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CEO Succession and Big Bath Accounting

A study of how succession and compensation affects a CEO's discretionary accounting decisions

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Abstract

This study aims to investigate whether the event of a CEO succession affects discretionary accounting decisions. Data is collected from companies on the Stockholm Stock Exchange over the period 1998-2012 and the Modified Jones Model is used to determine the level of discretionary accruals. The results show a significant tendency for newly appointed CEOs to use negative discretionary accruals their first year, contributing to reduced earnings. The subsequent year, our study indicates a reversal of behaviour were CEOs use positive discretionary accruals in order to increase future earnings. The study therefore presents strong indications of the prevalence of Big Bath Accounting in our sample, especially when CEO succession occurs late in the fiscal year. However, the results should be interpreted cautiously since there can be other reasons for the use of discretionary accruals in connection to CEO succession than simply opportunistic behaviour. The study further investigates if CEO compensation linked to reported earnings gives CEOs another incentive to engage in Big Bath Accounting. First, we divide the sample into three portfolios based on the amount of bonus earned in relation to the firm's performance targets. Second, we examine the cash compensation's impact on the use of total accruals with the model presented by Balsam. The results from these two tests indicate that discretionary accruals increase cash compensation and that CEOs who are unlikely to earn any bonus or who have exceeded their maximum level of bonus in a given year, select income-decreasing discretionary accruals in order to increase the probability of receiving a bonus in the coming years. The study therefore presents indications that compensation plans give CEOs an incentive to engage in Big Bath Accounting.

Key words: Big Bath, Discretionary Accruals, Earnings Management, CEO Compensation, Sweden.

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1 Introduction

Over the last decade a tremendous pressure has been created, forcing firms to meet the earnings expectations of stakeholders, in particularly the investors. There are many examples of company stocks taking a dramatic downturn when the firm failed to meet its targets. This pressure on the firms and its management has built up a concern among regulators as well as in the investor community that management is so fixated on meeting earnings expectations that the quality of accounting and reporting is reduced. Former SEC Chairman, Arthur Levitt (28 September 1998), expressed this concern in a speech he gave.

"Well, today, I'd like to talk to you about another widespread, but too little-challenged custom: Earnings Management. This process has evolved over the years into what can best be characterized as a game among market participants. A game that, if not addressed soon, will have adverse consequences for America's financial reporting system. A game that runs counter to the very principles behind our market's strength and success."

Furthermore, Levitt mentioned some Earnings Management techniques that were of greatest concern to the SEC. The first technique discussed, due to its high prevalence, was Big Bath Accounting. Levitt explained that firms overstate the amount of accruals, for instance restructuring charges, in one year in order to "clean-up" their balance sheet. By doing so, firms are able to decrease the amount of these costs in subsequent years and thereby freeing up earnings.

As Levitt predicted, in the turmoil of the two recent financial crises, media has been filled with stories of corrupt executives and management manipulating the reported earnings of their companies (Guererra 2012). Some of the most well-known are Enron in 2001 (The Economist 2002), WorldCom in 2002 and Lehman Brothers in 2008 (McCool 2010). The accounting scandals of the current era, due to the lack of accurate and adequate information in the financial markets, have raised numerous questions that are of concern to practitioners, regulators as well as academics. This study restricts the attention to those that are concerned with companies' Earnings Management practice, particularly Big Bath Accounting.

Research has been conducted on Earnings Management issues. Academic studies confirm a tendency for CEOs to intentionally overstate losses in their first year of tenure in order to present positive earnings in subsequent years. This positive relationship between the existence of this

kind of creative accounting and CEO successions has been found in investigations from Japan (Shuto 2007), Australia (Walsh, Craig & Clarke 1991) (Wilson, Wang 2010) (Wilson, Wang 2010; Wells 2002) and the U.S (Elliott, Shaw 1988; Moore 1973; Pourciau 1993; Strong, Meyer 1987).

Few academic studies have been conducted in a Swedish context (Bengtsson, Nilsson 2007; Bratell, Toresson 2013; Hätty, Sjölund 2013). However, there are indications that the phenomena most likely exist here as well. In 2007, a Swedish newspaper conducted comparisons between reported results and cash flows of Swedish firms. Normally, the cash flow should be higher than the reported result. The outcome, on the other hand, illustrates companies who report up to 58% higher results than cash flows (Cervenka, Isacson 2007).

After the recent financial meltdown, a large part of the fair accounting debate (Posen 2009) has been focused on the structure of executive compensation, increasing academic attention and regulatory scrutiny (Laux, Leuz 2009). Critics believe that performance based incentive programs linked to financial reporting creates incentives for executives to engage in opportunistic behavior at the expense of shareholders.

This academic report differentiates itself from previous research in three ways. First, there is a lack of knowledge regarding the existence of Big Bath Accounting in Swedish listed companies. Through research in academic databases, we have found that few quantitative empirical studies regarding Big Bath Accounting have been conducted in Sweden and on the Swedish market. The intensified fair accounting debate makes it interesting to enhance the knowledge in this field and to conduct a more comprehensive study on the Stockholm Stock Exchange.

Second, the existence of Big Bath Accounting in the Swedish context may differ over time. Previous theses have examined periods in the 1990s and beginning of 2000. Therefore we believe the knowledge should be enhanced with a more current data set.

Third, most studies look at Big Bath Accounting in relation to a specific event, as CEO succession or executive compensation. We aim to take this one step further by investigating if CEO succession in combination with CEO compensation creates incentives to engage in Big Bath Accounting.

1.1 Purpose of study

Our aim of this report is to enlighten the prevalence of Big Bath Accounting in association with CEO succession in firms listed on the Stockholm Stock Exchange. To achieve this, we seek an answer to the following primary research question:

"Do CEOs engage in Big Bath Accounting in association with CEO successions?"

We further investigate if there is a relation between the use of discretionary accruals and CEO compensation. To achieve this, we add the secondary question:

"In the event of a succession, do compensation plans give CEOs an incentive to engage in Big Bath Accounting?"

1.2 Thesis research boundaries

Given the purpose of the study, we do not seek to improve any existing models used for detecting discretionary accruals. Instead, we have selected the most used model in the field, the Modified Jones Model. This model has been developed and revised by researchers for decades; therefore we do not find any appropriate purpose to try to alter it further.

The study is limited to investigate if discretionary accruals are significantly different from zero in the event of CEO succession and whether compensation plans affect the CEO's use of discretionary accruals. Other explanations for the use of Big Bath Accounting will not be tested.

The sample includes companies present on the Stockholm Stock Exchange during the year 2014, from which data has been extracted between the years 1998-2012.

Finally, when the impact of compensation plans is examined, the study is limited to only investigate incentive programs based on reported results. This is because compensation based on the firm's stock performance is more complex in its structure and has different target evaluation than the one based on reported results.

1.3 Outline

Following next, the *second part* will guide you through previous research on the topic and other theory that is useful to gain an understanding of the subject. Then in *Part 3* the chosen method is described and motivated. The study is based on a number of hypotheses, which are defined in *Part 4*. The results from the study and analysis are presented in *Part 5*. In *Part 6*

specific choices made in the study and the implications of these are discussed. Finally, the conclusions are presented in *Part 7*, followed by suggestions for future research in *Part 8*. References are presented in *Part 9* and appendix with additional information concerning the study in *Part 10*.

2 Theory and previous research

2.1 Accounting regulation

As of today, extensive regulation covers accounting practices of firms. These regulations include a certain amount of flexibility, intended to allow managers to adapt to economic circumstances and portray the correct economic consequences of transactions. For instance, managers can choose between alternative ways to account for transactions as well as choose between options within the same accounting treatment. The main principle in Swedish practice is "Generally Accepted Accounting Principles" (GAAP), which is supposed to monitor companies to achieve the overall purpose of correctness. The flexibility in accounting regulations allows subjective judgement to become a great part of the reporting. The techniques available to engage in Big Bath Accounting are mainly the use of accruals, goodwill and provisions. Following next, the regulations surrounding each of these techniques will be presented.

2.1.1 Accruals

Accruals are an important accounting tool for moving income and expenses between periods. They enable firms to show as a correct picture as possible of their performance. According to the Law of annual reports, large accruals should either be specified in the Balance Sheet or in a note in the annual report (Årsredovisningslag, SFS 1995:1554, Chapter 3 § 8).

Total accruals can be divided into non-discretionary accruals and discretionary accruals. Non-discretionary accruals are comprised of revenues and expenses that a firm is obliged to pay and that follow the firm's natural business cycle. For example revenue from credit sales corresponding to the end of year 2013 where the payment is due in 2014, are by using accruals attached to the fiscal year of 2013. This means that non-discretionary accruals are beyond management's discretion. Discretionary accruals on the other hand, are differences between the reported result and the cash flow statement that are based on management choices (Healy 1985). One example is when management estimates the useful life of fixed assets. This kind of estimates affects the amount of depreciation, which in turn impacts the reported results. Due to the nature

of the discretionary accruals, where management has the ability to affect both the timing and the amount, these decisions are emphasized to be subject to Earnings Management. Therefore, discretionary accruals are used as the basis to calculate the degree of Earnings Management. The use of positive discretionary accruals means that the reported result will increase while negative discretionary accruals means that the reported result will be reduced.

A common issue for researchers is to isolate discretionary accruals and to estimate how the level would be without potential manipulation. Difficulties in estimating the existence of the use of discretionary accruals make it problematic to create confidence in the obtained results and to draw the conclusion that the phenomena Earnings Management exist.

2.1.2 Goodwill

Goodwill can arise if the purchase price, in an acquisition, is greater than the target's assets (White Gerald I, Sondhi C. Ashwinpaul 2003). Before the implementation of IFRS praxis in 2005, listed Swedish firms were to make yearly amortizations of goodwill as well as impairment tests (BFN 2000 and Årsredovisningslag, SFS 1995:1554). After the implementation of IFRS, goodwill is supposed to be subject to a "write-down test". According to IAS 36, impairment should take place if the company's book value exceeds the recoverable amount. This new regulation increases the possibilities for managers to manipulate discretionary accruals due to the subjective aspect in impairment tests.

2.1.3 Provisions

In order for a provision to be recognised in the financial statements, three rules need to be fulfilled according to IAS 37:

- a present obligation (legal or constructive) has arose as a result of a past event
- the obligation is probable to be settled and
- a reliable estimate can be made of the amount of the obligation

The year when the provision is made, it is reported as a cost in the income statement, which affects the operating result. This can be seen as a cost taken in an earlier point in time than it should be. Provisions need to be further described in the annual report in its nature, timing, uncertainties, assumptions and reimbursement according to IAS 37. At every balance sheet date the provisions should be re-evaluated and adjusted to reflect the current best estimate of the future obligation. If a provision no longer seems to be needed, it is reversed and reported as an

income in the income statement. The probability of provisions being realized as well as the re-evaluation, are decisions made by management. This subjective judgement leaves room for using provisions for other purposes, like managing earnings. Examples of provisions are restructuring costs, warranty, land contamination, customer refunds, etc.

