Earnings Management under IFRS

A comparative study of the earnings management magnitude following IFRS adoption among

Swedish listed companies

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Abstract

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Keywords: Earnings Management, Discretionary Accruals, Jones Cash Flow Model, IFRS, Conservatism.

Purpose: To investigate how the introduction of IFRS for listed companies in Sweden has affected Swedish listed companies' use of earnings management.

Method: A quantitative method with a deductive approach. Estimation of parameters in the Jones Cash Flow Model cross-sectionally.

Theory: A review of the different ways in which firms can engage in earnings management. Furthermore, we review the link between accounting standards and earnings management, and how the use of an accounting standard can affect the degree of manipulation as well as what impact earnings management has on accounting quality.

Results: The use of discretionary accruals has decreased in the time period following IFRS as compared to the time period prior to IFRS adoption. In both time periods the general pattern is to create hidden reserves.

Analysis: The magnitude of earnings management has decreased substantially following IFRS adoption among Swedish listed companies. The use of conservative strategies such as the creation of hidden reserves appear in both time periods, however the adoption of IFRS has decreased the magnitude of the conservative approach to earnings management.

Conclusion: The results indicate that the more principle-based IFRS accounting model leaves a smaller scope for earnings management among Swedish listed companies than the national framework Swedish GAAP did. For standard setters such as IASB, these findings are likely to confirm their intuition that IFRS leads to better earnings quality compared to the Swedish GAAP.

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1. Introduction

The first chapter aims at setting the scene for the thesis. First, a background of earnings management will be presented followed by a description of the historical developments of accounting rules in Sweden. Thereafter the problem formulation, purpose, research question, delimitation and disposition of the thesis will be stated.

1.1 Background

The problem of opportunistic behavior among managers in preparation and disclosure of financial information has been a concern for many years. Whenever ownership is separated from the management function, the accounting function is affected by an agency problem (Jensen & Meckling, 1976). The agency problem concerns the difficulties that surface under conditions of incomplete and asymmetric information when a principal hires an agent to carry out tasks in the interest of the principal. One of the difficulties that emerges in such a separation is that of non-aligned interests in preparation and disclosure of financial statements. In such a context, the management may have incentives to make decisions that are in conflict with the interests of the firm's owners (Fama, 1980). When companies such as Enron and WorldCom were put in the spotlight in the early 2000s, it was disclosed that the management had gone to extreme measures in preparing their financial statements. The former CEO of WorldCom Scott Sullivan went on record and claimed that he "*falsified the financial statements to meet analysts' expectations*" (Financial Times, 2005). Being faced with serious pressure to meet the financial numbers forecasted by analysts, the management deliberately used several "techniques" to manage its earnings. The techniques were effectively using loopholes in the accounting standards until the scheme was revealed. Agency contracts had clearly not been working as intended and neither had the accounting function, as it failed to serve as a means to decrease the information asymmetry between the principal and agent to a reasonable level. Though Enron and WorldCom are widely acknowledged as having taken the practice of earnings management to a fraudulent extreme, it is also widely acknowledged that earnings management is a common practice that is beyond the reach of the law.

The ability to opt in opportunistic behavior may be impacted by accounting standards, which set the rules for the preparation and disclosure requirements of financial statements. Clear and rigid rules that together limit the options and restrict the width in which managers can exercise subjective judgment should reduce the ability to engage in opportunistic behavior. Flexible rules, on the other hand, works the other way as this will give the manager a broader scope to use their judgment as a background for the numbers disclosed in the financial statements (Jeanjean & Stolowy, 2008). When managers are able to exercise their own discretion, they may exercise it as a means to pursue their own interests. In other words, the more flexible the rules are, the more it opens up for earnings management techniques (Callao, 2010).

Exercising earnings judgment in an opportunistic way is naturally very problematic in the eyes of the actors on the financial markets. It is in the interest of shareholders, creditors, standard setters and regulators that the quality of the reported earnings is robust (Healy & Wahlen 1999). In the 1990s, when the management started to use earnings management more widely to meet the often short-

term demands of increased stock value options and share prices, regulators and international audit committees started to pay serious attention to the use of the earnings management techniques (Financial Times, 2005).

The focus of audit committees has been moving towards overriding policy issues for some time now, with questions such as whether or not the financial disclosures of companies present a true and fair view of the companies' state of affairs high up on the agenda. The 2005 introduction of the International Financial Reporting Standards (IFRS) for groups listed on financial stock markets in the European Union (EU) paved the way for a new scenario in regards to the accounting function for concerned companies in the union. An outspoken goal of the regulatory body behind the IFRS standards, The International Accounting Standards Board (IASB), is to increase the value relevance of the accounting disclosures as a means to make them more useful to users. In line with prior research (Barth, 2005; Bartov et al, 2005; Hung & Subramanyam, 2007), this study sees earnings management as an obstacle to value relevance.

1.2 Accounting standards in Sweden

IASB is an independent global standard-setting body founded in 2001 as the successor of International Accounting Standards Committee (IASC). The IASB issues the IFRS which is an international standard for accounting of companies and organizations' finances. IFRS takes a principle-based approach towards accounting and the mission of the standards is to bring transparence, accountability and efficiency to financial markets around the world (IFRS, 2017).

In 2002, the Council of the EU decided to adopt the IAS Regulation requiring listed companies to comply with the IASB's international accounting standards: IFRS. Entering the EU in 1995, listed Swedish groups were affected by the adoption of IFRS since the standards were now required for the consolidated financial statements of all European companies whose debt or equity securities trade in a regulated market in Europe. In the case of Sweden, this meant a mandatory change from Swedish GAAP to IFRS standards in 2005. Sweden and the Swedish GAAP are generally considered to have been following a conservative and rules-based approach to accounting (Hellman, 2008; Ball et all, 2000; Hung 2000), and the transition to mandatory IFRS adoption is expected to bring change to the accounting approach by Swedish listed firms.

This study aims to bring clarity into the question of whether the transition from the national Swedish GAAP standards to IFRS has impacted the magnitude of earnings management among Swedish listed companies. Earlier studies on the subject are restricted to IFRS' impact on earnings management in other EU countries, either studied in isolation or between several member states simultaneously, but there is no research that takes only Sweden into consideration after 2008 (Barth, 2008; Callao & Jarne, 2010; Jeanjean & Stolowy, 2008; van Tendeloo & Vanstraelen, 2011). Seeing as the effect of IFRS on earnings management will partly depend on the national accounting standards used prior to IFRS adoption, it is not possible to generalize the conclusions drawn and apply them in a Swedish context.

1.3 Problem formulation

The transition from the Swedish local set of standards to the international IFRS is likely to impact the many aspects of accounting in Sweden. One of the many aspects that are likely to be impacted is the ability for the firm management to engage in different earnings management techniques. In this study we hope to bring clarity into the level of this impact, by identifying the changes in magnitude of earnings management following the adoption of IFRS for listed companies in Sweden. We hypothesize that the adoption of IFRS has increased the magnitude among Swedish listed companies, as we believe that IFRS' reliance on fair value judgment opens the door to greater earnings management compared to what the more rules-based Swedish GAAP did.

1.4 Purpose

A question of interest for standard setters and regulators is to decide how much judgment that can be allowed by management to exercise in the financial reporting. The purpose of the study is to investigate how the introduction of IFRS for listed companies in Sweden has affected Swedish listed companies' use of earnings management. The result of this study can then help regulators and standard setters to evaluate the effects of the changed accounting standards on the use of earnings management in Sweden.

1.5 Research question

Has the magnitude of earnings management changed following the 2005 mandatory adoption of IFRS among companies listed on the Stockholm Stock Exchange?

1.6 Delimitation

The study intends to investigate how the introduction of IFRS has affected the magnitude of earnings management in companies listed on the Stockholm Stock Exchange. The delimitation of firms on the Swedish market is made to see how the introduction of IFRS affected the Swedish market in isolation. Financial institutions and banks are excluded from this thesis since they are governed under other legislation in Sweden. Companies that were not active during the entire time period between 1999 and 2016 were also excluded.

1.7 Disposition

In concluding our launching section, we present the disposition of the remaining sections of the thesis:

2. Theory: The theory chapter presents the theories used for the thesis. A description of earnings management and what type of earning management that firms can prosecute, as well as IFRS's impact on earnings management are presented. The chapter also includes a description of accounting quality.

3. Method: In this chapter the methodology of the study is explained. Initially, the research approach, data collection and Ordinary Least Squares are explained. Thereafter, explanations of calculations and regressions of earnings management are described. The chapter ends with a review of the thesis' reliability, validity and a discussion on potential survivorship bias.

4. Results: This chapter displays the results from several regressions. The authors present, both graphically and in text form, the results for the different variables in the Jones Cash Flow Model for each industry studied.

5. Analysis: In the analysis chapter, the collected results are analyzed based on the theories presented in the thesis. The analysis is developed with the thesis' research question and purpose taken into consideration.

6. Conclusion: In this closing section we will present the conclusions drawn from the overall findings in our research and a brief discussion of its implications. We then present our ideas for interesting future research areas in relation to our research question.

2. Theory

This chapter intends to clarify the theoretical foundation of the thesis, it starts by going through the background of earnings management in order to explain the definition in use. The chapter then continues with a review of different ways for firms to exercise earnings management. Furthermore, we review the link between accounting standards and earnings management, and how the use of an accounting standard can affect the degree of manipulation as well as what impact earnings management has on accounting quality.

2.1 Earnings management

According to Healy & Wahlen (1999), earnings management is defined in the following way;

> *"Earnings management occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers".*

Earnings management has been a topic for research for several decades. Watts & Zimmerman (1978), Healy (1985), and Healy & Wahlen (1999) have all written studies about how and why firms manipulate their earnings. Most of the prior research on earnings management are focused around four questions (Healy & Wahlen, 1999):

- What motives drive earnings management?
- Which accruals appear to be managed?
- What are the economic consequences of earnings management?
- What is the magnitude and frequency of earnings management?

Standard setters will, by answering these questions, be able to estimate the effects of accounting standards that require judgment from managers. If there are areas where earnings management are more frequent within and simultaneously have had significant effects, there will be opportunities for standard setters to refine existing standards and increase information requirements to improve the reliability of financial reports. With this in mind, it is thus important for standard setters to determine how much of accounting that should be allowed to be based on subjective assessment by the management. If the standards give the management a lot of discretion, the ability to engage in the use of accruals to manage the earnings of a firm increases, which can have consequences for the quality of the earnings (Healy & Wahlen, 1999).

2.1.1 What motives drive earnings management?

A question of interest is naturally why the manipulations of financial statements occur, i.e. the first of the four research questions on the topic of earnings management. A part of the answer to the question lies in the conflict of interests between the principal and the agent in a certain context. When the goals of the principal and agent are not aligned, the agent-principal contract is leading to a distortion and goal incongruence. The agent, such as the management, wants maximum compensation, build up a

great company and create a reputation amongst themselves as good leaders. The principal, such as the owner, wants a good return for his or her investment and influence. In accordance with the information asymmetry between the principal and agent, as described by the agent-principal theory, the actor with the most information is also the one with the most power to influence the end result. The information asymmetry favors the management, who can make decisions that are beneficial for the pursuit of the management's own interest. For instance, by manipulation of the earnings, the management can pursue their own goals while still keeping the owners temporarily satisfied with a financial position that does not correspond with the reality. From a longer time perspective this type of manipulation is not sustainable. It is therefore of the essence that the regulators carefully consider a set of standards that can curb the manipulation and successfully reduce the information asymmetry.

