

# **The Impact of Ownership Structure on Earnings Management in European Private Firms and the influence of jurisdictional differences**

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## **Abstract**

This thesis investigates the relation of ownership structure and earnings management and how this relationship is influenced by jurisdictional differences. Specifically, it probes whether the alignment or the entrenchment effect dominates and how a robust legal framework can constrain these incentives to indulge in earnings management. Earnings management in this thesis is determined by discretionary accruals, employing the Modified Jones Model (Dechow et al., 1995), while the ownership concentration metric used is the percentage shareholding of the largest shareholder. Through Ordinary Least Squares (OLS) regression analysis, this thesis uncovers a significant positive correlation between ownership concentration and earnings management for the most comprehensive model. Moreover, it observes that a more sophisticated legal framework exerts a significant negative effect on this relationship. In conclusion greater ownership concentration instigates more earnings management, particularly in countries with less developed legal systems.

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## 1. Introduction

In this master thesis I will be addressing the following research question; *“How is ownership structure related to earnings management for European private firms, and how is this relationship influenced by jurisdictional differences?”*.

This research will investigate the effect of ownership structure on earnings management. The aim is to see how this relationship differs in European countries through jurisdictional differences a moderating variable for this relationship. Currently, research has mainly focused on public firms, in my thesis I will be looking into European Private (Non-listed) firms. This thesis aims to provide a better understanding of the determinants of earnings management in private firms. As mentioned, research is mostly devoted to Public (Listed) firms. A main driver for earnings management in public firms for earnings management is attributed to capital market pressure (Burgstahler et al., 2006), for private firms there is an absence of capital market pressure. With the absence of such an important factor, how do private firms differ in the engagement in earnings management.

There have been several key studies with contradicting findings whether private firms engage more in earnings management compared to public firms. Teoh et al. (1998) state equity markets pressure has a negative effect on earnings information. Burgstahler et al. (2006) however found that earnings management is more pervasive in privately held firms, resulting in poorer financial reporting quality. This study does not aim to provide more evidence to one or the other side but aims to give a better understanding of ownership structure characteristics their effect on earnings management within private firms' population. Thus, the thesis will provide new theory how this relationship is different for private firms compared to public firms.

Burgstahler et al. (2006) conducted a study examining the variations at a country level in public and private firms regarding their involvement in earnings management. A clear finding of this paper was that country-level differences had significant influence on the engagement in earnings management. Such country-level differences were in this case, book-tax alignment, outside investor protection and development of legal institutions. In this research institutional differences will be accounted for computing a legal factor index based on La Porta et. Al. (1998). Research finds that firms in countries characterized by well-established institutions and a significant presence of institutional investors tend to exhibit significantly reduced levels of earnings management (Beuselinck et al., 2019; Bao and Lewellyn, 2017; Shleifer and Vishny, 1986). Burgstahler et al. (2006) mentions the significant effect of book-tax alignment on earnings management, companies have less incentive and opportunity to engage in earnings management practices when book-tax alignment is high. Similarly to a higher developed legal system, companies have less opportunity to engage in earnings management.

Earnings management is described as the intentional intervention within the financial reporting process with the intent of obtaining some private gain (Dechow et al., 1998). There are various incentives for engaging in earnings management and there is a lot of research available into the incentives for earnings management. Various forms of earnings management are income

smoothing, income shifting, big bath accounting, cookie jar reserves and classification shifting (Dechow et al., 1998). Earnings management is often driven by differing motives, which are mostly related to market equity pressure (Dechow et al., 1998). As mentioned, this pressure does not apply to private firms therefore incentives to engage in earnings management can be very different compared to public firms.

Aside from the absence of capital market pressure, there is a smaller division of control and ownership with private firms compared to public firms. Literature describes two important key concepts considering ownership and control in relation to earnings management, namely the entrenchment effect and the alignment effect (Ding et al., 2007). The entrenchment effect states that when there is a smaller difference between ownership and control managers become entrenched and have more incentive and opportunity to engage in earnings management. There usually is little difference in private firms between control and ownership. The alignment effect states that when the interests of managers and shareholders are more closely aligned, managers are less likely to engage in earnings management. When managers own a significant portion of the company's shares, their financial interests are more directly tied to the company's long-term success. For private firms there is as mentioned a smaller difference between control and ownership. These effects thus counter each other, research on these theories is further discussed in the *Literature review* chapter.

This research aims to address the research question by conducting an empirical research based on European private firms' data within the period 2010-2020. The first hypothesis investigates the dominance of either the alignment effect or the entrenchment effect. The second and third hypotheses examine the impacts of moderating variable, jurisdictional differences. Hypothesis 1 is based upon the theory that a with higher ownership concentration, comes a more long-term focus (alignment effect). Therefore, with a higher ownership concentration it is expected that the alignment effect will dominate. Considering regulatory quality and the interaction effect, it is expected to have a base effect on earnings management but will also have a negative interaction effect because of the perceived risk by firms to get caught.