2.2 Agency Theory

An agency relationship is defined as one in which one or more persons (the principal) engage another person (the agent) to perform a service on their behalf, which involves delegating decision-making authority to the agent (Jensen, Meckling 1976; Ross 1973). This relationship has many advantages, but because of the separation of ownership and control, it leads to information asymmetries that can cause problems. The cornerstone of agency theory is the assumption that the interests of principals and agents diverge, since both the principal and the agent are assumed to be utility maximizers (Jensen, Meckling 1976). Due to the existence of information asymmetry and because of utility maximizing behavior, there are reasons for the agent to engage in activities that are not in the principal's best interest.

This holds for the relationship between a CEO of a company and its shareholders. One way of engaging in activities that are not in the shareholders' best interest could be to behave opportunistically by manipulating earnings. By doing this, the CEO possesses more and better knowledge about the amount and the type of discretionary accruals that has been exercised in the financial report than what the shareholders have. This creates information asymmetry between the two parties, making it difficult for the shareholders to control for Earnings Management. For this reason we will use the Agency Theory as a foundation of the argumentation.

2.3 Earnings Management

The flexibility of accrual accounting can be used to affect the level of earnings at any particular point in time with the objective of securing gains for management and the shareholders, something called Earnings Management (Riahi-Belkaoui 2003).

The definition of Earnings Management used in this study is (Healy, 1999, page 368):

''Earnings Management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that

depend on reported accounting numbers."

Examples of different techniques for Earnings Management are presented in Exhibit 1 in Appendix (Schilit, Perler 2010). The possibility of liberal interpretation of accounting rules, which allows choices that may result in a depiction of financial situations that are more or less optimistic than the real situations, are commonly referred to as creativity in accounting (Riahi-Belkaoui 2003). The creativity in accounting may take different forms depending on the objectives of the preparers of financial statements. One form of creativity in accounting, generally known in practice and in the literature, is Big Bath Accounting.

2.3.1 Big Bath Accounting

The term Big Bath Accounting generally refers to accounting choices made by management to reduce current reported earnings in order to increase future earnings. This is done with the use of accruals. A clear definition of Big Bath Accounting has not yet been agreed upon. Healy (1985) argued that in the event of earnings being so low that targets will not be met, management has incentives to reduce current earnings further by accelerating write-offs. Other authors have been more precise in their formulation and say that when a write off represents more than 1% of the book value of assets, then it could be considered a big bath (Elliott, Shaw 1988). A more complete definition and the one assumed in this study, is the following (Copeland, Moore 1972, page 63):

"The bath is described as a "clean up" of balance sheet accounts. Assets are written down or written off, and provisions are made for estimated losses and expenses, which may be incurred in the future. These actions decrease income or increase losses for the current period while relieving future income of expenses, which it would otherwise have had to absorb. In simple terms taking a bath tends to inflate future income by depressing current income."

So how come managers are tempted to overstate these accruals? According to Munter at SEC, there are mainly two reasons. First of all, firms tend to prefer taking larger charges one year than smoothing them over several years. To avoid extra charges in case of a deviation from the original plan, managers overestimate the accruals for a specific event. Second, by including future operating costs in the current accruals, future earnings will improve in subsequent years. Even though earnings will be significantly lower when taking a big bath, the theory says that

analysts will look beyond a one-time loss and focus on future earnings (Munter 1999).

According to other researchers there are at least two more reasons for managers to behave opportunistically when reporting accruals. First, the performance-based compensation plans of managers are deemed by some to give management an extra incentive to manipulate the reported result. In the event of a newly appointed CEO, theory states another reason to overstate these accruals in the year of the succession. The newly appointed CEO cannot be held accountable for the decisions that the previous management has done. Therefore the newly appointed CEO is less likely to be blamed for bad performance in the first year and is also less likely to receive a bonus that year. By overstating the accruals in the year of the succession, the new CEO can blame the former CEO for poor past performance, thereby creating a favorable platform for positive earnings development in subsequent years (Wells 2002; Healy 1985; Holthausen, Larcker & Sloan 1995; Guidry, J. Leone & Rock 1999). However, it could also be the case that when the former CEO is informed or decides to resign from the position, the CEO uses discretionary accruals to increase the reported result in order to finish with a good reputation (Murphy, Zimmerman 1993).

2.3.2 Previous research

Following next, the development of Earnings Management models over time will be discussed with the aim of creating an understanding of the reasoning behind the Modified Jones Model used in this study.

One of the first studies conducted in the field was by Moore (1973). The objective of the study was to examine if companies, that had made a change in their management board, had a higher tendency to use discretionary accounting procedures than in a random sample of annual reports. Moore found that companies with changes in the management board had a significantly greater proportion of negative discretionary accruals, which reduces income, than in the other sample companies. Based on these results, Moore drew the conclusion that there is a higher probability for a company to choose income reducing discretionary accruals when there is a change in the management board (Moore 1973).

Healy (1985) studied changes in accruals with the purpose of detecting if a relationship with CEO compensation plans existed. He divided total accruals into discretionary and non-discretionary accruals and made the assumption that changes in non-discretionary accruals are approximately zero. Implying that changes in total accruals could only be explained by changes

in discretionary accruals. However, to assume that changes in non-discretionary accruals are zero is not realistic according to other researchers (Kaplan 1985) since they can also deviate, for instance because of changes in economic circumstances.

Jones (1991) studied Earnings Management in a new setting, where she tested if firms during import relief investigation are more likely to engage in Earnings Management. She introduced a new model in the field of Earnings Management, the Jones model, which until today is the most used for calculating discretionary accruals. The Jones model relaxes the assumption that non-discretionary accruals are constant. The model attempts to regulate for the economic circumstances and isolate the manipulation of discretionary accruals. Many researchers have tried to alter the model further in order to increase the accuracy in discovering discretionary accruals. This has been done by subtracting receivables from revenue as it is considered to be easier for managers to manipulate the recognition of revenue on credit sales than on cash sales. Furthermore, researchers have added a performance-matched variable in the form of Return On Assets (ROA) and a constant to reduce heteroscedasticity (Kothari, Leone & Wasley 2005).

Pourciau (1993) investigated whether Earnings Management followed executive succession in American firms. She divided the executive changes into routine and non-routine. Her definition is that non-routine changes include most resignations and are often unplanned, while a routine succession is an "orderly, well-planned process of turnover" and can be a 3retirement or a resigning CEO who will remain in the company's board of directors. This is the definition of routine- and non-routine changes used in this study. When choosing the sample, she excluded routine executive succession because she argued that routine changes reduce incentives and opportunities for Earnings Management. In a non-routine executive change, managers have more possibilities to structure the succession in a way that maximizes the opportunities for Earnings Management. The result of the study indicated that incoming CEOs use accruals to decrease earnings in their first year in order to increase earnings subsequent years (Pourciau 1993).

Dechow et al. (1995) evaluated the ability of alternative models to detect Earnings Management. Even though the examined models produced reasonably well-specified results when tested for a random sample, errors arose under certain conditions. This was especially the case when accruals were 1% of book value of assets or lower and when the sample consisted of firms experiencing extreme financial performance. Therefore, they argued the importance to consider the context in which Earnings Management is hypothesized and the model employed.

Based on their results, the Modified Jones Model was most powerful in detecting Earnings Management (Dechow, Sloan 1995).

At the time when Jones (1991) wrote her article, companies were not commonly reporting cash flow statements and consequently she used a balance sheet approach when calculating accruals. Nowadays, Swedish listed companies need to report a cash flow statement in their annual report and therefore it is possible for researchers to calculate accruals using these numbers instead[1]. The balance sheet approach has been criticized in recent years for not capturing a correct amount of accruals and therefore it is more reliable to use a cash-flow approach (Hribar, Collins 2002).

In a more recent study by Dechow et al. (2012), a solution to the misspecification arising from correlated omitted variables that was found in their previous study was presented. They argue that an accrual distortion in one period must reverse in another and therefore the reversals of accruals should be included in the model used for detecting Earnings Management. Incorporating this new approach increased the test power by almost 40%. They assume that the working capital accruals reverse in the year immediately after the earnings management has taken place, alternatively two years after. However, they discuss scenarios in which this assumption is not possible. First, it is common that researchers have no priors regarding the reversal of accruals, resulting in an exclusion of the variable in the model. Second, the data is not always available in the company's annual report in the two years following the earnings management year. Third, other accruals than those stemming from the working capital exist and many do not reverse until after sufficient time has passed (Dechow et al. 2012). Because of these three reasons, we have decided to not incorporate reversals in our model.

2.4 CEO compensation

The total remuneration to executives in listed companies generally consists of four parts: annual base salary, annual bonus plan tied to short-term performance measures, long-term incentives tied to total shareholder return like stock and options as well as benefits plan including pension and other benefits (Bång, Waldenström 2009).

[1] Total Accruals$_t$ = Earnings before extraordinary items and discontinued operations – Operating cash flows from continuing operations

The forms of remuneration that are most dependent on accounting procedures are short-term and long-term incentive plans (Healy 1985). The short-term bonus plan is tied to reported income in the form of annual goals, while long-term incentives are linked to the actual performance of the company's stock. It is becoming more common for companies nowadays to operate both of these compensation categories simultaneously. However, these two types of compensation plans usually have different definitions of earnings as well as different target horizons. This has made it difficult for previous research to identify the annual bonus and performance plans combined effect on CEOs' accounting decisions. Therefore we will limit our study to only examine the annual bonus plan.

Bonus plans usually award CEO's for reaching the annual goals, but are not meant to punish them when the goals are not fulfilled. This encourages managers to make large losses some years and high profits in others. Mediocre results two years in a row will not generate huge bonuses, while a huge loss in one year and a large profit the next would, even if the accumulated results are the same (Bång, Waldenström 2009).

2.4.1 Annual bonus plans

The CEO is evaluated on a number of performance targets in order to determine whether the goals of the annual bonus plan have been fulfilled and thus if a bonus should be distributed the current year. The performance targets are most often the firm's operating budgets, taking the form of margins like EBIT (Earnings Before Interest and Tax) or EBITDA (Earnings Before Interest, Depreciation and Amortization) and ratios like RONA (Return on Net Assets) or ROS (Return on Sales). These performance targets are compared to the actual performance of the firm in order to determine the level of the annual bonus (Guidry, J. Leone & Rock 1999).

Three distinct areas can characterize an annual bonus plan of a CEO. First, the performance can be below the necessary level to obtain a bonus. Second, the performance can be above the necessary level to obtain a bonus but below the maximum bonus level. Third, the performance can be above the necessary level to receive the maximum accepted bonus. Holthausen et al. (1995) denotes these three levels as; below the lower bound, inside and above the upper bound. If the CEO receives no bonus one year, the observation is classified in the lower bound portfolio.