2.1.2 Which accruals appear to be managed?

The accruals of a firm and its impact on the earnings should reflect the underlying economic substance to ensure its accuracy. Most accruals techniques do not reflect a management's will to manage its earnings. These are often called the normal or non-discretionary accruals. It is however possible for managers to engage in a management of the accruals that impacts the earnings in such a way that it decreases its accuracy. The accruals that can be managed in such a way are called the abnormal or discretionary accruals and are often considered to be the primary items used by a management that wishes to manipulate its earnings in a certain period.

Arthur Levitt, chairman of the Securities and Exchange Commission, spoke in 1998 of the emergence of a "grey area where the accounting is being perverted; where managers are cutting corners; and where earnings reports reflect the desires of management rather than the underlying financial performance of the company" (Financial Times, 2005). Specifically, he mentioned some techniques which had been identified as inappropriately used by some companies to manage its earnings in response to pressure from analysts and the markets:

• Overstating one-time "big bath" restructuring costs and charges in order to satisfy future analyst earnings estimates.
• Misusing acquisition accounting, particularly improper write-offs of acquired in-process research and development to overstate future earnings inappropriately.
• Over-accruing charges for items such as sales returns, loan losses or warranty costs when the company is profitable and using those reserves to smooth future earnings when the company is not so profitable – known as cookie jar reserves.
• Prematurely recognising revenue – for instance, before a sale is complete, before a product is delivered to a customer or at a time when it is possible that the customer may still terminate, void or delay the sale.
• Improperly deferring expenses to improve reported results.
• Misusing the materiality concept to mask inappropriate accounting treatment.

These are all examples of discretionary accruals that can be managed in a way to manage the value of the earnings in a way that pleases the managers.

2.1.3 What are the economic consequences of earnings management?

The net-tax income of any company is often referred to as earnings, which is the central determinant of a listed company's stock price, since earnings and other occurrences relating to them serve as a primary indicator of the company's profitability. A company's financial reporting should in an objective way provide a correct and accurate picture of a company's financial status, which in the case of earnings can be referred to as earnings quality. If the earnings do not correspond with reality, earnings quality is considered low and vice versa if the correspondence is high. Depending on which perspective one takes on, the economic consequences of earnings management can be diverse. For a manager, it can mean reaching a certain bonus or satisfying some stakeholder (in the short term). For an investor, low quality earnings distort the investment decision and can potentially have profound economic consequences.

2.1.4 What is the magnitude and frequency of earnings management?

The question of the magnitude of earnings management has received the most attention in contemporary research of all the four research suggested by Healy & Wahlen (1999). As mentioned in section 1.5, this is the question that we are preoccupied with in our study. By comparing the magnitude of earnings management prior to and post IFRS adoption among Swedish listed companies, we hope to bring clarity into whether IFRS as a set of standards has brought any change to the quality of the earnings by altering the scope for earnings management. The magnitude of earnings management depends on how the discretionary, abnormal accruals are managed. In the following sections we will describe some of the strategies that managers undertake when they manage their earnings.

2.1.4.1 Income smoothing

The practice of income smoothing has a long tradition. It is possible to argue that the primary reason for income smoothing originates in the fact that managers want to fulfill investors and other stakeholders´ expectations of a company's result. This could be done by using different earnings manipulation techniques, such as those described by SEC chairman Arthur Levitt (Financial Times, 2005). Earnings management as a means to increase earnings to meet analysts' forecasts or to reach certain levels of bonuses seem rational, bearing in mind the information asymmetry between the management and the owners. However, in many cases earnings management is used to lower the end result of the firm. Two of the most common techniques of earnings management, in order to reduce the earnings, are called big bath accounting and cookie jar accounting.

2.1.4.2 Big bath accounting

Taking a bath, or big bath accounting, is the part of earnings management where managers (not seldom newly acclaimed managers) face situations where their firms perform negative results with earnings so low that no matter which accounting methods used, targets will not be reached. In these situations, managers have incentives to diminish current earnings even further by using certain accounting techniques such as accelerating write-offs in order to gather the negative earnings to the same period in time. The big bath accounting strategy is based on the idea that an even further drawback from already inevitable negative result is rational, since it increases the probability of meeting targets and thus higher bonuses for future periods (Healy, 1985).

2.1.4.3 Cookie jar accounting

Hidden reserves, or cookie jar accounting, is an income smoothing term which means that firms build up reserves in times of high profits, reserves that are to be reversed in bad years to increase earnings. This conservative earnings management strategy could be seen as a way for companies to smooth out volatility in its financial results, thus giving stakeholders the impression that the firm persistently meets their earnings target. The "cookie jar" often takes the form of an accrued liability account and these reserves could be seen as sustainable because they depend on overstatement of debts and not assets (Fullwood & Wilson, 2012).

2.2 Accounting standards and earnings management

Conservatism used to be one of the main accounting principles in Sweden and it appears to be a term that is still widely used in accounting-related discussions of specific events. When preparers, users and auditors meet, it is more likely than not that the application of conservatism will be discussed in some way or another. IASB and the American equivalent Financial Accounting Standards Board (FASB) have however not emphasized the concept of conservatism, which is proved in their mutual discussion paper regarding an improved conceptual framework. In this document, both IASB and FASB make it clear that the concept of conservatism is no longer desirable as a quality measure of financial disclosures (*IASB, 2006a*).

"Conservatism is, at best, a very poor method of treating the existence of uncertainty in valuation and income. At its worst, it results in a complete distortion of accounting data." (Hendriksen, 1982, p 83).

However, even though conservatism as a principle has lost status in the eyes of IASB, the standards will still have to deal with the uncertainty that companies face when they are preparing their books. It is possible to criticize the reasoning behind these types of arguments that build on the idea that conservatism can be used as a means to curb uncertainty. IFRS on the other hand seems to rely on the idea that alterations in uncertainty can be dealt with in a neutral way, without neither conservatism nor an optimistic bias. In other words, IASB is of the opinion that changes in the prospects of uncertainty can be transformed into a change of accounts without necessarily being impacted by subjectivity of the preparer's judgment. In the eyes of the accounting practice, this type of reasoning is however not as easily bought. Paton and Littleton identified negative profit effects as a means to create hidden reserves and the positive profit effect of reversing those hidden reserves as early as 1940. Seeing as IFRS leaves a lot of options for managerial discretion, it would seem almost naive to think that preparers of financial statements will apply conservatism less in their works if the IFRS standards effectively increases the ability for temporary conservatism – such as via the creation and reversal of hidden reserves (Hellman, 2008).

2.2.1 The accounting tradition in Sweden

It is common to classify Sweden as a part of the continental European accounting tradition in international accounting research (Ball et al 2000, Hung 2000). The Swedish juridical and accounting systems were mainly influenced by German traditions prior to World War Two (Flower, 1994). In terms of accounting, this meant that Sweden's preparations of accounts were mainly following a tax and law-based approach. In the direct aftermath of World War Two, Sweden was one of few European

countries with the ability to still produce at a high rate, which lead to rapid growth of the Swedish industries. The expansion of the Swedish industry was mainly financed by internal means and debt, and not via the equity markets. Because of the characteristics of the financing of the Swedish industry, the accounting practice was inclined towards meeting the demands of the government and tax authorities (Flower, 1994). The government and tax approach still lives on in Swedish accounting, but it is changing as it is influenced by international accounting standards.

Sweden's shift from applying conservatism as a primary valuation principle in favor of valuation according to economic substance was an established attitude according to research long before the 2005 mandatory adoption of IFRS (Artsberg, 1992). Earlier research all point to Sweden as having had a financial reporting environment with low value relevance (Alford 1993, Ali & Hwang 2000, Hung 2000), which indicates that Sweden as a market resembles the characteristics of a stakeholder governance-market as opposed to a market where a shareholder corporate governance model is outstanding. These studies are based on data from the 1980s and 1990s, and thus the conclusions drawn from them do not capture the recent changes in Swedish accounting. In summary, it is claimed that the differences between IFRS and the accounting standards used prior to 2005, Swedish GAAP, have been reduced over time long before the 2005 adoption of IFRS. The 2005 mandatory adoption of IFRS by listed companies in Sweden was expected to improve the quality of financial reporting in Sweden according to research (Platikanova and Nobes 2006; Soderstrom et al 2007; Frankel and Li 2004). They hypothesized that IFRS would lead to an increased accounting quality due to more timely and relevant financial reporting that effectively reduces both the information asymmetry and the cost of capital. When the assumption is that IFRS consists of better overall quality standards than the Swedish GAAP, it can be hypothesized that the Swedish accounting has increased its quality since 2005.

2.2.2 IFRS and accounting quality

The mandatory application of IFRS among the listed companies in the European Union is one of the more important changes of accounting regulation in the history of accounting. It impacts the expectations of the agents who are naturally affected by the standards in how they choose to prepare and present the analysis of the financial information. The harmonization process of Europe is clearly of importance for the European Union, as the harmonization process of IFRS adoption is expected to increase the transparency, comparability and the overall quality of the financial reporting throughout the Union (EG Regulation No. 1606/2002). The IFRS adoption is rather revolutionary in many European countries, especially those that have traditionally been associated with the European continental accounting philosophy, such as Sweden, Germany and France. Moving from a rules-based to a principle-based accounting system means that accountants must interact closer with the management to ensure that the accounts reflect true economic substance (Wüstemann & Kierzik, 2005). As previously mentioned, it is plausible to believe that succumbing to a principle-based school of accounting opens up for more flexibility in the interpretation of what economic substance is, which can be used to the management's advantage and increase the level of earnings manipulation for instance (Jeanjean & Stolowy, 2008). Iatridis & Joseph (2005) conclude that the flexibility given by the principle-based school enhances the manager's ability to smooth income in accordance with their own incentives.

Some research has gone more into depth into the characteristics of the principle-based IFRS and its implications for the financial information disclosures. Ball (2006) analyzed the pros and cons of IFRS from the investor's perspective. One of the aspects studied is that of fair value accounting, where Ball sees an increased space for manipulation which leads to overall less quality of the financial information for the investor. Other research uses measures such as properties of earnings, proxies for timeliness and conservatism, earnings volatility and earnings management as indicators of accounting quality. Daske & Gebhardt (2006) found that the quality of financial reporting had increased considerably in traditionally conservative Austria, Germany and Switzerland both in companies that voluntarily adopted IFRS and firms that were forced to do so in 2005. Eccher & Healy (2003) looked at the effect of IFRS adoption in China and could not find any increase in value relevance since the IFRS adoption. Ormrod & Taylor (2004) hypothesized that the adoption of IFRS would lead to greater earnings volatility and a more widespread use of income smoothing, mostly because the overarching fair value principle opens up for managerial judgment. The research by Bartov et al (2005) and Hung & Subramanyam (2007) find no evidence of increased value relevance following the switch from German GAAP to IFRS adoption. With earnings management as a basis for earnings quality, van Tendeloo & Vanstraelen (2005) could not identify any differences in terms of earnings management between companies complying with German GAAP and those preparing the statements in accordance with IFRS. Barth et al (2008) looks at the earnings quality by reference to its value relevance and the magnitude and frequency of earnings management. In their analysis, drawing data from 21 countries, they claim that companies that are reporting in accordance with IFRS have higher value relevance and are less involved in earnings management than countries that apply national standards. The conclusion drawn is that IFRS leads to greater overall financial quality in a majority of the countries.

