in regulatory environments and economic conditions (Chan et al., 2005; Kang & Kim, 2010). However, previous research suggests that foreign ownership is negatively associated with EM (Han et al., 2022). Various studies suggest that the presence of foreign institutional investors may promote effective corporate governance practices and help detect financial misreporting (Chen et al., 2022; Kim et al., 2019; Lel, 2019).

2.1.5 PE Ownership

Throughout the years, various theories have been proposed regarding the impact of PE ownership on the accounting practices of firms. Naturally, PE investors are in pursuit of profitability to realize returns on their investments by selling a company for more than the price paid for acquiring it. These returns are a key metric considered by limited partners when allocating capital. PE sponsors generally hold a majority stake of the established firms they acquire (Witney, 2017) and assume control of the board of directors. This may suggest that PE sponsors could display opportunistic behavior to achieve positive results by managing reported earnings upwards in order to maximize profits during a sale – a view supported by previous research (Chou et al., 2006). Additionally, PE influence could result in income-decreasing EM to minimize tax payments and realize higher cash flows. Furthermore, depending on the demanding strategy of a PE firm, managers working for portfolio companies may resort to EM to meet targets and, for instance, keep their positions. On the other hand, firms acquired by PE investors often take on significant debt on the balance sheet which in theory suggests high-quality financial information, due to the presence of more lenders and the existence of financial covenants. Furthermore, PE sponsorship results in active monitoring, which limits managerial opportunism. PE sponsors value their reputation, as it can significantly affect the extent to which firms would like to work with them in the future. According to this view, firms with PE sponsorship might engage less in EM. This view is supported by previous literature, which suggests that firms with private equity sponsorship (PE-backed firms) generally have higher earnings quality than those that do not have PE sponsorship (non-PE-backed firms) and engage less in EM (Katz, 2009). Other studies confirm this and posit that more sophisticated ownership, tighter monitoring, and board membership are, in turn, expected to be associated with reduced EM (Tehranian et al., 2006; Xie et al., 2003).

2.2 Hypotheses Development

Based on the literature discussed, I will now advance to the hypotheses I propose to be prevalent for the sample firms in this research.

The efficient monitoring hypothesis and previous research suggest that EM is negatively related to ownership concentration. As explained, this is due to extensive monitoring which limits managerial opportunism. However, other studies reveal a contradictory relationship between concentrated ownership structures and EM. Large shareholders can exercise their control rights in various situations to create private benefits. This suggests that large shareholders might intervene in the management of a firm and encourage EM from managers (who might fear negative consequences), in order to personally benefit from it (Jaggi & Tsui, 2007). Other studies focused on the

relationship between EM and ownership concentration conclude that EM is positively associated with ownership concentration (Choi et al., 2004; Kim & Yoon, 2008). As explained earlier, incentives of private firms to manage earnings differ from those of public firms. Private firms often prioritize tax minimization as the pressure to meet market expectations is absent (Sundvik, 2017). Furthermore, whereas shareholders of public firms may benefit from limiting external scrutiny through conservative reporting, shareholders of private firms are more likely to benefit directly from income decreasing practices that reduce taxable profits. This leads me to hypothesize a positive relationship with the absolute EM (magnitude) proxies and a negative relationship with the signed EM (direction) proxies, where an increase in control leads to greater intensity of EM practices, specifically focusing on downward EM. In this study, I choose to test for direction of manipulation as well as this provides insights on the potential motivations to manage earnings. These hypotheses introduce the distinction of impact on absolute and signed values. The differences between these measures, as well as the interpretation of positive and significant coefficients, are explained in detail in Table 5 in the Appendix.

Hypothesis 1a: An increase in ownership concentration is associated with a higher magnitude of EM, suggesting lower earnings quality.

Hypothesis 1b: An increase in ownership concentration is negatively related to signed EM proxies, suggesting downward EM.

Various other studies, beyond the ones mentioned, suggest that managerial ownership is associated with lower levels of EM (Ali et al., 2008; Banderlipe & Mc Reynald, 2009; Dhaliwal et al., 1982). As noted, the entrenchment effect posits that managers may act in their own best interest and engage in EM when they personally benefit from it. On the other hand, the alignment effect suggests that the interests of managers and shareholders are rather aligned when managers have a significant stake in a company. As this study focuses on private firms, it eliminates one of the main incentives for managers with high stock ownership to engage in EM – namely, keeping stock prices high (Yang et al., 2008) by meeting earnings expectations. I expect the alignment theory to prevail and managers in private firms with an ownership stake to rather be motivated to access credit and minimize the cost of debt by avoiding EM. This, in turn, leads to long-term sustainable growth. This leads me to hypothesize the following.

Hypothesis 2: An increase in managerial ownership limits EM practices, suggesting absence of upward or downward accruals and higher earnings quality.

As noted in the literature review, various studies have reported conflicting results regarding the effect of FO on EM. Agency theory suggests that FO results in higher information asymmetry, leading to greater managerial opportunism. Large cultural, economic, and legal distance may undermine the monitoring effects of foreign investors. Furthermore, monitoring may be too costly and demotivate foreign investors (Ayers et al., 2011). However, other researchers argue that the advanced investment and management skills of foreign investors result in effective corporate governance practices and detection of financial misreporting. Due to the distance, foreign investors may place greater emphasis on corporate governance practices, as they may feel less informed than domestic investors. Furthermore, foreign investors are often more independent, as they are less likely to have close ties with the management team compared to domestic owners. As private firms typically experience less external oversight compared to public firms, I expect internal governance mechanisms to be more critical and thus expect the latter phenomenon to prevail. This leads me to hypothesize that FO limits EM practices within the firms in this sample.

