



## **The impact of pro forma earnings in Dutch press releases**

A research into the role and value relevance of pro forma earnings in Dutch press releases

**Abstract:** Prior research shows that pro forma earnings in Dutch press releases contain more information value than IFRS numbers. Several newspapers report that in recent years companies increasingly use pro forma earnings. This study focuses on role and value relevance of pro forma earnings of Dutch AEX-listed companies in Dutch press releases. The research is split into three parts. First, the emphasis of pro forma earnings and IFRS (International Financial Reporting Standards) earnings is measured. Emphasis is determined by the place of these earnings in press releases. Secondly, the magnitude of adjustments is measured. This is the difference between IFRS and pro forma earnings. In the third place, the value relevance of both earnings numbers is measured. The value relevance is measured by the reaction of the stock market on earnings surprises. The results show that the emphasis significant differ between pro forma and IFRS earnings and that pro forma earnings are significantly higher than IFRS earnings. For investors, IFRS earnings in semi-annual press releases are more value relevant than pro forma earnings.

**Keywords:** pro forma earnings, press releases, emphasis, opportunistic reporting, value relevance

**Supervisor:** J. Pasmooij

**Student:** Margaritha Koeleman

**Student number:** 375126

**MSc:** Accounting, auditing & control

# Content

<b>1 INTRODUCTION.....</b>	<b>5</b>
<b>2 BACKGROUND INFORMATION .....</b>	<b>7</b>
2.1 DEFINITION PRO FORMA EARNINGS.....	7
2.2 MOST COMMON ADJUSTMENTS .....	8
2.3 SEC RULES AND REGULATIONS .....	9
2.3.1 International regulations.....	10
2.3.2 Laws and regulations in the Netherlands .....	10
<b>3 LITERATURE REVIEW .....</b>	<b>12</b>
3.1 STOCK MARKET REACTIONS .....	12
3.2 EMPHASIS ON PRO FORMA EARNINGS .....	15
3.3 REPORTING MOTIVES .....	16
3.4 SUMMARY.....	17
<b>4 HYPOTHESIS DEVELOPMENT .....</b>	<b>18</b>
4.1 EMPHASIS OF PRO FORMA EARNINGS.....	18
4.2 THE MAGNITUDE OF ADJUSTMENTS.....	19
4.3 VALUE RELEVANCE OF PRO FORMA EARNINGS .....	20
4.4 LIBBY BOXES .....	21
4.5 CONSTRUCT VALIDITY .....	22
4.6 INTERNAL VALIDITY .....	22
4.7 EXTERNAL VALIDITY .....	23

<b>5 RESEARCH DESIGN</b> .....	<b>24</b>
5.1 SAMPLE SELECTION .....	24
5.2 DATA COLLECTION .....	25
5.3 METHODOLOGY .....	26
5.3.1 Emphasis on pro forma earnings .....	26
5.3.2 Magnitude of adjustments .....	27
5.3.3 Stock market reaction to pro forma earnings .....	28
<b>6 RESULTS</b> .....	<b>30</b>
5.1 EMPHASIS OF EARNINGS METRICS .....	30
5.2 MAGNITUDE OF ADJUSTMENTS .....	33
5.3 VALUE RELEVANCE .....	34
5.5 SUMMARY .....	36
<b>7 CONCLUSION</b> .....	<b>37</b>
<b>APPENDIX 1: LIST WITH USED NON-IFRS EARNINGS METRICS IN SAMPLE</b> ..	<b>43</b>
<b>APPENDIX 2: COMPANIES INCLUDED IN SAMPLE</b> .....	<b>44</b>
<b>APPENDIX 3: OUTPUT CHI-SQUARE TEST</b> .....	<b>45</b>
<b>APPENDIX 4: T-TEST OUTPUT STATA AND NORMAL DISTRIBUTION OF THE</b> <b>SAMPLE</b> .....	<b>46</b>
<b>APPENDIX 5: REGRESSION MODEL RESULTS</b> .....	<b>47</b>

# 1 Introduction

The Security and Exchange Commission (SEC) reports that an increasing number of American companies use ‘fancy metrics’ to show their results to their stakeholders<sup>1</sup>. It is perfectly legal to use pro forma measures to show your results, if companies also provide earnings numbers in accordance with an applicable standard. But the SEC warns the companies and stakeholders. Showing pro forma numbers may mislead stakeholders. In this way, the decisions of the shareholders can be influenced by showing ‘fancy metrics’ (Lasance, 2016).

