Accounting Changes and the Use of Financial Information

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1. Introduction

In this chapter the problem, the goals and the relevant definitions with respect to the study will be discussed.

1.1. Problem

A lot of research has been done into the frequency of accounting changes, the effects of accounting changes on financial statements and the motives for decisions by company managements to change accounting methods. It appears that managers often use accounting changes as an instrument to influence the judgements or decisions of the users of annual reports.

In this study the principal question runs as follows:
Are accounting changes incorporated adequately in the judgements or decisions of the users of annual reports?
Stated differently: If management wants to influence the judgements or decisions of the users by means of accounting changes, do these changes have the intended effect?

1.2. Goals

The goals of my study can be divided into two categories, scientific goals and societal goals.

The scientific goals are:
- To know more about the use of annual reports.
- To know more about the behaviour of the users of annual reports.

The societal goals are:
- The results can make the users aware of the effects of accounting changes on accounting numbers.
- The results can be of interest to management to know in what way and to what extent accounting changes influence users' behaviour.
- The results can contribute to adequate accounting standards relating to accounting changes.
1.3. Definitions

In the Netherlands the Council for Annual Reporting (Raad voor de Jaarverslaggeving) distinguishes the following three types of accounting changes:

1. Changes in an accounting policy: They result from adoption of an accounting policy different from the one used previously. Changes in an accounting policy include, for example, changes in the method of inventory pricing, changes in the depreciation method, changes in the method of accounting for long-term construction-type contracts, and changes in accounting for research and development expenditures.

2. Changes in the reporting entity: After this kind of changes a different group of companies comprise the reporting entity.

3. Changes in the presentation of financial statements other than changes in the reporting entity.

The research will be confined to accounting changes of the first type. Usually these changes affect the reported earnings and financial ratios of a company most.

With respect to the users the next categories will be distinguished:
- Investors and financial analysts: They interpret accounting numbers as an input to investment decisions.
- Officers of lending institutions (e.g., banks and insurance companies): They have to assess the creditworthiness of corporations.
- Financial press: As an intermediary between the providers and the ultimate users of financial information it has to interpret accounting numbers.

The term financial statements covers balance sheets, income statements, statements of changes in financial position, notes and other statements and explanatory material which are identified as being part of the financial statements.

1.4. Structure of the Paper

The next chapter deals with the position of my study in the Dutch research spectrum at present. Then similar research from abroad will be
reviewed in chapter 3. Finally different research methods will be discussed in chapter 4.

2. Position of the Study in the Research Spectrum

To form hypotheses with respect to the problem mentioned in the preceding chapter for one thing one should gain an insight into the whys and wherefores of changes in accounting policies, for another it is important to know in what way and to what extent users read and understand financial statements.

In the Netherlands Hoogendoorn examined accounting changes in the financial statements of Dutch companies. Klaassen and Schreuder on the other hand investigated the use of annual reports in the Netherlands.


Hoogendoorn reviewed 1380 annual reports of 138 listed Dutch companies during ten years (1977-1986). On average almost 30% of all annual reports contained one or more discretionary accounting changes. He formulated and tested the following three hypotheses:

1. If an accounting change is made with income increasing effect, the company has a below average income.
2. If an accounting change is made with income decreasing effect, the company has an above average income.
3. If an accounting change with equity increasing effect is made, the company has an above average leverage.

The hypotheses were based on the functional fixation framework. They were found to be acceptable in a strong or very strong rate. The discretionary accounting changes seem to be motivated by their effect on reported income or leverage. Hoogendoorn concluded:

1 It should be noted that in the Netherlands the accounting standards with respect to accounting changes are liberal compared with other countries (e.g., the United States). Consequently the type of accounting changes differs. Thus the frequency of discretionary accounting changes in the Netherlands is much higher than in the United States. Mandatory accounting changes hardly occur in the Netherlands.

2 That is 70-100 percent of the managements acted in the expected way.
An income increasing change seems to have been made to give the impression to the users that the income is not or not so far below average.

An income decreasing change seems to have been made to create possibilities for raising income in the future, without a negative impact on users' judgement in the year of the change.

An equity increasing change seems to have been made to give the impression that the leverage is not or not so far above average, especially in order to better be able to renew or extend debts.

Concerning the agency theory research Hoogendoorn concluded that the results of these studies, at least with respect to explaining accounting change behaviour of companies, were far from convincing.