H1. The entrenchment effect is initially dominant, but beyond a certain threshold, the alignment effect becomes more prominent.

H2. Higher regulatory quality strengthens the alignment effect and consequently decreases the probability of earnings management.

H3. Lower regulatory quality strengthens the entrenchment effect, thus increasing the likelihood of earnings management.

Previous literature has mainly been focused on earnings management in public companies. The literature on private companies has been either on country-level (Burgstahler et al., 2006) or been focused in one specific country (Marques et al., 2011; O'Callaghan et al., 2018; Saona et al., 2020). This research contributes to existing literature by providing more evidence on the relationship between ownership structure and earnings management in private firms. Besides this it adds the aspect of comparing private firms' behavior in multiple European countries to

properly observe the influence of jurisdictional differences. Adding this aspect into existing literature as a moderating variable.

The results of this study hold significant implications for policy and regulation. By comprehending the connection between ownership structure and earnings management, policymakers and regulators can tailor regulations to align with their intended policies. The European context holds great relevance for the European Union, as identifying the variations among countries is crucial for developing uniform policies.

The empirical findings of this research, as highlighted in the fourth chapter, are derived from a regression model analysis which scrutinizes the association between ownership structure and earnings management, and how jurisdictional differences influence this relationship. The analysis suggests a positive correlation between ownership concentration and earnings management, contradicting the initially hypothesized negative relationship, and thereby inducing a rejection of Hypothesis 1. However, the findings do underline the significant moderating impact of strict jurisdictional regulations, showing that stronger legal systems mitigate the extent of earnings management in correlation with ownership concentration, thus confirming Hypotheses 2 and 3. In essence, while greater ownership concentration tends to amplify earnings management in private European firms, this behavior is tempered by the presence of robust regulatory frameworks.

## 2. Literature review

This chapter will explain the relevance of the topic, why does this relationship need to be further examined and what do prior key papers on this topic mention as their main findings. Also, the implication of the research will be discussed, what implications possible findings can have and who are these relevant to. The aim of this thesis is to examine the effect of ownership structure on earnings management in European private firms. Jurisdictional differences will be used as moderating variable which are based on a country level.

### *2.1 Comparing public to private firms*

Teoh et al. (1998) state capital equity market pressure has a negative influence on earnings information. Private firms do not have to deal with the equity market pressure. The absence of such pressure should according to this theory lead to better earnings information, however the findings whether private firms engage more in earnings management than public firms are contradicting. Burgstahler et al. (2006) found that earnings management is more pervasive in privately held firms, resulting in poorer financial reporting quality. Haga et al. (2018) however contradict these findings as the researchers state public firms engage more in earnings management. Research states private firms have a larger opportunity to engage in earnings management because of less observation from shareholders and mainly regulators ensuring less scrutiny (Burgstahler et al., 2006). The counterargument presented is that public companies are generally larger and thus are more prone to accounting and reporting errors, leaving room for earnings management. Another interesting argument which is very relevant for this research is that private firms could have incentives to engage in downward earnings management considering tax purposes, because private firms have less incentive to produce good earnings (Coppens et al., 2005).

Private firms which belong to a business group have been found to have higher financial reporting quality than public firms, standalone firms however have poorer financial reporting quality than both public firms and private firms belonging to a business group according to Bonacchi et al. (2019). The research also mentions only tax incentives are of strong influence for standalone private firms on the earnings management. According to Pierk's (2016) study, it is observed that public companies exhibit higher levels of tax aggressiveness compared to private companies. This discovery raises interests about the importance of tax incentives for private companies in their earnings management behavior.

### *2.2 Alignment and entrenchment effect*

As mentioned, this thesis' aim is not to provide more evidence on public or private firms engaging more in earnings management. The research on this topic does show us however that earnings management takes place in private firms and could be a larger influence on earnings quality than is the case in public firms. Therefore it is important to understand the drivers of earnings management and what characteristics of ownership structure are of influence.

Typically, in private companies, the separation of control and ownership is less pronounced. Literature describes two theories considering the engagement in earnings management for

private firms. First, the entrenchment effect describes managers having a large portion of ownership in the firm. The ownership creates the high incentive for managers to engage in earnings management because they personally benefit substantially (Ding et al., 2007; Saona et al., 2020). The managers already have the opportunity to manipulate earnings, especially in private companies which are generally smaller, managers tend to have more power.