The concern is that too much non-GAAP accounting could make it harder for investors to assess the performance of firms. This happened during the NASDAQ boom of the late 1990s and more recently at Groupon Inc, which before going public used profit measures that stripped out some of its biggest costs. Groupon Inc. has mostly lost money and market value ever since. While creative accounting is a continuing issue in the accounting world, pro forma earnings numbers have been on the rise lately. That is why the SEC is worried about this issue. One concern backed up by academic research is that investors who put too much faith in pro forma numbers could eventually get burned (Micheals, 2016).

Pro forma literally means ‘as a matter of form’. This definition provides little guidance for an accepted definition of pro forma earnings. The term has evolved over time used in the financial reporting to enhance comparability. In that way, companies suggest that their alternative earnings numbers are more comparable numbers than earnings numbers in accordance with the applicable standard. These standards include nonrecurring items such as restructuring charges and gains and losses on the sales of assets to determine operating income measures. Excluding these items can introduce a comparability problem: without an accepted definition of pro forma earnings, financial statements users cannot confidently compare numbers across different companies (Halsey & Soybel, 2002).

”The objective of the financial statement is to provide information about the financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions. (IAS 1 — Presentation of Financial Statements, 2016)” The fundamental qualitative characteristics to meet the objectives of the financial statement are relevance and faithful representation. Comparability, verifiability, timeliness and understandability are the qualitative characteristics that enhance the usefulness of information that is relevant and faithfully represented. With no accepted definition of pro

---

<sup>1</sup> Fancy metrics = pro forma earnings = Non-GAAP earnings

forma earnings, it is almost impossible to meet the objective of the financial statement (IAS 1 — Presentation of Financial Statements, 2016).

Marseille and Vergoossen (2005) found evidence that Dutch companies frequently use pro forma earnings in the financial statements and press releases. They researched 146 Dutch listed companies. Moreover, they find that sometimes companies use the pro forma earnings in a misleading way. Pro forma earnings have more emphasis than IFRS measures in press releases, while there is often no additional information about these numbers. Marseille and Vergoossen (2005) show that there is no consistency in the use of pro forma earnings. These results can possibly influence the use of pro forma earnings by stakeholders.

Koning et al (2007) research the information content of IFRS and non-IFRS earnings numbers. They found that non-IFRS earnings numbers have more value relevance than IFRS numbers. This study investigates the value relevance of pro forma earnings in the Netherlands. Additional tests measure on which numbers managers put more emphasis and which of these numbers have a higher value in press releases. This thesis focuses on the comparison between pro forma earnings numbers and IFRS earnings numbers. The research question can be formulated as follow:

*RQ: Are non-IFRS earnings numbers more relevant than IFRS earnings numbers in the financial statements of Dutch AEX listed companies?*

The objective of this thesis is to determine the role of pro forma earnings in the Netherlands. This research is split into three different parts. First, I test on which earnings numbers managers put more emphasis. The first pro forma earnings number in press releases will be determined and get an emphasis score. Depending on the place of the earnings numbers, the first IFRS income number and the first non-IFRS income number in the press release get an emphasis score. Then both emphasis scores will be compared. The second test measure if there is a significance difference between IFRS and non-IFRS earnings numbers. I use a paired t-test to determine which type of earnings numbers is significantly higher. The last test focuses on the value relevance of both earnings numbers in the last three years. The value relevance is measured with a linear regression model. The cumulative abnormal returns are the dependent variable and unexpected earnings are the independent variable in this model.

The outcome of these tests can show if the pro forma earnings in the Netherlands are relevant for users of the financial statement. Managers argue that they use pro forma earnings to increase the comparability in earnings over the years (Halsey & Soybel, 2002). Koning et

al. (2007) research the information content of pro forma earnings in 2000-2005. This thesis focuses on the period 2012-2015. It is still not clear on which earnings numbers Dutch companies put more emphasis. This is a gap in the current literature. Measuring emphasis can give an insight into managers' behavior. Moreover, different media ascertain that pro forma earnings are more frequently used in recent years. This can affect the use and information content of pro forma earnings.