2.4.2 Previous research

Earnings Management is most likely to take place when management has a direct stake in the reported numbers (Schipper 1989). An annual compensation plan tied to reported earnings gives management an incentive to maximize their wealth at the expense of shareholders (Mulford, Comiskey 2002). Previous studies, among the most cited article on the subject written by Healy (1985), indicate that CEOs select accounting procedures that maximize the value of their bonus compensation. Many researchers have even gone so far as to hold these results as primary evidence that CEOs engage in the manipulation of earnings as a consequence of their compensation plans (Holthausen, Larcker & Sloan 1995; Guidry, J. Leone & Rock 1999).

Healy (1985) categorized observations into three portfolios based on earnings before discretionary accruals in relation to the CEO's upper and lower bounds of the bonus plan. His results are consistent with his hypotheses; bonus compensation plans create incentives for CEOs to choose accruals in order to maximize the value of the bonus. This theory also holds when he investigated the difference between firms that had bonus plans that included an upper bound with those that did not, even though accruals were lower for the firms with an upper bound.

Holthausen et al. (1995) translated Healy's hypotheses to account for the actual bonus paid relative to the terms of the compensation plan; resulting in the following hypotheses:

1. If the CEO's actual bonus is zero, then the CEO has an incentive to select income-decreasing discretionary accruals. (LOW)
2. If the CEO's actual bonus is between zero and the maximum level, then the CEO has an incentive to select income-increasing accruals. (MID)
3. If the CEO's actual bonus is at or above the maximum level, then the CEO had an incentive to select income-decreasing accruals. (UPP)

They reported results consistent with Healy (1985) when it comes to CEOs making income-decreasing discretionary accruals after they have reached the upper bound. However, they found no indication that CEOs make income-decreasing discretionary accruals when earnings are below the lower bound.

Another approach, to more directly test if the use of discretionary accruals increases CEO compensation, was made by Balsam (1998). Instead of dividing the observations into portfolios based on the amount of bonus paid, he examined the total bonus paid. At the time Balsam performed his study, companies only disclosed the total cash compensation, i.e. fixed salary plus

annual bonus. Therefore the tests were performed on the total cash compensation. Balsam states that his results show (Balsam, 1998, page 229):

"…that the association of CEO cash compensation with reported income generally increases with the level of discretionary accruals, consistent with management responding to incentives provided."

His results indicate that discretionary accruals are used to increase or decrease the result of a certain year (Balsam 1998).

3 Method

3.1 Sample for test of Big Bath Accounting

The sample consists of listed Swedish firms that have changed CEO some year between 2002 and 2009, and for which data has been retracted for the years 1998-2012. The study therefore stretches over roughly a ten-year period and the reason for this is to be able to capture a fairly large sample of CEO successions as well as reduce the potential impact of general markets trends and business cycles. Additional criteria that need to be fulfilled are as follow:

- The firms are listed on Nasdaq OMX Nordic Stockholm the 1st of February 2014
- The company should not pertain to the category Financials according to GICS (The Global Index Classification Standard)
- Companies cannot have had several CEO successions during the examined period if the changes are overlapping during our chosen time span
- Ownership and control need to be separated, i.e. CEOs should not be majority owners
- All necessary data must be available

Extracting the sample

To identify CEO changes that occurred within the chosen time span for each firm, the database Thomson One Analytics was used. Press releases for the particular year of the CEO change were then retrieved in order to classify the succession into either routine or non-routine. This was done through the database Retriever and complemented with information from the companies' web sites. The sample that was obtained through compiling data from both of these databases was then used to identify whether the CEO was a majority owner in the firm or not. This information was found in the yearbook Owners and Power in Sweden's listed companies (Fristedt, Sundin & Sundqvist 1985; 2009) and in the database SIS Ägarservice.

The 1st of February 2014, the number of firms listed at the Stockholm Stock Exchange amounted to 253. First, firms pertaining to the category Financials were excluded from the study since these firms deviate in their accruals process (Van Caneghem 2002). This resulted in a loss of 25 companies. Then the number and years of CEO successions in each firm was examined, resulting in another loss of 101 companies. These are companies that either have not had a CEO succession or overlapping successions, during the examined period.

Table 1

Sample Summary			
Companies	68		
		List on Nasdaq	
Routine Executive change	38	Large	20
Non-routine Executive change	30	Mid	22
		Small	26
External Exective change	37		
Internal Executive change	31		
Industries		Year of CEO succession	
Industrials	31	2002	6
Technology	11	2003	9
Telecommunication	1	2004	10
Basic Materials	4	2005	6
Consumer Goods	5	2006	8
Consumer Services	9	2007	17
Healthcare	7	2008	8
		2009	4

Then companies where data could not be retrieved were deleted from the sample, resulting in 57 less companies. At last, two companies were deleted because the CEO was a majority owner. If the CEO has a large stake in the company, managing earnings will be a zero-zum game and hence Earnings Management is not expected to take place in those companies. In our Modified Jones model, 68 firms were included and this sample is the base for the final regression where we test for compensation plan. For the whole list of included companies see Exhibit 2 in Appendix.

3.2 Sample for test of annual bonus plans

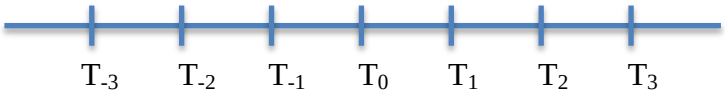
The sample used to test our second and third hypotheses is based on the 68 companies from the sample above. It was further reduced by two companies who did not operate a compensation plan and/or explicitly disclosed the definition of it in their annual report. Information regarding actual bonuses paid and compensation plan definitions are used in order to classify the company-year observations into the LOW, MID and UPP portfolios. All firms in our sample have specified a minimum as well as a maximum level at which an annual bonus can be earned. This information was obtained from the firms' annual report through their website.

3.3 Research design for Big Bath Accounting

There are two methods for calculating normalized values of accruals; one is the time-series approach and the other the cross-sectional approach. In order to achieve the purpose of this study,

panel data is used, which is a combination of these two methods. Cross-sectional information is used to observe differences in Earnings Management between firms and time-series information is used to reflect changes in Earnings Management over time. Using data from the same observed units during a longer time period makes it possible to estimate more complex and more realistic models than just using a single method of the above (Verbeek 2012).

Big Bath Accounting is assumed to usually take place within the first year of the CEO change. This implies that potential effects will be reflected rather immediately after the event and therefore we will observe a relatively short time period.



Year T_0 is the year of the CEO succession. To reject our null hypothesis, hence to receive an indication that Big Bath Accounting has taken place, a V-shaped scenario would be detected, as has been done in previous studies. A V-shaped curve would indicate lower earnings and more negative discretionary accruals the year of the change, compared to the years prior to the change and the years following the change. At the event T_0, earnings decrease while the amount of negative discretionary accruals increases. At T_1 the scenario is supposed to reverse so that both earnings and positive discretionary accruals increase.

The year of the CEO change is difficult to decide upon and a longer discussion about this issue is presented in the discussion in Part 6. We have defined the year of the CEO succession as when the acceding CEO puts his signature on the annual report, as long as his appointment is set at least one month before this event. The reason for this boundary is that a CEO acceding within the same month as the signature of the annual report is made, is not likely to have affected the reported result. Because of this issue, a sub-hypothesis is defined to investigate whether there are any differences in CEO succession occurring early or late in the fiscal year.

3.3.1 Operationalization of the Jones Model

The basis of the study is the model developed by Jones (1991) and later modified by Dechow, Sloan and Sweeny (1995), namely the Modified Jones Model. After research on previous studies in the field, we have concluded that, whilst subject to criticism, it is the most commonly used model and compared to other recognized models it is the one with the highest explanatory power (Dechow et al. 1995). The Modified Jones Model calculates total accruals with the balance sheet approach. Hribar and Collins (2002) indicated that the use of the cash flow

approach was more precise on calculating total accruals, but since we have not been able to extract the data for extraordinary items and discontinued operations we will use Jones' method.

Defining Total Accruals

Total accruals are the difference between the reported result and the cash flow from operating activities. The item can be further divided into discretionary and non-discretionary accruals (Healy 1985).

Equation 1

$$TA_t = DA_t - NDA_t$$

$$TA_t = Total\ accruals\ year\ t$$
$$DA_t = Discretionary\ accruals\ year\ t$$
$$NDA_t = Non - discretionary\ accruals\ year\ t$$

To calculate total accruals, working capital items are collected and then items not likely to be subject to manipulation are retracted such as debt in current liabilities, taxes and cash.

Equation 2

$$\begin{aligned} TA_t = {} & (\Delta Current\ Assets - \Delta Cash) \\ & - (\Delta Current\ Liabilities - \Delta Taxes\ Payables - \Delta Debt\ in\ Current\ Liabilities) \\ & - Depriciation\ and\ Amortization \end{aligned}$$

Estimating discretionary accruals

After total accruals have been calculated, Equation 3 is used for our regression to retrieve the coefficients from the years surrounding the CEO change (year -3 to -1 and year 2 to 3). By doing this, a "normal" level of discretionary accruals is estimated for each firm.

Equation 3

$$\frac{TA_{t,i}}{A_{t-1,i}} = \beta_1 \left(\frac{1}{A_{t-1,i}}\right) + \beta_2 \left(\frac{\Delta REV_{t,i}}{A_{t-1,i}}\right) + \beta_3 \left(\frac{PPE_{t,i}}{A_{t-1,i}}\right) + \varepsilon_{t,i}$$

These coefficients are then inserted into Equation 4 to calculate non-discretionary accruals for the investigated years (year 0 to 1).

Equation 4

$$\frac{NDA_{t,i}}{A_{t-1,i}} = \beta_1 \left(\frac{1}{A_{t-1,i}}\right) + \beta_2 \left(\frac{\Delta REV_{t,i}}{A_{t-1,i}}\right) + \beta_3 \left(\frac{PPE_{t,i}}{A_{t-1,i}}\right)$$

Equation 5 is then used to estimate the values of discretionary accruals year 0 and 1.

Equation 5

$$DA_{t,i} = TA_{t,i} - NDA_{t,i}$$

- $A_{t-1,i}$ is total assets at the end of year t-1 for firm i
- $\Delta REV_{t,i}$ is the revenue in year t less revenues in year t-1 for firm i
- $PPE_{t,i}$ is gross property plant and equipment at the end of year t for firm i
- $\varepsilon_{t,i}$ is the error term at year t for firm i

Revenue is seen as an objective measurement of firm performance, and therefore it controls for the economic environment to a certain extent. The most common and largest non-discretionary accruals are property, plant and equipment and therefore these items are included in the model to explain part of the changes in total accruals. The variable $1/A_{t-1,i}$ explains the importance of firm size to total accruals, since large firms are expected to have larger accruals than small ones. Each of the variables is scaled by total assets in order to mitigate the statistical bias that can arise from firms' size and heteroscedasticity in residuals (Kmenta 1986).

A negative beta is expected for PPE because it is an income-decreasing item, while the beta for revenue could be either negative or positive because changes in revenue causes income-increasing changes in some working capital accounts and income-decreasing in others (Jones 1991).