Hypothesis 3: Foreign ownership limits EM practices, suggesting absence of upward or downward accruals and higher earnings quality.

As observed for the previous variables, conflicting findings have also been observed when it comes to the effect of PE ownership on EM. Intuitively, PE investors prioritize returns, which may lead to managing reported earnings upwards to maximize returns during a sale. Furthermore, Tehranian et al. (2006) discuss the effect of meeting targets can have on managers, potentially resulting in them engaging in EM. However, I also discussed the importance of the reputation of PE investors, which leads to extensive monitoring of management, thereby inhibiting EM. I then mentioned other studies confirming this view. Just as I propose ownership concentration to result in income-decreasing EM, I also expect PE investors, who hold a majority stake in the companies in this sample, to result in an increase in EM practices. I specifically expect income-decreasing EM to reduce taxable profits. This expectation is also grounded in the fact that none of the PE-backed firms in the sample were sold during the observation period, making upward EM for exit purposes unlikely.

Hypothesis 4a: Firms with private equity ownership exhibit a higher magnitude of EM, suggesting lower earnings quality.

Hypothesis 4b: Private equity ownership is negatively related to signed EM proxies, suggesting downward EM.

Table 8 in the Appendix provides an overview of the hypotheses.

3. METHODOLOGY AND DATA

3.1 Methodology

In previous research, EM has been measured in numerous ways as there are many ways for managers to manipulate earnings (Man & Wong, 2013). Consistent with earlier studies (Becker et al., 1998; Jones, 1991; Klein, 2002), discretionary accruals (DACC) are used as a proxy for EM. Furthermore, abnormal working capital accruals (AWCA), estimated using the DeFond and Park model (DeFond & Park, 2001), are used in this research. Previous research suggests that this is particularly suitable when the number of observations per year/industry is limited (Wysocki, 2004) – an occurrence I expect in this study due to the relatively small sample size. DACC represent the difference between the actual accruals and the expected accruals. This refers to accruals that result from managerial choices, often used to manipulate earnings. On the other hand, non-discretionary accruals arise naturally from business operations and economic conditions and thus are not influenced by management discretion. Similarly, the DeFond and Park model calculates the difference between the actual working capital accruals and the expected working capital accruals.

EM is the dependent variable in this research with the ownership concentration (OWN), managerial ownership (MAN), total foreign ownership (TFO) and private equity ownership (PE) being the independent variables. The following regression model is used in this research.

$$EM_{i,t} = \alpha 0 + \beta_1 OWN_{i,t} + \beta_2 MAN_{i,t} + \beta_3 TFO_{i,t} + \beta_4 PE_{i,t} + \beta_5 DFO_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 AGE_{i,t} + \sum_{T=1}^{T-1} \gamma_t \, YearFE_t + \sum_{C=1}^{2} \theta_t \, CountryFE_t + \varepsilon_{i,t} \quad (1)$$

Where $EM_{i,t}$ represents earnings management for firm i in year t, measured using two proxies: discretionary accruals (based on the modified Jones model) and abnormal working capital accruals (based on the DeFond and Park model). While the primary focus of the regression models is on the magnitude (intensity) of EM,

signed values are included to capture potential directional effects (upward or downward) of ownership variables on EM. The regression models are run four times, using DACC, |DACC|, AWCA, and |AWCA| as dependent variables. Table 4 provides an overview of the descriptions of these variables.

The modified Jones model is used by most of EM research (Koh, 2003; Liu & Lu, 2007; Van Caneghem, 2002). However, there has been criticism on the use of this model as regular business activities might be characterized as EM under the modified Jones model. As a result, some researchers believe that EM is more prevalent than it actually is (Ball, 2013). Unfortunately, models such as the modified Jones model are still widely used, because no better alternatives to measure EM have been suggested (see Michielen, 2018). Additionally, I include AWCA in this study as an alternative proxy for EM. This measure helps isolate working capital related earnings manipulation, complementing the broader modified Jones-based approach and providing robustness to the analysis. Similar to previous research (Bonacchi et al., 2019), OWN (ownership concentration) is measured as the ownership percentage of the single largest direct shareholder. Managerial ownership (MAN) is measured as the proportion of the company's shares directly or indirectly owned by the manager(s). Total foreign ownership (TFO) and PE ownership are measured as dummy variables taking the value 1 if foreign or PE investors are present, and 0 otherwise. For these variables, I take the total ownership data, which is the sum of direct and indirect ownership, as I expect indirect ownership to be relevant for this research as well. Additionally, I include direct foreign ownership (DFO) as one of the control variables to compare its effect to that of TFO. In order to control for other relevant factors that may affect the relationship between the variables listed, a couple of control variables are introduced, similar to the ones introduced by Burgstahler et al. (2006). The first variable I include is firm size (SIZE), which is measured as the book value of total assets at the end of the fiscal year (natural log). Since prior research has suggested an association between financial leverage (LEV) and EM, as explained earlier in the case of PE portfolio companies, I include LEV as a control variable. LEV is calculated as the ratio of total non-current liabilities to total assets. Furthermore, GROWTH, defined as the annual percentage change in revenue, and AGE, the number of years since incorporation, are included. Previous studies document that firms with lower performance display higher EM (Chen et al., 2006; Shah et al., 2009). Additionally, I expect firm age to be negatively related with EM as older firms may have undergone professionalization processes over time, which can lead to more structured financial reporting. Finally, model (1) includes year (YearFE), country (CountryFE) and industry effects. Doing so, the model accounts for temporal factors such as changes in economic conditions, regulations or industry specific events, ensuring that the model is not biased to these external factors. EM practices can vary across industries due to differences in accounting practices, revenue recognition, cost structures and regulatory environment. I estimate the DACC for each fiscal year and industry separately in SPSS. Similar to Bonacchi et al. (2019), discretionary accruals are measured using the modified Jones model (Dechow et al., 1995):

$$TACC_{i,t}/A_{i,t-1} = \alpha 0 + \beta_1 (1/A_{i,t-1}) + \beta_2 (\Delta REV_{i,t} - \Delta REC_{i,t})/A_{i,t-1}) + \beta_3 (PPE_{i,t}/A_{i,t-1}) + \varepsilon_{i,t} \quad (2)$$