There are many potential reasons behind the conflicting results in regards to the financial quality post-IFRS adoption. One primary reason lies in the controversial definition of what quality is in the context of financial statements. A solely non-controversial definition of the term accounting quality cannot be found, as the meaning of this term varies slightly between different authors. Legenzova (2016) explains that the analysis of scientific literature reveals that even though the term is used frequently in scientific discussions, there is no single definition of accounting quality. In previous research, accounting quality is either defined by the quality of the financial statements or from the definitions of the major accounting standards (eg. IFRS or US GAAP) regarding qualitative characteristics. Legenzova (2016) clarifies that in most of previous research, less earnings management, more timely loss recognition, lower loss of capital, and higher value relevance of accounting amounts were all linked with accounting quality. According to Nikolaev (2014), accounting quality could be defined as the extent to which earnings measure the underlying economic performance without inaccuracy, and Penman (2002) argues that accounting quality should be discussed in terms of fair valuation of shareholders' interests.

Soderstrom & Sun (2007) discuss the determinants of accounting quality (figure 1). They claim that although conversion to new accounting standards is very likely to affect financial reporting, it is only one of many determinants of overall accounting quality. Because the other determinants are often country-specific, the conflicting results of the prior research in this area can be explained by the other determinants of accounting quality. If IASB continues to improve the quality of IFRS, we can expect financial information to become increasingly qualitative. Soderstrom & Sun (2007) also claim that when the changes between the local standards and IFRS are high and there are high compliance rates, then the power of the comparison between two time periods tested empirically will be larger.
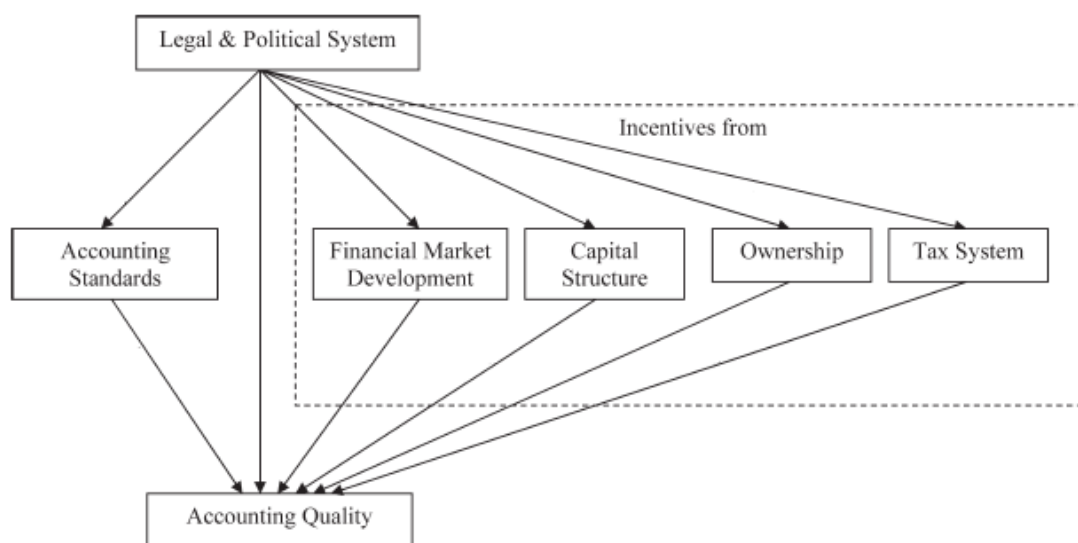
Figure 1. Determinants of Accounting Quality (Soderstrom & Sun, 2007).

Although the absence of a single definition of accounting quality, there are studies using measures that are identified as proxies for the term, for example, Barth et al (2008) use earnings management, timely loss recognition and value relevance as accounting quality metrics. Accounting quality can be linked to the value relevance of accounting earnings. Brown, He & Teitel (2006) write that it is generally considered in several studies that the greater the value distribution, the more useful the information is in decision making. Value relevance is, according to the authors, the extent to which accounting earnings account for the information that is confined in market prices (Brown, He & Teitel, 2006).

2.2.3 Earnings management and accounting quality

In our study, the question of interest is whether IFRS and the consequent use of managerial discretion have led to an increased quality of financial reporting or not. In line with the reasoning by Hung & Subramanyam (2007), Barth (2008), van Tendeloo & Vanstraelen (2005) and Ball (2008) earnings management could be seen as a cause of deterioration in accounting quality. The discussion which the authors carry gives an indication that reserve management gives inferior value relevance, which leads to secondary accounting quality. Of all variables that can be used to analyze the impact of IFRS on the accounting practice, we have chosen to focus on the implications for the magnitude of earnings management. To do this, we will measure earnings management in terms of discretionary accruals.

It is important to mention that the prior research mentioned base their conclusions on data from a maximum of five years following IFRS adoption. Relatively young standard-setting regimes, such as IFRS in the EU, appear more principles-based because they have not had as much time to accrete rules according to Callao et al (2010). In time however, there will be guidance on implementation, technical rules and interpretations of the standards. This could be a reason for the diverse results regarding the IFRS impact. I.e. we see less of it now because there has come more implementation guidance, interpretations and technical rules than there was at the time for the prior studies on the subject. Even though the prior research is showing conflicting results, we hypothesize that IFRS and its reliance on managerial discretion has increased the ability by Swedish listed companies to engage in earnings

management. The reason for this is that Swedish GAAP is identified as a conservative set of standards that leaves smaller room for managerial discretion than IFRS does and IFRS' reliance on managerial discretion is therefore believed to have increased the ability for Swedish listed companies to engage in earnings management. For these reasons, we have formulated our hypothesis in the following way:

The adoption of IFRS in Sweden negatively impacts reporting quality because it increases the scope for earnings management.

3. Method

In this chapter, we will provide a description of the methodological approach for the thesis. First, the research approach is presented, followed by a description of the process of data collection and a review of Ordinary Least Squares. Thereafter, a detailed review of how researchers have estimated earnings management earlier is made explicit. We also present the development of the established formulas to measure earnings management, and how the established formula by Jones (1991) have been developed by Kasznik (1999) to what is now referred to as Jones Cash Flow Model. The link between discretionary accruals and adoption of IFRS is then discussed before we close the chapter by discussing possible shortcomings of the used method.

3.1. Research approach

This study has been investigated quantitatively with a deductive approach. A quantitative approach provides us with a better ability to explain and test hypotheses. The quantitative study gives us a broader perspective compared to the qualitative study that is focused on analyzing the narrower and deeper picture of a phenomenon (Bryman & Bell, 2005). Because of the broad scope of our research question, which is to look at the actions of many firm years to come to a general conclusion, we find it fit to utilize the benefits of a quantitative approach at the expense of a narrower, qualitative approach. A deductive approach is used as the study takes it starting point in already existing theories provided by prior studies on the subject that has been empirically tested and are to be used as a means to discuss and interpret the results of our own study. A potential downside of the deductive approach is that there is a risk that the researcher is narrowly framed, meaning that he or she is collecting empirical data that is in line with their own hypothesis, potentially ignoring important information. In our thesis this risk is eliminated by collecting a vast amount of data and by applying legitimate and widely used models. By formulating our hypothesis we are able to examine whether the current research on the subject can be confirmed or rejected in a Swedish context.

3.2. Data collection

In the collection of data for this thesis, a secondary analysis of the data collected was performed. All financial data in this thesis have been collected from the Thomson Reuters Datastream, a world leader in the provision of financial data often used by academics, why the authors consider the retrieved data reliable.

The data retrieved from Thomson Reuters Datastream includes information from 93 companies listed on the Stockholm Stock Exchange between 1999-01-01 and 2016-12-31.The data covers earnings before interest and taxes, net cash flow from operating activities, net sales, receivables, property plant and equipment, and total assets for each company and each year during the studied period. The data was then used to generate the values of total accruals, discretionary accruals, and non-discretionary accruals for each company by using the Jones Cash Flow Model.

Table 1: Industry and sample observations, firm years.

Industry	N	% of Sample	Observations	Firm years
Construction	8	8.6 %	864	144
Electronics	12	12.9 %	1296	216
Healthcare	9	9.68 %	972	162
Industrial Engin.	10	10.75 %	1080	180
Pharmaceutical	10	10.75 %	1080	180
Real Estate	13	13.99 %	1404	234
Software	15	16.13 %	1620	270
Support Services	8	8.6 %	864	144
Tech&Hardware	8	8.6 %	864	144
Total Sample	**93**	**100 %**	**10044**	**1674**
Excluded:	**N**	**% of Population**		
Bank and Finance	16	2.35 %		
Industry < 8 firms	31	4.6 %		
Inactive companies	539	79.26 %		

3.3 Ordinary Least Squares

In order to rightly estimate a regression the Ordinary Least Squares (OLS) is often used (Ramanathan, 2002). The idea behind the model is to minimize the sum of the residuals, which means that the regression is calculated by identifying the smallest possible space between residuals and the line of the regression. The residuals will be above or below the regression line, and to eliminate the possible problem of negative values of the residuals they are squared. Since the residuals are of great importance for the values of the estimated coefficients of the regression, it is highly preferred that the residuals live up to five assumptions, named the Gauss-Markov assumptions (Brooks, 2014).

The first assumption is that the mean of the residuals must sum up to 0. This is something that is automatically executed by the use of OLS and must therefore not be tested separately (Brooks, 2014; Ramanathan, 2002). The second assumption is that the variance of the residuals must be constant and the same for all values of the independent variables. If they are not, the regression is heteroscedastic. It is usual to test for heteroscedastic regressions via a Breusch-Pagan-Godfrey or White's test. However, in our case this is not necessary since the formation of the used model accounts for heteroscedasticity as it scales all the data with lagged assets (as can be seen in 3.4). The third assumption is about the relationship between the residuals, who cannot show a dependent relationship as this is an indication for autocorrelation (Brooks, 2014). A usual means to identify autocorrelation is the Breusch-Godfrey test or the Durbin-Watson test. We performed the Durbin-Watson test manually via the StatPro add-in in Excel, and the data was significantly non-autocorrelated in more than 85 % of the observations. This means that the autocorrelation factor was at least twice the size of the standard error for 85 % of the observations. The fourth assumption of the OLS stresses the relationship between the residuals and the independent variables, who cannot show a significant relationship or else the regression is showing elements of endogeneity (Brooks, 2014). The reasons for endogeneity are often either left out explanatory variables, measurement errors or problems with

simultaneity. In the case of financial research such as this study, it is common that variables are left out since they have not been identified or cannot be measured appropriately (Roberts & Whited, 2013). Measurement errors are often the product of proxies, which means that our regressions are likely to show signs of endogeneity. The simultaneity problem emerges when it is unclear whether the dependent variable is explained by the independent variable or vice versa (Roberts & Whited, 2013). The fifth and last assumption stresses the residuals' normal distribution to make sure that the OLS provides strong results (Brooks, 2014). This study accounts for 10 044 observations, which makes the impact of possible extremes lower on the end result. We also made histograms to show the distribution of the dependent variable DACC, which will be presented in section 4.3.