A basic feature of the agency theory is that individuals (managers and users of the annual report) act in a rational manner and try to maximize their own utility. The existence of an efficient market is an important assumption. Given the rational behaviour of users, a rational company management will not make accounting changes only to give a more favourable financial picture of the company as influencing the judgement of users (in the intended way) will not take place. An accounting change will therefore only be made if there are determinable positive economic consequences for company management. For example, accounting changes affecting taxes to be paid, accounting changes minimizing the political costs of the company, accounting changes influencing management compensation or debt covenants. As such these studies are mainly on the cross-sectional variation in accounting procedures (accounting choice), and not on the time-series differences (accounting change)³.

³ It should be noted that in the United States a lot of research has been done into the influence of the FIFO/LIFO change on users' behaviour. This accounting change affects taxes to be paid. But the LIFO system is only acceptable for fiscal purposes if that system is also used for commercial purposes. So firms switching to the LIFO system increase their after-tax cash flows and at the same time decrease their reported earnings (during inflationary periods). An overview of these studies is given in paragraph 3.3.
2.2. **Klaassen and Schreuder (1980)**

Klaassen and Schreuder did research into the question in what way and to what extent users read and understand annual reports. This research is comparable to studies of Lee and Tweedie (United Kingdom) and Chang and Most (United States).

Klaassen and Schreuder arrived at the following conclusions:
- Users read the annual report in a shallow way.
- Users without a specific knowledge often confine themselves to the chairman's report.
- Users with a specific knowledge do also read the financial statements but do not often read the notes in which the accounting policies (and the changes of them) are stated.
- Users with a specific knowledge find forecast information and the bottom line net income the most important information elements.
- The understanding of the financial statements is disappointingly low, even with financial experts such as institutional investors.

These research findings could be linked up with the human information processing theory. But it should be emphasized that my study is about the effects of accounting changes on the behaviour of users and not on the processing of the information.

2.3. **Hypothesis**

The research done by Hoogendoorn and Klaassen/Schreuder is related with my study in such a way that on the basis of their findings it is possible to hypothesize that decisions of users of annual reports will be affected by discretionary changes in accounting policy.

The relationship between the three subjects can be visualized as follows:

- **effects of accounting changes** \(\rightarrow\) **the influence of accounting changes** \(\rightarrow\) **the use of financial statements**
- **on accounting numbers** \(\rightarrow\) **on users' behaviour**
3. Overview of Similar Research

Before one should examine the effects of accounting changes on users’ judgements or decisions, it is important to know whether financial information presented in annual reports is useful. In this field interesting work has been done by Ball and Brown (1968). They investigated the annual earnings announcements of 261 firms listed at the New York Stock Exchange (NYSE) for the years 1957-1965. It was found that unexpected increases in earnings were accompanied by positive abnormal rates of return and unexpected decreases by negative abnormal rates of return. However, it should be noted that 85-90 percent of the adjustment of the stock price to annual earnings changes occurred before the month of the earnings announcement. This earlier movement was due to quarterly reports of earnings as well as to nonaccounting sources of information. Given the efficient market hypothesis, the findings of Ball and Brown imply that reported accounting earnings reflect factors affecting stock prices and are potentially useful. The Ball and Brown study has been replicated for annual earnings announcements by firms traded in U.S. markets other than the NYSE (e.g., Foster, 1975) and for annual earnings announcements by firms traded in other countries (e.g., Brown on Australia, 1970). These studies confirmed the existence of a statistically significant association between unexpected earnings and residual stock returns.

With respect to the influence of accounting changes on users’ behaviour one can distinguish the following two hypotheses:

1. Functional fixation hypothesis: The hypothesis is also called the mechanistic hypothesis (e.g., Watts and Zimmerman, 1986) or the monopolistic hypothesis (e.g., Ball, 1972). The hypothesis implies that the market cannot completely distinguish real and accounting effects and that it is therefore misled by accounting changes (Ball, 1972). It follows from an assumption that accounting reports are the sole source of information on the firm.

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* It should be noted that underlying the tests of association between abnormal returns and unexpected earnings and the information content of earnings is the notion that earnings are measures of current and future cash flows.
2. Efficient market hypothesis: Under the version where the market reacts efficiently to all information, no market reaction to an accounting change would be observed unless the change actually conveys new information concerning real factors. Under the version where publicly available information is digested efficiently, any market reaction to an undisclosed accounting change is removed when disclosure eventually occurs, again excepting real factors (Ball, 1972). The former is the strong form and the latter is the semistrong form of the hypothesis. Usually, unqualified references to the efficient market hypothesis are references to the semistrong form.

