Earnings Management:

Accounting Policy Choices before Going Public

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Accounting Policy Choices before Going Public

ABSTRACT: Companies that go public do not have market determined prices for those shares. There is high information asymmetry between the management of a company and the potential investors. These companies have to publish prospectuses that contain historical financial statements. With this information the final offering price is determined by the underwriter and preliminary response from investors. However through the high information asymmetry management has the possibility to manage the earnings in the historical financial statements. This can be done by choosing accounting policies that positively affect the income in the financial statements.
Therefore a research is done among 33 Dutch companies that went public in the period from 1997 to 2004. This research examines if companies use accounting policies aggressively before going public. For the research a model is developed to objectively categorize each of the accounting policies. After gathering and analysing the data the research discovered that almost 76 percent of the companies used income-increasing accounting policies before going public. Next to this high percentage other indicators indicate that there is a positive association between the aggressive use of accounting policies and going public.

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Chapter 1: Introduction

§ 1.1 Research Question

Going public is one of the most important events for a company. A company issues for the first time shares that become publicly available. These shares are issued for the first time or have previously been owned privately.

Often these firms are referred to as IPO firms. The abbreviation of IPO is initial public offering. Reasons for a company to go public are that it can increase growth and improve financial structure. Last mentioned argument can help a company to get more favorable terms when deciding to borrow money. Companies can raise more capital to grow more in the future. Not only will the company improve financially, but also the status of a company becomes more known.

An initial public offering can serve as a source of funds to the company. If a company does not have enough funds to invest or develop further, it is a good possibility to offer stocks to the public. The company can do this when the costs of an IPO are lower than the interest that would be paid for a loan. Here are some of the benefits enumerated:

- a publicly traded company may tap a broader universe of investors as well as a larger pool of investment capital;
- a publicly traded company may receive more public attention;
- a publicly traded company may raise more capital through additional stock offerings if sufficient investor interest exists;
- a publicly traded company may be able to attract and retain more highly qualified personnel if it can offer stock options, bonuses, or other incentives with a known market value, especially in a tight labor market;
- a public market for a company's shares allows existing shareholders to more easily sell their interests at retirement, for diversification, or for some other reason.[1]

[1] This information is gathered from the site: http://www.inc.com/articles/1999/11/15714.html

In the case of offering IPO shares (Initial Public Offering) there are no market-determined prices for those shares. Issuers and underwriters must use non-price information about the firm to set the offering price. The price at which the shares of the Initial Public Offering are sold to investors has a significant effect on the wealth of the issuers of the securities.

One source of this information is the historical financial statements presented in the prospectus. Preliminary research showed that the financial statement information is an input into the pricing of IPOs.

Prior to the initial public offering, a large process goes by before a company really can issue its shares. One of the most important things of this process is the preparation of a prospectus containing, among other things, historical financial statements. The reason for publishing this is that there is high information asymmetry at the moment of the offering. Investors do not have the inside information as the manager of the company. The manager has information about the possible investment opportunities, the cash flows and more. Therefore investors want some information before buying any initial shares of a company. The prospectus is the primary document for investors to determine whether a company is worth investing in. The company will ask an "underwriter" to help selling its stock to the public. Most of the time the underwriter engages other investment banks to help distributing the stocks, since a IPO is usually too large to handle for one underwriter.

The determination of the final initial public offering price is done by an underwriter and the company. Between the filing of the initial public offering at the appropriate institute (for example AFM) and the effective date of the offering an underwriter tries to promote the company. He or she does this by giving preliminary prospectuses to potential investors and by promotional marketing activities (investor road shows). The price of the IPO is thus most of the time determined by preliminary response of investors. An IPO is a costly undertaking. Some disadvantages that could rise from going public are here enumerated:

- profit has to be shared with outsiders;
- loss of information confidentiality;

- special standards for financial reporting;
- continuously reporting and Fiduciary Responsibilities.[2]

The relation between financial statement information and the offering prices of IPOs suggest that issuers have incentives to exercise accounting discretion to increase the proceeds of their offerings (Friedlan, 1994).

Earnings are one of the most cited firm performance statistics. Earnings contain valuable information for investors. The information from the financial statements influences the investors in their decision making process for example, buying or selling shares. This fact gives incentives to firms to manage their earnings to influence the stakeholders in their decision process.

Managers that already know for a long time that they want to go public can manage their earnings. This can be done years before the initial public offerings. They manage the earnings because they want to sell the initial issues of shares at a high price. This means also that they receive more cash from the selling of shares. Also years after the IPO earnings can be managed, because the company wants to maintain a high share price.

Besides benefits from earnings management there are also costs from earnings management (Marquardt et al., 2004). These costs can be divided into two different kinds, those where earnings management is detected (leading to enforcement actions, earnings restatements, shareholder litigation and qualified audit reports) and those where earnings management is not detected (for example the costs of undoing the earnings management, the effects on future earnings and the decrease of the ability to earnings management in the future).

Firms that employ discretionary accounting methods that mislead the investors are liable to be sued. In the United States there are two laws that protect investors from damage. Section 10-5b of the Securities of Exchange Act 1934 (prohibits firms to circulate false or misleading information) and section 11 of the Securities of Exchange Act 1933 (governs information

[2] This information is gathered from the site: http://www.gopublictoday.com/goingpublic/goingpublic-disadvantages.php

disclosure in public stock offerings in particular). Investors who are harmed by relying on false information supplied by the firm may sue to recover the damages. At the first law the investor has to prove that the information, given by the firm was defective, that the investor relied on this information at his decision process, and that his reliance led to a loss. With the second law the burden of prove lies with the firm (Ducharme et al., 2004).

So managers have discretion in accounting rules and can influence the earnings of the year. Therefore the financial statements in the prospectus have to be audited by an external accounting firm. This is made obligatory by the Authority Financial Markets (AFM).[3] Among other things the auditor looks if the financial statements are in compliance with the general accepted accounting rules and if the information gives a true and fair view.

But firms can exercise some discretion in computing earnings without violating GAAP. For example the firm can affect reported earnings by accelerating revenue recognition and deferring expense recognition. This effectively shifts earnings to the current period from a subsequent period. Alternatively firms can affect earnings by changing the method of inventory accounting, revising estimated quantities such as bad debt expense or a variety of other techniques (Ducharme et al., 2004). This can be done before going public and affect users of the financial statements. Therefore the following research question is formulated.

Do managers opportunistically use discretion in their accounting policies before going public?

Companies that are planning to go public may follow an accounting policy in such a way that it is in the benefit of the manager or company. In the case of an IPO there are a lot of incentives for a company to perform earnings management. Therefore the following hypothesis is formulated.

Companies choose their accounting policy opportunistically before going public

[3] This information is gathered from the site: http://www.afm.nl/marktpartijen/default.ashx?DocumentId=4134

In this thesis an empirical research will be performed to study if this hypothesis is true. This research is viewing the different sorts of accounting choices that were made before going public. These choices will be categorized under aggressive or conservative earnings management. The information that is gathered at the end of the research will be analysed to come to further conclusions. The formulated research question above will be divided in several sub-questions.

§ 1.2 Sub-questions

As described above the hypothesis has to be divided in several sub-questions. The sub-questions are needed to get to a better structure in performing the research. In the action plan these questions will be explained extensively.

1. Which methodologies are available to research earnings management?
2. What are the research findings concerning earnings management around IPOs?
3. What are the motives for performing earnings management?
4. Can there be made categories of different accounting method choices?
5. Which regulation needs to be understood to get a good view of different accounting possibilities?
6. What important accounting choices need to be understood for the empirical research?
7. How is earnings management measured in the empirical research?
8. What is my conclusion after performing the empirical research?

§ 1.3 Action Plan

Sub-question 1 and 2

In the second chapter a literature overview will be given. This literature discusses research already done in the past. However this research differs from each other, because the methodology to measure earnings management is different. In this chapter there will be made a separation of three sorts of methods of detecting earnings management.

Sub-question 3, 4 and 5

In the third chapter the relevant theory is going to be discussed. This theory is needed for further performing the empirical research. There needs to be an understanding from the theory first before there is made any conclusion about specific accounting policies.

First in this chapter there is a discussion in general what the motivations are for managers to perform earnings management.

Thereafter categories will be made to categorize different instruments to manage the earnings. Furthermore the instruments are discussed which make it possible to accomplish those accounting policies. The accounting regulation concerning these categories will also be discussed.

Sub-question 6 and 7

The fourth chapter is dominated by the methodology from the empirical research. In this context it is explained how the design from the research is performed. The research design discusses the data that is going to be used for the research.

Before detecting earnings management it needs to be evident which accounting choices in this thesis are categorized under aggressive or conservative accounting.

Also is discussed how the research is put into practice. Therefore checklists will be compounded that are appropriate to conduct the final research. These checklists will contain certain techniques to detect earnings management earlier explained in the previous chapter.

For recognizing certain behaviour of earnings management the book The Financial Numbers Game (Mulford and Comiskey, 2002) is used. This book explains certain techniques to detect creative accounting.[4] It uses special checklists for this. The methods discussed in the book will not always detect earnings management, but can give a signal of inappropriate accounting.

In the last part of this chapter is discussed what is done with the collected data.

The data have to be analysed after collecting it from annual reports. So the last part of the chapter is discussing the appropriate way of analyzing the data.

After the methodology the research is performed. Prospectuses of different Dutch IPOs will be researched and analysed. These sample dates from the period 1994 to 2005. In the fifth chapter

[4] Creative accounting is a common label for earnings management

the results are discussed and analysed. In this chapter we take a look at companies that go public and what their motivations are for different accounting choices. These results are analyzed and an attempt is made to generalize it.

Sub-question 8

The last chapter is dominated by the final conclusion of the thesis. First in this context there is a summary of the previous discussed chapters. After this, the conclusion set out the rest of the thesis.

§ 1.4 Demarcation

In this thesis some subjects are excluded. In the course of the thesis some subjects are not taken in the definite research design. The reason for not taking these subjects in is because certain information is not available for research. The prospectuses do not contain all the information to cover all subjects. Therefore only the subjects are chosen in the research design for which most of the time information is available.

§ 1.5 Research justification

"The timeliness and relevance of the earnings management subject comes on the heels of a number of earnings restatements, fraud allegations and general angst in the financial community, when CFOs are facing greater pressures than ever before to satisfy the often diverse needs of the many constituents they serve – from shareholders, to management, to the analyst community, and everyone in between."[5]

The subject earnings management is still very liable to discussion. It affects a lot of users of the annual report. Besides them it will also influence other people's behaviour. Also in the case of auditors, they will have to look more specific to certain items in consideration of the risk-analysis. Therefore earnings management is an important subject. If you connect earnings

[5] This information is gathered from the site: http://www.cfo.com/pressreleases/index.cfm/3400308

management to the initial public offering it will give managers a greater possibility to manage the earnings. This is because of the great information asymmetry between the company and the users of the annual report. That is why a research around this subject is interesting, because the question is whether managers really use their discretion in accounting rules to manage the earnings. The relevance of this research for the field of study is to research if there are any significant changes in accounting policy before going public. If the research reveals that IPO companies manage their earnings the study will be relevant for the users of the annual report. In this way they can take into account that if a company goes public specific accounting choices are chosen to influence the users. This can help investors in avoiding certain investments. This research can be important for the field of study because it can give another view on companies that are going public. The research that is conducted in this thesis is a very recent subject. A lot of research has been done around this subject, but there is still a lot of study to do in.

Chapter 2: Literature Review

In the research around earnings management there are three methods to evaluate the phenomenon earnings management. The three approaches that are common in the current literature are:

1. Accrual models;
   a) Aggregate Accrual Models
   b) Specific Accrual Models
2. Accounting Choice;
3. Discontinuities in the distribution of earnings.

In this section we will present the published research on IPO and earnings management. The articles are ordered per category described above. We will discuss the similarities and differences within these papers. We will start with the research based on aggregate accrual models.

§ 2.1 Aggregate accrual models

One of the possible ways to measure earnings measurement is by the so-called accrual-studies. These studies are most of the time the starting point for measurement of accruals. The nature of those studies is determining what the managed accruals are. This can be done by setting up a model where total accruals are an important component of the model. These studies try to separate the nondiscretionary accruals from the discretionary accruals. The nondiscretionary accruals are the result for instance from sales numbers, value of buildings and material. These accruals are not influenced by management. However the discretionary accruals are a result from the applied accounting standards, extraordinary gains and losses, and other decisions made by the management.

The essence from the model is to stipulate what the size of the managed accruals is. These are the so-called discretionary accruals. Therefore in these models researchers try to distinguish the managed from the expected accruals. Most of the time they try to determine the expected (nondiscretionary) accruals. In this way they determine the discretionary accruals by deducting

these expected accruals from the total accruals. The accrual-models need an estimation of one of the components. Mostly this is done through the use of an “estimation period” during which no systematic earnings management is expected. In this way the nondiscretionary accruals are estimated (Dechow et al., 1995).

According to Dechow et al. (1995) there are five models based on the total accrual study. All these models try to determine the nondiscretionary accruals. These models are the Healy model (1985), the DeAngelo model (1986), the Jones model (1991), the modified Jones model, and the industry model.

Aharony et al, Initial public offerings, accounting choices, and earnings management, 1993

The authors of this paper try to investigate the period before the companies go public. They try to examine to what extent companies manipulate earnings through accounting discretion before going public. The authors use a sample of 229 companies that went public between the years 1985 and 1987. Only companies were used who send annual financial statements of each of the three fiscal years before the company went public. One of the reasons for only taking into account the companies with three pre-IPO financial statements is that managers are suspected to manipulate earnings far before the company really goes public. Another reason is to see the growth of accruals through the years before the initial public offering. The accruals are corrected for nondiscretionary accruals. These were determined proportional to changes in the value of total assets. This study relies on the study done by Healy (1985) and DeAngelo (1986). They determine the nondiscretionary accruals by looking to the past. Nondiscretionary accruals are estimated during the estimation period. Healy (1985) assumes that nondiscretionary accruals in year t are equal to the mean average total accruals of the estimation period (t-1 till t-n). It is hard to apply Healy’s model to detect earnings management before the IPO since an IPO has a short history. The DeAngelo (1986) model is a special case of the Healy (1985) model, where n is equal to 1. Thus nondiscretionary accruals in year t are assumed to be equal to total accruals in year t-1. However firms that are going public most of the time experience growth and therefore nondiscretionary accruals could not be stationary. To take this into account an adjustment was made to the model.

Aharony et al. (1993) establishe two hypotheses for his research.

