

# ERASMUS UNIVERSITY ROTTERDAM

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IFRS 8 and Earnings Management: An analysis of segment disclosures

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## Abstract

This study conducts an analysis of the impact of IFRS 8 on earnings management. IFRS 8 was implemented in 2009, bringing discretion in defining segments and measuring segment earnings. This paper uses a sample of 298 companies from 2009 to 2019 to analyse how this discretion may enable earnings manipulation. This research examines the potential exploitation of this management approach by researching the association between decoupled segments to IFRS earnings and earnings management, using a fixed regression analysis. The findings reveal a small but positive correlation between the degree of decoupled earnings and earnings management, confirming the hypothesis that firms with more decoupled segment earnings engage more in earnings management. These findings confirm the facilitations of earnings management due to the discretionary nature of the standard, highlighting need for improved corporate governance, internal control and regulatory measures to enhance reliability of financial statement disclosures.

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## Introduction

The introduction of IFRS 8 was a significant transition from IAS 14, bringing about a management approach. Unlike IAS 14, IFRS 8 does not define segment revenue, expense, result, assets and liabilities (Deloitte, n.d). In addition to this segment items must be measured as reported to the Chief Operating Decision Maker (CODM) for resource allocation as well as performance assessment. This initially sparked controversy, with Véron (2007) criticising IFRS 8 for its subjectivity, lack of consistency and safeguards to ensure reflection of economic reality. It has been 15 years since the implementation of IFRS 8 and there has been a lot of research on the effectiveness and informativeness of this new approach, yet no paper analyses a big risk of this new management approach; earnings management. This leads to the research question: to what extent has the introduction of IFRS 8 influenced earnings management? Many existing papers touch on earnings management and the IFRS, but this paper will fill in the gap on the specific intersection between earnings management and segment disclosures in Europe (IFRS 8).

The criticism on IFRS 8 was later confirmed by the likes of Lenormand and Touchais (2014), Bugeja et al. (2014) and André et al. (2014), who criticise the change in quality and information of segment disclosures. Kajüter and Nienhaus (2017) conducted their own research with contrasting findings that IFRS 8 was indeed beneficial through better value relevance and less information symmetry to investors. Gross et al. (2024), set to figure out if the potential exploitation applies to the US equivalent of IFRS 8: ASC 280. The discretionary nature of this standard was proved to be exploited through the positive association Gross et al. (2024) found with the extent of decoupled segment earnings from GAAP earnings and earnings management (a form of financial manipulation).

Liu et al. (2014) differentiated earnings management under US GAAP and IFRS, concluding that it is higher for IFRS firms. Simultaneously, Enomoto et al. (2015) reinforced Véron's beliefs, suggesting that weaker investor protection increases accrual-based earnings management. (Healy and Wahlen, 1999) explain the 3 incentives that lead to earnings management, forming a deeper understanding on the connection between earnings management and IFRS 8. The way this paper measures earnings management roots from the

Jones Model (1991), a model created to calculate what portion of total accruals is made up of discretionary and non discretionary accruals. Dechow et al. (1994) incorporated the Modified Jones Model in their assessment of models for detecting earnings management, stating it was the most effective in the research, yet pointing out existing limitations in the true ability to fully capture earnings management using the model.

The approach taken to answer this question is a regression model with fixed effects for years. This regression examines if there is a positive association between the degree of decoupled earnings and earnings management. In order to do so, I first employ a modified Jones model (Dechow, 1994), a regression for total accruals of a business. The residuals provide the proxy for earnings management: discretionary accruals. Moving forward I use the absolute difference between total segment earnings and IFRS earnings (Net Income) to assign scores 1-4 based on the percentile rank. This variable provides an indicator on the degree of decoupled earnings, allowing me to conduct the fixed effect regression model of absolute discretionary accruals on score.

As expected, the results of the regression supported the hypothesis. The regression as well as the independent variable were both significant, with the independent variable displaying a positive relationship between the degree of decoupling and earnings management. However, the magnitude of the coefficients are minimal, especially in comparison to the findings of Gross et al., but this may be due to the difference in regulatory standards and economic conditions. Nevertheless, the findings are very similar. These findings heavily contribute to the advancements on the quality of a management approach or even the IFRS in general. This contribution can encourage further research and raise awareness of an inconsistency within accounting standards.

This research creates a contribution to the existing knowledge within the realm of accounting literature through different manners. Firstly, there is a more enhanced understanding of the impact of IFRS 8 on segment reporting and earnings management. The paper also fills in the gap in literature regarding decoupled segment earnings in European firms under European standards. Through my adaptations throughout the paper on measuring decoupled earnings and earnings management, I am also actively contributing to

accounting theories related to segment reporting and disclosures. My analysis can inform policy makers and regulators on how IFRS 8 may have led to unintended effects, which can help identify areas within the standard that may require change to improve the reliability of financial statements. On the company side, my findings can encourage the need for strengthened corporate governance to adopt reliable and trustworthy practices.