3.4 Measuring discretionary accruals

The measurement of earnings management is a strenuous and controversial task for anyone, as there is no clear consensus regarding what actually constitutes managed earnings. We intend to follow prior research when it comes to the choice of method to examine earnings management among Swedish listed companies. The accrual component of earnings contains accounting estimates that are often based on managerial judgment and is therefore easier to manipulate than actual cash flows. For that reason, the flexibility that is offered by accruals in particular makes it interesting to measure the part of the accruals that indicates earnings management, often named the discretionary part of the total accruals. A large body of literature has attempted to identify the discretionary accrual component of total accruals, which is used as a proxy for the magnitude of earnings management. The following paragraph serves as a brief overview of the methods that have been considered the most fit to identify the discretionary accruals over the years.

Healy (1985) popularized the use of accruals as a proxy for earnings management. In his model, total accruals were used as a proxy for earnings management.

$$NDA_\tau = \frac{\sum_t TA_t}{T},$$

Equation 1: Non-discretionary accruals, Healy (1985).

Where:
NDA = estimated non-discretionary accruals
TA = total accruals scaled by lagged total assets
t = 1, 2,...**T** is a year subscript for years included in the estimation period

The non-discretionary part of the total accruals is calculated as the mean of the total accruals for all companies in a certain year, a value which is subtracted from total accruals to identify discretionary accruals. DeAngelo (1986) can be seen as a special case of the Healy Model, in which the estimation period for non-discretionary accruals is restricted to the previous year's observation.

$$NDA_\tau = TA_{\tau-1}.$$

Equation 2: Non-discretionary accruals, DeAngelo (1986).

The models both made the assumption that non-discretionary accruals are constant over time, which Dechow et al (1995) rules out as an unreasonable assumption. Most of the proxies used today are

based on the Jones (1991) model. She deviated from the assumptions of static non-discretionaries made by Healy (1985) and DeAngelo (1986) and thus accounted for both dynamic non-discretionary accruals as well as discretionary accruals in her model. The model attempts to control for the effect of yearly changes in a firm's economic circumstances on non-discretionary accruals. The Jones Model for non-discretionary accruals in the event year is:

$$\frac{TAC_{i,t}}{A_{i,t-1}} = \alpha_1 + \beta_{1,i}\left(\frac{\Delta REV_{i,t}}{A_{i,t-1}}\right) + \beta_{2,i}\frac{PPE_{i,t}}{A_{i,t-1}}$$

Equation 3: Non-discretionary accruals, Jones (1991).

Where:

TAC i,t = Total Accruals in the year t for firm i.

A i, t-1 = Lagged Total Assets for firm i.

ΔREV i, t = Change in revenue in year t for firm i.

PPE i, t = Property, Plant & Equipment in year t for firm i.

$\beta_{1,i}, \beta_{2,i}$ = Estimators of variable impact for firm i.

Total Accruals = Earnings before interest and taxes – Cash Flow from Operations

Equation 4: Total Accruals, Jones (1991), Dechow et al (1995) & Kasznik (1999).

As can be seen in the model formula, Jones' model assumes that all yearly changes in revenue are non-discretionary accruals, which means that manipulation of trade receivables cannot be identified (Dechow et al 1995). As a means to capture the possibility of earnings management via manipulation of receivables, Dechow et al (1995) subtracted yearly fluctuations in receivables from the yearly fluctuations in revenue. This adjusted model is called the modified Jones model.

$$\frac{TAC_{i,t}}{A_{i,t-1}} = \alpha_1 + \beta_{1,i}\left(\frac{\Delta ADJREV_{i,t}}{A_{i,t-1}}\right) + \beta_{2,i}\frac{PPE_{i,t}}{A_{i,t-1}}$$

Equation 5: Non-discretionary accruals, Dechow et al (1995).

Where:

ADJREVi,t = (ΔREV- ΔREC), i.e. change in revenue less change form firm i in year t.

The model that is frequently used in contemporary research as a proxy for the magnitude of earnings management is the discretionary accrual as calculated by Kasznik (1999) in his extended model of the modified Jones model. He estimates discretionary accruals as total accruals (defined as the difference between earnings from continuing operations and cash flow from operations) subtracted by non-discretionary accruals. To estimate the non-discretionary accruals, Kasznik (1999) extends the models used by Jones (1991) and Dechow et al (1995). Specifically, for each sample firm-year, Kasznik estimates the following cross-sectional model:

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$$\frac{TAC_{i,t}}{A_{i,t-1}} = \alpha_1 + \beta_{1s,t}\left(\frac{\Delta ADJREV_{i,t}}{A_{i,t-1}}\right) + \beta_{2s,t}\frac{PPE_{i,t}}{A_{i,t-1}} + \beta_{3s,t}\left(\frac{\Delta CFO_{i,t}}{A_{i,t-1}}\right) + \varepsilon_{j,p}$$

Equation 6: Non-discretionary accruals, Kasznik (1995).

Where:

$\beta_{1s,t}$ $\beta_{2s,t}$ $\beta_{3s,t}$ = Estimators of the coefficients for each sector year.

ΔCFOi,t = change in cash flows from operation from year $t-1$ to year t (CFOt – CFOt_{-1}).

Total Accruals are set as the dependent variable, using a regular OLS regression to estimate the values of the three beta values. The estimated beta values of the 123 OLS regressions (one for each industry year) are then used to calculate the value of non-discretionary accruals. Common for the three previously mentioned models is that they all calculate discretionary accruals (DACC) as the difference between the Total Accruals and the non-discretionary accruals as calculated by equations 3, 5 and 6 respectively. Therefore, the idea behind calculating non-discretionary accruals is to be able to calculate the following equation to identify the value of each firm year DACC:

DACC i, t = TACC i, t – NDACC i, t

Equation 7: Discretionary accruals, Jones (1991), Dechow et al (1995) & Kasznik (1999)

A few studies have focused on which of the above mentioned models that is the most effective in identifying earnings management, such as the study by Siregar & Utama (2008) and Alcarria & Nodguer (2004) They all concluded that the Jones Cash Flow Model showed the highest grade of effectivity in identifying the earnings management, measured as the highest adapted r-square of the models. In addition to this, most of the new research in the area is based on Kasznik's (1999) Cash Flow-model. For these reasons, we have chosen to operationalize this model in our research.

3.5 Earnings management with Jones Cash Flow Model

The amount of total accruals is regressed on variables that are expected to vary with non-discretionary (normal) accruals in all of the above mentioned models. The models all estimate the parameters by using either a time series approach for each firm (Jones, 1991), or they are estimated in the cross-section for each industry (DeFond & Subramanyam, (1998); Kasznik (1999)). Both approaches have their limitations. The time series approach assumes temporal stationarity of parameter estimates, whereas the cross-sectional approach assumes homogeneity across firms in the same industry. Peasnell et al (2000) claim that time-series leads to rough estimates of discretionary accruals, for two reasons: First, the extent to which macroeconomic factors may have impacted the estimates is a lot higher in a time-series approach. Second, the time-series approach fosters the need for a long time-span in terms of firm years, as it would be statistically preposterous to estimate parameters based on a few years' data. This would not be problematic in our study, as it covers 17 years which is more than enough data to satisfactorily determine the parameters for each company. However, considering the fact that the efficiency of the estimation is higher with the Jones Cash Flow Model, and that Kasznik (1999) suggests it to be used using a cross-sectional approach, we have chosen to estimate the parameters cross-sectionally. This means that we use cross-sectional annual data in order to estimate the parameters, which are allowed to vary across the years for each industry.

The use of cross-sectional data limits the choice of industries and thus companies used in the study. Kasznik (1999) refrains from including any industry with less than six observations on a yearly basis, Larcker (1994) proposes at least eight observations, and Dechow et al (1995) excludes any industry with less than ten observations. We have chosen to include all industries with more than eight observations annually, which leaves us with nine industries as our sample, as some industries have less than eight firms who provide us with the data required on a yearly basis between 2000 and 2016. The banks and financial services industries were left out beforehand, as they obey different regulations for financial reporting. The model in equation 6 is thus estimated using data from all firm-years between 2000 and 2016, where estimators of the beta-values are estimated yearly for each industry. The firms' industry identity was based on its two-digit SIC code. In order to rightly estimate discretionary accruals, yearly data of **six** different firm-specific values are required:

1) EBIT to estimate firm total accruals (equation 4).
2) Cash Flow from Operations to estimate firm total accruals (equation 4), calculation of (ΔCFO), and estimation of $\beta_{3\,s,t}$.
3) Revenue, to calculate (ΔADJREV) and estimation of $\beta_{1\,s,t}$ (equation 6).
4) Receivables, to calculate (ΔADJVREV) and estimation of $\beta_{1\,s,t}$ (equation 6).
5) Property, Plant & Equipment (PPE) to estimation $\beta_{2\,s,t}$ (equation 6).
6) Total assets, to be able to scale the results with lagged total assets (equation 6).

This means that we did 17 regressions for each of the nine industries, leaving us at a total of 153 regressions to estimate the parameters in equation 6 for each industry year based on 10044 firm-specific observations. All regressions were done using the Analysis Toolpak add-in in Microsoft Excel. When the parameters have been estimated, we subtract the value of the non-discretionary accruals from the total accruals for each firm year in accordance with equation 7, which leaves us with the proxy for earnings management - discretionary accruals. As can be seen in equations 3, 5 and 6, DACC, TACC and NDACC are scaled with each firms' lagged total assets. This is a means to both reduce heteroscedasticity as well as to be able to compare the results.

3.6 Relationship between discretionary accruals and adoption of IFRS

Once discretionary accruals have been identified for each firm year, we want to evaluate if there has been any changes in regards to the magnitude of the discretionary accruals after the adoption of IFRS of Swedish listed companies which then serves as the proxy for earnings management. To do this, we use the firm and year-specific discretionary accruals as the dependent variable and adoption of IFRS as the independent variable. The independent variable is thus binary and takes the value of 0 in years of non-IFRS and a value of 1 after the adoption of IFRS. We will do this regression based on industry-specific data as well as aggregated data for the entire sample. The regression of the aggregated data, which serves as the primary regression to respond to the research question consists of discretionary accruals from 1558 firm years, of which 446 firm years are pre-IFRS and 1112 post-IFRS firm years. The equation to estimate the impact of IFRS adoption on earnings management is:

Discretionary Accruals = β_0 + $\beta_{1sample}$*IFRS

Equation 8: IFRS adoption's impact on earnings management.