The alignment effect counters the entrenchment effect, stating that when managers have higher ownership of the firm their interests become more aligned with that of the firm focusing on long-term performance. The alignment effect thus implies that managers with (high) ownership of the firm are inclined to produce quality earnings information (Ding et al., 2007; Saona et al., 2020).

McConnell and Servaes (1990) suggest that the connection between insider shareholding and a company's worth follows an inverted U-shape pattern. At a lower level of insider ownership, the alignment effect dominates the entrenchment effect. After a certain point of insider ownership however, the entrenchment effect dominates the alignment effect. From this study it can be concluded that a small piece of ownership for the management leads to alignment with the ambition to report earnings of high quality. But if managers tend to have more ownership the benefit of the alignment effect tends to be dominated by the entrenchment effect resulting in the engagement of earnings management which result in the lower of earnings quality. When looking into the relationship between ownership structure with firm performance, Xu and Wang (1999) also confirmed the U-shaped pattern of the entrenchment and alignment effect. O'Callaghan et al. (2018) investigated managerial ownership and earnings management. The research confirmed the U-shaped pattern. For managers with high and low ownership firms engaged more in earnings management compared to firms with intermediate levels of managerial ownership. O'Callaghan et al. (2018) identified that the peak point of the alignment effect occurred at 44 percent of equity ownership by the largest shareholder.

Ding et al. (2007) reported the contrary however, namely an inverted U-shape. They mention that when the ownership concentration level is low, the agency cost is high. At first large shareholders tend to maximize earnings in line with the entrenchment effect. However, when the ownership concentration increases, the researchers find that managers are more likely to preserve future growth potential by minimizing accounting earnings. This is in line with the alignment effect where managers who hold a large concentration of ownership essentially become the true owners of the firm. Up to a point where top-shareholder concentration accounts for 55-60 percent of ownership, the relationship between ownership concentration and earnings management is positive. However, when ownership concentration exceeds this threshold, the relationship reverses and becomes negative. Saona et al. (2020) also confirm the inverse U-shaped relationship between insiders' ownership and the earnings manipulation. Shleifer and Vishny (1986) also state in their research that controlling owners' interests are better aligned with the firm's interests when ownership concentration is higher. The researchers also found that the alignment effect of increased ownership concentration is significant in countries with a less developed legal and institutional environment (Shleifer & Vishny, 1986). As already mentioned for private firms there usually is smaller institutional ownership present and less

supervision by authorities, therefore conclusions about companies in emerging markets for example are very relevant for the development of theory of this thesis.

### *2.3 Ownership structure*

Bao and Lewellyn (2017) investigated the relationship of ownership structure and earnings management in emerging markets. They found that controlling ownership is a significant driver of earnings management in emerging markets. The researchers also mention that in emerging markets there is a smaller division between ownership and control, which is similar to the focus of this thesis on private firms. Institutional ownership has a negative effect on earnings management. Regulatory quality strengthens this relationship even more, which will be further discussed in the following section of this chapter (Bao & Lewellyn, 2017). In addition, Lim & Mccann (2013) mention that high ownership and duality can cause entrenchment which can lead to pursuing actions which lead to greater personal benefit. Saona et al. (2020) investigated the relationship between ownership structure and board of directors' features and the impact on earnings management. Providing evidence that earnings management is reduced as the voting rights of the controlling shareholder is increased. This confirms the effect Ding et al. (2007) mentioned, that when ownership concentration is above a certain high threshold shareholders become owners.

Wang (2006) found that family ownership has a significant influence on the alignment effect. Because of the long-term focus of families on their companies, namely ensuring the wealth for future generations for example, family ownership is related to high earnings quality and thus confirms the alignment effect. This again confirms the inverse Urelation since family firms are most often largely controlled by the family especially for private companies. In the paper of Wang (2006) on average 10,35% is owned by founding family members for public companies. It's important to remember that Wang (2006) utilized the S&P500 for his study, these are considerably large public corporations.

O'Callaghan et al. (2018) looked specifically at UK private companies and incorporated firm performance into the relationship of managerial ownership and earnings management. The researchers confirmed previously discussed papers, when managerial ownership is low firms appear to engage in more earnings management when faced with poor performance. This thesis will compare private firms in different European countries, since judicial differences can influence earnings management strongly as will be discussed in the following section.

### *2.4 Jurisdictional differences*

This section will delve into the discussion of how jurisdictional factors can impact a firm's decision to engage in earnings management. In this thesis a European setting will be used to compare the influence of these country-related characteristics. Jurisdictional differences in terms of strictness and effective monitoring could influence the firm's likelihood of being caught and increases the scrutiny on the reported earnings. Therefore it would be logical to assume that a higher (more developed) country would have an earnings management decreasing influence on the relationship between ownership concentration and earnings management.