1) Entrepreneurs who plan to go public systematically overstate reporting earnings prior to the initial public offerings.
2) Quality of underwriter or auditor relates to the extent of earnings management.

Auditor/underwriter quality is defined by Titman and Trueman (1986) as the accuracy of the information that he or she supplies to investors (Aharony et al., p. 65). The function of the auditor is to audit the financial data. The underwriter investigates the company that wants to go public. They try to estimate the prospects for the company and the value of it.

The conclusions from this paper are that there is little evidence that earnings management is detected in the period before the company goes public. This management of earnings most of the time occurs among small firms and firms with large financial leverage (Aharony et al., p. 61).

In the case evidence of earnings management was found this could be the result that the nondiscretionary accruals were not determined properly. Also the paper suggests that the quality of underwriters and auditors do not have influence on earnings management.

Friedlan, Accounting choices of issuers of Initial public offerings, 1994

In this study, Friedlan (1994) focuses on whether IPO issuers exercise accounting discretion by making income-increasing discretionary accruals in the financial statements that are included in the prospectus. For testing this hypothesis Friedlan (1994) used a modified model of the accrued estimation method model by DeAngelo (1986). The modified model adjusts for the growth in accruals that is associated with the growth of the IPO firms. The results of his research state that issuers make income-increasing accruals before going public. It is found that when interim financial statements are the most current statements in the prospectus, issuers make income-increasing accruals in it, but not in the most recent annual statements. In the case the annual financial statements are the most current statements in the prospectus, firms make use of income increasing accruals in the annual statements.

The sample of his study consists of 277 firms that went public in the US between 1981 en 1984. The firms issued their shares using firm commitment contracts. Excluded from the sample were financial, insurance or real estate industries.

Like Aharony et al. (1993) Friedlan (1994) tries to investigate the earnings management of companies prior to the initial public offerings. The results of both papers differ from each other. Aharony et al. (1993) state that there is little or no evidence of earnings management before issuing initial stocks. On the other hand Friedlan (1994) proves that there are income-increasing procedures just before the IPO. One of the possible reasons for this difference can be that they both use the model of DeAngelo (1986), but they use another adjustment to the model. Aharony et al. (1993) determine the total accruals standardized by average total assets. Friedlan (1994) takes into account the modified model of DeAngelo (1986) through correcting for growth. Also their sample-size and sample-period are different.

A different research that has another scope than previous research studies comes from Teoh et al. (1998) and focuses on the long-run stock market performance.

Teoh et al., Earnings Management and the Long-Run Market Performance of Initial Public Offerings, 1998

The study of Teoh et al. (1998) was to examine whether the discretionary accruals influence the long-run stock return performance. The researchers wanted for the study to make a good separation between discretionary and nondiscretionary accruals. They used the cross-sectional model from Jones (1991) for this purpose. In the Jones' model two stages can be distinguished. In the first stage, total accruals are regressed on the change in sales and the gross level of property, plant and equipment for each sample firm (Peasnell, Pope and Young, 2000, p. 314).

This can be done using time series of data immediately prior to the event year, or using data of companies in the same industry. Purpose of this first stage is to estimate parameters. In the second stage, the estimated parameters can be used to determine non-discretionary accruals.

$NDA_t = a_1 + a_2 \Delta REV_t + a_3 PPE_t$ (Parameters a_1, a_2 and a_3 are determined in the first stage)

ΔREV and PPE are used as explanatory variables since they are assumed to control for unmanaged accruals associated witch changes in economic activity and depreciation charge, respectively (Peasnell, Pope and Young, 2000, p. 314).

In the paper Teoh et al. (1998) use a final sample of 1649 IPO firms. One of the criteria they used to get to this final sample was that the firms must have COMPUSTAT financial data available in the year and in the year prior the offering. Also an offering price exceeding one dollar and a market capitalization of at least 20 million dollar were criteria to come to the final sample. The following hypothesis is tested by the researchers of this paper.

1. Managed (discretionary) accruals predict long-run stock return performance

The end results of this paper are that discretionary accruals of IPO firms are higher around the time of the IPO than those of non-issuers. The IPO firms have lower stock return performance in the following three years after the IPO than non-IPO firms. The research tells us that managers with the most aggressive earnings management (4 on a scale of 4) have 15% to 30% worse performance in the three years after the initial public offering than one with a more conservative earnings management (1 on a scale of 4).

Another hypothesis they developed in the paper is to examine the post-activity in equity on the stock market of the firms. These are called seasoned equity offerings.

2. Conservative IPO accruers issue more seasoned equity offerings than aggressive accruers.

This hypothesis however falls outside the scope of our paper because we only discuss initial public offerings. However the hypothesis is valid and conservative accruers issue 20% more seasoned equity offerings in the 5-year period after the initial public offering.

Roosenboom et al., Earnings management and initial public offerings: Evidence from the Netherlands, 2003

This study investigates earnings management by initial public offering firms in the Netherlands. Roosenboom et al. (2003) examine the pattern of discretionary accruals over time. They take a sample of 64 Dutch initial public offerings companies on the Euronext Amsterdam. The sample is from the years 1984 to 1994. The focus of this paper is how managers use earnings management before and after the initial public offering. Also they try to compare companies that use earnings management and who do not use it. They compare the long-run stock price performances to the companies that do not use earnings management. In this way they want to investigate the long-term effects of earnings management on the stock price performance.

Roosenboom et al. (2003) use the same method of separating accruals between discretionary and nondiscretionary as Teoh et al. (1998). However in the research of Roosenboom a second approach is used besides the Jones model, namely the DeAngelo (1986) model. This model uses as normal accruals (nondiscretionary) the accruals from an earlier period. The difference between the current accruals and these expected accruals will be noticed as discretionary accruals. This method was earlier used by Aharony et al. (1993).

Roosenboom et al. (2003) develop the following hypotheses:

1a Discretionary accruals are more income-increasing in the period before the IPO than in later periods.

1b Discretionary accruals are more income-increasing in the first year of a public company than in later periods.

2 IPO firms in which managers engage in earnings management experience poor long-term stock price performance.

Roosenboom et al. recognize two main points in time where earnings management will be applied. This is the pre-IPO period and the first year after the company went public (the year of the initial public offering). Like Aharony et al. (1993), the authors develop a hypothesis for the

pre-IPO period. Like Teoh et al. (1998) they also want to compare the long-run stock price performance of companies that use aggressive earnings management and who do not use it.

The most important conclusions are that managers manage the earnings of a company in the year of the initial public offering. The study clears out that the years before the initial public offering no earnings management was applied. These results are in conformity to the results by Aharony et al. (1993).

Within this study by Roosenboom et al. (2003), they also examined the long-run stock price performance of the initial public offerings. In this research they find a negative relation between the size of the discretionary accruals in the first year the company went public and the long-run stock price performance. This paper gives Dutch evidence to the study of Teoh et al. (1998), who came to the same conclusion.

§ 2.2 Specific accrual models

Another way to measure earnings management is through the use of specific accrual studies. In these studies most of the time a specific accrual is examined. Usually this accrual can be managed with a lot of discretion by the manager. These models are used a lot when it is obvious to the researcher that this accrual is used to manage earnings. The specific accrual models can estimate direct connections between the examined accrual and the explanatory variables. (Bissessur and Langendijk, 2005, p. 4)

Marquardt et al, How are earnings managed? An examination of specific accruals, 2004

According to Marquardt et al. (2004, p. 471) earlier research has shown that firms manage earnings upward prior to initial offerings and seasoned equity offerings in order to increase the market price of the stock. The benefits of earnings management are especially high because the proceeds of an equity offering are based on the stock price at one point in time. In order for the firms to have a maximum price impact, they predict that firms issuing equity will prefer to manage earnings recurring rather than nonrecurring income statement items. This is because

recurring income statement items are more relevant in equity valuation (based upon earlier research) (p. 471). They further expect that firms manage their earnings through revenue accounts in particular.
Their research hypothesis is stated as follows:

"Unexpected accounts receivable will be significantly higher for offering firms, than for non offering firms" (Marquardt et al., 2004, p. 471)

To prove this hypothesis they use the cross-sectional model of Jones (1991) as comprehensive model to measure earnings management.[6] They expect that accounts receivable will be the primary accrual managed in the equity offering. They also want to examine other accrual accounts like inventory, accounts payable, accrued liabilities, and depreciation expenses.
They collected their sample from the Thomas Securities Equity Database in the period of 1995-1999. Their sample consists of 1765 equity offerings (includes besides IPO, also seasoned equity offerings). The results are consistent with their hypothesis; the unexpected accruals are significantly more positively than for the matched control group.

Marquardt et al. (2004) examine the same hypothesis as Aharony (1993) and Friedlan (1994). They focus on earnings management around special events (including IPO). Their model is based on specific accruals (Jones, 1993), like the research conducted by Teoh et al. (1998) and Roosenboom et al. (2003). Also the conclusions of this paper are consistent with the research earlier conducted by Teoh et al. (1998) and Roosenboom et al. (2003).

Ducharme et al. (2004) have a different approach to prove earnings management around IPOs. They focus on the impact of earnings management on the shareholders and try to prove earnings management by lawsuits concerning equity offerings. The similarity between the other research is that they make the same assumptions about the moment earnings management will take place (before IPO) and that they expect that earnings will be managed through positive accruals.

[6] The Jones (1991) model is discussed on page 14.

Ducharme et al, Earnings management, stock issues and shareholder lawsuits, 2004

Ducharme et al. (2004) state that managers use positive accruals to increase their earnings around stock issues. In later reporting periods after the stock offering, these accruals tend to reverse. Furthermore they state that abnormal accruals around IPOs tend to be negatively related to post-offer returns and positively related to initial firm value. They are consistent with the interpretation that offering firms opportunistically manage their earnings upward around offering date, temporary inflate stock prices, which fall later as less favourable earnings information arrives after the stock offering.

Ducharme et al. (2004) suspect that offering firms with high average levels of abnormal accruals around stock offerings will likely be targets for subsequent offer-related lawsuits by investors. These damage settlements in lawsuits should be positively related to measures of earnings management just before stock offerings. Abnormal accruals for reporting periods before offering would be positively related both to litigation risk and to the expected damage afterwards. Alternatively earnings management around stock offerings can generate valid signals. If so there would be no reason to expect that abnormal accruals contained in reported earnings to be related to the incidence of lawsuits.

In this article Ducharme et al. (2004) study the relations among earnings management, stock offerings, abnormal accruals, the post-offer returns and shareholder lawsuits. For this research they use a sample of firms that make public offerings between the periods of 1988 through 1997. They compare this sample of firms to a database with lawsuits concerning equity offerings, and the results of these lawsuits. They use the modified Jones model (1991) for cross-sectional data. Dechow et al. (1995) corrects the Jones model (1991) for the change in debtors. The change in debtors is subtracted from ΔREV at the second stage. In effect, the model therefore implicitly assumes that all changes in credit sales in the event period result from earnings management (Peasnell, Pope and Young, 2000, p. 314). They conclude that firms in the period around stock offer report positive abnormal accruals components in their earnings. In the period after the stock offering, the abnormal accruals are negatively related to the returns, or even they tend to reverse in the post-offer period. They also found that the stock returns are much lower and the reversals more pronounced in the post stock-offer period if the firms are sued in connection with their stock offer, than those who are not sued.

§ 2.3 Accounting Choice

The method "accounting choice" tries to measure earnings management through looking at different choices made by managers. In most cases accounting choices are viewed and categorized under aggressive or conservative accounting practices. After this these choices are related to economic consequences in the market (for example IPO). The advantage of this method is that it is possible to get an overview of choices IPO firms tend to make. Also it avoids the mathematical models and the deriving of proxies for discretionary accruals that are necessarily for accrual models.

Neill et al, Accounting method choice and IPO valuation, 1995

The study done by Neill et al. (1995) was to examine if the choices of specific accounting methods are related to the proceedings of initial public offerings. The sample that is used by the researchers was original 2609 companies. Finally they resized the sample to 505 initial public offerings, because of certain data requirements. The companies went public in the period from 1975 through 1984. The companies that were not measured did not fulfil to the criteria formulated by the researchers. Some of the criteria that were important for the research were that the firms had disclosures on specific accounting choices, had a CUSIP number, and a prospectus. CUSIP stands for Committee on Uniform Securities Identification Procedures. A CUSIP number identifies most securities, including: stocks of all registered U.S. and Canadian companies. Also all the oil and gas exploration companies are left out the sample, because these companies have other possibilities in accounting methods than other companies.

The companies that are examined can be classified in three different groups. The companies can be seen as liberal, mixed or conservative in choosing accounting methods. The accounting choices that are researched in this paper are the depreciation method and the inventory cost. If a company uses an accelerating depreciation method it will be an income-decreasing method. The use of LIFO accounting is seen as an income-decreasing method. All other ways of inventory cost accounting is labelled as income-increasing methods. In the case both accounting methods are income-increasing, the company will be categorized under liberal. If a company uses for both

income-decreasing methods, the policy will be conservative. All other combinations will be categorized under the mixed policy. Thus the following research question can be formulated from the above.

"There is a positive association between the initial proceeds from the offering and the selection of liberal accounting methods."

After examinations of all the companies Neill et al. (1995) conclude that there is a positive association between liberal accounting methods and going public.

This research has one thing in common with the researches done by Aharony et al. (1993) and Friedlan (1994). They all argue that issuers have incentives to manage earnings upwards prior to going public. This is both examined by Aharony et al. (1993) and Friedlan (1994) by using accrual-models. However Neill et al. (1995) examine this discretion in another way. They do not use accruals to identify whether a company practices income-increasing policies, but they look at specific accounting choices. They believe that this approach has an advantage over the accrual models, because this can determine possible patterns of accounting method selection across IPO firms (Neill et al., 1995, p. 69). Furthermore they prefer this method of research, because this way it is not necessary to use estimates of discretionary accruals.

§ 2.4 Discontinuities in the distribution of earnings

The last approach to research earnings management is to look at the density of the distribution of the earnings after the application of earnings management. These studies do not make a distinction between discretionary and nondiscretionary accruals. This approach does not need any estimation of the abnormal accruals. In these studies researchers attempt to examine if there are any discontinuities in the distribution of the earnings around a specific point. The goal of this approach is the prediction when and which companies use earnings management. This approach does not try to detect earnings management, but is more an examination that earnings management exists.