Where:

β_0 = the intercept

$\beta_{1Sample}$ = The impact of IFRS adoption on discretionary accruals for our sample.

IFRS = A dummy variable that takes on the value of 0 prior to adoption (2000-2004) and a value of 1 post-adoption (2005-2016).

Discretionary Accruals = Proxy for earnings management magnitude

We will accept any result below the p-value of 5 % as statistically significant of the regressions.

3.7 Methodological criticism

When writing an academic thesis, it is important to always critically review the data collected. In accordance with Bryman and Bell (2005), we have chosen to review the thesis' reliability and validity, which are important aspects to take into consideration while writing academic papers. Since we have chosen to delimit our study to firms that have been active throughout the whole reviewed period, we end this section with a discussion regarding survivorship bias.

3.7.1 Reliability

The reliability of the study is concerned with the consistency and dependability (Bryman & Bell, 2005). This means that if the calculations conducted in the study are to be performed again, they must yield results that are not far beyond the results of the first study. Because of this, measurement errors and subjectivity must be minimized in the data collection process. Our data for chapter 4 is secondary data collected using the database Thomson Reuters Datastream, a database that is reputable and considered credible often used by academics. In the collection of the data for the background and theory chapters we have used search engines such as Google Scholar and Lubsearch in order to find trustworthy articles. The articles that have been used to support and criticize our analysis have been published in several journals specialized in the fields of business and accounting, such as the Journal of Accounting and Public Policy, European Accounting Review, Accounting in Europe and Accounting Horizons to mention a few. We used a panel data approach in measuring discretionary accruals to account for both the variation in time and firm to ensure both validity and reliability (Ramanathan, 2002). We ensured that the data live up to the criteria for valid Ordinary Least Square (OLS) regressions, a process that was described in more detail in section 3.3.

3.7.2 Validity

The validity concept can be described as an assessment of whether the conclusions generated in a study are interrelated and if the results are reasonable. In other words, what is meant to be researched shall also de facto be what is measured (Bryman & Bell, 2005). Since earnings management is an accounting technique that is hard to identify via secondary sources, the validity of our research is a question of essence. In our thesis, we have been careful to ensure that we have used a model for the proxy of earnings management that has had a major impact in the past and by that could be considered respectable. In measuring earnings management, we used the Jones Cash Flow model. The model has been developed in many stages over time, as was described in section 3.5, and it is the most

established and effective method to measure earnings management today (Siregar & Utama, 2008). None of the models measuring earnings management are optimal, since manipulation comes in many different forms depending on the firm and its context. The Jones Cash Flow model, which measures earnings management in terms of discretionary accruals is therefore only providing a proxy for earnings management which means that the model is likely to show signs of endogeneity (further discussed under section 3.3).

Another aspect of validity is the external validity and relevance (Jacobsen, 2002). Our study accounts for all companies that were listed on the Stockholm Exchange between 1999 and 2016, which makes the external validity high against other research studying Swedish companies. It must however be stressed that comparing the impact of IFRS on listed Swedish companies' earnings management magnitude to other countries' is somewhat problematic. That is because the adoption of IFRS is likely to affect countries very differently depending on factors such as characteristics of the national set of standards used prior to IFRS adoption, its legal and political system, capital structure etc. For that reason, our results will be externally valid only in the Swedish context.

3.7.3 Survivorship bias

In estimating both the total, discretionary and non-discretionary accruals we used data firms that were active between 1999 and 2016. Firms that have either closed down its operations or firms that have established themselves within this period are therefore excluded from our research. The reason for this is that we want to be able to capture the changes in earnings management over a longer time period, and also because a lot of the companies that existed in 1999 diminished shortly after because of the IT crash which would impact our results greatly. By only including firms that have data for a specific time period, we open up for what Brown et al (1995) call survivorship bias, meaning that we draw our conclusions based on data of firms that have survived during the entire research period. The alternative would be to include data and base our conclusions from companies that in many cases did not live to see the adoption of IFRS in 2005, or that was not established when the accounting practice of listed companies succumbed to Swedish GAAP. We therefore consider the possibility of survivorship bias to be a necessary element in our thesis.

4. Results

In this chapter we will present the results of the study. First, we will present the estimated beta-coefficient values for each industry as calculated by the Jones Cash Flow model. These coefficients were used to estimate the non-discretionary part of the total accruals. After the presentation of the estimated beta-coefficient values as calculated by the Jones Cash Flow Model, we present the Total Accruals (TACC), non-discretionary accruals (NDACC), and discretionary accruals (DACC) of each industry as well as for the entire sample. Lastly, we will present the results regarding whether the adoption of IFRS has impacted the magnitude of earnings management among our sampled firms.

4.1 Results from the Jones Cash Flow Model

As discussed in section 3.5, the Jones Cash Flow Model is used as a means to estimate non-discretionary accruals. By estimating the non-discretionary accruals of each firm year, we can use it to calculate the discretionary accruals (equation 7) for each firm year, which serves as a proxy for earnings management. As can be seen in Table 2, the explanatory power of the model as measured by R-square averages at 54.34 % for the sample, with the lowest being the Electronics sector with 33.72 % and the highest being Technology and Hardware with 75.31 %. The adjusted R-square averages at 30.39 % for the sample, with the lowest being 8.87 % for the electronics industry and the highest being Technology and Hardware with an adjusted R-square of 54.87 %.

Table 2: Mean coefficients as calculated by the Jones Cash Flow Model

Industry	ΔREV- ΔREC	PPE	ΔCFO	R-square	Adj. R-square
Construction	0.119	-0.070	-0.482	64.43%	37.75%
Electronics	0.046	0.077	-0.279	33.72%	8.87%
Healthcare	0.062	-0.127	-0.368	50.01%	20.02%
Real Estate	0.049	0.048	-0.432	64.79%	52.33%
Software	0.050	-0.339	-0.124	34.16%	12.36%
Industrial Engin.	0.291	-0.044	-0.726	65.25%	46.87%
Pharmaceutical	0.140	0.114	-0.267	48.30%	22.45%
Support Services	0.047	-0.083	-0.504	53.12%	17.97%
Tech&Hardware	0.145	2.054	-0.219	75.31%	54.87%
Sample, mean	0.105	0.181	-0.378	54.34%	30.39%

When we estimated non-discretionary accruals, we estimated and used the beta values for each industry year, meaning that we estimated the beta-values of each of the three variables for 153 industry years. In Table 2 we present the average coefficients of the industry variables (ΔREV- ΔREC), PPE, and ΔCFO for the period between 2000 and 2017. In calculating non-discretionary accruals we used (ΔREV- ΔREC) accounts for the impact that the yearly changes in revenue less yearly changes in receivables has on the part of the total accruals that is non-discretionary. In all industries, $\beta_{1,t}$, i.e. the coefficient of (ΔREV- ΔREC) is of a positive value averaging 0.105 across the sample, meaning that growth in the variable corresponds to a higher (lower) value of the non-discretionary (discretionary) value ceteris paribus. The impact of Property, Plant & Equipment (PPE) corresponds to the estimated value of $\beta_{2,t}$, which lies in the interval -0.339 (Software) and 2.054 (Tech & Hardware) depending on

industry. This means that in the four industries with a positive value of $\beta_{2,,t}$, an increase (decrease) in PPE corresponds to a higher (lower) value of non-discretionary part of total accruals. In the five industries that show a negative value of $\beta_{2,,t}$, an increase (decrease) in PPE corresponds to a lower (higher) value of the non-discretionary part of total accruals. The third coefficient, the yearly firm changes in Cash Flow from Operating Activities (ΔCFO) is a variable that was added to the Modified Jones Model by Kasznik (1999) which has proven to create a model that is more reliable than the prior models that estimates earnings management. Among our sample, the estimation of the coefficient ($\beta_{3,,t}$) reaches values between -0,726 for the Industrial Engineering industry while the Software industry has an estimated beta-value of -0.124. All of the industries show a negative relationship between an increase in the yearly growth of Cash Flow from Operating Activities and non-discretionary accruals. This means that yearly growth in Cash Flow from Operating Activities positively impacts the discretionary accrual part of the total accruals in all industries.

Table 3: Industry specific mean of total accruals, non-discretionary accruals and discretionary accruals.

Industry	TACC 00-04	TACC 05-16	NDACC 00-04	NDACC 05-16	DACC 00-04	DACC 05-16	ΔDACC post-IFRS
Construction	1.80%	1.30%	-1.30%	0.30%	3.20%	1.00%	-2.20%
Electronics	-3.40%	-2.00%	-1.70%	-0.10%	-1.70%	-1.90%	-0.20%
Healthcare	-0.80%	-3.70%	-2.90%	-4.30%	2.10%	-0,50%	-2.60%
Real Estate	0.18%	7.00%	2.90%	5.40%	-2.70%	1.60%	4.30%
Software	-6.08%	-3.35%	-4.48%	-4.34%	-1.60%	0.99%	2.59%
Industrial Engin.	-2.58%	0.70%	4.55%	-2.09%	-7.13%	2.80%	9.92%
Pharmaceutical	-10.19%	-5.57%	0.39%	1.07%	-10.58%	-6.63%	3.94%
Support Service	-3.11%	-0.49%	0.86%	-1.03%	-3.97%	0.54%	4.50%
Tech&Hardware	-6.37%	-12.41%	17.25%	0.37%	-23.63%	-12.78%	10.84%
Sample, mean	-3.51%	-1.68 %	1.01 %	-0.52 %	-4.5%	-1.16 %	3.34 %

The Total Accruals (TACC) was calculated for each firm year in accordance with equation 4. The non-discretionary accruals were calculated by equation 6, where non-discretionary accruals are estimated as the residual of Total Accruals using the estimated values of the three beta coefficients as presented in Table 2. Discretionary accruals are in turn estimated as the difference between Total Accruals and non-discretionary accruals. In Table 3, we present the values of Total Accruals, Non-discretionary accruals, and discretionary accruals both industry wise and for the entire sample in the time period before IFRS adoption and post-adoption. The point of interest here is the discretionary accruals in the two time periods and particularly the difference between the time periods. In the time period prior to IFRS adoption, 2000-2004, only the industries Construction and Healthcare have discretionary accruals that are higher than 0. The seven remaining industries all show values lower than 0. It is also worth to mention that none of the industries show a value of 0 (closest being the Software industry with a value of -1.6 %). Values of 0 means that there are no discretionary accruals, i.e. the firms in the industries do not engage in earnings management in the time period prior to IFRS. In the time period following IFRS adoption, 2005-2016, five industries show positive values of discretionary accruals while four industries have negative values. Construction remains at a positive value of DACC post-IFRS, but has lowered its discretionary accruals in the later time period (from 3.2 % to 2.0 %). Real Estate, Software, Industrial Engineering and Support Services went from negative values (-2.7 %, -1.6 %, -7.13 % and -3.97 %) of DACC to positive values (1.6 %, 0.99 %, 2.8 % and 0.54 %). Healthcare went from a positive

value (2.1%) on DACC to a negative value (-0.5%). Electronics increased its negative value on DACC from -1.7 % to 1.9 %. Pharmaceutical industry and Technology and Hardware lowered their negative value from -10.58 % to -6.63 % and -23.63 % to -12.78 % respectively.

