Earnings Management: Empirical Evidence on value relevance and Income smoothing.

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CHAPTER 6: FINDINGS AND DISCUSSION

The use of latitude in the reporting process is a topic with receives high levels of interest in the media and from all stakeholders involved. In common speech earnings management is often referred to in negative terms as ‘window dressing’ or ‘cooking the books’. When examining accounting policy and earnings management more closely, we see that it is an interactive process between regulators, enforcers, management, firms, and users of financial information. It is a complex interactive process where all stakeholders have different interests. The purpose of this study is to shed more light on the underlying mechanisms that drive earnings management and to show when earnings management is likely to occur and what the effects of earnings management are on value relevance and time series properties of earnings. The research question is generally formulated as:

*What are the causes and consequences of earnings management?*

This general question is decomposed is three sub-questions that are open to hypothesis testing. The first research question examines the behavior of the earnings management for different levels of performance. Research by Abarbanell (2000) and DeGeorge et al. (1999) give reason to assume there are relationships. As a second research question the value relevance of earnings management is examined. Here the issue of the influence of earnings management on the relevance of financial information is tested using market variables as a measure of all available information. Finally, the effect of earnings management in relation to the persistence of reported earnings is examined.

*Prior research*

We started out with the premise that accounting systems provide choices to managers with regard to timing and valuation within the current accounting systems. Accounting policy is the set of decision rules that define the actions that are to be taken under certain circumstances. Earnings management was defined using the
definition introduced by Schipper (1989) as a purposeful intervention in the reporting process by management to obtain some private gain. This definition takes a managers perspective on earnings management and is seen as a choice that management makes when preparing the financial statements. Furthermore, the definition was expanded to include real transactions that are primarily designed to influence the reported earnings.

Accounting theory has two different perspectives on earnings management. The contracting perspective argues that earnings management purposefully distorts some number, such as economic income. There is another distortion as well: the rules of accrual accounting and GAAP lead to accounting numbers that measure true income with error. Managing earnings changes the properties of the noise (such as its amount, bias, or variance). This perspective on accounting assumes that contracting is helpful in the explanation of the incentive structure of earnings management.

Principal agent relationships are hypothesized between the owner/manager and other stakeholders of the firm. In order to mitigate the costs of monitoring the agent, the principal makes use of contracts based on accounting numbers. A distinction is made between explicit and implicit contracts based on earnings. Examples of explicit contracts are debt covenants, bonus schemes, and political costs. Executive changes, buy-out offers and dividends are examples of implicit contracts with outside stakeholders based on earnings numbers. Empirical studies find support for both the incidence of earnings management to meet explicit and implicit contracts, although the empirical evidence is stronger in the case of explicit contracts.

Alternatively, in the information perspective earnings are one of many signals. In this view the absolute value of earnings is not relevant. Earnings are regarded as a signal on the state or changes in the state of the firm. In this context earnings management can be used to send extra signals on the state of the firm to outside parties. Management is assumed to use the freedom of choice in the reporting process to convey additional information about their expectations about future earnings.

An abstraction of the specific incentives in the contracting world is the formulation of a model where earnings management is driven to meet some target. Here the shift
is from specific situations to a general target which management wants to meet. Targets can be seen as the outcome of the total of different incentives to manage earnings. DeGeorge et al. (1999) have shown that targets can be ranked according to their priority. Loss-avoidance is the first target management will try to meet, if things are going better for the firm they will also try to show an increase in earnings relative to the previous year. The highest target for management is to meet market or analysts' expectations. They also find that firms that just meet a target will have lower subsequent performance.

Abarbanell and Lehavy (2000) introduce a framework where the outcome of the reporting process prior to earnings management relative to the desired target determines the direction of earnings management. The model assumes that managers assign a positive value to accounting slack for future periods. When the outcome of the reporting process is below the desired target and the slack to adjust earnings is sufficient to attain the target earnings will be managed upwards. When the target is not attainable with the available slack or the pre-managed earnings are above reported earnings, management will store accounting slack for use in future periods. This framework implies a non-continuous incentive to manage earnings along the spectrum of pre-managed earnings.