Jurisdictional differences used as a moderating variable in this thesis. Described as regulatory quality, it measures the ability of a government to formulate and implement effective policies and regulations. Lower regulatory quality has a strengthening effect on the relationship between ownership concentration and earnings management because there is less chance of detection and enforcement. Higher regulatory quality has a weakening effect on the relationship between ownership structure and earnings management since there is less room for the company to engage in earnings management or the (perceived) risk is too excessive.

Burgstahler et al. (2006) described the importance and significant effect of book-tax alignment, this is, as mentioned in section 1.2, the difference between accounting rules and tax regulations. Lower book-tax alignment led to a higher engagement in earnings management. The same effect applied to jurisdictional differences, a lower indication of institutions and the presence of institutional investors were related to a higher degree of earnings management. Beuselinck et al. (2019) researched earnings management within multinational corporations. This research managed to locate earnings management within these corporations, finding that earnings management usually takes places through subsidiaries which are located in less strict judicial environments. These results demonstrate that corporations take into account judicial considerations when deciding whether to engage in earnings management. The researchers also concluded that institutional quality and ownership has a direct influence on the decision to engage in earnings management (Beuselinck et al., 2019). These findings are in line with Bao and Lewellyn (2017) and Shleifer and Vishny (1986). Bao and Lewellyn (2017) state that the increase of regulatory quality strengthens this relationship even further. They also mention minority shareholder protection weakens the effect of controlling ownership on earnings management (Bao & Lewellyn, 2017), minority shareholder protection could be seen as a part of regulatory quality. An effect that is demonstrated worldwide, the quality of institutions is of significant influence on the level of earnings management as also Li et al. (2011) found in their research. Firms in emerging markets, which generally have lower quality institutions and judicial systems, have been found to manage earnings to a much greater degree than those in developed economies (Li et al., 2011).

### *2.5 Theoretical framework*

The objective of this thesis is to offer comprehensive insights into the impact of ownership structure on earnings management. Specifically, it aims to examine the influence of the alignment and entrenchment effects on earnings management, addressing the existing debates in the literature. The anticipated findings suggest that a long-term orientation within ownership structure enhances the dominance of the alignment effect, leading to reduced earnings management. For instance, previous research on family ownership by Wang (2006) supports this perspective. Moreover, it is anticipated that a decrease in the value of jurisdictional factors will also increase the likelihood of earnings management. Lower regulatory quality ensures more (perceived) room and less (perceived) risk by the firms to engage in earnings management. The following hypotheses have been formulated according to these predictions. Also, a less developed legal framework would influence institutional investors substantially. Institutional investors would have a lower preference for less developed legal systems and therefore there is more room in countries with less developed legal systems. A higher amount of institutional investors usually would put reported earnings under more scrutiny.

*H1. The entrenchment effect is initially dominant, but beyond a certain threshold, the alignment effect becomes more prominent.*

*H2. Higher regulatory quality strengthens the alignment effect and consequently decreases the probability of earnings management.*

*H3. Lower regulatory quality strengthens the entrenchment effect, thus increasing the likelihood of earnings management.*

In contrast to the findings of O'Callaghan et al. (2018), this research anticipates contrasting outcomes. Additionally, investigating the impact of jurisdictional variations is of great interest, as O'Callaghan et al. (2018) solely examined a sample from the UK. Furthermore, Saona et al. (2020) challenged their findings but concentrated solely on a sample from Spain. This research increases its relevance since Spain is a country with a lower score for the legal and the UK has a higher level of legal score.

### 3. Research design and data

This chapter describes the empirical model that is used in this thesis, description of the operationalization of the variables, controls and data that is used to create the sample.

#### 3.1 Data and sample

This paper will use an empirical archival design, as a research design. It will rely on using differing databases to acquire information on financial data of private companies in the European Union. As well as data on quality of legal enforcement.

For the data on private companies the thesis has used the Bureau van Dijk' Amadeus database. This database provides all the required information on private companies. In a more recent study Bonacchi et al. (2018) used the same proxy for institutional differences. Jurisdictional differences are based on Beuselinck et al. (2019), using the rule of law index developed by the World Bank.

The selection of the sample is similar to Yang et al. (2022). Data from the period 2010 until 2018 has been used. Total assets of the companies need to be higher than 2,5 million euros and sales need to be higher than 5 million euros. Yang et al. (2022) also excludes companies with fewer than 50 employees. Beside these requirements, financial companies are also excluded with the following SIC codes; 6000 to 6799, 4311, >9000 and 4400 to 5000 based on Burgstahler et al. (2006) and Van Tendeloo & Vanstraelen (2008).

