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Master Thesis [Accounting and Auditing]

The influence of OCI presentation format on investors

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Abstract

This paper examines the effect of OCI presentation format on investors under IFRS. Previous research mostly examined the effect of OCI presented in the footnotes, statement of shareholders equity and in a performance statement on investors but did not look at the two different presentation options under IFRS. Under IFRS OCI can be presented together with net income in a continuous statement of comprehensive income or separately from net income in a consecutive statement of comprehensive income. The results show that investors seem to react stronger to OCI presented in a continuous statement as compared to a consecutive statement. The difference is due to the presentation format and is not affected by OCI presented on a separate page. If investors over valuate OCI presented in a continuous statement or under valuate OCI presented in a consecutive statement needs to be examined in further research.

Keywords: IFRS, OCI, presentation format, continuous statement, consecutive statement, components

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1. Introduction

In 2010, an exposure draft of proposed amendments to IAS 1 regarding OCI was published by the IASB (Deloitte, 2010). This draft proposed to put OCI and profit and loss into a continuous statement instead of giving a choice between a continuous and consecutive statement. The proposal fell through, not because of reasons regarding the presentation options, but because OCI was and is not clearly defined yet. No research has been conducted regarding the two presentation options under IFRS. This research will try to fill up this gap in the existing literature. The aim of this paper is to find out if the presentation format of OCI has an influence on the decision-making process of investors. The main research question of the paper is:

Does the presentation format of OCI under IFRS influence the value relevance of OCI for investors?

Other comprehensive income (OCI) forms together with net income comprehensive income (IFRS foundation, 2018). OCI presents all changes in equity which are not recognized in net income. For instance, pension liability adjustments and foreign currency translations. OCI can be presented in a continuous statement of comprehensive income, one statement which presents both net income and OCI, or it can be presented in a consecutive statement, one statement for net income and a separate statement for OCI.

This paper looks at three different aspects to answer the main question. The first sub question examines if managers have a reason to choose a certain presentation format and why they think this would make a difference. The second sub question examines the effect of a different presentation format on investors and the third sub question analyzes which components might have influenced that effect.

Managers of a company decide which presentation format to use for OCI (Libby and Emett, 2014). Riedl and Srinivasan (2011) have found two contradicting perspectives a manager can have. A manager can have an opportunistic perspective or an information perspective. If managers have an opportunistic perspective, they try to bias the readers of the financial statement in a direction they prefer. Managers with an information perspective try to present information in such a way that it becomes clear to readers which information is most relevant.

Is the presentation format of OCI influenced by managers perspective?

Through the years the IASB and FASB have tried to put OCI in a continuous statement, but not everyone agreed with that decision (Detzen, 2016, Hochreutener, 2018). The IASB and FASB gave in which

resulted in two different presentation options for OCI. Hirst and Hopkins (1998) have found that presentation format can affect the valuation process of investors. This finding is supported by Hodge, Hopkins and Wood (2010) who found that when people need multiple sources of information to reach a conclusion, the information is best processed when it is presented in one statement instead of two or more. This indicates that OCI is best presented in a continuous statement. Multiple studies find, however, that net income is more value relevant to investors than comprehensive income (Dhaliwal et al, 1999, Goncharov and Hodgson, 2011, Black, 2016). This leads to the second sub question:

Which presentation format is most value relevant for investors?

The last sub question looks which components might cause the difference in valuation:

Are components of OCI valued differently between presentation formats?

The contribution of this paper to existing research is to fill the gap in presentation relevance research. The presentation of OCI in footnotes and in the statement of shareholder equity compared to OCI presented in a performance statement has been researched multiple times. However, no research has yet examined the effect of OCI presented in a continuous statement as opposed to OCI presented in a consecutive statement although multiple researches have asked for it (Black, 2016, Goncharov and Hodgson, 2011). This paper also hopes to contribute to the ongoing discussion about where OCI should be presented. Does the presentation format matter? And if so, what is the effect?

The results of this paper show that investors value OCI differently when it is presented in a continuous statement as opposed to when it is presented in a consecutive statement. This response difference is not due to OCI and net income being presented on the same page or viewable together when the financial statements are printed. The response difference seems to be caused by the OCI components pension adjustments, foreign currency adjustments and the component other which consists of all the items which could not be grouped in one of the other components.

The thesis is organized as follows: chapter 2 discusses the rules and regulations surrounding OCI. An overview of the standard is given and the history of OCI is explained to better understand the importance of OCI. Chapter 3 looks at the existing literature surrounding price and returns relevance and presentation relevance. Both views of managers and investors regarding presentation format will be given. Chapter 4 explains the data collecting process and shows which data sources are used and in Chapter 5 the methodology to research each sub question is given. In Chapter 6 the results of the research is shown and Chapter 7 shows the conclusion.

2. Rules and Regulation

This chapter will give some background information about other comprehensive income. First a short summary regarding the rules of OCI will be given in the section standard(s). The second section will discuss the history of OCI to understand why OCI is reported and how the presentation options came to be. The history of OCI is discussed for both US GAAP and IFRS. Most research used in the literature review uses US GAAP. Looking at it from a historical point of view it appears as if the two standards are very much alike, but this is not the case. Since this paper focuses on IFRS, the last section of rules and regulation mentions the differences between IFRS and US GAAP as to explain why outcomes of researches using US GAAP cannot be assumed for IFRS.

2.1. Standard(s)

The standard of interest for this paper is mainly IAS 1. IAS 1 explains how the financial statements should be presented and thus it includes the rules regarding the presentation of OCI. The rules regarding the components that are presented in OCI are included in other standards such as IFRS 9 which looks at hedge accounting and IAS 19 which looks at remeasurements of defined benefit plans.

IAS 1

Other comprehensive income is defined as all income and expenses which are not recognized in net income. Together with net income OCI forms the comprehensive income, which is defined as a statement which includes all changes in equity during a period not resulting from transactions with the owners of the firm (IFRS foundation, 2018).

IAS 1 allows two different presentation options for net income and other comprehensive income. They can be presented in a continuous or in a consecutive statement. Figure 1 in appendix A presents an example of a continuous statement and figure 2 of appendix A presents an example of a consecutive statement. A continuous statement allows net income and OCI to be presented in one statement. Net income will be first presented followed by OCI. When presented in a consecutive statement net income will be presented in a separate statement. The statement of net income will be presented immediately before the statement of comprehensive income. These statements are separated by no more than a page break and no other statement is allowed to be between these two statements. The comprehensive income statement will only include the total profit or loss from the income statement and not all the items from the income statement. This will be followed by the components of OCI (IFRS foundation, 2018).

The items of other comprehensive income are classified and presented in two groups. There are items that will be reclassified to net income and items that will not be reclassified (IFRS foundation, 2018). Reclassification adjustments are also known as recycling (Hochreutener, 2018). If an item is recycled from OCI to net income it means that an item was recognized in OCI in a previous period and will now be recognized in net income. Comprehensive income will be the same after a reclassification and changes in equity will not change either.

Components

All income and expenses must be recognized in the income statement, unless an IFRS standard rules otherwise (Iasplus, 2020). The items that are excluded from the income statement can be seen in table 1 (IFRS foundation, 2018).

It is not clearly explained by the standard setters why some items are excluded from net income (Backhuijs et al, 2017). The main reasons named by IASB are that these items reduce the predictability of net income and that the items are not important for future cash flows.

Table 1 IFRS OCI components

Standard	What needs to be presented in OCI
IAS 8	Correction of errors and the effect of changes in accounting policies
IAS 16	Property, plant and equipment adjustments
IAS 19	Remeasurements of defined benefit plans
IAS 21	Gains and losses from foreign currency adjustments
IAS 38	Intangible assets adjustments
IAS 39	Financial instruments • Gains and losses on marketable securities • Gains and losses on cash-flow hedges
IFRS 9	Financial instruments • Gains and losses on cash-flow hedges • Gains and losses on equity investments • Adjustments related to credit risks of a financial liability

2.2. History of Other Comprehensive Income

Both US GAAP and IFRS require to present a comprehensive income statement which contains two sections 1) net income and 2) other comprehensive income (Detzen, 2016). Comprehensive income renders all changes in equity except those from the owners in their capacity as owners. Other comprehensive income is simply defined as all items in comprehensive income which are not presented net income. The question which might arise is why are these items excluded from net income? What is the need for other comprehensive income? The roots of the history of OCI lies with

the discussion about the clean surplus principle which began around 1940. This history is not only about why the concept of OCI was made but also about the presentation in the financial statements.

The clean surplus concept is also known as the all-inclusive concept (Hochreutener, 2018). It requires that all changes in equity should be recognized in the income statement. This should result in a true fair value market value, because all income statements throughout the lifespan of the company should include all gains and losses of the entity. The book value of the company from last year plus the comprehensive income of this year should form the current book value of the company, not taken into account the owner transactions.

Around 1940 discussions began about what should be included in net income (Detzen, 2016). Before 1940 different accounting practices were in place. The result of this was that companies recognized some gains and losses in the income statement while they recognized other gains and losses from the same nature in equity. Managers were able to manipulate their financial statements to a high degree, which was frowned upon. People began to ask the Committee on Accounting Procedures (CAP, an American standard setter) to require an all-inclusive income statement for companies. The CAP issued in 1941 a bulletin in which they stated that an all-inclusive income statement was not possible in practice but a theoretical ideal. They discouraged companies to charge items to equity and it was only allowed when necessary. It was, however, not defined when something was associated as necessary.

A few years later, in 1947, the view of the CAP changed (Detzen, 2016). They made a sharp definition of income. Items which were not part of the usual business operations were excluded, only the operating income was to be presented into income. This measure was taken to help users distinguish normal items from unusual or extraordinary items. This operating income was also better to make future predictions about companies. The drawback however was that much more judgement was needed to decide if the items are part of the usual business operations or not instead of when it was discouraged to charge items to equity, which made it open to more manipulation.

A huge change with regard to reporting took place in 1975. Before this year every item was measured using historical cost accounting (Hochreutener, 2018). This became a problem after a long period with high inflation took place. The balance sheet was not representative anymore and a solution was needed to make the financial statements more meaningful. FAS 8 was issued in 1975 stating that gains and losses from foreign currency translation for foreign operations should be included in the income statement (Detzen, 2016). Instead of historical cost, exchange rates were used to measure foreign currency and the foreign currency adjustments went through the income statement.

The use of exchange rates led to significant volatility in the income statement, therefore in 1981 FAS 52 was issued (Hochreutener, 2018). Instead of booking currency adjustments to the income statement, it was booked directly to equity until the transactions were completed. After the transaction were completed the adjustments were to be recycled to the income statement as part of the net gain or loss on the investment (Detzen, 2016). This caused concern by a few members from the FASB because it violated the clean surplus relation by excluding items from the income statement. The FASB is a successor of the CAP. The CAP was replaced by the APB (Accounting principles board) which made way in 1973 for the FASB (Securities and exchange commission). Foreign currency translations were not the only items excluded from the income statement, through the years hedge accounting, pension accounting and changes in the valuation of market securities were also getting charged to equity (Detzen, 2016).

In 1980, a year before FAS 52 was issued, the term comprehensive income was introduced as a new concept by the FASB (Detzen, 2016) but not yet implemented. It was made because of complaints that all-inclusive income contained to much noise which distracted from the informative information in the financial statements. Comprehensive income would be introduced to solve this by representing all changes in equity during the fiscal year except those by the owners in their capacity as owners.

In 1992 the British standard setter ASB, one of the predecessors of the IASB, issued FRS 3 “Reporting Financial Performance” (Hochreutener, 2018). Although the term comprehensive income was first used by the FASB a few years prior to this standard, and FRS 3 does not use the term comprehensive income, this regulation is still seen as the first time comprehensive income was implemented. It required to recognize total gains and losses, including gains and losses that went through equity, into a single financial statement.