§ 2.5 Summary

The earlier research done around initial public offerings are performed in different ways. The big difference between the research was the time of measurement. A lot of the research took the time before going public as the point of measurement. However there were also explorations in the year of the IPO or after that. There is a lot of dissimilarity in the research of earnings management. Aggregate accrual models were the most favourite method of measuring discretionary accruals. However several other methods were available and performed.
The research was not limited to only measuring earnings management around IPOs. There was also looked at the reversal of accruals and the stock performance after going public.

Aharony et al. (1993), Friedlan (1994), Roosenboom et al. (2003) and Marquardt et al. (2004) performed the same research. They researched earnings management in the period prior going public. However the research was using other measures of earnings management. The conclusions among this research vary a lot. The research performed by Aharony et al. (1993) concluded that there was no or little evidence for earnings management in the period prior the IPO. The same result came out with the research of Roosenboom et al. (2003). Friedlan et al. (1994) came to another conclusion. They found evidence that income-increasing accruals were made before going public.

The second approach that Marquardt et al. (2004) used was a specific accrual model. The accounts receivable was the specific accrual that was researched by them. Marquardt et al. (2004) came to the conclusion that companies that went public have significantly higher accounts receivable than non-IPO companies.

Another similar research was done by Neill et al. (1995). They however used another approach for measurement of earnings management. They researched if there was any association between patterns in accounting choices and the proceedings of initial public offerings. They came to the conclusion that there was a positive association.

A lot of research was done in earnings management before going public. Nevertheless there were no similar results and conclusions. This difference in conclusion may be a result from different methods of measuring. The other researches that were discussed in the above literature overview were done in periods other that prior going public. Also there were some different hypotheses than the other research.

Teoh et al. (1998) and Roosenboom et al. (2003) concentrated their research on the long-term stock performance. They both found evidence that the three-year stock performance will decline if higher discretionary accruals are before or in the year of the IPO.

The research done by Ducharme et al. (2004) states that accruals tend to reverse, years after the initial public offering. They also conclude that there is a positively association between abnormal accruals and litigation risk.

Overall there was performed a lot of research in the subject earnings management and IPOs. As discussed there are different methods of research in this subject. The aggregate accrual and specific accrual models however have a lot of disadvantages. The disadvantages of these kinds are that these models need sufficiently long time-series of data to allow effective estimation of the first-stage regression parameters when implementing the procedures empirically (Peasnell, Pope and Young, 2000, p. 315). In the case of IPOs there is only data of three years available in the prospectus. This makes it hard to deliver evidence that earnings management is practiced before going public. Another drawback made by Peasnell et al. (2000) is the assumption that coefficient estimates on ΔREV and PPE remain stationary over time. IPO companies however mostly experience growth.

Therefore it is better to research earnings management before IPOs in another way. The method “accounting choice” has better opportunities in detecting earnings management before going public. Like Neill et al. (1995) patterns of accounting choices are linked to initial public offerings. An advantage is that it is not necessary to derive proxies for discretionary accruals of firms with limited financial histories (Neill et al., 1995, p. 69).

Chapter 3: Background Theory

§ 3.1 Motivations for earnings management

Motivations for managers to become involved in earnings management can be different. It is dependent on what the manager's goal is for the year's numbers. Mulford and Comiskey (2002) researched what motivations there are for earnings management. They send off a questionnaire to different kind of people. From these people for instance were included academic people in the accountancy, CFO's and CPA's. They asked them to give an opinion on several statements. The respondents were asked to choose from possible responses.

After the research several goals became clear for performing earnings management. The following goals can be noticed as motivations.

Contractual incentives

1. Increase earnings-based compensation
2. Reduce borrowing costs
3. Contractual incentives

Regulatory incentives

4. To be less notable to regulators
5. Tax regulation

Market incentives

6. Meet consensus earnings forecasts
7. Reduce earnings volatility
8. Support increase of stock prices
9. Signalling

1) A motive for managers is to perform earnings management to obtain their targets. In most of the cases a manager gets a reward based on the net income. A manager will boost the income to

get his bonus. A manager can also downwardly manage the earnings. This way the manager can delay some revenues to the next year and can get a bonus.

2) A company can boost its performance to borrow money against better terms. If the reported earnings and assets are higher, and the liabilities are lower this will improve the credit quality. Therefore a company can use earnings management to influence the lender or bond investor.

3) A manager can have incentives to manage earnings when there are contracts between the company and other parties that rely on accounting numbers. Examples of these contractual situations are debt covenants, and union negotiations.

When managers are close of violating debt covenants they can avoid default by practicing earnings management. In the case that the company has violated the debt covenants the manager still has incentives for managing the earnings. The manager will have this way a better bargaining position in the case of renegotiations.

In the case of labour union negotiations the manager will have incentives to manage the earnings downwards. This way the manager can claim that raise in wages cannot be granted.

4) Large and high profile firms may manage their earnings downwards, because they do not want to be conspicuous to regulators. These companies want to reduce possible political costs. So the managers try to defer any revenues and accelerate the recognition of expenses.

5) Companies can also have the incentive to keep the years taxes as low as possible. The earnings subject to taxes are more difficult to manage, because the manager has not much discretion under the tax rules as with the generally accepted accounting rules.

6) Companies want to get targets with respect to financial forecasts. If a company do not reach forecasts, this can have a negative impact on the company's stock price. Therefore managers can use creative accounting to obtain the forecasted numbers in the annual report. In this way the company will not be harmed.

7) A motive for a manager noticed was to reduce earnings volatility. Managers are removing peaks and valleys from normal earnings series. This is done by storing profits in the good years. In this way these stored profits can be recognized in years that the company is in a valley. This way the income will not fluctuate a lot. This is done to reduce the high level of risk that comes with a very volatile income. A volatile income can induce volatile share-prices.

8) Another market incentive for performing earnings management is to retain or increase the share-price of the company. Share prices will be affected positively by companies that have good earning power. Therefore managers will manage the earnings to get a better share-price. This way the company has a lot of positive effects from this. Some examples for this share-effect are increased value of the company, increased value of stock options and of course higher stock prices.

9) The last motivation for managing the earnings of a company can be to signal the investors for future earnings. For example companies that have a bad year can include more expenses in the current year-earnings. This way the loss will be large. However this can give a signal to the investors that the next years will be better.

Important from these motivations for the thesis are the last three. In the case of an initial public offering it can be necessarily that these three motives will play a big role. If the company goes public it can be a motive to boost the earnings before going public. This way the company sells the share for a higher price to investors. They also can reduce the volatility of the earnings in the prospectus. Little fluctuations can give investors a positive view of the company, because they will think it is a good investment with a lower risk.

§ 3.2 Techniques for earnings management

After the discussion of the several motivations for practicing earnings management the different kinds of techniques will be discussed. These techniques could be used to accomplish the earnings management goals of the company. Off course it is not possible to discuss all possibilities how earnings management may be practiced. Therefore the most common techniques will be discussed here.

The several techniques are categorized in the same manner as in Mulford and Comiskey (2002). The authors used this classification scheme to separate the different forms of earnings management tools. Creative accounting practices can be categorized as follows.

- Premature or fictitious revenue
- Aggressive capitalization and extended amortization policies
- Misreported assets and liabilities
- Creativity with the income statement
- Cash-flow reporting

The first three points in the classification scheme above are about revenue, expenses, assets and liabilities. The fourth and fifth points are more about the creativity that is used with the income statement and the cash flow statement.

In each category also the regulation of the subject will be discussed. The regulation is important to comprehend earnings management. It is needed to understand what the boundaries are to perform earnings management. As discussed before earnings management can take place with violating the regulation, but it also can take place without violating it. In this chapter the regulation of the International Accounting Standards Board (IASB) is discussed. The reason for choosing this regulation is that this regulation is mandatory from 2005 to all firms quoted on the stock exchange. These boundaries of regulation are used to define earnings management. The Dutch regulation is not chosen because it has a lot of similarities with the international standards.

§ 3.2.1 Premature or fictitious revenue

The first category is about premature or fictitious revenue. Revenue is the first indication whether a company has performed well this year. This makes revenue also one of the most important tools to manage the earnings. Managers will certainly use this tool if they are in creative accounting practices.

"Premature or fictitious revenue recognition is an almost indispensable component of the financial numbers game." (Mulford and Comiskey, 2002)

Therefore the different techniques around revenue recognition will be discussed first. As the title of the category already pronounces there can be made a difference between premature and fictitious revenue. The recognizing of premature revenue is the recognizing of the revenue for a legitimate sale at a stage that is too early accordingly to the Generally Accepted Accounting Principles. In most of the rules the product has to be sold and has to be delivered to the customer. After the delivery the revenue has to be recognized. However in some cases delivery is not obligatory. This can be in the case for certain projects. If a company uses the percentage of completion method it can recognize revenues before the delivery occurred.

Another possibility for managing the revenue is to make up sales. The revenue of a nonexistent sale will be recorded to boost the revenue up.

For example a customer has ordered goods but the goods are not shipped to the customer. However the company that sold the goods already recognized the revenue. This is an example of premature revenue recognition. The reason that the company has to wait in recognizing the revenue is because of the fact that the company still has obligations to their customer.
Revenue recognition in advance for expected orders is not allowed. This is an example of fictitious revenue recognition. There is no real order present, thus this makes the recognized revenue improperly recorded.

In both circumstances the revenue does not belong on the income statement. Therefore a further separation between premature and fictitious revenue will not be made. Mostly these two are hard to separate, because both sorts of revenue are a matter of timing.

Before making any assumptions about earnings management it is necessary to understand more about the rules around revenue recognition. Therefore the basic rules will be explained to get a further understanding of the creative accounting practices.

Regulatory rules

"Revenue is the gross inflow of economic benefits during the period arising in the course of the ordinary activities of an enterprise when those inflows result in increases in equity, other than increases relating to contributions from equity participants." (IAS 18.07)

The international accounting standard 18 only includes the revenue that is not included in any other standards. The standard prescribes the accounting treatment for the following subjects.

- the sale of goods;
- the rendering of services; and
- the use by others of entity assets yielding interest, royalties and dividends.

After discussing the definition of revenue it is needed to understand how it is measured. Also it is needed to include how a transaction is defined in the standard.
For the settlement of the size of the revenue, the revenue is measured at fair value of the payment that is received or receivable. The following is the definition of transactions in IAS 18.

"The recognition criteria in this Standard are usually applied separately to each transaction. However, in certain circumstances, it is necessary to apply the recognition criteria to the separately identifiable components of a single transaction in order to reflect the substance of the transaction." (IAS 18.13)

This rule is important because revenue should only be recognized for the component that is really earned. A company can not recognize all the revenue of a transaction if certain components are not earned yet.

Assuming that a company's normal activities are the sales of goods the revenue from the sales can only be recognized if the following conditions are satisfied.

> *(a) the enterprise has transferred to the buyer the significant risks and rewards of ownership of the goods;*
>
> *(b) the enterprise retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;*
>
> *(c) the amount of revenue can be measured reliably;*
>
> *(d) it is probable that the economic benefits associated with the transaction will flow to the enterprise; and*
>
> *(e) the costs incurred or to be incurred in respect of the transaction can be measured reliably. (IAS 18.14)*

This rule describes which conditions should be satisfied before recognizing earnings. In the case of earnings management a lot of managers will try to avoid or by-pass these conditions. A good example of this is bill-and-hold sales. In a bill-and-hold deal the customer agrees to purchase goods, but the seller will keep them in possession until shipment is requested. These sales to the customer can be recognized because it is realized or realizable.[7]

The last rule that will be discussed is the recognizing of revenues from services. Revenue from service can be recognized if the stage of completion reliably can be estimated. The service revenue has to be recognized by reference of the stage of completion. There are several criteria to know if service reliably can be estimated. The IAS 18 gives these conditions.

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[7] This information is gathered from: http://www.aicpa.org/pubs/jofa/oct1999/carmich.html

a) the amount of revenue can be measured reliably;

(b) it is probable that the economic benefits associated with the transaction will flow to the enterprise;

(c) the stage of completion of the transaction at the balance sheet date can be measured reliably; and

(d) the costs incurred for the transaction and the costs to complete the transaction can be measured reliably. (IAS 18.20)

The recognition of service revenue is for managers also a popular technique to perform creative accounting. They can early recognize the revenues but also can defer these revenues.

After this short summary of the basics of the revenue recognition it is possible to give some examples of several techniques that are used to apply earnings management in the field of accountancy.

Techniques

Earnings management is the evading of these rules described above. It has not always to do with undermining of rules. It also can rise because of a different interpretation of the standards.
Ways to boost revenue can be done in several ways. Several techniques that are common for the management of revenue are the following.

- Premature booking of revenue
- Bill-and-hold sales
- Recognizing of sales that should be spread out over a much longer period
- Abuse of percentage of completion
- Holding of books open after month or quarter
- Recognition of components of sales

§ 3.2.2 Aggressive capitalization and extended amortization policies

The second tool to manage earnings is to move expenses to different periods. This way managers delay expenses to other periods and boost the current revenues. Also is it possible that managers report current expenses as assets. After the capitalization of the asset it can be amortized over a longer future period. This does not mean that earnings management is applied, because some expenses should be capitalized. The policies of companies who capitalize expenses to increase earnings are often called aggressive capitalization policies. The expenses that are capitalized should have been recorded earlier as expense.

Another possibility is to affect the amortization period from the recorded expenses as assets. Companies will extend the period from amortization to spread the expenses over more periods. This way the expenses will be lower per period.

Like the paragraph about premature and fictitious revenue it is important for the thesis to get an understanding about the possibilities for capitalization. It is also necessary to comprehend the rules around capitalization of expenses.

Regulatory Rules

"The definition of expenses encompasses losses as well as those expenses that arise in the course of the ordinary activities of the enterprise. They usually take the form of an outflow or depletion of assets such as cash and cash equivalents, inventory, property, plant and equipment." [8]

The rules for expenses are not as extensive as the rules described above for revenue. However the rules are somehow connected to each other. As described above, expenses in the course of the ordinary activities of the enterprise have to be recognized with the matching revenue. This is called the matching principle.

However not every expense has a clear association with a specific revenue. For these expenses other rules have to apply. The basics for these expenses are that they are capitalized and allocated over the future periods that generate revenue. However not every expense is qualified to be

[8] Framework for the preparation and presentation of financial statements, 78

capitalized. The basic rule for expenses is that they should be recognized when incurred unless they meet the recognition criteria. These criteria are that the expenses will generate economic future benefits for the company and can be measured reliable. A manager can very subjectively interpret these recognition criteria. Creative accounting can lead to improper capitalization of costs and result in a wrong view of the financial statements. In the case that expenses are made for internally generated intangible assets there are some more criteria before capitalization.