Where $TACC_{i,t}$ is the total accruals for firm i in year t, $A_{i,t-1}$ is the total assets at t-1, $\Delta REV_{i,t}$ is the change in revenue from t-1 to t, $\Delta REC_{i,t}$ is the change in accounts receivable from t-1 to t, $PPE_{i,t}$ is net property, plant, and equipment in year t. The parameters β_1, β_2, and β_3 are estimated by year and industry. Dechow et al. (1995) define TACC as:

$$TACC_{i,t} = (\Delta CA_{i,t} - \Delta CASH_{i,t}) - (\Delta CL_{i,t} + \Delta D_{i,t}) - DEP_{i,t} \quad (3)$$

$\Delta CA_{i,t}$ in this formula is the change in total current assets for firm i in year t, $\Delta CASH_{i,t}$ is the change in cash/cash equivalents and short investments, $\Delta CL_{i,t}$ is the change in current liabilities, $\Delta D_{i,t}$ is the change in financial debt included in current liabilities, and $DEP_{i,t}$ represents the depreciation and amortization expenses.

The modified Jones model is applied by first calculating the total accruals for which formula (3) is used. Afterwards, the total accruals amount calculated will be used to estimate the modified Jones model. The components in the modified Jones model will need to be calculated first to make use of the model. Finally, the residuals from the industry-specific regression estimation of formula (2) are used to proxy for discretionary accruals (DACC). I then drop all the missing values of equation (2).

Following DeFond and Park (2001) and Bonacchi et al. (2019), abnormal working capital accruals are measured using the formula:

$$AWCA_{i,t} = WC_{i,t} - WC_{i,t-1} * (REV_{i,t} / REV_{i,t-1}) \quad (4)$$

Where $WC_{i,t}$ is the level of noncash working capital observed for firm i in year t, determined as follows:

$$WC_{i,t} = (CA_{i,t} - CASH_{i,t}) - (CL_{i,t} - D_{i,t}) \quad (5)$$

Where the variables included are similar to the ones included in the modified Jones model. The second part of formula (4) represents the predicted value of WC, which is calculated as working capital in the previous year adjusted for the change in sales. Similar to previous research, AWCA is then scaled by lagged total assets (Hoogendoorn, 2011). This model is used as an alternative for the modified Jones model and is especially useful when a rather small sample is being studied. No industries need to be defined in this model according to the authors.

3.2 Data

This study relies on using a database with ownership and financial information, and supplementing missing data with inputs from financial statements made (semi-)public. Additionally, external sources are used to validate the change and presence of certain shareholders. The firms in this sample are private firms located in the Benelux. The data needed for this research is collected through Orbis and by using financial statements made semi-public through Company.info (CI) and public through De Staatsbladmonitor website (SB). Orbis is a data research service subsidiary of Bureau van Dijk, which is a major publisher of financial information on firms all over the world. CI and SB bring relevant data about companies together, structure it, and make it applicable using smart technology. As I focus on a smaller sample, I extensively use the financial statements, which enables me to include private firms that have been left out in other studies due to limited data being available on Orbis. Following Burgstahler et al. (2006) and Stolk (2023), firms in the financial industry (including banks and insurance companies) are excluded as their accounting and reporting processes significantly differ from those of other industries. Furthermore, public administration organizations and firms in regulated industries are excluded. Specifically, I exclude firms with the following SIC codes: 6000 to 6799, above 9000 and 4400 to 5000. Finally, privately held subsidiaries of public companies are excluded as indicated in Orbis. Including these companies in the sample could result in bias as investment, financing and operating decisions are likely to be influenced by the parent company. Additionally, only firms with total assets greater than €2.5 million and greater than €5 million in sales are included in the sample to exclude the smallest firms that typically lack the reporting complexity relevant to this study.

Table 1. Summary Statistics

Note. This table provides summary descriptive statistics for firms with adequate information present to conduct my study. An overview of variable definitions is provided in Table 4 in the Appendix.

Variable	Observations	Mean	SD	Min	Max
DACC	811	-.002	0.178	-.557	.710
|DACC|	811	0.121	0.131	0	.710
AWCA	670	0.006	0.207	-1.35	1.05
|AWCA|	670	0.124	0.165	0	1.35
OWN	811	89.23	22.75	2.22	100
MAN	811	2.98	13.33	0	99.83
TFO	811	0.46	0.50	0	1
PE	811	0.10	0.31	0	1
DFO	811	0.30	0.46	0	1
SIZE (natural log)	811	10.42	1.54	7.85	15.69
LEV	811	0.104	0.176	0	2.493
GROWTH	811	0.07	0.26	-0.87	2.55
AGE	811	28.84	19.88	0	125

Table 2. Pearson Correlation Matrix

Note. This table provides an overview of bivariate correlations between various dependent, independent and control variables used in the regression models. An overview of variable definitions is provided in Table 4 in the Appendix.

Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
DACC [1]	1												
|DACC| [2]	.038	1											
AWCA [3]	.839**	.059	1										
|AWCA| [4]	.062	.791**	-.002	1									
OWN [5]	-.035	.031	-.040	.051	1								
MAN [6]	-.032	-.037	-.006	-.051	-.306**	1							
TFO [7]	.013	.086*	.023	.092*	.087*	-.006	1						
PE [8]	-.070*	.035	.003	-.031	.143**	-.059	.125**	1					
DFO [9]	-.001	.042	-.021	.055	.067	.070*	.713**	.058	1				
SIZE [10]	.013	-.041	.004	-.112**	-.119**	.047	.225**	.229**	.050	1			
LEV [11]	-.012	-.045	.008	-.090*	-.142**	.234**	.014	.158**	-.071*	.235**	1		
GROWTH [12]	.008	.065	-.057	.088*	.000	-.020	-.050	.100**	-.045	.133**	.063	1	
AGE [13]	.027	-.014	-.041	.024	.033	-.055	-.103**	-.093**	-.060	.121**	-.163**	-.059	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

3.2.1 Sample Selection

The raw data set obtained from Orbis contained 160 firms with 1120 firm years in the sample over a 7-year period from 2018-2024. Firms with insufficient data through Orbis and the financial statements were excluded from the sample. I then dropped all firm years with missing values for equations (2) and (4), which resulted in the exclusion of all 2018 data. Furthermore, 7 firm years with extreme outliers in EM (DACC & AWCA) were deleted from the sample. This sample screening resulted in a definitive sample of 142 firms with 811 firms years distributed across Belgium, the Netherlands and Luxembourg. Additionally, the EM proxies DACC and AWCA were winsorized to factor out additional outliers and ensure that my results are not driven by them. This was done based on histogram and boxplot analysis.

4. EMPIRICAL RESULTS

4.1 Descriptive Statistics

In Table 1, the variables used in the regressions are presented. The number of observations, mean, standard deviation, minimum and maximum values can be observed. The sample consists of 811 firm-year observations for all the variables besides AWCA and |AWCA|, which consist of 670 firm-year observations. The mean value of DACC is approximately -.002 with a standard deviation of 0.178, indicating that the firms manage their earnings slightly downwards. Interesting to see is that private firms also engage in upwards EM, which may reflect attempts to maintain compliance with financial covenants commonly linked to debt agreements. The average absolute value for DACC is 0.121, which shows the presence of EM using discretionary accruals. AWCA, available for 670 firm-years in this sample, have a mean of approximately 0.006, indicating slight upward EM practices. The values range from approximately -1.35 and 1.05. The mean of the absolute values of AWCA (0.124) is slightly higher than the mean of the absolute values of DACC. OWN is high in the sample, with the mean being 89.23. MAN is relatively low with high variability between firms. Around 10% of the firms in this sample are PE sponsored, while around 46% have a total foreign ownership and around 30% are directly owned by foreign investors. The average firm size, measured as the natural log of the book value of total assets at the end of the fiscal year, is approximately 10.42. LEV of the firms in this sample is conservative with the mean being 0.104, with a standard deviation of 0.176 and a maximum of approximately 2.493. The average firm growth rate is approximately 0.07, ranging from -0.87 to a maximum of 2.55. The mean of firm age in this sample is approximately 29 years with the oldest firm being 125 years old.

Table 3 gives an overview of the number of sample firm years, per country and year. The majority of firms are located in Belgium with the least being in Luxembourg as data on those firms is limited.

Table 3. Country and Year Observations

Year	BE	LU	NL	Total	%
2019	80	13	45	138	17.0
2020	80	13	46	139	17.1
2021	80	13	47	140	17.3
2022	80	13	48	141	17.4
2023	80	13	46	139	17.1
2024	80	13	21	114	14.1
Total	**480**	**78**	**253**	**811**	**100**

4.2 Correlation Analysis

Table 2 shows the Pearson correlations for the variables used in this study. These correlations offer insights into the potential associations between the EM proxies and the independent variables, as well as among the control variables included in the regression models. Interesting to see are the significant correlations between various dependent and independent variables. I find no significant correlation between OWN and the absolute EM proxies, suggesting no observable relationship between these variables. Additionally, no significant correlation was found between OWN and the signed EM proxies. OWN does not appear to be correlated with the direction of EM. Similarly, no significant correlations are found between MAN and both signed and absolute EM proxies. I do find a significant positive correlation between the variable TFO (total foreign ownership) and the absolute values of DACC and AWCA, suggesting the presence of impact. Interesting to see is that DFO doesn't show the same significant correlation with both absolute proxies. This could suggest that my initial hypothesis of information asymmetry, because of distance, plays a significant role in the magnitude of EM. I find no significance for the signed values of the proxies, suggesting no set practice of downward or upward EM. Furthermore, as hypothesized earlier, I find a statistically significant negative correlation between PE ownership and DACC. This might suggest that firms with PE ownership display income-decreasing discretionary accruals. Additionally, I find a significant negative correlation between SIZE and the absolute values AWCA, suggesting that bigger companies tend to be more professionalized which leads to higher earnings quality. Interesting to note is the significant positive correlation between MAN and LEV. A significant positive correlation between PE and OWN can also be noted in the matrix, suggesting that having PE investors on board leads to additional concentration for the firms in the sample. Additionally, as expected, PE ownership is significantly positively correlated to LEV. Furthermore, PE is significantly positively correlated with GROWTH, which in turn is significantly positively correlated with the absolute values of AWCA. Furthermore, I find SIZE to be significantly positively correlated to LEV, suggesting that an increase in firm size in this sample leads to higher leverage. Additionally, as hypothesized earlier, I find a significant negative correlation between LEV and the absolute values of AWCA. Lastly, I find firms AGE to be significantly negatively correlated to LEV suggesting established firms to be less leveraged.