The sample average value of the Total Accruals went towards 0 in the time period following IFRS adoption (from -3.51 % to -1.68 %). The sample average of the non-discretionary value went from a positive value (1.01 %) to a negative (-0.52 %). Because DACC is calculated as the difference between TACC and NDACC according to equation 7, the sample average DACC also goes towards a value of 0 (from -4.5 % to -1.16 %). The column "ΔDACC post-IFRS" shows the percentage point change in discretionary accruals for each industry and for the sample average after IFRS adoption. Eight out of nine industries all went closer to a discretionary accrual value of 0 in the period after IFRS adoption compared to the period prior to the adoption. This can be seen by comparing value of the discretionary accruals in 2000-2004 to the value of the post-IFRS time period.

4.2 Results from the Ordinary Least Squares regression

In this section we will present the results from the OLS regression of primary interest in this study, namely the regression of whether there is a relationship between adoption of IFRS and the magnitude of discretionary accruals. The results will be presented for each industry as well as for the sample in its entirety.

Table 4: Number of firm years before and after IFRS and IFRS impact on DACC.

Industry	N: 00-04	N: 05-16	Coefficient	p-value
Construction	40	96	-0.02174	0.120623403
Electronics	60	144	-0.00162	0.94196377
Healthcare	45	108	-0.01559	0.280247274
Industrial Engin.	50	120	0.09924	1.3387E-16*
Pharmaceuticals	50	120	0.03942	0.071198749***
Real Estate	55	155	0.04383	0.000535285*
Software	70	179	0.02586	0.144836383
Support Services	40	96	0.04501	0.000137966*
Tech&Hardware	35	94	0.10840	0.037451618**
Sample, total	445	1112	0.03362	8.29E-06*

*Statistically significant at 1 % -level
**Statistically significant at 5 %-level
*** Statistically significant at 10 % -level

In Table 4 we present the number of discretionary accruals observations before and after IFRS adoption for each industry as well as the total observations of the entire sample. We have 40 discretionary accruals observations prior to IFRS and 96 discretionary accruals observations post-adoption in the Construction sector. The value of the $\beta_{1Construction}$, i.e. the average impact of discretionary accruals following IFRS adoption in the Construction industry amounts to -0.02174. The result is however not statistically significant. For the Electronics sector the number of DACC observations prior to IFRS adds up to 60, while we observed 144 values post-IFRS. $\beta_{1Electronics}$ equals to -0.00162, which means that Electronics is the industry is least impacted by the IFRS adoption of all industries in terms of discretionary accruals. The beta-value is however not significant and cannot be statistically embraced

as a viable result. In the Healthcare sector we had 45 observations prior to IFRS and 144 post-IFRS. $\beta_{1\text{Healthcare}}$ amounts to -0.1559, the result is however not statistically significant. The Industrial Engineering sector and the Pharmaceutical sector amounted to 50 observations prior to IFRS and 120 post-IFRS observations respectively with a positive value on both $\beta_{1\text{Industrial Engineering}}$ and $\beta_{1\text{Pharmaceutical}}$. $\beta_{1\text{Industrial Engineering}}$ is statistically significant at a 1 % -level (1.3387E-16), while the value of $\beta_{1\text{Pharmaceutical}}$ is significant at a 10 % level with a p-value of 0.071. $\beta_{1\text{Real Estate}}$, $\beta_{1\text{Support Services}}$ and $\beta_{1\text{Tech\&Hardware}}$ all take a on positive values that are statistically significant. The Software sector also takes on a positive value of its beta-value, but this cannot be statistically ensured as the p-value 0.145 is larger than 0.05.

The values that forces us to either reject or embrace this study's main hypothesis are presented in the row of "Sample, total" in Table 4. As can be seen in that row, the OLS regression from equation 8 was based on 1557 estimations of DACC that has been calculated yearly for each firm that has been active in the industries with more than eight active firms for the time-period between 2000 and 2016. Out of the 1557 calculations of firm year DACC, 445 are prior to IFRS and 1112 are after IFRS adoption. $\beta_{1\text{Swedish listed companies}}$ takes a positive value of 0.03362 with a p-value of 0.00000829 meaning that it is significant at a 1 % level.

4.3 Normal distribution of the discretionary accruals

The normal distribution of the discretionary accruals for each time period is presented in figures 2 and 3. In figure 2, we see that a majority of the observations (67.2 %) of the sample show values of discretionary accruals that are within the range of -10 % and 10 % of lagged total assets in the years between 2000 and 2004. 12.4 % of the DACC observations lie within the interval -25 % and -10 % of lagged total assets and 11.24 % lie within the range of 10 % and 25 % of lagged total assets. 4.2 % of the observations take on values of DACC that are smaller than -25 % of lagged total assets, and 4.9 % take on values that are larger than 25 % of lagged total assets.
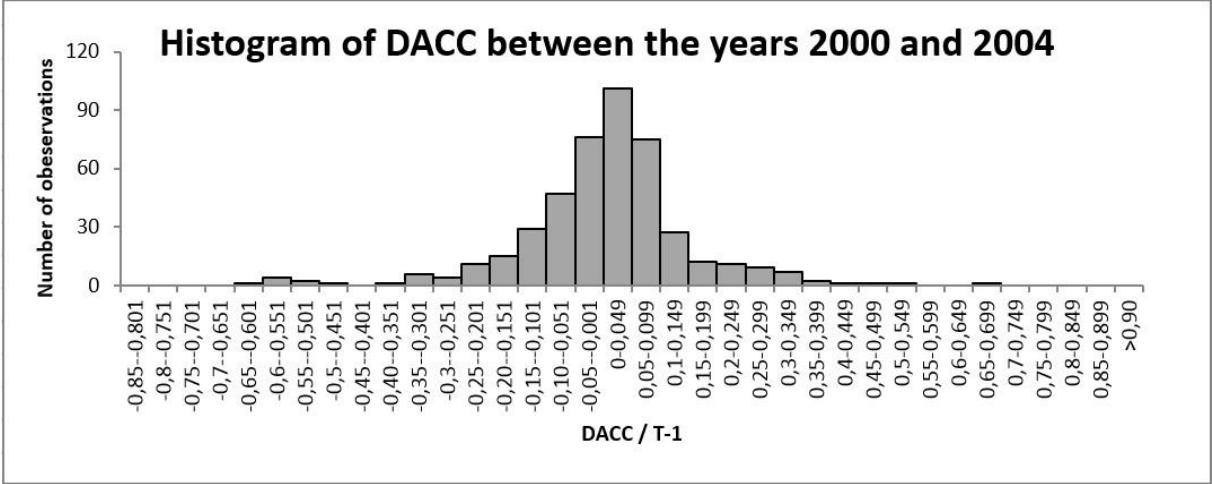

Figure 2: Histogram of DACC prior to IFRS.

In figure 3, 65.9 % of the firm observations of DACC in our sample lie within the interval of -10 % and 10 % of lagged total assets in the time period following IFRS adoption. 6.6 % of the DACC observations exist within the interval of -25 % and -10 % of lagged total assets, while 23.6 % of the DACC observations

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range from 10 % to 25 % of lagged total assets. 3.32 % of the DACC observations show values below -25 % of lagged total assets while 1.26 % show values above 25 % of lagged total assets.
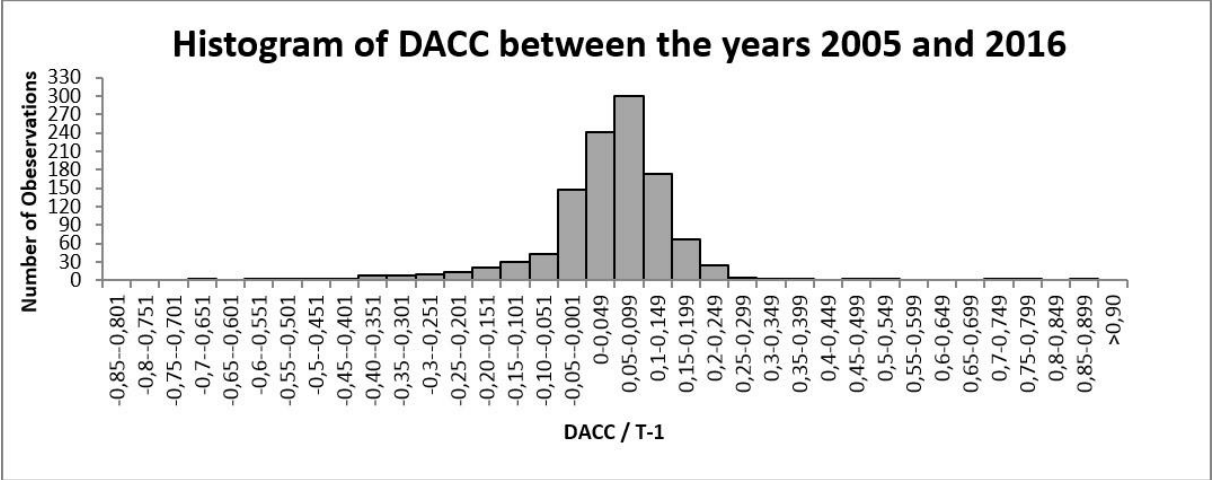

Figure 3: Histogram of DACC post- IFRS.

In section 3.3 we presented the five Gauss-Markov assumptions that any proper OLS regression should be able to pass. The fifth assumption states that the values should be normally distributed. In both of these histograms we see that the discretionary accruals follow a clock-shaped structure, which, although not perfectly, indicates a normal distribution.

5. Analysis

In this section we will present the analysis of our results in two parts. First, we analyze the results from the Jones Cash Flow Model. Second, we analyze how the magnitude of earnings management has changed between our two studied time periods by applying our theoretical framework to our results. This part consists of an industry-level analysis and one of the aggregated sample.

5.1 The Jones Cash Flow Model

Our results from table 2 show both the explanatory power of the Jones Cash Flow Model as well as the relationship between the estimated coefficients and non-discretionary accruals (NDACC). In terms of the model's explanatory power, we present the R-square and the adjusted R-square. The R-squared averages at 54.3 %. Most research refrains from presenting the R-square of the Jones Cash Flow model, instead relying on the adjusted R-square. In our study, the adjusted R-square averaged at 30.4 %, which can be seen in the light of Kasznik's (1999) 47 % and Larcker et al's (2004) 30.1 %. Considering that we follow the very same approach that Kasznik (1999) and Larcker et al (2004) use in estimating discretionary accruals, we consider the result to show that the model can produce reliable results on the Swedish market as well.

Consistent with prior research (Kasznik, 1999; Dechow et al, 1995; Jones, 1991) we found a positive coefficient on (ΔREV-ΔREC). A yearly increase in revenue less yearly increases in receivables is therefore showing positive (negative) relationship with non-discretionary accruals (discretionary accruals). A yearly increase in revenue less receivables therefore corresponds with an increase in non-discretionary accruals, which in accordance with equation 7 decreases the discretionary accruals.