The outcome shows mixed results. First, an emphasis score test shows that the location of pro forma earnings does significantly differ from IFRS earnings numbers in Dutch press releases. This means that managers do lay different emphasis on pro forma earnings than IFRS earnings numbers in press releases, if we focus on the location of these numbers. Thereafter, a paired t-test measures differences in value of both earnings numbers. The results show that pro forma earnings are significantly higher than IFRS numbers. This can indicate that managers are opportunistic on the financial position of the company. A linear regression model measure the relation between cumulative abnormal returns and earnings surprises. The outcome shows that IFRS numbers have more value relevance than pro forma numbers in semi-annual press releases. The regression models based on quarterly press releases are not significant, which mean that it is not possible to draw a conclusion. Overall, IFRS earnings numbers are more informative, while pro forma earnings are significantly higher. This can indicate opportunistic managers and that investors should use IFRS earnings numbers.

The structure of this thesis will be as follows. First, background information about pro forma earnings will be explained in chapter two. This chapter explains the definition of pro forma earnings, the most common adjustments and the actual laws and regulations about pro forma earnings. This background is needed to understand the current situation about pro forma earnings. Second, prior research will be discussed in chapter three. This chapter contains three subjects; emphasis of pro forma earnings, the stock market reactions on pro forma earnings and reporting motives.

Based on this prior literature, the hypothesis for this study will be developed in the next chapter. Chapter four contains three hypotheses, Libby boxes and different types of validity will be discussed. Then the sample selection and research design are developed in chapter five. Using this methodology, the results are shown in chapter six. Based on these results, the hypothesis will be supported or rejected. Finally, the research question will be answered in the conclusion.

## **2 Background information**

This chapter contains the definition of pro forma earnings, the most common adjustments, rules and regulations. This information about pro forma earnings is fundamental for this thesis and gives a clear view about pro forma earnings in general and the current rules and regulations for using these numbers.

### **2.1 Definition Pro forma earnings**

Prior research uses different terms for determining the presentation of the statutory profit. The relevant literature uses the terms pro forma earnings, non-GAAP measures or street earnings for their adjusted income numbers. Generally, street earnings refer to adjusted earnings numbers disclosed by analyst and forecast tracking services. Pro forma earnings refer to managers disclosed adjusted earnings metrics. Sometimes, these earnings numbers in accordance with an applicable accounting standard are adjusted by managers. Managers adjust earnings numbers to give outsiders a better view of the financial performance. Non-GAAP earnings refer to disclosures that allow investors to quickly and easily assess earnings per share excluding transitory items (Curtis, McVay, & Whipple, 2014). For the purpose of this thesis, the term pro forma earnings has been adopted. However, the different terms named above, refer to the analogous concept in this thesis.

A financial performance indicator is a measure for giving insight into the company's financial performance. Relevant regulations are generally accepted accounting principles (GAAP). A performance indicator which does not conform to the GAAP rules, is also called pro forma earnings (Securities and Exchange Commission, 2003). The definition of pro forma earnings defined by the SEC is:

‘‘a non-GAAP measure is a numerical measure of a company's historical or future financial performance, financial position or cash flow that: Exclude amounts, or is subject to adjustments that have effect of excluding amounts, that are included in the most directly comparable measure calculated and presented in accordance with GAAP in the statement of income, balance sheet or statement of cash flows (or equivalent statements) of the issue; or Include amounts, or is subject to adjustments that have the effect of including amounts, that are excluded from the most directly comparable measure so calculated and presented.’’ (SEC rule Section 401 (b) of the Sarbanes-Oxley Act)

The definition of a non-GAAP financial measure is intended to capture all measures that include adjustments in comparing with an official applicable standard.

“A measure of performance that is different from that presented in the financial statement, such as income or loss before income taxes or net income or loss, or calculated in accordance with GAAP; or a measure of liquidity that is different from cash flow or cash flow from operations computed in accordance with GAAP.” (Securities and Exchange Commission, 2003)

Pro forma earnings do not include operating and other statistical measures, ratios and statistical measures calculated in accordance with GAAP. Examples of these GAAP measures are operating profit margin that is calculated by dividing GAAP revenue into GAAP operating income. Also excluded from the definition are the financial measures required to be disclosed by GAAP, SEC rules, or a system of regulation of a government or governmental authority or self-regulatory organization that is applicable to the company (Securities and Exchange Commission, 2003).