Dechow et al. (1995) evaluated different models for detecting Earnings Management and took the Jones Model one step further by subtracting receivables from revenue. The purpose for this adjustment is that cash sales are not considered to be as easily manipulated as credit sales.

Kothari et al. added Return On Assets (ROA) and a constant to the model in an attempt to control for heteroscedasticity.

3.3.1.1 Final model

After tests were performed to see which model captured discretionary accruals most accurate, we concluded that it was the Modified Jones Model with a constant and one dummy variable for the state of the market. This is in line with previous research, which concludes the Modified Jones Model to be the most precise model for calculating discretionary accruals (Dechow, Sloan 1995; Guay, Kothari & Watts 1996). We have chosen to include a constant in our Ordinary Least Square (OLS) regression because models without a constant force the line to pass through origo and overestimate the independent variables. A linear regression without a constant redefines the meaning of the sum of squares (SSE), which is used when calculating R

square[2]. When including a constant, SSE is calculated as $\sum_{i=1}^{N}(Y_i - \widehat{Y}_i)^2$ and when excluding the constant, $\widehat{Y}_i$ equals zero. Therefore, another R square value will be obtained which is incomparable to a model including a constant. This could result in a higher R square value when excluding the constant (Carlberg 2013):

"If the predicted values happen to be generally farther from zero than from their own mean, then the sum of squares regression will be inflated as compared to regression with the constant. In that case, the R^2 will tend to be greater without the constant in the regression equation than it is with the constant."

Furthermore, we include a dummy variable to control for the state of the market. The reason for this is that two large financial crises have occurred during our chosen time period, 1998-2012. Therefore, a possibility exists that these recessions have had an impact on the business climate and management decisions making. In a recession we assume that managers use more negative accruals in order to take advantage of positive accruals during a boom. This assumption is made because a large bonus paid during a recession is not in line with shareholders' values. Presented below is our final model used to test the first hypothesis. The data for which years are classified as either recessions or booms is retrieved from Konjunkturinstitutet's website.

Equation 6

$$\frac{TA_{t,i}}{A_{t-1,i}} = \propto + \beta_1\left(\frac{1}{A_{t-1,i}}\right) + \beta_2\left(\frac{(\Delta REV_{t,i} - \Delta REC_{t,i})}{A_{t-1,i}}\right) + \beta_3\left(\frac{PPE_{t,i}}{A_{t-1,i}}\right) + \beta_4(Dummy) + \varepsilon_{t,i}$$

- The dummy variable for the state of the market takes the value 1 if the state of the economy in year T is in a boom and the value 0 if the it is a recession

3.3.1.2 Statistical tests

To test our first hypothesis, we perform four statistical tests; an OLS regression, a Z-test, a student's t-test and a Mann-Whitney U test. First, discretionary accruals are calculated for the year of the change as well as the following year. These discretionary accruals are measured by using the coefficients received from the OLS regression for the surrounding five years as a proxy. After calculations of discretionary accruals were made, they were tested according to hypothesis 1. In addition a Z-test was performed, since we have a large sample (> 30 observations), which assumes a mean μ and variance σ^2. Therefore the variable Z follows, according to the Central

[2] $R^2 = 1 - \frac{SSE}{SST}$ where SSE refers to sum of squares of the residuals and SST refers to total sum of squares

Limit Theorem, approximately a standardized normal distribution. Z is given by (Newbold et al. 2013):

$$\frac{\bar{x}-\mu}{\sigma/\sqrt{n}} \text{ approx. } \sim N(0,1)$$

As σ^2 is unknown and is estimated from the test sample, σ is replaced with S, which is the test sample standard deviation for X. The decision tree is as follows

For Year 0: Reject H_0 if $z_{obs} = \frac{\bar{x}-\mu}{S/\sqrt{n}} < -z_\alpha$

For Year 1: Reject H_0 if $z_{obs} = \frac{\bar{x}-\mu}{S/\sqrt{n}} > z_\alpha$

When testing for CEO successions occurring late or early in the fiscal year, the aim is to understand if this event has any impact on the use of discretionary accruals. In other words, we are interested to know if the mean accruals of the two groups are statistically different from each other. Therefore we use an independent two-sample t-test for equality of means, assuming unequal variances (Newbold et al. 2013). The degrees of freedom, v, for the test us given by: $v = \frac{\left[\left(\frac{s^2_X}{n_X}\right)+\left(\frac{s^2_Y}{n_Y}\right)\right]^2}{\frac{\left(\frac{s^2_X}{n_X}\right)^2}{(n_X-1)}+\frac{\left(\frac{s^2_Y}{n_Y}\right)^2}{(n_Y-1)}}$ the hypothesis is as follows: H_0: $\mu_x = \mu_y$ against the alternative H_1: $\mu_x \neq \mu_y$

The decisions rule is to reject H_0 if $t_{v,\alpha/2} < \frac{(\bar{X}-\bar{Y})}{\sqrt{\frac{s^2_x}{n_x}+\frac{s^2_y}{n_y}}} < -t_{v,\alpha/2}$

Last, a Mann-Whitney U test is performed to control for the result from the t-test[3].

3.4 Research design CEO compensation plans

In the first performed test (testing for hypothesis 2), regarding CEO compensation plans, the effect of annual bonus plans is more specifically tested for. The actual amount of bonus paid to the CEO is examined to see if it has an impact on the use of discretionary accruals. This is done by studying three thresholds of bonus portfolios.

[3] The Mann-Whitney U statistic is defined as (Newbold et al. 2013): $n_1 n_2 + \frac{(n_1+1)n_1}{2} - R_1$ Where n_1 is the number of observations form the first population, n_2 is the number of observations from the second population, and R_1 denotes the sum of the ranks of the observations from the first population.

The second test (testing for hypothesis 3) examines whether the use of discretionary accruals increases cash compensation. Tests are also performed to investigate if accruals increase the amount of paid bonus alone.

3.4.1 Bonus portfolios

To test if discretionary accounting choices affect the CEO annual bonus plan, three portfolios are constructed by using the incentive compensation rules defined in the bonus plan as well as budget and financial data. These three portfolios are as follows: a lower bound portfolio (LOW), middle bound portfolio (MID) and an upper bound portfolio (UPP), as was presented in part 2.4.2. Firm observations for year 0 and year 1 are assigned to one of these three portfolios based on the actual bonus the CEO received that year. A 5% deviation (maximum bonus to salary ratio) is allowed, since CEOs are not assumed to be able to predict earnings perfectly when making accruals decisions (Holthausen, Larcker & Sloan 1995). By using both parametric and non-parametric tests, means and distributions among these portfolios are obtained.

3.4.1.1 Operationalization

Two statistical test, t-tests and chi-square tests, are performed in order to calculate the differences in discretionary accruals mean and significance levels for the three different portfolios. The LOW and UPP portfolios are expected to have significantly larger negative discretionary accruals in year 0 and positive discretionary in year 1 than portfolio MID. When performing the chi-square tests, the LOW and UPP portfolios are combined in one group and the MID portfolio in the other group. These two groups are then compared to discretionary accruals, which are divided into two groups based on them being positive or negative. The chi-square random variable for contingency tables has a distribution with (r-1)(c-1) degrees of freedom and is calculated as follows (Newbold et al. 2013):

$$\sum_{i=1}^{r}\sum_{j=1}^{c}\frac{(O_{ij}-E_{ij})^2}{E_{ij}}$$ [4]

The null hypothesis states that no correlation exists between the two characteristics in the population. The decision rule for rejecting the null hypothesis is when the achieved value in the above calculation is greater than χ^2(r-1)(c-1).

[4] Where r denotes rows, c columns, O_{ij}=observed value and E_{ij}=expected value

3.4.2 Cash compensation

To test if discretionary accounting choices is affected by the compensation system of an incoming CEO, we test if accruals increase cash compensation. It is the accruals calculated with the Modified Jones Model in the first hypothesis that are used. First, the test is performed by using the total cash compensation as the dependent variable and CFO (Cash Flow from Operations) and accruals (divided into discretionary and non-discretionary accruals) as independent variables. Second, the test is performed by using only the actual bonus paid as dependent variable. For ease of presentation, an increase in the independent variables by 1000 SEK induces an increase of 1 SEK in the dependent variable (Balsam 1998).

3.4.2.1 Operationalization

To test if accruals increase cash compensation, the following two OLS regressions are performed.

Equation 7

$$\frac{CSB_{t,i}}{A_{t-1,i}} = \beta_0 + \beta_1 \frac{CFO_{t,i}}{A_{t-1,i}} + \beta_2 \frac{NDA_{t,i}}{A_{t-1,i}} + \beta_3 \frac{DA_{t,i}}{A_{t-1,i}} + \varepsilon_{t,i}$$

Equation 8

$$\frac{B_{t,i}}{A_{t-1,i}} = \beta_0 + \beta_1 \frac{CFO_{t,i}}{A_{t-1,i}} + \beta_2 \frac{NDA_{t,i}}{A_{t-1,i}} + \beta_3 \frac{DA_{t,i}}{A_{t-1,i}} + \varepsilon_{t,i}$$

- $CSB_{t,i}$ is cash salary and bonus paid (total cash compensation) to the CEO in year t-1 for firm i
- $B_{t,i}$ is bonus paid to the CEO in year t for firm i
- $A_{t-1,i}$ is total assets at the end of year t-1 for firm i
- $CFO_{t,i}$ is cash flow from operating activities in year t for firm i
- $NDA_{t,i}$ is non-discretionary accruals in year t for firm i
- $DA_{t,i}$ is discretionary accruals in year t for firm i
- $\varepsilon_{t,i}$ is the residual in year t for firm i

If β_3 is positive it means that positive accruals increase cash compensation. Balsam (1998) lagged all variables with KPI to reduce the impact of economic circumstances. Our sample consists of firms with different sizes, resulting in our regression being biased against the relatively larger firms. We therefore made the decision to scale all variables by total assets in order to reduce heteroscedasticity. A reason for why Balsam not saw a need to scale by assets could be that his fairly greater sample reduced the bias of larger firms.

4 Hypotheses

Hypothesis 1

CEOs engage in Big Bath Accounting in association with CEO successions.

- In the year of the CEO succession, year t, DA_t is expected to be significantly negative, below 0.

$$H_0: \mu \geq \mu_0 \text{ and } H_1: \mu < \mu_0$$

- In the year following a CEO succession, year t+1, DA_t is expected to be significantly positive, above 0.

$$H_0: \mu \leq \mu_0 \text{ and } H_1: \mu > \mu_0$$

Sub-hypothesis

CEOs who accede their position late in the fiscal year are more likely to engage in Big Bath Accounting.

- In the year of the CEO succession, $DA_{t,i}$ is expected to be more negative for those CEOs who accede late in the fiscal year.

$$H_0: \mu_1 = \mu_2 \text{ and } H_1: \mu_1 \neq \mu_2$$

Hypothesis 2

In the year of the CEO change the annual bonus plan effects CEOs use of discretionary accruals. In the year following the CEO change, the annual bonus plan effects whether CEOs reverse the discretionary accruals or not.