The FASB followed in 1997 in which they implemented the term comprehensive income and also other comprehensive income (Hochreutener, 2018). OCI includes all the items of comprehensive income which are not recognized in net income. Initially the FASB offered two presenting options for comprehensive income 1) OCI could be presented in one statement with net income (continuous statement); or 2) net income and comprehensive income could be presented in two separated statements (consecutive statement).

The two options given by the FASB in the exposure draft caused some arguments. Some opponents argued that items outside the profit and loss statement but within OCI were not performance related

(Hochreutener, 2018). Although not everybody shared this view and there were also a lot of people who agreed with this regulation the FASB decided to add another option to present OCI in the statement of changes in equity. The main reasons for this addition was because there was no clear definition of OCI and for a lot of people it was not clear what was meant. Consequently, the FASB decided to tackle these problems first before deciding on the presentation location.

IASB followed the approach to comprehensive income of the FASB a decade later in 2007 (Hochreutener, 2018). They however only allowed two presentation options for the statement of comprehensive income a continuous or a consecutive statement. The IASB did not include the option to recognize OCI in the statement of changes in equity. The IASB had debated to only offer the option to put net income and OCI in a continuous statement to adhere as best as possible to the clean surplus concept. There were, however, some opponents who thought this would give too much attention to the bottom line of the statement; it would be too distracting from net income. The main goal of the IASB was to separate the changes in equity from transactions with owners from the other changes and therefore also allowed the second option to present it in a consecutive statement.

In 2010 the IASB made another adjustment to OCI. They required a split between those items which would eventually be recycled to net income and those items that would not. US GAAP does not have this requirement because their believe is that all items will eventually be recycled at one point in time. In this year they also issued an exposure draft to present OCI only in a continuous and not in a consecutive statement (Deloitte, 2010). This did not go through because board members raised the concert that the conceptual issues around OCI should first be fixed before considering the reporting location and the proposal fell through. What kind of items should be put in OCI when these items are allowed to be recycled should be better defined.

In 2011 the FASB followed the IASB and eliminated the third option for the presentation in OCI which allowed it to be recognized in the statement of changes in equity. The reason for this being that OCI had become more complex through the years and therefor required more prominence.

Summary

The roots of other comprehensive income lie in the discussion between having an all-inclusive income statement or not (Hochreutener, 2018). The people for the income statement argued that this gives the most complete view of the company and is the least subjective to manipulation by management. The opposite team argues that it causes for too much noise, by excluding certain items the statement

is better readable for outsiders and the income statement becomes more reliable to make predictions for the future.

Comprehensive income is a solution for this problem, although there is still a lot of discussion about it. This is because income is split into two sections, income and OCI, so it is named a modified all-inclusive concept. Some people still prefer that OCI should be scratched and have just one statement which does not distinguish between net income and OCI. Other people would prefer OCI to be put as far away as possible. Comprehensive income makes sure that net income is noise free and all items are included in comprehensive income because the excluded items are reported into other comprehensive income.

2.3. IFRS vs. US GAAP

Looking at the history and components of OCI it appears as if the regulations of IFRS and US GAAP are almost the same. So why does this paper focus on IFRS and does it not combine information from US companies and European companies? This is because there are a few major differences between OCI reported in an IFRS financial statement and a US GAAP financial statement. This might result in a different valuation of OCI by investors.

The first main difference between IFRS and US GAAP is the different components within OCI (Detzen, 2016). Both standards have the components financial instruments, currency translation, hedge accounting and pension accounting within OCI. IFRS also has the revaluation gain or loss from PPE and intangibles within OCI. So, more items are going through OCI in the IFRS standard than through OCI in the US GAAP standard.

The second main difference is related to recycling. US GAAP requires all items within OCI to be recycled to net income at some point within the entity's life while IFRS has made a distinction between items that will and will not be recycled (Hochreutener, 2018). When an OCI item is recycled it is re-recognized in net income when the income is realized, if an item is not classified as recyclable it will not pass through net income.

Another difference related to the second difference is the layout of OCI. The OCI items under IFRS are grouped by if they will be recycled or not and are presented in different sections within the comprehensive income statement (IFRS foundation, 2018). In the literature review will be discussed how investors might be influenced by how close the items are presented to net income. If this is the case investors might react differently to OCI items that are specifically named not to be realized in net

income versus OCI items that will be recognized. US GAAP does not make this difference which might influence how investors react to OCI items presented under US GAAP versus how they react to OCI items presented under IFRS.

Although the presentation options of OCI, presenting in a continuous or in a consecutive statement of comprehensive income, are the same under IFRS and US GAAP there are some differences. More OCI components are recognized under IFRS, not all OCI items will be recycled under IFRS and the lay-out of comprehensive income is different. These differences might influence how investors value OCI. Because of this is chosen to only look at IFRS in this paper.

3. Literature Review

This chapter discusses the relevant literature for this paper. To answer the sub questions this section looks at the theory about price and presentation relevance. Both price and presentation relevance are a part of value relevance research which studies the correlation between OCI, OCI components, comprehensive income and prices and returns (Black, 2016). This paper focusses on the relation between presentation format and the pricing of a company by investors, therefore other aspects of value relevance research such as predictability and forecasting ability are not discussed

This chapter consists of 4 sections. First the price relevance of OCI for investors is discussed. The second section looks at the presentation relevance. Hereby is examined how presentation format might influence managers and investors decision making process. The third section looks at the relevance of each component. Hereby the price relevance of each of the components is examined to find out which components are most important to investors. In the last section the hypotheses are developed for this research.

3.1 Price and return relevance

Price relevance examines the correlation between the financial statement item(s) and the market prices and return relevance looks at the correlation between financial statement item(s) and market returns (Black, 2016).

Income items can be categorized into two components, core income and transitory income (Ohlson, 1999). Core income relates to the main activities of a company which are expected to recur in the following years. Transitory income are income items which are unlikely to return in the future. OCI exists, among other things, of revaluations, corrections and remeasurements of items on the balance sheet (Iasplus, 2020) which can be seen as transitory items. Transitory items are not relevant in predicting future income, because they are non-recurring which would make OCI not so relevant to investors (Ohlson, 1999). However, OCI influences book values which directly causes a change in shareholders' equity. Investors are therefor expected to price OCI one-on-one in market value.

Studies regarding the price and return relevance of OCI provide mixed evidence. Dhaliwal et al (1999) find that net income is stronger related to stock returns than comprehensive income. This is researched by looking at the explanatory power of both net income and comprehensive income.

Research by Goncharov and Hodgson (2011) shows that both net income and comprehensive income are significantly related to changes in stock price. They also found that comprehensive income is more price relevant when it is disaggregated into separate OCI items instead of one aggregated line item. Although they found comprehensive income to be price relevant, net income on itself was found to be more price relevant. The difference might be due to the volatility of OCI items which makes the calculation of income persistence more difficult. This is in contrast with Khan et al (2018) who found that comprehensive income is more price relevant than net income by looking at the explanatory power of both items. Kubota et al. (2006) also finds that aggregated comprehensive income is more price relevant than net income while Landsman et al. (2011) finds evidence that OCI is not price relevant at al. Research done by Black (2016) and Chambers et al (2007) looked at multiple studies regarding price relevance and found that there was no clear answer regarding the price relevance of OCI.

Chambers et al (2007) looked at the study of Dhaliwal et al (1999) and several other studies and found a possible reason for why the results differed so much. Chambers et al (2007) noticed that research often focused on before and after SFAS 130 (1997, implementation of comprehensive income) was implemented. Goncharov and Hodgson (2011) also made use of as-if numbers instead of as-reported. Before SFAS 130, OCI was often not presented in the financial statement and was therefore deducted from other numbers. The numbers used were not the exact numbers and might have been the reason why research results differed so much. Research using reported OCI numbers instead of as-if numbers can be seen as more reliable. Chambers et al (2007) found that OCI items were priced one-on-one when using as-reported numbers.

3.2 Presentation Relevance

The way items are presented in the financial statement can have influence on how it is interpreted by users (Riedl & Srinivasan, 2011). This section looks at how investors are influenced by the presentation of OCI and it looks at why managers would want to influence investors. First, the managers perspective will be looked at which will lead to sub question one of this thesis. After this the investors perspective will be discussed.

3.2.1 Managers Perspective

Under IFRS managers have the ability to choose how OCI is presented in the financial statements. Assuming that the readers of the financial statements are influenced by the presentation choice, the choices the manager makes might be influenced by incentives of the manager (Libby and Emett, 2014).

For example, the reader can have trouble with processing the information if it is presented in a certain way, or the weight put on the presented items can be different based on the presentation format. There are two contradicting perspectives a manager can have when choosing between the presentation options for OCI 1) opportunistic perspective and 2) information perspective.

Opportunistic perspective

The opportunistic perspective assumes that the managers behave out of self-interest (Riedl and Srinivasan, 2011). The perspective presumes that managers make presentation choices to bias investors perspective in the direction that the managers favor (Libby and Emett, 2014). Hereby the assumption is made that investors are limited in their ability to process information. Manager might want to do this to boost their reputation or the reputation of the company. For example, interest on loans can be influenced if the lender trusts the company more. Another reason for managers to bias the readers' perception is to get higher bonusses if their compensation contract depends on stock price performance.

Riedl and Srinivasan (2011) define the opportunistic behavior as a misalignment between the reporting and economic signal an item should give. For example, an item that is persistently negative should be brought to the readers of the financial statement's attention. However, managers with an opportunistic perspective would present it in a less noticeable place within the financial statements. Libby and Emett (2014) stated that managers might put less attention on items by presenting the item outside net income in the statement of other comprehensive income. Investors would even pay less attention to the item if OCI was presented in the statement of equity.

Hirst and Hopkins (1998) found that managers prefer to present OCI in the statement of shareholders equity when they manage their earnings through marketable securities. This is in accordance with the opportunistic managers perspective since investors put less attention on items presented in the statements of shareholders equity. Managers know that net income is very important for investors when evaluating a company (Goncharov and Hodgson, 2011). The importance of OCI for investors is much more uncertain (Black, 2016). When a manager has an opportunistic perspective, the goal of the manager is to bias the perception of the readers of the financial statement, putting the manager in a good light. So, if managers believe that the items of OCI might put them in a bad light they would likely prefer OCI to be presented as far away as possible from net income.

Information perspective

The information perspective can be seen as more ethical. Hereby the goal of the manager is to give the information of the financial statements to the readers as transparently as possible (Libby and Emett, 2014).

The overall intend of the information perspective is to help solve the "lemons" problem (Heally and Palepu, 2001). This problem states that there are good and bad companies in the market and that investors cannot see the difference. When good companies give their information as transparently as possible, investors are offered a better understanding of the worth of the company. The companies that provide their information more transparently are deemed more trustworthy because investors are able to evaluate them better.

Riedl and Srinivasan (2011), found evidence in line with an information perspective for managers. In their research managers disaggregated special items when these items were less persistent to provide more information to the readers of the financial statement. But this might also have been opportunistic of the managers since most of these items decreased net income (Libby and Emett (2014).

Investors tend to look intensely to net income when evaluating a company (Goncharov and Hodgson, 2011). OCI presented in a continuous statement might therefor be more noticed. From an information perspective OCI would be likely presented in a continuous statement if the items are important to the company. This might be when a big part of OCI tends to be recycled to net income.

3.2.2 Investors Perspective

The presentation of OCI might not only affect managers but also investors. Otherwise said: when it affects managers, it will also likely affect investors since managers' perspectives are based on the assumption that investors are influenced by the presentation. This section will discuss how investors might be influenced by a different presentation location of OCI.

Market efficiency perspective

According to the market efficiency perspective, the location of the OCI presentation within the financial statements should not matter (Wang, Jiang & Lu, 2018). The perspective states that investors should be sharp enough to take all relevant information into account when evaluating a company. Under these circumstances all available information on the stock price is taken into account and all

presentation choices which do not affect the information content will not affect the stock prices (Libby and Emett, 2014)

This would indicate that it does not make a difference to investors if OCI is presented in a continuous or in a consecutive statement. This might be true as the only difference is on which page OCI together with net income is presented. However, this perspective also implies that presenting OCI in another statement (statement of shareholders equity), in disclosures or in footnotes will not affect investors as long as it contains the same information.