4.3 Multiple Regression Analysis

4.3.1 Impact of Ownership Concentration on EM

With the hypotheses 1a and 1b, I posit that an increase in ownership concentration leads to a higher magnitude of EM, specifically through managing earnings downwards. As previously mentioned, two theories and conflicting studies indicate that ownership concentration can limit or lead to higher EM. I discuss the efficient monitoring hypothesis which suggests that concentrated ownership leads to improved oversight, hereby limiting managerial discretion and thus reducing EM. On the other hand, the entrenchment view posits that large shareholders use their control to extract private benefits. This view suggests that a concentrated ownership structure encourages EM for personal gains. Private firms often face less public scrutiny and are rather incentivized to reduce taxable income. Because of this, I hypothesize that ownership concentration will be associated with downward EM. My regression results do not support both of the hypotheses I posit. OWN was not significantly associated with the EM proxies in all my regression models, suggesting neither a directional nor a significant association. This leads me to reject both *Hypothesis 1a* and *b*.

4.3.2 The Impact of Managerial Ownership

I hypothesized that an increase in MAN limits EM practices, suggesting absence of upward or downward accruals, especially within private firms. I posit the alignment theory to be prevalent within the firms in this sample, and explain that without the influence of capital markets, managers in private firms are rather motivated to access credit and minimize the cost of debt by avoiding EM. However, the regression results do not support my hypothesis. I find no significant relationship either with the direction nor the magnitude of EM. The coefficients were statistically insignificant, possibly due to the limited firms in my sample with managerial ownership. The findings from the regressions lead me to reject *Hypothesis 2.*

4.3.3 The Impact of Foreign Ownership

I outlined two opposing ways in which FO can impact EM. An increase in information asymmetry, due to cultural, economic and legal distance, can lead to managerial opportunism. On the other hand, I explained that foreign investors may be more professional and independent, implementing strong governance practices and thus hereby limiting managerial opportunism. The regression results in this study show that FO, specifically through TFO, is significantly and positively associated with the magnitude of EM. This is captured by both absolute EM proxies, |DACC| (B = .045, p = .002) |AWCA| (B = .066, p = <.001), as can be seen in Table 6 in the Appendix. Interesting to see is that significance arises when looking at direct and indirect FO (TFO) and not when only looking at DFO. This can be explained by the increase in distance which in turn results in a higher information asymmetry thus leading to higher managerial opportunism. Challenges might arise with effectively monitoring the management team. However, I find no significant relationship regressing against the signed values of the EM proxies. This suggests that while FO results in an increase in the magnitude of EM, it does not consistently result in either downwards or upwards EM. The findings from the regressions lead me to reject *Hypothesis 3,* as FO appears to increase the magnitude of EM. This finding contradicts my expectation of higher earnings quality when foreign investors are on board.

4.3.4 The Impact of PE Ownership

PE sponsors emphasize cash flow maximization, operational efficiency and most importantly, profit maximization. By engaging in downward EM, firms are able to minimize taxable income and boost their cash flows. The regression results provide partial support for this view. While no significant relationship is found between PE and the magnitude of EM, I find a significant negative relationship between PE and the signed values of DACC (B = -.044, p = .048). This indicates that PE sponsorship is associated with firms engaging in downward EM. I posit that this is likely the result of the motivation of PE investors to reduce taxable income. These findings suggest that while PE investors significantly influence the direction of EM, it does not necessarily lead to more aggressive EM. The absence of significance on the signed values of AWCA could be explained by the fact that the modified Jones model includes depreciation and amortization (D&A) as accruals while the DeFond and Park model uses working capital accruals. D&A is often used to manage earnings downwards which might explain the difference of results. These findings lead me to reject *Hypothesis 4a* but accept *Hypothesis 4b.*

4.3.5 The Influence of the Control Variables

The control variables introduced in this study also showed significant associations with the EM proxies. Together with the ownership variables, they contributed to the significance of the regression model using the absolute value of AWCA as the dependent variable (p = .004). This suggests that the ownership and control variables included in the model jointly explain variation in the magnitude of EM. However, for both models measuring the impact on the magnitude, the variables were only able to account for 1.3% and 3.3% of the variation, respectively. In both models taking the absolute values of DACC and AWCA, GROWTH showed a statistically significant positive relationship, suggesting that growing firms are more likely to engage in higher magnitude of EM. Additionally, as hypothesized earlier, SIZE showed a statistically significant negative relationship with the absolute EM proxies, suggesting that larger firms are more mature and conservative in reporting. I suggest that the more sophisticated governance mechanisms, external monitoring and reputational concerns play a big role constraining EM practice within those firms. These consistent findings suggest that both firm growth and size are significantly associated with the intensity of EM among private firms in the Benelux. An overview of the conclusions for each hypothesis is provided in Table 9 in the Appendix.