- Portfolio "LOW" has a discretionary accruals mean that is significantly positive in year 1 and significantly negative in year 0.

$$H_0: \chi^2_{obs} \geq \chi^2 (r-1)(c-1) \text{ and } H_1: \chi^2_{obs} < \chi^2 (r-1)(c-1)$$

- Portfolio "MID" has a discretionary accruals mean that is significantly lower and positive in year 1 and significantly higher and positive in year 0 compared to portfolios "LOW" and "UPP".

$$H_0: \chi^2_{obs} \geq \chi^2 (r-1)(c-1) \text{ and } H_1: \chi^2_{obs} < \chi^2 (r-1)(c-1)$$

- Portfolio "UPP" has a discretionary accruals mean that is significantly positive in year 1 and significantly negative in year 0.

$$H_0: \chi^2_{obs} \geq \chi^2\ (r-1)(c-1) \text{ and } H_1: \chi^2_{obs} < \chi^2\ (r-1)(c-1)$$

Hypothesis 3

In the event of a CEO succession, compensation plans give CEOs an inventive to engage in Big Bath Accounting and use discretionary accruals to lower the reported result. Therefore, a relationship between cash compensation and discretionary accruals is hypothesized as follows:

$$H_0: \beta_3 \leq 0 \text{ and } H_1: \beta_3 > 0$$

5 Results and Analysis

5.1 Results from Big Bath Accounting test

Table 2 shows the results from the OLS regression of the Modified Jones Model. Extreme observations have been excluded with two standard deviations from the mean to avoid errors when estimating the linear regression model. Extreme outliers (values over 2 million) based on the variables $\Delta REV_t - \Delta REC_t$ and PPE were also excluded since they seemed to bias the sample.

The R^2 value shows how much the independent variables explain the dependent variable and in our case the number is quite low (0.135). However, as in previous studies, a higher value is not expected because of the difficulties in calculating the true value of total accruals. Comparing our obtained value to previous research using the Jones Model, we get a lower value. For instance Jones received a R^2 value of 0.232. The explanation for this is that we have added a constant to our model, which makes it incomparable to models not using a constant. If we also perform the OLS regression without a constant, we receive an R^2 value of 0.245, which is in line with previous research.

Table 2

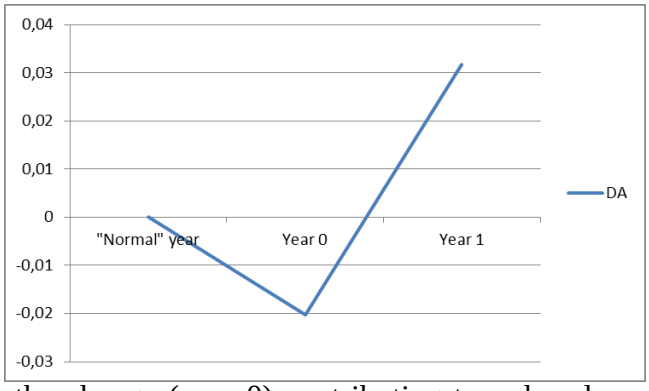
Model Summary for Regression of Discretionary Accruals

								Percentiles		
Dependent variable				**Standard Deviation (Std)**	**Mean**	**Median**	**Minimum**	**25%**	**75%**	**Maximum**
Total accruals				0,0689	-0,0334	-0,0328	-0,2488	-0,0653	-0,0004	0,1722
								Percentiles		
Independent variables	**β**	**Significance level**	**Standard error**	**Standard Deviation (Std)**	**Mean**	**Median**	**Minimum**	**25%**	**75%**	**Maximum**
Constant	-0,040	0,000	0,009							
1	-1,333	0,085	0,774	0,0057	0,0025	0,0006	0,0000	0,0000	0,0024	0,0660
ΔREVt- ΔRECt	0,063	0,009	0,024	0,2123	0,0813	0,0450	-0,7934	-0,0220	0,1598	0,9167
PPE_t	-0,032	0,001	0,010	0,3639	0,4721	0,3864	0,0265	0,1594	0,7203	1,6289
Dummy	0,032	0,000	0,008		0,620					

N = 323 **R^2 = 0,135** **Adjusted R^2 = 0,125**

The variable PPE_t, the dummy controlling for the state of the market and the constant are all significant at a 0.1% level. The variables $\Delta REV_t - \Delta REC_t$ and 1 are significant at 1% and 10% respectively. The sign and the magnitude of each coefficient are in line with previous research.

Figure 1: Graph illustrating the pattern of discretionary accruals during CEO succession



The coefficients calculated in the OLS regression above were then used to calculate the discretionary accruals for the CEOs first and second year. Figure 1 shows how discretionary accruals evolve over the three-year period surrounding the CEO succession. The data indicates a pattern where negative discretionary accruals are used in the year of the change (year 0) contributing to reduced earnings and positive discretionary accruals in the subsequent year (year 1) contributing to increased earnings. This pattern is verified through a Z-test, presented in Table 3. The Z-test indicates that discretionary accruals are significantly different from zero in both year 0 and year 1 ($z_{obs\ Year\ 0}$ =-1,71 and $z_{obs\ Year\ 1}$ =2,43). In year 0, we can see a clear tendency that discretionary accruals are significantly below zero and in year 1 significantly above zero; resulting in a rejection of the null hypotheses.

Table 3

Summary of results from Z-test of discretionary accruals				
	Mean	Std	z	Accept/Reject H_0
Year 0	-0,0202	0,0977	-1,7088	Reject
Year 1	0,0317	0,1077	2,4304	Reject

We receive higher positive discretionary accruals the year following the CEO change compared to the negative accruals used in the year of the change. The reason for this could be the that leaving CEOs in our sample, especially in routine changes, could have used Big Bath Accounting to raise the results before resigning from the position. This in turn effects the calculation of normal accruals, resulting in the level of normal discretionary accruals to be above zero. This makes discretionary accruals biased towards being more positive than they in fact are.

The results are in line with hypothesis 1 as well as previous research and theories, indicating a tendency for acceding CEOs to take a big bath their first year of tenure and then reverse these discretionary accruals in the following year. However, the results should be interpreted cautiously since there can be various reasons, other than opportunistic behaviour, for the obtained V-pattern. One interpretation can be a negative relation between CEO successions and firm performance.

Some researchers argue that CEO successions cause a significant change in the organizational structure that potentially has a disruptive effect on firm performance (Khurana, Nohria 2000). This can especially be the case for non-routine changes and therefore we will control for the impact of the type of CEO change in the robustness checks, see part 6.2. Another explanation could be that the former CEO has not made necessary restructuring charges, write-downs or similar which forces the newly appointed CEO to use a large amount of accruals in the first year of appointment.

5.1.1 CEO succession occurring at the end of the fiscal year

Table 4 presents results for the test examining whether CEO successions occurring late in the fiscal year have a larger tendency to engage in Big Bath Accounting. The data indicates a significantly greater tendency for CEO successions occurring at or later than three months before fiscal year end to use more negative discretionary accruals during their first year of tenure. The t-test verifies this, as it shows highly significant results with a significance level of 5%. In order to find potential differences between early and late CEO succession concerning the use of discretionary accruals, a Mann-Whitney U-test is performed. The test has a significance level of 5%.

Table 4

						T-test statistics		Mann-Whitney statistics	
		N	Mean	Std	Mean difference	p-value	t	p-value	Z
6 months before fiscal year end	Early succession	32	0,0020	0,081579	-0,0421	0,072	-1,832	0,075	-1,782
	Late succession	36	-0,0401	0,107343					
3 months before fiscal year end	Early succession	44	0,0000	0,0758	-0,0573	0,044	-2,092	0,025	-2,246
	Late succession	24	-0,0573	0,1219					

CEOs acceding later than six months before fiscal year end are also more likely to use large negative discretionary accruals than those acceding earlier in the fiscal year. This test is only significant on a 10% level and therefore we cannot say with certainty that CEOs acceding six months before fiscal year use discretionary accruals to a greater extent than those that accede earlier in the year. The overall pattern still indicates a tendency for CEOs acceding late in the fiscal year to engage in opportunistic behavior to a greater extent. This can be seen in the mean accruals that has a negative sign, indicating use of negative discretionary accruals, resulting in decreased earning. Both these results are consistent with our sub-hypothesis. A potential explanation can be that a CEO, by taking a big bath in the first year, can put the blame on his or

hers predecessor for bad performance and thereby create a favorable platform for coming years. We therefore believe it to be easier for the newly appointed CEO, acceding late in the fiscal year, not to be held accountable for his bad performance, as opposed to a CEO acceding early in the year. Another explanation could be found in the compensation system. A CEO who accedes early in the fiscal year has a higher probability of earning a bonus in the first year. Given that the CEO is not willing to jeopardize this bonus, it is less likely that he or she will engage in Big Bath Accounting.

5.2 Results from CEO compensation plans

5.2.1 Results from bonus portfolios

The results from testing the implications of the annual bonus plan theory are summarized in the table below.

Table 5

Model summary for test of bonus portfolios						
	Portfolio	Number of accruals with given sign: Positive	Negative	Number of companies	Mean accruals	T-test for difference in means
Year 0	LOW	12	19	31	-0,0395	4,802*
	MID	14	11	25	0,0141	5,991*
	UPP	1	9	10	-0,0523	
χ^2 (d.f. 2)	**6,369					
Year 1	LOW	14	3	17	0,0549	4,786*
	MID	28	8	33	0,0394	3,341*
	UPP	5	8	16	-0,0203	
χ^2 (d.f. 2)	**8,588					

*=significant at the 0,1% level

**=significant at the 5% level

If the CEO chooses accruals to increase the value of the bonus compensation, there should be a higher incidence of negative accruals and lower mean accruals for portfolios LOW and UPP than for portfolio MID. The opposite is true for reversal.

At year 0, the mean discretionary accruals scaled by total assets for the LOW portfolio (-0.0395) is lower than that of the MID portfolio (0.0141). The mean accruals is also more negative for the UPP portfolio (-0.0523) than for the MID portfolio. The chi-square statistic, which indicates the statistical connection between variables, is significant at a 5% level. The t-statistics,

which evaluates the differences in means, are statistically significant at a 0.1% level for all three portfolios. These results indicate that CEOs who are unlikely to earn any bonus, or who have exceeded the maximum level of bonus in a given year, select income-decreasing discretionary accruals in order to increase the probability of receiving a bonus in the coming years. Out of the companies in our sample, it is these CEOs, who are in the LOW and UPP portfolios, that particularly behave opportunistically and engages in Big Bath Accounting since their bonus structure possibly give them an incentive to do so. These results are in line with previous research. Holthausen et al. (1995) and Healy (1985) receive the same pattern and magnitude of the mean accruals as our results demonstrate. Thus, we reject our null hypotheses.