On the other hand, the IASB and FASB have had many discussions about where OCI should be presented and also indicated that they would have preferred OCI to be presented in a continuous statement (Hochreutener, 2018, Detzen, 2016). Not only them but also users and preparers of the financial statements have voiced strong opinions regarding the location where OCI should be presented. The market efficiency perspective might therefor not be entirely realistic, otherwise no debate would have taken place and a choice between multiple presentation options would also not be logical as it would only makes the statements less comparable.

Cognitive Theories

There are several theories on why investors are affected when the presentation of OCI changes. These are all cognitive theories; theories on how the mind handles things, as opposed to what is probably logical according to the efficient market theory. Under the assumption that the information stays the same under different presentation options, the following theories explain how it might affect the investor's perspective of the information.

Limited attention perspective is often mentioned together with efficient market perspective (Libby and Emett, 2014). The perspectives contradict each other; the limited attention perspective states that investors are influenced by reporting location whereas the efficient market perspective says that this has no influence on investors (Wiang, Jang and Liu, 2019). Investors are limited in how much information they can process, and certain presentation formats might make it harder to integrate the information given to investors (Libby and Emett, 2014). The proximity compatibility principle aligns with this theory. This principle states that when you need multiple sources of information to come to a conclusion, it is best if this information is displayed in one statement and not in two or more. (Hodge, Hopkins and Wood, 2010). The cognitive load theory of Sweller (1988) also states that people are limited by their cognitive abilities to process information. When information is scattered it makes it harder to integrate the information, which happens when information is placed on different pages.

These theories state that information is better understandable for investors when presented on one page

Another theory regarding the presentation option is that investors will give more weight to OCI when it is presented together with net income (Goncharov and Hodgson,2011). This aligns with what can be seen throughout the years. Opponents of OCI wanted to put it far away from net income because they thought it would bring noise to the performance statement (Hochreutener, 2018). This indicates that they were afraid that investor might focus on it too much. Maines and McDaniel (2000) also indicate a difference in the weight investors put on OCI when it is connected to net income. It affects how investors classify the information given and influences their judgment.

Hirst and Hopkins (1998) find that the presentation of comprehensive income can affect investors' valuation processes. Comprehensive income was much more discussed by investors when it was put in the performance statement together with net income, as opposed to the statement of shareholders equity. Moreover, extra attention was paid to earning management. The finding that the presentation format of comprehensive income can affects investors' valuation process is supported by Maines and McDaniel (2000), who found that non-professional investors valued comprehensive income higher when it was presented in a performance statement. Both these experimental researches focused on the difference between putting comprehensive income in a performance statement against putting it in the statement of shareholders equity. The distinction between a continuous and consecutive statement was not made, but it shows that proximity of information does have an influence on investors. These findings can be caused by the limited attention perspective, it might have been harder for investors to integrate the information because of how it was presented. It can however also be caused by the assumption that investors might put more weight on OCI when it presented closer to net income and put thus less attention on OCI when it is presented in the statement of shareholders equity.

3.3 Components of OCI

The relevance of OCI is inherent to the relevance of its components (Chambers, 2007). Previous research on the value relevance of the components splits the components into 4 to 5 main categories: currency translation adjustments, Pension adjustments, marketable securities, cash flow hedges and others (Bratten et al, 2016, Detzen, 2016, Chambers et al, 2007, Black, 2016, Dhaliwal et al, 1999). Most of these researches are based on US GAAP. IFRS also has the OCI items property, plant and equipment adjustments and intangible adjustments, these can also be grouped together as a separate component of OCI (Detzen, 2016)

Dhaliwal et al (1999) finds that marketable securities are the only components of OCI that improves the relation between income. The other components only add noise to the information for readers of the financial statements. Chambers (2007) also finds that marketable securities drive the pricing of OCI. In addition, the research also finds a positive relation between foreign currency translations and the pricing of OCI. The other components of OCI seem to again have no effect on the pricing of a company. Khan, Bradbury and Courtenay (2018) looked at the explanatory power of comprehensive income versus net income. They found that Comprehensive income had a higher explanatory power which was driven by the OCI component marketable securities and asset revaluation reserves. Foreign currency translation and cash flow hedges seemed to have a negative effect on the valuation of the company in some of the models. Khan et al (2018) suggested that hedge activities might be positively related to stock pricing since it can be viewed as a signal that the company is managing its risk proactively. However, they did not find any results supporting this.

Black (2016) found that variations in the components of OCI related to available for sale securities, pensions and foreign currency translation, appear to drive variation in total OCI. The components researched were marketable securities, derivatives, pension adjustment, foreign currency translations and others. All components were positively related to stock prices except for the component 'others.' Mitra and Hossain (2009) found a negative relation between pension adjustments and the stock prices, but only for large firms. Middle size and small firms did not seem to be influenced by it.

Overall marketable securities seem to be the most important component of OCI. Foreign currency translations also might have a positive impact on stock price. The effect of other OCI components is a bit unclear. Khan, Bradbury and Courtenay (2018) reported a possible negative influence of foreign currency translations and cash flow hedge on stock pricing, while Black (2016) found a positive effect between almost all components and stock pricing except for the components other. The reasons why a relation would be positive or negative are not very well explained in the researches.

3.4 Hypothesis Development

To answer the research question whether the presentation format of OCI under IFRS influence the value relevance of OCI for investors, three sub questions were formulated. These three sub questions are the building stones for answering the main question. In this section of the paper the hypothesis per sub question will be made.

The main focus of this paper is to find if investors value OCI differently based on if it is presented in a continuous or consecutive statement. Investors may value OCI differently based on how close to net income it is presented (Hodge, Hopkins and Wood, 2010, Sweller, 1998, Goncharov and Hodgson, 2011). A continuous statement has both net income and OCI in one statement of comprehensive income (Iasplus, 2020). Net income is presented in a separate statement from comprehensive income when OCI is presented in a consecutive statement. Assumed is that a continuous statement is presented on one page and a consecutive statement on two. A continuous statement can however consist of two pages when the statement becomes very long or a consecutive statement may present both statement on the same page if they are both very short. This also influences how close OCI is presented to net income.

Each sub question not only looks at a continuous versus consecutive presentation format, but also if OCI is presented on the same page as net income or on the next page and if OCI is presented on a page which can be viewed together with net income when the statements are printed (book form) or on the back page of where net income is presented (back page).

The first sub question looked at in this paper is:

Is the presentation format of OCI influenced by managers perspective?

Managers can have an opportunistic or information perspective when choosing between a presentation format (Riedl and Srinivasan, 2010). An opportunistic perspective makes them likely to want to hide items that influences the company in a negative way and emphasis items that can have a positive influence on the company. If managers have an information perspective, they are likely to put emphasis on items when the items are important. An OCI statement cannot be changed every year, this goes against IAS 1.45 (Iasplus, 2020) in which is stated that presentation and classification of items should be retained from year to year unless a change in presentation and classification can be justified.

Previous research seemed to find that managers often had an opportunistic perspective. To test if this is the case when choosing between a continuous and consecutive statement is a bit harder to do. An opportunistic perspective would suggest that OCI is presented further from net income if it influences the company negatively. A manager can, however, not change the presentation format each year based on how the OCI items performed. The focus is therefor on the information perspective to answer the first sub question instead of on the opportunistic perspective. If the hypotheses are rejected it might suggest that an opportunistic perspective is at play.

Multiple researchers found that net income is relevant to investors when pricing a company (Black, 2016). The importance of OCI was much more debated. The presentation of OCI states that the items presented must be separated in two sections where one section shows the items that will be recycled to net income and the other section shows the items that will not be recycled (Iasplus, 2020). Items that are likely to be recycled to net income may be more important to investors than items that will not be recycled. If managers have an information perspective, they should be more likely to put OCI closer to net income when a bigger part of OCI is likely to be recycled to net income. Assuming that managers have an information perspective the following three hypotheses are made.

H1a: *OCI will more likely be presented in a continuous statement of comprehensive income if recycled income is bigger than non-recycled income*

H1b: *OCI will more likely be presented on the same page as net income if recycled income is bigger than non-recycled income*

H1c: *OCI will more likely be presented in "book form" if recycled income is bigger than non-recycled income*

The second sub question is:

Which presentation format is most value relevant for investors?

OCI is not hard to find, if it is not presented together with net income it can be found on the next page. If the market efficiency theory is true presentation format should not make a difference in the valuation of OCI by investors. Throughout the years, preparers of financial statements have tried to put OCI as far from net income as possible while the IASB and FASB preferred a continuous statement (Detzen, 2016, Hochreutener, 2018). This seems to suggest that presentation format does have an influence on how OCI is valued.

Previous research suggest that much more notice was put on OCI when it was presented together with net income. Most studies however did not distinguish between a continuous and consecutive statement but researched the difference between a performance and non-performance statement such as a statement of shareholder equity or footnotes.

The cognitive theories show that investors are not perfect and influenced by how information is presented to them. The hypotheses for the second sub question will therefore be as followed:

H2a: *A continuous comprehensive income statement will be more value relevant for investors than a consecutive comprehensive income statement*

H2b: *OCI presented on the same page as net income will be more value relevant for investors than OCI presented on another page from net income*

H2c: *OCI presented in "book form" will be more value relevant for investors than OCI presented on "turned page"*

The third and last sub question of this paper is:

Are components of OCI valued differently between presentation formats?

Since the valuation of OCI by investors is inherent to its components, the valuation of OCI components should differ between presentation formats if total OCI valuation differs per presentation format. Based on the reasoning in sub question 3 a stronger relation between OCI components and pricing of a company is assumed when OCI is presented in a continuous statement. Prior research shows a strong positive relation between marketable securities and the valuation of a company by investors. The following hypothesis is made for marketable securities.

H3a: *Marketable securities will have a stronger positive relation to stock price when presented closer to net income*

The other components which will be looked at in this paper are pension, currency adjustments, hedge items and other, which contains all the OCI items that do not fit in one of the other four components. Previous research was unclear about which components were of significant influence for investors. Currency adjustments showed in some researches a positive relation to stock price while in other researches it showed a negative relation. Because it is unclear how the OCI components are valued by investors no sign is given to the relation between the components other than marketable securities.

H3b: *Pension will have a relation to stock price when presented closer to net income*

H3c: *Currency translation adjustments will have a stronger relation to stock price when presented closer to net income*

H3d: *hedge items will have a stronger relation to stock price when presented closer to net income*

H3e: Other OCI items *will have a stronger positive relation to stock price when presented closer to net income*

Each of these components will be researched by looking at how they are valuated between a continuous and consecutive statement, presented on 1 page or 2 pages and presented in book form or on the back page of net income.

4. Data

This section discusses the data used for this paper. The first section analyzes how the data is selected and the second section discusses where the data is gathered from.

4.1 Data selection

Through Orbis 281.892.344 companies worldwide were available. This study focusses on the effect of the presentation format of other comprehensive income under IFRS on investors. The observations should therefore be from publicly listed companies which are compliant with IFRS. This reduced the sample of observations to 20.232.

A decision had to be made between making a regression for multiple years and the amount of observations per year due to time. Using observations from multiple years gives the ability to control events which might have an influence on the outcome of the regression (Hanck et al, 2019). For example, a company might trade with a country in which there is hyperinflation. This might increase or decrease foreign currency translation by an enormous amount. Investors might notice this more because it has a huge impact, or they might put it aside because it is such a unique happening. Taking observations from two years instead of one however, cuts the amount of observable companies in half. Size is an important factor for the internal validity of the regression. The amount of observations is already limited. Because of this, the choice is made to only look at financial statements from 2019 which are selected from Orbis by selecting companies with an available net income for the year 2019. This selection criteria reduced the sample to 11.133.