## **2.2 Most common adjustments**

Bhattacharya et al. (2004) provide evidence on exclusions by US reporters. They find that depreciation and amortization are the most common adjustments during the period 1998-2000. Depreciation and amortization capture 21% of all adjustments made by managers. Other common adjustments used by companies are stock-based compensation, merger and acquisition costs and research and development costs and write-offs of purchased in-process R&D. Other categories with less frequent adjustments are restructuring charges, tax, interest, gains and losses on sales assets, conversion costs and public offering expenses. (Bhattacharya, Black, Christensen, & Mergenthaler, 2004).

Obviously, the majority of the items excluded by US reporters are expenses that decrease GAAP earnings. Bhattacharya et al. (2003) examine twelve categories and show that only gains and losses on asset dispositions are GAAP income increasing. Many of these examined exclusions are non-recurring items in nature on the balance sheet. But depreciation, amortization, stock-based compensation and R&D costs are more persistent. Managers exclude these items because they are historical cost based estimates and are not indicative of the current and future expenditures or performance (Young, 2014).



Koning et al. (2007) research adjustments made by Dutch companies. They show that the most common adjustment is excluding amortization. 65 percent of pro forma earnings exclude this item. Other frequent adjustments are non-operating items, depreciation, exceptional items and extraordinary items. Managers probably exclude these items to provide a better view of the current financial position. Reporting motives are explained in the literature review.

## **2.3 SEC rules and regulations**

### *2.3.1 International regulations*

In 2003, the SEC issued Regulation G, item 10(e) of Regulation S-K and item 12. These regulations are implemented for non-GAAP earnings reported outside the financial statement. These regulations are prepared for US companies. In the Netherlands, European Securities and Markets Authority (ESMA) and ‘‘Autoriteit Financiële Markten’’ (AFM) control rules and regulations concerning pro forma earnings. To create clear overview, first Regulations G will be explained and then the applicable rules and regulations in the Netherlands will be explained.

#### *Regulation G*

Regulation G covers all public disclosures of non-GAAP financial measures including press releases, conference calls, investor’s presentations and other media. This regulation requires non-GAAP financial measures to be accompanied by the most directly comparable financial measure calculated and presented in accordance with GAAP, together with a reconciliation of the non-GAAP metric to the corresponding GAAP measure.

Regulation G is intended to provide investors with financial disclosures whenever non-GAAP financial measures are presented. This regulation is applicable to each company that is required to file reports pursuant to sections 13(a) or 15(d) of the Exchange Act, other than registered investment company. Regulation G applies to public disclosures or releases that include a non-GAAP measure. This regulation requires GAAP measures if companies disclose non-GAAP earnings in their press releases. (Securities and Exchange Commission, 2003).

### *SEC filings*

‘Item 10(e) covers all SEC filings and requires that companies include the following information if the filing contain non-GAAP financial measures.

- A presentation of the most directly comparable financial measure(s) calculated and presented in accordance with GAAP;
- A reconciliation which shows the calculation between the non-GAAP and the most directly comparable GAAP measure;
- A statement which explains the reasons why the company’s management believes that the presentation of the non-GAAP financial measure provides useful information to investors regarding the company’s financial condition and result of operations.

Item 10(e) is especially for SEC filings and not for all public disclosures. (Securities and Exchange Commission, 2003)’

### *2.3.2 Laws and regulations in the Netherlands*

In the Netherlands, the more frequent use of pro forma earnings led to changes in accounting standards. Some evidence shows that reporting earnings before interests, taxes, depreciation and amortization (EBITDA) became popular. This non-GAAP measure allows managers to avoid the negative effect of depreciation and amortization. The SEC decided to implement guidelines for non-GAAP measures in the Sarbanes Oxley Act (SOX) of 2002. In 2002 as well, the DASB decided that non-GAAP measures, such as EBITDA cannot be reported in the profit and loss account, as they are inconsistent with the presentation format provided by the Dutch law. This statement was issued as guideline for showing non-GAAP measures. This rule is especially for the financial statements of Dutch companies. This means that press releases are unaffected by this new accounting rule.