# Theoretical Framework

## Literature Review

### IAS 14 to IFRS 8

The relevant literature for this paper begins with the transition from IAS 14 to IFRS 8 effective 2009. The transition to IFRS 8 was game changing due to the new management approach introduced, with significant effects on segment measurement especially. Although previously done so by IAS 14, IFRS 8 does not define segment revenue, expense, result, assets and liabilities. (Deloitte, n.d). On top of this, there is no necessity to conform to the entity's financial statement accounting policies. Another addition was that IFRS 8 now requires segment items to be measured as reported to the CODM for resource allocation and performance assessment, as outlined by IASPLUS (Deloitte, n.d).

This change sparked controversy among users of financial statements and those who would be affected by it in general. Véron (2007) does not undertake an empirical analysis to provide evidence but rather argues that IAS 14 demonstrated a more objective approach, with a better economic relevance occurring through the benefits of comparability and consistency that IFRS 8 does not provide. Véron (2007) concluded in his paper that IFRS 8 does not provide enough safeguards to guarantee the reflection of economic reality. As a result the companies can exploit the immoderate discretion in their favour, possibly to misconvey the true performance and risk of a segment. The ability to provide segment information inconsistent with consolidated information, along with lacking investor protection, made the approval and the adoption of IFRS 8 unconvincing.

### Prior research on the effects of IFRS 8

Lenormand and Touchais (2014) were able to build on the claims made by Véron years after IFRS 8 had officially been introduced. They do this by conducting an empirical analysis using a sample of french public companies on the french stock exchange, comparing segment disclosures pre and post IFRS 8. Lenormand and Touchais stated that because the reported segment information was financial data used by the CODM, it was more informal and more

internally aligned. This is because data used by the CODM may not necessarily be suitable for outside interpretation, or not as useful to someone like an investor of the company. In turn the concluded belief was IFRS 8 now created a margin to manoeuvre and manipulate (Lenormand and Touchais, 2014), something IAS 14 did not do. Lenormand and Touchais (2014) believed it was rather important to study the effect of IFRS 8 on the disclosure of segment information in order to “understand the changes brought about by the new standard”. In the context of segment measures, Lenormand and Touchais (2014) concluded that the transition has led to a reduction in the information reported per segment.

However, they also note that groups with high proprietary costs do not exploit the discretionary nature of the standard to decrease information reported in their segments. This however is in disagreement with the findings of André et al. (2014) who display a key finding that those with high proprietary costs tend to display lower segment quality, and managers sometimes use high disclosure quantity as a smokescreen for bad disclosure quality.

Bugeja et al. (2015), like Lenormand and Touchais (2014) look to examine the differences with IFRS 8 and IAS 14, using a sample of Australian companies compared to a sample of French companies by Lenormand and Touchais (2014). Bugeja et al. (2015) discover that IFRS 8 significantly increased the number of disclosed segments, hence enhancing transparency. However, there also seemed to be fewer line item disclosures such as capital expenditures or liabilities, indicating fewer information reported per segment. This is due to the management approach, only requiring disclosure if it is used by the CODM. Regardless of these attempted improvements at transparency by IFRS 8 there was no significant effect on the accuracy of analyst forecasts. The concluded overall outcome from this paper is that IFRS 8 led to more disaggregation in terms of segments but less information per segment, postulating a potential tradeoff that occurs with IFRS 8.

On the other hand Kajuter and Nienhaus (2017) deduce an opposing conclusion from a quasi experiment on financial data pre and post IFRS 8, comparing value relevance and information asymmetry. The experiment provides evidence that information provided post IFRS 8 is more value relevant and reduces information asymmetry compared to the previous



standard. These improvements are advantageous for investors, as there can be more precise forecasts and predictions made about future cash flows. The findings contrast that of Bugeja et al. (2015) as they demonstrated that there was no impact on forecast ability. On top of this, there are completely opposing findings with Touchais and Lenormand (2014) and André et al. (2014) on the topic of quality and value relevance of segment disclosures.

Another way that firms can benefit from the management approach of IFRS 8 is the measures used. Although not about IFRS 8, Gross et al. (2024) researches this possibility in line with ASC 280, the U.S GAAP equivalent of IFRS 8. The idea behind Gross et al.'s paper is earnings management is hard to accomplish if the segment measure is the same as the IFRS earnings. This is because when you undergo earnings management the values are not reflecting the true reality of the business. If the firm then proceeds to give this information to the CODM and they make decisions based on this it may cost the firm. In order to prevent this spillover of earnings management costs, Gross et al. (2024) believes firms may decouple their segment earnings measures in order to reduce the costs of earnings management. Using a disclosure rating and a regression analysis the hypothesis is confirmed by Gross et al. that firms using more decoupled segment measures are engaging more in earnings management. The key insight from this paper is that the ASC 280's discretionary nature has permitted the use of decoupled segments as a solution to the costs of earnings management.