This research focusses on western European companies. IFRS is used throughout Europe which thus ensures that enough firms are represented in the sample. The choice for a region reduces potential variables which can influence the outcome of this research, for example how developed the countries are and the supervision on the rules within the countries. By selecting western Europe 2.661 companies remained. The last restriction made through Orbis is that subsidiaries of companies inside this dataset are removed if they are owned for 50% or more by one of the companies within this dataset. This is done to prevent items being double accounted for. 2316 observations were downloaded from Orbis.

After selecting a dataset from Orbis more restrictions were added through Stata. An added criterion is that annual reports should be presented in euros to make sure that the information from each company is comparable. Euro is chosen as currency because this is most used throughout western Europe. The variable market capital should also be available for each observation because this is the

dependent variable in regression two and three. The observations that did not contain market capital were removed. This resulted in 1.160 observations including the euro criterion.

The top and bottom 1% of the dataset are trimmed based on market capital in order to diminish the possible influence of extreme observations. Trimming was based on market capital because this variable showed the most extreme values. Louis Vuitton had the highest market capital value with 209.350 million, while the second biggest company was worth 147.814 million. The smallest observations had a value of 1 million euros, although this could have been a little less since the values of market capital were given in millions of euros. After trimming the dataset, the market capital of companies ranged from 4 million euros to 70.330 million euros, with the second biggest company being worth 69.593 million. Trimming reduced the range of market capitalization a lot, and the difference between the highest values are less apart.

After trimming, the dataset consisted of 1.137 observations, still too many annual reports to sort through by hand. To tackle this, the companies were sorted based on what industry they belonged to and within the industry they were sorted in alphabetical order, and every third observation was taken. This resulted in a dataset that contains the same proportion of observations per industry as before. This resulted in a sample of 379 companies. This was the final sample from which extra information would be gathered.

Unfortunately, not all 379 observations could be used. Some of the companies did not have an annual report for 2019 available. These companies did show up in the sample because they had an available net income for 2019. This was due to interim statements that were brought out by the company, but these could not be used for the research because it did not contain information about the whole year. A few companies did not mention comprehensive income at all and there were also some companies who only presented their financial statements in their native language such as Greek, Icelandic and Spanish. This made it too difficult to gather information from those reports. The final sample of companies contains 240 observations. Table 2 summarizes the selection process of the data sample used for this research.

4.2 Data sources

The data used in this study is partly obtained from Orbis and partly obtained by handpicking the information from the financial statements. Orbis is a database that is available through the Erasmus university. The database contains financial data from 79 million public and private companies throughout the world and goes back 10 years (Erasmus University). The data gathered by bureau van

Table 2 Data sample selection

Selection process of data	**n**
Selection process through Orbis	
Active companies	281.829.344
Companies compliant with IFRS	2.040.265
Publicly listed companies	20.232
Companies with an available net income for 2019	11.133
Western Europe	2.661
Entity type: Bank, Corporate	2.375
Remove subsidiaries …. 50%	2.316
Total observations gathered through Orbis	***2.316***
Selection process through Stata	
Annual report presented in euro's	1.227
Available market capital	1.160
Trimmed top and bottom 1%	1.137
Every third observation	379
Total observations after additional restrictions	***379***
Available annual reports	240
Final sample of firms	***240***

Dijk, the provider of Orbis, is processed so information from different countries can be compared. The information gathered by Orbis comes from free annual reports (Bureau van Dijk, 2007). The search system makes it possible to combine multiple criteria to get to the initial sample for this study.

The variables gathered from Orbis are net income after extraordinary items and discontinued operations, the market value of the companies and the company names. The company names are used to look up the financial statements of the companies to gather the rest of the required data.

The values of total OCI, total of OCI recycled to net income, total of OCI not recycled to net income and the value of each of the components needs to be handpicked from the individual financial statement of the companies. This will be done after the initial sample is reduced. The location of OCI should also be observed from the financial statements. The financial statements of the companies provide information regarding all the financial statements of the company. The statement(s) of interest is/are the performance statement(s), this is the statement of net income and/or the statement of comprehensive income.

5. Methodology

To find the answer to the main question of this paper 'Does the presentation format of OCI under IFRS influence the value relevance of OCI for investors?' three sub questions have been formulated. This chapter discusses the method to research each sub question. This chapter is divided into three sections. Each section discusses the methodology of one of the sub questions. Appendix C shows the STATA commands used to calculate the regressions.

5.1 Location Model

The first sub question is as follows:

Is the presentation format of OCI influenced by managers perspective?

The question can be evaluated by looking if managers have an information perspective when presenting the financial statements. In this paper is assumed that OCI items that will be recycled to net income are more value relevant to investors than items which will not be recycled. If managers have an informative perspective, they would want to present OCI more prominently when it is more relevant for the investors and less prominently if the information is not relevant. Another assumption made is that investors look more closely at items presented in a continuous statement than a consecutive statement. The following three hypotheses belong to the first sub question and are tried to be answered with the regression model discussed in this section.

H1a: *OCI will more likely be presented in a continuous statement of comprehensive income if recycled income is bigger than non-recycled income*

H1b: *OCI will more likely be presented on the same page as net income if recycled income is bigger than non-recycled income*

H1c: *OCI will more likely be presented in "book form" if recycled income is bigger than non-recycled income*

The relation between the size of OCI items that will eventually be recycled to net income, as opposed to those OCI items that will not be recycled, and the presentation format of comprehensive income will be evaluated to test if managers have an information perspective. Three binomial logistic regressions are formulated to test if managers influence the proximity between OCI and net income:

1) $Cons_i = \alpha_i + \beta_1 * recycled1_i + \beta_2 * recycled2_i + \beta_3 * size_i + \varepsilon_i$
2) $DIFP_i = \alpha_i + \beta_1 * recycled1_i + \beta_2 * recycled2_i + \beta_3 * size_i + \varepsilon_i$
3) $Turn_i = \alpha_i + \beta_1 * recycled1_i + \beta_2 * recycled2_i + \beta_3 * size_i + \varepsilon_i$

$Cons_i$, $DIFP_i$ and $Turn_i$ are binary dependent variables which take on a value of 0 or a value of 1. The variables take on a value of 1 when OCI is presented further away from net income. 'i' represents the specific company. In the first regression $Cons_i$ takes on a value of 1 when presented in a consecutive statement and a value of 0 when OCI is presented in a continuous statement. $DIFP_i$ takes on a value of 1 if OCI is presented on a different page from net income and a value of 0 if OCI is presented on the same page as net income. $Turn_i$ takes on a value of 1 when OCI is presented on the back page of net income, a page needs to be turned away from net income before OCI becomes viewable. $Turn_i$ takes on a value of 0 when OCI is presented in book form, hereby OCI can be seen together with net income when the annual statements are printed.

The variable $recycled1_i$ and the variable $recycled2_i$ are both binary variables. For both variables the absolute size of OCI items that will be recycled to net income is compared to the absolute size of OCI items that will not be recycled to net income. Both variables take on a value of 0 when the total of non-recyclable OCI items have a larger value than the total of OCI items that will be recycled to net income. $recycled1_i$ is 1 when items that will be recycled and those that will not are equal in size. This mostly happens when recyclable OCI items, non-recyclable OCI items and total OCI items have a value of 0. There is only one exception which is Econom group SA. The total of recyclable and non-recyclable OCI items are rounded to millions which might be the reason why that group is the exception. $recycled2_i$ will be 1 when the total of OCI items that will be recycled is bigger than the total of OCI items that will not be recycled.

α_i represents the baseline odds which are the odds of $Cons_i$, $DIFP_i$ or $Turn_i$ being 1 when all the other variables take on a value of 0. In other words, α_i represents the odds that OCI is presented further away from net income when non-recyclable OCI items are bigger than recyclable OCI items in absolute terms.

The coefficient β_1 represents the odds that $Cons_i$, $DIFP_i$ or $Turn_i$ will be 1 when the amount of recyclable items is equal to the amount of non-recyclable items compared to when non-recyclable items make up more of OCI. β_1 is expected to be less than 1 because non-recyclable items and recyclable items are almost only equal when both these items have a value of zero. Presenting these items further away from net income does not matter since the items have no value.

The coefficient β_2 represents the odds that $Cons_i$, $DIFP_i$ or $Turn_i$ will be 1 when the amount of recyclable OCI items is larger than the amount of non-recyclable items compared to when non-recyclable items are bigger in comparison to recyclable OCI items. β_2 is also expected to have a value less than 1 for **H1a**, **H1b** and **H1c** to hold. This would indicate that OCI is more likely to be presented closer to net income if recyclable OCI is larger than non-recyclable OCI compared to when non-recyclable OCI is larger than recyclable OCI. If $\beta_1$and β_2 have a value which is larger than 1 it would indicate that OCI is more likely to be presented further away from net income when recyclable items are equal or bigger than non-recyclable items compared to when non-recyclable items are larger than recyclable OCI. If $\beta_1$and β_2 are equal to 1 the amount of how much is recycled does not have an effect on where OCI is presented.

$Size_i$ is a continuous variable which shows the size of OCI compared to net income in percentages. If OCI becomes a bigger part of comprehensive income it might be more important to investors. $Size_i$ is calculated by the following formula:

4) $Size_i = \frac{|OCI_i|}{|NI_i|} * 100\%$

β_3 indicates the increase or decrease in odds that OCI will be further presented from net income when $Size_i$ increases. If β_3 has a value of 1 it means that the odds do not change when size changes. If β_3 is lower than 1 it indicates that the odds that OCI will be closer to net income decreases when size increases. If β_3 has a value of more than 1 the odds that OCI will be presented further away from net income increases when size increases. Expected is that β_2 will be lower than 1 because of the assumption that OCI will be more relevant to investors if OCI is bigger. If managers have an information perspective, they are expected to present OCI more prominently when OCI becomes more important to investors.

5.2. Influence of OCI presentation on investors

The second sub question being discussed in this thesis is:

Which presentation format is most value relevant to investors?

To research this question the influence of OCI location on the market value of the company is tested. If investors look closely at OCI when it is presented in a continuous statement than OCI should be correlated more with the market price of the company as opposed to when it is presented in a consecutive statement. The following three hypotheses belong to the second sub question:

H2a: *A continuous comprehensive income statement will be more value relevant for investors than a consecutive comprehensive income statement*

H2b: *OCI presented on the same page as net income will be more value relevant for investors than OCI presented on another page from net income*

H2c: *OCI presented in "book form" will be more value relevant for investors than OCI presented on "turned page"*

The regression used to test this is based on the regression of Ohlson (1995) and Chambers et al (2007), which results in the following regression:

5) $MC_i = \alpha_1 + \beta_1 * Equity_i + \beta_2 * NI_i + \beta_3 * (D_i * NI_i) + \beta_4 * OCI_i + \beta_5 * (Cons_i * OCI_i) + \varepsilon_i$
6) $MC_i = \alpha_1 + \beta_1 * Equity_i + \beta_2 * NI_i + \beta_3 * (D_i * NI_i) + \beta_4 * OCI_i + \beta_5 * (DIFP_i * OCI_i) + \varepsilon_i$
7) $MC_i = \alpha_1 + \beta_1 * Equity_i + \beta_2 * NI_i + \beta_3 * (D_i * NI_i) + \beta_4 * OCI_i + \beta_5 * (Turn_i * OCI_i) + \varepsilon_i$

The dependent variable is MC_i, which is the market capital of company 'i'. The market capital is the shares outstanding of a company multiplied by the share price at the closing date of the financial accounts. NI_i is the net income of the financial year measured by net income after tax, extraordinary items and discontinued operations. D_i is also a dummy variable which has value 1 when net income is negative and a value of 0 if net income is positive. Chambers et al (2007) added this variable because of the study of Hayn (1995). Hayn (1995) found that net income losses are less persistent and therefore provide less information about the company's future earnings. If there is not distinguished between positive and negative net income, β_2 will be biased downwards since negative income diminishes the informativeness of positive net income. OCI_i is the total of other comprehensive income of company 'i' and $Cons_i$, $DIFP_i$ and $Turn_i$ are defined the same way as in the first three regression models.

