

# **Earnings management**

**The effect of the implementation of IFRS  
on the level of earnings management**

**Mark Blom  
June 2009**

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on the level of earnings management**

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## **Abstract**

One of the goals of the International Accounting Standards Board (IASB) is to develop a single set of high quality global accounting standards that require transparent and comparable information in general purpose financial statements. This thesis addresses the question whether the mandatory adoption of International Financial Reporting standards (IFRS) is associated with a lower level of earnings management. This study uses the level of earnings management as a proxy for earnings quality, and therefore the quality of financial statements. I investigate whether European listed companies that have adopted IFRS engage in significantly less earnings management than before the mandatory adoption, while controlling for other differences in earnings management incentives. My sample consists of 4069 firm-year observations relating to the period 2000-2006 for six European countries in three industries. My results show a significant decrease in the use of discretionary accruals in the period Post-IFRS compared to Pre-IFRS. However, after controlling for various earnings management incentives, the decrease in the level of discretionary accruals can not be attributed to the implementation of IFRS. Conversely, the decrease is merely part of a decreasing trend of the level of discretionary accruals in time, and IFRS seems to have a positive relationship with the level of discretionary accruals. My findings contribute to the current debate whether the IASB has succeeded to develop a single set of high quality global accounting standards. The findings indicate that mandatory adopters of IFRS in Europe should not be associated with a lower level of earnings management.

## **Preface**

This master thesis is written for the master program Accounting, Auditing and Control at the Erasmus University Rotterdam. During my seminar Advanced Financial Accounting I came in contact with International Financial Reporting Standards and earnings management. The subject caught my attention and I decided to choose it as a research topic for my master thesis. After ten months of hard work my master thesis is finally finished. During this period, I did not only learn how to perform scientific research, but also how to overcome setbacks on a professional and personal level. I learned how to set a goal and to persevere until that goal is achieved.

Without the support I have received, my thesis would not have evolved to what it is now. Therefore I would like to thank some people in particular. First, I would like to thank my thesis counsellor at the Erasmus University Rotterdam, Prof. Dr. M. A. van Hoepen RA, for the informative and pleasant meetings we had. Second, I would like to thank KPMG The Hague for the facilities they offered while I was writing my master thesis. In addition, I like to thank my coach at KPMG, Arnoud Kuijpers, for taking the time to advice me despite his busy schedule. His experience and advice about writing a thesis helped me to bring structure in the progress of my thesis. Furthermore I would like to thank my colleagues at KPMG The Hague for the support, knowledge and pleasant times during my stay as an intern. I like to specially thank Mark Lippens, my seminar team-member and colleague. Thank you for all the advice, encouragement and great times during the last two years of my education and the never-ending research for my thesis.

Finally, I owe gratitude to my family and friends for supporting me in any way possible. In particular I like to thank my brother, Edwin, for the positive and encouraging talks when my education took the wrong turn. Thank you for the support in the difficult times.

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# Chapter 1: Introduction

## § 1.1 Introduction to the problem

These days earnings management is a hot topic. Scandals like Enron, WorldCom and A-hold have caused a lot of public attention to focus on the companies' quality of financial reporting. Stakeholders of firms use financial statements to make economic decisions and these scandals cost them billions of dollars. Much quoted in this respect is Arthur Levitt, former chairman of the SEC. In his speech of 1998, Levitt talked about "the numbers game" in which he attacked practices where management abuses "big bath" restructuring charges, premature revenue recognition, "cookie-jar" reserves, and write-offs of purchased in-process R&D (Healy and Wahlen 1999). According to Levitt these practices are threatening the credibility of financial reporting. Others followed Levitt in expressing his views on earnings management. "*We must have factual, not fictional accounting*", said Frits Bolkestein, former Dutch European Commissioner in charge of Internal Market and Taxation, when he raised his concerns regarding earnings management in his speech in July 2002 ([www.europa.eu](http://www.europa.eu)). He also emphasizes the importance of company accounts that are true and fair, and states that "*... companies must not distort, hide, fabricate and present, in whole or in part, a misleading web of lies and deceit ...*" (Bolkestein 2002).

This led to the development of the Sarbanes Oxley Act (SOx) in the United States. Other countries quickly followed with their own corporate governance codes such as the Tabaksblat Code in the Netherlands. These legislations have the purpose to ensure the improvement of financial statements in respect of reliability and usefulness for decision-making, which should lead to a recovery of the public trust in financial reporting. However, the possibility still exists for managers to perform discretionary behavior when they prepare financial statements. When managers have to give their own input to financial reporting, they will try and benefit from the outcome of those numbers themselves. This might conflict with the usefulness of financial statements for stakeholders when they make decisions because financial statements might not reflect the truth. Because of this effect earnings management has on the quality of



earnings, it is often used as a proxy for earnings quality and because of this on the quality of financial reporting.

The International Accounting Standards Board (IASB) is committed to developing, in the public interest, a single set of high quality global accounting standards that require transparent and comparable information in general purpose financial statements ([www.iasb.org](http://www.iasb.org)). In order to accomplish their goal they developed the International Financial Reporting Standards (IFRS) which should improve these four qualitative characteristics and with that the quality of financial reporting. Since January 2005 all listed companies in the European Union are obligated to use these reporting standards. IFRS can be characterized as consisting of strict rules, with little room to deviate from (Hoogendoorn 2004). This should result in a better comparability and understandability of financial statements and less possibility for earnings management. On the other hand IFRS requires a lot of assets and liabilities to be valued at “fair value” which will increase the subjectivity and volatility of earnings (Vergoossen 2006). An important change is that IFRS requires the use of impairment tests instead of straight-line depreciation on assets. The result is more volatile and thus less predictable earnings which are associated with more risk (Heemskerk and Van der Tas 2006). This increase in risk is unwanted because it raises the cost of capital for companies. Hence, managers will have more incentives to smooth earnings (Goel and Thakor 2003). In advance, it is therefore not easy to predict what the total effect the implementation of IFRS will have on the quality of financial statements.

After the implementation of IFRS, complaints of the failure of the intended results started to surface. Financial director B. Bruggink of Rabobank complains that the comparability with his competitors has deteriorated after the implementation of IFRS. Others, like secretary of VNO-NCW M. W. Noordzij, noticed IFRS has led to an increase in costs. However according to him this has not led to a higher level of transparency and comparability. In 2006 M. Hoogendoorn, Chairman of the Dutch Accounting Standard Board, claims that the financial statements that were published that year according to IFRS are a big mess. According to him the IFRS are too fixed and complex. This leads to financial statements which are hard to understand, even for experts.

Because of these complaints a whole new branch of research regarding the influence of accounting standards on reported earnings quality has developed. With my thesis I will try to aid to this research by determining if the implementation of IFRS has led to a lower level of earnings management and because of that an improved quality of financial statements. This will give an indication if the main goal of the IASB to develop a single set of high quality, global accounting standards, has been accomplished.

## **§ 1.2 Problem definition**

In my thesis I will try to give an answer to the following research question:

*“What is the influence of the mandatory adoption of IFRS on the level of earnings management for listed companies in the European Union?”*

My thesis will investigate whether the IASB has succeeded in their objective to develop a single set of high quality global accounting standards that require transparent and comparable information. In my research I will use the level of earnings management as a proxy for earnings quality, and therefore the quality of financial statements. Therefore, one of the primary objectives of the IASB with the implementation of IFRS is the reduction of earnings management. I will investigate if the IASB has indeed succeeded to achieve that objective.

## **§ 1.3 Relevance to the problem**

In the last decade, the IASB has developed a new set of high quality accounting standards for European listed companies. Since January 2005 European companies are obligated to report their consolidated financial statements according to these new standards, the IFRS. One of the goals of the implementation of IFRS by the IASB was to deliver a higher quality of financial statement in terms of comparability and transparency. The level of earnings management, being one of the main proxies for earnings quality, should therefore deteriorate after the implementation of IFRS. My thesis will therefore aid in the knowledge of the influence of IFRS on the prevalence of earnings management. This knowledge can be of use for stakeholders of the firms that report their financial statements according to IFRS. Investors will know more

about the usefulness of financial statements; earnings management is commonly seen as to decrease usefulness of financial statements for decision-making. Finally, also the regulators can profit from the results of my thesis because it will give an indication to what extent their objectives have been achieved.

## **§ 1.4 Thesis design**

In chapter two I discuss earnings management where I first give the definition of earnings management which I will use for the remainder of my thesis. Next I discuss the different ways managers can practice earnings management followed by an overview of the various incentives that drive managers to perform earnings management. Finally, I pay specific attention to earnings smoothing because it is one of the most prevalent form of earnings management.

In chapter three, I start by giving a short introduction of the International Accounting Standards Board (IASB) and the International Financial Reporting Standards (IFRS). Hereafter I discuss the previous research that was performed on the subject of my thesis. Because of the novelty of my subject only a limited number of researches has been performed. In addition, I will therefore also discuss some other related research. To conclude the chapter I discuss the institutional factors that can affect the outcome of my research.

Chapter four will focus on the main research question. First I will give an overview of the earnings management theories followed by the effect IFRS has on them. Next I include the previously performed research and the pitfalls that they are subject to. Finally, I form my hypothesis which I will test in my research.

In chapter five I set up my research design. First I will describe the sample of my research. I will look at the descriptive statistics of some input variables next. After that I will discuss the models I use to determine the discretionary accruals. I also explain how I will determine how the level of earnings smoothing has changed after the implementation of IFRS. I conclude this chapter by giving the limitations my research is subject to.

In chapter six, I give the descriptive statistics of the Modified Jones Model and the Kasznik Model which I then compare for the pre- and post-IFRS period. Next, I will present graphical evidence of the average earnings management measures which give

an impression of the change in earnings management in time. Finally, I present the results of the regression which includes the various control variables for earnings management and earnings smoothing.

The results of chapter six will lead to a conclusion on my given hypothesis in chapter seven. The conclusion and my personal interpretation of the results will lead to the answer to my research question

## **Chapter 2: Earnings Management**

### **§ 2.1 Introduction**

Earnings management is considered to have a negative influence on the transparency and comparability of financial reporting (Heemskerk and Van der Tas 2006). In the related literature, it is often used as a proxy for earnings quality and will therefore influence the quality of financial statements for stakeholders. Therefore, in this chapter, I will first treat what exactly constitutes earnings management in my thesis. I give a definition for earnings management and distinguish earnings management from two other closely related phenomena, real cash flow choices and financial fraud. After that, I focus on the different incentives that managers have to manage earnings. I discuss both the positive theory motives and the capital market motives which give people incentives to practice earnings management. Finally I treat the different forms of earnings management in this chapter.

### **§ 2.2 Earnings management: Definition**

Managers use financial reporting to keep their stakeholders informed about their firm's performance. Ideally, financial reporting helps the best-performing firms in the economy to distinguish themselves from poor performers and facilitates efficient resource allocation and stewardship by stakeholders (Healy and Wahlen 1999). Managers can use their knowledge about the business to improve the effectiveness of financial statements as a means of communicating with potential investors and creditors. In order to do this, managers are given opportunities to exercise judgment in financial reporting (Xiong 2006). Judgment is required when management has to choose between different accounting methods for reporting the same transactions. Also, management has to exercise judgment when forming provisions for future obligations like R&D expenditures, losses from bad debts or asset impairments. In addition managers can use smooth earnings patterns to communicate their firm's superior earnings prospects to investors (Tan and Jamal, 2005; Graham et al., 2005). Corresponding, Tucker and Zarowin (2006) document empirically, that an important effect of managers' use of financial reporting discretion is to reveal more information

about firms' future earnings and cash flows. As previously mentioned by Scott (1997), managers can use their choices in financial reporting as a way to give users additional information about the future expectations of the firm.

Despite this positive side of managers' judgment, it also creates an opportunity for managers to manipulate financial statement users in a way which mostly benefits them. Earnings management is the intentional misstatement of earnings leading to the bottom line numbers that would have been different in the absence of any manipulation (Mohamram 2003). This is the most common way that earnings management is interpreted in relevant literature. Therefore I will define earnings management based upon the two most frequently encountered definitions in the relevant literature for my thesis:

- Schipper (Dechow and Skinner 2000): "...a *purposeful* intervention in the external financial reporting process with the intent of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process)..." (emphasis added).
- Healy and Wahlen (1999): "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" (emphasis added).

I conclude from these definitions that earnings management is a purposeful intervention by the management of an organization in the financial reporting process, aimed to influence the users of the financial reports in order to gain an advantage for themselves or the organization.

In my thesis when mentioning earnings management I refer to the practice of judgment in the accounting process, also known as accruals management. Abnormal accruals occur when management's intervention in financial reporting process has an impact on total accruals, which does not stem from normal economic activities and circumstances (Heemskerk and Van der Tas 2006).

Hoogendoorn (2004) divides accrual management into two categories: The first category is the use of earnings management through accounting policies or methods. This refers to the choices concerning for example depreciation methods and inventory valuation. Managers can use their discretion by choosing, or changing their accounting methods to meet their own or their firm's interest. The second category exists of the estimates that have to be made in the financial reporting process by managers. This includes the estimates of time and value in all sorts of ways during the reporting process. Later, it will become clear that IFRS gives a huge opportunity for earnings management through estimates with the introduction of fair value. Managers can exercise discretion over both methods and estimates that relate to discretionary accruals, as well as the timing of when these accruals are recognized (Xiong 2006).

Next, it is important to distinguish earnings management from two closely related phenomena. The first phenomenon I have to distinguish is "real" cash flow choices. Management can use strategic restructuring of transactions as a means of earnings management. A firm may for instance speed up sales to customers by providing them greater discounts and more flexible credit terms at the end of the fiscal quarter to meet financial targets (Mohamram 2003). The research in my thesis focuses on the change in reporting rules after the implementation of IFRS and the effect it has on earnings management. Ewert and Wagenhofer (2005) mention that when reporting standards are tightened by a standard setter, this will restrict the possibility for accounting earnings management but will have no significant restriction on real earnings management. When earnings management is mentioned in my thesis it will therefore not include "real" cash flow choices because the implementation of IFRS has no direct effect on those choices. The second phenomenon is financial fraud, which explicitly violates the boundaries of the reporting standard. Financial fraud is the intentional and deliberate misstatement or omission of material facts, or accounting data, which is misleading and when considered with all the information made available, would cause the reader to change or alter his or her judgment or decision (National Association of Certified Fraud Examiners 1993, 12) (Dechow and Skinner 2000). In the next paragraph I will discuss the different incentives for managers to manage their earnings.

## **§ 2.3 Earnings management Incentives**

Earnings management is a managerial activity and is because of that driven by managers' incentives (Stolowy and Breton 2004). The incentives can be divided into two main groups. The first group, based on the positive theory, focuses on firms' internal contractual incentives to employ different accounting choices (Xiong 2006). It was developed by Watts and Zimmerman (1978) because of lack of consistent support for earlier hypotheses. The second group is capital market incentives which are based on the widespread use of accounting information by investors and analysts.

### **§ 2.3.1 Positive Theory Incentives**

In 1986 Watts and Zimmerman proposed three major hypotheses based on their Positive Theory. The theory focuses on firms internal contractual reasons for earnings management. The hypotheses propose incentives for earnings management based on the existence of fixed contracts that use accounting numbers.