In the subsequent year, year 1, the mean discretionary accruals scaled by total assets is (0.0549) for the LOW portfolio is, (0.0394) for the MID portfolio and (-0.0203) for the UPP portfolio. The chi-square statistic is significant at a 5% level. The test reveals that all mean accruals have increased compared to year 0, indicating that there has been a reversal of the use of accruals in each portfolio. The proportion of accruals with given sign also indicate a reversal, since there is a higher proportion of positive accruals in year 1 than year 0. CEOs now have an incitement to use income-increasing discretionary accruals, since they will be rewarded with a bonus. This is evident since there are more companies in the MID and UPP portfolios compared to year 0. Even though the mean discretionary accruals for portfolio UPP has increased compared to year 0, it is still slightly negative. The reason for this is that CEOs in the UPP portfolio earn a bonus at or above the upper boundary of their bonus plan and therefore the CEO neither reduces his current bonus nor increases the expected future bonus. Consequently, the CEO does not have the same incentive to report positive discretionary accruals as the other two portfolios.

All in all, the results indicate that a reversal of negative discretionary accruals have taken place the year after the CEO succession, which is consistent with the bonus hypothesis. Meanwhile, there is still a proportion of negative accruals in each portfolio, suggesting that the reversal takes time and most likely will stretch over a few years.

From the results we can also draw the conclusion that mean accruals are more negative for the UPP portfolio than for the LOW portfolio. This is true for both year 0 and year 1. One reason for the diverse accrual behavior between the two portfolios can be different incentives to behave opportunistically. With today's high pressure from the market, CEOs have a higher risk of losing their job and get replaced if the company reports poor performance. This can create unwillingness

for CEOs of firms with already poor earnings, and hence are categorized below the lower bound, to engage in Big Bath Accounting. Another explanation for the difference in negative accruals between the LOW and UPP portfolio can be found in job security. CEOs who are below their lower bound have a lower economic security to rely on if they were to lose their job than they would have if they were receiving the maximum bonus possible. This could make CEOs less likely to use income-decreasing accruals to a greater extent.

In the year following the CEO change 26% of the cases in our sample showed that no bonus is earned at all and in only 24% of the cases the upper bound is achieved, most likely indicating that the target levels are challenging. This could be an explanation for why the majority of observations are classified as LOW and MID portfolios.

5.2.2 Results from total cash compensation

First, a test was run with total cash compensation as the dependent variable, see Table 6.

Table 6

Model Summary for Regression of Total Cash Compensation

							Percentiles		
Dependent variable			Std	Mean	Median	Minimum	25%	75%	Maximum
Total Cash Compensation			7,301	4,627	1,916	0,052	0,048	5,616	37,252
							Percentiles		
Independent variables	β	Significance level	Std	Mean	Median	Minimum	25%	75%	Maximum
Constant	4,709	0,002							
CFO	-0,742	0,951	0,153	0,078	0,089	-0,336	0,019	0,143	0,634
NDA	25,167	0,091	0,076	-0,377	-0,036	-0,288	-0,063	-0,013	0,238
DA	28,621	0,052	0,110	0,029	0,005	-0,213	-0,033	0,064	0,558

N = 65 R^2 = 0,182 Adjusted R^2 = 0,142

One observation was excluded because its extreme value in cash flow from operations (CFO) biased the regression. This was evident in the dramatic drop in R^2 when excluding it as well as for the rise in the p-value for the CFO variable. The variable discretionary accrual is significant on a 1% level when including the outlier while it becomes significant at only a 10% level when excluding the outlier. The variable non-discretionary accruals is significant on a 10% level when including the outlier but rises slightly and becomes insignificant when including it. This result indicates that both discretionary- and non-discretionary accruals have an effect on the increase in total cash compensation. The obtained R^2 value is 0.182 compared to 0.2386 achieved by Balsam

(1998). At the time Balsam performed his study, companies only disclosed the total cash compensation and therefore he included both fixed salary and bonus. However, it is only the annual bonus that is affected by discretionary accounting choices and therefore we also perform the test with only bonus as the dependent variable.

By only including cases when the CEO actually received a bonus, the sample is reduced to 47 firms. This also excluded the extreme outlier in CFO, why no further reduction was made. Table 7 shows the result from the OLS regression. The association between discretionary accruals with cash compensation is measured by the coefficients for DA. Because the regression coefficients for all variables are positive, this provides indications that both non-discretionary and discretionary accruals increase cash compensation. DA is significant on a 10% level, while the rest of the variables are not significant. The R^2 value is similar to the test for total cash compensation and the sign of the independent variables are similar to the ones received by Balsam. In conclusion, positive coefficients for both discretionary and non-discretionary accruals are achieved, indicating that the use of accrual accounting is related to the amount of annual bonus paid to the CEO and we can therefore reject our null hypothesis. However, caution should be exercised when drawing conclusions based on these results since they are only significant on a 10% level. Though, the significance levels are close to the critical values why we can see a tendency that the sought relationship exists. Further research on the issue is needed in order to conclude if the relationship is significant.

Table 7

Model Summary for Regression of Bonus

							Percentiles		
Dependent variable			**Std**	**Mean**	**Median**	**Minimum**	**25%**	**75%**	**Maximum**
Bonus			1,855	0,971	0,307	0,003	0,097	0,953	9,205
							Percentiles		
Independent variables	**β**	**Significance level**	**Std**	**Mean**	**Median**	**Minimum**	**25%**	**75%**	**Maximum**
Constant	0,481	0,120							
CFO	3,236	0,265	0,156	0,102	0,113	-0,294	0,069	0,153	0,634
NDA	4,370	0,114	0,078	-0,045	-0,038	-0,288	-0,748	-0,012	0,012
DA	4,154	0,061	0,127	0,033	0,013	-0,218	-0,027	0,050	0,057

N = 47 **R^2 = 0,176** **Adjusted R^2 = 0,136**

One explanation for the higher significance levels compared to Balsam can be explained by our smaller sample, shorter time period and the use of Swedish firms instead of American firms.

6 Discussion

In our study we have observed certain areas that could potentially have a major impact on our final results. These will be presented and discussed further below.

6.1 Discussion for implication of specific choices

6.1.1 Defining the year of the CEO change

One crucial part of the study is the specification of the year of the CEO change, since this has a great impact on the empirical results. Despite discussions among researchers, it has been problematic for previous studies to decide upon a generally accepted definition of the year of the change. Pourciau has chosen to identify the resigning CEO's last year of tenure as "the latest year during which the CEO had been in the management position through the year as well as the three months following the fiscal year-end" (Pourciau 1993). However, this approach focuses on the resigning CEO and not the acceding, which can be problematic in the case when the new CEO has not acceded his position directly after the resigning left. In our study we are interested in when the new CEO has control over the financial statements; therefore Pourciau's definition is not appropriate. After careful considerations we have decided to define the year of the CEO change (year T_0) as when the acceding CEO puts his signature on the annual report, as long as the succession has occurred at least one month before this procedure. In the event of both the resigning and acceding CEO signing the annual report, the new CEO has not yet gained total control and therefore we have chosen the subsequent year as year 0. This approach may not be the best way for all situations, but we have concluded that it is the most appropriate in our case. To control for the impact of the choice of CEO succession year, a test was made to see whether CEOs assigning late in the fiscal year tend to make more discretionary accruals than those that assign early in the fiscal year, see part 5.1.1.

6.1.2 Measuring Big Bath Accounting

Despite the frequent existence of the concept Big Bath Accounting in accounting literature, it has been difficult for researchers to convincingly document it. One issue is the difficulty to determine how the level of earnings would have been if it was not manipulated, making it difficult to distinguish between a fair value and a manipulated one (Healy, Wahlen 1999). During the years, many approaches have been developed in order to try to manage this issue. In our study, we estimate an average discretionary accrual by using the amount for the year t_{-3} to t_{-1} as

well as t_{+2} and t_{+3}. This average value is then used as a proxy for the normal level of discretionary accruals in the absence of manipulation. We are aware that this might not represent the most accurate value, since the estimation period is fairly short, and we take this into consideration when analyzing the results.

6.1.3 The complexity of CEO compensation plans

In our sample, we excluded companies based on lack of specification of compensation structure and too complex information, which could result in a biased selection. Exclusion of these companies risks leading the relation between bonus compensation and Big Bath Accounting to be either under- or over-estimated. However, only two firms were excluded based on these reasons and therefore it is not expected to have any significant effect.

6.1.4 The timing of reversals

The underlying concept in the accrual accounting process is that accruals used in one period should reverse in another. It is difficult to interpret when this reversal will take place. A CEO may take a big bath in his or hers first year of tenure but choose to reverse the accruals several years later. This could lead to that the level of positive discretionary accruals might not increase substantially year 1 compared to year 0, even though a reversal exist.

6.1.5 Sample biases

We tested the distribution of firms in the three segments of market capitalization; Large, Mid and Small. In our sample there is an even distribution between the three segments; Large (29%), Mid (32%) and Small (38%). These proportions are almost identical to the ones present on the Stockholm Stock exchange, making our sample representative for Swedish listed companies.

Companies with high earnings tend to have high cash flows from operations and high accruals. The opposite is true for companies with low earnings (Dechow, Sloan 1995). If our sample mostly consists of growth firms that experience high or extreme firm performance it would bias the results towards more positive accruals. This could be one explanation for why our results show significantly higher positive discretionary accruals year one than negative year zero. If instead the sample would mostly consist of firms with low earnings, and thus low accruals, it would be more difficult to detect a clear pattern of Big Bath Accounting in discretionary accruals. This is the case since the deviation between manipulated discretionary accruals and normal are relatively low. Also, poor firm performance can require restructuring and these restructuring

costs affect the amount of accruals. Therefore it can be difficult to interpret the result, because one cannot reliably conclude if the amount of accruals is taken by the CEO due to simply poor firm performance or because of opportunistic behaviour.

Another source of potential bias in our results is the year of CEO succession. Even though there is a fairly even distribution of CEO successions over our chosen time period, a higher proportion of CEO successions occurred in the year 2007 (25%). The reason for the large amount of successions this year is probably not due to a downturn in the Swedish economy. Though, it could be explained by recession in other parts of the world, affecting specific companies, or other firm- and industry specific circumstances.

6.2 Robustness checks

In order to test our results for the sensitivity in assumptions and methodology, we performed robustness tests by modifying the design of the study.

The Jones Model

We began by testing the Jones Model with its numerous variations in order to conclude which alternative was the most successful in capturing discretionary accruals. The results are presented in Exhibit 3 in Appendix. We conclude the results to be fairly similar between the Modified Jones Model and the original Jones Model. The results for the original Jones Model indicate slightly higher R^2 values for all its variants and similar results on robust standard errors compared to the Modified Jones Model. Both models reveal that CEO tend to use more negative discretionary accruals in their first year, even though the Modified Jones Model rejects the null hypothesis to a greater extent. See Exhibit 4 in Appendix. In the year following the change, both models indicate a use of positive discretionary accruals in all the variants. Overall, there are minor differences between the two models and as previous studies have showed the Modified Jones Model to be more precise in detecting discretionary accruals it is chosen as our final model.