#### 3.2 Empirical research model

The following regression model has been used in the empirical archival research design:

$$EM = \alpha_0 + OWN + TAX + LEGAL + Controls + \varepsilon$$

#### **Dependent variable:** Earnings management

Constructed using two different earnings management proxies, the Modified Jones Model as used in Dechow et al. (1995) with the following formulas.

$$\frac{TA}{Assets_{(t-1)}} = \alpha_0 + \beta_1 * \left( \frac{1}{Assets_{(t-1)}} \right) + \beta_2 * \left( \frac{(\Delta REV - \Delta AR)}{Assets_{(t-1)}} \right) + \beta_3 * \left( \frac{PPE}{Assets_{(t-1)}} \right) + \varepsilon$$

$$TA = (\Delta CA - \Delta Cash) - (\Delta CL - \Delta D) - Dep$$

The usage of this model is similar to Bonacchi et al. (2019). TA is total accruals from firm  $i$  in year  $t$ . Assets is total assets at  $t-1$ .  $\Delta REV$  is the change in revenue from  $t-1$  to  $t$ .  $\Delta AR$  is the change in accounts receivable from  $t-1$  to  $t$ . PPE is the net property, plant and equipment in year  $t$ .

### **Independent variables: OWN**

Proxy for ownership structure based on previous literature. Similar to Ding et al. (2007) and Bao and Lewellyn (2017) this thesis used shareholding percentage of the largest shareholder as a measure of the sample companies' ownership concentration.

### **Moderating variables: LEGAL**

Legal is a proxy for the quality of legal enforcement measured by the average scores across three proxies, this corresponds to La Porta et al. (1998).

1. Index of judicial system's efficiency
2. Index of the rule of law
3. Level of corruption

### **Controls**

The controls used in this model are based on Burgstahler et al. (2006) and Bonacchi et al. (2019). The following controls are used; size, financial leverage, growth, return-on-assets, operating cycle and age of the company.

### *3.3 Sample selection*

As already discussed in section 3.1, data from the Bureau van Dijk – Amadeus database was downloaded. The 'Amadeus – Financials' and 'Amadeus – Owners Shareholders' tables were used. From the financial data the earnings management proxies, Modified Jones Model (1995) and DeFond & Park (2001), were derived. The output was Winsorized on a 1% level. The following provides a detailed walkthrough of the process used to select the sample.

**Table 1: Sample Selection Process**

<b>Selection Criteria</b>	<b>Observations (Firm-Year)</b>
Total observations with available data from 2010-2018 with total assets >2,500,000	2,464,797
Less:	
Decreasing of observations selecting countries, SIC codes and private legal forms	-1,398,668
Decreasing of observations after removing rows which EM proxies cannot be calculated	-79,348
Decreasing of observations after merging with the corresponding shareholder information	-621,435
<b>Final sample</b>	<b>365,346</b>

## 4. Empirical Results and Analysis

This chapter discusses the empirical findings from the regression model analysis used to assess the hypotheses and address the posed research question. The section starts with descriptive statistics that offer an overview of the sample. This is followed by a Spearman correlation matrix which explores the interrelationships among the variables. Subsequently, the second part of the chapter introduces the multivariate analysis implemented via an OLS regression. To deepen the understanding and evaluate Hypothesis 1, an ANOVA test is conducted to examine the significance of intervals within ownership concentration percentages.

### 4.1 Descriptive statistics

In table 2 the variables used in the OLS regression are presented with their number of observations, mean, standard deviation, minimum and maximum value. As can be seen from table 2, the residuals use the absolute amount to proxy for earnings management. The proxies do not mention the direction but only the magnitude of earnings management. The proxy was also normalized to increase interpretation of the regression coefficients. The logarithmic values of total assets were used (TOAS). Furthermore, the average company age is approximately 35 years old.

**Table 2: Summary statistics**

Variable	Observations	Mean	SD	Min	Max
Residuals	365,346	0.12	0.19	0	1
SH_Direct	365,346	80.10	26.64	0.01	100
Combined_variable	365,346	1.31	0.47	0.70	1.9
TOAS	365,346	16.7	1.33	14.73	25.45
GEAR	365,346	115.59	167.65	0	1000
RTAS	365,346	7.48	12.79	-99.65	100
Company_Age	365,346	35.11	19.44	1	692

As can be seen from the Spearman Correlation Matrix – Table 3 all interrelationships are significant. Interesting to see is the -0,2 coefficient between ownership concentration (SH\_DIRECT) and the earnings management proxy (residuals). Also, the legal differences (combined\_variable) has a significant relationship with the earnings management proxies (residuals).