The first hypothesis is the bonus plan hypothesis which discusses the role accounting choices play in management compensation plans (Xiong 2006). In order to align the goal of the managers and stockholders, managers are often provided with compensation based on their performance in addition to their regular salaries. Healy and Wahlen (1997) mention that firms usually judge their managers' performance based on certain accounting numbers. Thus, managers have incentives to select accounting methods and exercise discretion over accounting estimates to improve their compensation (Xiong 2006).

The debt covenant hypothesis postulates the existence of an incentive for earnings management created by debt covenants. Firms' creditors impose restrictions on payments of dividends, share repurchases and issuance of additional debt to ensure repayment of their principal and interest (Xiong 2006). These restrictions are often expressed in terms of accounting numbers or ratios which gives managers incentive to manage the numbers to satisfy all requirements.

The last hypothesis, the political cost hypothesis, examines the role of accounting choices in the political process (Xiong 2006). The political process imposes cost on the firms or industries that are believed to be taking advantage of the public and make excessive profits. A determination that profits are excessive may result in pressure on



these firms to reduce prices or face strict regulations (Xiong 2006). High profit firms will therefore have the incentive to manage earnings downwards and seem less profitable in order to avoid political attention.

Recent studies of earnings management however have shifted their emphasis away from positive theory and back to capital market incentives as an explanation of opportunistic behavior of managers (Xiong 2006). Burghstahler and Dichev (1997) for example did not consider earnings management theories related to explicit contracts. In their opinion there was little evidence that such contracts are sufficiently common to explain the pervasive avoidance of earnings decreases and losses. Therefore I will discuss the capital market incentives next.

### ***§ 2.3.2 Capital market incentives***

Accounting information is used by investors and analysts to value the firm's stock price. According to Healy and Wahlen (1999) this can give managers the incentive to influence the short term stock price by manipulating the accounting information. Bowen et al. (1995) discuss incentives to report higher earnings with respect to employees, customers, suppliers, lenders and other stakeholders. Examples of incentives to report higher earnings include the following:

- Customers are willing to pay higher prices for goods because firms are assumed more likely to honor implicit warranty and service commitments.
- Suppliers offer better terms, both because firms are more likely to make payments due for current purchases and because firms are more likely to make larger future purchases.
- Lenders offer better terms because firms are less likely to either default or delay loan payments.
- Valuable employees are less likely either to leave or to demand higher salaries to stay.

Earnings management arises from the game of information disclosure that executives and outsiders must play. The capital market incentives usually flow from the intention to influence the stock price of the firm in order to benefit from it. Earnings provide important information for investment decisions. Thus executives who are monitored

by investors, directors, customers and suppliers acting in self interest and at times for shareholders have strong incentives to manage earnings. This nexus of relations generates strong incentives for executives to manage earnings (Degeorge et al. 1999). Some previous research focuses on the incentives to use earnings management when a specific event takes place.

DeAngelo (1988) reports, that earnings information is important for the valuation at the time of a management buyout. He hypothesizes that a manager of a buyout firm has an incentive to understate his earnings. This would lower the stock price making it cheaper for management to finance the buyout. However, he did not find decisive evidence of earnings management before management buyouts. Perry and Williams (1994) did find results which indicate unexpected accruals are negative (income-decreasing) prior to management buy-outs which indicates earnings management.

A different group of studies focus their research on the level of earnings management in the periods prior to equity offers. Teoh et al. (1998, 1998a, 1998b) find evidence of income increasing unexpected accruals before a company offers shares on the stock market. In addition, they find income decreasing unexpected accruals in the period following share offers. These findings show that managers manage their earnings upwards prior to equity offerings which results in higher stock price and therefore more money for the company.

### ***§ 2.3.3 Earnings Benchmarks***

However, the most frequent encountered capital market incentive for earnings management is the one to meet earnings benchmarks. This benchmark can be the previous period's performance (the desire to show an improving trend), analysts' expectations (the desire to meet or beat expectations) or zero (the desire to remain profitable) (Mohamram 2003).

Several papers have discussed managers' incentives to meet simple earnings benchmarks. An increasing number of studies offer systematic evidence of managers' incentives to meet simple benchmarks, including (1) avoiding losses; (2) reporting increases in lagged quarterly earnings; (3) meeting analysts' expectations for quarterly earnings (Dechow and Skinner 2000). The common belief is that a well-run and stable firm should be able to produce the dollars necessary to hit the earnings target, even in

a year that is otherwise somewhat down. Because the market expects firms to be able to hit or slightly exceed earnings targets and that firms on average do this, means problems can arise when a firm does not deliver earnings (Graham et al. 2005).

Burgstahler and Dichev (1997) find unusually low frequencies of small decreases in earnings and small losses and unusually high frequencies of small increases in earnings and small positive income. They reason that if earnings are not managed to meet earnings benchmarks, the observed cross-sectional distribution of deviations of realized earnings would be relatively smooth. If earnings are managed to meet earnings benchmarks one would observe a sharp discontinuity in the vicinity of the earnings benchmark in the form of a significantly lower concentration of small negative deviations of reported earnings from forecasts and a significantly higher concentration of small positive deviations. Therefore they motivate that they provide compelling empirical evidence that earnings decreases and losses are frequently managed away (Burgstahler and Dichev 1997).

Degeorge et al. (1999) study if managers use earnings management to meet analysts' expectations. Similar to the findings of Burgstahler and Dichev (1997) they find discontinuities in the earnings distribution which according to them indicates threshold-based earnings management. They also discover a hierarchical order in the three different thresholds. It is most important to make positive profits, second to report quarterly profits at least equal to profits of four quarters ago, and third to meet analysts' expectations (Degeorge et al. 1999).

Gore et al. (2001) provide the first international evidence on discontinuities in the distribution of reported earnings using a large sample of UK firms. Their results indicate that the earnings levels, earnings changes and earnings surprises of UK firms like those of US firms are distributed discontinuously around zero. This matches the findings of Burghstahler and Dichev (1997) and Degeorge et al. (1999) which provide evidence that the phenomenon of discontinuities in the distribution of earnings extends beyond the US corporate environment and GAAP regime.

However, their primary objective is to determine whether discretionary accruals, a frequently used proxy for earnings management, contributes significantly to the unexpected high frequencies of particularly small positive, earnings levels, changes and surprises (Gore et al. 2001). In order to do so they look at the empirical

distribution of earnings before discretionary working capital accruals. Their results show that the empirical distributions of earnings *before* discretionary working capital accruals does not reflect the unusually high frequencies of small surpluses and unusually low frequencies of small deficits relative to targets found in the distribution of actual reported earnings (Gore et al. 2001). This provides strong support that discretionary accruals are a significant cause of the discontinuity observed in the distribution of earnings relative to basic targets and for the use of discretionary accruals as a proxy for earnings management.

Burghstahler and Dichev (1997) confirm this explanation of costs imposed on the firm in transactions with stakeholders. They also give an explanation based on the prospect theory, which postulates an aversion to absolute and relative losses. Degeorge et al. (1999) name three psychological effects that, among others, can explain the existence of these thresholds. The first is that according to the authors there is something fundamental about positive and non-positive numbers in the human thought process. Secondly, the authors refer to prospect theory, which says that individuals choosing among risky alternatives behave as if they evaluate outcomes as changes from a reference point. Third, according to the authors, thresholds come to the fore because people depend on rules of thumb to reduce transaction costs.

## **§ 2.4 Forms of earnings management: Income Smoothing**

Earnings management exists in different forms. The most logical form that comes to mind is income maximization. Managers may engage in a pattern of maximization of reported net income for bonus purposes, providing this does not put them above the cap (Scott 1997). They will strive to obtain the highest possible bonus. However, a politically visible firm might choose to minimize their income during periods of high profitability to prevent from drawing political attention. The most interesting earnings management pattern is income smoothing, which I will therefore discuss more thoroughly. It will become clear in this paragraph that firms strive to achieve smooth income streams for particular reasons.

A smooth income stream can exist because it is naturally smooth or because it is intentionally smoothed by management (Eckel 1981). It is hypothesized that various

firm specific factors provide incentives for management to use accounting choices to smooth earnings, and that as a result, smoothing behavior varies across firms (Douglas 1987). Albrecht and Richardson (1988) defined income smoothing as “the deliberate dampening of fluctuations about some level of earnings in which is considered to be normal for the firm”. They divide intentional smoothing into real smoothing and artificial smoothing. Real smoothing occurs when management takes actions to structure economic events of the organization to produce a smooth income stream. Artificial smoothing occurs when management manipulates the timing of accounting entries to produce smooth income streams (Albrecht and Richardson 1990).

Stlowy (2004) claims income smoothing has the clear objective to produce a steadily growing stream of profits for the firm. This means managers basically try to reduce the variances in profit. From the outside, it is difficult to ascertain whether these changes represent manipulation or the genuine application of managerial discretion. This allows those who do manipulate to get away with it as one cannot for sure attribute these changes to manipulation.

According to the last paragraph one could state that, as long as earnings are positive and increasing, it does not matter if they are more or less volatile. There are however, other incentives to smooth earnings. Vander Bauwhede (2003) mentions the realization of a constant dividend payout ratio can also be an incentive to smooth earnings. She also mentions countries where financial reporting has direct tax implications; companies can smooth their earnings to minimize tax payments. The contracting theory can also consider income smoothing, when meeting bonus targets or protecting their job drives managers to smooth earnings (Tucker and Zarowin 2005).

More important however, seems to be the value that the capital market places in smoothness of earnings. This arises from the fact that bigger variance in profit are associated with bigger risk (Heemskerk and Van der Tas 2006). Higher risk means higher capital costs and for this reason managers have the incentive to smooth earnings. Research therefore predicts a higher degree of earnings smoothing for firms with higher uncertainty about the volatility of their earnings stream (Goel and Thakor

2000). According to these studies firms use earnings smoothing to mislead the stakeholders about the performance of the company.

Other studies have a contradicting view on income smoothing. They claim earnings smoothing can be used by managers to reveal additional information about their firm's future prospects. According to these studies the use of earnings smoothing enhances the information stakeholders can extract from reported earnings. By smoothing their earnings, firms would borrow earnings from the future or save earnings for the future. According to Roel and Sadan (1981), it would only be possible for firms with well performing firms with good future prospects to smooth earnings. Poor performing firms will never be able to satisfy the earnings that were borrowed from the future (Tucker and Zarowin 2005).

As mentioned before, earnings smoothing is strongly related to benchmarks that were mentioned in the previous section. When firms have almost reached their target forecast, they want to try and get their earnings just over the target. In these cases, firms will try and use some form of earnings management to “bump up” earnings to meet the benchmark. When firms are way above their benchmark, they have the incentive to use earnings management to reduce their earnings. Typically, there is little benefit in going way above a benchmark (Mohamram 2003). Further, over-performance by a firm can lead to upwards adjusted expectations about the company for the future known as the ratchet effect. If firms do too well, expectations for the future are adjusted accordingly making future targets more difficult to attain (Mohamram 2003). Reducing earnings like this to not exceed benchmarks too much is referred to as “cookie jar” accounting. In addition, when firms are way below their targets, they have an incentive to make things look even worse for the following reasons. First, it is highly unlikely that any amount of earnings management will get them over the target. Secondly, if one is way below the target, the costs of being even worse are typical minimal. Such earnings management is referred to as “big-bath” accounting (Mohamram 2003). Big-bath accounting increases the volatility of earnings to make it easier for the firm to smooth their earnings in the future.

## § 2.5 Conclusion

Summarizing, when discussing earnings management in my thesis I will refer to the purposeful accruals management by management to mislead stakeholders about the underlying performance of the company while staying *within* the boundaries of IFRS. I find that incentives to manage earnings can stem from internal contracts as well as external stakeholders. Earnings can be managed upwards or downwards depending on the favored results. However, the most practiced form of earnings management is earnings smoothing. I conclude that there is compelling evidence that earnings are being managed to smooth them. A manager has multiple incentives for himself and for the firm to smooth earnings. This can be done to minimize costs, for example tax payments, or to easier meet bonus targets of managers over a longer period of time. Though, most important is the value the capital market places in smoothness itself, making smooth earnings a general target of every company. It is however inconclusive if a firm that smoothes her earnings will benefit or hurt their stakeholders in doing this. For the rest of my thesis I will pay specific attention to income smoothing because it is thought to be one of the most prevalent forms of earnings management (Goncharov and Zimmerman 2006). Furthermore, the majority of research with respect to the effect of accounting standards on the prevalence of earnings management focuses primarily on income smoothing.

## **Chapter 3 Research and Regulation**

### **§ 3.1 Introduction**

In this chapter I start with a small introduction of the IASB and International Financial Reporting Standards. Also a brief glance at the changes regarding earnings management after the implementation of IFRS will be treated. After that I discuss the previous research that was performed on earnings management and the implementation of IFRS. Because of the novelty of the subject only a limited number of researches have been performed on this subject. Therefore I also treat other related researches that have been important for my thesis. To conclude the chapter I deal with studies about the institutional factors that can have effect on the outcome of my research.

### **§ 3.2 International Financial Reporting Standards**

Prior to the adoption of IFRS, the harmonization of financial reporting across the European Union was pursued by EU directives. This was a very time-consuming process because it took a long time for EU countries to come to agreements. The intense negotiations prior to an agreement resulted in directives that were often suboptimal compromises between member states and did not have the desired harmonization result. After completion, member states were to implement the new directives in their national legislation. The time of implementation varied significantly between the countries as did the interpretation of the directive per member state. Finally, national legislation could not guarantee the implementation by companies of the new directives because of the lack of controls and penalties (Helleman and Van der Tas 2004). This process did not lead to the intended harmonization of financial reporting that the member states had intended. Therefore, in 1990 the European Council decided to pursue the harmonization by participating in an international harmonization process deployed by the International Accounting Standards Committee (IASC). Their efforts resulted in a recommendation by the Council in 1995 to allow the use of IAS if these did not conflict with the local legislation.



On April 1<sup>st</sup> 2001 the International Accounting Standard Board (IASB) was founded as the successor of the International Accounting Standards Committee. The primary goal of the IASB is to develop a single set of high quality, global accounting standards that are accepted worldwide for general purpose financial statements (Barth et al. 2006). Next to that the IASB should promote the use and rigorous application of those standards and consider the needs of emerging economies and small and medium-sized entities in developing and promoting the use of IFRSs. Last, they should bring about convergence of national accounting standards and IFRSs to high quality solutions (KPMG 2006).

The implementation of IFRS should eventually lead to a high-quality uniform reporting standard in Europe which would help create a large integrated capital market. Stakeholders need financial statements to provide them with information which is useful for their decision-making process. The benefits of one large integrated capital market are therefore considered to be the following. Investors should have better ability to make informed financial decisions and eliminate confusion arising from different measures of financial position and performance across countries. Because of IFRS, it will also no longer be necessary for companies to report according to multiple standards. This lowers the costs for reporting and encourages international investment for those companies.