Watts and Zimmerman distinguish three sets of accounting changes used in the studies to discriminate between the competing hypotheses:
1. All accounting changes whether they affect taxes or not;
2. Accounting changes that do not affect taxes;
3. Accounting changes that affect taxes.

Below a survey of the papers in which the hypotheses emerged.

3.1. All Accounting Changes

Ball (1972) examined 430 cases of accounting changes, some having cash flow effects and others not, and concluded that investors were able to distinguish between the real (cash flow) and 'cosmetic' effects of accounting changes on earnings.

3.2. Accounting Changes Not Affecting Taxes

In this set the influence on users' behaviour of accounting changes with no direct cash flow effects is investigated.

Archibald (1972) examined the stock prices of firms that switched from accelerated to straight-line depreciation (without changing their tax-accounting method) and concluded that no significant price reaction occurred during the month of earnings announcement (even though the accounting change increased reported earnings by about 10 percent).

Kaplan and Roll (1972) examined firms switching from accelerated to
straight-line depreciation and firms switching from deferral to flow-through accounting for the investment tax credit. Both changes improve reported earnings but have no direct tax consequences. They found that the returns of the depreciation-switching firms were worse than the market average during the 30 weeks following the earnings announcements. For the firms switching to the flow-through method from the deferral method, a temporary increase in price occurred at the earnings announcement date. However, during the 30 weeks after the announcement, the switching firms' stocks were worse than those of firms that did not switch. Nevertheless, Kaplan and Roll concluded that the market was not 'fooled' by the changes in accounting techniques.

Harrison (1977) compared the market performance of firms making discretionary as well as nondiscretionary accounting changes with the performance of similar firms that made no accounting changes. He found that firms that made discretionary changes resulting in earnings (but presumably not cash flow) increases experienced returns below those of the control group.

3.3. Accounting Changes Affecting Taxes

In this set the influence on users' behaviour of accounting changes that have cash flow effects is investigated. These studies were all focused on just one accounting change - the FIFO/LIFO change.

Sunder (1973, 1975) reported that firms switching to the LIFO inventory method, thereby decreasing their reported earnings but increasing after-tax cash flows during inflationary periods, experienced positive excess returns in the 12 months preceding the announcement of the change. This finding seems to confirm the market's rationality, since it suggests a reaction to the expected cash flow increases rather than to the reported earnings decreases. However, for a relatively small sample of firms (about 20) that switched from LIFO to FIFO, Sunder did not detect the expected negative market reaction.

Abdel-khalik and McKeown (1978) classified the LIFO-switching firms into two groups according to the sign of the unexpected earnings change. Firms with positive unexpected earnings that switched to LIFO
performed better than a control group, while the firms with negative unexpected earnings that switched to LIFO performed worse than a control group (i.e., experienced lower stock returns). These findings suggest that investor reaction was associated with the earnings performance of the switching firms rather than with the accounting-method switch.

Ricks (1982) matched firms that changed to LIFO with firms that did not change to LIFO but had approximately the same earnings change. He found that the LIFO-adopting firms experienced significantly lower residual returns than the control group during the month of the change announcement. So his findings were consistent with the functional fixation hypothesis.

Brown (1980) reported results consistent with Ricks'—an adverse market reaction for the firms changing to LIFO.

Biddle and Lindahl (1982) examined the association between residual stock returns and the realized tax savings due to the LIFO switch, rather than merely the market reaction to the accounting change. With some exceptions, the results indicated a positive association between residual stock returns and LIFO tax savings. This is consistent with investor rationality.

3.4. An Overview

From the papers discussed in this chapter one can conclude that the research findings are not unambiguous. The following table gives a rough overview.

<table>
<thead>
<tr>
<th>Table: Overview Research Findings</th>
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<tr>
<td><strong>Functional fixation hypothesis</strong> (more or less) confirmed:</td>
</tr>
<tr>
<td>* Sunder (1973, 1975)</td>
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<tr>
<td>* Abdel-khalik &amp; McKeown (1978)</td>
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<td>* Brown (1980)</td>
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<td>* Ricks (1982)</td>
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<tr>
<td><strong>Efficient market hypothesis</strong> (more or less) confirmed:</td>
</tr>
<tr>
<td>* Archibald (1972)</td>
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<td>* Kaplan &amp; Roll (1972)</td>
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<td>* Ball (1972)</td>
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<td>* Harrison (1977)</td>
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<td>* Biddle and Lindahl (1982)</td>
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The ambiguous research findings are probably caused by the possibility that there might be 'hidden' cash flow effects associated with accounting changes or by the different research methodologies used in the various studies. Both Watts and Zimmerman (1986), and Lev and Ohlson (1982) give a critical evaluation of most of the above studies.