Overall, the existing research on the effects of IFRS 8 has provided key takeaways. Many different researchers have conducted analysis to understand the impact of the management approach on segment accounting, yet they have each reached different conclusions, highlighting the complex nature of accounting theories. Lenormand and Touchais (2014), who built on Véron's claims, asserted that the segment information reported under IFRS 8 was more informal and internally aligned because it was used by the CODM. They also further emphasised the importance of studying IFRS 8's impact on segment information disclosure, as they found that IFRS 8 led to reduced information reported per segment. This discretionary nature was further proved to be exploited as Bugeja et al. (2015) discovered a positive association between the proportion of loss making segments and increased segments disclosed, similarly to the findings of André et al (2014). Yet Kajüter and Nienhaus

(2017) have completely different views, believing that IFRS 8 has managed to be completely more transparent through the relevance and insights into management of the business, the way that IFRS intended the standard to be. Evidence also postulated fewer segment-level line item disclosures post IFRS 8. Gross et al. (2024) display the practical ways in which the freedom provided by ASC 280 enables earnings management. These articles essentially help establish that IFRS 8 has created opportunities for manipulation, through aggregation of data, segment definitions and disclosures, yet there still seems to be some uncertainty, as displayed by the opposing findings of André et al. (2014) and Lenormand and Touchais (2014).

### Earnings Management

Although Gross et al. provide crucial analysis and insight on earnings management and segment disclosures, it is only a step forward in being able to identify how this takes place with IFRS 8. Although ASC 280 and IFRS 8 may display similar characteristics they are in no way the same. Liu et al. (2014) delineate how earnings management differs under US GAAP and IFRS. Liu et al. provide a critical examination that helps us understand the differences between a more principle based standard like IFRS and a more rule based one like US GAAP and its impacts on opportunities for earnings management. Along with the previous paper, it can help us form an understanding on how the findings by Gross et al. (2024) could apply to the European IFRS. The findings of Liu et al. (2014) entail that earnings management is significantly higher for IFRS firms, and that on top of this earnings management through accruals is not significantly different between US GAAP and IFRS.

The concept of earnings management falls under two categories: accrual based and real earnings management. Accrual based earnings management is more focused on changes in accrual processes whereas real earnings management occurs through deviations from normal business activities (Enomoto et al., 2015). Enomoto et al. (2015) hypothesise in their paper that accrual based earnings management is more constrained by strict discipline in countries with stronger investor protection. In their paper, the conclusion proves that when there is stronger investor protection (in the form of laws or regulations etc.) there is less accrual based earnings management, and it is replaced by real earnings management. Enomoto et al. (2015) further add that real earnings management can be decreased with

analyst following. One implication of this finding is that since there are negative coefficients for investor protection variables and the hypothesis is accepted, it also connotes that less investor protection leads to more accrual based earnings management (the focus of this paper). These findings further reinforce the initial beliefs of Véron (2007). Véron, whose paper is specifically dedicated to IFRS 8 believes the investor protection is damaged through the extensive discretion companies have that enables them to provide an inaccurate economic reality of the business. Increased accrual based earnings management indeed falls under this scenario.

There are still many unanswered questions regarding earnings management, such as the motivations behind it and its consequences. Healy and Wahlen (1999) review empirical evidence on earnings management along with its implications, providing essential information for accounting standard setters and regulators. One of the key findings of Healy and Wahlen (1999) were their detailed motivations for earnings management. The motivation for earnings management occurs for 3 reasons, with the first one being capital market incentives. With the introduction of IFRS 8 this eases firms to manage earnings in order to influence stock market perceptions through flexible segment definitions or revenue and expense allocations. The next reason is contracting incentives, in which the requirements of debt covenants and compensation contracts can be met by adjusting segment performance metrics, something possible through IFRS 8. And lastly, there are regulatory incentives that may encourage earnings management in order to comply with them, in which IFRS 8 eases the possibility of postulating a stable image to regulators through reallocation of costs and revenues between segments. Essentially Healy and Wahlen's contributions (1999) prove further as to how IFRS 8 can influence decisions to engage in earnings management. Gross et al. (2024) reiterate the ability to mitigate the costs of earnings management through using subjective measures of earnings, so earnings management can be committed without distorting measures used for decision making.

costs through subjective measures of segment earnings. It is imperative to see if these measures taken to bypass the negative side effects of earnings management also take place under IFRS standards in order to inform standard setters and call for further research on this topic.

## Models for earnings management

Earnings management, and particularly accrual based earnings management has been studied for a long time, using models to estimate the measure of discretionary accruals. Jones (1991) is among the most influential. The Jones model essentially performs a regression of total accruals on changes in revenues and the level of Property, Plant and Equipment (PPE). There is an assumption that non discretionary accruals are a function of these two variables. This model overall helps to give an estimate on discretionary accruals. However, despite its impact and acceptance, there is an acknowledgement of its limitations. One example being the assumption that the two variables are a function of non discretionary accruals. In cases of economic fluctuations or during large transactions the model may provide inaccurate results.