The estimated coefficient of PPE amounted to 0.181. Both Kasznik (1999), Dechow et al (1995) and Jones (1991) all find a negative (positive) relationship between PPE and non-discretionary accruals (discretionary accruals). A probable reason for the difference is that the Technology & Hardware industry involves a few values that would be considered extremes in any other industry. This is however not problematic in our study as it is executed cross-sectionally, meaning that the impact of the PPE in Technology & Hardware is restricted to that sector alone, not impacting the calculations of non-discretionaries in any other industry. The mean estimated value of PPE's impact on non-discretionary accruals amounts to -0.196 when Technology & Hardware is excluded, which is in line with earlier research.

The third and last determinant of non-discretionaries, (ΔCFO) showed a negative (positive) relationship with non-discretionary accruals (discretionary accruals). This means that a yearly increase in Cash Flow from Operations corresponds with decreasing non-discretionary accruals, instead increasing the discretionary accruals. One must bear in mind that the discretionary accruals will not increase per se as a product of increased cash flow from operations. But if the Cash Flow from Operations increase without a corresponding increase of the Total Accruals (measured as EBIT – Cash Flow from Operations), then the Jones Cash Flow Model anticipates an increase in discretionary accruals. The relationship is the opposite for (ΔREV-ΔREC). This means that increases in (ΔREV-ΔREC) and (PPE)

correspond to higher magnitude of earnings management, while the opposite relationship holds for (ΔCFO) for the sample mean.

Having established a brief analysis of the Jones Cash Flow Model, we conclude that the model's explanatory power and results are in line with prior research. We now move on to the implications for the research topic of this study, which is to study whether there has been a change in the magnitude of earnings management following IFRS adoption among Swedish listed companies.

5.2 The magnitude of earnings management following IFRS adoption

In Table 3 we presented the mean total, non-discretionary and discretionary accruals for the two periods for all industries as well as for the total sample. In section 4.2, we particularly pointed out that in eight out of nine industries the discretionary accruals are going towards a value of 0 in the period after IFRS adoption. A value of discretionary accruals that amounts to 0 means that total accruals is equal to non-discretionary accruals, or that there are no accruals whatsoever in that particular firm year. This indicates no earnings management according to the Jones Cash Flow Model, since the discretionary accruals serve as the proxy for earnings management.

The firms within the Construction industry engaged in earnings management amounting to an average of 3.2 % of its lagged total assets in the period prior to IFRS adoption. This means that the firms in this particular sector tended to manipulate its earnings upward prior to IFRS, which is a pattern that remains in the period following IFRS. The earnings management, as measured by discretionary accruals, was however decreased to a mere 1 % of its lagged total assets in the later period. Construction is the only industry that has a positive value of its discretionary accruals in both time periods, meaning that they are alone in managing its earnings upward in both time periods. The results of the Healthcare sector indicates that they engaged in activities to manipulate its earnings upwards prior to IFRS adoption, however Healthcare is smoothing its income downward since the IFRS adoption. The other seven industries all managed its earnings downwards prior to IFRS, by values ranging from -23.6 % to -1.6 % of lagged total assets. We therefore see that seven out of nine industries are engaged in what is often called cookie jar accounting, or the extreme version of it named big bath accounting. Cookie jar accounting is often considered to be a conservative strategy to smooth out volatility in earnings by the management (Hellman, 2008; Fullwood & Wilson, 2012), giving the stakeholders the impression that the firm persistently meets their earnings target. The results indicate that a majority of the industries had a conservative approach to their use of earnings management prior to IFRS adoption, proved by the wide use of cookie jar accounting.

5.2.1 Distribution of results

Turning to the normal distribution of the discretionary accruals in the period prior to IFRS, as can be seen by the histogram in figure 1, we see that the discretionary accruals are normally distributed with a majority of the observations in the interval of -10 % and 10 % of lagged total assets. We do see some extreme cases of DACC. 4.2 % of the observations provide a DACC that is smaller than -25 %. This means that these firm years are characterized by great manipulation of the earnings downward compared to its lagged total assets. These firm years could be indications of big bath accounting techniques, i.e. a situation where managers are incentivized to diminish current earnings as far as possible to gather negative earnings in the same period. We also see some extreme cases of positive DACC (4.9%), i.e.

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large manipulation of earnings upwards. The firm Pricer is an example of this. In 2005, they had discretionary accruals amounting to 67.2 % of its lagged total assets, which is the largest observation of discretionary accruals found in the Electronics industry among its 216 firm years. In these situations of high discretionary accruals, managers have likely been incentivized to increase its earnings and gather them in a single period. However, the underlying reasons behind the value of each firm DACC are beyond the scope of this report as we are interested in the magnitude in general and how it has changed since IFRS adoption. The general pattern among Swedish listed companies is engagement in earnings management to decrease its reported earnings prior to IFRS adoption, but the observations follow a clock-shaped pattern meaning that there are firms who stray from the common line.

Following IFRS adoption the shape of the distribution of discretionary accruals changed. The amount of observations within the -10 % to 10 % interval decreased slightly, from 67.2 % to 65.9 %. An interesting find is that the slope of the normal distribution is steeper moving from the left side towards the center post-IFRS compared to the period before. This means that there are fewer observations of negative DACC in the interval -100 % to -10 % in the period following IFRS compared to the period before, while the majority of DACC observations remain unchanged within the -10 % to 10 % of lagged asset interval. A possible interpretation is that the cookie jar reserve and big bath accounting in particular has decreased among Swedish listed companies since IFRS adoption. This is a result that stand in contrast to our hypothesis: The magnitude of earnings management has increased following IFRS adoption, since the widespread use of income smoothing appear to have decreased since 2005.

5.2.2 Industry-level analysis

In order to ensure that our results bear statistical weight, we set our acceptable p-value at 0.05. In table 4, we present the coefficients for each industry as well as for the entire sample. $\beta_{1\text{Construction}}$ has a value of -0.02174. That means that the value of the discretionary accruals has been decreased following IFRS adoption. Seeing as the value 0 indicates no earnings management, it is of interest to compare the value of $\beta_{1\text{Construction}}$ with the value of DACC prior to adoption to analyze the meaning of the coefficient. The mean value of DACC amounted to 3.2 % prior to IFRS and is thus lowered by the value of $\beta_{1\text{Construction}}$ over the years following IFRS adoption. In the case of Construction, this means that the earnings manipulations has decreased in magnitude from 3.2 % of lagged total assets to 1 % of lagged total assets in the period after IFRS. The result is however not statistically significant (p=0.12). Seven other industries follow a similar pattern, with earnings management being lowered as indicated by a value of discretionary accruals going towards 0 post-IFRS.

The Electronics industry engaged in earnings management amounting to -1.7 % of lagged total assets prior to IFRS, indicating a conservative approach to earnings. The conservative approach was maintained in the years following IFRS adoption, now amounting to -1.9 % of lagged total assets. The result is however not statistically significant (p=0.94). The Electronics industry shows the highest standard error of all industries in terms of total and discretionary accruals, which is likely to have led to rough estimations of $\beta_{1\text{ s,t}}$ $\beta_{2\text{ s,t}}$ $\beta_{3\text{ s,t}}$ in that particular industry.

In Healthcare the value from DACC decreased from 2.1 % to -0.5 %, meaning that the firms in the industry went from manipulating their earnings upwards to instead creating a hidden reserve that can be used to smooth earnings in future periods. The total magnitude of the earnings management has

decreased following IFRS adoption (DACC moving towards 0), the result is however not statistically significant (0.28).

The firms in the Industrial Engineering industry went from considerably large downward management of its earnings with a value on DACC amounting to -7.13 % of lagged total assets. Along with the Technology & Hardware sector, Industrial Engineering has had the greatest change in magnitude of the earnings management as symbolized by the high value on the coefficient in table 4. The sector then went on to show a positive value on DACC in the period following IFRS, which indicates a move away from conservatism. The result is however clearly showing that the use of earnings management has decreased following IFRS adoption, a result which is also significant at 1 % level ($p = 0.000$). The Technology & Hardware maintained its position as the industry engaged the most in earnings management, with values of DACC indicating that the practice of building hidden reserves is a common occurrence within the industry's firms in both time periods. The magnitude was however decreased from -23.63 % of lagged total assets to -12.78 %, as symbolized by the value of the coefficient in table 4. An interpretation of this is that the occurrence of techniques to create hidden reserves has decreased post-IFRS. The result is statistically significant at a 5 % level ($p = 0.037$). The Software industry increased its value on DACC from negative -1.6 % to positive 0.99 %. The first period is therefore characterized by a conservative approach towards earnings management, as the result indicates that the industry used techniques to create hidden reserves. The Software sector however moved to showing signs of managing its earnings upwards following IFRS. The magnitude of the earnings management was however decreased, as the Software sector went towards a value of 0 on its discretionary accruals. The result was not statistically significant ($p=0.144$).

The Pharmaceutical industry maintained its position as a sector that is managing its earnings downwards even after IFRS adoption. Just as a majority of the industries, Pharmaceuticals decreased its magnitude of earnings management following IFRS adoption. The result is statistically significant at a 10 %-level ($p=0.072$), but not at the required 5 %-level.

The Support Services sector went from managing its earnings downwards to managing them upwards following IFRS adoption. The magnitude of the earnings management was however reduced, as it moved towards a value of 0 on its discretionary accruals. The result is significant at 1 %-level ($p=0.00$). Lastly, the Real Estate sector went from managing its earnings downwards to upwards. The sector also decreased its magnitude of its engagement in earnings management.

5.2.3 Sample-level analysis

The results of greatest interest in this study are the results from the entire sample, which responds to the research question: Has the magnitude of earnings management changed following IFRS adoption among listed Swedish firms? In Table 3, we can see that the discretionary accruals averages at -4.5 % of lagged total assets for the entire sample in the period prior to IFRS adoption. This indicates that the general pattern among Swedish listed companies is that they engaged in management of its earnings to decrease them, by creating accruals reserves. This is not a surprising result in itself, considering that the creation of accrual reserves is a conservative strategy and that the Swedish GAAP is relatively conservative in its approach to accounting. However, when we compare discretionary accruals in the pre-IFRS period with the post-IFRS period, we attain some surprising results. The mean discretionary

accruals are still negative, amounting to -1.16 % of lagged total assets. This means that Swedish listed companies in general still manage its earnings downwards following IFRS adoption. The management of earnings both downwards and upwards was expected following IFRS adoption and is thus in itself not a surprising result. The surprise comes in the comparison between the two time periods, where we clearly see that the magnitude of earnings management has decreased substantially following IFRS adoption. $\beta_{1sample}$ is estimated at 0.0336 (table 4), which is significant at 1 %-level (p=0.00). This means that the value of discretionary accruals increases with 0.0336 following IFRS adoption compared to the pre-IFRS period. Should the discretionary accruals in the pre-IFRS period amount to 0, the result would indicate more earnings management using IFRS than Swedish GAAP. The discretionary accruals amounted to -4.5 % of lagged total assets in the pre-IFRS period however, and went towards 0 following IFRS. This clearly means that the magnitude of earnings management has decreased following IFRS adoption, which stands counter to our hypothesis.