Expenses that are incurred for internally generated intangibles have to be distinguished under two stages. For the development of an intangible there is a research phase and a development phase. The expenses that occur in the period of the research phase have to be recognized as expense. The reason for this is that the costs cannot demonstrate that they will generate economic future benefits. This is one of the recognition criteria.

Costs that occur in the development stage should be capitalized. However there are some conditions for capitalizing these costs. One of these criteria for these expenses is that technological feasibility is reached. Some of the other criteria for capitalizing are the intention for completing the intangible asset, enough resources and the ability to use or sell the intangible. However these criteria can be very subjective and can provoke managers to earnings management.

The expense needs to be capitalized when it is a part from the internally generated intangible. As described above it also has to be incurred in the period after technological feasibility is established. There are several conditions for which sort of expenses have to be included in the intangible asset. The following expenses can be capitalized:

> *(a) expenditure on materials and services used or consumed in generating the intangible asset;*
>
> *(b) the salaries, wages and other employment related costs of personnel directly engaged in generating the asset;*

(c) any expenditure that is directly attributable to generating the asset, such as fees to register a legal right and the amortisation of patents and licences that are used to generate the asset; and

(d) overheads that are necessary to generate the asset and that can be allocated on a reasonable and consistent basis to the asset. (IAS 38.54)

Some costs as administrative costs, training costs, selling costs can not be capitalized and have to be recognized as expense when incurred.

After discussing the regulation for capitalizing or expensing the incurred costs there needs to be an understanding about the rules for amortization. Also the basic rules for this will be discussed below.

The amortization period for intangibles may not exceed twenty years. There need to be a good estimate of the useful life. The useful life has to be based on a couple of factors. Some examples for these factors are the industry where the company is in, technological obsolescence and the usage of the asset. Not all factors are enumerated here.

The depreciation method is free of choice, but the chosen method should reflect the pattern in which the economic benefits flow to the company. The methods that can be chosen are the straight-line method, the diminishing balance method and the unit of production method.

"Straight-line depreciation results in a constant charge over the useful life if the asset's residual value does not change. The diminishing balance method results in a decreasing charge over the useful life. The units of production method result in a charge based on the expected use or output." (IAS 16.62)

Also impairment plays a big role in the case expenses are capitalized. The value of assets needs to be revised once a year for impairment. This revision of the value of assets once a year is an

important instrument for playing the financial numbers game.[9] *An asset is impaired when the carrying amount of the asset exceeds its recoverable amount.* (IAS 36.7)

The recoverable amount from an asset is the highest value of its net selling price and its value in use. The net selling price is the amount a company would receive for selling the assets at arms length transaction. Managers can subjectively choose the net selling price and influence the outcome of the financial statements. Also the value in use is a very subjective way of measuring the value of an asset. Therefore the managers are left a lot of space for earnings management. Indications for impairment losses are enumerated in IAS 36.12. These indications are divided in internal and external sources.

External sources:

- market value declines
- negative changes in technology, markets, economy, or laws
- increases in market interest rates

Internal sources:

- obsolescence or physical damage
- asset is part of a restructuring or held for disposal
- worse economic performance than expected

Impairment losses need to be recognized directly in the income statement as an expense. These losses may indicate that the useful life, depreciation method or residual value needs to be adjusted. It's also a possibility to reverse impairment losses and recognize these as income in the income statement. Impairment is one of the important instruments for earnings management nowadays. The subjectivity in the estimation of values is major. Managers can practice aggressive impairment policies but also can use very conservative policies. The size, timing and the level of impairments are all part of this impairment policy.

[9] Mulford and Comiskey (2002) refer to the "financial numbers game" instead of earnings management

Techniques

Like the chapter about premature and fictitious revenue in this chapter a couple of earnings management techniques are described that are common in practice. Possible ways to manage your earnings is doing the following actions.

- Aggressive capitalization of costs
- Large write-offs
- Optimistic depreciation and amortization terms
- Accelerating expenses in a good year

§ 3.2.3 Misreported assets and liabilities

Assets and liabilities are often used as an instrument for earnings management. These assets and liabilities could have a direct impact on the revenue. Mostly the elements as accounts receivable, accounts payable, inventory are used for the purposes of the manager. Assets are in the case of earnings management not valued properly. The financial statements can have this way lower or higher earnings power. Earnings power can be defined how a company is able to generate earnings.

Another way to misstate assets on the balance sheet is to overstate the inventory of the company. Managers try to value this inventory as high as possible. Ways to overstate the inventory is to use an increasing reporting valuation, delays of write-downs and the use of different cost-formulas.

Liabilities can also be used for earnings management. In the case that liabilities are undervalued investors will be optimistic about earnings expectations. Accounts like expenses payable, accounts payable, provisions and contingent liabilities are often exposed to earnings management.

Like the other paragraphs the basic regulation will be discussed that concerns assets and liabilities.

Regulatory Rules

"The future economic benefit embodied in an asset is the potential to contribute, directly or indirectly, to the flow of cash and cash equivalents to the enterprise. The potential may be a productive one that is part of the operating activities of the enterprise. It may also take the form of convertibility into cash or cash equivalents or a capability to reduce cash outflows, such as when an alternative manufacturing process lowers the costs of production."[10]

An asset should be recognized in the balance sheet when it is probably that future economic revenues will be generated and the cost or value of the asset is known. The valuation of assets can be done on two possible ways by a company. Valuations at historical cost and fair value are the options a manager has. However a company not always have to choose for one method only. It can also prefer to have a mixed selection of the valuation methods. These possibilities in valuation of assets give opportunities to managers to perform earnings management. Raising the value of assets will show a higher equity to investors. Therefore managers will in the case of earnings management choose the valuation method that will benefit the company.

Inventory has more specific regulation than assets in general. Therefore this is discussed separately from the above.

Inventories are assets:
(a) held for sale in the ordinary course of business;
(b) in the process of production for such sale; or
(c) in the form of materials or supplies to be consumed in the production process or in the rendering of services. (IAS 2.6)

In the case of valuation of inventory it has to be valued to the lowest of historic cost price or net realisable value. If the net realisable value is lower than the historic cost price the company will have to impair the difference.

[10] Framework for the preparation and presentation of financial statements, 53

Another matter concerning inventory is the use of cost formulas. The regulation describes the possibility to choose between different cost formulas. Among these are the FIFO and average cost formulas. The LIFO method is prohibited in the new regulation. The basis for conclusions gives a couple of reasons for this prohibition.

On the other side of the balance sheet liabilities are reported. Possible ways to perform creative accounting is by lowering the value of liabilities. Provisions, accounts payable and more are possible ways to influence the financial statements.

"An essential characteristic of a liability is that the enterprise has a present obligation. An obligation is a duty or responsibility to act or perform in a certain way. Obligations may be legally enforceable as a consequence of a binding contract or statutory requirement.
Obligations also arise, however, from normal business practice, custom and a desire to maintain good business relations or act in an equitable manner."[11]

Most of the liabilities nowadays are regulated by the IAS 39, because financial instruments are more used. Liabilities are most of the time valued at fair value or historical cost price.

Techniques

Several techniques of earnings management are common in this category, misstated assets and liabilities. Like the previous paragraph a couple of examples are enumerated.

- Adjusting inventory allowances
- LIFO dipping
- Inventory valuation
- Overstate net accounts receivable
- Understate accounts payable
- Unrecognized contingent liabilities
- Provision estimates

[11] Framework for the preparation and presentation of financial statements, 60

§ 3.2.4 Creativity with the income statement

Earnings management takes place in different forms. The classification and disclosure can be used opportunistically by managers to report better earnings.

The classification in the financial statement becomes more important nowadays, because of the different layers and subtotals in it. Extraordinary items were examples were managers have discretion in the classification on the income statement. Managers try to influence the operating income. This was most of the time done with items that are nonrecurring. These items could be left out the operating income, but also could be classified under operating income.

Next to classification and disclosure policies from the manager it is possible to influence earnings in other ways. Performance indicators are becoming more popular. These indicators are disclosed with the financial statements. One of the most famous performance indicators is EBITDA (Earnings before interest, taxes, depreciation and amortization).

These indicators of performance are non-GAAP (General Accepted Accounting Principles) measures. The measures are developed by management to present investors another view of the financial numbers. They think these are better performance indicators. The indicators are most of the time based on the original financial numbers. However not all information is used in the calculation of it. Adjustments like non-recurring, non-cash or non-operating items are made.

There is no regulation for the non-GAAP indicators. This gives companies the opportunity to develop different sorts of measures. Most of these are just developed to improve the financial performance of a company.

Regulatory Rules

Managers can have a lot of discretion in classification of items. However there is some regulation that concerns some items. In IAS 1 there is a change concerning the presentation of the income statement. This change has prohibited the use of the presentation as extraordinary income or expense. This new regulation in classification limits the possibility to manage the operating income. However there is still a possibility to manage the operating income. In the current

regulation there is no need for presentation of an operating income. There are predefined items that have to be presented in the income statement. The IAS 1 however gives the opportunity to present other items.

"Additional line items, headings and subtotals shall be presented on the face of the income statement when such presentation is relevant to an understanding of the entity's financial performance." (IAS 1.69)

This rule allows companies to add more items. This way there is still a possibility to rearrange income and expenses to other classifications.

The rules for accounting policies are regulated in IAS 8. As mentioned above this is a possibility to manage earnings. Accounting policies is defined as follows.

"Accounting policies are the specific principles, bases, conventions, rules and practices applied by an entity in preparing and presenting financial statements." (IAS 8.5)

These accounting policies can not be changed without a legitimate reason. A company has to apply its policies consistently for similar transactions, events or conditions. However there are two possibilities to change to another accounting policy.
An entity shall change an accounting policy only if the change:

> *a) is required by a Standard or an Interpretation; or*
>
> *b) results in the financial statements providing reliable and more relevant information about the effects of transactions, other events or conditions on the entity's financial position, financial performance or cash flows. (IAS 8.14)*

The first sub described above could be characterized nondiscretionary changes. The manager does not have any impact on this change. However the second sub is a discretionary change. The

manager can decide whether a change would be appropriate in displaying reliable and more relevant information.

"An estimate may need revision if changes occur in the circumstances on which the estimate was based or as a result of new information or more experience. By its nature, the revision of an estimate does not relate to prior periods and is not the correction of an error." (IAS 8.34)

In the financial statements a lot of estimates are made. In the case of a change in an estimate, the manager has to disclose what the effect is for the current and future periods. (IAS 8.39)

Techniques

Like the previous paragraphs some common techniques are enumerated to get a better view which possibilities a manager has to influence the income statement. Some possible gains and expenses that can be categorized within and outside the operating income are the following.

- Gains on sales of subsidiaries and affiliates
- Restructuring and other special charges
- Acquisition expenses
- Hedge gains
- Litigation benefits

For the accounting policies and estimates there are also a couple of techniques that are and were used frequently.

- Change from LIFO to FIFO
- Change from accelerated to straight-line depreciation
- Change from percentage of completion to completed contract
- Revision of estimated useful live

These techniques could be important for recognizing income increasing or decreasing policies.

§ 3.2.5 Cash-flow reporting

The cash-flow statement is nowadays a mandatory item in the financial statements. However this item is also subject to forms of earnings management. The cash-flow overview is least subject to creative accounting practices. The reason for being more reliable is that cash has to be deposited. This will give the cash-flow overview a more trustworthy item, because objective verification could be gathered. In the income statement there is much more flexibility in practicing earnings management.

However there are still possibilities to influence the cash-flow statement. Although the strict regulation around the cash-flow statement it is still possible to perform earnings management. The total cash-flow can be separated in different sorts of cash flow. Total cash-flow can be divided in operating, financing, and investing cash-flows. Investing cash-flows can be rearranged to the operating cash-flows and otherwise. In the case of creative accounting, managers will tend to boost the operating cash-flows to be more engaging to potential investors. Operating cash-flows are the most important measure from the whole statement. “The reason for this importance is that investors seek for earnings power, which focuses on a company’s ability to generate a sustainable and likely growing stream of earnings that provides cash-flow” (Mulford and Comiskey, 2002, p. 352). The operating cash-flow has become a basic item for measuring company value and credibility. A company that does not have positive operating cash-flows is not performing well in general. Therefore it is for a manager more engaging to alter the cash-flow statement.

Regulatory Rules

The cash-flow statement is regulated in IAS 7, Cash Flow Statements, which will not be discussed completely. One of the important rules that are mentioned in this regulation is that the cash-flow statement should report cash flows classified by operating, financing and investing activities. The first activity can be reported in two different ways.

- the direct method, whereby major classes of gross cash receipts and gross cash payments are disclosed; or

- the indirect method, whereby net profit or loss is adjusted for the effects of transactions of a non-cash nature, any deferrals or accruals of past or future operating cash receipts or payments, and items of income or expense associated with investing or financing cash flows. (IAS 7.18)

The first method is preferred by the International Accounting Standards Board (IASB). The Board prefers this method because this method provides information that may be useful in estimating future cash-flows. (IAS 7.19) The indirect method does not provide such information as gross cash receipts and gross cash payments. Next to the method of reporting also the different activities of cash-flows are discussed. For each classification there is an enumeration of cash-flows that should be categorized under it.

Another important remark in this regulation is that purchase and sale of trading securities can be classified under operating activities. The securities have to be similar as other inventories acquired for re-sale. In this case they can be categorized under operating activities. This leaves for the manager the possibility to hold trading securities and sell these when the cash-flow statement needs a boost.

Techniques

Possible techniques for performing earnings management in the cash-flow statement that are common are enumerated below.

- Capitalize expenditures
- Purchase and sale of trading securities under operating cash-flow
- Nonrecurring items are categorized under operating cash-flow
- Reduce inventory
- Postpone payments to increase accounts payable
- Rearrange cash-flows to operating

§ 3.3 Summary

In this chapter several techniques and regulation is discussed. This chapter gives an overview of the current regulation that can be important for designing the research design in the next chapter. Managers will perform earnings management within the boundaries of the regulation or outside of it. They have several motivations for performing earnings management. Several motivations are enumerated in this chapter. Reducing volatility, increasing of share-price and signalling are three motivations that are important for companies that go public.