Before 2005 the number of users of IAS was relatively limited but this was about to change drastically. On 19 July 2002, the European Parliament and the Council decided with provision 1606/2002 how the implementation of IFRS should occur. This regulation requires all listed companies of member states to prepare their consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) as from January 1<sup>st</sup> 2005. Around the same time the IASB started an improvements project which revises existing IAS standards and issued new IFRS standards. From that moment, IFRS refers to both the new numbered IFRS series of standards issued by the IASB, as to the old IAS that were issued by the IASC.

Finally, in September 2002, a step towards a global accounting standard was set in the Norwalk Agreement by the FASB (Financial Accounting Standards Board) and the IASB. The FASB is the organization responsible for setting accounting standards for

public companies in the United States. The IASB and FASB pledged to use their best efforts to (1) make their existing financial reporting standards fully compatible as soon as is practicable and (2) to coordinate their work program to ensure that once achieved, compatibility is maintained (Doupnik and Perera 2007).

In order to meet the objective of decision usefulness, financial statements have to be prepared on accrual basis and in addition the enterprise has to be going concern (Doupnik and Perera 2007). The overriding requirement of IFRS is for the financial statements to give a fair presentation (true and fair view) of reality.

The usefulness of information can be broken up into four different properties; comparability, relevance, reliability and understandability. Since the goal of the IASB is to achieve a high quality reporting standard, one would expect that the implementation of IFRS has a positive effect on the relevance, reliability and comparability of the annual reports. This can be also visible in their objectives to develop a single set of high quality *global* accounting standards that require *transparent* and *comparable* information in general purpose financial statements. As mentioned before, the main opinion about earnings management is that it has a negative effect on the transparency and comparability of financial reporting. The level of earnings management after implementation of IFRS should therefore be expected to be lower than the level of earnings management before implementation of IFRS if the IASB has accomplished their goal.

Hoogendoorn (2004) states, that IFRS can be characterized as consisting of strict rules, with little room to deviate from. Vergoossen (2006) confirms this by mentioning a shift of IFRS from a principle-based system to a rule-based system, leaving less room for judgment than local GAAP (Generally Accepted Accounting Principles). This lowers the possibility for earnings management which is in line with the goals of the IASB to improve the quality of financial statements. Conform IFRS companies also need to give up the creation of hidden reserves which makes the practice of earnings management more difficult. Moreover IFRS requires more disclosures and have fewer accounting choices than local GAAP, which leads to a reduction in information asymmetry. Therefore IFRS can be expected to enhance financial reporting quality and thus constraint earnings management, if IFRS can be properly enforced (Tendeloo and Vanstraelen 2005).

Adversative, after the implementation of IFRS, more assets and liabilities have to be valued against fair value. This increases the subjectivity and volatility when determining the result (Vergoossen 2006) increasing the possibilities to manage earnings. Furthermore, an important consequence of valuating assets and liabilities at fair value and using impairment tests is that earnings become more volatile and thus less predictable (Heemskerk and Van Der Tas 2006). This increase in volatility is associated with more risk, which results in higher capital costs (Heemskerk and Van Der Tas 2006). Of course this is unwanted and Goel and Thakor (2000) predict a higher degree of earnings smoothing for firms with higher uncertainty about the volatility of their earnings stream.

Summarizing, implementing IFRS gives management more incentive to manage earnings to keep earnings streams smooth. In addition IFRS also provides management with an opportunity, fair value, to attain the favored earnings result. Therefore it is more a question than a certainty if the IASB will achieve their goal to provide the world with a high quality set of accounting standards.

### **§ 3.3 Previous Research**

In the next section I will give an overview of the previous research that has been done regarding earnings management and the implementation of IFRS. First, Tendeloo and VanStraelen (2005) and Heemskerk and Van der Tas (2006) will be discussed since these studies focus specifically on the implementation of IFRS and earnings management. Because of the novelty of IFRS, the previous research on the specific subject is limited. Therefore I will treat some related earnings management research starting with market-based approach research. This does not specifically focus on earnings management but investigates the comparative quality of multiple standards. After that, I will discuss research which studies earnings management by comparing companies reporting under IFRS and US GAAP. Finally I will treat some research which discusses the relationship between accounting standards and earnings management.

### ***§ 3.3.1 Implementation of IFRS and earnings management***

Tendeloo and VanStraelen (2005) investigate whether German companies which have adopted IFRS engage significantly less in earnings management compared to German companies reporting under German GAAP while controlling for other differences in earnings management incentives. They are among the first ones to investigate the effect of the implementation of IFRS on the prevalence of earnings management making use of the data available of German early adopters. In their research, they use the cross-sectional Modified Jones model to estimate discretionary accruals and use it as a measurement for earnings management. In addition, they also investigate the effect of the implementation of IFRS on earnings smoothing. In order to do this they use the correlation between reported accruals and operating cash flows as a proxy.

The results of their study suggest that, if hidden reserves are taken into consideration, no difference in earnings management behavior can be found between IFRS adopters and companies reporting under German GAAP. If they exclude hidden reserves from their research, it seems voluntary IFRS-adopters seem to practice more earnings management than under German GAAP. Their results indicate the voluntary implementation of IFRS by early adopters in Germany can not be associated with a lower level of earnings management.

Following Ball et al (2003) they find that it is incomplete and misleading to classify countries in terms of their formal accounting standards without giving substantial weight to the institutional influences on preparers' actual financial reporting incentives. Their research results add to the current debate whether high quality standards, such as IFRS, will be effective in countries with weak investor protection rights. I will discuss more on this research subject later on in my thesis.

Heemskerk and Van der Tas (2006) perform a similar kind of research on the effects of the implementation of IFRS on earnings management and earnings smoothing. As mentioned before IFRS has only been mandatory for listed companies in the European Union since January 1<sup>st</sup> 2005. Only little data was available when they conducted their research and therefore they selected companies in Germany and Switzerland for their research because IFRS has a somewhat longer history in those countries. In Switzerland, IFRS has been the recommended standard for many years. In Germany, the introduction of The New Market, which was launched in 1997, has had a great

impact on the prevalence of the use of IFRS (Leuz 2003). Firms on The New Market were required to report under either IAS (IFRS) or US GAAP which provided a significant number of companies which adopted IFRS prior to 1<sup>st</sup> January 2005.

Corresponding with Tendeloo and VanStraelen (2005) Heemskerk and Van der Tas (2006) focus their research on the use of accruals to manage earnings. They do not use the cross-sectional Modified Jones Model to estimate the discretionary accruals. Instead they use a time-series variant to estimate the discretionary accruals before and after the adoption of IFRS. They use the absolute value of discretionary accruals as a proxy for earnings management and find that the use of discretionary accruals has increased after the implementation of IFRS. Other factors, like country of origin, industry or size do not influence the outcome of the research according to Heemskerk and Van der Tas. Next, similar to Tendeloo and Vanstraelen (2005), Heemskerk and Van der Tas compare total accruals with operating cash flows, to investigate whether accruals are used to smooth earnings. Their results indicate that the use of accruals to smooth earnings has increased after companies have adopted IFRS.

They give two main explanations for their results. First they mention the increased volatility caused by the implementation of IFRS. As mentioned in chapter two increased volatility is unwanted because it is associated with increased risk, leading to more costs. The implementation of IFRS therefore provides an extra incentive for management to use accruals to smooth earnings. Secondly they mention that the increased role of subjectivity under IFRS creates extra opportunities for management to manage earnings. In conclusion Heemskerk and Van der Tas (2006) find that their results indicate that the implementation of IFRS has deteriorated the quality of earnings.

### ***§ 3.3.2 Market Based Research***

Bartov et al. (2002) compare the value relevance of earnings produced under three accounting regimes, German GAAP, US GAAP, and IAS, by considering the association of stock returns and reported earnings as a measure of quality of accounting standards. Similar to the two previously mentioned researches they also perform their research on the German stock market and state that this focus may have

consequences for the possibility to generalize their results. In their empirical analysis they use a cross-sectional and a time-series model to perform their research. The first model compares firms under the three accounting regimes keeping the time periods fixed. The time-series model compares the association between stock returns and earnings before and after German firms switch from German accounting standards to either US GAAP or IAS.

Bartov et al. (2002) find that within the sample of German firms, value relevance is higher for earnings prepared under either US GAAP and IAS than earnings prepared under German GAAP. This result matches the arguments of market observers, researchers and regulators that financial statements prepared under shareholder model, such as US GAAP or IAS, provide better information than financial statements prepared under the stakeholder model (German GAAP). However, they do not find any significant difference between earnings prepared under US GAAP and IAS despite claims of the Financial Accounting Standards Board (FASB) that IAS is of lower quality than US GAAP.

Leuz (2003) also focuses on the German Market, utilizing the requirement that firms trading in this market must choose between IAS and US GAAP. The *ceteris paribus* condition which arises because country- and market-specific factors are equal for all firms prevents difficulties of comparing firms from different countries or different capital markets. He investigates whether firms that employ US GAAP exhibit less cross-sectional differences in the bid-ask spread and share turnover than firms that report under IAS. Because he focuses on these proxies for information asymmetries, his tests are not restricted to comparisons of summary accounting measures such as earnings but capture differences in financial reporting information more broadly (Leuz 2003). Information asymmetries between potential buyers and sellers of firm shares introduce adverse selection into secondary share markets and hence reduce market liquidity (Leuz 2003). This is costly because investors want to be compensated for holding shares on illiquid markets. An increase in the level of disclosure will lower the likelihood of information asymmetry, increasing the market liquidity. He therefore states that the level of information asymmetry is a proxy for reporting standard quality.

The results show that there are no significant differences in the bid-ask spread and share turnover between IAS and US GAAP firms. Several robustness checks and subsequent analyses of analyst forecast dispersion, IPO underpricing, IPO valuation, and firms' standard choices provide corroborating evidence. This is consistent with the interpretation that accounting standards have major consequences in capital markets, and that IAS and US GAAP are comparable in reducing information asymmetries and thereby, at least with this respect, of comparable quality. It also corresponds with the interpretation that despite difference standards, New Market firms exhibit similar accounting quality precisely because firms face similar market forces and institutional factors, resulting in similar reporting incentives. This last view relies on recent finding that accounting quality is largely determined by market forces and institutional factors, rather than accounting standards. I will discuss this more extensively further in my thesis.

### ***§ 3.3.3 Comparing IFRS and US GAAP: earnings management***

The study of Goncharov and Zimmerman (2006) focuses on the difference in the level of earnings management between companies reporting according to three different reporting standards. They compare companies in Germany reporting under US GAAP, German GAAP and IAS. Instead of performing market based research, they only focus on the properties of accounting data and thus analyze the direct impact of the latitude in accounting regimes on the quality of financial statements. Once again the German stock market is used for the research because of the unique setting of three accounting standards on a level playing field. Because they find overwhelming evidence that German firms engage in substantial income smoothing, they focus on this particular form of earnings management. They do mention that focusing merely on earnings smoothing limits the research in the sense that it picks up only a subset of earnings management.

Goncharov and Zimmerman (2006) use the Modified Jones model to divide total accruals into discretionary accruals and non-discretionary accruals, with discretionary components being influenced by earnings management. Hereafter the level of earnings management is compared by the ratio between standard deviation of

nondiscretionary earnings to the standard deviation of earnings. With respect to this ratio, Goncharov and Zimmerman state that when management reduces the volatility of earnings by using discretionary accruals, this will result in smaller values of the standard deviation of net income. Therefore, volatility of earnings before abnormal accruals in excess of the volatility of net income indicates earnings smoothing activities. In this case, the values of the smoothing ratio will be significantly larger than one.

The results suggest no significant difference between the level of earnings management of German GAAP and IAS. However, they find that firms reporting under US GAAP engage less in earnings smoothing. Therefore, they conclude that US GAAP mitigates more effectively against earnings management than German GAAP or IAS. Furthermore, they test for self selection because each analyzed firm can choose for themselves which accounting standard to use. Results indicate that the choice is not random but based on firm size, profitability and firm's financing. After controlling for these disclosure motivations they still find similar results indicating their previous findings are robust.

Firms reporting according to US GAAP are believed to have less room to practice earnings management than firms that report according to different accounting standards. Therefore, non-US firms which are cross listed on US exchanges have to reconcile their accounting amounts to enforce equal regulation for all firms on the US stock market. The IASB has been working with SEC and IOSCO and US Securities to develop IFRS in order to permit cross-listing on US exchanges without the requirement of a reconciliation of IFRS to US GAAP. Logically, US policy makers question if financial statements according to IFRS delivers comparable quality to the ones according to US GAAP.

In an attempt to answer this question, Barth et al. (2006) perform three researches to compare measures of accounting quality for firms applying IAS and US GAAP. First they compare the characteristics of accounting amounts for firms applying IAS with matched firms that apply US GAAP. Next they compare accounting amounts for IAS and US firms before and after the IAS firms adopt IAS. They perform this research on both short and long term because the IAS has changed a lot in the last few years. Finally, they select sample of firms that apply IFRS and compare them with a sample



of firms of non-US firms that are listed on the US stock market and have to reconcile their financial statements. In their research they interpret earnings that exhibit less earnings management, more timely loss recognition, and higher value relevance as being of higher quality. They examine two manifestations of earnings management; earnings smoothing and managing towards positive earnings.

In their results, Barth et al. (2006) conclude that firms reporting under IAS generate a higher quality of accounting numbers than firms reporting under local GAAP. But when they compare the difference in quality compared to US GAAP, they find that with the implementation of IAS, the difference in quality decreases, but are not eliminated. Last they conclude that the US GAAP amounts presented by non-US firms' Form 20F reconciliations do not exhibit the same superior accounting quality as US GAAP.

Finally, I will treat the study of Ewert and Wagenhofer (2005) who discuss the economic effect in the capital market if accounting standards are tightened in order to restrict earnings management. They distinguish between accounting earnings management and real earnings management. According to them accounting earnings management is the way accounting standards are applied on given transactions and events. Real earnings management only changes the timing or structuring of real transactions. When standards are tightened by a standard setter this will restrict the possibility for accounting earnings management but will have no significant restriction on real earnings management. Tighter standards will lead to costlier and therefore less accounting earnings management. Because of this, the value relevance, measured by the association between reported earnings and the market price reaction will increase. However, this increases the effectiveness of earnings management and therefore the benefit for the manager to engage in earnings management. Accounting earnings management will be replaced by real earnings management which leads to suboptimal choices and therefore reduces firm's value. Thus, Ewert and Wagenhofer conclude that tightening accounting standards improves the information in capital markets but may be rather costly for the economy. Total earnings management can either increase or decrease depending on the situation.

### § 3.4 Institutional factors

In this chapter I have concentrated on the effects of accounting standards on earnings quality, while using the amount of earnings management as one of the proxies for earnings quality. However recent research indicates that this focus might be too narrow. Ball et al. (2003) find that *“it is incomplete and misleading to classify countries in terms of their formal accounting standards or even their standard setting institution, without giving substantial weight to institutional influences on preparers’ actual financial reporting incentives.”* As mentioned earlier, Tendeloo and VanStraelen (2005) include several institutional factors in their research that could affect the decisions of managers. Their results indicate that the possibility to manage earnings is not only decided by the present reporting standard. They find that other factors aside from the chosen reporting standard have an effect on the quality of financial reporting such as being audited by a big 4 auditor. This illustrates the importance of looking more deeply into factors other than accounting standards that may have an effect on auditors’ decisions and the quality of annual reports.