Although the research methodologies are different the reviewed studies have two common features. Firstly in these studies the effects of accounting changes on the behaviour of only shareholders were examined. Secondly the aggregate effects on users' behaviour (i.e., stock price behaviour) were investigated.

Concerning these issues the study of Abdel-khalik and Keller (1979) is quite different. They examined the judgement of financial analysts with respect to a change from the FIFO system to the LIFO system for fiscal as well as for commercial purposes. As mentioned earlier these changes meant an increase of cash flows but a decrease of reported income. The analysts were asked to state preferences between six companies. The researchers worked in different rounds and gradually the accounting changes were made. In the notes to the financial statements the changes were explained. Of all respondents 88 percent said they noticed the accounting change. But the results showed that the financial analysts clearly had a preference for companies that used the FIFO system. The researchers concluded that they were functionally fixated on reported net income.

Interesting too in this respect is an early study of Jensen (1966). By means of questionnaires sent to analysts the effects of alternative depreciation and inventory methods on investment decisions were examined. Results indicated that different accounting techniques did affect the opinions of analysts, primarily through the impact on earnings-per-share figures.

4. Research Methods

Before discussing the research methods, I would like to evaluate the usefulness and possibilities for research into the effects of accounting changes on users' behaviour in the Netherlands.

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As far as I know there never has been done any research on this subject in the Netherlands. However, the Dutch 'market' is too small to duplicate the research methods in which the effects of accounting changes on stock price behaviour is investigated. Besides other user categories will be scrutinized. So we have to choose another research method.

Another important reason to do this research in the Netherlands is the fact that the accounting standards with respect to accounting changes are different from those in the United States. As mentioned earlier the accounting rules in the Netherlands are relatively liberal. The Dutch Accounting Guidelines (Richtlijnen voor de jaarverslaggeving), formulated by the Council for Annual Reporting, cannot compel companies to change an accounting principle. Only law can do that, but the law is only formulated in general terms.

Concerning the research methods I would like to distinguish between the financial press on the one hand and the financial analysts and lending officers on the other. This because of the differences in the use of annual reports.

The way the financial press interpretes accounting numbers will be examined by analyzing newspaper-articles around announcement dates of financial statements and by comparing the contents of these articles with the underlying sources. The crucial question is: Do newspapers signal accounting changes?

With respect to the financial analysts and the lending officers the following three possible research methods will be considered for application:

1. Inquiries in an experimental situation.
2. Inquiries in a real world situation.
3. A combination.

4.1. Inquiries in an Experimental Situation

The experiments will be divided into two parts:

1. To the users fictitious cases will be presented. Then through written inquiries the actual reaction will be examined. The

6 See footnote 1, page 5.
respondents are not informed explicitly about the objectives of the inquiries (indirect method).
Possibly this part of the research should be combined with a kind of protocol analysis; respondents should think aloud when they complete the questionnaires. So no information that could be of importance to the research will get lost.
For both user categories there will be one test group and one control group (with matched samples).
2. Through written inquiries or depth interviews will be examined what users say they would do in case of accounting changes. The respondents are informed explicitly about the objectives of the research (direct method).
There will be no control groups.

4.2. Inquiries in a Real World Situation

Real annual reports will be handed to the users accompanied with a questionnaire.
In the questionnaire the questions should be asked in such a way that it is possible to conclude to what extent accounting changes influence the judgements or decisions of the respondents.
With respect to this research method a problem emerges. Then users' judgements and decisions are a function of the expectations formed about the future performance of the firm, but different firms have different characteristics which would lead to the formation of different expectations. For example, the firm's financial and business history, its size, its financial structure, its contractual commitments (such as leases and pensions), its investment programs and other variables of relevance to the future operation of the firm could affect the judgements or decisions made by the respondents.
In a real world situation it is difficult to construct matched samples in order to isolate the effect of an accounting change on users' evaluations. Further the results would be situation specific and probably not generalizable to other settings. In other words, there would be a lack of external validity.
A possible solution to these problems is a combination of the above research methods.
4.3. A Combination

In this case the identities of the firms are disguised to avoid the use of other environmental information in the evaluation made by the respondents. Matched samples can be constructed independently. This method is comparable with the one used in the Abdel-khalik and Keller study.

Members of the Colloquium Faculty, fellow students,
I would like to discuss with you the pros and cons of the research methods. Also I would like to know which of these methods should be preferred ultimately.
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