In 2004, the Dutch Financial Market Authority (AFM) issued a press release about using non-GAAP measures in press releases. They force companies to follow the guidelines which are very similar to Regulation G (Koning et al., 2007)

International Accounting Standard 33 (IAS 33) permits management to report non-GAAP earnings per share (EPS) metrics in the income statement or in the accompanying notes, as long as basic and diluted amounts per share relating to any such metrics are disclosed with equal prominence along with a reconciliation the a corresponding line item reported in the income statement. This is in line with Item 10(e) issued by SEC. The SEC issued Generally Accepted Accounting Principles (GAAP), which are used by companies from the United States. International Financial Reporting Standard (IFRS) is used by Dutch

listed companies. This means that the regulations of IFRS are applicable to Dutch companies included in this research (Young, 2014).

In 2015, ESMA issued guidelines on alternative performance measures (APM). These guidelines are applicable to press releases. Companies should disclose the definitions of APM's used, in a clear and readable way. Thereby, they have to give meaningful labels to these earnings numbers to avoid misleading messages to users. The rules about reconciliations are similar to Regulation G. A reconciliation of the APM to the most directly reconcilable line item should be disclosed.

In order to allow users to understand the relevance and reliability, companies should also disclose explanations on the use of APM's. More important for this research, ESMA include the following rule; "APM's should not be displayed with more prominence, emphasis or authority than measures directly steaming from the financial statements". This means that pro forma earnings do not have more emphasis than IFRS earning numbers in press releases (ESMA, 2015).

### **3 Literature review**

This chapter includes prior research about pro forma earnings and deals with contain different subjects; (1) stock market reactions, (2) emphasis pro forma earnings, (3) reporting motives and (4) a summary.

#### **3.1 Stock market reactions**

The ongoing debate about the usefulness and possible effect of pro forma earnings has become bigger the last period. In the last decade, managers increasingly use pro forma earnings and claim that pro forma numbers improved metrics for assessing future company performance and cash flows. On the other hand, managers can manage earnings to influence the capital markets, contracting and regulators. They probably provide voluntary disclosure of pro forma earnings to avoid litigation cost and to avoid negative earnings surprises (Kasznik & Lev, 1995).

Standard setters, regulators and other critics claim that pro forma earnings numbers are incomplete and selective. In this way, pro forma earnings can mislead the investors. These critics argue that companies selectively exclude items from the original GAAP numbers in order to portray the company in the best light possible. But if markets are efficient, then prices reflect all available information and investors are not systematically fooled by the form in which the information is packaged. This section investigates the relation between the pro forma earnings and the stock market reactions (Bhattacharya et al., 2003).

The quarterly earnings announcements are a relevant subject for investors and researchers. Wall Street analysts and corporate management engage in a complex game with investors, where a small negative earnings surprise can result in huge negative stock returns. As a consequence, managers have adopted a number of techniques to avoid reporting negative earnings surprises<sup>2</sup>, including earnings pre-announcements and other expectations management strategies (Kasznik & Lev, 1995).

Bradshaw and Sloan (2002) investigate a new potential technique for reporting earnings news to investors, in which the reported earnings are modifications of GAAP earnings. They

---

<sup>2</sup> Earnings surprises occur when a company reported earnings are above or below analyst' expectations.

find that the market reaction is more associated with analyst forecast earnings than earnings before extraordinary items. Moreover, the results show that there has been a rapid increase in the amount of cases where GAAP earnings differ from pro forma earnings over the past twenty years. Furthermore, they show that management have a proactive role in defining and emphasizing pro forma earnings when communicating to investors and analysts.

Bhattacharya et al. (2003) investigate whether users of the financial statement perceive pro forma earnings to be more informative and persistent<sup>3</sup> than GAAP operating income. They analyze a sample of 1149 actual pro forma press releases. They provide evidence that investors and financial analysts find pro forma earnings more informative and more persistent than GAAP operating earnings.

Lougee and Marquardt (2003) show some evidence that investors find pro forma earnings to be more informative. They focus on the firm characteristics that include pro forma earnings in press releases. They find that firms which have earnings with a low GAAP informativeness are more likely to disclose pro forma earnings than other firms. They also find that the strategic considerations, measured using the direction of GAAP earnings surprises, are an important determinant of pro forma reporting.