Ball et al. (2000) consider the effect of international institutional factors on several properties of accounting earnings over time. They find that timeliness of accounting income is significantly greater in common-law countries than in code-law countries. They also find that this difference is entirely due to greater sensitivity to economic losses, which is a form of income conservatism. They characterize the shareholder and stakeholder corporate governance models of common and code-law countries respectively as resolving information asymmetry by public disclosures and private communication. They describe common law countries as characterized by arm’s length debt and equity markets, a diverse base of investors, high risk of litigation and stronger investor protection. In these countries accounting information is designed to meet the needs of investors. In code-law countries, the capital markets are less active, which results in a lesser demand of public disclosures. Investors are represented more closely in the companies’ corporate governance, which allows insider communication to play a central role to solve information asymmetry in the company. Ball et al. (2000) also state that the strong political influence on accounting occurs on national and firm levels. In these countries accounting information therefore serves the purpose of reducing the costs caused by taxes, dividend or politics. As a result,

accounting standards in code-law countries give greater discretion to managers in deciding when economic gains and losses are incorporated in accounting income.

This is consistent with Leuz et al. (2003) who state that code-law countries are characterized by lower protection rights compared to common-law countries. The explanation they give for these differences is that insiders, in an attempt to protect their private control benefits, use earnings management to conceal firm performance from outsiders. As a result earnings management is expected to decrease in investor protection because strong protection limits insiders' ability to acquire private control benefits, which reduces their incentives to mask firm performance (Leuz et al. 2003). In summary, code-law accounting provides greater incentives and opportunities to minimize and or smooth income than common-law countries. These reporting goals are achieved at the expense of timeliness of conveying value relevant information. (Bartov et al. 2002).

Maijoor and Vanstraelen (2002) investigate what the influence of different audit environments can have on the level of earnings management. They find that the national differences in audit environments have a strong effect on earnings management. Tendeloo and VanStraelen (2005) state that the benefits of engaging in earnings management appear to outweigh the costs more in countries with weak investor protection. This is also consistent with the findings of previous research that the level of earnings management is significantly higher in code-law countries than in common-law countries.

Another factor that can also have an effect on the prevalence of earnings management is effect of being audited by a Big-4 firm. Tendeloo and Vanstraelen (2005) find that less earnings smoothing takes place in companies that have a big 4 auditor compared to firms without a big 4 auditor. Maijoor and Vanstraelen (2002) found that being audited by a Big-5 firm puts a serious restriction on earnings management if the audited company is listed on a foreign stock exchange but that the effect is not uniform across countries. They investigate the effects of audit firm quality on earnings management opportunities for companies in four countries. The main focus of their study is on flexibility of accounting regimes. They find flexibility of the country's accounting regime has a positive effect on the amount of discretionary accruals reported in that country.

Another factor to consider is the reliance on international capital markets. As mentioned before Majoor and Vanstraelen (2002) investigated the influence on the level of earnings management of companies that are listed on a foreign stock exchange. They find that managers of firms that are cross listed on a foreign exchange market practice less earnings management. Tendeloo and Vanstraelen (2005) also include this aspect in their research model. They assume that firms with foreign exchange listing are subject to restrictions imposed by different countries and are exposed to higher litigation risk. This results in a greater incentive for companies to report more transparent. Therefore earnings quality will be enhanced when a company is listed on an international capital market which is consistent with Ball et al (2000, 2003).

Tendeloo and Vanstraelen (2005) also discuss that firms in code-law countries without a cross-listing could falsely signal to be of high quality by complying with IFRS. In code-law countries a company that complies with IFRS will not have to face the common-law penalties, which makes it difficult for the capital market to distinguish between high or low transparency adopters of IFRS. If so, a more effective way of signaling high quality for firms in code-law countries would then be to list in a high-transparent common-law country, exposing themselves to common-law penalties for low quality disclosure (Ball et al. 2000). Tendeloo and Vanstraelen (2005) therefore question whether the adoption of IFRS by a firm has a stronger effect on the quality of earnings if the firm is cross-listed on a well-developed capital market that is demanding in terms of information quality and transparency.

Finally Ball et al. (2003) find that incentives appear to dominate accounting standards as a determinant of financial reporting in Hong Kong, Malaysia, Singapore and Thailand. These four countries have high-quality accounting standards, which leads to an expectation of timely recognition of economic losses as mentioned by Ball et al (2000). On the other hand, based on the incentives faced by managers and auditors in issuing one would expect a low-quality financial reporting (Ball et al 2003). They conclude that quality is what a country's institutional environment demands. This makes it more important for countries striving for high quality reporting to change managers' and auditors' incentives than to mandate foreign accounting standards. In

conclusion, a high-quality reporting standard, like IFRS, is not a guarantee for high quality financial reporting making my research even more relevant.

### **§ 3.5 Conclusion**

The International Financial Reporting Standards can be characterized as consisting of strict rules with little room to deviate from (Hoogendoorn, 2004), thus putting more constraints on earnings management. However, the use of fair value increases the subjectivity which increases the possibilities for earnings management. The use of fair value also increases the volatility of earnings which as mentioned in chapter two increases the incentive to smooth earnings. The implementation of IFRS not only gives more incentives for earnings management but also supplies the possibility to attain the favored earnings result. It is therefore unclear what effect the implementation of IFRS will have on the level of earnings management.

Until now, the previous research on the topic has been limited and inconclusive. Tendeloo and VanStraelen (2005) find no difference in the level of earnings management after the adoption of IFRS. Heemskerk and Van der Tas (2006) find results that indicate that the use of accruals to smooth earnings has increased after companies have adopted IFRS. However, Barth et al (2006) find that companies reporting under IAS have higher quality accounting amounts than companies reporting under local GAAP. Ewert and Wagenhofer conclude that tightening accounting standards can either increase or decrease total earnings management depending on the situation. At this moment no general conclusion can be derived from the previous research that has been performed on this topic.

Nevertheless a different branch of research makes me consider that the quality of reporting is not entirely dependent on its reporting standard. They state that it is incomplete and misleading to classify countries in terms of their formal accounting standards or even their standard setting institution, without giving substantial weight to institutional influences on preparers' actual financial reporting incentives. It is therefore important for my research to include the possible effect of these institutional factors on my results.

## **Chapter 4: Hypotheses**

### **§ 4.1 Introduction**

The main question my thesis attempts to answer is whether the mandatory implementation of IFRS has led to a lower level of earnings management for listed companies in the European Union. In this chapter I will give a short summary of the theories, researches and pitfalls to previous researches that have led me to my hypothesis. In conclusion I will formulate my hypothesis which will be tested in the next chapter.

### **§ 4.2 Earnings management theories**

In chapter two I concluded that earnings management is the purposeful intervention by the management of an organization in the financial reporting process, aimed to influence the users of the financial reports in order to gain advantage for themselves or the organization.

I explained that managers can have various incentives to manage earnings like the Positive Theory incentives. One of them is the bonus plan hypothesis which states stakeholders often provide managers with compensation based on their performance in addition to their regular salaries in order to align their goals. This will give the managers the incentive to manage earnings in order to maximize their own bonuses. Managers could also have the incentive to manage earnings because creditors impose restrictions on accounting numbers or ratios in debt covenants before dividends payments can be done. The political cost hypothesis mentions that firms that are believed to be taking advantage of the public will get pressured to lower their prices or face stricter regulations. Managers in these firms will try to lower the profits in their company to prevent attention being drawn to them.

I also mentioned that reporting higher earnings can have advantages because accounting information is used by investors and financial analysts to help value stock. Management could influence stock prices to go up before an equity offering or go down before a management buy out. However, the most encountered capital market incentive for earnings management is the one to meet earnings benchmarks. Well-run, stable firms are expected to be able to hit or slightly surpass earnings benchmarks

such as avoiding losses, reporting an improving trend and meeting analysts' expectations. Therefore firms try to manage their earnings to meet these benchmarks to avoid problems from arising.

I therefore conclude that without effective rules and regulation managers will manage their earnings in a way that will most benefit themselves and their firms. This is considered to have a negative influence on the transparency and comparability of financial reporting, which lowers the quality and usefulness of financial statements for stakeholders.

### **§ 4.3 IFRS and it's influence on earnings management**

In the previous paragraph I concluded that earnings management lowers and deteriorates the transparency, comparability and as a result the quality of financial statements. This endangers the IASB in developing a high quality set of accounting standards. The IASB therefore has the intention to lower the possibility to manage earnings with their newly developed accounting framework; IFRS.

However, when I look at the relationship between IFRS and earnings management it is difficult to predict the result of the implementation of IFRS on earnings management. IFRS is characterized by stricter rules, shifting from a principle based to a rule based accounting standard, which should reduce the possibility for earnings management. The stricter rules and more disclosures should reduce the information asymmetry between principal and agent and make financial reports more useful for stakeholders.

However, according to IFRS more assets and liabilities have to be valued against fair value. Management's judgment will be required for valuation which increases subjectivity and increases the possibility to manage earnings. In addition, IFRS prescribes an impairment test when the value of an asset or liability has changed. As a result, earnings will become more volatile and thus less predictable, which leads to higher capital costs. Under IFRS, management will therefore have a higher incentive to try and use earnings management to smooth the earnings.

Previous research on the subject shows the same inconsistencies as the expected consequences of IFRS on earnings management. Tendeloo and VanStraelen (2005)

found no change in the level of earnings management after the implementation of IFRS and Heemskerk and Van der Tas (2006) concluded that it even led to an increased level of earnings management. Generally, both researches concluded that the implementation of IFRS did not lead to the aimed goal of the IASB to increase the quality of financial reporting.

#### **§ 4.4 Hypothesis**

In the previous paragraph information is presented which suggests the implementation of IFRS does not lead to a lower level of earnings management. However, the previous literature and research that was performed on this research topic suffers from certain pitfalls. First of all, in previous research companies were not (yet) obligated to report their financial statements according to IFRS. The companies reporting according to IFRS did this voluntarily which provides the danger of self-selection. Companies who benefit from reporting under IFRS will choose to do so while companies that benefit from local GAAP will continue to report according to those standards.

Secondly, Tendeloo and Vanstraelen (2005) discuss that firms in code-law countries *without* a cross-listing could falsely signal to be of high quality by complying with IFRS. These countries lack sufficient controls and penalties on non-compliance of IFRS compared to common law countries. This is consistent with Leuz et al. (2003) who state that code-law countries are characterized by lower protection rights compared to common-law countries. In summary, code-law accounting provides greater incentives and opportunities to minimize and or smooth income than common-law countries. The previous research has mostly been performed in Germany and La Porta et al. (1998) categorizes Germany as an intermediate code law country. This could influence the outcome of previous research regarding IFRS adopters since they could still practice earnings management because of the lack of sufficient controls and penalties. Since 1 January 2005 all listed companies are obligated to report according to the IFRS. The controls and penalties for non-compliance of IFRS have to be in place in every country in order for the implementation to have actual effect the IASB intended. An addition, the European Union wants to accomplish one large integrated capital market in the European Union. The institutional factors, market forces,



controls and penalties on non-compliance have to be eliminated between the countries in order to accomplish that

Another issue on previous research I encounter is the ongoing development of IFRS. At the time of previous research the IFRS were far from finished and even at this moment the IASB is still improving the IFRS to achieve their goal of a high quality global accounting standard. Since 2005 the IASB improvements project has revised existing, and issued new standards to improve the quality of IFRS.

If I take all these pitfalls in account on the previous research I expect the IASB must have come closer to accomplishing her goal to develop a single set of high quality, global accounting standards. In the line of previous research I therefore expect that earnings management, measured by the level of discretionary accruals, has significantly been reduced after the implementation of IFRS. My first hypothesis is therefore stated as:

***H 1: the introduction of IFRS as a mandatory accounting standard for listed companies in the European Union from 1 January 2005, leads to a lower level of reported discretionary accruals for these firms.***

In chapter two, I mentioned earnings smoothing is the most practiced form of earnings management. It is used to produce a steadily growing stream of profits for the firm to meet the various benchmarks because they are expected to if they are stable and well-run. In addition, capital markets value smoothness itself because bigger variances are associated with bigger risk.

As I mentioned the implementation of IFRS prescribes the valuation of assets and liabilities at fair value and the use of impairment tests. The consequence is that earnings may become more volatile and thus less predictable. Companies will therefore have the incentive to increase their earnings smoothing activities to counter the increased volatility of earnings caused by implementing IFRS. This is the opposite of the goal of the IASB to improve the quality of financial statements which makes earnings smoothing a very interesting and significant research subject.

In chapter three I mention the introduction of IFRS has led to a shift from a principle-based to a rule-based accounting system. This is characterized by stricter rules with less room to deviate from leaving less room for judgment by managers which should lower the opportunity for them to manage earnings and with that earnings smoothing. So far, previous research has not been able to detect a decrease in the level of earnings smoothing. However, further development of IFRS should regulate this incentive of managers to smooth earnings in order for the IASB to achieve their goal. As mentioned before I expect the IASB to have made significant progress to accomplishing their goal of a single set of high quality accounting standards in the last 3 years. I therefore expect that the level of earnings smoothing has decreased after the mandatory adoption of IFRS and my second hypothesis is therefore stated as follow:

***H 2: the introduction of IFRS as a mandatory accounting standard for listed firms in the European Union from 1 January 2005, leads to a lower level of earnings smoothing for these firms.***

In chapter three I mention that the quality of reporting is not entirely dependent on its reporting standard. In addition, before the implementation of IFRS, the reporting standards of countries in the European Union were very diverse (Heemskerk and Van der Tas 2006). This has effect on my research on the change in the level of earnings management as it will include companies of six European countries, namely: Belgium, Denmark, Finland, Italy, The Netherlands and Sweden. Before the implementation of IFRS these countries all have different institutional factors, market forces and reporting standards which determine the quality of the financial statements in those countries. This means they also have a different “starting” quality of financial reporting before the implementation of IFRS.

La Porta et al. (1997) confirms this with their findings that countries whose legal rules originate in the common-law tradition tend to protect investors considerably more than the countries whose laws originate in the civil-law tradition. In addition, Heemskerk and Van der Tas (2006) mention that countries with more conservative standards the implementation of IFRS will have a bigger impact than in countries with more progressive standards. In countries with a weak institutional framework before the

implementation of IFRS, the changes in framework quality will be larger than in countries which already had efficient capital markets and good investor protection before the implementation of IFRS. I extend their findings by predicting a larger change in earnings management for countries which started with a weak institutional framework before the implementation of IFRS compared to countries which started with efficient capital markets and good investor protection before the implementation of IFRS. To determine this I will first have to determine a “start” position of earnings management before IFRS implementation.

Leuz et al. (2003) have performed their research on earnings management by comparing the level of earnings management for approximately 30 countries worldwide. In order to find out if there are systematic differences between these countries, they measure the level of earnings management per country in four different ways. After that they sort the countries they investigated on their aggregate earnings management scores which are calculated with the found earnings management measures. They find that countries with developed equity markets, dispersed ownership structures, strong investor rights, and legal enforcement engage less in earnings management. The aggregate earnings management scores can be found in TABLE 7 and I will use them to determine the “start” position of earnings management levels in the six countries in my research and sort them accordingly.