Chapter 4: Research Design

§ 4.1 Introduction

After the discussion of the literature overview and the regulatory overview there are different possibilities to conduct research in. This research is going to build further on the research done by Aharony et al. (1993) and Friedlan (1994). The goal of the research was whether IPO issuers exercise accounting discretion by making income-increasing discretionary accruals in the financial statements that are included in the prospectus. The results of both papers differ from each other. The research done by Aharony et al. (1993) proves that there is little or no evidence of earnings manipulation before going public. On the other hand Friedlan (1994) proves that there are income-increasing procedures just before issuing initial stocks. Both investigations were done with the use of total accrual models. Also Roosenboom et al. (2003) examined the pre-IPO period. They came to other conclusions as their predecessors. They concluded that no earnings management is applied before going public. Because of the differences between the different research results an investigation is done in the period before the companies go public.

However there are differences between their studies and the one that is performed in this thesis. This research is done according to the approach “accounting choice”. The research is not going to use total accrual models for determining earnings management. It uses the approach of Neill et al. (1995) for the determination of earnings management in the financial statements of the prospectus. The research views the different accounting choices made by managers in the financial statements. Following from this, the research question can be formulated.

Do managers opportunistically use discretion in their accounting policies before going public?

Another difference that may be important is the used period of examination. The earlier research used data from the period of 1985 to 1987. The other research from Friedlan (1994) used data from the period of 1981 to 1984. The data used by Roosenboom et al. (2003) is the most recently used database in the case of IPOs. They use companies that went public in the period of 1984 an

1994. However this research may be outdated. The research done in this thesis uses a more recent sample to examine the accounting choices.

Furthermore this research is done with the use of Dutch companies instead of other foreign companies. The earlier research used data that came from overseas, except from the data used by Roosenboom et al. (2003).

Nevertheless the main research problem is the same as the previous research done. The research is done in the years before going public of a company. The main difference is the use of the approach.

§ 4.2 Sample

The data that is used is collected from www.annualreports.info. This database consists of 587 companies that issued shares in the period from 27-5-1987 to 19-4-2005. However this is reduced to 33 companies. Criteria for reducing the sample are that the companies have to be listed or were listed on the Euronext. Furthermore the companies need to be Dutch. The reason for these criteria is that the research attempts to deliver Dutch evidence that companies perform earnings management before going public. After applying these criteria the sample is reduced to 276 companies. Another condition for the sample is that the offering needs to be an initial public offering. In the database a lot of offerings are done like certificates, convertible bonds and merger documents. These need to be excluded from the sample. After this, the initial public offerings in the period before 1994 are left out, because the research needs recent data. Roosenboom et al. (2003) use data before 1994 and therefore this research uses data after this period. The last criterion for the sample is that investment companies and banks are left out. The reason for this is the difficulty of measurement. These companies have other accounting principles as the rest of the sample. Also it would be difficult to answer the questions defined in the next paragraph. This brings finally the sample to 33 companies that went public on the Euronext Amsterdam in the period between 1-1-1997 and 31-12-2004 (see Annex I). The financial statement data before the IPO is collected from the prospectus (www.annualreport.info) or the reach database (www.eur.nl/ub).

§ 4.3 The accounting choices

After discussing the motivation and the sample that is used in this research the actual research model has to be specified. This model is discussing which accounting choices are paid attention to during this research. Each accounting choice will be explored why it will be categorized as an income-increasing or and income-decreasing method. Next to this exploration a system will be developed to determine when companies are using conservative or aggressive earnings management.

In the previous chapter different categories and the corresponding regulation were reviewed. These categories will also be used in the development of the research model. From each of the five classifications important accounting choices will be discussed. For each accounting choice the opportunities will be discussed. These accounting choices will eventually be used in the research. In the next paragraphs the accounting choices will be discussed per category that are significant for the course of the research. After the determination of the policies a classification will be made. This classification will eventually define which of the companies performed earnings management.

§ 4.3.1 Premature or fictitious revenue

Revenue recognition policy

The policy for revenue recognition can be different among companies. Companies can choose for premature recognition or postponement of recognition. As discussed in the early chapter several rules have to apply before recognizing any revenue. The financial statements are accompanied with disclosure of the used accounting policies. In this disclosure the revenue recognition policy is also described.

This revenue recognition policy tells the reader of the financial statements when certain revenue is recognized. Next to the time aspect of revenue recognition it is also important which parts of the revenue are recognized. These questions need to be answered before determining whether the

policy is income-increasing or income-decreasing. For this a part of the checklist from Mulford and Comiskey (2002) is applied. These questions are described here below.

1. What is the company's revenue recognition policy?
    a. Before delivery or performance?
        i. Is it really earned?
    b. At delivery or performance?
        i. Is there a right of return or price protection?
    c. After delivery or performance and full customer acceptance?

In the case that answer 1a will be confirmed we will assume that this policy of the company is an income-increasing policy. It could be that the revenue is really earned and that there is compliance with the conditions of the regulation. However if there is not delivered it is possible that the sales are bill-and-hold sales. In the case that it is not really earned it is obvious that the revenue can not be recognized. If companies recognize revenue at shipment of the product this will also be an income-increasing policy. This is however only income-increasing when the product is not a project. In the case of a project the company can use the method percentage of completion and can recognize revenues earlier.

First question 1c will be discussed. This recognition policy is the most conservative of the three possible ways of recognition. If the revenue is recognized according to this policy it will be handled as income-decreasing policies. The reason for this is that the company has not any obligations to the buyer anymore or other risks.

Question 1b is something more complicated than the other two questions. If the company recognizes revenue at delivery or performance normally this is accounted in the right manner. However it is possible that the company still has obligations to the buyer of the product or service. In the case that there is a right of return or price protection for the buyer the recognition policy will be an income-increasing policy. The reason for this is that not all revenue can be recognized because of the significant risks the company still has. If the company made a

provision for the right of return or price protection it is recognized properly. Under this circumstances the policy will be nor income-increasing or income-decreasing.

These questions will also be used for the services of companies. If companies recognize revenue before performance it will be an income-increasing policy. In the case that companies defer the revenue recognition of services it will be noted as an income-decreasing policy. Question 1b is the proper way of recognizing the service revenues. The policy will be nor income-increasing or income-decreasing.

If the normal revenue recognition policy is not income-increasing or income-decreasing this will be indicated by a zero. However in some cases it is possible that some small parts of the revenue recognition policy are income-increasing. It is possible that the revenue recognition of the normal activities is done properly. However the revenue of the services is not done properly. In this case the revenue recognition policy will be neutral, but a remark will be made for the recognition of the revenue of services. This remark will be taken into account at the end of the research.

Fictitious revenue

In the financial statement there is not any disclosure that announces fictitious revenue policy. However there are several signs noted by Mulford and Comiskey (2002) that could reveal earnings management in fictitious revenue. These signs are also available in the checklist. Premature and fictitious revenue that is recognized are often not collected. A result of this recognition of revenue is that another balance sheet account will increase. Usually this account is account receivables. This relationship between revenue and account receivables is important to watch. Another sign that is often used is the days accounts receivable (A/R days). This is the amount of days before a company can collect the revenue.

The last one that is mentioned by Mulford and Comiskey (2002) is change in the accounts receivables and the change in revenue. They use in their checklist questions to detect earnings management. Some of these questions are also used in this research for detecting premature and fictitious revenue.

2. Are there signs of overstated accounts receivable that might be used to offset premature or fictitious revenue?
    a. Compare the percentage rate of change in accounts receivable with the percentage rate of change in revenue for the last three years before IPO.
    b. Compute the A/R days for each of the last three years before IPO.

As noticed before these questions are not looking at the real policies of the company. However these questions try to reveal the hidden policies of the management. These are not disclosed in the financial statements.

The two questions require some calculations before determining the degree of earnings management. The first questions will look at the changes in account receivable and the change of revenue. If the change in accounts receivable is significant higher than the revenue change it could be a warning that earnings management is practiced. Before judging the company the A/R days will be calculated first. If the period of collectibility is larger than three months it will become suspicious. Also a raise in the collectibility period should be noticed.

Therefore a company is practicing an income-increasing policy if the collectibility period is longer than three months or there is a significant positive change in the years before. If the A/R days ratio rises with more than 15% it will be an income-increasing policy. Everything other will not be noticed as income-increasing or income-decreasing.

§ 4.3.2 Aggressive capitalization and extended amortization policies

Capitalization policy

The policy for capitalization also can be aggressive or conservative. In general a company that is capitalizing expenses will increase its income. Companies that expense immediately are using normally income-decreasing policies. However capitalization is obligatory as discussed before, but through the professional judgement companies can "choose". The capitalization of costs is permitted if the costs will generate future benefits. This can naturally be a very subjective choice of the manager. The disclosure of the financial statements has the description of the capitalization

policy. It is important to understand this policy, because it can give signs of aggressive capitalizations policies. The questions that are used for detecting earnings management in the financial statements are described below.

3. For cost capitalization generally:
    a. What are the company's policies with respect to cost capitalization
        i. What do the capitalized costs represent?
    b. Are the following costs capitalized?
        i. Costs of start-up activities
        j. Advertising, marketing and promotion costs
4. For companies capitalizing software development costs:
    a. What are the policies for capitalization of software developments costs?

The first question is about capitalized costs in general. Excluded are costs that are incurred for development of software. It is important to analyse the capitalization policy first. In the case the company capitalizes costs it needs further investigation. If a company capitalizes costs it will be noticed as income-increasing regardless of the capitalized costs represent an asset or benefits to the future periods. If the costs also do not represent an asset or contribute to future periods an extra remark will be made. If costs are expensed immediately (regardless of the possibility of capitalization) it will be noticed as income-decreasing.

The second question 3b is about costs that are not permitted to be capitalized. If these costs are capitalized it is labelled as income-increasing policy. Otherwise it will not be taken into account for the further research.

Question 4 needs to be answered to get knowledge of the policy of the capitalization of software costs. Policies that capitalize software costs made before technical feasibility will immediately be noticed as income-increasing. As question 3, capitalization is an income-increasing policy. Regulation obligated the capitalization of software costs after the technical feasibility. However the determination of technical feasibility is a very subjective matter for each company. Therefore companies still easily can make a choice in their policy. Next to the subjectivity of the

determination of technical feasibility, materiality is also a frequently used excuse for not capitalizing the costs. In the case development costs are expensed when incurred this will be noticed as an income-decreasing policy.

Amortization and Depreciation policy

The amortization policy most of the time can be found with the depreciation. Mulford and Comiskey (2002) also did not divide the amortization policy from the depreciation policy. The amortization period is subject to a lot of subjectivity in the determination of it. However it is difficult for outsiders to judge if the period is determined properly. Earnings management can be practiced by extending or reducing the period. Another policy managers have discretion in is the depreciation policy. The following questions are formulated for these two policies.

5. Is there any extension or reduction of amortization period in the past?
6. What is the depreciation policy of the company?

The first question described above is to view if any changes were made in the amortization period. Changes could indicate that earnings management is performed. Therefore an extended amortization period will be dealt with as an income-increasing way of earnings management. A reduction otherwise is an income-decreasing policy.

Depreciation methods can be chosen from three methods. In the model the three methods will be categorized under income-increasing or income-decreasing. The diminishing balance method will be considered as income-increasing policy. This is because the expenses are declining in the course of the years. The units of production method will be a neutral policy because depreciation is expensed when the benefits are consumed. For the straight-line method it is hard to determine if this is an income-increasing policy. Therefore the method will be considered income-increasing for industries that experiences rapid technological changes. The reason for this is that these industries most of the time experience price deflations. It will be more appropriate to choose a more accelerated depreciation method. If the company depreciates in two years this will be considered as an accelerated deprecation method. The straight-line method used by companies in other industries will be considered as neutral.

§ 4.3.3 Misreported assets and liabilities

Cost formula policy

In the research done by Neill et al. (1995) the cost formula policy was researched. This is also taken into account in this research. Like them the following question will be addressed.

7. What is the cost formula policy of the company?

There are three possibilities addressed in the regulation for cost formulas. These are FIFO, LIFO and average cost. In the research done by Neill et al. (1995) LIFO is considered as income-decreasing policy. All other policies are income-increasing policies. However LIFO is not allowed anymore in the current regulation. Nevertheless this research considers the LIFO method as an option. This method is used because the sample dates from the period before the effective date of the regulation. Therefore the LIFO method will be viewed as an income-decreasing policy. All other cost formulas will be considered as income-increasing. This is under the assumption that the costs are rising.

Valuation policy

The policy of the valuation of the financial statement is also an important point that can indicate earnings management. The method can be chosen from two valuation methods. The policy can also be an income-increasing one. However most of the time users will look through this. The valuation of assets can influence the income. If the assets are valued at current cost the depreciation costs will be higher. This way the income will be reduced. The solvability on the other hand is getting better. The purpose of this research is to detect earnings management for income. Therefore current cost will be considered as income-decreasing policy. The opposite from this policy is the historical cost price. This will be considered as income-increasing. All other policies that will be noticed are defined as income-decreasing policies, because these also will have higher depreciation costs. This gives the following question for the research design.

8. What is the valuation policy of the company?

§ 4.3.4 Creativity with the income statement

Performance indicators

The non-GAAP performance indicators are also measured in the model. There is assumed that these numbers are developed to influence the users of the financial statements. Therefore the annual report is viewed to analyse how many performance indicators are found. The more performance indicators a company uses the more is assumed that this company is performing earnings management.

9. Does the company have more than 1 performance indicators?
10. Is the measure EBITDA an adjusted EBITDA?

The first question is formulated to discover how many non-GAAP indicators a company uses. If a company uses more than one indicator it will be considered as aggressive earnings management. If the company does not have more than 1 indicator the information will be considered as neutral. The reason for choosing one indicator as measure is that most of the times EBITDA is assumed to be present in the financial statements. Therefore it is “allowed” to have this indicator if it is not adjusted. The second question covers these adjustments. If the EBITDA is adjusted this will be considered as income-increasing policy. Companies that change the definition of EBITDA will be considered as income-increasing policy. In the case that EBITDA is not adjusted this information will be neutral.

§ 4.3.5 Miscellaneous

Next to the policies described above a last category will be added that seizes eye-catching items in the financial statements that could indicate earnings management. It is possible that certain items are not discussed among the other five categories. This category will notice any eye-catching items that indicate income-increasing policies. Furthermore this category will review the remarks earlier made. If the remarks are important it can also be viewed as income-increasing or income-decreasing policies.

§ 4.4 The Classification

In this paragraph the final classification will be done for the different sort of policies. As described above each policy will be labelled under income-increasing, income-neutral or income-decreasing. However a fourth category will be added. If a certain policy is not applicable to a company or does not have any disclosure it will be omitted from the research. A question that can not be answered will also be omitted. The reason for adding this category is that not all companies from the sample are in the same industry. Each industry has its own characteristics and therefore will have other policies applied. Also it is not possible to answer all questions for each company, because not all companies disclose the required information.