**Table 3: Spearman Correlation Matrix**

Variable	Residuals	SH_Direct	Combined_variable	TOAS	GEAR	RTAS
Residuals						
SH_Direct	-0.2***					
Combined_variable	-0.3***	0.48***				
TOAS	-0.13***	0.27***	0.33***			
GEAR	0.39***	-0.18***	-0.28***	0.02***		
RTAS	-0.21***	0.11***	0.19***	-0.05***	-0.41***	
Company_Age	0	-0.04***	-0.05***	0.15***	-0.02***	-0.05***

In table 4 the regulatory quality scores are provided, which are derived on the basis as previously discussed by the proxy designed by La Porta et al. (1998).

**Table 4: Statistics per country**

Country	Observations	% of sample	Average Residual	Legal score
Austria	3696	1%	0.088	1.86
Belgium	4318	1.2%	0.130	1.32
Finland	12927	3.5%	0.097	1.9
France	25202	6.9%	0.126	1.2
Germany	47361	13%	0.089	1.61
Greece	10783	3%	0.161	0.71
Italy	103922	28%	0.169	0.7
Netherlands	317	0.09%	0.013	1.69
Portugal	7566	2.1%	0.154	1.29
Spain	50001	14%	0.123	1.21
Sweden	99253	27%	0.070	1.84

#### 4.2 Multivariate Analysis

In this section the aim was to answer the research question and hypotheses. This was done by OLS regression and a segmented regression. In section 4.2.1 hypothesis 1 will be discussed and in 4.2.2 hypotheses 2 and 3 are discussed.

##### 4.2.1 Entrenchment effect vs. alignment effect

The first hypothesis to be discussed is the following:

*H1. The entrenchment effect is initially dominant, but beyond a certain threshold, the alignment effect becomes more prominent.*

This would mean initially for lower percentages of ownership concentration; earnings management would be higher and would decrease when the percentage of the largest shareholder rises (SH\_DIRECT). H1 states that the entrenchment effect would initially be dominant and beyond a certain threshold the alignment effect would be more dominant. In that case, earnings management behavior would be higher for lower levels of ownership concentration and for higher levels of ownership concentration the earnings management behavior would decrease. H1 thus, states that the regression coefficient will be negative. An additional regression model with segmented relationship has been done to investigate a possible turnover point at a certain percentage of ownership concentration. These results provide that the estimated break-point is around 40% with a standard error of 1.777. This result is largely similar to O’Callaghan et al. (2018), finding the peak of the alignment effect to be around 44%. In table 5, results of control variables are excluded but were controlled for in the model. As can be seen the regression coefficient for ownership concentration (SH\_DIRECT) is positive and significant. Together with the breakpoint estimation of 40% this gives a clear indication that the entrenchment effect is strongest around 40%. As can be seen from the change in slope after the breakpoint from variable U1.SH\_DIRECT, which is the change of the slope after the breakpoint. As can be seen the regression coefficient is decreased with -0.0009. These results provide a possible turnover point at 40% of ownership concentration, after this point the increase in earnings management is less intensive than before this point.

**Table 5: Results of Segmented Regression**

Variable	Estimate	Standard error	Significance
Breakpoint	40.26	1.777	
SH_DIRECT	0.0010	0.0001	***
Combined_Variable	-0.0380	0.0025	***
Moderating variable	-0.0002	0.0000	***
U1.SH_DIRECT	-0.0009	0.0000	***

The OLS regression has been computed with the following models, listed below (1-4). As can be seen, in model 4 Regulatory is only used as a control variable.

$$(1) EM = Ownership + \varepsilon$$

$$(2) EM = Ownership + Ownership * Regulatory + \varepsilon$$

$$(3) EM = Ownership + Ownership * Regulatory + Controls + \varepsilon$$

$$(4) EM = Ownership + Controls + \varepsilon$$

**Table 6: Regression results – Discretionary Accruals**

Dependent variable:				
residuals_normalized				
	(1)	(2)	(3)	(4)
SH_DIRECT	-0.0001*** (0.00001)	-0.00000 (0.00004)	0.0001*** (0.00004)	-0.0001*** (0.00001)
TOAS			-0.004*** (0.0003)	-0.004*** (0.0003)
GEAR			0.0002*** (0.00000)	0.0002*** (0.00000)
RTAS			-0.001*** (0.00003)	-0.001*** (0.00003)
Company_Age			-0.0001*** (0.00002)	-0.0001*** (0.00002)
SH_DIRECT:combined_variable		-0.0001*** (0.00003)	-0.0002*** (0.00003)	
Observations	365,346	365,346	339,796	339,796
R2	0.0002	0.0003	0.041	0.040
Adjusted R2	0.0002	0.0002	0.040	0.040
F Statistic	82.496*** (df = 1; 365334)	46.778*** (df = 2; 365333)	2,391.976*** (df = 6; 339779)	2,861.489*** (df = 5; 339780)