*Institutional setting and measurement*

Before empirical analysis of earnings management is possible there are two aspects that require attention. Chapter 3 specifically pays attention to institutional aspects of the Netherlands and the US.

Institutional settings and specifically the accounting systems are of importance to empirical analysis of earnings management since they determine the amount of slack in the reporting process. The degree of flexibility varies across countries. The Netherlands is seen as flexible and permissive relative to other countries. Especially the higher flexibility afforded in regulations relative to the US market is important for empirical modeling of earnings management in the Netherlands. The higher degree of afforded latitude can impact on the methods used to manage earnings, and thus should be taken into consideration when developing earnings management proxies. A substantial amount of earnings management literature in the US presumes
that accruals are the most active object of earnings management. The flexible environment in the Netherlands could very well make other methods of managing earnings more suitable.

Another dimension of the institutional settings with respect to accounting environments is the enforcement of accounting regulations. The US has a strong enforcement structure where auditors report that financial statements are compliant with accounting standards and the SEC strongly enforces this compliance. In the Netherlands the auditor's statement is restricted to stating that the report is compliant with the norms that are acceptable in society. In addition, the Enterprise Chamber is relatively inactive with only a few firm-years per year. Finally, the Guidelines of the Council for Annual Reporting are of ambiguous standing and do not have the status of law.

Shortly, the Netherlands are both flexible in regulations and less strict in enforcement then the US where most methodology to proxy earnings management has been developed. As a consequence it seems likely that proxies for earnings management will have different properties.

Chapter 4 introduces the methods for developing proxies to measure earnings management. From an abstract point of view there are two different approaches to developing a proxy for earnings management. Either specific items are identified or some benchmark is used to identify normal levels of earnings and deviations from the model are identified as discretionary components of earnings. Both methods have their merits and drawbacks.

Using specific items to infer earnings management is based on the premise that it is desirable to identify the use of some items open to a high degree of discretion with substantial precision. The size of total discretion may not be captured correctly but the items that are identified are very likely subject to accounting choice. Items that are used in this study are accounting changes, restructuring provisions and extraordinary items. These three are chosen because of their high degree of discretion, their magnitude of impact on earnings and their visibility. The chosen items are by no means a complete list of all identifiable items that are open to accounting discretion but they do capture a substantial amount of discretion.
The alternative method used in the literature is to benchmark components of earnings and put the emphasis on the scope of discretionary accounting. The object is here to use benchmarks to capture normal levels of variables and infer the use of discretionary accounting from deviations from the outcomes of benchmark models. Accruals are the typical example of this approach. The critical issue with benchmarks is the power of the models to capture normal levels. The better the benchmarking models are able to capture the normal levels of variables the more precise the inference of deviations of normal levels and hence discretion will be. Accrual models are not without discussion in the literature. Guy, Kothari and Watts (1996) showed that only the family of Jones Models marginally outperform random partition. Using specific items is likely to be more precise in identifying at least part of the discretionary adjustments and accruals models are likely to be more on target about the scope of earnings management. Thus a tradeoff between correctness of occurrence and scope seems inevitable when the proxies to manage earnings are restricted to either method.

An additional complexity in measuring earnings management is the reversal of certain interventions. Some items will impact the current period and reverse in future periods. A good example of a discretionary accounting intervention that reverses in subsequent periods is the restructuring provision. The creation of the provision will decrease earnings and the subsequent periods will be increased when the provision is used. Extraordinary gains such as the realization of gains on book value add to earnings in the period that the gain is realized and has no impact on subsequent periods. A consequence of offsetting discretionary line items where one reverses in subsequent periods and the other does not is that aggregation may obscure the actual motivations.

**Empirical analysis**

The empirical analysis sets out to test three hypotheses. Firstly, the non-continuous nature of incentives across the pre-managed earnings makes it likely that earnings management will be in a downward direction in the extremes of the pre-managed earnings range. Secondly, it could well be that earnings management impacts on the
value relevance of earnings management. Thirdly, it is hypothesized that target based earnings management induces earnings management.