β_4 shows the effect of OCI presented in a continuous statement on market capital. The focus of this study is on coefficient β_4 and β_5. β_5 shows if investors value OCI differently based on where OCI is presented in the financial statements. β_4 and β_5 together form the effect of OCI presented in a consecutive statement on market capital. $Cons_i$, $DIFP_i$ and $Turn_i$ have in all three regressions a value of 1 if OCI is presented further away from net income. For H2a, H2b and H2c to hold β_5 will be significant and bigger in size than β_4 if investors look more at OCI when it is presented closer to net income. The coefficients β_1 and β_3 are expected to be positive. β_2 however, is expected to be negative

because companies that operate at a loss are valued lower (Hayn, 1995). No sign is assigned to β_4 and β_5, because it is not clear how OCI in a continuous statement or in a consecutive statement is valued. There is expected that OCI in a continuous statement will have more effect on market capital as opposed to when it is presented in a consecutive statement, this can be both positive and negative.

5.3. Value relevance of OCI components

The third and last sub question of this paper is:

Are components of OCI valued differently between presentation formats?

The following hypotheses belong to this sub question:

H3a: *Marketable securities will have a stronger positive relation to stock price when presented closer to net income*

H3b: *Pension will have a stronger relation to stock price when presented closer to net income*

H3c: *Currency translation adjustments will have a stronger relation to stock price when presented closer to net income*

H3d: *Hedge items will have a stronger relation to stock price when presented closer to net income*

H3e: Other OCI items *will have a stronger relation to stock price when presented closer to net income*

The regression analysis for these hypotheses is an adaptation of the regression used for sub question two. Instead of total OCI each component of OCI is tested. Each component is tested in a separate regression to control for omitted correlated variable bias. This results in the following regression for all three n values:

8) $MC_i = \alpha_1 + \beta_1 * Equity_i + \beta_2 * NI_i + \beta_3 * (D_i * NI_i) + \beta_4 * Component_{x,i} + \beta_5 * (Cons_i * Component_{x,i}) + \beta_6 * O_{x,i} + \varepsilon_i$
9) $MC_i = \alpha_1 + \beta_1 * Equity_i + \beta_2 * NI_i + \beta_3 * (D_i * NI_i) + \beta_4 * Component_{x,i} + \beta_5 * (DIFP_i * Component_{x,i}) + \beta_6 * O_{x,i} + \varepsilon_i$
10) $MC_i = \alpha_1 + \beta_1 * Equity_i + \beta_2 * NI_i + \beta_3 * (D_i * NI_i) + \beta_4 * Component_{x,i} + \beta_5 * (Turn_i * Component_{x,i}) + \beta_6 * O_{x,i} + \varepsilon_i$

$MC_{n,i}$, $Equity_{n,i}$, $NI_{n,i}$, $D_{n,i}$ $Cons_i$, $DIFP_i$ and $Turn_i$ are defined the same way as in section 3.2. $Component$ is the value of the component 'x' of company 'i'. This paper has divided the OCI

components in five groups: securities, pension, transaction, hedge and other. Securities is the total amount of marketable securities such as equity instruments, bonds and financial asset instruments. The component pension contains actuarial gains and losses and actual gains and losses on employee benefits. Currency is the total OCI related to currency translation adjustments. The component Hedge is the total of cash flow hedges and other hedging instruments. The last component is named other containing all the OCI items that did not fit into one of the other four groups. Property, plant and equipment adjustments as well as intangible adjustments are grouped into others because there were not enough observations for a regression. Aside from these items also tax, investments in joint ventures and things classified as other by the company were grouped among other things in the component Other.

If 'x' takes on a value of 1 the formula is used to look at securities, 2 is pension, 3 is currency, 4 hedge and 5 is other. When looking at one of the components the others are grouped in the variable $O_{x,,i}$. So, if 'x' is 1 the regression looks at securities and $O_{x,,i}$ will be the total of pension, currency, hedge and other. $O_{x,,i}$ is added as a control variable because the other OCI items may still be correlated with the dependent variable.

The coefficients β_1 and β_2 are again expected to be positive and β_3 is expected to be negative. β_6 is the coefficient the components that are not the main component for the regression together. This coefficient is expected to be positive since OCI is expected to be somewhat value relevant for investors. The coefficients of interest are β_4 and β_5.

If **H3a** is true β_4 is expected to have a significant positive value for all three presentation formats. β_5 is expected to be significantly negative, but not more negative than β_4 is positive.

$$\beta_4 > \beta_4 + \beta_5$$

This would indicate that securities presented closer to net income have a positive effect on market capital. Securities presented further away from net income are valued significantly different from when this OCI component is presented closer to net income. It also indicates that securities presented further away have a weaker effect on market capital as compared to when it is presented closer to net income because the total effect of OCI presented in a consecutive statement is $\beta_4 + \beta_5$.

For **H3b**, **H3c**, **H3d** and **H3e** to hold β_4 and β_5 are both expected to have a significant value whereby is expected:

$$|\beta_4| > |\beta_4 + \beta_5|$$

This would indicate that components presented closer to net income have a larger significant effect on market capital compared to when the items are presented further away from net income. No sign is assigned to β_4 and β_5.

Table 3 Descriptive statistics of location, company meausres and OCI components

***Panel A**: descriptive statistics of the data for the first two regressions (n=277)*								
Variable	N	Mean	Std. Dev.	Min.	1Q	Median	3Q	Max.
Con	277	0.75	0.43	0	1	1	1	1
DIFP	277	0.64	0.48	0	0	1	1	1
Turn	277	0.23	0.42	0	0	0	0	1
α_1	277	0.36	0.48	0	0	0	1	1
Recycled1	277	0.09	0.29	0	0	0	0	1
Recycled2	277	0.55	0.50	0	0	1	1	1
Size	277	18.83	27.86	0	1.58	6.69	21.09	100
MC	277	5.7e+03	1.2e+03	5.0	230	650	5.1e+03	7.0e+04
OCI	277	39	310	(1.8e+03)	(1.8)	0	5.9	3.4e+03
NI	277	340	1.2e+03	(3.8e+03)	4.9	28	190	8.6e+03
D	277	0.16	0.37	0	0	0	0	1
Equity	277	4.3e+03	1.2e+04	-190	110	380	2.5e+03	1.1e+05
***Panel B**: descriptive statistics of the variables used in regression 3 (n=255)*								
Variable	N	Mean	Std. Dev.	Min.	1Q	Median	3Q	Max.
Con	255	0.79	0.41	0	1	1	1	1
DIFP	255	0.67	0.47	0	0	1	1	1
Turn	255	0.24	0.43	0	0	0	0	1
MC	255	6.1e+03	1.2e+04	5.0	260	810	5.8e+03	7.0e+04
NI	255	370	1.2e+03	(3.8e+03)	5.7	35	300	8.6e+03
D	255	0.16	0.37	0	0	0	0	1
Equity	255	4.7e+03	1.2e+04	(190)	130	440	2.9e+03	1.1e+05
securities	74	12	130	(560)	(1.90)	157.00	6.3	850
pension	203	(38)	140	(1.1e+03)	(17)	(2.0)	(177.00)	260
currency	220	36	150	(700)	(20.50)	1.6	13	1.3e+03
hedge	134	(1.7)	130	(940)	(4.2)	(125.00)	3.0	640
Other	185	52	340	(120)	(258.00)	239.00	5.1	4.2e+03

Con takes on a value of 1 when OCI is presented in a consecutive statement and 0 when OCI is presented in a continuous statement. DIFP has a value of 1 when OCI is presented on the same page as net income (1 page) and a value of 0 when OCI is presented on a separate page (2 pages). Turn has a value of 1 if OCI is presented on a page which needs to be turned away from net income (turned page) and a value of 0 when the page of OCI is viewable together with the page of net income when the annual statement are printed (book form).

α_1 indicates that non-recyclable OCI > recyclable OCI, Recycled1 indicates they are of equal size and recycled 2 indicates that recyclable OCI > non-recyclable OCI.

Size is the absolute percentage of total OCI compared to the total value of net income of company i. MC is the market capital of company i which is calculated by the shares outstanding multiplied by the share price.

OCI is the total amount of OCI of company i. NI is the total amount of net income of company i. D is a binary variable that represents loss of net income, it takes on a value of 1 when net income of company i is negative and a value of 0 when net income is positive. Equity is shareholders' equity of company i. Securities, pension, currency, hedge and other are each a component of OCI of company i. Securities is the total of marketable securities, pension includes all OCI items related to pension, currency looks at the currency translation adjustments and hedge is the total of all OCI items related to hedge accounting. The component other of OCI includes all the OCI items that do not belong to the other four OCI component groups.

6. Results

This chapter is divided into four parts in which the results will be discussed. First, the descriptive statistics of the variables used will be given. In the second part, the results of the location model will be discussed. The third section analyses the OCI model to see whether OCI is priced differently based on where it is presented. And finally, the results of the OCI components model will be discussed to analyze which items are influenced differently based on where they are presented.

6.1 Descriptive statistics

Table 3 presents the descriptive statistics of the variables used in the three regression models. Panel A provides the statistics of the variables used in regression 1 (location model) and 2 (OCI relevance model). Panel B contains the descriptive statistics for regression 3 (OCI components model). Regression three uses less observations because some companies had a value of zero for OCI and therefor no information regarding the components were available.

The variables $Equity$, MC and NI are slightly higher in panel B than in panel A. This is because some of the smaller companies were eliminated from the group. These three variables are presented in units of millions. The mean off market capital (MC) is 6.1 billion but with a wide range varying from 5 million to 70 billion. Net income (NI) and shareholders' equity ($Equity$) also have a wide range of values. This is probably due to firm size effect. A company that is valued high by investors is probably also performing well and his likely to have some more equity to make this possible.

$Cons_i$, $DIFP_i$ and $Turn_i$ denote which type of presentation format is looked at. $Cons_i$ shows in panel A that 75% and in panel B that 79% of the observations present a consecutive statement of comprehensive income. $DIFP_i$ shows in panel A that 64% and in panel B that 67% of the observations present OCI on a different page than net income. The last presentation format variable $Turn_i$ shows that in panel A 23% and in panel B 24% of the observations present OCI on the back page of net income. The percentages in panel B are slightly higher than in panel A. This indicates that for most of the observations deleted OCI was presented closer to net income. A possible explanation for this can be that companies do not want to waste a page for OCI when OCI has no value.

The loss dummy D shows in both panels a value of 0.16 which indicates that 16% of the observations report a negative net income. The median and mean of net income also show that most of the companies are profitable in both panels.

α_1, recycled1 and recycled 2 are variables used in the location model. α_1 has a value of 0.36 indicating that 36% of the statements have more non-recyclable items than recyclable items. For 9% of the financial statement the recyclable and non-recyclable items are equal (when rounded to millions) which can be seen by looking at recycled1. Recycled2 shows that 55% of OCI presented in the financial statement present contain more recyclable items compared to non-recyclable items.

Regression 3 makes use of 255 observations. However, the variables that represent OCI components all have a lower observation count. Not every company makes use of the same OCI components, therefore some items are reported more than others. The components $securities$, $currency$ and $other$ show a positive mean and median meaning that for most companies these components provide a positive income for the company. The mean and median of $pension$ and $hedge$ is negative indicating that most companies from this sample have a negative income for these items.

6.2 Location model

The first regression of this research paper analyzes the first sub question:

Is the presentation format of OCI influenced by managers perspective?

This question is analyzed by looking if relative size of OCI compared to net income and the amount of OCI that will be recycled to net income play a role in determining where comprehensive income will be presented. The results of this binomial logistic regression can be seen in table 4. The values of each variable present the odds ratio which shows how much the variable is associated with being presented further away from net income.