The European Union strives for one single effective capital market for countries that are part of the European Union. The implementation of IFRS should therefore eventually lead to a high-quality uniform reporting standard in Europe which would help create a large integrated capital market. In order to accomplish one effective capital market, the systematic differences between countries have to be eliminated. All differences such as reporting incentives, market forces and institutional factors have to be eliminated across the European Union.

I assume that after the implementation of IFRS the European Union will accomplish into creating one integrated capital market for its member states. Consequently, when this integrated capital market is established, this will eliminate all differences between countries. As a result the possibility to manage earnings will be similar in all countries that prescribe the use of IFRS. Therefore I expect that the level of earnings management has decreased *more* for countries which had a higher aggregate earnings

management score according to the table of Leuz et al. (2003) before the implementation of IFRS. My third hypothesis is stated as:

***H 3: the introduction of IFRS as a mandatory accounting standard for listed firms in the European Union from 1 January 2005, leads to a larger decrease in earnings management for companies which had a larger aggregate level of earnings management before the implementation.***

## **Chapter 5: Methodology**

### **§ 5.1 Introduction**

In this chapter I will first treat the sample I use to perform my research. Next, I will discuss the descriptive statistic of the used input variables and present some general findings on those statistics. Hereafter I will explain why I choose the two research models to estimate the level of discretionary accruals I use in my research. Next I will explain my model to measure the level of earnings smoothing. I conclude this chapter with the different control variables, which I use to determine the robustness of my results and the variables that limit my research.

### **§ 5.2 Sample Description**

My research is performed on countries of the European Union. For my research I want to select countries in my sample to represent the different accounting traditions which were present in the European Union before the implementation of IFRS. The different accounting frameworks according to Helleman and Van der Tas (2004) are presented in the Figure 2. Because of the before-mentioned large amount of early adopters in Germany and Switzerland these countries are excluded from my research. In addition I excluded the United Kingdom from my sample because of the large amount of listed companies compared to the other countries. This can have a distorting effect on the results because of the biased sample distribution. Furthermore, the data for companies in Ireland, Norway, Portugal and Spain were not sufficiently available for the research period I selected.

Therefore my sample consists of the listed companies of six European countries; Belgium, Denmark, Finland, Italy, the Netherlands and Sweden. I perform my research on the time period from 2000 till 2006 and have used the Thomson OneBanker Database to gather the data I need for my research. For my research I compare two main time periods; the pre-IFRS period (2000 - 2004) and the post-IFRS period (2005 – 2006). This division in time is chosen because in all of the six sample countries IFRS is mandatory for listed companies from 1 January 2005.

Consistent with previous research I have excluded the financial institutions (SIC 60-69) from my sample. According to Tenderloo and VanStraelen (2005) financial institutions do not have the opportunity to make their own choices when they report their financial statements, and therefore are unable to influence their amount of discretionary accruals. Also consistent with previous literature is the exclusion of utility companies (SIC 40-49). When estimating discretionary accruals per industry per year, the companies have to be relatively similar in accounting. This is not the case with utility companies, which are very different from each other. Following Tenderloo and VanStraelen I exclude firm-year observations when the firm equity is negative or total or discretionary accruals are above 100% of lagged total assets. Finally, all firm-year observations with incomplete data variables available are excluded from the sample.

Following DeFond and Jiambalvo (1994) the regressions to estimate coefficients are performed using data from firms matched on year and industry, requiring a minimum of six observations per industry-year to obtain the coefficients for that industry-year. This required data is only available for the following three industries; SIC 20-39 Manufacturing, SIC 50-59 Wholesale trade and SIC 70-89 Services. My final sample therefore consists of 4069 firm-year observations relating to the period 2000-2006 for six European countries in three industries.

I will perform my research for (1) each country, without further categorization per industry and (2) for the total sample. This adds up to a total of 7 sub-samples for my research. An overview of the sample can be found in TABLE 1.

### **§ 5.3 Descriptive Statistics: Input variables**

I present the descriptive statistics of the used variables per country in TABLE 2. When looking at firm size, measured in both total assets and number of employees, I notice that the mean firm size is much higher than the median firm size. This means a relative small number of very large companies compared to the rest are included in the sample. This corresponds with the found values of the 25<sup>th</sup> and 75<sup>th</sup> percentile. The same pattern can be observed when looking at the cash flows from operation. When looking at the return on assets, an opposite pattern can be observed. This indicates that

a small number of firms performs extremely bad compared to the rest of the sample. A possible explanation of this might be related to the big bath accounting I discussed in chapter two.

When comparing the statistics of the different countries I find that Denmark and Sweden generally have smaller companies compared to other countries. This may be a reason why Danish firms perform so well in terms of return on assets. However Swedish firms perform the worst of all firms in the sample in terms of return on assets. Furthermore I can see that Dutch, Belgian and Finnish firms perform above average, whereas Italian firms perform below average. Finally, when looking at the gearing ratio, I see that firms from the Netherlands, Belgium and Italy are financed more of debt than firms in the other three countries of the sample. In these countries external reporting is less important. Financing happens mainly through financiers like bankers instead of shareholders, and bankers have access to other, more direct sources of information. On the contrary, as mentioned in chapter two, firms financed by debt can have incentives to manage earnings to avoid breaking debt covenants.

### **§ 5.3 Research Models**

As mentioned in chapter two, I look at accrual based earnings management when I address earnings management. In order to find out if the amount of earnings management has decreased after the mandatory implementation of IFRS, I will have to measure the magnitude of the discretionary accruals before and after the implementation of IFRS. Unfortunately only total accruals can be observed which consist of non-discretionary and discretionary accruals. Non-discretionary accruals are normally related to economic activity and discretionary accruals result from manipulative actions by management. Discretionary accruals can not be measured by themselves which causes a problem for my research. Therefore I will have to measure total accruals and find a way to divide them into discretionary accruals and non-discretionary accruals.

### ***§ 5.3.1 Modified Jones Model***

Several models have been developed to separate total accruals into discretionary accruals and nondiscretionary accruals. The Jones Model (1991) and Modified Jones Model (Dechow et al. 1995) are the ones that are most frequently encountered in the existing literature, especially that on the relation between accounting standards and the level of earnings management. These models are based on the assumption that the difference between current- and prior-year accruals is due solely to changes in discretionary accruals because nondiscretionary accruals are assumed to be constant from period to period (Jones 1991).

However, the firm and environment can change over time and that can have an effect on the level of nondiscretionary accruals. Jones (1991) therefore uses two independent variables to control for the effect of changes over time. The change in revenues is used to control as a measure of the firms' operations before managers' manipulations, and the level of gross property, plant and equipment reflects the depreciation expenses (Jones 1991).

Dechow et al. (1995) modify the original model to eliminate the discretion that is exercised over revenues. They assume that all changes in credit sales in the event period results from earnings management. Dechow et al. (2005) explain that when managers want to influence their revenue, it is easier to manage them with credit sales than with cash sales.

As a starting point I consider total accruals as a source for measuring earnings management. Previous researchers, among others Tendeloo and VanStraelen (2005) and Goncharov and Zimmerman (2006) focus on current accruals because they suggest that current accruals are the main tool for earnings management. However, Healy (1985) and Xiong (2006) suggest that the total accrual method is more appealing because it includes the effect of accounting method changes in the years following the initial change. Since I am investigating the change caused by an accounting method, the total accrual method will be more effective in my research. Therefore I choose for the use of total accruals instead of current accruals which is consistent with Cohen (2007).



Consistent with the study of Cohen (2007) total accruals ( $TA_{it}$ ) are calculated as earnings before extraordinary items and discontinued operations ( $EBXI_{it}$ ) minus the operating cash flows from continuing operations ( $CFO_{it}$ ):

$$(1) TA_{it} = EBXI_{it} - CFO_{it}$$

There has been heavy criticism on the original time-series versions of the Jones model and Modified Jones model. First, both original models require long series (at least ten years) of data, which reduces the sample significantly and causes possible survivorship bias to occur. Secondly, the model assumes that the independent variables remain stationary over time. And last, the models assume that no earnings management took place in the 10-year estimation period (Peasnell et al. 2000). A time-series approach would also require for each sample-firm to verify that no management forecast was issued in any year in the estimation period (Kasznik 1999), which would be unattainable for my thesis.

In absolute terms, both models are found to generate tests of low power for earnings management of economically plausible magnitudes (e.g. accruals of 1% to 5% of total assets)(Peasnell et al., 2000). This leads to Type II errors, in which the null hypothesis of no earnings management is wrongly accepted. Also, in the case of extreme financial performance, both models show to be poorly specified, in that they attribute these extremes to earnings management (Peasnell et al., 2000). In this case, Type I errors pose a problem, that researchers wrongly reject the null hypothesis of no earnings management.

DeFond and Jiambalvo (1994) try to solve these problems by developing the cross-sectional version of the Jones Model. This method calculates the first stage regression separately for each industry-year combination. The regression needs a minimum of six observations in each industry-year sample to produce coefficients. The obtained industry-year specific coefficients are then combined with firm specific data to estimate the nondiscretionary accruals. This reduces the problem of survivorship bias because long time series data are no longer necessary. In addition the model generates a larger sample size which increases both the efficiency and reliability of the results (Peasnell et al. 2000). Lastly, Peasnell et al (2000) conclude that the cross-sectional

models are more powerful than their time-series counterparts. However, the cross-sectional approach has a disadvantage that it assumes the coefficients are the same for all firms within a particular year and two-digit SIC code (Kasznik 1999). Despite this flaw the cross-sectional Modified Jones model is the most widely used method for measuring earnings management at this moment. In addition, sample data before 2000 was very limitedly available, therefore making it impossible to use the time-series variant of the Jones model. I will therefore use the cross-sectional Modified Jones model to estimate nondiscretionary accruals in my research. The model is stated as follow:

$$(2) \text{NDA}_t = \alpha_1[1/A_{t-1}] + \alpha_2[\Delta\text{ADJREV}_t/A_{t-1}] + \alpha_3[\text{PPE}_t/A_{t-1}] + \varepsilon_t$$

Where

$$\begin{aligned} \Delta\text{ADJREV}_t &= \Delta\text{REV}_t - \Delta\text{REC}_t \\ \Delta\text{REV}_t &= \text{revenues in year } t \text{ less revenues in year } t-1 \\ \Delta\text{REC}_t &= \text{receivables in year } t \text{ less receivables in year } t-1 \\ \text{PPE}_t &= \text{property, plant and equipment in year } t \\ A_{t-1} &= \text{lagged total assets} \end{aligned}$$

Consistent with previous research all variables have been scaled by lagged total assets to reduce heteroscedasticity.  $\varepsilon_t$  is included as an error term. Estimates of the specific parameters,  $\alpha_1$ ,  $\alpha_2$  and  $\alpha_3$  are generated using firms matched on year (t) and SIC-industry (k). For each two-digit SIC-year grouping, estimates of the specific parameters are calculated using the following regression:

$$(3) \text{TA}_t/A_{t-1} = \hat{\alpha}_1[1/A_{t-1}] + \hat{\alpha}_2[\Delta\text{ADJREV}_t/A_{t-1}] + \hat{\alpha}_3[\text{PPE}_t/A_{t-1}]$$

The discretionary accruals ( $\text{DA}_t$ ) can then be calculated as follows:

$$(4) \text{DA}_t = \text{TA}_t/A_{t-1} - \text{NDA}_t$$

### § 5.3.2 Kasznik Model

In the past literature one of the problems has been the occurrence of extreme financial performance of firms. This leads especially to type 1 errors, where the change in accruals because of extreme performance is wrongfully attributed to earnings management. Among others Kasznik (1999) and Kothari et al. (2005) mention performance matching as a possible solution to overcome type 1 errors. However, this phenomenon occurs equally before and after the implementation of IFRS. Because my research focuses on the change in the level of earnings management as a consequence of the introduction of IFRS, performance matching is not necessary in my research. In addition, Kothari et al. (2005) find that performance matching could reduce the power of the tests, thereby increasing the possibility of Type 2 errors.

As an alternative to control for performance, Kasznik (1999) includes the change in operating cash flows as explanatory variable to the Modified Jones model. Dechow (1994) finds that it is negatively correlated with total accruals. According to Jeter and Shivakumar (1999), including cash flow from operations in the regression model not only increases precision, but also increases the power to detect earnings management, especially at lower levels of earnings manipulation. Therefore I add the change in cash flows to the modified Jones model as a driver of the accrual process following Kasznik (1999). For the remainder of my thesis I will refer to this model as the Kasznik-model:

$$(5) \text{NDA}_t = \alpha_1[1/A_{t-1}] + \alpha_2[\Delta\text{ADJREV}_t/A_{t-1}] + \alpha_3[\text{PPE}_t/A_{t-1}] + \alpha_4[\Delta\text{CFO}_t/A_{t-1}] + \varepsilon_t$$

Where

$\Delta\text{CFO}_t$  = change in cash flows from operations

Consistent with previous research all variables have been scaled by lagged total assets to reduce heteroscedasticity.  $\varepsilon_t$  is included as an error term. Estimates of the specific parameters,  $\alpha_1$ ,  $\alpha_2$  and  $\alpha_3$  are generated using firms matched on year (t) and SIC-industry (k). For each two-digit SIC-year grouping, estimates of the specific parameters are calculated using the following regression:

$$(6) TA_t/A_{t-1} = \hat{\alpha}_1[1/A_{t-1}] + \hat{\alpha}_2[\Delta ADJREV_t/A_{t-1}] + \hat{\alpha}_3[PPE_t/A_{t-1}] + \hat{\alpha}_4[\Delta CFO_t/A_{t-1}]$$

For my thesis I will use the Kasznik model to verify my estimates of the discretionary accruals of the Modified Jones model. In addition it will be interesting to examine the relative quality of both models.

### ***§ 5.3.3 Final Regression and Model Variables***

In my thesis one of the main incentives for earnings management is to reduce the volatility of earnings. This means earnings can be managed downwards as well as upwards to smooth the reported earnings. I will therefore use the absolute value of discretionary accruals to proxy for earnings management in my final regression.

In this final regression I will not only include the implementation of IFRS as a variable to see if it has effect on the level of earnings management. I will also include multiple control variables in order to check for the change in circumstances throughout the years which cover the research that can have effect on the change in earnings management.

In order to control for differences in earnings management incentives, I will include the following variables in the final regression. Tendeloo and VanStraelen (2005) include the natural logarithm of total assets (LNASSETS) as a proxy for the size of the company which is a proxy for political attention. The political cost hypothesis (Watts and Zimmerman 1990) explains that large firms are motivated to manage their earnings downwards, because high profits attract negative attention to firms and pressure for measurements by the government to lower profits of that company. Heemskerk and Van der Tas (2006) include the natural logarithm of the number of employees as a proxy for the size of the company. I include the natural logarithm of the number of employees (LNEMPL) as a proxy because it is more widespread used. Second, I will include the leverage ratio (LEVRATIO) because it can have an impact on earnings management. If a company has a higher debt, this will most likely be connected to conditions based on reporting numbers. Managers will be motivated to practice earnings management to comply with these conditions to avoid higher interest rates or fines.