The sample data were gathered by examining annual reports and adding DATASTREAM market data for a group of 611 firm-years over the period 1988-1997. When examining the discretionary line items the effect of accounting changes on current years earnings proved hard to quantify. Restructuring charges had a relatively large impact on earnings compared to other discretionary line items and extraordinary gains and losses often occurred simultaneously thus partially offsetting each others effect. The net combined effect of discretionary line items was to decrease reported earnings.

Discretionary accruals were estimated using several different variations of the Jones Model using different definitions of accruals. The estimated models were unstable across variations and the Jones Model for the cross-section outperformed the Modified Jones Model.

In order to examine the relationship between performance and earnings management the first hypothesis was formulated as:

\[ HI: \text{Earnings management is expected to occur to a stronger degree in the Outside quartiles of the performance} \]

The sample was grouped in 5% sets of ranked performance to examine the distribution of earnings management across the performance spectrum. When the discretionary line items were plotted on the 5% grouped ranking of pre-managed earnings the results showed substantial activity for the extraordinary items in the extremes. For the lowest 5% the extraordinary losses were offset by extraordinary gains and for the highest 5% extraordinary losses were not offset by gains.

The aggregated discretionary line items show an inverse relation with non-discretionary earnings. If pre-managed earnings are low, the discretionary line items increase reported earnings and if pre-managed earnings are high the discretionary line items decrease reported earnings. Consequently, it can be concluded that firms with a low pre-managed performance create accounting slack and mask the 'big bath' they are taking by producing one time gains to offset the losses. The 5% top performing firms also create accounting slack but do not offset their losses since they
can benefit from lower earnings and hence lower expectations for future earnings. Plotting accruals and discretionary accruals in a similar manner showed that the discretionary component largely mimics total components except for high performing firms, here the discretionary models are biased towards zero since they do not pick up on the increase in accruals.

Subsequently, the sample was divided in two groups where one group contained the outside two quartiles and the other group contained the middle 50%. Univariate tests showed that the absolute value of both separate line items and aggregated discretionary line items are significantly higher for the outside quartiles. This indicates that the outside quartiles display higher levels of discretionary accounting. In line with expectations based on a target based earnings management structure we find support for the first hypothesis. However, contrary to the results of Abarbanell and Lehavy (2000) we find that big bath accounting is offset by extraordinary gains to decrease the impact of cookie jar reserving on the bottom line. The results for discretionary accruals are less pronounced. There is hardly any perceptible difference between total working capital accruals and discretionary accruals. Here the finding is merely that higher levels of operational cash flow are associated with more negative accruals.

The second set of hypotheses stated that earnings management has both relative and incremental value relevance. If the hypotheses are supported this would mean that earnings management enables management to better describe the economic events over the reporting period. The hypotheses were formulated as:

\[
H2a: \text{Earnings management has relative value relevance} \\
H2b: \text{Earnings management has incremental value relevance}
\]

To test the second pair of hypotheses value relevance tests were performed that produced two strong results. Firstly, accruals add relevance to cash flows from operations up to levels similar to reported earnings. No additional explanatory power was gained when earnings were split into a cash flow and an accrual component.
Moreover there was also no explanatory power to be gained by partitioning accruals into a discretionary and a non-discretionary component. Secondly, extraordinary items and extraordinary losses provide significant explanatory power over and above reported net income. Both the null hypothesis for H2a of no relative value relevance and the null hypothesis of H2b of no incremental value relevance are rejected strongly for discretionary line items. In the case of discretionary accruals there was no statistical support for increases in incremental value relevance. This could either be due to the absence of an underlying economic reality or due to the small effect size. The effects are very small and similar research by Subramanyam (1996) uses much larger samples to get similar results with statistically significant results.