The IFRS adoption was revolutionary in many countries, especially those that have been associated with the European continental accounting philosophy, such as Sweden, Germany and France. Moving from a rules-based to a principle-based accounting system was believed to increase the scope for earnings management in Sweden. Ball (2006) evaluated the impact of IFRS from the investors' perspectives and saw an increased space for manipulation of the earnings. While our results do not respond to the question of whether there is more space for manipulation following IFRS, they do show that the de facto manipulation of the accruals has decreased. From an investor's perspective, earnings management is not desirable as it leads to less quality of the earnings. Our results thus prove that the accuracy of the reported earnings has increased ceteris paribus on the Swedish market, from the investor's perspective which stands in contrast to the results of Ball (2006). Ormryd & Taylor (2004) also believed that the adoption of IFRS would lead to a more widespread use of income smoothing, mostly because of its overarching fair value principle that opens up for managerial judgment. While their belief is based on a more general impact and not on Sweden in itself, our results contribute to the ongoing debate of whether IFRS and its reliance on managerial discretion impact the magnitude of earnings management or not. Bartov et al (2005), Hung and Subramanyam (2007) and van Tendeloo & Vanstraelen (2005) used the very same approach in the calculations of discretionary accruals as this study. They could not find any differences in value relevance following the switch from German GAAP to IFRS, using earnings management as a parameter for value relevance.

In Legenzova's (2016) literature review, she clarifies that less earnings management is linked to value relevance and accounting quality in most previous research. If we were to make the assumption that the magnitude of earnings management is a parameter for accounting quality, we would conclude that the accounting quality has increased among Swedish listed companies. This conclusion stands counter to the results of the research on the German market even though both Sweden and Germany and their respective local standards used prior to IFRS are relatively conservative compared to IFRS. There can be many reasons for the contrasting results in our study compared to the prior studies. First, the prior studies on the German market are restricted to data of firms who made a voluntary transition to IFRS prior to the 2005 mandatory adoption. Second, IFRS was still relatively young at the time. Over time there appears more implementation guidance, interpretations and technical rules – the standards become more rule based. This phenomena was not captured by the prior studies, but may have had an impact on the use of earnings management in later years which is likely captured by our research. Third, there are many determinants of accounting quality as can be seen in figure 1 by Soderstrom &

Sun (2007). Because accounting standards are only one of many determinants of accounting quality, the impact of a change of accounting standards will be different depending on the characteristics of the other determinants, characteristics that are different between different countries.

Barth (2008) studied 21 countries in the EU and drew the conclusion that IFRS is consistent with less engagement in earnings management than national standards generally among EU countries. However, Sweden was one of few countries that showed no change in the magnitude of earnings management between the studied time periods, which stands in contrast to the results attained in this study. The reason for this discrepancy may be the fact that Barth only captures three years of IFRS existence compared to ours that capture more than ten years post-IFRS adoption. It is likely that the consolidation of IFRS is not captured by studies drawing conclusions based on only a few years of data.

Even though the magnitude of earnings management among the Swedish listed companies has decreased substantially since the abandonment of Swedish GAAP, we still see that the general pattern is to create cookie jar reserves/hidden reserves which is a conservative approach. Hellman (2008) claims that it is naïve to believe that prepares of financial statements will apply conservatism less in their works if the IFRS increases the ability to create and reverse hidden reserves. Iatridis & Joseph (2005) and Jeanjean & Stolowy (2008) all also believe that succumbing to a principle-based school of accounting opens up for more income smoothing, as the principle-basis enhances the manager's ability to smooth income in accordance with their own incentives compared to a rules-based school. Our results point to the opposite, as they indicate less conservatism in the accounts if we follow Hellman's definition of conservatism. IASB is of the opinion that changes in the prospects of uncertainty can be transformed into a change of accounts without necessarily being impacted by subjectivity of the preparer's judgment. Our results confirm that the opinion of IASB is correct in the context of earnings management in Sweden.

The managerial discretion provided by IFRS is definitely a component of IFRS that opens up for more earnings management. However, there are likely other aspects of IFRS that can impact the magnitude of earnings management that authors like Hellman (2008), Jeanjean & Stolowy (2008) and Iatridis & Joseph (2005) may have missed to account for. Alford (1993), Ali & Hwang (2000), and Hung (2000) all claim that Sweden had a financial reporting environment characterized by low value relevance prior to IFRS, which indicates that Sweden is a market that resembles a stakeholder governance-market as opposed to a market where a shareholder corporate governance model is outstanding. While Swedish firms are financed in parts by equity, the financing of Swedish firms has traditionally been via debt. This has indications for the accounting strategies used. The creditors are likely to prefer low volatility in earnings, instead preferring smooth earnings that can be used to pay interest and amortizations. Perhaps this is where we find one of the reasons why the Swedish firms engage in conservative income smoothing strategies, such as cookie jar reserve accounting, prior to the adoption of IFRS. IFRS is known for primarily being occupied with how relevant the information is for investors. Taking the investors perspective, Platikanova & Nobes (2006), Soderstrom & Sun (2007), and Frankel & Li (2004) hypothesized that IFRS would lead to an increase of value relevance in Sweden due to more timely and relevant financial reporting that reduces information asymmetry and the cost of capital. We believe that this is an aspect of IFRS that is not accounted for in the works by Hellman (2008), Jeanjean & Stolowy (2008), and Iatridis & Joseph (2005). It is possible, and even likely, that the switch from Swedish GAAP to IFRS has inclined the Swedish accounting practice towards investors instead of

towards creditors, where the reduced information asymmetry curbs the ability by managers to engage in conservative management of its earnings.

6. Conclusion and discussion

In this section, we present and discuss the conclusion of our study relating to our research question and hypothesis. We also carry a discussion of topics for further research on the subject.

6.1 Conclusion

In this study we have analyzed the effect of transition from the accounting standards Swedish GAAP to IFRS on the magnitude of earnings management. The past research on this issue has yielded some conflicting results and only one study has studied IFRS impact on the magnitude of earnings management in Sweden. The study by Barth (2008) showed no change in the magnitude following IFRS adoption. Barth's conclusions were however drawn based on data of three years of IFRS compliance, which may be too little to fully capture the consolidated IFRS effects. Iatridis & Joseph (2005); Jeanjean & Stolowy (2008); Hellman (2008); Bartov et al (2005); Hung & Subramanyam (2007); van Tendeloo & Vanstraelen (2005); Ball (2006); Ormryd & Taylor (2004) all hypothesized that the transition to IFRS would lead to greater earnings management attributed to the fair value judgment approach that was believed to open the door to greater earnings management compared to national standards. None of the studies could identify a link between IFRS and a lower magnitude of earnings management.

The results in our study are based on twelve years of IFRS compliance, which is likely to yield a stronger result and capture the long-term effects of IFRS adoption on the earnings management magnitude. Our analysis shows that listed Swedish companies engaged in the use of conservative accounting methods such as cookie jar reserve accounting under Swedish GAAP. Following IFRS adoption, Swedish listed firms maintained its engagement in earnings management to decrease the reported earnings, but this magnitude of the earnings management was decreased substantially. In respect to our main hypothesis, our obtained results show that the discretionary accruals went towards 0 following the mandatory adoption of IFRS of Swedish listed firms. This means that the use of earnings management has decreased among Swedish listed firms since the mandatory adoption of IFRS in 2005. This is a result that stands in contrast to our hypothesis, which indicates that it is not possible to generalize the conclusions attained from prior studies in other EU countries. The results indicate that the more principle-based IFRS accounting model leaves a smaller scope for earnings management among Swedish listed companies, which is a result that stands counter to what has been both hypothesized and concluded by research on earnings management following the IFRS transition in other EU countries (Iatridis & Joseph (2005); Jeanjean & Stolowy (2008); Hellman (2008); Bartov et al (2005); Hung & Subramanyam (2007); van Tendeloo & Vanstraelen (2005); Ball (2006); Ormryd & Taylor (2004)). Our study is the first study to account for the IFRS impact on the magnitude of earnings management in Sweden since Barth (2008) did it in her study. The hypothesized belief that the IFRS' reliance on fair value judgment would open up the door to greater earnings management compared to the more restrictive and rules-based national set of standards cannot be sustained in a Swedish context. Specifically, we have proven that the IFRS standards that went into effect in 2005, criticized for permitting greater flexibility in application and lack of implementation guidance, contributed to smaller earnings management in Sweden. For standard setters such as IASB, our findings are likely to confirm their intuition that IFRS leads to better earnings quality compared to the local framework used earlier in Sweden.

6.2 Discussion and further research

Our results contribute to the current debate surrounding the need for professional ethics to overcome opportunism, especially in the early years of IFRS application, and for effective control mechanisms to ensure that financial reporting achieves the desired level of quality, which will not be attained simply

by the switch from local to international accounting standards. As IFRS becomes consolidated and more rules-based, with more guidance and enforcement, we should expect the magnitude of earnings management to decrease even more on the Swedish market. Most prior research is based on few years of data post-IFRS. These studies do not capture the more long-term effects of IFRS on earnings management as IFRS becomes the consolidated accounting practice when managers are preparing their books, via guidance and implementation, technical rules and explicit interpretations of the standards. It is therefore of essence to continuously capture the effects of IFRS on earnings management and not draw conclusions based on only a few years of data. We therefore hope that further research will analyze samples that account for longer time perspectives.

It must be stressed that our analysis cannot crystallize that the decrease in earnings management is a product of the mandatory use of the IFRS standards alone. There are many nationally determined characteristics that impact the use of earnings management, within both the cultural and political environment of the sample. There is therefore always a risk that the results are spurious, meaning that impacting variables have been left out of the regression. Control variables were contemplated, but never added as it would be hard to determine and operationalize other determinants of the ability to engage in earnings management. It would be impossible to perfectly determine how much of the changes in the magnitude of earnings management that can be attributed to the transition to IFRS, because of the many, known and likely un-known, determinants of the earnings management magnitude. What can be confidently stated though, is that the general pattern among Swedish listed firms is a decrease in the magnitude of earnings management following IFRS adoption.

There are many potential topics related to earnings management where the research is incomplete. Out of the four questions stated by Healy & Wahlen (1999) as primary research topic regarding earnings management, mentioned in section 2.1, the question of magnitude and frequency of earnings management has received the most attention. Our study is also occupied with this research question. As previously mentioned, this topic is an area that requires attention as the conclusions from the prior research on the area are outdated and do not capture the long-term effects of IFRS. The three other research questions all pose important questions to outline the phenomena of earnings management. First, it would be interesting to study why managers engage in earnings management qualitatively. In this thesis, we briefly went through the characteristics of the agent-principle contracts and named it as a possible culprit. Second, it would be interesting to identify which accruals that are actually managed. The identification of managed accruals could be analysed in relation to a particular standard of IFRS, to see how a certain standard impacts the use of earnings management and not just how the entire set of standard impacts the earnings management. Most prior research, as well as ours, are interested in the more general value of earnings management and are not focused on which accruals that are actually managed. Third, an interesting topic for further studies is related to the actual consequences of earnings management. Which stakeholders that are impacted by the earnings management and the economic benefits and detriments of those is a question of essence to make a value assessment of the consequences of a decreasing magnitude of earnings management.

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