Third, the absolute value of cash flows from operations scaled by lagged total assets ( $CFO/A_{t-1}$ ) is included in the regression. Tendeloo and VanStraelen (2005) include this variable to control for potential misspecification in cases of extreme financial performance. They follow Dechow et al. (1995) who report that in a period of extreme positive cash flows the estimated discretionary accruals will be too large. I also add the return on assets (ROA) as a control variable for extreme performance. This is consistent with among others Kasznik (1999) and Kothari et al. (2005).

Finally I will include industry dummies (IND) to control for the industry effects on earnings management and country dummies (COUNTRY) for the country specific effect on earnings management. The country dummy is sorted according to the aggregate earnings management score table of Leuz et al (2003). The country with the highest aggregate earnings management score will get the lowest dummy and the country with the lowest aggregate earnings management score will get the highest dummy. This will enable me to test my third hypothesis about the effect of mandatory implementation of IFRS in countries with different earnings management level and different investor protection pre-IFRS.

I will examine the trend in the level of earnings management over time with the following regression:

$$ABS\_DA_t = \delta_0 + \delta_1 YEAR_t + \delta_2 IFRS_t + \delta_3 ROA_t + \delta_4 (CFO_t/A_{t-1})_t + \delta_5 LNEMPL_t + \delta_6 LEVRATIO_t + \delta_7 IND + \delta_8 COUNTRY + \epsilon_{1t}$$

Where

- ABS\_DA<sub>t</sub> = absolute value of discretionary accruals in year t, scaled by lagged total assets estimated by either the Modified Jones model (ABS\_DA) or the Kasznik Model (ABS\_DA(CFO)).
- YEAR<sub>t</sub> = calendar year (2000, 2001, ..., 2006).
- IFRS<sub>t</sub> = dummy variable (compliance to IFRS = 1, else = 0).
- ROA<sub>t</sub> = return on assets.
- (CFO<sub>t</sub>/A<sub>t-1</sub>)<sub>t</sub> = cash flows from operation divided by lagged total assets.
- LNEMPL<sub>t</sub> = natural logarithm of the number of employees in year t.
- LEVRATIO<sub>t</sub> = ratio of long term debt over common equity in year t.
- IND = vector of industry dummies (SIC 20-39: Manufacturing; SIC 50-59: Wholesale trade; SIC 70-89: Services).
- COUNTRY = dummy variable for different countries sorted according to Leuz et al. (2003) (Italy, Belgium, the Netherlands, Denmark, Finland, Sweden).

### **§ 5.3.4 Earnings Smoothing**

As mentioned in chapter two, the most practiced form of earnings management is earnings smoothing. The implementation of IFRS increases the use of fair value and introduces impairment tests. This will increase the volatility of earnings and consequently increase the incentives to smooth earnings. Therefore I will consider a model to measure earnings smoothing next in my thesis.

A negative correlation between accruals and operating cash flow is the natural result of accrual accounting (Dechow 1994). Insiders can use their accounting discretion to conceal economic shocks to the firm's operating cash flow (Leuz et al. 2003). The use of accrual accounting allows managers to buffer any shocks in the firms operations which lead to the negative relationship between the two. However larger magnitudes of this correlation indicate smoothing of reported earnings that does not reflect a firms' underlying economic performance (Leuz 2003).

To measure the level of earnings smoothing after the mandatory implementation of IFRS, I therefore use the correlation between accruals and operating cash flow. This is consistent with the research of, among others Tendeloo and VanStraelen (2005) and Heemskerk and Van der Tas (2006). An increase in the negative relationship between total accruals and cash flow from operation indicates an increase in earnings smoothing. I will use an interaction variable  $IFRS * CFO_t/A_{t-1}$  to investigate the effect of IFRS on the before mentioned relationship in the following regression:

$$TA_t/A_{t-1} = \zeta_0 + \zeta_1 YEAR + \zeta_2 IFRS_t + \zeta_3 ROA + \zeta_4 CFO_t/A_{t-1} + \zeta_5 LEVRATIO_t + \zeta_6 LNEMPL_t + \zeta_7 IFRS * CFO_t/A_{t-1} + \zeta_8 IND + \zeta_9 COUNTRY + \varepsilon_t$$

Where

$TA_t/A_{t-1}$	= total accruals in year t, scaled by lagged total assets.
$CFO_t/A_{t-1}$	= operating cash flow in year t, scaled by lagged total assets.
$IFRS * CFO_t/A_{t-1}$	= interaction variable of IFRS on operating cash flow.

## § 5.4 Limitations

My thesis is subject to the following limitations. Most important is the availability of the data I used for my research. A large amount of data for companies in the countries I selected was not available, especially in Belgium, Italy and Sweden, which meant these companies, had to be excluded from the research. In addition, less data was available for the first years of my research, which led to a low amount of company-year observations in the early years of the research. Furthermore, I treated cross-listing and being audited by a big 4 auditor could influence the quality of reporting. The data for these variables was also not sufficiently available for my sample. These control variables were therefore not included in my final regression which could influence my results.

Another limitation is the need to use the Modified Jones Model and the Kasznik Model to estimate discretionary accruals in my thesis. As mentioned before these kinds of models have received heavy criticism. Together with the small explanatory power of these models (Adjusted R<sup>2</sup> ranging from 0.219 to 0.504) it is only a question if I capture real magnitude of discretionary accrual in my research.

Furthermore, my research assumes all companies in my sample adopt IFRS for the first time on 1 January 2005. This is not the case, as many companies implemented IFRS prior to the mandatory implementation. At that time necessary controls and punishments for IFRS-compliance might not have been in place. However companies could still voluntarily comply with IFRS, which make my results capture only part of the total effect of the adoption of IFRS on the level of earnings management. The gradual adoption of IFRS can also be an explanation for the general decreasing trend in discretionary accruals I found in my research.

Finally, I use earnings management as a proxy for earnings quality in my thesis. This is however only one way to look at the quality of reporting and therefore information needed for a well-evaluated opinion is far from complete. It is therefore advised to perform additional research on other fields of reporting quality, such as timeliness and value relevance, to get a more complete picture of effect of the adoption of IFRS on the quality of reporting.

## **Chapter 6: Research results and implications**

### **§ 6.1 Introduction**

In this chapter I will present the results I acquired from my earnings management research. First, I present the descriptive statistics of the discretionary accruals estimates of the Modified Jones Model and the Kasznik Model. Second, I compare the descriptive statistics of the earnings management measures in the periods before and after the mandatory implementation of IFRS. This will give me a first impression of the change in earnings management in time. To add to this I will observe the graphical evidence of the average earnings management measures next. Hereafter, I observe the compare means results of the pre-IFRS and post-IFRS periods to draw a conclusion about the significance of the difference in average earnings management levels. Finally I present the results of the final regression which include the various control variables for earnings management and earnings smoothing. This will answer my research question about the effect of the mandatory implementation of IFRS on earnings management.

### **§ 6.2 Descriptive Statistics: Earnings Management**

I present my descriptive statistics of my earnings management metrics in TABLE 3. The first thing that catches my attention is that earnings are being managed downward more often than upward. In addition negative discretionary accruals seem to be larger magnitude than positive discretionary accruals. This is true for the discretionary accruals estimated with the Modified Jones Model and with the Kasznik Model. This results in negative average total accruals in my sample which is consistent with the findings of Tendeloo and VanStraelen (2005). In addition I notice the mean value of both positive and negative discretionary accruals are larger in magnitude than their median values. This indicates a large amount of small earnings management cases with a small amount of large earnings management cases. This can be the result of the early mentioned “taking a bath” strategy in chapter two. When firms are way below their targets, the costs of being even worse are typical minimal. This gives companies the opportunity for small reversals of the extra loss taken.



I also conclude that the total accruals in my sample are mostly negative. This is consistent with previous research which attributes it to non-current accruals for depreciation and amortization (Jones 1991).

When I compare the discretionary accruals for the Modified Jones Model and the Kasznik Model, I find that the latter produces discretionary accruals of a slightly smaller magnitude. Both values of earnings management are very small, and before mentioned literature suggests the Kasznik model should be more precise to detect earnings management of small magnitude. These findings would suggest that including the change in cash flows from operation in the regression would indeed reduce type 1 errors.

Finally, I observe the absolute values of discretionary accruals. As mentioned before I use the absolute value of discretionary accruals because earnings can be managed upwards as well as downwards. The direction in which is managed is not important for my research on the level of earnings management. Similar to discretionary accruals, the absolute values of the Kasznik Model are slightly smaller in magnitude than those of the Modified Jones Model. Again, this could indicate a reduction in type 1 errors by the Kasznik Model. I also observe the same corresponding difference between the mean and median value as with discretionary accruals. Once again, this indicates few occasions of large magnitude earnings management followed by a large amount of small reversals.

### **§ 6.3 Pre- and Post- IFRS period Comparison**

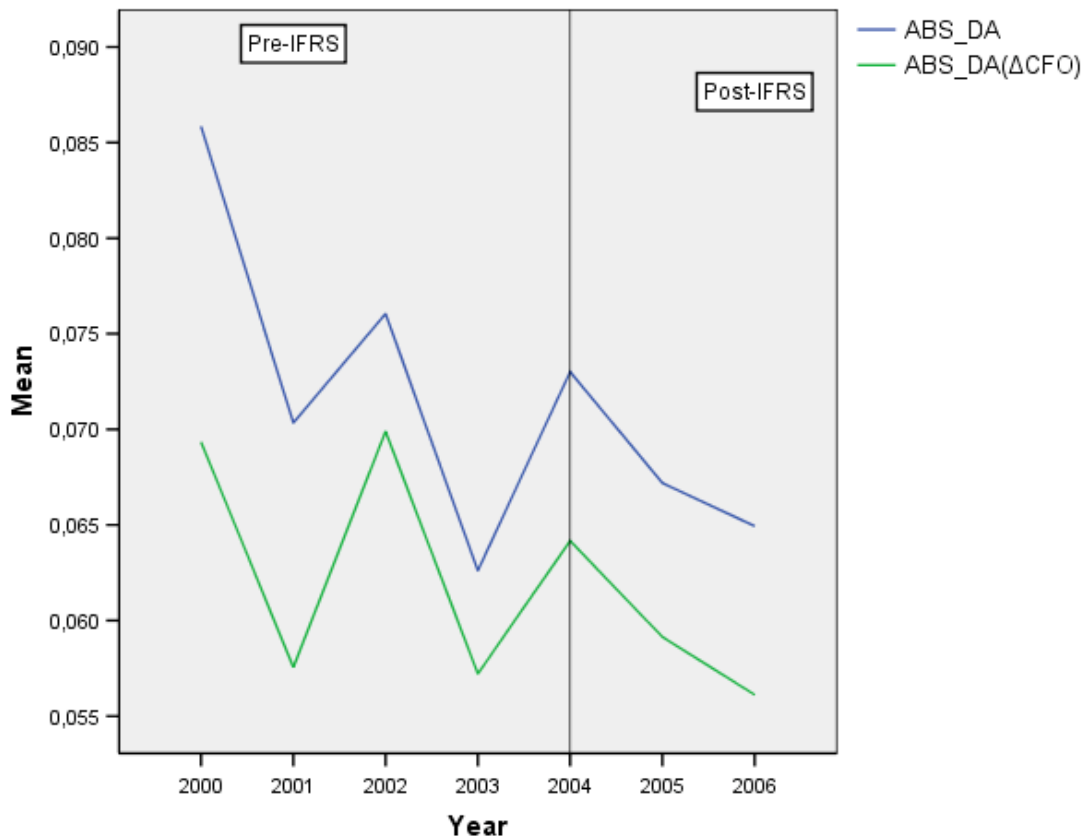
Next, I observe the earnings management metrics before (pre) and after (post) the implementation of IFRS in TABLE 4. In general, I notice that all earnings management metrics have a lower mean values in magnitude after the implementation of IFRS than before. This indicates a lower level of earnings management for companies after the mandatory adoption of IFRS. I also see a lower value in magnitude for total accruals after the implementation of IFRS. This could indicate that IFRS has stricter rules for the use of accruals. The substitution of straight-line depreciation by fair value can also be an explanation for this decrease. In the

remainder of this paragraph I will compare more results from the pre-IFRS period with the post-IFRS period.

### **§ 6.3.1 Graphical Evidence**

In figure 1 I present the average absolute discretionary accruals in time estimated by the Modified Jones Model and the Kasznik Model. It is clear to see that in the years that companies were obligated to follow the IFRS (2005, 2006) the absolute values of discretionary accruals are lower for both models than in the year before IFRS implementation. This indicates that IFRS has led to a lower level of earnings management. However, in the years prior to the implementation of IFRS, a decreasing trend can also be observed. The lower values of discretionary accruals after IFRS implementation can therefore also be attributed to a general decreasing trend in time instead of to the implementation of IFRS. There are many possible explanations for the observed decreasing trend in earnings management. One explanation is the major corporate and accounting scandals like Enron and Worldcom. This led to an increased attention for corporate governance since 2001 because the general public had lost faith in corporate governance. The government needed to restore the public confidence in corporate governance which led to the passing of the Sarbanes-Oxley Act (2002) in the USA. European countries quickly followed with their own governance code like; Code Tabaksblat in the Netherlands and Code Lippens in Belgium. These developments, the decreased tolerance towards earnings management and the increased fear of getting caught “cheating”, may have led to the observed decreasing trend in earnings management in the last six years.

**Figure 1: Discretionary Accruals Over Time, 2000-2006 (Total Sample)**



In figure 3, I present the average absolute discretionary accruals in time for the six different countries. Once again I do this for both the Modified Jones Model and the Kasznik Model. Unfortunately, the graphs differ substantially from one another so no uniform conclusion can be deduced. When I observe the two years of IFRS (2005, 2006) compared to 2004, I see a decrease in absolute discretionary accruals for Belgium, Italy and the Netherlands. This is consistent with the general decreasing trend in earnings management found in the graph of the total sample. However, in Denmark, Finland and especially Sweden this is not the case. A possible explanation is can be the different higher quality of reporting before the mandatory implementation of IFRS. As mentioned in chapter 4, the impact of the implementation of IFRS on earnings management will not be the same in all countries of the European Union. Leuz et al (2003) qualifies these three countries as countries where less earnings management is used compared to other countries. This may be the reason why the average level of earnings management does not decrease after the mandatory implementation of IFRS for these three countries.

Furthermore the general decreasing trend which I observed in the total sample can not be found in every country. Belgium seems to have an increasing trend until 2002 and a decreasing trend after 2002. This may be the effect of the before mentioned scandals and corporate government developments. Finland, Italy, the Netherlands and Sweden still seem to have somewhat of a decreasing trend, but not as clear as that of the total sample. For Denmark the trend seems to be the opposite of Belgium which may be attributable to a very low level of earnings management in the period prior to IFRS.