These limitations were addressed by Dechow et al. (1994) with their own Modified Jones Model. The model aimed to reduce the likelihood of biased estimates of discretionary accruals by subtracting the changes in receivables from change in revenues. The modification aims to isolate discretionary accruals further through considering credit sales manipulation within the model. Overall, both models were pivotal in leading to our current understanding of earnings management, and will be significant in assessing the impact of IFRS 8 in such practices. Despite these modifications, there still comes criticism, with beliefs that this model still does not manage to fully capture earnings management.

## Hypothesis Development

The previously discussed literature highlights a gap in the knowledge of decoupled segment earnings applied to IFRS 8 and to European firms. It has helped establish the manipulative opportunities brought about by IFRS 8 and the potential consequences of these opportunities. This, along with the existing research on decoupled segments in GAAP and earnings management has led to the belief that there is also a positive association within decoupled segments and earnings management in Europe. The previous literature aligns with this theoretical expectation. By looking into this, I will be filling in an essential gap and will look to resolve issues on our limited understanding as well as contradictions in knowledge (e.g companies with high proprietary costs).

Earnings management has its downsides, being that it can distort the quality of decision making and lead to suboptimal outcomes within the business. The Management Accounting Structure (MAS) of a firm is designed for internal use. The aim of an MAS is to serve the internal needs of the firm and they are not constrained by regulations or standards (Gross et al., 2024). MAS is also sticky, as in it is not something subject to change over a short period of time. An unintended outcome of IFRS 8 was that the management approach provided a possible exploitation in the flexibility of defining earnings. The business can design its MAS in such a way that the CODM uses an earnings measure for decision making that is not affected by the earnings management measures taken by a company.

Segment reporting under IFRS 8 can help reveal the extent to which internal reporting is aligned with external reporting. I utilise this, and follow the argument made by Gross et al. (2024) as well as observations on IFRS 8's effectiveness to examine the degree of decoupling between internal reporting and external reporting. The higher levels of decoupling give more room to perform earnings management without damaging quality of internal reporting, and hence reducing risk of decision making based on inaccurate internal information. In conclusion the higher decouplement of internal and external reporting can reduce costs of earnings management, making it more appealing or viable to companies.

Take for example company ABC, who is looking to increase their net income but they don't want the earnings management to have spillover costs into their internal decision making. One possibility for ABC is to design an MAS that uses gross profit for decision making. After this, they can continue with extending the useful life of their equipment. By doing so, the annual depreciation expenses of the company have now fallen, and net income has increased. This action enables earnings management, while the gross profit stays unaffected and internal decision making does not suffer any consequence. Decisions made at firm level do not damage decisions made at segment level.

In this paper I argue that firms with more systematically decoupled segment earnings from total IFRS earnings have lower costs of earnings management and therefore engage in more earnings management. This leads to the hypothesis:

**H1:** The extent to which segment earnings are decoupled from IFRS earnings is positively associated with the magnitude of earnings management.

## Methodology

This section delineates the methodological approach taken to examine the association between decoupled segment earnings and earnings management from 2009 (Post IFRS 8) and 2019 (Pre covid). This chapter is relevant to the research question (RQ) as it provides transparency in what measures were taken into account and the general approach to answering the RQ.

The research question is investigated with a quantitative approach, using panel data regression models to analyse the earnings management of several EU companies across multiple years. In order to employ this regression, data is gathered through a worldscope database and exported into excel. From there the data is transposed and imported to Stata where the data used for statistical analysis. This chapter will detail the process, providing insights into the research design, measurement of variables, data collection, sampling methods, analytical methods as well as the assumptions and limitations.

### Measurement of Variables

#### Decoupled Segment Earnings Measure

The main variable of interest here is defined as 'Score'. This Score variable resembles a score assigned to each data point based on the decouplement of segment earnings from IFRS earnings (Net income). This idea is similar to that of Gross et al. (2024), with its differences. The goal outcome is the same, but the manner in which I assign the scores differs. While Gross et al. employs a score from 0 to 4 based on how decoupled the measure of segment earnings is from GAAP earnings. I was unable to retrieve measures for segment earnings, so I adapted by assigning scores from 1-4 based on percentile ranks from the absolute difference of combined geographic segment earnings and net income (scaled by total assets).

Gross et al. used WRDS for data on segments, however due to its limited availability of information only for North American companies, I resorted to Worldscoop. I was unable to

identify the measures of segment earnings and concluded that I will assign scores based on how decoupled total segment earnings are from the IFRS earnings (Net income). In order to do this I summed all segment earnings of companies, obtaining total segment earnings. This was followed up with an absolute difference value between Total Segment Earnings and Net Income. The absolute measure accounted for negative net income values. Furthermore, before assigning scores it was essential to scale the absolute difference by a proxy for firm size, in which case I used Total Assets. This scaling will help normalise the differences, keep it consistent and allow an assessment of relative importance (1 million euros may not be as valuable to a big company as to a small one). Now that these values were scaled, they were assigned a rank from 1-4 based on their percentile rank. This resulted in a measure for the independent variable.