5. DISCUSSION

This study finds that certain ownership types are significantly associated with EM practices among private firms located in the Benelux. Specifically, the regression model using the absolute value AWCA as dependent variable – computed using the DeFond and Park model (2001) – was statistically significant (see Table 6 in the Appendix). The included ownership and control variables jointly explain part of the variation in the magnitude of EM when computed through DACC and AWCA, though only being 1.3% and 3.3% of the variation, respectively. While low adjusted R-squared values were expected based on similar previous papers (e.g. see Stolk, 2023 and Bonnachi et. al, 2019), and the fact that EM can be influenced by a variety of factors such as audit quality and firm specific characteristics which are not the focus of this study, the significant relationships observed between the ownership variables and EM proxies still provide meaningful insights. Interesting to note was the absence of a significant relationship between ownership concentration and the absolute and signed values of the EM proxies. A possible explanation for this is the limited variation in ownership concentration within the sample used in this study. A large proportion of the firms were wholly owned by a parent company. This lack of variation may have reduced the explanatory power of this variable. While other studies on EM practices of private firms do use a much bigger sample, finding a significant relationship between ownership concentration and EM practices, none of these studies specifically focus on private firms in the Benelux. Similarly, managerial ownership is not significantly associated with EM in the studied sample. A possible explanation for the absence of a relationship is the limited presence of firms in the sample with managerial owners. Future research should include a larger sample of firms with managerial shareholders to test this relationship. The most consistent finding in this study is the influence of total foreign ownership on the magnitude of EM. Across both EM proxies used in this study, total foreign ownership resulted in a significantly positive relationship with the magnitude of EM. This supports the view I proposed to be prevalent in this sample, suggesting that a greater cultural, economic and legal distance may lead to a greater information asymmetry and undermine the monitoring effects of foreign investors. This view was especially confirmed as the same significant influence was not found with direct foreign owners. Interesting to see was the absence of significant relationship of PE on the absolute values of the EM proxies. This suggests that the presence of a PE shareholder shows no clear effect on the magnitude of EM. However, a statistically significant negative relationship was found with the signed DACC values. This

indicates that PE backed firms are more likely to engage in downward EM, suggesting a directional rather than intensive relationship. Motivations may lie in reducing taxable income as the share price is not affected by capital markets. Additionally, by paying less tax, a firm can increase its free cash flows. PE firms typically acquire companies using substantial leverage (as can be seen in Table 2 for the firms in this sample), and higher cash flows can be used to service debt, reduce interest burdens, and ultimately improve exit valuations.

The control variables in this research also played a key role in explaining impact on the magnitude of EM. For instance, firm size and growth were significantly associated with the absolute values of both EM proxies. Specifically, the negative relationship of size with the magnitude of both EM proxies suggests that larger firms may be more professionalized or subject to stronger controls. This in turn reduces EM. On the other hand, growth showed a significant positive relationship with the magnitude of both EM proxies. These results may indicate that fast growing firms may resort to managing earnings when strong pressures exist to meet performance benchmarks or attract external financing to realize further growth.

Every research has its limitations, so it is important to recognize the constraints of this paper. Starting off, the sample size is relatively small compared to previous papers focusing on EM practices within private firms. This research required checking for yearly change in ownership percentages and types which subsequently limited the sample size due to time constraints and lack of yearly information. Additionally, key financial figures to calculate the EM proxies in this study were often missing in Orbis which required me to download many financial statements and supplement my data with manual input. Furthermore, this research is limited to the Benelux region, which may affect generalizability. PE and FO were included as dummy variables, which may underestimate variation in influence.

Finally, while this study identifies significant associations between ownership structure and earnings management, it does not establish causality. Both ownership structure and EM are endogenously determined, meaning the relationship observed could be influenced by reverse causality, or by omitted variable bias (e.g., governance quality or firm culture influencing both variables). Establishing causality would require more advanced identification strategies, which are beyond the scope of this study. Nonetheless, acknowledging this limitation is crucial when interpreting the results.

Future studies could focus on a bigger sample size and include additional EM proxies. Additionally, it would be interesting to study the differences in foreign and PE ownership percentage wise rather than including them as a dummy variable. Furthermore, the regression models exhibit relatively low explanatory power (Adjusted R^2 values below 5%), suggesting that various other variables likely influence EM.

6. CONCLUSION

This paper provides new insights on the impact of ownership structure on EM practices within private firms. I specifically focus on private firms located in the Benelux. When researching EM, the majority of studies have focused on public firms, as abundant data is available. Private firms have been mostly left out which provided me the opportunity to introduce new insights to the literature. Private firms are affected by nonmarket forces such as tax incentives and stakeholder pressures, suggesting differing motivations to manage earnings. I distinguish between signed and absolute values of the EM proxies used in this study to control for direction and magnitude. This leads me to construct multiple regression models taking the absolute and signed values as dependent variables. The regression model measuring the impact on the magnitude of abnormal working capital accruals ended up being statistically significant. The effects did vary depending on the ownership variable and EM proxy used. A consistent significant coefficient was found when regressing total foreign ownership on the absolute values of both EM proxies, suggesting a significant influence on the magnitude of managed earnings. The results could indicate that the presence of an indirect foreign investor could lead to an increase in information asymmetry, which in turn results in reduced monitoring effectiveness. This is especially relevant to note as the presence of only direct foreign investors did not yield the same significant coefficients on either absolute EM proxies. Private equity sponsorship resulted in a significant impact on directional EM, specifically when taking discretionary accruals as dependent variable. This could indicate that PE backed firms are more likely to engage in downward EM. This finding aligns with the view that PE investors seek to minimize taxable income and improve free cash flows. I posit that this is especially the case in highly leveraged PE backed firms. However, I do not find a significant relationship between PE ownership and the magnitude of EM within this sample. This could indicate that while PE firms influence the direction of EM, they do not significantly impact the intensity with which earnings are managed. Contrary to initial expectations, no significant association was found between ownership concentration or managerial ownership and either the signed or absolute EM proxies. These insignificancies may be the result of high concentration within the firms in my sample and lack of firms with managerial ownership. An alternative explanation could be that firm priorities have shifted to long-term value creation and non-financial performance indicators, such as sustainability. The control variables used in this research also yielded valuable insights. Firm growth, measured through the annual percentage change in revenue, ended up being consistently positively associated with EM magnitude. This indicates that high growth firms may face greater pressures or incentives to manage earnings. Furthermore, I find a significant negative association between the size of the firm, measured as the book value of total assets at the end of the fiscal year (natural log), and the absolute values of both EM proxies. This could indicate that larger firms are more professionalized and subject to greater oversight, which leads to higher earnings quality.