Policies that are available in the financial statements will get a number assigned to its policy. The numbers that can be assigned are +1, 0, and -1. Income-increasing policies will be assigned with +1 and the income-decreasing policies with -1. Policies that are neutral will have the number 0. This information will be put in a table.

After gathering this information manually it is needed to determine which of the companies perform conservative or aggressive earnings management. Aggressive earnings management implies that a company uses many income-increasing accounting policies. Conservative earnings management is the opposite of it and therefore uses many income-decreasing policies.
First the sum of all the policies will be calculated. If information is not available it will not be added to the sum. Here an example is given for determination of the sum. Each column is associated with a question about a specific accounting policy.[12]

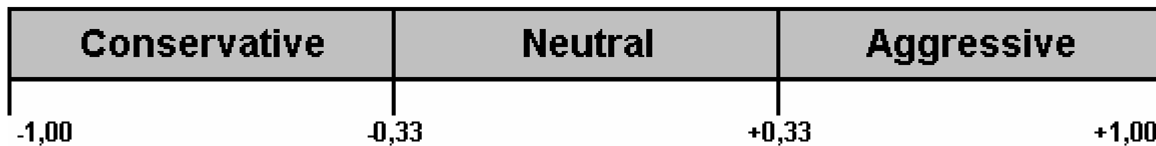
Company A	1	2	3	4	5	6	7	8	9	10	11
	+1	+1	0	-1	X	X	+1	+1	-1	+1	+3

In this case Company A has +3 as sum for the first 10 questions. This sum will be determined for each company. However this number does not indicate if a company performs aggressive or

[12] The short list of the questions can be found in Annex II

conservative earnings management. This number is divided by the sum of used policies. In our example the total used policies are (10-2). The two questions that could not be answered marked by an X are subtracted from the total defined questions. This indicates that the company will have a ratio of +3/8. The interpretation will be discussed below. First the last cell in the table is discussed. The last cell can contain a number greater than 1 and smaller than -1. This cell is the reference to the last topic miscellaneous. If a company has three income-increasing policies this will be noted as +3. However three will be added to the numerator and the denominator. The numerator will be (3+3) and the denominator will be (8+3). This makes the ratio 6/11.

After determination of the ratio a final categorization will be made among the three categories. The ratio can not exceed +1 or -1, because the numerator never can be bigger as the denominator. Therefore a scale is made with -1 and +1 as limits. This scale is divided into three categories. Each category has a span of 0,66. The scale is chosen this way because in this way each category will be treated fairly and is less subjectively.



Company A has a ratio of 0,54 and will be categorized in the aggressive earnings management category. This is also done for all companies.

After the categorization of the companies analysis begins. This analysis will start with determining how many of the companies that went public performed aggressive accounting. Subsequently the following ratio will be calculated.

$$R_{EM} = \frac{\sum Companies_{EM}}{\sum Companies_{ALL}}$$

$Companies_{EM}$ stand for the total companies that performed aggressive earnings management before going public. $Companies_{ALL}$ stand for the total amount of companies that were measured. This is equal to the total sample, 33.

For accepting the hypothesis two criteria need to be fulfilled.

1. The ratio R_{EM} is equal or greater than 0,55
2. The mean of the companies ratios has to be greater than 0,33.

The first criterion is chosen because more than the half of the sample must use aggressive accounting policies. The second is the average of all calculated ratios. Therefore for this mean we can look at the scale from -1 to 1 to categorize it.
After complying with these criteria we can conclude that companies choose their accounting policies opportunistically before going public.

The next question will be which accounting choices are made by these companies that perform aggressive accounting practices. Therefore an analysis is done which accounting policies are practiced most at companies that perform aggressive accounting practices. This analysis will try to detect patterns of accounting choices around IPO companies. This means that this analysis will be performed regardless of the answer on the hypothesis.

Subsequently separate sectors within the sample will be analysed for aggressive accounting practices. The reason for this is that it may be that only a kind of sector performs aggressive accounting practices. This is also done with the help of ratios. Only the sectors Software and Computer Services and Support Services will be analysed. The other sectors do not have enough companies that went public.

§ 4.5 Summary

In this chapter the research design is discussed. Several questions are formulated to use for the final research. These questions are formulated to determine which accounting choices a manager has made. For each question the possible choices are discussed and categorized. An accounting choice can be categorized as income-decreasing, neutral or income-increasing. This categorization is respectively done with the numbers -1, 0 or +1. After the determination of the categories of the accounting choices for each company a ratio is calculated. This ratio can be classified on a scale from -1 to 1. If a company has a ratio higher or equal to 0,33 it will be

classified as a company that uses aggressive earnings management. Companies that have a ratio of -0,33 are classified as conservative companies. The remainder will be considered as neutral companies.

This chapter also discusses how the gathered information is analysed. For the main research question two criteria are developed. The first is that more than 55% percent of the companies use aggressive accounting policies. The second is that the mean ratio of all companies is higher or equal to 0,33. After this there is discussed what other analyses is done with the gathered information. Each question from the research design is examined for patterns and two sectors in the sample are separately researched.

Chapter 5: The Empirical Research

In this chapter the results from the empirical research will be discussed. First the gathered data will be discussed and the discovered exceptions for certain companies. The results of question eleven will be discussed separately. After this discussion the data will be analysed.

§ 5.1 Gathering of data

The gathering of the data for questions one to ten was not exceptional. However certain accounting policies were difficult to find or were not found. Before beginning the research it was expected that not every question could be answered for every single company. A reason for this could be that companies perform in a different kind of industry. Naturally it is also possible that some accounting policies are not applicable for a company. A company that does not produce software is not obligated to disclose information about a software recognition policy.

For the questions 1 to 10 the following data is gathered. The cells that are empty mean that there was not found any significant information to answer this question. However cells that are empty are not included for the calculation of the degree of earnings management. The full table of gathered information is disclosed in Annex III.

Company/Question n°	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***
Spyker Cars	0	0	1			0		1	0	
Priority Telecom	0					1		1	0	0
Euronext	0	0		1		0		1	0	
Lycos Europe	0	1		-1		1		1	0	
Worldonline	0	1		-1		1		1	0	
SNT Group	0	1				1		1	0	0
TIE Holding	0	1		1		1	1	1	0	0
Prolion Holding	0	1	1			0		1	0	
DOCdata	0	1				1	1	1	0	
BE Semiconductor Industries	1	1	-1			1	1	1	0	
Arcadis	0	1		1		0		1	0	
Airspray	0	1				1		1	0	
Pharming	0	1	-1			0		1	0	
DPA Holding	0	1				0		1	0	1
Devote	0	1	-1			1		1	0	0

Seagull	0	0	-1			1		1	0	1
Copaco	0	1				1		1	0	
Magnus	0	0				1		1	0	
Ctac	0	1				1		1	0	
PinkRoccade	0	0				1		1	0	
Scala Business Solutions	0	1		1		1		1	0	1
Cardio Control	0	1		1		1		1	0	
HITT	1	1	-1			1		1	0	
TNT	0	0	-1			0	1	1	0	1
Ajax	0	0				0	1	1	0	1
InnoConcepts	0	0	1			0		1	0	
AXA Stenman Industries	0	0				0		1	0	
De Vries Robbé Groep	0	1				0	1	-1	0	
Unit 4 Agresso	0	1		-1		0		1	1	1
UCC Groep	0	0				1		1	0	
Brill	0	1				1		1	0	
Brunel International	0	0				0		1	0	
ICT Automatisering	0	1				1		1	1	1

From the total number of cells 60% contains information about the annual report. However in the table, question five does not contain any information. During the empirical research no evidence was found that amortization periods were extended. If question 5 is left out of the calculation the proportion increases with 7% to 67%. Below a table is given with the individual proportions of each question.

	1	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***Total***
Empty	0	1	24	25	33	0	27	0	0	22	132
Filled	33	32	9	8	0	33	6	33	33	11	198
Total	33	33	33	33	33	33	33	33	33	33	330
Percentage	100%	97%	27%	24%	0%	100%	18%	100%	100%	33%	60%

In several cases the prospectus did not provide enough information to answer the question. To answer question 2 financial information of the last three years was required. However this information was not always provided. Therefore annual reports from years before the IPO were used to gather this information. There was one exception in the gathering of information for question 2. This was the company Priority Telecom. This company began their operational activities in 2000. Therefore the A/D ratio could not be calculated.

In the case other questions could not be answered former annual reports were reviewed. The information found in the annual reports most of the time was straightforward. Some examples are given to illustrate how information from the annual reports was gathered.
In the case of question 1, the revenue recognition policy from company HITT is given. The following accounting policy is given in the company's annual report.

"The company recognizes net sales from contracts, which are completed within 12 months, when goods and services are shipped and invoiced."

This policy will be considered income-increasing. In the research design there is assumed that recognizing revenue before the delivery is a policy to increase the earnings. Therefore in the table a 1 is justified.

Another example for an accounting policy is the cost capitalization policy. The company Unit4 Agresso used an income-decreasing policy. The company expensed all costs directly to the income statement.

"Research and development expenses are not capitalised, but charged against the profit and loss account in the year they are incurred."

The last question of the research had some different answers among the different companies. However some answers were particular recurring. There were companies that expensed the acquired goodwill directly to the company's equity. This is considered as an income-increasing policy, because the income will not be affected negatively in the current or future years. The following citation is collected from the annual report of TIE Holding. This is one of the five companies that used this accounting policy.

"This represents the excess of the purchase price and related costs over the value assigned to the net assets of businesses acquired. Goodwill is written off to shareholders' equity at the date of acquisition."

Another item that occurred with question 11 is that there was a change in accounting policy. Also the company TIE Holding made an accounting policy change. The company changed from a cost expensing policy to a cost capitalization policy.

"Up to and including 1998, al1 costs for the development, research and design of computer software were taken to the profit and loss account when incurred. In previous years only costs for computer software developed for internal use were capitalised as intangible fixed assets."

These examples above are a little fraction of all viewed accounting policies. In Annex IV the table is available with all the notes that describe the policies found on question eleven.

§ 5.2 The analysis

After the discussion how data is gathered the analysis will be discussed. First an analysis is made for each of the first ten questions. This table illustrates per accounting policy which choices were made before going public.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Filled	33	32	9	8	0	33	6	33	33	11
Aggresive	2	21	3	5	0	20	6	32	2	7
	6.06%	65.63%	33.33%	62.50%	-	60.61%	100.00%	96.97%	6.06%	63.64%

Question 1 illustrates that not much companies use income-increasing revenue recognition policies. Two of the total 33 companies used an income-increasing policy. An explanation for this low use of income-increasing revenue recognition could be that revenue is an eye-catching item in the annual report. The users of the annual report give more attention to this item, because it is one of the most important performance indicators of a company. It is also possible that regulation makes it more difficult for companies to use aggressive revenue recognition.

Another notable question is question 2, because this percentage is really high. In advance it was not expected that companies use fictitious revenue in such extent. Almost 66 percent of all research companies showed a collectibility period of longer than three months or there was a

significant positive change (15%) in the years before. However there should be considered that the model that is elaborated is based on measures from Mulford and Comiskey (2002). The measure does not have to be correct. Therefore the 66 percent could have variance.

Question 3 and 4 do not differ a lot in question. However there are some different results. The companies that did not produce software but had research and development costs are subjected to question 3. From the nine companies only three used an aggressive accounting policy. On the other hand question four had a percentage of 62,5% that capitalized software development costs. The difference can be the result of the more strict regulation among software development costs. Capitalization of software development costs is obligated if technical feasibility is reached.

The next question is about the depreciation method the companies used. If a company was in a technological environment, the linear depreciation method was considered as income-increasing policy. The sectors that were considered as a technological environment were Software & Computer Services, Information Technology Hardware, Telecommunication Services, and Media & Photography. Twenty of all the companies used a depreciation method that was income increasing. Most of these companies are active in one of the four technological industries. In Annex V there are graphics disclosed with a specification of the depreciation policy in sectors. Only one company from the technological sector depreciated 50% per year.

Question 7 also has a high percentage of income-increasing policies. Only for six companies there was noticed a cost formula policy. All companies used the FIFO method for their inventory. Another high percentage was the valuation method of the companies. All companies applied historical cost price for the valuation of their assets. However there was one company that used fair value.

Question 10 has some interesting results because from all 33 companies there was only gathered information for eleven companies. There can be concluded that not much companies use the performance indicator EBITDA. However most of the companies that did use the indicator for their annual report adjusted it. Another remark is that not much companies use more than one

performance indicator in their annual report. Only 6 percent of all companies used more than one indicator.

After the analysis of the questions the analysis of the ratios is discussed. This analysis is important for the research question. The ratios are disclosed in Annex III together with the data of the questions. The ratio can be categorized in one of the three categories. These are conservative, neutral and aggressive. After the calculation of the ratios the following table can be set up.

0	Conservative
8	Neutral
25	Aggressive
33	Sample

Followed from this table we can conclude that no companies were categorized under conservative. This information can be interpreted that no companies used income-decreasing policies before going public. Conversely almost 76% from the total sample used income-increasing policies.

Next a descriptive analysis is made from all the ratios of the table. The following information is the summary of statistics gathered from Excel.

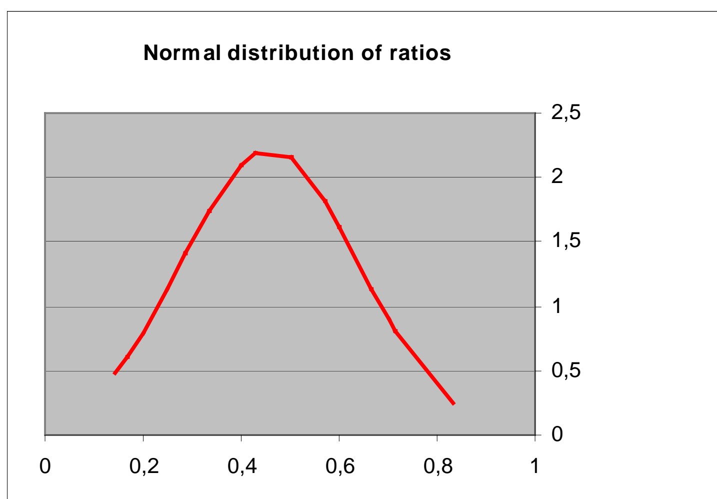
Ratio Analysis	
Mean	0,457792208
Standard Error	0,031360952
Median	0,5
Mode	0,5
Standard Deviation	0,180154956
Sample Variance	0,032455808
Kurtosis	-0,753697824
Skewness	0,016732052
Range	0,69047619
Minimum	0,142857143
Maximum	0,833333333
Sum	15,10714286
Count	33

The mean indicates that the average ratio of all companies is higher than 0,33. This signifies that companies use aggressive earnings management before going public. However there must be take notice of the high standard deviation. The standard deviation indicates that the average variability of the ratios is 0,18.