The variable was constructed from Worldscope data, implying there are some limitations. For example, the way Worldscope defines and inputs segment data, potential errors and the availability of data in general. The more ideal approach for segment earnings would have been through the accumulated value of 'Product Segment Operating Income', but due to the lack of data with these, it was more reasonable to use 'Geographic Segment Operating Income'. It is also necessary to state this variable is defined with 'Operating income' but due to the discretionary nature of IFRS 8, there is no requirement state operating income, and the footnotes describe the possible variations in the measures (e.g pretax income).

### Earnings Management

Earnings management is measured through the absolute value of discretionary accruals. This is a widely accepted measure for earnings management, and using the absolute value allows for an interpretation of solely the magnitude and presence of earnings management rather than the direction. To compute the discretionary accruals I apply the Modified Jones Model presented by Dechow et al. (1994):

$$TA_{i,t} = \beta_0 + \beta_1 \Delta REV_t + \beta_2 \Delta REC_t + \beta_3 PPE_t + \varepsilon_t$$



Where Total Accruals is calculated as:

$$TA = (\Delta Current Assets - \Delta Cash) - (\Delta Current Liabilities - \Delta Short term Debt) - Depreciation and Amortisation$$

$TA$  is calculated through the balance sheet method rather than the cash flow. This way it can better capture accruals by considering specific changes in various balance sheet accounts, making it more advantageous for detecting earnings management.  $\Delta REV$  is the change in Net Revenue and  $\Delta REC$  is the change in receivables. All accounting variables are scaled by lagged total assets. The absolute value of discretionary accruals can be interpreted as the absolute value of the residuals  $\varepsilon_t$ . Although this model is widely recognised and used for detecting earnings management, there are limitations. There is only such an extent to which the model can separate accruals into a portion that is due to manager discretion and a portion that is non discretionary.

## Data Sample And Descriptive Statistics

### Sources

For this study, the required data entails financial information of sample companies. This provided a handful of options from WRDS, Bloomberg, Datastream or Worldscope. In this thesis I use Worldscope for its focus on financial statement data of public listed companies, with data on segments as well as European public companies. Worldscope provides reliable and valid financial data, with no ethical considerations needed as data retrieved is from publicly listed companies and public information. Data privacy and confidentiality were maintained, with no sensitive information disclosed.

### Selection Criteria

The study aims to find the association between decoupled segment earnings and earnings management in Europe. In order to do this it was essential to have a sample where the adoption took place at the exact same time. According to the IFRS foundation (n.d) the European Union collectively adopted the IFRS, claiming it was effective from 2005. This gave a great start to the sample as using companies based in EU countries guarantees that all countries are using IFRS, starting at the same time. It is important to mention for some countries like Croatia, who joined the EU in 2013, I made manual checks to ensure that the

country was complying with IFRS already, or following the International Accounting Standards (IAS) framework. The variables included were all variables necessary to conduct a Modified Jones Model Regression and the panel regression. This includes general financial variables such as total assets, market capitalisation, return on assets (ROA), segment earnings and other necessary variables required to calculate total accruals.

### Collection Methods

The variables included were all variables necessary to conduct a Modified Jones Model Regression and the panel regression. This includes general financial variables such as total assets, market capitalisation, return on assets (ROA), segment earnings and other necessary variables required to calculate total accruals. Moving forward, the sample was further refined for companies using Euros as currency, as to prevent misinterpretation among financial information between a company using Danish Krone compared to Euros for example. The final filter applied to my data was to ensure that the European exchange was the primary, where stocks are first issued and listed. These filters were applied to guarantee data completeness and consistency across the years 2009-2019.

### Processing

The collected data was imported to excel. From excel the data required many changes for formatting as well as addressing invalid, or missing data. The data in excel was formatted for use in Stata with no problems. This meant that if there was data missing for a specific year, I would have to drop the data. The reasoning for this being that missing data in Stata is dropped, and interpreting this value as 0 would lead to wrong results and misinterpretations in my data. As a result, it is not very common to see data available every year for a given company. Once the data was cleaned, formatted and processed in Excel I was left with 1,803 observations for 298 companies.

### Summary Statistics

Table 1 presents summary statistics for the main variables that are used in the main analysis of this paper. The dependent variable, absolute value of discretionary accruals ( $|DA|$ ) has a mean of 0.104 and a median of 0.055. The mean and median of the independent variable is

2.502 with a median of 3. The median value of 3 is consistent with the fact that I assigned scores based on percentiles, where the 50th percentile would fall under category 3. The rest of the variables are the control variables, which are described by potential determinants of earnings management. In comparison with Gross et al. (2024), there are many differences that are apparent. Looking at  $|DA|$ , the mean and median of my sample is significantly lower than the  $|AA|$  values of Gross et al.. This observation suggests European firms in my sample engage in less earnings management compared to U.S firms.