This research contributes to a scarce body of literature on EM practices within private firms. While most prior studies focus on public firms or a single ownership variable, this study addresses a key gap by narrowing the focus to an economically important region and examining multiple ownership variables to test their impact on EM. A notable finding is the role that geographic distance plays in foreign ownership. To the best of my knowledge, this is the first paper suggesting that an increase in distance between ownership and management significantly influences EM behavior in the context of private firms in the Benelux. I propose heightened information asymmetry as a possible explanation. Future research should study this phenomenon, particularly how varying levels and types (e.g. cultural, legal, or geographic) of distance influence EM behavior across private firms. Additionally, future research should better understand PE strategies or characteristics that might drive downward EM, as found in this study.

Beyond academic contributions, this study also has practical implications for auditors, investors and policymakers. By assessing differing ownership characteristics that influence EM behavior, these stakeholders can use a clear framework to assess financial reporting quality in private firms. For policymakers, the results highlight the importance of addressing information asymmetry through improved transparency standards.

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8. APPENDIX

Table 4. Overview of Variable Descriptions

Variable	Description
DACC	Discretionary accruals estimated using the Modified Jones model.
|DACC|	Absolute value of discretionary accruals estimated using the Modified Jones model.
AWCA	Abnormal working capital accruals computed using the DeFond and Park model (scaled by lagged total assets).
|AWCA|	Absolute value of abnormal working capital accruals computed using the DeFond and Park model (scaled by lagged total assets).
OWN	Ownership concentration measured as the share percentage of the single largest direct shareholder.
MAN	Managerial ownership measured as the proportion of the company's shares directly or indirectly owned by the manager(s).
TFO	Dummy variable taking the value 1 if there are direct or indirect foreign investors, and 0 otherwise.
PE	Dummy variable taking the value 1 if there are direct or indirect PE investors, and 0 otherwise.
DFO	Dummy variable taking the value 1 if there are direct foreign investors, and 0 otherwise.
SIZE	Measured as the book value of total assets at the end of the fiscal year (natural log).
LEV	Calculated as the ratio of total non-current liabilities to total assets.
GROWTH	Annual percentage change in revenue.
AGE	Number of years since incorporation.
YearFE	Year fixed effects controlling for unobserved heterogeneity across fiscal years (2019–2024).
CountryFE	Country fixed effects controlling for unobserved heterogeneity across countries (Belgium, Netherlands, Luxembourg).

Table 5. Overview of Coefficient Predictions

Note. This table provides an overview of the predicted impacts of the independent ownership variables. A negative coefficient when regressing on the signed EM proxies (DACC and AWCA) indicates downward EM. A positive coefficient when regressing on the signed values indicates upward EM. These relationships have a different meaning when regressing on the absolute values of the EM proxies (|DACC| and |AWCA|). A negative coefficient when regressing on the absolute values indicates a lower magnitude of EM, thus less upward or downward manipulation. A positive coefficient on the other hand indicates a higher magnitude of EM, thus more upward or downward manipulation.

Independent Variable	DACC	|DACC|	AWCA	|AWCA|
Ownership concentration	-	+	-	+
Managerial ownership		-		-
Foreign ownership		-		-
PE ownership	-	+	-	+

Table 6. Fixed Effects Regression Results

Note. This table reports the fixed effects regression results for the sample of private Benelux firms studied. An overview of variable definitions is provided in Table 4. Both the signed and absolute EM proxies are included in this table. The p-values are in parentheses. The t-statistics are in braces.

	DACC	|DACC|	AWCA	|AWCA|
OWN	.000	.000	.000	-2.925E-5
Sig. (p)	*(.325)*	*(.564)*	*(.345)*	*(.925)*
t-value	*{-.985}*	*{-.578}*	*{-.944}*	*{-.094}*
MAN	-.001	.000	.000	.000
Sig. (p)	*(.256)*	*(.503)*	*(.600)*	*(.546)*
t-value	*{-1.136}*	*{-.669}*	*{-.524}*	*{-.604}*
TFO	.011	**.045**	.029	**.066**
Sig. (p)	*(.564)*	***(.002)***	*(.242)*	***(<.001)***
t-value	*{.577}*	***{3.163}***	*{1.170}*	***{3.417}***
PE	**-.044**	.014	.007	-.007
Sig. (p)	***(.048)***	*(.379)*	*(.798)*	*(.741)*
t-value	***{-1.981}***	*{.880}*	*{.256}*	*{-.331}*
DFO	-.004	-.019	-.036	-.025
Sig. (p)	*(.837)*	*(.195)*	*(.171)*	*(.219)*
t-value	*{-.205}*	*{-1.296}*	*{-1.371}*	*{-1.232}*
SIZE	.002	**-.011**	.001	**-.019**
Sig. (p)	*(.643)*	***(.005)***	*(.887)*	***(<.001)***
t-value	*{.463}*	***{-2.813}***	*{.142}*	***{-3.622}***
LEV	-.005	-.020	-.009	-.042
Sig. (p)	*(.900)*	*(.479)*	*(.850)*	*(.276)*
t-value	*{-.125}*	*{-.707}*	*{-.189}*	*{-1.091}*
GROWTH	.007	**.038**	-.048	**.076**
Sig. (p)	*(.789)*	***(.041)***	*(.129)*	***(.002)***
t-value	*{.268}*	***{2.046}***	*{-1.519}*	***{3.063}***
AGE	.000	.000	.000	.001
Sig. (p)	*(.585)*	*(.536)*	*(.385)*	*(.101)*
t-value	*{.547}*	*{.620}*	*{-.870}*	*{1.642}*
INTERCEPT	-.030	.243	.020	.294
Year Control	Yes	Yes	Yes	Yes
Country Control	Yes	Yes	Yes	Yes
Adjusted R^2	.008	**.013**	.003	**.033**
R square	.039	.045	.037	.066
Sig.	.194	.083	.363	**.004**