Thereafter, extreme outliers were included in the sample. See Exhibits 5-7 in Appendix. We are still able to reject the null hypothesis when including these extreme observations. The variables indicate almost the same results as our original test, except $\Delta REV_t - \Delta REC_t$ and 1/A that are not significant. The 1/A measures firm size and when firms with extreme performance are included it is expected to see an increase in the significance level.

To check the robustness with regards to potential confounding variables that exist in the Modified Jones Model, we included dummy variables to control for each of their impact. The dummy variables included were the performance match variable Return On Assets (ROA), the introduction of IFRS in 2005, classification of market capitalization and industry belonging.

When performing the OLS regression including ROA as a dummy variable, the variable gets a p-value of 10%. According to Dechow et al. (2012) performance matching on ROA can exaggerate misspecification in samples with extreme size and operating cash flows. Furthermore, Dechow et al. (2012) argue that there are mainly two limitations of this procedure. First, ROA is only effective in mitigating misspecification when the researcher matches on the relevant correlated omitted variable. Second, ROA reduces test power by increasing the standard error of the test statistic (Dechow et al. 2012).

Then, the OLS regression was performed including dummy variables for the three classification of market capitalization; Large, Mid and Small Cap. The results can be seen in Table 8. None of the segments indicated significant p-values; the dummy variables did not contribute to the regression. The results from the dummy controlling for the implementation of IFRS in 2005 indicate no significant sensitivity regarding the timing of the test. Overall, the results were unaffected by the dummy variables, since none of them received significant values. This indicates that in our sample of firms, the prevalence of Big Bath Accounting is not dependent on any of these variables. Therefore, these dummy variables were not included in the final model.

Table 8

Summary of results for potentially confounding variables		
	β	p-value
Large cap	-0,003	0,653
Mid cap	0,004	0,603
Small cap	-0,001	0,940
IFRS	0,006	0,451

Table 9

Summary of results for industry belonging			
	N	β	p-value
Basic Materials	4	0,005	0,687
Consumer Goods	5	-0,020	0,054
Consumer Services	9	-0,002	0,824
Healthcare	7	-0,052	0,220
Industrials	31	0,013	0,053
Technology	11	0,000	0,973
Telecommunication	1	-0,023	0,017

Last, the OLS regression was performed to test for industry belonging (results presented in Table 9). The reason for this is that previous studies that have only used a cross-sectional approach indicate a difference in the use of discretionary accruals across sectors (McNichols 2000). The firms in our sample were divided into an industry according to the Industry

Classification Benchmark, which is the one used by NASDAQ OMX Nordic. Only the industry Telecommunication received a significant value for its coefficient, but since the category only consists of one firm it does not affect the regression and is not included in our final model. The other six industries were not significant, indicating that industry does not have an impact on the use of accruals in our sample.

To further investigate the robustness of our results, we controlled for the type of CEO change; routine versus non-routine change and externally versus internally recruited CEO. There has been previous research studying Earnings Management in association with CEO succession that has separated the change into routine and non-routine. It is the non-routine changes that are argued to be subject to a higher degree of discretionary accruals. Including this dummy variable in the test results in no significant difference between the type of CEO succession and the use of discretionary accruals, see Exhibit 8 in Appendix. Studies conducted by Pourciau (1993) and Wells (2002) found clear existence of Earnings Management in the event of a non-routine CEO change. A reason for our opposing results could be found in the information regarding CEO changes. To identify if a CEO succession should be classified as a routine or non-routine change, a manual collection of information from company reports, press releases and news articles is required. There is vague reporting from companies about CEO changes, especially non-routine. This can be because companies are reluctant to disclose the real reason for the change, resulting in a biased sample.

Additionally, we controlled for the effect of the CEO being recruited internally versus externally, presented in Exhibit 9 in Appendix. We have not been able to find a previous study that controls for this variable and can therefore not compare our results. Our intuition was that an externally recruited CEO would be more willing to engage in opportunistic behaviour and use more discretionary accruals. However, we cannot tell that this is the case since the variable was not significant. The same reasoning goes here as for routine and non-routine changes. It requires a manual collection of information and it is not always easy to find information about how the CEO was recruited, which likely can result in a biased sample. Alternatively, it does not exist a difference between internally and externally recruited CEOs when it comes Big Bath Accounting, or at least not in our sample of firms.

CEO Compensation plans

With regards to the test of bonus portfolios, we did not exclude any outliers. The reason for this is because we only examine discretionary accruals in relation to the amount of bonus paid. The purpose of the study is to identify deviations in the amount of discretionary accruals and potential extreme values is an indication of the prevalence of Big Bath Accounting. Instead, we verified the manually collected information regarding the compensation structure to make sure we had retrieved it correctly.

In the test for CEO total cash compensation, part 5.2.2, only one extreme outlier was observed and hence excluded from the test. When all 66 firms were included, the variable CFO was significant, but after excluding the outlier we received an in-significant value on this variable. Since we are interested in the discretionary accruals impact on compensation, this should not be an issue. See Exhibit 10 in Appendix for results when including the whole sample.

All in all, the robustness tests indicate that there is high degree of reliability in our study. However, caution should be exercised to what degree general conclusions can be drawn from our study.

6.2.1 Heteroscedasticity and Multicollinearity

Multicollinearity means that changes in two or more independent variables in a regression models occurs simultaneously, making it impossible to say whether the change is related to the change in the dependent variable. Existence of multicollinearity leads to misspecification of the coefficients and give them higher variances which can result in a higher R^2 value. However, it does not violate the underlying assumptions in an OLS regression (Wooldridge 2012). For no multicollinearity to exist, both the Tolerance level and the VIF level should be close to 1 (for Tolerance 1 is maximum and for VIF 1 is minimum). We receive values of both estimations close to one and therefore we conclude no multicollinearity between our independent variables. See Exhibit 11 in Appendix.

Previous studies have concluded an issue of heteroscedasticity and attempts to reduce this has been done by lagging each parameter with total assets. This reduces but does not exclude presence of heteroscedasticity (White 1980). We therefore test for heteroscedasticity in the regression by the use of White‘s test for heteroscedasticity. A regression is run, where the dependent variable is the square of the residuals from our final regression and the independent

variables are the independent variables from the final model, the square root of the same and the cross-product. The decision rule is to reject that heteroscedasticity exists if $nR^2 < \chi^2(\alpha)$. For the Modified Jones Model, we receive a value above the critical value of 18.48 for $\chi^2(0.01)$ with 7 degrees of freedom and therefore we conclude heteroscedasticity.

For the Balsam model, we first test for when total cash compensation is the dependent variable and then run the test again with annual bonus as the dependent variable. Both tests obtain values higher than the critical value, indicating presence of heteroscedasticity. Therefore we have used robust standard errors in all our regressions.

7 Conclusions

The aim of this study was to investigate whether the event of a CEO succession affect discretionary accounting decisions for Swedish firms listed on the Stockholm Stock Exchange.

The results indicate a strong tendency for newly appointed CEOs to use negative discretionary accruals the year of the change, reducing current reported earnings. This is especially the case when CEO succession occurs late in the fiscal year. The subsequent year, our study indicates a reversal of behaviour were CEOs use positive discretionary accruals in order to increase future earnings. The study therefore presents strong indications of the prevalence of Big Bath Accounting in our sample. However, the results should be interpreted cautiously because there can be other reasons for the use of discretionary accruals in connection to CEO succession than simply opportunistic behaviour.

The study further investigated if CEO compensation linked to reported earnings gives CEOs another incentive to engage in Big Bath Accounting. First, we divided the sample into three portfolios based on the amount of bonus earned in relation to the firm's performance targets. Second, with the model presented by Balsam (1998), we test if the use of discretionary accruals increases cash compensation. The results from these two tests indicate that discretionary accruals increase cash compensation, even though the results are only significant on a 10% level. It also shows that CEOs who are unlikely to earn any bonus or who have exceeded their maximum level of bonus in a given year, select income-decreasing discretionary accruals in order to increase the probability of receiving a bonus in the coming years. The study therefore presents indications that compensation plans give CEOs an incentive to engage in Big Bath Accounting.

This is one of the first studies examining Big Bath Accounting in association with CEO succession in combination with CEO compensation tied to reported earnings in a Swedish context. Our findings are in line with studies performed outside Sweden as well as with theories in this field.

8 Suggestions for further research

The aim of this study is to provide a comprehensive analysis of Big Bath Accounting in connection to CEO succession and compensation plans in a Swedish context. We believe our findings are of valuable contribution to the knowledge in the field, especially regarding the Swedish setting. The findings in this thesis could be further developed in future research in mainly three areas discussed below.

First, considering the current debate about executive compensation and that our results indicate a positive relationship between the use of accruals and annual bonus plans, we believe it is necessary to extend the research in this field. In this study, the performance-based compensation tied to the reported earnings was investigated. The current negative external scrutiny regarding executive compensation plans might influence firms to compensate their management in the form of company stock and option to a greater extent. Another approach would then be to examine the impact of performance-based compensation tied to the company's stock. It would be interesting to see if there exist any differences between forms of compensation plans and the incentives it creates to engage in Big Bath Accounting.

Second, in this study we have chosen to approach Big Bath Accounting with the perspective of the Agency theory. From a shareholder's point of view, engaging in this type of opportunistic behaviour mostly has negative effects. Therefore, it would be interesting to look at Big Bath Accounting from another theoretical angle and examine if a firm could benefit from this kind of opportunistic behaviour. One positive effect of the method could for example be an increase in stock value.

Finally, there is a need to understand the underlying reasons for managers to engage in Big Bath Accounting. In this study we have investigated primarily two reasons, CEO succession and annual bonus plans, as incentives behind this kind of behaviour. A more comprehensive understanding of what motivates managers to manipulate reported earnings will strengthen the

knowledge about the implications of Big Bath Accounting. Stakeholders and researchers can thereby evaluate the different models used to detect the phenomena.