### **§ 6.3.2 Compare means**

Next, I will compare the average values of the earnings management proxies using the independent sample T-test. I present my obtained results in TABLE 5. These results will explain whether the differences between the Pre-IFRS and Post-IFRS period in terms of average earnings management proxies are significant. I conclude that for the total sample, total accruals as well as discretionary accruals, are significantly lower in magnitude in the Post-IFRS period compared to the Pre-IFRS period. This seems to be similar for the different country samples, but those differences are not all statistically significant. Denmark is the only exception, which has higher average absolute discretionary accruals and absolute total accruals in the Post-IFRS period compared to the Pre-IFRS period. However, the difference between the two periods for Denmark is not statistically significant.

### **§ 6.4 Regression Results**

Finally, I present the results of the final regression for earnings management measures with the control variables in TABLES 6.1 and 6.2. I removed the leverage-ratio from the regression because it did not have any significant relationship with the two earnings management measures. This is consistent with the findings of Tendeloo and VanStraelen (2005) who also find no significant relationship between earnings management and the leverage- ratio. The COUNTRY\*IFRS interaction variable was also not significant, which means no concrete pattern in the change in earnings management between the different countries could be established caused by the

implementation of IFRS. This would indicate the earnings management levels do not unambiguously grow closer together with the implementation of IFRS.

The first thing I observe is a significant negative relationship between the earnings management measurements and time. This is consistent with the general decreasing trend I previously observed, which means earnings management decreases significantly during the research period. Second, I detect a negative relationship between the natural logarithm of the number of employees (LNEMPL) and the earnings management measures which indicates that larger companies practice less earnings management. This is not consistent with the previously treated political cost hypothesis which predicts an increased level of earnings management for large companies. A possible explanation for this may be the increased public attention for these companies compared to smaller companies. Together with the increased attention for corporate governance and the decreased tolerance for earnings management in the last few years, this may be the reason for less earnings management for larger companies.

I also find a negative relationship between return on assets (ROA) and my earnings management measures which is not consistent with previous literature. A possible explanation may be the delayed reaction to extreme performance discussed by Kothari et al. (2005). They mentioned extreme performance can lead to an increased use of discretionary accruals in the following years instead of the year itself.

Consistent with Tendeloo and VanStraelen (2005) I find a significant positive relationship between CFO and earnings management. This indicates an increased application of earnings management when a company has high cash flows from operation. Furthermore I find significant relationships of the industry dummy which indicates there are significant differences between the different industries.

Finally, I observe the relationship between IFRS and my earnings management measures. I find a positive significant relationship for both earnings management measures. Based on the regression coefficients, I therefore conclude that the implementation of IFRS has led to more accrual based earnings management.

When I observe the relationship between my country dummy and my earnings management measures I find that there is a significant positive relationship. This indicates that countries with a low average earnings management score according to

Leuz et al. (2003) have higher values of discretionary accrual compared to countries with a high average earnings management score. Therefore my results do not correspond with the findings of Leuz et al. (2003).

I present my earnings smoothing regression results in TABLE 6.3. Consistent with previous research I find a negative relationship between total accruals (TA) and cash flows from operations (CFO) which is the natural result of accrual accounting. I also find a significant positive relationship between the interaction variable IFRS\*CFO/A-1 and total accruals. This means that IFRS has a positive effect on the relationship between CFO and TA, therefore making it less negative. This is an indication that the mandatory implementation of IFRS has led to a lower level of earnings smoothing.

In addition, consistent with my earnings management regression results I find a significant negative trend in time of total accruals. The differences in industries seem to have no significant relationship on the level of total accruals. However, the difference in countries still has a significant effect on the magnitude of total accruals. This may indicate the differences between countries in terms of the use of accrual accounting still exist.

## **Chapter 7: Conclusion**

The purpose of my thesis is to examine whether the mandatory adoption of IFRS by listed companies in the European Union can be associated with a lower level of earnings management. Prior to 1 January 2005, IFRS was not a widely used reporting standard and companies that practiced this reporting standard did this voluntarily. In addition, code-law countries lacked sufficient controls and penalties on non-compliance of IFRS. This exposes previous research to the dangers of a limited sample, self-selection and false signaling. This made it difficult to research the effect of IFRS on the level of earnings management before the mandatory adoption of IFRS. Since January 2005 all listed companies in the European Union are obligated to report their financial statements according to the IFRS. The primary goal of the IASB is to develop a single set of high quality global accounting standards in terms of comparability and transparency. This means controls and penalties should be in place to ensure the compliance of IFRS by listed companies in the European Union. The mandatory adoption of IFRS on 1 January 2005 is therefore a good event to investigate the effect of IFRS on the level of earnings management.

In my thesis I formulated the following hypothesis in order to answer my research question:

***H 1: the introduction of IFRS as a mandatory accounting standard for listed companies in the European Union from 1 January 2005, leads to a lower level of reported discretionary accruals for these firms.***

My results show a significant decrease in the use of discretionary accruals in the period Post-IFRS compared to Pre-IFRS. This would indicate that the mandatory adoption of IFRS has led to a lower level of earnings management. However, after controlling for various earnings management incentives, the decrease in the level of discretionary accruals can not be attributed to the implementation of IFRS. Conversely, the decrease is merely part of a decreasing trend of the level of discretionary accruals in time, and IFRS seems to have a positive relationship with the level of discretionary accruals. I therefore reject my first hypothesis because IFRS does not lead to a lower level of reported discretionary accruals but instead increase

the use of discretionary accruals. This is in accordance with the findings of Heemskerk and Van der Tas (2006) who concluded the use of discretionary accruals had increased after the voluntary adoption of IFRS for companies in Germany and Switzerland.

As mentioned earlier, earnings smoothing is one of the most practiced forms of earnings management. The implementation of IFRS will increase the volatility of earnings and therefore increases the incentive for management to smooth earnings. Since IFRS has the objective to decrease earnings smoothing and generates a contradicting incentive for management, it makes it an interesting and significant research object to determine if IFRS leads to less earnings management. My second hypothesis is therefore stated as:

***H 2: the introduction of IFRS as a mandatory accounting standard for listed firms in the European Union from 1 January 2005, leads to a lower level of earnings smoothing for these firms.***

My results on earnings smoothing show a negative relationship between total accruals and cash flows from operations which is the natural result of accrual accounting. I also find that the interaction of IFRS with this negative relationship is significantly positive. This indicates that the implementation of IFRS has led to a less negative relationship between total accruals and cash flows from operations. Therefore, I conclude that the mandatory implementation of IFRS has led to less earnings smoothing and accept my second hypothesis. This is different from the findings of Heemskerk and Van der Tas (2006) who found an increase of earnings smoothing after voluntary IFRS adoption of companies in Germany and Switzerland. This could be the effect of the improvement plan of the IASB which was started after the research of Heemskerk and Van der Tas. Germany was also code-law country before the implementation of IFRS. These countries provide greater incentives and opportunities for earnings smoothing compared to common law countries. The reason Heemskerk and Van der Tas found high earnings smoothing could also indicate rules and regulations were not yet in place at the time of voluntary adoption in Germany and Switzerland.



Finally, my third hypothesis examines the differences in market forces, reporting incentives and institutional factors of the different countries before the implementation of IFRS. Findings by Leuz et al. (2003) indicate the levels of earnings management vary significantly between the countries prior to implementing IFRS. The IASB strives to achieve one integrated capital market in the European Union and therefore the differences between countries have to be eliminated. By implementing one single set of high quality reporting standards, IFRS, they want to achieve a level playing field for all companies in the European Union. This will lead to an equal opportunity to manage earnings which should result in a difference in the change in the level of earnings management. As a result of the implementation of IFRS the decrease in the level of earnings management should therefore be larger for countries with a higher aggregate earnings management score before the implementation of IFRS. My final hypothesis is stated as:

***H 3: the introduction of IFRS as a mandatory accounting standard for listed firms in the European Union from 1 January 2005, leads to a larger decrease in earnings management for companies which had a larger aggregate level of earnings management.***

First, I find a significant positive relationship between my industry dummy and the magnitude of discretionary accruals. Since the industry dummy has a higher value for countries with a low average aggregate earnings management score, my findings are the opposite of what was found by Leuz et al. (2003). A possible explanation could be that my research only covers discretionary accrual management, while the aggregate earnings management score of Leuz et al. (2003) covers different forms of earnings management.

In addition, although not significant, I find a positive relationship of the interaction variable IFRS\*COUNTRY. Therefore, countries with different earnings management scores before the mandatory adoption do not grow closer together with the mandatory implementation of IFRS. I therefore reject my third hypothesis.

Summarizing my findings, I will give an answer to my main research question:

***“What is the influence of the mandatory adoption of IFRS on the level of earnings management for listed companies in the European Union?”***

I find that the mandatory implementation of IFRS leads to a lower level of earnings smoothing. However, it can not be associated with a lower level of earnings management. This indicates companies use other forms of earnings management to manage earnings after the implementation of IFRS. Companies seem to find a way to report the earnings they want to report despite the tightened reporting standards or the standards implemented by the IASB do not have the desired result. Therefore, based on my research results, it is not possible to give an unambiguous answer to whether the IASB has succeeded in their main goal to come to a single set of high quality reporting standards.

Furthermore the reporting incentives, market forces and institutional factors do not seem to have grown closer together. My findings show the level of earnings management has grown further apart instead for the countries I researched. This indicates that the European Union has not succeeded in their goal to come to one integrated capital market in the European Union.

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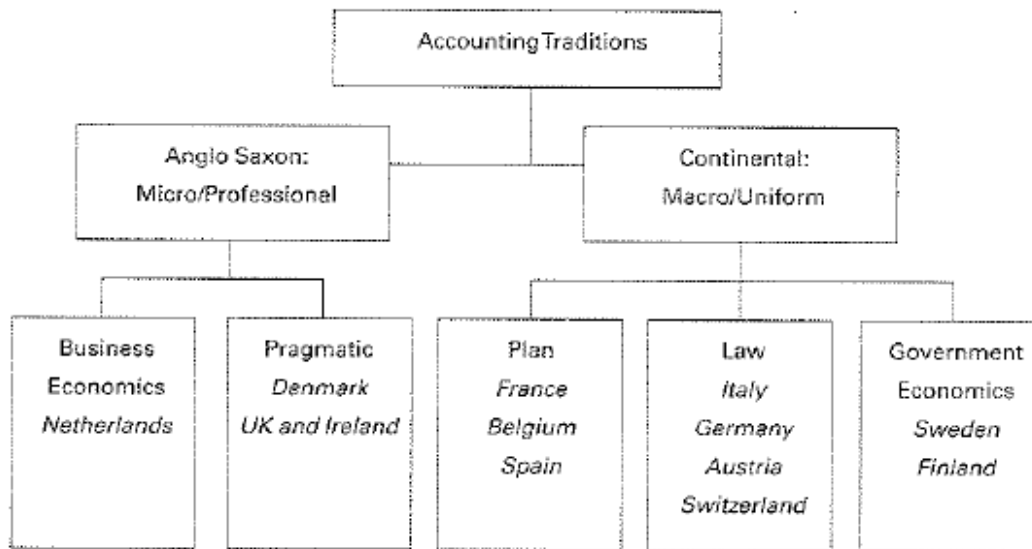
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**Figure 2: Traditional accounting frameworks in Europe**



<b>Table 1: Number of Observations</b>					
		<b>Industry</b>			
		<b>2039</b>	<b>5059</b>	<b>7089</b>	<b>Total</b>
<b>Countries</b>					
Belgium	2000	25	9	7	41
	2001	27	9	9	45
	2002	29	11	11	51
	2003	32	11	13	56
	2004	34	10	14	58
	2005	32	9	12	53
	2006	43	11	13	67
<b>Total Belgium</b>		<b>222</b>	<b>70</b>	<b>79</b>	<b>371</b>
Denmark	2000	42	9	8	59
	2001	40	9	12	61
	2002	45	10	13	68
	2003	51	12	17	80
	2004	51	12	16	79
	2005	43	6	14	63
	2006	50	9	17	76
<b>Total Denmark</b>		<b>322</b>	<b>67</b>	<b>97</b>	<b>486</b>
Finland	2000	47	6	13	66
	2001	51	6	17	74
	2002	59	7	23	89
	2003	62	7	23	92
	2004	66	7	24	97
	2005	61	7	22	90
	2006	67	8	22	97
<b>Total Finland</b>		<b>413</b>	<b>48</b>	<b>144</b>	<b>605</b>
Italy	2000	47	9	15	71
	2001	54	11	14	79
	2002	68	13	18	99
	2003	75	16	20	111
	2004	83	14	22	119
	2005	87	10	20	117
	2006	95	14	22	131
<b>Total Italy</b>		<b>509</b>	<b>87</b>	<b>131</b>	<b>727</b>
The Netherlands	2000	39	17	21	77
	2001	43	16	22	81
	2002	45	18	23	86
	2003	45	18	22	85
	2004	48	18	23	89
	2005	45	17	26	88
	2006	46	17	26	89
<b>Total The Netherlands</b>		<b>311</b>	<b>121</b>	<b>163</b>	<b>595</b>
Sweden	2000	58	14	37	109
	2001	62	16	43	121
	2002	97	23	66	186
	2003	104	25	71	200
	2004	115	27	76	218
	2005	116	29	76	221
	2006	120	31	79	230
<b>Total Sweden</b>		<b>672</b>	<b>165</b>	<b>448</b>	<b>1285</b>
<b>Total Sample</b>		<b>2449</b>	<b>558</b>	<b>1062</b>	<b>4069</b>



<b>Table 2: Descriptive Statistics</b>					
	<b>25th Percentile</b>	<b>Mean</b>	<b>Median</b>	<b>75th Percentile</b>	<b>Standard Deviation</b>
<b>Total Sample</b>					
Total Assets	41,2	1773,9	130,2	569,3	9023,0
Employees	251,0	7470,2	874,0	3679,5	26751,3
CFO	0,35	161,36	8,35	44,61	1081,97
ROA	0,08	0,71	4,67	8,89	20,54
Leverage-ratio	12,00	89,81	49,32	104,18	297,08
<b>Belgium</b>					
Total Assets	77,0	1229,1	165,8	626,1	3029,9
Employees	361,5	7111,5	1335,0	3985,5	21085,2
CFO	2,42	119,47	15,80	55,94	314,46
ROA	0,31	3,41	4,54	7,99	14,35
Leverage-ratio	26,10	107,57	61,48	127,13	207,27
<b>Denmark</b>					
Total Assets	46,8	486,9	96,1	370,2	1103,7
Employees	244,5	2429,9	784,0	2720,8	4568,6
CFO	0,76	46,35	5,45	26,66	135,58
ROA	1,50	3,01	4,65	8,46	16,24
Leverage-ratio	16,27	89,99	54,44	115,51	210,50
<b>Finland</b>					
Total Assets	41,8	1227,1	105,3	624,9	3526,4
Employees	391,0	4935,8	870,0	4346,0	9617,2
CFO	1,8	136,4	10,5	59,8	573,8
ROA	2,1	5,1	6,3	11,0	14,6
Leverage-ratio	10,7	67,9	46,5	83,4	130,2
<b>Italy</b>					
Total Assets	107,4	3210,1	328,1	1006,7	12890,9
Employees	450,0	7865,8	1181,0	3247,0	28238,2
CFO	1,83	208,60	14,73	59,29	1267,03
ROA	0,37	1,75	2,85	5,83	10,77
Leverage-ratio	33,19	120,42	77,17	147,52	168,19
<b>The Netherlands</b>					
Total Assets	54,8	4136,1	311,8	1573,0	17469,2
Employees	367,8	19204,6	2804,5	9716,5	50778,2
CFO	2,17	455,14	22,01	110,50	2320,53
ROA	2,00	4,73	6,42	10,20	12,27
Leverage-ratio	18,53	142,57	61,00	115,40	681,84
<b>Sweden</b>					
Total Assets	13,8	769,0	58,6	238,6	2868,5
Employees	76,0	5038,8	412,5	2187,3	19054,5
CFO	-0,86	65,96	2,56	18,54	252,20
ROA	-10,27	-5,46	4,65	9,37	29,71
Leverage-ratio	1,81	53,05	26,73	72,98	85,83