This standard deviation can be the consequence of the use of a small sample. If the sample was larger, the average amount of variability could be lower. However in the researched period not a lot of Dutch companies went public.

Another measure of variability is the range of the sample. The most aggressive company had a ratio of 0,833 and the most conservative of the sample had a ratio of 0,143. Following from this information the exclusive range of the data is 0,69.

Other items that are eye-catching from the table are the mode and the median. The mode and the median do have the same value. The mode indicates the ratio that is most frequent in the sample and the median is the midpoint of it. The mode and the median do not deviate much from the mean. This could indicate that the set of ratios are distributed normally. After analyzing the data the following curve could be established.



The curve indicates that the ratios are almost normally distributed. However through the difference between the median and the mean the curve is skewed a little. Skewness is the lack of symmetry in a curve. The graph is negatively skewed, because the median is greater than the mean. This means that the distribution has a shorter right tail than the left. The number of high ratios is larger than ratios with low ratios. However the skewness is minimal in this distribution and therefore do not have an impact on the distribution. In Annex VI the above distribution is set out against the normal distribution without skewness.

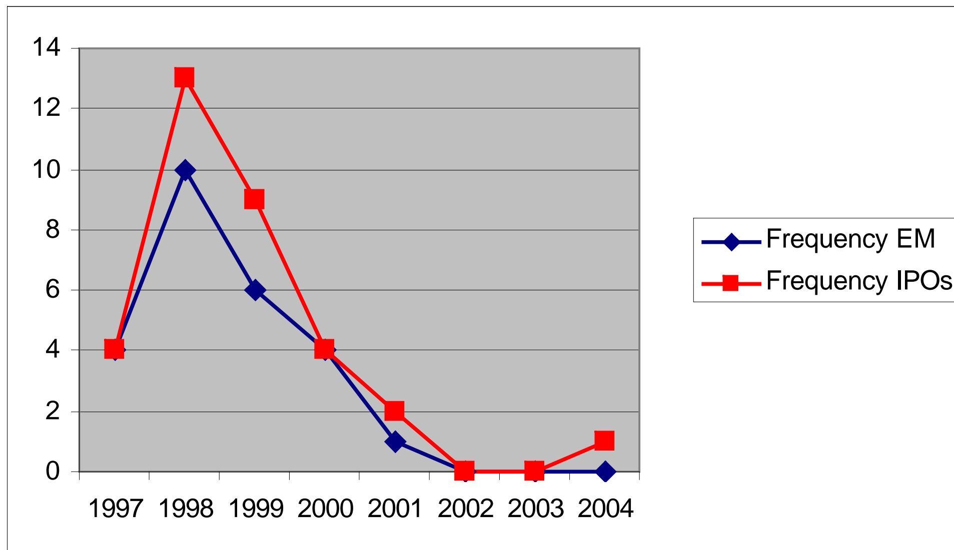
The kurtosis is also a measure to compare different distributions. This measure is negatively and therefore the distribution is termed platykurtic. This signifies that the distribution is flat comparing to a distribution that is normal. In Annex VI the real distribution of the ratios is flatter as the normal distribution curve. The explanation for this difference is the kurtosis.

The last item from the table is the standard error of the mean. The standard error tells how closely the sample mean estimates the population mean. This error is low for the distribution. It means that the sample mean does not differ a lot from the population mean. The standard error states with 95% confidence that the population mean is between 0,395 and 0,521.

After this analysis of the ratios we carefully could state that companies before going public use aggressive accounting policies. Items that strengthen this conclusion are the mean of the ratios, the high percentage of companies that used aggressive accounting policies and the low standard error. However the results of the ratios are dependent of the developed model. The developed model is a way of measuring earnings management. This indicates that the results have to be interpreted carefully, because the assumptions for measuring do not have to be correct.

Another reason for carefully interpreting the results is because the accounting policies are normal choices a manager can make. These accounting policies can be chosen by any company. It is possible that use of aggressive accounting policies also can be discovered at non-IPO firms. Therefore further research has to be done among non-IPO companies with the same developed model. This way the results could be compared and concluded that the ratio of IPO companies is higher as non-IPO companies.

After the discussion of the analysis of the ratios there is discussed whether the number of companies with aggressive accounting policies increases or decreases. In the course of the years the number of companies that went public declined. The following picture set out the number of companies that went public and used aggressive accounting policies.



The number of companies that use aggressive accounting policies declines. However the reason for this decline is the result of less IPOs. For the clarity of the information in Annex VII two histograms are disclosed with the number of IPOs for each year and the number of companies that used aggressive accounting policies.

If the same analysis is done for the sectors Software & Computer Services and Support Services the following interesting numbers are calculated. The full tables are disclosed in Annex VIII.

Software Industry		***Support Services***	
Mean	0,527838828	Mean	0,383333333
Standard Error	0,048025876	Standard Error	0,05
Standard Deviation	0,173159757	Standard Deviation	0,111803399
Minimum	0,285714286	Minimum	0,25
Maximum	0,833333333	Maximum	0,5
Count	13	Count	5
Percentage Aggressive	0,846153846	Percentage Aggressive	0,8

Eleven of the thirteen companies from the first called sector used aggressive accounting policies. This is almost 85 percent of the total sector. The mean of the sector is seven percent higher as the mean of the total sample. We can carefully conclude that the sector Software and Computer Services has a great weight in the mean of the total sample. Thirteen of the total twenty-five companies, that used aggressive accounting policies, were in this sector. Again the standard deviation is high for the analysis of the ratios. Furthermore the standard error is high and this could indicate that the population mean differs from the calculated sample mean. The population mean is between the ratio of 0,431 and 0,623. From this information we can carefully conclude that companies in the sector Software & Computer Services use aggressive accounting policies.

The second sector that could be analysed is the sector Support Services. However there were only five companies that could be measured. The table above states that four of the five companies in this industry used aggressive accounting policies with a mean ratio of 0,38. The standard deviation in this sample is relative to the other sector very low. This could be explained by looking at the minimum and maximum of the sample. However the standard error is very high for the sector Support Services, because the total measured companies in this sector was low. This indicates that the mean of the sample do differ a lot of the population mean. There could be stated with 95% significance that the population mean is between 0,283 and 0,483. The population mean of the sector Support service could be lower as 0,333 and therefore no conclusions could be made for this sector.

There should be considered that these samples are small. It is recommended that in the future further research will be done. This way it is possible to come to better conclusions.

§ 5.3 Summary

The results from the individual questions had some interesting results. The results from question 2 deliver evidence that companies use fictitious revenue in the years before going public. The percentage of this question is 66% and therefore can not be ignored. Also the difference in capitalization policies is great. Companies that develop software use more aggressive

capitalization policies than companies that develop other products. The difference can be the more obligatory regulation among software developers.

The deprecation method also was frequently used as an aggressively accounting policy. Most of the companies that used this method aggressively were in a technological environment.

Question 7 and 8 had a high percentage of income-increasing policies. All the companies used the cost formula policy FIFO and almost all companies used historical cost price for the valuation of assets. Another favourite policy is to change the performance indicator EBITDA slightly. However the companies did not use the indicator much.

Concluded I could state that the above-described policies are used frequently to influence the financial statements. The policies that were not mentioned are not used much for aggressive accounting.

The ratio analysis described a mean of almost 0,46. Furthermore the standard error of the sample is low. With this standard error I can conclude that the population mean, does not differ a lot of the sample mean. The population mean is between 0,395 and 0,521. This indicates that the population mean at all times is higher as the lower boundary of 0,333. Another indicator for proof of the hypothesis is the percentage of companies that used aggressive accounting policies in the sample. This percentage is almost 76% of the total sample. Another result that originates from the analysis is that the distribution of the sample is normal. The distribution of the sample does not differ much from a distribution that is 100% normal. The distribution of the sample has little kurtosis and skewness. This could indicate that the sample of thirty-three companies has been enough for the research. From this I could carefully state that companies use aggressive accounting policies before going public. However further research is recommend with the developed model. This way results could be compared and concluded with more certainty that IPO companies use aggressive accounting policies before going public.

Other results from the analysis are that the sector Software & Computer Services has a big weight in the determination of the ratio. The mean ratio of this sector is higher as the mean ratio

of the total sample. This sector therefore has a great impact on the total sample. From the analysis I could conclude that the sector Software & Computer Services uses aggressive accounting policies before going public. However the sample of this sector was relatively small and therefore the conclusion should be taken considerate.

For the other sector Support Services there also was a detection of aggressive accounting policies. However the sample of this sector is too small to make any statements. The standard error of the sample is too large and therefore the population mean can differ a lot from the sample mean calculated for this sector.

Chapter 6: Conclusions

Going public is one of the most important events for a company. A company issues for the first time shares that become publicly available. However managers that already know for a long time that they want to go public can manage their earnings. This can be done years before the initial public offerings. This can be done because managers have discretion in choosing accounting policies. Therefore the following research question is formulated.

Do managers opportunistically use discretion in their accounting policies before going public?

The earlier research done around initial public offerings were performed in different ways. The big difference between the researches was the time of measurement and the research method. A lot of the research took the time before going public as the point of measurement. However there were also explorations in the year of the IPO or after that. Aggregate accrual models were the most favourite method of measuring discretionary accruals. However several other methods were available and performed.

For this research the method "accounting choice" is used for measuring aggressive forms of earnings management. It avoids the mathematical models and the deriving of proxies for discretionary accruals that are necessarily for accrual models. The method views and categorizes accounting choices under aggressive or conservative accounting practices.

A manager can have different motives for using aggressive accounting policies. Reasons for performing earnings management is the decline of volatility of earnings, price-stock increase and meet the forecasts of analysts.

The accounting choices made by managers arise from the accountancy regulation. The regulation is the boundary for managers to choose accounting policies. Earnings management can take place with violating the regulation, but it also can take place without violating it. The regulation gives a good overview of possible accounting choices a manager has.

For the research a model was set up. This model discusses which accounting choices are paid attention to during the research. For each accounting choice criteria is developed to categorize each choice as income-increasing, neutral or as income-decreasing. This categorization is done with numbers. This way for each company a ratio could be calculated. This ratio indicates whether the company is conservative, neutral or aggressive in the use of accounting policies.

For this ratio a scale is made from -1 to 1. A company that is between 0,33 and 1 will be considered as a company that uses accounting policies aggressively.

For accepting the developed hypothesis two criteria need to be fulfilled.

1. More than 55% of the companies use accounting policies aggressively
2. The mean of the companies ratios has to be greater than 0,33.

The first criterion is chosen because more than the half of the sample must use aggressive accounting policies. The second is the average of all calculated ratios.

Next to the main research question an analysis is done which accounting policies are practiced most at companies that go public. This analysis will try to detect patterns of accounting choices around IPO companies. Also separate sectors in the sample will be analysed for aggressive accounting practices.

The research is finally done with the sample of 33 companies that went public on the Euronext Amsterdam in the period between 1-1-1997 and 31-12-2004. The financial statement data before the IPO was collected from the prospectus.

Conclusions that could be made from the research are that certain policies are used frequently to influence the financial statements. Among these accounting choices were the capitalization of costs, fictitious revenue and the depreciation method. Another statement that could be made carefully after the research is:

Companies use aggressive accounting policies before going public

The ratio analysis done in the research describes a mean of almost 0,46. Furthermore the standard error of the sample is low. With this standard error I can conclude that the population mean, does not differ a lot of the sample mean. The population mean is between 0,395 and 0,521. This indicates that the population mean at all times is higher as the lower boundary of 0,333. Another indicator for proof of the hypothesis is the percentage of companies that used aggressive accounting policies in the sample. This percentage is almost 76% of the total sample. However the results should be interpreted carefully because the ratios are based on a model. The developed model is a way of measuring earnings management. This indicates that the results have to be interpreted carefully, because the assumptions for measuring do not have to be correct.

The results need to be interpreted carefully because the accounting policies are normal choices a manager can make. These policies can be chosen by any company. It is possible that use of aggressive accounting policies also can be discovered at non-IPO firms. Therefore further research has to be done among non-IPO companies with the same developed model. This way the results could be compared and concluded with more certainty that the ratio of IPO companies is higher as non-IPO companies.

Other results from the analysis are that the sector Software & Computer Services uses aggressive accounting policies before going public. However the sample of this sector was relatively small and therefore the conclusion should be taken considerate.

For the other sector Support Services there also was a detection of aggressive accounting policies. However the sample of this sector is too small to make any statements. The standard error of the sample is too large and therefore the population mean can differ a lot from the sample mean calculated for this sector.

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www.pwccomperio.com (Regulation)

Appendix

ANNEX I

Date	Company	Sector
27-05-2004	Spyker Cars	Automobiles
26-09-2001	Priority Telecom	Telecommunication Services
20-06-2001	Euronext	Speciality & Other Finance
20-03-2000	Lycos Europe	Support Services
17-03-2000	Worldonline	Software & Computer Services
03-03-2000	SNT Group	Telecommunication Services
22-02-2000	TIE Holding	Software & Computer Services
23-06-1999	Prolion Holding	Engineering & Machinery
23-06-1999	DOCdata	Media & Photography
23-06-1999	BE Semiconductor Industries	Information Technology Hardware
23-06-1999	Arcadis	Construction & Building Materials
23-06-1999	Airspray	Personal Care & Household Products
07-06-1999	Pharming	Pharmaceuticals
22-03-1999	DPA Holding	Support Services
23-02-1999	Devote	Software & Computer Services
19-01-1999	Seagull	Software & Computer Services
02-12-1998	Copaco	Software & Computer Services
19-11-1998	Magnus	Software & Computer Services
03-11-1998	Ctac	Software & Computer Services
27-08-1998	PinkRoccade	Software & Computer Services
07-07-1998	Scala Business Solutions	Software & Computer Services
17-06-1998	Cardio Control	Health
29-05-1998	HITT	Software & Computer Services
26-05-1998	TNT	Support Services
05-05-1998	Ajax	Leisure & Entertainment & Hotels
20-04-1998	InnoConcepts	Support Services
19-03-1998	AXA Stenman Industries	Construction & Building Materials
18-03-1998	De Vries Robbé Groep	Engineering & Machinery
16-02-1998	Unit 4 Agresso	Software & Computer Services
01-09-1997	UCC Groep	Software & Computer Services
25-07-1997	Brill	Media & Photography
18-06-1997	Brunel International	Support Services
17-06-1997	ICT Automatisering	Software & Computer Services

ANNEX II

1. What is the company's revenue recognition policy?
2. Are there signs of overstated accounts receivable that might be used to offset premature or fictitious revenue?
3. What are the company's policies with respect to cost capitalization?
4. What are the policies for capitalization of software developments costs?
5. Is there any extension or reduction of amortization period in the past?
6. What is the depreciation policy of the company?
7. What is the cost formula policy of the company?
8. What is the valuation policy of the company?
9. Does the company have more than 1 performance indicators?
10. Is the measure EBITDA an adjusted EBITDA?
11. Are there any other remarks to the annual report?