A target based incentive structure is consistent with the aim to report sustainable levels of earnings. The third hypothesis was formulated as:

\[ H3: \text{Earnings management is used to discretionarily smooth income} \]

When managers attempt to report a level of earnings that is in line with their long range expectations they will use slack to increase earnings in years where they are below their expected long term levels and add to their slack in years they outperform their long run expectations. When earnings management is used to smooth the time series of earnings it should follow that time series correlations increase and that the under and overshooting effects decrease. In order to examine the income smoothing effects of earnings management the correlation structure between variables and over time as well as first order differences were shown. Significant increases in smoothness of reported earnings were found to arise from the use of discretionary line items. In addition, the results also showed a statistically significant increase in smoothness resulting from the addition of accruals over cash flows. This is in line with the nature of the accrual process, but the results also showed that discretionary line items have and additional income smoothing effect over and above the accrual process.
Discussion

This study set out to examine earnings management in the Netherlands from a target based perspective to further the understanding of the phenomenon. Contrary to previous research that emphasized specific items or incentives, the approach taken in this thesis started out from a set of assumptions about preferences about the positive value of slack to manage earnings and the desire for managed to meet or slightly exceed earnings expectations.

Discretionary line items, contrary to discretionary accruals, produce pronounced results. The findings suggest that strong earnings management is likely to occur when firms are either doing very well or when they are doing very badly. Moreover, the results also indicate that managers take an inter-temporal perspective when they intervene in the reporting process. Earnings are only managed upward when this allows them to meet their targets. A final result that is consistent with the inter-temporal view and the presented modeling is that income smoothing is associated with earnings management.

In the quote at the beginning of the thesis the president of the SEC calls the management of earnings a numbers game. He expressed the fear that the zeal to satisfy expectations and project a smooth earnings path may lead to wishful thinking at the cost of faithful representation.

Evidence was presented here that supports the assertion that management and outside stakeholders engage in an interactive process where management tries to convey expectations which they subsequently try to meet when possible and where they use earnings management when this helps them.

A policy issue for the government would be whether the relatively flexible regulations and lack of enforcement are desirable properties of accounting in the Netherlands. The tradition of high professional standards and the emphasis on insight have served well.

However, international harmonization of accounting standards and having stronger enforcement mechanisms in place would make the Netherlands more in line with other parts of the world.
The regulations are likely to change to become IAS or US GAAP either by an EC directive or as a result of stock market mergers. Enforcement could also be regulated on an EC or stock market level. Either way the current flexible environment probably will change to be more in line with the UK and US, regardless of interventions by the regulatory institutions in the Netherlands. The decision for regulators should therefore be more on whether the adoption of mandatory IAS compliance should be enforced now or to wait until it becomes a natural standard. One interesting way regulators could modify the current regulations is to make the Guidelines mandatory. Regardless of the laws, regulations and enforcement mechanisms the underlying incentives will remain. This ultimately means that regulators can try to mitigate undesirable effects but that earnings management will still occur as long as there is flexibility in the reporting process.

Limitations and recommendations for future research

The results in the empirical analysis are contingent on several limiting factors. The most obvious limitation is the quality of the earnings management proxy. Both the discretionary accruals methodology and the discretionary line items method have their drawbacks. In the empirical analysis it was seen that the discretionary accrual models behave very similar to total accruals, which either implies that all accruals are discretionary or that the estimation models fail. The latter explanation is consistent with US research that finds small effect sizes in large samples. The discretionary line items behave in line with expectations but here measurement error also cannot be precluded.

A second limiting factor is the direction of causality. It was argued that earnings management increases the value relevance of reported earnings as measured by the association with buy and hold returns. However, there is an alternative explanation that could also explain the value relevance results. Instead of management adjusting earnings to reflect the state of the firm it could be that management adjusts earnings to influence market returns. This leads to the first suggestion for future research. Causality tests and simultaneous equation modeling could provide more insight in the order of events.
The further suggestion for future research is on the relation between earnings management and income smoothing. It was found that the occurrence of earnings management is associated with increases in smoothness of earnings. Whether income smoothing is the objective of earnings management or an implicit result could be analyzed by a further examination of the motivation structure of earnings management.