Assets = total assets measured in millions of euros

Employees = number of employees

CFO = cash flows from operations in millions of euros

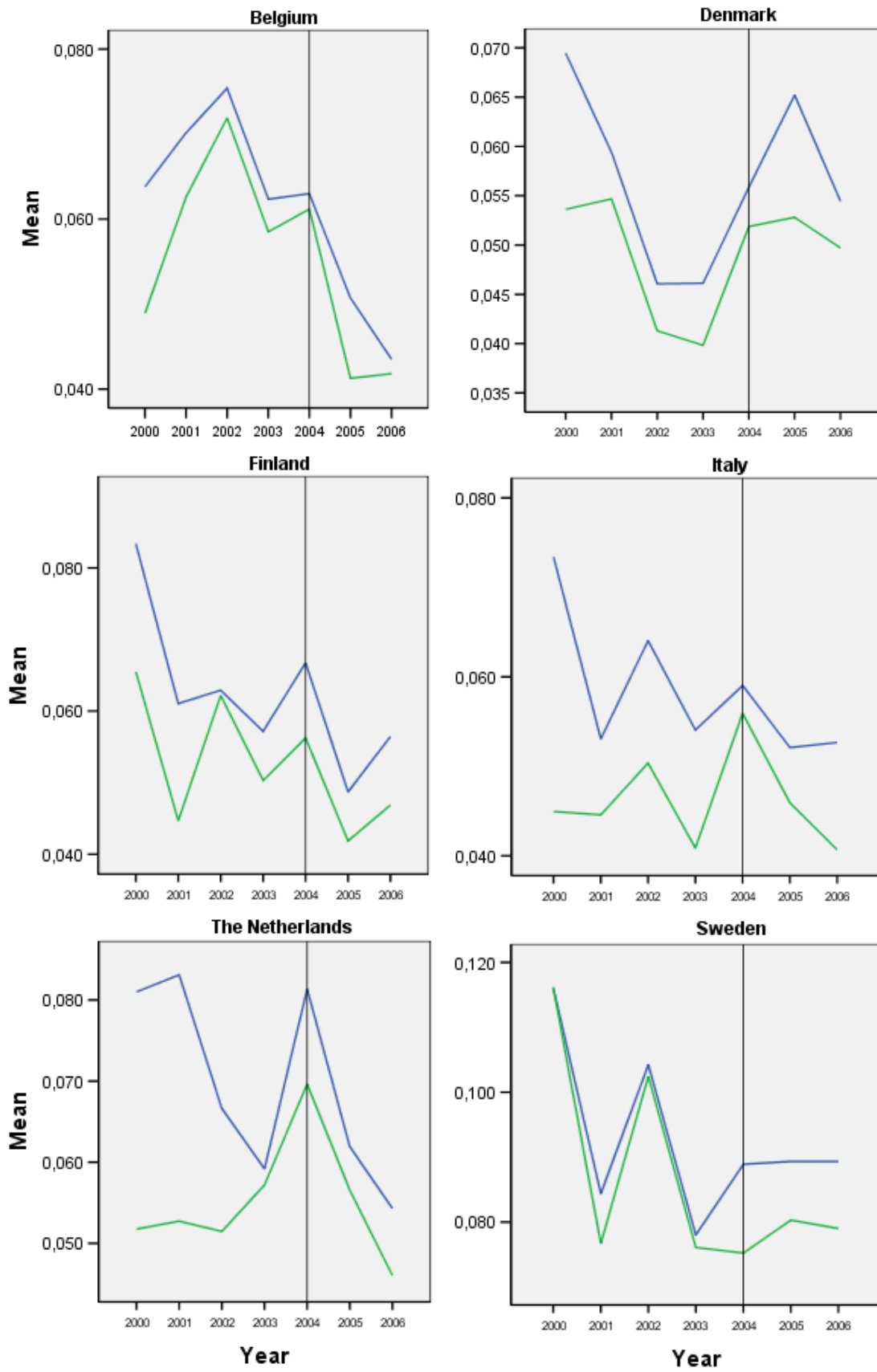
ROA = calc. earnings before extraordinary items divided by lagged total assets

Gearing = leverage ratio, measured as the ratio of debt to equity

<b>Table 3: Descriptive Statistics</b>						
<b>Sample A: Earnings Management</b>						
<b>Earnings Management</b>	<b>N</b>	<b>25th Percentile</b>	<b>Mean</b>	<b>Median</b>	<b>75th Percentile</b>	<b>Standard Deviation</b>
<b>TA/A-1</b>		-0,0920	-0,0487	-0,0492	-0,0023	0,1239
<b>(ABS)TA/A-1</b>		0,0321	0,0890	0,0643	0,1094	0,0990
<b>DA/A-1</b>		-0,0530	-0,0096	-0,0063	0,0372	0,1132
<b>(ABS)DA/A-1</b>		0,0199	0,0706	0,0448	0,0873	0,0889
<b>Positive DA</b>	1861	0,0183	0,0667	0,0417	0,0823	0,0881
<b>Negative DA</b>	2208	-0,0915	-0,0739	-0,0481	-0,0210	0,0896
<b>DA(DCFO)/A-1</b>		-0,0459	-0,0093	-0,0049	0,0327	0,0992
<b>(ABS)DA(DCFO)/A-1</b>		0,0171	0,0616	0,0394	0,0752	0,0784
<b>Positive DA(DCFO)</b>	1875	0,0164	0,0568	0,0369	0,0678	0,0722
<b>Negative DA(DCFO)</b>	2194	-0,0818	-0,0657	-0,0410	-0,0182	0,0831

<b>Table 4: Descriptive Statistics</b>							
<b>Total Sample</b>			<b>25th</b>	<b>Mean</b>	<b>Median</b>	<b>75th</b>	<b>Standard</b>
<b>Variables</b>	<b>IFRS</b>	<b>N</b>	<b>Percentile</b>			<b>Percentile</b>	<b>Deviation</b>
<b>TA/A-1</b>	<b>Pre</b>	<b>2747</b>	-0,0999	-	-0,0567	-0,0104	0,1253
	<b>Post</b>	<b>1322</b>	-0,0757	-	-0,0341	0,0126	0,1196
<b>(ABS)TA/A-1</b>	<b>Pre</b>	<b>2747</b>	0,0344	0,0936	0,0680	0,1143	0,1006
	<b>Post</b>	<b>1322</b>	0,0279	0,0797	0,0557	0,0969	0,0949
<b>DA/A-1</b>	<b>Pre</b>	<b>2747</b>	-0,0559	0,0118	-0,0079	0,0365	0,1160
	<b>Post</b>	<b>1322</b>	-0,0440	0,0050	-0,0036	0,0382	0,1070
<b>(ABS)DA/A-1</b>	<b>Pre</b>	<b>2747</b>	0,0201	0,0728	0,0464	0,0890	0,0910
	<b>Post</b>	<b>1322</b>	0,0194	0,0660	0,0419	0,0854	0,0843
<b>Positive DA</b>	<b>Pre</b>	<b>1237</b>	0,0177	0,0677	0,0414	0,0803	0,0932
	<b>Post</b>	<b>624</b>	0,0194	0,0647	0,0421	0,0852	0,0771
<b>Negative DA</b>	<b>Pre</b>	<b>1510</b>	-0,0951	0,0770	-0,0507	-0,0224	0,0890
	<b>Post</b>	<b>698</b>	-0,0854	0,0672	-0,0417	-0,0194	0,0904
<b>DA(DCFO)/A-1</b>	<b>Pre</b>	<b>2747</b>	-0,0490	0,0118	-0,0067	0,0320	0,0998
	<b>Post</b>	<b>1322</b>	-0,0402	0,0040	-0,0030	0,0347	0,0978
<b>(ABS)DA(DCFO)/A-1</b>	<b>Pre</b>	<b>2747</b>	0,0176	0,0635	0,0401	0,0776	0,0779
	<b>Post</b>	<b>1322</b>	0,0166	0,0576	0,0370	0,0699	0,0792
<b>Positive DA(DCFO)</b>	<b>Pre</b>	<b>1248</b>	0,0161	0,0569	0,0371	0,0683	0,0706
	<b>Post</b>	<b>627</b>	0,0164	0,0564	0,0366	0,0676	0,0753
<b>Negative DA(DCFO)</b>	<b>Pre</b>	<b>1499</b>	-0,0879	0,0689	-0,0432	-0,0189	0,0831
	<b>Post</b>	<b>695</b>	-0,0727	0,0586	-0,0379	-0,0169	0,0826

**Figure 3: Discretionary Accruals Over Time, 2000-2006 (Countries)**



<b>Table 5: Compare Means Results Pre-IFRS / Post-IFRS</b>			
<b>Countries</b>	<b>EM Proxies</b>	<b>Higher/Lower</b>	<b>Significance</b>
<b>Total Sample</b>	TA	Higher (negative)	0,000**
	ABS_TA	Lower	0,000**
	ABS_DA	Lower	0,019**
	ABS_DA_CFO	Lower	0,025**
<b>Belgium</b>	TA	Higher (negative)	0,001**
	ABS_TA	Lower	0,000**
	ABS_DA	Lower	0,003**
	ABS_DA_CFO	Lower	0,001**
<b>Denmark</b>	TA	Higher (negative)	0,673
	ABS_TA	Higher	0,245
	ABS_DA	Higher	0,527
	ABS_DA_CFO	Higher	0,623
<b>Finland</b>	TA	Higher (negative)	0,386
	ABS_TA	Lower	0,036**
	ABS_DA	Lower	0,020**
	ABS_DA_CFO	Lower	0,009**
<b>Italy</b>	TA	Higher (negative)	0,009**
	ABS_TA	Lower	0,002**
	ABS_DA	Lower	0,088*
	ABS_DA_CFO	Lower	0,204
<b>The Netherlands</b>	TA	Higher (negative)	0,032**
	ABS_TA	Lower	0,011**
	ABS_DA	Lower	0,016**
	ABS_DA_CFO	Lower	0,276
<b>Sweden</b>	TA	Higher (negative)	0,000**
	ABS_TA	Lower	0,065*
	ABS_DA	Lower	0,617
	ABS_DA_CFO	Lower	0,238
** significant at 95%			
* significant at 90%			

Independent Variables	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	9,661	2,151	4,492	0,000
YEAR	-0,005	0,001	-4,447	0,000
IFRS	0,013	0,004	2,888	0,004
ROA	-0,001	0,000	-13,904	0,000
CFO/A-1	0,032	0,006	5,334	0,000
LNEMPL	-0,008	0,001	-11,845	0,000
COUNTRY	0,002	0,001	3,580	0,000
IND	0,010	0,001	6,417	0,000

Independent Variables	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	5,954	1,931	3,083	0,002
YEAR	-0,003	0,001	-3,047	0,002
IFRS	0,008	0,004	2,103	0,036
ROA	-0,001	0,000	-17,723	0,000
CFO/A-1	0,035	0,005	6,598	0,000
LNEMPL	-0,006	0,001	-9,317	0,000
COUNTRY	0,003	0,001	5,627	0,000
IND	0,009	0,001	6,435	0,000

Independent Variables	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	5,854	2,559	2,288	0,022
YEAR	-0,003	0,001	-2,297	0,022
IFRS	0,016	0,005	2,924	0,003
ROA	0,005	0,000	49,693	0,000
CFO/A-1	-0,309	0,008	-40,007	0,000
LNEMPL	-0,004	0,001	-5,563	0,000
IFRS*CFO/A-1	0,021	0,012	1,761	0,078
COUNTRY	0,002	0,001	2,420	0,016
IND	0,002	0,002	1,211	0,226

**Table 7: Countries sorted by Aggregate earnings management score (Leuz et al. 2003)**

	Earnings smoothing measures		Earnings discretion measures		Aggregate earnings management score
	EM1 $\sigma(\text{OpInc})/\sigma(\text{CFO})$ (-)	EM2 $\rho(\Delta\text{Acc}, \Delta\text{CFO})$ (-)	EM3 $ \text{Acc} / \text{CFO} $ (+)	EM4 # of SmProfit/# of SmLoss (+)	
AUSTRIA	0.345	-0.921	0.783	3.563	28.3
GREECE	0.415	-0.928	0.721	4.077	28.3
KOREA (SOUTH)	0.399	-0.922	0.685	3.295	26.8
PORTUGAL	0.402	-0.911	0.745	3.000	25.1
ITALY	0.488	-0.912	0.630	4.154	24.8
TAIWAN	0.431	-0.898	0.646	2.765	22.5
SWITZERLAND	0.473	-0.873	0.547	5.591	22.0
SINGAPORE	0.455	-0.882	0.627	3.000	21.6
GERMANY	0.510	-0.867	0.848	3.006	21.5
JAPAN	0.560	-0.905	0.567	3.996	20.5
BELGIUM	0.526	-0.831	0.677	3.571	19.5
HONG KONG	0.451	-0.850	0.552	3.545	19.5
INDIA	0.523	-0.867	0.509	6.000	19.1
SPAIN	0.539	-0.865	0.514	6.000	18.6
INDONESIA	0.481	-0.825	0.506	7.200	18.3
THAILAND	0.602	-0.868	0.671	3.136	18.3
PAKISTAN	0.508	-0.913	0.513	2.643	17.8
NETHERLANDS	0.491	-0.861	0.480	3.313	16.5
DENMARK	0.559	-0.875	0.526	2.708	16.0
MALAYSIA	0.569	-0.857	0.578	2.658	14.8
FRANCE	0.561	-0.845	0.579	2.370	13.5
FINLAND	0.555	-0.818	0.517	2.633	12.0
PHILIPPINES	0.722	-0.804	0.555	2.455	8.8
UNITED KINGDOM	0.574	-0.807	0.397	1.802	7.0
SWEDEN	0.621	-0.764	0.466	2.568	6.8
NORWAY	0.713	-0.722	0.556	1.235	5.8
SOUTH AFRICA	0.643	-0.840	0.297	1.667	5.6
CANADA	0.649	-0.759	0.478	2.338	5.3
IRELAND	0.607	-0.788	0.371	1.667	5.1
AUSTRALIA	0.625	-0.790	0.450	1.486	4.8
UNITED STATES	0.765	-0.740	0.311	1.631	2.0
Mean	0.541	-0.849	0.558	3.196	
Median	0.539	-0.861	0.552	3.000	
Standard Deviation	0.100	0.056	0.128	1.413	
Min	0.345	-0.928	0.297	1.235	
Max	0.765	-0.722	0.848	7.200	