Panel A of table 4 shows the results of the location model which looks if OCI is more likely to be presented in a continuous or consecutive statement under certain circumstances. α_1 shows a significant value of 3.134. This value indicates that if OCI consists for the most part of non-recyclable items the odds are approximately 3 to 1 that OCI is presented in a consecutive statement.

The variable recycled takes on a value of 1 if non-recyclable OCI items are the same size as recyclable OCI items. The odds ratio of $Recycled1$ is highly significant and has a value of 0.212. This indicates that the odds of comprehensive income being presented in a consecutive statement as compared to if α_1 is 0.2. Or to put it easier OCI is 5 times more likely to be presented in a continuous statement if most of the OCI items are non-recyclable instead of when recyclable and non-recyclable OCI items are even. This also indicates that if recyclable items and non-recyclable items of OCI are equal they are more likely to be presented in a continuous statement compared to when non-recyclable items play a

Table 4 Location model, odds ratio's of binary logistic regressionl

Panel A: *continuous vs consecutive statements*				
α_1	Recycled1	Recycled2	Size	Prob>Chi2
3.134	0.212	0.855	1.016	0.0001***
(0.000)***	(0.002)***	(0.626)	(0.034)**	
Panel B: *1 page or 2 page presentation*				
α_1	Recycled 1	Recycled2	Size	Prob>Chi2
2.290	0.205	0.602	1.010	0.0003***
(0.001)***	(0.001)***	(0.073)*	(0.058)*	
Panel C: *in one glance or not*				
α_1	Recycled1	Recycled2	Size	Prob>Chi2
0.339	0.123	0.605	1.011	0.0016***
(0.000)***	(0.046)**	(0.093)*	(0.018)**	

, ** and * represent P<0.10, P<0.05 and P<0.01 respectively*
α_1 represent the baseline odds ratio, which is the odds that OCI is presented in a consecutive statement when non-recyclable items are larger than recyclable items. Recycled1 shows the odds ratio of OCI being presented in a consecutive statement when recyclable and non-recyclable items are equal compared to α_1. Recycled2 shows the odds ratio of OCI being presented in a consecutive statement when recyclable items are larger than non-recyclable items compared to α_1.

bigger role in OCI. The odds of OCI being presented in a consecutive statement when non-recyclable and recyclable items are even are approximately 2 to 3, this is calculated by multiplying the baseline odds by the odds ratio. The value for $Recycled2$ is not significant indicating that the odds of being presented in a consecutive statement do not differ for OCI that consists for the biggest part of recyclable items and OCI that consists for the biggest part of non-recyclable items. The odds for Recycled2 being presented in a consecutive statement are therefore also 3 to 1.

Panel B shows the results of the location model in which location means presenting comprehensive income on the same page as net income (1 page) or presenting OCI on another page (2 pages). $\alpha_1$has a value of 2.290 meaning that the odds are 2 to 1 that comprehensive income is presented on a separate page from net income. $Recycled1$ has again a significant value of around 0.2. In this model it indicates that OCI is 5 times less likely presented on 2 pages if recyclable and non-recyclable items are equal as compared to when OCI consists for the most part of non-recyclable items. The odds of OCI being presented on a separate page from net income is 1 to 2. *Recycled2* has a slightly significant value of less than 1 which indicates that if OCI consists for the most part of recyclable items it is less likely to be presented on a separate page as compared to when OCI consists mostly of non-recyclable items. The odds hereby are 7 to 5 that OCI is presented in a consecutive statement, overall OCI is more likely to be presented in a separate page from net income when OCI consists for the most part of recyclable items.

Panel C looks at the difference between being able to view comprehensive income together with net income when reading the annual statements (book form) or needing to turn the page (back page). α_1 has a very significant value of less than 1 which indicates that the odds that OCI is presented in book form, when non-recyclable items are bigger than recyclable items, are higher than that OCI is presented on a back page. The odds of OCI being presented on a back page are 1 to 3. $Recycled1$ has also a significant value of less than 1 indicating that when recyclable and non-recyclable OCI items are equal OCI is less likely presented on a back page than in book form. Looking at $Recycled1$ separately from α_1 the odds are 1 to 24 that OCI is presented on a back page when recyclable and non-recyclable items are equal. $Recycled2$ has also a slightly significant value smaller than 1 indicating that when recyclable OCI items are larger than non-recyclable OCI items OCI is less likely to be presented on a back page than in book form. The odds are 1 to 5 for OCI being presented on a back page when OCI consists for the biggest part of recyclable items.

$Prob > Chi2$ shows the significance of the model. It looks at the probability that a certain value chi square would have taken place if the null hypothesis was true. All three models show a probability of lower than 0.05, indicating that the models are very significant.

All three tests have a significant value of approximately 1.01 for size. Size is the percentage of OCI compared to net income. A value of 1.01 for this variable indicates that with each percent increase in size the odds of location having a value of 1 increases with 1%. In panel A it means that the odds of OCI being presented in a consecutive increase with 1% if the variable size increases with 1. In panel B it indicates that the odd of OCI being presented on 2 pages increases with 1% with each percent that size becomes bigger and in panel C it increases the odds that OCI is presented on a back page.

How far away OCI is presented from net income does not seem to be based upon the size of recyclable items compared to the size of non-recyclable items. There is no significant difference when looking at a continuous versus a consecutive statement and the results are only very slightly significant in the other location models. Because of this **H1a**, **H1b** and **H1c** are rejected. There was however a significant difference when recyclable and non-recyclable items were equal. When looking at the observations it showed that the companies who had an equal amount of recyclable and non-recyclable OCI items had a value of 0 for OCI. It is therefore not surprising that the odds of OCI being presented closer to net income increase when the recyclable and non-recyclable OCI items are equal. A separate statement of comprehensive income would not add any information to what was presented in net income, it would only take up more space. Interesting to see is that when the variable size increases the odds increases that OCI is presented further away from net income.

Overall these findings seem to go against the idea that managers have an information perspective. When OCI seems to be more value relevant to net income it does not increase the chances of being presented closer to net income; and when OCI makes up a bigger part of comprehensive income it decreases the odds that OCI is presented closer to net income. On the other hand, it is not found that recyclable OCI items are more relevant than non-recyclable OCI items which can be the reason why it does not have any influence.

6.3 OCI model

The OCI model analyzes the hypotheses:

H2a: *A continuous comprehensive income statement will be more value relevant for investors than a consecutive comprehensive income statement*

H2b: *OCI presented on the same page as net income will be more value relevant for investors than OCI presented on another page from net income*

H2c: *OCI presented in "book form" will be more value relevant for investors than OCI presented on "turned page"*

To answer the second sub question:

Which presentation format is most value relevant to investors?

To answer these hypotheses three models are analyzed which can be seen in table 5. The first model tests **H2a**, the second model tests **H2b** and the third model is made to test **H2c**.

The first model examines if there is a significant different interpretation of OCI presented in a continuous versus OCI presented in a consecutive comprehensive income statement. OCI has a significant negative value of -19.762 in model 1 on the market capital. This means that if OCI increases by one million euros, market capital decreases by almost 20 million euros. This negative influence is significantly less if OCI is presented in a consecutive statement. An increase by one million euros OCI which is presented in a consecutive statement of comprehensive income decreases market capital by approximately 4 million euros instead of 20.

The results of model 1 in table 5 show that investors price OCI significantly differently if presented in a continuous statement as opposed to a consecutive statement. If OCI is presented in a continuous

Table 5 OCI model, multiple linear regression results

Variable	Model (1)	Model (2)	Model (3)
Intercept	1.9e+03	2.0e+03	2.1e+03
	(0.000)***	(0.000)***	(0.000)***
Equity	0.590	0.522	0.515
	(0.000)***	(0.000)***	(0.000)***
NI	3.683	3.726	3.856
	(0.000)***	(0.000)***	(0.000)***
D*NI	-6.650	-7.474	-7.147
	(0.003)***	(0.001)***	(0.002)***
OCI	-19.762	54.427	-5.801
	(0.001)***	(0.184)	(0.002)***
Cons*OCI	15.879		
	(0.006)***		
DIFP*OCI		-59.346	
		(0.147)	
Turn*OCI			9.692
			(0.061)*
Adjusted R2	0.5887	0.5804	0.5824

, ** and * represent P<0.10, P<0.05 and P<0.01 respectively*
See table 1 for description of the variables. Adjusted R2indiates the fit of the model. The variables are regressed against mcap.

statement it influences market capital much more negatively than when presented in a consecutive statement. This result might be interesting to the opponents of putting OCI in a continuous comprehensive income statement. These opponents argued that by doing so the attention from net income would be drawn away and OCI would be too much emphasized. The reaction to OCI by investors does seem stronger when presented in a continuous statement, however no conclusion can be drawn about the rightfulness of this. OCI might be overstated in a continuous statement but the opposite might also be true, that it is understated in a consecutive statement. Another research needs to be done to figure out whether it is preferable to publish OCI in a continuous or in a consecutive comprehensive income statement.

Both shareholders equity and net income are significantly positively associated with market capital. Investors seem to have the strongest reaction to net income and negative net income. With every million euros that net income increases, market capital increases by 3.683. However, if net income has a negative value this effect decreases by 6.650 meaning that every million euros of negative net income decreases market capital with almost 3 million euros.

Model 2 looks at the difference between presenting OCI on the same page as OCI or presenting it on a separate page. Shareholders equity and net income both have a significant positive value. Net income still seems to have a bigger influence on market capital than shareholders equity. Negative net income

seems to influence market capital negatively just as in model 1. OCI is not associated with the price of market capital when distinguishing between OCI that is presented on the same page as net income and OCI reported on a separate page. This separation does not seem to have an impact on investor's valuation of OCI. Model 2 is the only model that shows an insignificant relation between OCI and market capital.

The last model looks at the difference between presenting OCI on a page that is readable together with net income when presented in book form and OCI presented on the back page of net income. Shareholders equity, net income and negative net income seem to react the same as in model 1 and 2. The results of model 3 show that OCI decreases the market capital of a company by almost 6 million euros with each million of increase in OCI when presented in book form. Market capital increases by almost 10 million euros, if OCI is presented on a back page, resulting in a 4 million increase if OCI increases with one million euros. It is interesting that these two presentation formats seem to have the opposite effect on investors. The found theory would suggest that presenting OCI further away should lessen the effect on market capital, not switching the sign of the effect. The difference however is only slightly significant.

The adjusted R^2 of all three models is approximately 58%, meaning that 58% of the variance of the observations can be explained by this model. Model 1 has the highest R^2 suggesting that this model best explains the variance of the observations.

Remarkable are the large values for OCI in table 5. The OCI values are large compared to the values of the other variables in the regression. OCI is considered transitory income, indicating that it does not have much predictive power for the future (Ohlson, 1999, Chambers et al, 2007). It is therefore expected to be valued one-on-one with market value, but this is not seen in the results shown in table 5. Net income has much more predictive power and is therefore expected to have a larger value compared to OCI. It is not clear why OCI has such high values when it is presented closer to net income. The results might be due to the sample group. The companies within the sample differ a lot from each other, there are some really small, but also some very large companies. The sample is taken from 2019, adding multiple years might control for some factors and the sample is quite small compared to several other studies. Future research should look if the results still hold when multiple company years are examined, a bigger sample is taken or when the companies are more comparable with each other in size or industry.

The results found in model 1 are in favor of **H2a**. Investors seem to react more to OCI presented in a continuous statement than when OCI is presented in a consecutive statement. If hereby OCI is under valuated in a consecutive statement or over valuated in a comprehensive income statement cannot be said. Which presentation format is better for investors should be researched in a different paper. Model 2 shows no significant difference between OCI presented on the same page with net income compared to OCI presented on a different page from net income. **H2b** is rejected based on the results of table 2. The last model, model 3, shows a slightly significant difference between presenting OCI in book form and presenting it on a back page. The effect of OCI on market capital when presented in book form is almost the opposite effect of OCI presented on a back page. Because of this cannot be said if OCI presented in "book form" is more value relevant to investors than OCI presented on a back page. **H2c** is therefore rejected.