Table 7. Fixed Effects Regression Results with Interrelated EM Proxies as Additional Controls

Note. This table reports the fixed effects regression results for the sample of private Benelux firms studied. An overview of variable definitions is provided in Table 4. Both the signed and absolute EM proxies are included in this table. The p-values are in parentheses. The t-statistics are in braces. This table includes interrelated EM measures as additional control variables. The results are compared to those in Table 6 to assess model robustness.

	DACC	**|DACC|**	**AWCA**	**|AWCA|**
OWN	.000	.000	.000	-2.974E-5
Sig. (p)	*(.336)*	*(.589)*	*(.346)*	*(.924)*
t-value	*{-.963}*	*{-.540}*	*{-.944}*	*{-.095}*
MAN	-.001	.000	.000	.000
Sig. (p)	*(.267)*	*(.532)*	*(.600)*	*(.546)*
t-value	*{-1.110}*	*{-.626}*	*{-.525}*	*{-.604}*
TFO	.009	**.044**	.029	**.066**
Sig. (p)	*(.650)*	***(.002)***	*(.245)*	***(<.001)***
t-value	*{.454}*	***{3.141}***	*{1.164}*	***{3.413}***
PE	**-.045**	.016	.007	-.007
Sig. (p)	***(.044)***	*(.341)*	*(.799)*	*(.742)*
t-value	***{-2.013}***	*{.953}*	*{.255}*	*{-.330}*
DFO	-.003	-.019	-.036	-.025
Sig. (p)	*(.876)*	*(.198)*	*(.171)*	*(.219)*
t-value	*{-.156}*	*{-1.289}*	*{-1.370}*	*{-1.231}*
SIZE	.003	**-.011**	.001	**-.019**
Sig. (p)	*(.571)*	***(.005)***	*(.893)*	***(<.001)***
t-value	*{.567}*	***{-2.830}***	*{.135}*	***{-3.619}***
LEV	-.004	-.020	-.009	-.042
Sig. (p)	*(.922)*	*(.482)*	*(.849)*	*(.276)*
t-value	*{-.098}*	*{-.703}*	*{-.190}*	*{-1.090}*
GROWTH	.005	**.038**	-.048	**.076**
Sig. (p)	*(.849)*	***(.042)***	*(.134)*	***(.002)***
t-value	*{.190}*	***{2.036}***	*{-1.502}*	***{3.053}***
AGE	.000	.000	.000	.001
Sig. (p)	*(.601)*	*(.549)*	*(.387)*	*(.102)*
t-value	*{.523}*	*{.599}*	*{-.865}*	*{1.639}*
DACC	-	.028	-	-
Sig. (p)		*(.289)*		
t-value		*{1.061}*		
|DACC|	.052	-	-	-
Sig. (p)	*(.289)*			
t-value	*{1.061}*			
AWCA	-	-	-	-.001
Sig. (p)				*(.967)*
t-value				*{-.042}*
|AWCA|	-	-	-.002	-
Sig. (p)			*(.967)*	
t-value			*{-.042}*	
INTERCEPT	-.042	.244	.021	.294
Year Control	Yes	Yes	Yes	Yes
Country Control	Yes	Yes	Yes	Yes
Adjusted R^2	.008	.013	.001	.032
R square	.041	.046	.037	.066
Sig.	.193	.084	.421	**.006**

Table 8. Overview of Hypotheses

	Hypothesis
1a	*"An increase in ownership concentration is associated with a higher magnitude of EM, suggesting lower earnings quality."*
1b	*"An increase in ownership concentration is negatively related to signed EM proxies, suggesting downward EM."*
2	*"An increase in managerial ownership limits EM practices, suggesting absence of upward or downward accruals and higher earnings quality."*
3	*"Foreign ownership limits EM practices, suggesting absence of upward or downward accruals and higher earnings quality."*
4a	*"Firms with private equity ownership exhibit a higher magnitude of EM, suggesting lower earnings quality."*
4b	*"Private equity ownership is negatively related to signed EM proxies, suggesting downward EM."*

Table 9. Overview of Conclusions

Hypothesis	Conclusion	Reasoning
1a	Rejected	No statistically significant association found.
1b	Rejected	No statistically significant association found.
2	Rejected	No statistically significant association found.
3	Rejected	Statistically significant positive association found (higher magnitude).
4a	Rejected	No statistically significant association found.
4b	Accepted	Statistically significant negative association found.