This finding contrasts with that of Liu et al. who claim firms in IFRS engage in more earnings management. One reason why this may be different to Liu et al. is my sample size being much smaller than Gross et al. (2024). According to the law of large numbers, when observations in a sample increase the sample mean is closer to the population mean. Considering that Gross et al. includes a sample size of almost 20 times larger this could be the case. Moreover, the firm size and market value variables indicate that my sample consists of larger firms with higher total assets and market value. This information can further explain the difference in earnings management, as larger firms can arguably engage less in earnings management due to factors such as quality of auditing, higher profits or lower leverage ratio in general. This claim is consistent with my profitability and leverage variables, which indicate that European firms in my sample are more profitable on average with less leverage. To further reason as to why the earnings management differs, Gross et al.(2024) consider businesses with more than one segment, whereas mine includes those with one. As André et al. (2014) state, firms may use a higher number of segments as a smokescreen for worsened disclosure quality. Furthermore, the sample starts from 1998, pre Sarbanes-Oxley (SOX) act, where it was easier to commit fraudulent activities. Overall, my findings paint the picture that European firms have engaged less in earnings management despite higher firm size and profitability, in contrast to the findings of Gross et al. (2024). This may demonstrate how corporate financial behaviour varies in different regions, under different accounting standards.

**Table 1***Summary Statistics of the main variables*

Variables	Mean	Median	Std Dev.	Min	Max
<i> DA </i>	0.104	0.055	0.328	2.52e-06	12.647
<i>SCORE</i>	2.502	3	1.114	1	4
<i>NOSEGMENTS</i>	2.781	2	2.201	1	10
<i>PROFITABILITY</i>	4.153	4.470	10.948	-148.72	137.62
<i>MARKETVALUE</i>	13.358	13.203	1.854	9.019	17.977
<i>SIZE</i>	13.862	13.586	1.776	10.114	18.024
<i>LEVERAGE</i>	36.070	35.98	46.735	-129.51	1586.6
<i>LAG DA </i>	0.102	0.054	0.355	2.52e-06	12.6474

*Note.* This table provides descriptive statistics for my sample from the period 2009-2019. It reports the summary statistics for my main variables of interest and the control variables. Absolute Discretionary Accruals is the absolute value of discretionary accruals, where discretionary accruals is estimated following Dechow et al. (1994). SCORE measures the degree of decoupling of segment earnings from IFRS earnings. I define a score from 1-4 based on the percentile rank of the normalised absolute difference between total segment earnings and net income of each observation, 4 being the most decoupled. NOSEGMENTS represents the number of segments each observation has. SIZE is the natural logarithm of total assets. MARKETVALUE is the natural logarithm of market capitalisation. LEVERAGE is the total percent of debt to capital. PROFITABILITY is the return

on assets.  $LAG|DA|$  is the lag of the absolute discretionary accruals value.  $SIZE$  and  $MARKETVALUE$  are winsorized at the 1st and 99th percentiles.

## Research Design

The Hypothesis for this thesis is that firms with more decoupled segment earnings from their IFRS earnings, on average, are associated with more earnings management. This hypothesis is tested with a regression model. The dependent variable is Absolute Discretionary Accruals – obtained from the Modified Jones Model – and the independent. The model is as follows, with the firms indexed by  $i$  and the years by  $t$ :

$$|DA|_{i,t} = \beta_0 + \beta_1 SCORE + \beta_2 NOSEGMENTS + \beta_4 SIZE_t + \beta_5 MARKETVALUE_t + \beta_6 PROFITABILITY_t + \beta_7 LAG|DA|_t + \varepsilon_t$$

Moreover, the regression contains some control variables. The control variables are there to attempt to isolate the absolute discretionary accrual value in order to interpret and receive results that portray a more accurate image of the effect of decoupled segment earnings on earnings management. These control variables are categorised into two descriptions, one being firm characteristics and the other being incentives for earnings management. These categories are fundamental determinants of accounting processes within a firm, and it is necessary to account for them. The variables were tested for multicollinearity for the VIF test and found to have a mean VIF of 2.42, indicating no problems regarding multicollinearity.

The variable  $NOSEGMENTS$  falls under firm characteristics, and can be considered an important control variable. As mentioned previously, André et al. (2014) stated that managers may tend to blur disclosure quality with an increased quantity of segments. This variable is included to see how the number of segments is associated with earnings management, and due to it being a potential determinant for more earnings management. I use the natural logarithm of total assets for  $SIZE$  and the natural logarithm of market capitalisation for  $MARKETVALUE$ . The intent behind this is to control for abnormal

estimations and volatility. I further winsorized these two variables with the 1st and 99th percentile to attempt to normalise the data.