6.4 OCI components model

This section gives the results for the OCI components model using the difference between a continuous and consecutive statement of comprehensive income, presenting it on the same page as net income or not, and needing to turn the page or not. It was not possible to make a regression in which each component and the location of the component were included separately. Too many variables can wrongfully influence the R^2 therefore each component is researched separately. As a result, these models do not show the incremental price value on market capital, but only show if they have a significant influence on market capital and if location played a part in this. The question being researched in this section is:

Are components of OCI valued differently between different presentation formats?

6.4.1 Continuous vs. consecutive

Table 6 shows the price association of the components of OCI together with the market capital of the company. Shareholders equity and net income again show a positive association with market capital just as in the OCI model. Negative net income again is significantly negatively correlated with market capital. $Equity$, NI and $D * NI$ differ a lot per model, this might be caused by the sample sizes of each OCI component. Each component has a different group of observations, it might be that some groups got bigger companies than the other or companies that performed better. This is also the case for section 6.4.2 and section 6.4.3.

Noticeable is that the variable location of the components contains the almost opposite value as opposed to the value of the component if it was presented in a continuous comprehensive income

Table 6 OCI component model, multiple linear regression results, continuous vs consecutive statement

Variable	Securities model (n=74)	Pension model (n=203)	Currency model (n=220)	Hedge model (n=134)	Other model (n=185)
Intercept	3.3e+03	2.7e+03	2.5e+03	3.8e+03	1.7e+03
	(0.013)**	(0.000)***	(0.000)***	(0.001)***	(0.002)***
Equity	0.483	0.554	0.573	0.482	0.634
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
NI	1.805	3.554	2.730	4.033	2.244
	(0.078)*	(0.000)***	(0.003)***	(0.000)***	(0.001)***
D*NI	-3.950	-6.770	-5.001	-6.366	-4.578
	(0.182)	(0.012)**	(0.056)*	(0.050)	(0.026)**
Securities	-6.569				
	(0.0955)*				
Cons* securities	4.684				
	(0.967)				
Pension		101.300			
		(0.046)**			
Cons*pension		-103.528			
		(0.041)**			
Currency			-43.502		
			(0.041)**		
Cons *currency			48.596		
			(0.015)**		
Hedge				-64.730	
				(0.072)*	
Cons*hedge				46.705	
				(0.212)	
Other					-34.205
					(0.009)***
Cons*other					31.599
					(0.017)**
components	-4.519	-4.933	-3.199	-2.233	-1.636
	(0.212)	(0.022)**	(0.126)	(0.438)	(0.558)
Adjusted R2	0.5720	0.5722	0.5597	0.5333	0.6864

*, ** and *** represent P<0.10, P<0.05 and P<0.01 respectively
See table 1 for description of the variables. Adjusted R2 indicates the fit of the model. The variables are regressed against mcap.
The variable components are the components of OCI taken together except for the specific component that is examined in each model.

statement. Presenting the component in a consecutive instead of a continuous statement seems to minimize the size of the effect on market capital.

All components seem to be of significant influence when presented in a continuous comprehensive income statement. The component securities and hedge are both slightly significant at the 0.10 level when presented in continuous statement but $Con * securities$ and $Con * Hedge$ are not. This

indicates that there is no significant difference for these OCI components between being presented in a continuous statement versus being presented in a consecutive statement of comprehensive income.

Both these components have less than 20 observations when presented in a continuous statement (see appendix A table 1), this small sample of observations might have influenced the outcome of the regression. This might explain why negative net income does not seem to have a significant value while in the other regressions and in other papers this does seem to be of significant influence.

The component pension is the only component which has a positive effect when presented in a continuous statement. Previous research studied in this paper can unfortunately not explain why pension has a different sign. The values of each component have a large value compared to the other variables in the regression model. The values are especially large when the components are presented closer to net income. There is no clear reason why the components have such a large value, it might be due to the sample used as explained in section 6.3 OCI model.

In conclusion: Pension, currency and other seem to be the variables that influence the effect of OCI presentation on market capital. Both the OCI presented in a continuous statement and OCI presented in a consecutive statement are statistically significant. For these components the OCI components are valued differently significantly. Overall securities and hedge do not seem to be varied differently when presented in a continuous and when presented in a consecutive statement. The variables pension, currency and Other are valued differently.

6.4.2. 1 page vs 2 page presentation

Table 7 shows the results of the OCI component model distinguishing OCI presented on the same page as net income from OCI presented on another page from net income. Equity, net income and negative net income are again all of significant influence on market capital. The only exception is negative net income in the regression model using securities. This might again be due to the small sample of securities presented in a continuous statement as opposed to OCI presented in a consecutive statement. Securities are significant at the 0.10 level, there seems to be a different valuation when securities are presented on the same page versus a different page. When OCI is presented in a continuous statement one million increase in securities decreases market capital by 1741 million euros. If securities are presented in a consecutive statement, the effect of one million increase in securities is minus 1.5 million euros.

Table 7 OCI component model, multiple linear regression results, 1 page vs 2 pages

Variable	Securities model (n=74)	Pension model (n=203)	Currency model (n=220)	Hedge model (n=134)	Other model (n=185)
Intercept	3.0e+06	2.0e+06	2.4e+06	4.0e+06	2.0e+06
	(0.017)**	(0.004)***	(0.000)***	(0.000)***	(0.001)***
Equity	0.487	0.537	0.493	0.421	0.576
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
NI	1.764	3.561	2.698	4.171	2.351
	(0.078)*	(0.000)***	(0.003)***	(0.000)***	(0.001)***
D_NI	-4.0	-7.044	-5.774	-6.957	-5.160
	(0.171)	(0.006)***	(0.027)**	(0.032)**	(0.013)**
Securities	-1741.484				
	(0.085)*				
DIFP*securities	1739.802				
	(0.085)*				
Pension		-894.269			
		(0.000)***			
DIFP*Pension		894.269			
		(0.000)***			
Currency			136.792		
			(0.004)***		
DIFP*currency			-131.401		
			(0.006)***		
Hedge				5.006	
				(0.979)	
DIFP*Hedge				26.061	
				(0.890)	
Other					-103.077
					(0.488)
DIFP*other					99.953
					(0.502)
components	-4.433	-4.604	-4.058	-2.586	-3.200
	(0.191)	(0.024)**	(0.050)*	(0.370)	(0.247)
Adjusted R2	0.5907	0.6154	0.5632	0.5276	0.6770

, ** and * represent P<0.10, P<0.05 and P<0.01 respectively*
See table 1 for description of the variables. Adjusted R2 indicates the fit of the model. The variables are regressed against mcap.
The variable components are the components of OCI taken together except for the specific component that is examined in each model.

The variables pension and currency seem to be highly significant for market capital pricing. When presented in a continuous statement the variable pension has a negative effect of -894 and currency has a positive effect of 137. When these items are presented in a consecutive statement the effects are reduced to 0 and 5 respectively. The components hedge and other of OCI do not seem to have a significant influence on the pricing of market capital.

Three out of the five components seem to have a significant effect on market capital. This is interesting because model 2 in section 5.3 did not show a significant effect. Hereby was distinguished between total OCI presented on 1 page versus total OCI presented on 2 pages instead of its components. When grouping the components together the significant effect of some of the individual components cannot be found by the model.

The components of OCI take on extreme values compared with the values of the other components, There is no explanation of why these components have such high values, it might again be due to the sample used in this research.

The conclusion to this section is that the components securities, pension and currency seem to be valued differently between OCI presented on the same page as net income and OCI presented on a different page. The importance of the component securities must again be taken into consideration because of the small number of observations of securities presented in a continuous statement. Of the 74 observations 11 are presented on 1 page and 63 on 2 pages. The effects that the components have while presented on the same page are larger than when they are presented on a different page. Less components are valued differently when distinguishing between same page as net income and not as opposed to presented in a continuous versus consecutive statement.

6.4.3. Book form vs turn page

Table 8 shows the results of the OCI component model when distinguishing between OCI components presented in book for or presented on a back page. The components Hedge and Other seem to be the only components which have a significant influence on the market capital pricing under these circumstances. Between these two circumstances there does not seem a difference in valuation by investors.

The components securities and currency do not seem to have a significant effect on the pricing of market capital. However, there does seem to be a significant difference between these components being presented in book form versus the components being presented on a back page. The effects on market capital are large and positive when presented on a back page. Which is interesting to see because table 4 and table 5 showed a very small effect when the components were presented further away from net income. The theory does also not explain why investors would react stronger to these components when it is presented on a back page. From the theory the opposite effect is expected, OCI components should be less noticeable when presented further away from net income and therefore have a smaller effect on market capital.

Table 8 OCI component model, multiple linear regression results, book form vs. back page

Variable	Securities model (n=74)	Pension model (n=203)	Currency model (n=220)	Hedge model (n=134)	Other model (n=185)
Intercept	3.1e+06	2.8e+06	2.6e+06	4.0e+06	1.9e+06
	(0.010)**	(0.000)***	(0.000)***	(0.000)***	(0.001)***
Equity	0.490	0.527	0.423	0.393	0.570
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
NI	1.741	3.656	3.899	4.371	2.472
	(0.071)*	(0.000)***	(0.000)***	(0.000)***	(0.000)***
D_NI	-2.887	-6.986	-5.290	-7.737	-5.658
	(0.300)	(0.010)**	(0.043)**	(0.017)**	(0.007)***
Securities	-3.514				
	(0.683)				
Turn*securities	287.057				
	(0.004)***				
Pension		-2.875			
		(0.586)			
Turn*Pension		16.694			
		(0.407)			
Currency			-2.293		
			(0.744)		
Turn*currency			31.391		
			(0.015)**		
Hedge				-15.007	
				(0.084)*	
Turn*Hedge				-28.568	
				(0.116)	
Other					-3.978
					(0.032)**
Turn*other					7.757
					(0.163)
components	-5.015	-4.886	-4.627	-3.747	-3.766
	(0.125)	(0.024)**	(0.028)**	(0.204)	(0.176)
Adjusted R2	0.6221	0.5645	0.5596	0.5367	0.6797

, ** and * represent P<0.10, P<0.05 and P<0.01 respectively*
See table 1 for description of the variables. Adjusted R2 indicates the fit of the model. The variables are regressed against mcap.
The variable components are the components of OCI taken together except for the specific component that is examined in each model.

The only component that does not seem to have a significant effect at all is Pension. Not on the pricing of market capital and also no significant effect between the two presentation options. The conclusion from this section is that only the components securities and currency seem to be valued differently across the two presentation format options. The results in table 8 show again some very large values for certain OCI components, especially for securities and currency which might be due to the attributes of the sample.

6.4.4. Conclusion OCI components

Marketable securities show a larger negative effect when the component is presented in a continuous versus in a consecutive statement. They also show a larger negative effect presented on 1 page when compared to when it is presented on two pages, but when presented on a back page it seems to show a stronger positive effect. Overall it seems to indicate that when marketable securities are presented closer to net income it has a larger negative effect on market capital compared to when it is presented further away. Because of this **H3a** is rejected.

$Pension$ has a larger positive effect when it is presented in a continuous statement as opposed to when it is presented in a consecutive statement but a larger negative effect when it is presented on 1 page versus when it is presented on 2 pages. These findings contradict each other, it is not clear what the effect of pension items is on market capital when the items are presented closer to net income. The last model shows no effect at all for pension presented in book form and pension presented on a back page. **H3b** is also rejected.

The component $currency$ has the same problem as pension, each model seems to give a different outcome. There is a stronger negative effect for currency when it is presented in a continuous statement as opposed to when it is presented in a consecutive statement. The component has a stronger positive effect when it is presented on one page as opposed to when it is presented on two pages; and there is no difference in effect when it is presented in book form versus when it is presented on a back page. Because of the contradicting results **H3c** is also rejected.