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 6 displays the regression results of the OLS regression with country and year fixed effects. In accordance with H1, which assumes an inverse relationship between ownership concentration and the extent of earnings management, this section will mainly focus on this specific regression coefficient's slope. Upon inspecting the regression coefficient SH\_DIRECT in models 1-4, it's observed that all are significant except for model 2. Model 1 indicates a negative coefficient, stating earnings management is decreased with higher ownership concentration. When employing the moderating and control variable however, ownership concentration is actually related positively to earnings management. Comparing to model 4 indicates why the moderating relationship is important to include since the regression coefficient of ownership concentration turns negative again. The observed effect for the full model (3) states that an increase in ownership concentration, there is also an increase in earnings

management. Contrary to H1, these coefficients suggest an increasing trend of earnings management when ownership concentration rises, a finding that is similar with those reported by Bonacchi et al. (2019). Consequently, H1 cannot be supported and therefore must be rejected. However, as can be seen from table 5 – after the breakpoint the increase in earnings management is smaller than before the breakpoint showing somewhat of an alignment effect. Interestingly when only controlling for regulatory differences it does not have a significant influence on earnings management, this is most likely due to controlling for country fixed effects.

The regression coefficient does state a positive relationship between ownership concentration and earnings management indicating that the entrenchment effect dominates over the alignment effect as the level of ownership concentration rises this is in line with the findings of McConnell and Servaes (1990), Xu and Wang (1999) and O’Callaghan et al. (2018).

#### *4.2.2 The influence of regulatory quality*

In this section the results of the effect of regulatory quality as a moderating variable will be discussed. As mentioned in chapter 2 of this thesis, it is expected that a lower regulatory quality is directly related to an increase in earnings management behavior. Moreover, it is anticipated that such lower regulatory quality negatively moderates the impact of ownership concentration on earnings management. This is because with weaker regulations, controlling owners are perceived to have less incentive to engage in earnings management activities. Consequently, it is presumed that both the regression coefficient of regulatory quality in isolation, and the coefficient representing the interaction term, will be negative. This anticipated moderating effect of regulatory quality on earnings management is captured in Hypotheses 2 and 3.

*H2. Higher regulatory quality strengthens the alignment effect and consequently decreases the probability of earnings management.*

*H3. Lower regulatory quality strengthens the entrenchment effect, thus increasing the likelihood of earnings management.*

The "combined\_variable" represents the direct effect of regulatory quality in the models. For models 2 and 3, the regression coefficients are negative and statistically significant (refer to Table 6). This suggests that an increase in regulatory quality is associated with a decrease in earnings management. The interaction term "SH\_DIRECT: combined\_variable" in models 2 and 3 displays a negative regression coefficient that is statistically significant when ownership concentration displays a positive regression coefficient. This implies that, as regulatory quality increases, the influence of ownership concentration on earnings management is negatively impacted. Given the strong negative coefficients of the interaction terms, hypotheses 2 and 3 are confirmed. These findings considering the negative interaction effect of regulatory quality is in line with the findings of Beuselinck et al. (2019), where the researchers found that multinational corporations also manage their earnings through countries with lower regulatory quality. Bao and Lewellyn (2017) also state that the increase of regulatory quality weakens the

relationship between ownership concentration and earnings management as well in emerging markets.

The research question, “*How is ownership structure related to earnings management for European private firms, and how is this relationship influenced by jurisdictional differences?*”, can be answered with the discussed results. Hypothesis 1 has been rejected as the regression coefficient in Model 3 turned out to be positive. This outcome contradicts the initial expectation that an increase in ownership concentration would result in a reduction in earnings management. It's important to note that although the escalation of earnings management slows down after the ownership concentration surpasses around 40%, it remains on the positive side.

On the other hand, regulatory quality exerts a significantly negative impact on the relationship between ownership concentration and earnings management. The interaction term exhibits a larger influence than that of ownership concentration, which provides the acceptance of Hypotheses 2 and 3.

Earnings management is significantly suppressed in more mature legal systems, seen the strong correlation. In legal systems that are less developed, institutional investors have a smaller presence, which could potentially partially account for the negative moderating coefficient.

## 5. Conclusion

### *5.1 Summary and conclusion*

Concluding, this thesis has examined the correlation between ownership concentration and earnings management, and how this correlation varies due to jurisdictional differences among private European firms. Unlike public companies, private firms are not subjected to capital market pressure to deliver attractive earnings for investors, one of the leading factors generating earnings management. Consequently, understanding the factors shaping earnings management behaviors in private firms becomes interesting (Burgstahler et al., 2006).