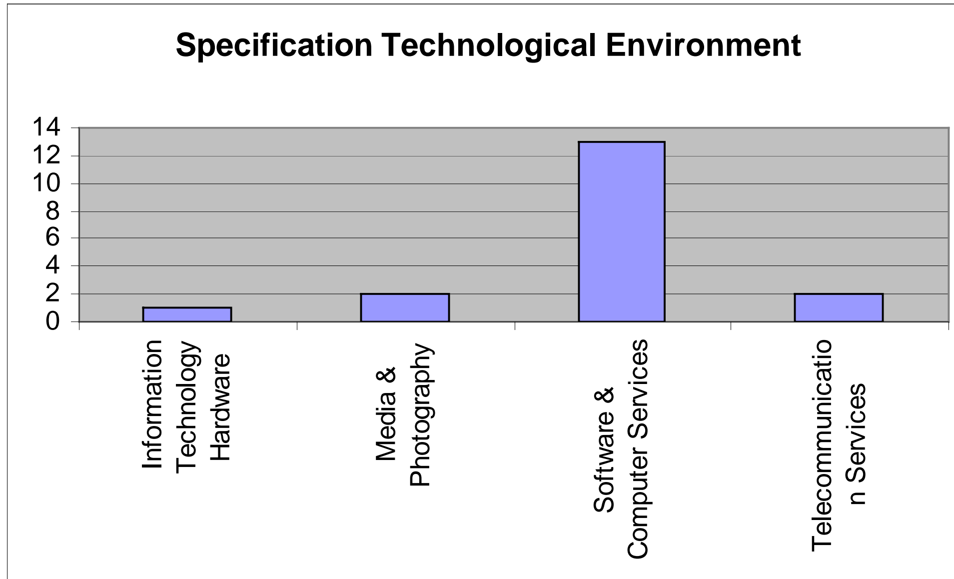
ANNEX III

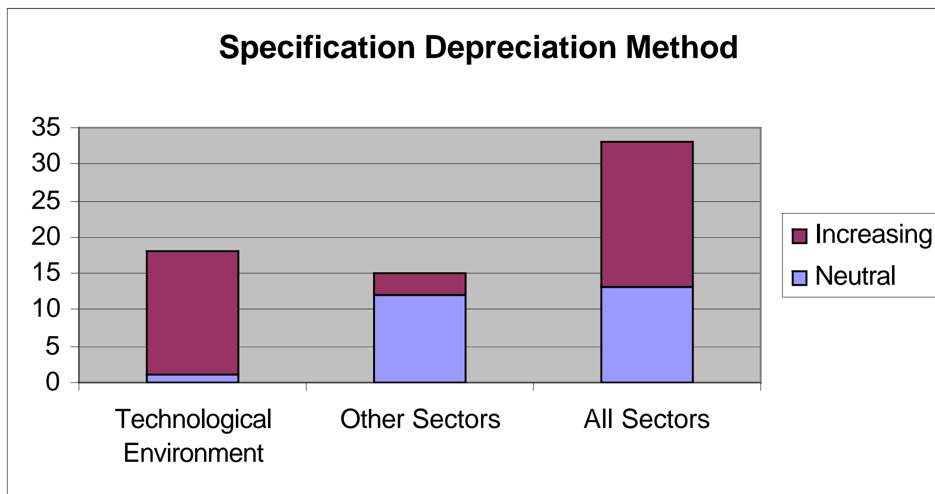
Year	Company/Question n°	1	2	3	4	5	6	7	8	9	10	11	Sum	Total	Ratio
27-05-2004	Spyker Cars	0	0	1			0		1	0		-1	1	7	0,143
26-09-2001	Priority Telecom	0					1		1	0	0	-1	1	6	0,167
20-06-2001	Euronext	0	0		1		0		1	0			2	6	0,333
20-03-2000	Lycos Europe	0	1		-1		1		1	0			2	6	0,333
03-03-2000	Worldonline	0	1		-1		1		1	0		1	3	7	0,429
22-02-2000	SNT Group	0	1				1		1	0	0		3	6	0,500
17-03-2000	TIE Holding	0	1		1		1	1	1	0	0	2	7	10	0,700
23-06-1999	Prolion Holding	0	1	1			0		1	0			3	6	0,500
23-06-1999	DOCdata	0	1				1	1	1	0			4	6	0,667
23-06-1999	BE Semiconductor Industries	1	1	-1			1	1	1	0			4	7	0,571
23-06-1999	Arcadis	0	1		1		0		1	0		1	4	7	0,571
23-06-1999	Airspray	0	1				1		1	0			3	5	0,600
07-06-1999	Pharming	0	1	-1			0		1	0		1	2	7	0,286
22-03-1999	DPA Holding	0	1				0		1	0	1		3	6	0,500
23-02-1999	Devote	0	1	-1			1		1	0	0		2	7	0,286
19-01-1999	Seagull	0	0	-1			1		1	0	1		2	7	0,286
02-12-1998	Copaco	0	1				1		1	0		2	5	7	0,714
19-11-1998	Magnus	0	0				1		1	0			2	5	0,400
03-11-1998	Ctac	0	1				1		1	0			3	5	0,600
27-08-1998	PinkRoccade	0	0				1		1	0		1	3	6	0,500
07-07-1998	Scala Business Solutions	0	1		1		1		1	0	1		5	7	0,714
17-06-1998	Cardio Control	0	1		1		1		1	0			4	6	0,667
29-05-1998	HITT	1	1	-1			1		1	0			3	6	0,500
26-05-1998	TNT	0	0	-1			0	1	1	0	1		2	8	0,250
05-05-1998	Ajax	0	0				0	1	1	0	1		3	7	0,429
20-04-1998	InnoConcepts	0	0	1			0		1	0			2	6	0,333
19-03-1998	AXA Stenman Industries	0	0				0		1	0			1	5	0,200
18-03-1998	De Vries Robbé Groep	0	1				0	1	-1	0			1	6	0,167
16-02-1998	Unit 4 Agresso	0	1		-1		0		1	1	1		3	7	0,429
01-09-1997	UCC Groep	0	0				1		1	0			2	5	0,400
25-07-1997	Brill	0	1				1		1	0			3	5	0,600
18-06-1997	Brunel International	0	0				0		1	0		3	4	8	0,500
17-06-1997	ICT Automatisering	0	1				1		1	1	1		5	6	0,833

ANNEX IV

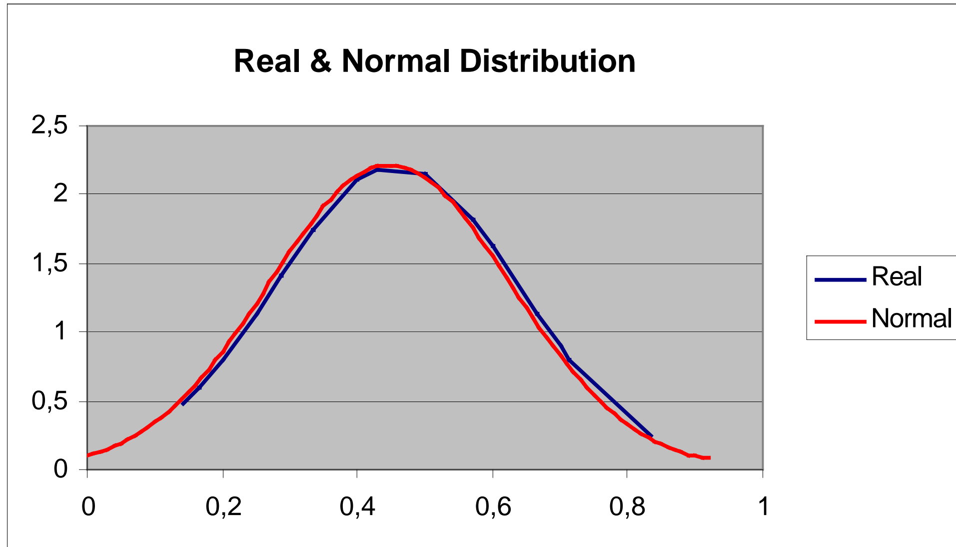
Company	Notes
Spyker Cars	The years before going public there were great losses
Priority Telecom	Impairment applied of 300000 euro 2 months before going public
Worldonline	Product sales are recognized on shipment, other revenue recognition is properly done
SNT Group	declining depriciation rates
TIE Holding	policy change from expensing to capitalization
	Goodwill is written off to shareholders' equity
Arcadis	Goodwill is written off to shareholders' equity
Pharming	Goodwill is written off to shareholders' equity
DPA Holding	EBIT available, but adjusted
Seagull	EBIT available, but adjusted
Copaco	Goodwill is written off to shareholders' equity
	Previous years adjusted because goodwill is written of equity
Brunel International	Goodwill is written off to shareholders' equity
	Previous years adjusted because goodwill is written of equity
	Policy change of foreign currency translation. No disclosure of the impact.

ANNEX V

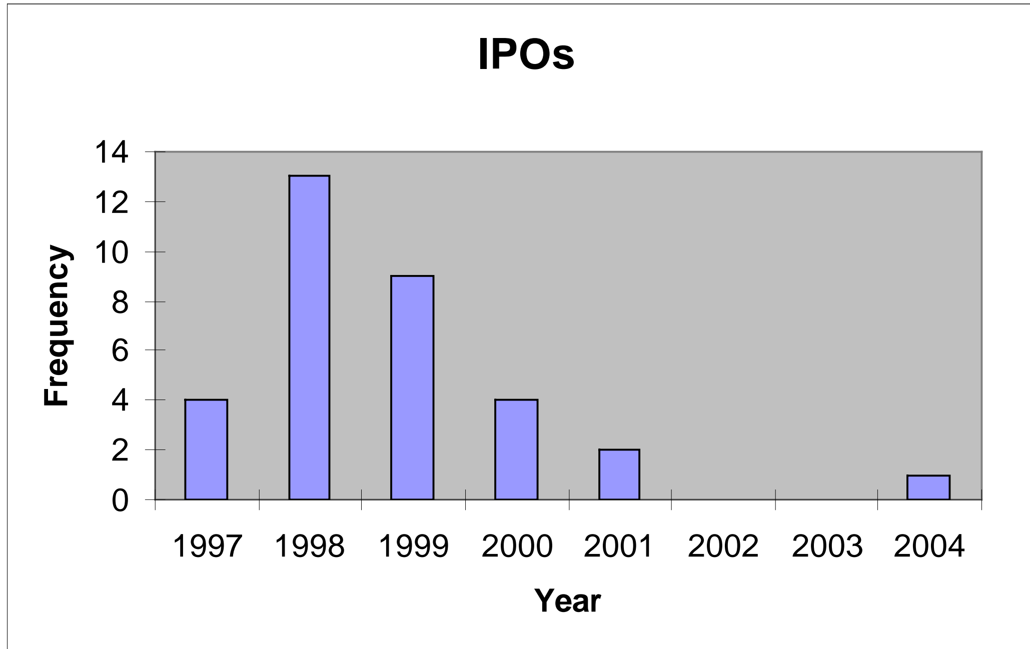


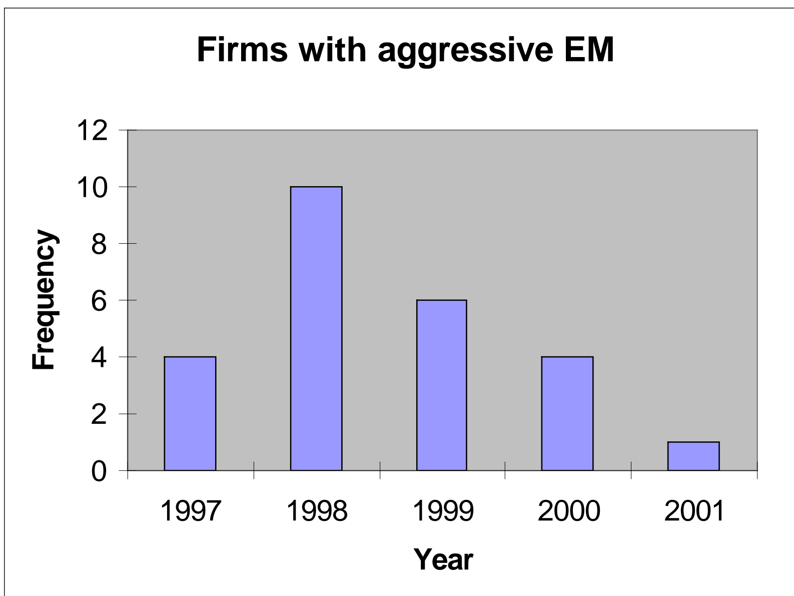


ANNEX VI



ANNEX VII





ANNEX VIII

Software Industry		*Support Services*	
Mean	0,527838828	Mean	0,383333333
Standard Error	0,048025876	Standard Error	0,05
Median	0,5	Median	0,333333333
Mode	0,5	Mode	0,333333333
Standard Deviation	0,173159757	Standard Deviation	0,111803399
Sample Variance	0,029984301	Sample Variance	0,0125
Kurtosis	-0,930778563	Kurtosis	-2,407407407
Skewness	0,253073761	Skewness	0,165634665
Range	0,547619048	Range	0,25
Minimum	0,285714286	Minimum	0,25
Maximum	0,833333333	Maximum	0,5
Sum	6,861904762	Sum	1,916666667
Count	13	Count	5
Percentage Aggressive	0,846153846	Percentage Aggressive	0,8