The variable PROFITABILITY falls under the category of earnings management incentives, as it is likely if a firm is not making profits, they may feel pressured to perform earnings management. This is in line with the agency theory. The proxy for this is taken as ROA. The same applies to LEVERAGE, in which I make use of the debt as a percentage of capital. Firms which have more debt as a percentage of their capital may also lean towards earnings management to skew this number in their favour.

The last variable,  $LAG|DA|$  was added later to the regression after having tested for autocorrelation using the Wooldridge test. The significance indicated a presence of autocorrelation which led me to include clustered standard errors as well as a lagged variable of the independent variable. The clustered standard errors simultaneously combat the problem of heteroskedasticity. Overall, after these applications the observations dropped to 1,458, and despite the efforts, autocorrelation was still significant on a 5 percent level. This implies that the interpretations of the regression must be done with care.

## Results and Discussion

For my analysis, similar to Gross et al. (2024) I use a fixed effects regression in order to find an answer for my hypothesis, whether a positive association exists between the extent of decoupled segment earnings from IFRS earnings and earnings management. The dependent variable is the absolute value of discretionary accruals, obtained from the modified Jones model. The independent variable is the score, given a value from 1-4 based on how decoupled total segment earnings are compared to IFRS earnings (net income). The control variables are all explained in detail in the methodology section.

**Table 2**

*Association between the extent to which total segment earnings are decoupled from IFRS earnings and Earnings Management*

	Coefficient	Robust Std. Error	t-statistic	[95% conf. interval]	
<i>SCORE</i>	0.008	0.004	1.92*	-0.000	0.077
<i>NOSEGMENTS</i>	-0.04	0.002	-2.23**	-0.007	-0.000
<i>PROFITABILITY</i>	0.000	0.001	-0.40	-0.002	-0.001
<i>MARKETVALUE</i>	0.012	0.018	1.76*	-0.001	0.024
<i>SIZE</i>	-0.027	0.008	-3.46***	-0.042	-0.011
<i>LEVERAGE</i>	0.001	0.000	3.19*	0.000	0.001
<i>LAGDA</i>	0.034	0.022	1.57	-0.009	0.077
<i>_Cons</i>	0.277	0.039	7.21*	0.202	0.353
Fixed effects			Year		
Observations			1,458		
Adjusted R-Squared			0.0600	Prob > F = 0.000	

*Note.* , \*\*\*, \*\*, \* indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table reports the association between the extent to which total segment earnings are decoupled from IFRS earnings and the absolute value of discretionary accruals. Variable descriptions can be found on the footnotes to Table 1. The reported T-statistics are calculated using standard errors clustered by the firm The F statistic for the regression is significant at the 1 percent level.



## Interpretation

The number of observations fell from 1,803 to 1,458 when the new variable of lagged absolute discretionary accruals was added. This was done in order to help reduce the autocorrelation that was present previously. The sample contains 268 companies, with an overall adjusted R-squared of 0.0600, meaning 6% of the variability in absolute discretionary accruals is explained by the model. Given the p value of the F- statistic being 0.000, the variation in absolute discretionary accruals explained by the model is statistically significant.

Moving onto the key variables, our main variable of interest SCORE has a small, but positive coefficient at 0.008, and is significant at the 10% level. It should also be mentioned that the P value at 0.056 also shows it is nearly significant at the 5% level too. This regression proves that there is a significant association between decouplement levels and earnings management.

Looking at the control variables, NOSEGMENTS displays a negative coefficient, which is statistically significant at the 5% level. PROFITABILITY has an insignificant coefficient of 0.000 when rounding to 3 decimal places. MARKETVALUE has a significant positive relationship with earnings management at the 10% level with a coefficient of 0.012. SIZE on the other hand, has a significant negative relationship at the 1%, with a negative coefficient of -0.027 Leverage is another significant control variable at the 5% level, displaying a slightly positive relationship of 0.001 when rounding for 3 decimal places. Lastly, the lagged variable of Absolute Discretionary Accruals shows a positive coefficient of 0.034, but the effect is not strong enough to be considered significant.

## Discussion

Linking back to the hypothesis, the prediction was that there is a positive association between more decoupled segment earnings from IFRS earnings and earnings management. The coefficient for SCORE being 0.008 and significant confirms that as the decoupling of segment earnings from IFRS earnings increases, so does the level of earnings management. The hypothesis can be accepted due to its significance.