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10 Appendix

Exhibit 1: Different techniques for Earnings Management

Income decreasing techniques	
Techniques to shift current income to a later period	**Techniques to shift future expenses to an earlier period**
Creating reserves and releasing them into income in a later period	Improperly writing off assets in the current period to avoid expenses in a future period
Improperly accounting for derivatives in order to smooth income	Improperly recording changes to establish reserves used to reduce future expenses
Creating reserves in conjunction with an acquisition and releasing them into income in a later period	
Recording current-period sales in a later period	

Income increasing techniques	
Techniques to record revenue too soon	**Techniques to shift current expenses to a later period**
Recording revenue before completing any obligations under the contract	Improperly capitalizing normal operating expenses
Recording far in excess of work completed on the contract	Amortizing costs too slowly
Recording revenue before the buyer's final acceptance of the product	Failing to write down assets with impairment value
Recording revenue when the buyer's payment remains uncertain or unnecessary	Failing to record expenses for uncollectible receivables and devalued investments

Exhibit 2: List of companies included in the study

Company Name	Segment on NASDAG OMX Nordic	Industry belonging
ACANDO AB	Small Cap	Technology
ADDTECH AB	Mid Cap	Industrials
AEROCRINE AB	Mid Cap	Healthcare
AF AB	Mid Cap	Industrials
ALFA LAVAL AB	Large Cap	Industrials
ATLAS COPCO AB	Large Cap	Industrials
AXFOOD AB	Large Cap	Consumer Services
AXIS AB	Large Cap	Technology
BEIJER ELECTRONICS AB	Mid Cap	Industrials
BILIA AB	Mid Cap	Consumer Services
BOLIDEN AB	Large Cap	Basic Materials
BONG AB	Small Cap	Industrials
CLAS OHLSON AB	Mid Cap	Consumer Services
CONCORDIA MARITIME AB	Small Cap	Industrials
CYBERCOM GROUP AB	Small Cap	Technology
DORO AB	Small Cap	Technology
ELANDERS AB	Small Cap	Industrials
ELECTRA GRUPPEN AB	Small Cap	Consumer Services
ELECTROLUX AB	Large Cap	Consumer Goods
ELEKTA AB	Large Cap	Healthcare
ENEA AB	Small Cap	Technology
ENIRO AB	Mid Cap	Consumer Services
ERICSSON	Large Cap	Technology
FAGERHULT AB	Mid Cap	Industrials
FINGERPRINT CARDS AB	Mid Cap	Industrials
GUNNEBO AB	Mid Cap	Industrials
HALDEX AB	Mid Cap	Consumer Goods
HOLMEN AB	Large Cap	Basic Materials
INDUTRADE AB	Mid Cap	Industrials
ITAB SHOP CONCEPT AB	Mid Cap	Industrials
KARO BIO AB	Small Cap	Healthcare
KNOWIT AB	Small Cap	Technology
LINDAB INTL AB	Mid Cap	Industrials
MEDIVIR AB	Mid Cap	Healthcare
MICRONIC MYDATA AB	Small Cap	Industrials
NCC AB	Large Cap	Industrials
NET ENTERTAINMENT AB	Mid Cap	Consumer Services
NET INSIGHT AB	Small Cap	Technology
NOLATO AB	Mid Cap	Industrials
NORDIC SERVICE PARTNERS HLDG	Small Cap	Consumer Services

NOVOTEK AB	Small Cap	Technology
OPCON AB	Small Cap	Consumer Goods
OREXO AB	Mid Cap	Healthcare
ORTIVUS AB	Small Cap	Healthcare
POOLIA AB	Small Cap	Industrials
PRECISE BIOMETRICS AB	Small Cap	Industrials
PREVAS AB	Small Cap	Technology
PRICER AB	Small Cap	Industrials
PROACT IT GROUP AB	Small Cap	Technology
PROBI AB	Small Cap	Healthcare
PROFFICE AB	Mid Cap	Industrials
PROFILGRUPPEN AB	Small Cap	Basic Materials
RORVIK TIMBER SA	Small Cap	Industrials
SAAB AB	Large Cap	Industrials
SANDVIK AB	Large Cap	Industrials
SAS AB	Mid Cap	Consumer Services
SCA-SVENSKA CELLULOSA AB	Large Cap	Consumer Goods
SECURITAS AB	Large Cap	Industrials
SINTERCAST AB	Small Cap	Industrials
SKANSKA AB	Large Cap	Industrials
SKF AB	Large Cap	Industrials
SKISTAR AB	Mid Cap	Consumer Services
SSAB CORP	Large Cap	Basic Materials
STUDSVIK AB	Small Cap	Industrials
SWECO AB	Mid Cap	Industrials
SWEDISH MATCH AB	Large Cap	Consumer Goods
TELIASONERA AB	Large Cap	Telecommunication
TRELLEBORG AB	Large Cap	Industrials

Exhibit 3: Results for different variants of the Jones Model

			β						
Model	R^2	Adjusted R^2	Constant	1	ΔREVt- ΔRECt	ΔREVt	PPE_t	ROA_t	Dummy Conjuncture
The Modified Jones Model	0,135	0,125	*-0,040	***-1,333	*0,063		*-0,032		*0,032
The Modified Jones Model including ROA	0,153	0,140	*-0,040	-0,322	**0,049		*-0,033	***0,043	*0,032
The Modified Jones Model excluding constant	0,245	0,236		*-2,513	**0,066		*-0,066		0,011
The Jones model	0,162	0,152	*-0,040	***-1,475		*0,073	*-0,032		*0,028
The Jones Model including ROA	0,176	0,160	*-0,040	-2,865		*0,062	*-0,032	0,035	*0,029
The Jones model excluding constant	0,267	0,258		*-2,6652		*0,075	*-0,065		0,007

N = 323

*=significant on 1% level
**=significant on 5% level
***=significant on a 10% level

Exhibit 4: Summary of results from Z-tests of discretionary accruals for different variants of the Jones Model

Year 0				
	Mean	Std	z	Accept/Reject H_0
Final Model	-0,0202	0,0977	-1,7088	Reject
MJM incl ROA	-0,0182	0,0984	-1,5220	Accept
MJM excl constant	-0,0247	0,0948	-2,1495	Reject
JM	-0,0129	0,0960	-1,1101	Accept
JM incl ROA	-0,0098	0,0939	-0,8625	Accept
JM excl constant	-0,0223	0,0944	-1,9461	Reject

Year 1				
	Mean	**Std**	**z**	**Accept/Reject H_0**
Final Model	0,0317	0,1077	2,4304	Reject
MJM incl ROA	0,0337	0,1092	2,5407	Reject
MJM excl constant	0,0254	0,1156	1,8140	Reject
JM	0,0381	0,1110	2,8259	Reject
JM incl ROA	0,0407	0,1134	2,9638	Reject
JM excl constant	0,0275	0,1161	1,9536	Reject

Exhibit 5: Results for the final model including outliers

Model Summary for Regression of Discretionary Accruals

								Percentiles		
Dependent variable			**Std**	**Mean**	**Median**	**Minimum**	**25%**	**75%**	**Maximum**
Total accruals			0,1075	-0,0353	-0,0334	-0,5767	-0,0692	0,0003	0,899

		Significance	Standard					Percentiles		
Independent variables	**β**	**level**	**error**	**Std**	**Mean**	**Median**	**Minimum**	**25%**	**75%**	**Maximum**
Constant	-0,047	0,000	0,013							
1	-1,778	0,056	1,640	0,0067	0,0030	0,0006	0,0000	0,0000	0,0027	0,0660
ΔREVt- ΔRECt	-0,037	0,074	0,043	0,3010	0,1074	0,0481	-0,7933	-0,0224	0,1841	2,4670
PPE_t	-0,038	0,013	0,013	0,3851	0,4696	0,3774	0,0265	0,1479	0,7096	2,8651
Dummy	0,047	0,000	0,001							

N = 340 **R^2 = 0,080** **Adjusted R^2 = 0,069**

Exhibit 6: Boxplot showing distribution based on total accruals

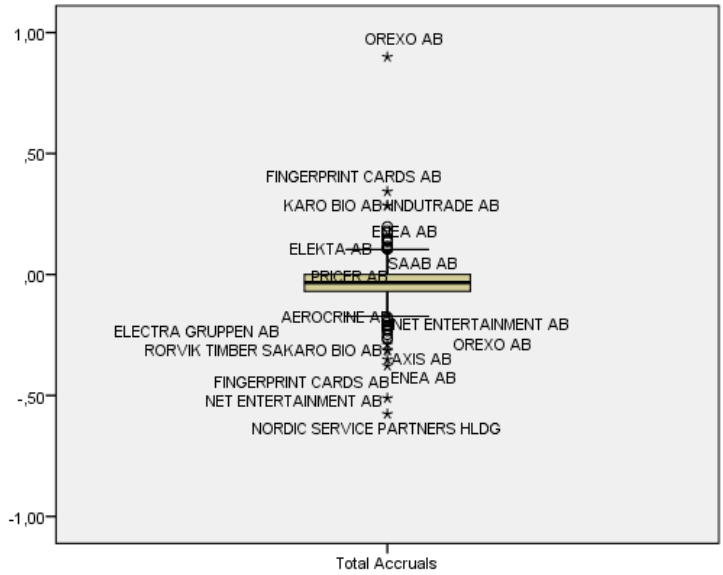


Exhibit 7: Summary of results from Z-tests of discretionary accruals for the final model, both including and excluding the outliers

Summary of results from Z-test of discretionary accruals				
	Mean	**Std**	**z**	**Accept/Reject H_0**
Final model				
Year 0	-0,0202	0,0977	-1,7088	Reject
Year 1	0,0317	0,1077	2,4304	Reject
Including outliers				
Year 0	-0,0223	0,0977	-1,8852	Reject
Year 1	0,0300	0,1146	2,1561	Reject

Exhibit 8: Results for tests of impact for routine vs. non-routine executive change

						T-test statistics		Mann-Whitney statistics	
		N	**Mean**	**Std**	**Mean difference**	**p-value**	**t**	**p-value**	**Z**
Year 0	**Routine**	38	-0,0232	0,108945	-0,0068	0,772	-0,291	0,604	-0,519
	Non-routine	30	-0,0165	0,0830					
Year 1	**Routine**	38	0,0490	0,1238	0,0392	0,119	1,582	0,190	-1,309
	Non-routine	30	0,0098	0,0795					

Exhibit 9: Results for tests of impact for external vs. internal executive change

						T-test statistics		Mann-Whitney statistics	
		N	**Mean**	**Std**	**Mean difference**	**p-value**	**t**	**p-value**	**Z**
Year 0	**External**	37	-0,0171	0,075714	0,0069	0,783	0,276	0,618	-0,499
	Internal	31	-0,0240	0,1201					
Year 1	**External**	37	0,0247	0,0885	-0,0155	0,571	-0,570	0,604	-0,519
	Internal	31	0,0402	0,1279					

Exhibit 10: Model summary for regression of total cash compensation before excluding the outlier

Model Summary for Regression before excluding outliers							
				β			
	N	R^2	Adjusted R^2	Constant	CFO	NDA	DA
Total cash compensation							
Excl outliers	65	0,182	0,142	*4,709	-0,742	***25,167	***28,621
Incl outliers	66	0,336	0,304	*5,882	*-14,140	***24,697	*29,342

*=significant on 1% level

**=significant on 5% level

***=significant on a 10% level

Exhibit 11: Summary of collinearity statistics

Summary of collineraity statistics								
Final model: version of Modified Jones Model			CEO Total Cash Compensation Test			CEO Bonus Compensation Test		
	VIF	Tolerance		VIF	Tolerance		VIF	Tolerance
1/A	0,911	1,098	CFO	0,998	1,002	CFO	0,975	1,026
REV-REC	0,913	1,095	NDA	0,896	1,116	NDA	0,840	1,190
PPE	0,932	1,073	DA	0,896	1,116	DA	0,846	1,182
Dummy	0,936	1,068						