The components $hedge$ and $other$ both have a stronger negative effect when they are presented in a continuous as opposed to when they are presented in a consecutive statement. The two other location models do not show a different effect for both components. **H3d** and **H3e** are both rejected because not all models show a stronger reaction to market capital when the components are presented closer to net income.

Although every hypothesis is rejected it is important to note that the components $pension$, $currency$ and $other$ have a different reaction between being presented in a continuous versus being presented in a consecutive statement of comprehensive income. These results can be of interest in the discussion if OCI should be presented in a continuous or consecutive statement.

7. Conclusion

The research question of this paper is:

Does the presentation format of OCI under IFRS influence the value relevance of OCI for investors?

To answer this question three sub questions are answered by looking at three different presentation format choices: presenting OCI in a continuous versus a consecutive statement of comprehensive income, presenting OCI on the same or on a different page from net income and presenting OCI in book form or on a back page of net income.

The first sub question examines the presentation choice of managers:

Is the presentation format of OCI influenced by managers perspective?

The location model found that how much OCI would be recycled to net income, did not influence where OCI was presented. The size of OCI compared to net income did matter. The odds of OCI being presented in a consecutive statement increases if the size of OCI increased compared to net income. The results of the location model seem to go against the information perspective of managers. The more important OCI becomes within the financial statements, the further away it is presented from net income.

The second sub question researches the effect of presentation choice on investors:

Which presentation format is most value relevant for investors?

The most value relevant presentation format for investors seems to be a continuous statement based on how strongly investors react to the presented OCI. Investors seem to react more to OCI presented in a continuous statement than OCI presented in a consecutive statement. However, there does not seem to be an effect on investors when looking at OCI presented at the same page as net income, or when looking at OCI presented in book form versus on a back page. The strong reaction to OCI presented in a continuous statement can be due to overvaluation of OCI by investors. Future research should look if OCI is over valuated in a continuous statement or under valuated in a consecutive statement.

The third sub question looks at the value relevance of components between different presentation formats:

Are components of OCI valued differently between presentation formats?

None of the components show a consistently stronger reaction to market capital when presented closer to net income. However, the component 'pension' seemed to have a stronger positive reaction and the components 'currency' and "other" did seem to have a stronger negative reaction to market capital when presented in a continuous statement as opposed to being presented in a consecutive statement.

Overall, the answer to the main question of this paper is: yes, the value relevance of OCI changes for investors when the presentation format changes. Investors seem to react stronger to OCI presented in a continuous statement as opposed to OCI presented in a consecutive statement, but investors do not seem to be influenced by other differences in the presentation format.

However, throughout the results unusual high values for OCI and its components were found. Ohlson (1999) and Chambers (2007) argued that OCI should be valued one on one since OCI does not hold much predictive power. A value of around minus 20 compared to approximately 4 for net income seems out of proportion. The OCI component results showed even bigger differences between the values for OCI components and net income values. This might indicate that other factors influenced the regression models. Future research should look if the findings still hold when other company years are used, a bigger sample is taken and/or companies are used that are more comparable.

The main contribution of this research is the contribution to presentation relevance research and the debate whether OCI should be reported in a continuous or consecutive statement. The importance of the OCI presentation format has been researched several times, but not the value difference between a continuous and consecutive statement. This paper also eliminates some possibilities that could be the cause of the different reaction. This research shows that investors seem to react differently to OCI presented in a continuous and consecutive statement which may add an interesting argument to the presentation format debate. The arguments regarding the presentation format were not based on researches about the effect of the presentation format. This paper shows a difference in how investors look at OCI between presentation formats, however, this research cannot say which presentation format is better. Future research is needed to gain insight in that matter.

The components which might explain the difference in reaction to OCI are pension, currency and other. This is not completely in line with previous research, which found that marketable securities were very important to investors and that the results regarding the other components differed a lot. It might be interesting for future research to look at the importance of each of the OCI components and the reason

behind it. This might help explain why OCI is valued differently between a continuous and consecutive statement.

The last contribution of this research is to research regarding managers perspective. Previous research has not looked at the decision-making process of managers when choosing between a continuous e statement and a consecutive statement. This might also be interesting for future research to get a better understanding of the view of managers on OCI. What are the reasons that they deem it important or not and do they make opportunistically use of the presentation options?

Appendix A: continuous versus consecutive statement of comprehensive income

Table A 1 Continuous statement of comprehensive income (Deloitte, 2011)

	Current year CU'000	Prior year CU'000
Revenue	500,000	400,000
Cost of sales	(250,000)	(200,000)
Gross profit	250,000	200,000
Other income	20,000	15,000
Administrative costs	(50,000)	(40,000)
Other expenses	(15,000)	(10,000)
Operating profit	205,000	165,000
Finance costs	(12,000)	(12,000)
Finance income	18,000	17,000
Profit before tax	211,000	170,000
Income tax expense	(67,520)	(54,400)
Profit for the year	143,480	115,600
Other comprehensive income:		
Items that will not be reclassified to profit or loss:		
Actuarial gains/(losses) on defined benefit plans	10,000	(20,000)
Income tax relating to items not reclassified	(3,200)	6,400
Total items that will not be reclassified to profit or loss	6,800	(13,600)
Items that may be reclassified subsequently to profit or loss:		
Cash flow hedges		
– Gains/(losses) arising during the period	12,000	(16,000)
– Reclassification adjustments for amounts recognised in profit or loss	(2,000)	2,500
Income tax relating to items that may be reclassified	(3,200)	4,320
Total items that may be reclassified subsequently to profit or loss	6,800	(9,180)
Other comprehensive income/(loss) for the year	13,600	(22,780)
Total comprehensive income for the year	157,080	92,820

Profit attributable to	Current year CU'000	Prior year CU'000
Owners of the parent	121,500	97,150
Non-controlling interests	21,980	18,450
	143,480	115,600

Total comprehensive income attributable to	Current year CU'000	Prior year CU'000
Owners of the parent	135,100	74,370
Non-controlling interests	21,980	18,450
	157,080	92,820

Earnings per share	Current year CU	Prior year CU
Basic earnings per share	0.96	0.77
Diluted earnings per share	0.90	0.72

Table A 2 Consecutive statement of comprehensive income, income statement (Deloitte, 2011)

	Current year CU'000	Prior year CU'000
Revenue	500,000	400,000
Cost of sales	(250,000)	(200,000)
Gross profit	250,000	200,000
Other income	20,000	15,000
Administrative costs	(50,000)	(40,000)
Other expenses	(15,000)	(10,000)
Operating profit	205,000	165,000
Finance costs	(12,000)	(12,000)
Finance income	18,000	17,000
Profit before tax	211,000	170,000
Income tax expense	(67,520)	(54,400)
Profit for the year	143,480	115,600

Profit attributable to	Current year CU'000	Prior year CU'000
Owners of the parent	121,500	97,150
Non-controlling interests	21,980	18,450
	143,480	115,600

Earnings per share	Current year CU	Prior year CU
Basic earnings per share	0.96	0.77
Diluted earnings per share	0.90	0.72

Table A 3 consecutive statement of comprehensive income, comprehensive income (Deloitte, 2011)

	Current year CU'000	Prior year CU'000
Profit for the year	143,480	115,600
Other comprehensive income:		
Items that will not be reclassified to profit or loss		
Actuarial gains/(losses) on defined benefit plans	10,000	(20,000)
Income tax relating to items not reclassified	(3,200)	6,400
Total items that will not be reclassified to profit or loss	6,800	(13,600)
Items that may be reclassified subsequently to profit or loss:		
Cash flow hedges		
- Gains/(losses) arising during the period	12,000	(16,000)
- Reclassification adjustments for amounts recognised in profit or loss	(2,000)	2,500
Income tax relating to items that may be reclassified	(3,200)	4,320
Total items that may be reclassified subsequently to profit or loss	6,800	(9,180)
Other comprehensive income/(loss) for the year	13,600	(22,780)
Total comprehensive income for the year	157,080	92,820

Total comprehensive income attributable to	Current year CU'000	Prior year CU'000
Owners of the parent	135,100	74,370
Non-controlling interests	21,980	18,450
	157,080	92,820

Appendix B: Additional tables

Table B 1 number of component observations per presentation format

Variable	Continuous	Consecutive	One page	Two pages	Book form	Turn page	Total
Securities	9	65	11	63	45	29	74
Pension	34	169	57	146	155	48	203
Currency	45	175	71	149	169	51	230
Hedge	16	118	27	107	97	37	134
Other	33	152	53	132	138	47	185

Appendix C: Stata code

When gathering the data by hand the statements with a continuous statement of OCI presented on one page got a value of 1 and if it was presented on two pages it got the value 2. When OCI was presented in a consecutive statement location got a value of 3 when it was presented on the same page as net income and value 4 when it was presented on a separate page.

Location model

Generating the variables used for the location model

```
gen rOCI=abs(Roci)
gen nOCI=abs(Noci)

gen recycled=0 if nOCI>=rOCI
replace recycled=2 if nOCI<=rOCI
replace recycled=1 if nOCI==rOCI

gen size=tOCI/NI*100
replace size=abs(size)
replace size1=1 if size1>=1

continuous versus consecutive location
gen location1=0 if Location==1
replace location1=0 if Location==2
replace location1=1 if Location==3
replace location1=1 if Location==4

1 page versus 2 page location
gen location2=0 if Location==1
replace location2=0 if Location==3
replace location2=1 if Location==2
replace location2=1 if Location==4

Book form versus back page location
gen location3=0 if Location==1
replace location3=0 if Location==3
replace location3=0 if Location==2 & Page==1
replace location3=0 if Location==4 & Page==1
replace location3=1 if Location==2 & Page==2
replace location3=1 if Location==4 & Page==2
```

Binary logistic regression commands

```
logistic location1 i.recycled size
logistic location2 i.recycled size
logistic location3 i.recycled size
```

OCI model

Multiple linear regression commands

```
regress mcap Equity NI D#c.NI Toci location1#c.Toci
regress mcap Equity NI D#c.NI Toci location2#c.Toci
regress mcap Equity NI D#c.NI Toci location3#c.Toci
```

OCI component model

Generating variable used for OCI component model

```
egen O1=rowtotal(pen cur Hed other)
egen O2=rowtotal(sec cur Hed other)
egen O3=rowtotal(sec pen Hed other)
egen O4=rowtotal(sec pen cur other)
egen O5=rowtotal(sec pen cur Hed)

replace O1=. if sec==.
replace O2=. if pen==.
replace O3=. if cur==.
replace O4=. if Hed==.
replace O5=. if other==.
```

Regression command continuous versus consecutive statement

```
regress mcap Equity NI D#c.NI sec location1#c.sec O1
regress mcap Equity NI D#c.NI pen location1#c.pen O2
regress mcap Equity NI D#c.NI cur location1#c.cur O3
regress mcap Equity NI D#c.NI Hed location1#c.Hed O4
regress mcap Equity NI D#c.NI other location1#c.other O5
```

Regression command 1 page versus 2 pages

```
regress mcap Equity NI D#c.NI sec location2#c.sec O1
regress mcap Equity NI D#c.NI pen location2#c.pen O2
regress mcap Equity NI D#c.NI cur location2#c.cur O3
regress mcap Equity NI D#c.NI Hed location2#c.Hed O4
regress mcap Equity NI D#c.NI other location2#c.other O5
```

Regression command book form versus back page

```
regress mcap Equity NI D#c.NI sec location3#c.sec O1
regress mcap Equity NI D#c.NI pen location3#c.pen O2
regress mcap Equity NI D#c.NI cur location3#c.cur O3
regress mcap Equity NI D#c.NI Hed location3#c.Hed O4
regress mcap Equity NI D#c.NI other location3#c.other O5
```

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