The result of NOSEGMENTS implies that firms with more business segments engage in less earnings management, which can be as a result of the complexities that come with managing multiple segments. The coefficient and significance for PROFITABILITY informs readers that profitability does not have a significant impact on the earnings management practices in my sample. An interesting outcome from this regression is the significant positive relationship of MARKETVALUE and the significant negative relationship of SIZE. Firms with a higher market value are more likely to engage in earnings management, arguably due to the growing pressure of meeting investors' demands that comes with such an increase. However, firms that have a higher value of total assets lean towards performing less earnings management, perhaps due to the larger scrutiny that comes from regulators and auditors, as well as enhanced corporate governance and internal controls. Nevertheless, it is important to mention that although the VIF test confirms there is no multicollinearity within the variables, the correlation between these two variables specifically was rather high at 0.7, meaning it should still be interpreted cautiously. LEVERAGE is quite straightforward as a company facing financial distress would intuitively feel more inclined to perform earnings management as well. Lastly, LAGDA elucidates that the past earnings management practices do not influence current ones due to its insignificant result.

Comparing these results to the findings of Gross et al. (2024), it must be first reiterated that the sample size is 21,334 compared to my sample of 1,458, meaning the study of Gross et al. provides more statistical power than enables them to detect significant effects. Both of our independent variables have a positive significant effect between the degree of decoupling and earnings management, although theirs is at a marginally higher rate of 0.126. This difference may be attributed to many things, such as sample size, our proxies for decouplement, model for earnings management and most importantly the difference in regulatory environments and market conditions in Europe compared to the USA. Regarding our shared control variables of SIZE and LEVERAGE, both of our findings are consistent with each other.

The implications of these results are that after the implementation of IFRS 8, there seems to have been an increase in earnings management due to the discretionary nature of segment disclosures. Although the coefficient seems to be a small value, with regards to financial

statements and firms this can translate to a much larger number. On top of this, these small coefficients can accumulate over years to eventually have an economically significant effect on the IFRS earnings reported. This means that ideally there is a necessity for actions to be taken to address this problem. Whether it is amendments for policy making or changes in internal controls, there must be more safeguards (As Véron stated in 2007) to increase investor protection.

Looking at the robustness and limitations, a big problem in this model was autocorrelation. Despite including a lagged dependent variable, some degree of autocorrelation exists. To combat this more lags can be added but the data provided by worldscope limits this ability and would result in a tradeoff between lagged variables and observations. Further research would advise access to an enhanced database to use a data set with more consistent information for companies. Another limitation was the variable used as a proxy for segment earnings. Using product business segments rather than geographic could have provided more insights. Product business segments are more focused on the company's internal performance metrics, maybe giving a better reflection of the MAS. Furthermore geographic segments may be affected by external factors such as exchange rates, political stability, local accounting practices, hindering the accuracy of the results.

## Conclusion

The main goal of this research was to shine light into a gap in the research of IFRS 8 and earnings management. The pre-existing literature allowed the formation of theoretical knowledge and background information that led to the forming of the hypothesis that the degree of decoupled segment earnings from IFRS earnings is positively associated with earnings management.

To answer this, I utilised a modified Jones model (Dechow, 1994) and created my own score rating, allowing me to regress the results of the model on the score, along with control variables for size, leverage, market value, number of segments, profitability and a lagged variable.

The main findings of the study were that the independent variable SCORE was significant with a marginally positive effect, confirming the hypothesis. All variables except for PROFITABILITY and LAGDA were significant. The regression itself was significant as well according to the F-test, indicating the reliable results displayed in the regression. Overall, this research confirms that within the sample of European firms, the degree of decoupling between segment earnings and IFRS earnings does indeed have a positive association with earnings management.

This research contributes to the understanding of the relationship between IFRS 8 implementation and earnings management practices. Prior to this paper, there was no research conducted that looked at earnings management and IFRS 8 in Europe, especially through decoupled earnings. By finding significant results I shine light on the potential shortcomings of IFRS and pave a way for researchers to conduct this topic further and in more detail, providing a more than enough template with an established round work on this topic. In turn, this may lead to a benefit to society through a deeper understanding on how companies may mislead investors. Additionally it can lead to much needed amendments to policies or changes internally.

The study is mainly limited by the availability of data, as missing values in some years for companies lead to having to drop them and potentially damaging the results of the regression. Furthermore it led to resorting to a sub par proxy for segment earnings and using less control variables like audit quality, board independence due to the further reduction in observations it would cause. Other limitations are the potential measurement errors in discretionary accruals and also the generalisability of the findings beyond the sampled companies.

One way to combat these limitations would be to expand the sample size outside of Europe to countries that have mandated IFRS from before 2008. Another solution would be to use other databases or multiple, to fill in gaps in the data of the existing firms in Europe that were dropped due to unavailability. Future research could implement these changes and can even further explore the impact of IFRS 8 through enhanced control variables and including restatements in their measurement of earnings management (Gross et al., 2024). Future researchers can also examine other discretionary parts of the standard that also promote opportunities for earnings management.

Overall, this thesis contributes to the ongoing debate on the efficiency of IFRS 8 and whether its introduction has enhanced transparency and accountability for segment accounting. The findings were conclusive, providing a promising start for further potential research that can inform policy makers, investors, regulators and other stakeholders, leading to amendments and better decision making overall.

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