There are two competing theories in existing literature concerning the relationship between ownership and earnings management - the alignment effect and the entrenchment effect. According to the alignment effect, when managers own a significant part of the firm, their objectives align more with the firm's long-term performance. This alignment should theoretically yield higher quality earnings information and thus reduce earnings management (Ding et al., 2007; Saona et al., 2020). On the contrary, the entrenchment effect suggests that managers who own a sizable share of the firm may be motivated to engage in earnings management as it benefits them personally. Especially in smaller private companies where managers often have significant power, they have not only the incentive but also the opportunity for such behavior (Ding et al., 2007; Saona et al., 2020). It is generally anticipated that the entrenchment effect is more potent initially but is overtaken by the alignment effect beyond a certain threshold, thus suggesting a negative linear relationship.

In addition to these factors, this thesis also delves into the moderating effect of jurisdictional differences on the connection between ownership structure and earnings management. Hypotheses 2 and 3 propose that higher regulatory quality negatively impacts the correlation between ownership structure and earnings management. This is because stricter jurisdictional systems, which could impose harsher penalties, might deter managers from engaging in earnings management when having the opportunity and incentive through ownership in the firm. Utilizing a sample of 365,346 firm-year observations, the results indicate a positive correlation between ownership concentration and earnings management when accounting for control and moderating variables (model 3), thus contradicting hypothesis 1 which is consequently rejected. The moderating variable, however, demonstrates a significant but negative effect, aligning with hypotheses 2 and 3. This confirms that jurisdictional differences do indeed influence the relationship between ownership concentration and earnings management, thereby confirming hypotheses 2 and 3.

To answer the research question - "What is the correlation between ownership structure and earnings management in private European firms, and how does this relationship change with jurisdictional differences?" – this thesis concludes that while ownership concentration has a positive correlation with earnings management, the presence of stricter jurisdictional regulations tends to reduce the extent of earnings management.

### *5.2 Contributions*

The findings of this thesis contribute on research related to the motivators and determinants of earnings management within the context of private firms. It also examines the impact of ownership concentration and jurisdictional elements on the drivers of earnings management within these organizations. It further points out the dominating of the entrenchment effect over the alignment effect. There is no consensus among prior studies considering the relationship between ownership structure and earnings management (O’Callaghan et al., 2018; Ding et al., 2007; Saona et al. 2020; Shleifer and Vishny, 1986; Xu and Wang, 1999), Notably, some of these studies were confined to a single-country context (Saona et al., 2020; O’Callaghan et al., 2018), which found contradicting results on the entrenchment and alignment effect. This difference shows the addition of this thesis, as it broadens the scope by comparing different jurisdictional landscapes.

Primarily, the insights from this thesis hold critical implications for policymakers and legislative bodies. From the negative moderating coefficient can be concluded that earnings management takes place more strongly in less developed legal systems. The main inference is that the quality of earnings and, the extent of earnings management can be enhanced by implementing and enforcing stricter regulations and oversight, as indicated by the significant role of the moderating variable. Furthermore, the outcomes of this research offer vital information to (minority) shareholders in private companies, equipping them with a better understanding of potential misrepresentations in earnings reports.

### *5.3 Limitations and Recommendations*

This thesis acknowledges several limitations. First, there's a possible issue with the measurement of discretionary accruals and earnings management. The quantification of earnings management is, in general, not highly reliable. An alternate method, as proposed by DeFond and Park (2001), was considered but could not be reliably implemented due to insufficient data. While the adopted measure may not be flawless, the substantial size of the sample, similar to key studies in this field such as Beuselinck et al. (2019) and Bonacchi et al. (2019), lends some confidence in the results.

A second potential shortcoming of this study lies in the relatively low R-squared value of the regression model compared to other significant papers, such as Bonacchi et al. (2019). This lower R-squared may stem from endogeneity issues. One possible remedy could involve incorporating more control variables into the model; however, this presents a considerable challenge due to data constraints.

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## Appendix

**Table 7 – Variable description**

<b>Variable</b>	<b>Measuring</b>	<b>Unit</b>
Residuals	Earnings management	% of total assets Normalized
SH_Direct	Ownership concentration	% of company shares owned by the largest shareholder
Combined_variable	Legal development (See chapter 3)	Index score comparing countries
TOAS	Total Assets	In Euro's – Logarithmic scale
GEAR	Financial leverage	% (Debt / Equity)
RTAS	Return on assets (ROA)	% (Net income / Total assets)
Company_Age	Age of the company	Years
SH_DIRECT: Combined_Variable	Moderating variable – Ownership concentration * Legal development	Interaction coefficient
U1.SH_DIRECT	Slope after breakpoint	Regression coefficient effect on earnings management