Doyle et al. (2003) find that exclusions from Street earnings have significant predictive ability more than GAAP earnings. They also find that higher levels of expense exclusions lead to predictably lower future cash flows. Moreover, investors do not fully appreciate the lower cash flow implications at the times of earnings announcement. A trading strategy based on the excluded expenses provides a large positive abnormal return in the years following the announcement and continues after controlling for various risk factors and other deviations.

Gu and Chen (2004) focus on the difference between Street earnings and pro forma earnings. They compare the predictive ability of the nonrecurring items excluded both pro forma earnings with that of items excluded from pro forma earnings but included in street earnings. They found that both types of pro forma exclusions have predictive ability for future operating cash flows and earnings but that the relations are weaker for items excluded both pro forma and street earnings.

In contrast, Johnson and Schwartz (2001) find no evidence that investors have a preference for pro forma earnings. They research whether share prices that investors assign to pro forma firms are systematically higher than the prices assigned to other firms. They found some evidence that pro forma earnings firms may be priced higher than firms that do not use

---

<sup>3</sup> Persistent earnings means that the earnings are stable over time

the disclosure strategy. But they argue that this overpricing is not related to the pro forma earnings themselves. Moreover, they find no evidence of a stock return premium for pro forma firms at the quarterly earnings announcement date.

Brown and Sivakumar (2003) assess the quality of earnings numbers. They use three different types of earnings. The three measures are quarterly earnings per share (EPS) before extraordinary items, quarterly EPS from operations and the actual EPS figure published by analyst forecasts, which are labelled as street earnings. They show that the actual EPS figure published by analyst forecasts has the highest quality of these three measures. The quality is measured by value relevance, predictive ability and information content. This research shows that operating earnings reported by managers and analysts contain value relevant information beyond that provided by operating earnings obtained by sophisticated users of the financial statement.

Bhattacharaya et al. (2004) investigate firm characteristics and pro forma earnings. They found that pro forma announcers tend to be relatively young companies. Most of these companies are concentrated in the technology sector and business services industries. These companies which provide non-GAAP earnings are less profitable, more liquid and have higher debt levels, price-earnings ratios, and book-to-market ratios than other firms in their own industries. These results support the statement that managers often use pro forma earnings to meet or beat analyst expectations or to avoid earnings decreases.

Marques (2006) examine the effect of two Securities and Exchange Commission (SEC) regulatory interventions related to disclosure of non-GAAP financial measures. They found that the probability of disclosure of non-GAAP financial measures declines after implementation of Regulation G. Besides, after Regulation G, investors have a positive market reaction to the disclosure of non-GAAP earnings. This means that providing pro forma earnings numbers is informative.

Baik et al. (2009) adopt the approach of Gu and Chen (2004) and test for cross sectional differences in the predictive ability of items excluded from both pro forma and Street earnings. They found that exclusions of expenses help to predict future earnings for favorable and attractive firms, but not for value firms. They assume that analysts' incentive influence street earnings, which leads to Street earnings that are less useful in predicting future earnings for favorable stock returns. Both studies examine how analysts respond to firms' exclusions from pro forma earnings. They do not seek to test what explains pro forma exclusions.

Barth et al. (2012) examine how market participants responded to SFAS 123R requirement that firms recognize stock-based compensation expense. Stock-based

compensation is often excluded from the provided pro forma earnings. They found evidence that managers exclude these expenses to increase earnings, smooth earnings, and meet the analysts' expectations. But they found no evidence that these exclusions result in an earnings measure that better predicts future firm performance. Besides, they found that analysts exclude the expense from earnings forecasts when exclusion increases earnings' predictive ability for future performance and that opportunism generally does not explain exclusion by analysts incremental to exclusion by managers. These findings indicate that opportunism is the primary explanation for exclusion of the expense from pro forma earnings.

Doyle et al. (2003) examine the relation between future cash flows and expenses excluded from pro forma earnings. They use the earnings reported by forecast data providers as proxies for pro forma earnings numbers. They found that managers tend to exclude more expenses from non- GAAP earnings when it is costlier to use accrual earnings management due to the balance sheet constraints. They also show that investors discount positive earnings surprises when accompanied by exclusions from GAAP earnings, suggesting that the market partly understands the opportunistic behavior of managers in excluding this. This evidence is consistent with managers' opportunistic behavior in excluding these items. Analysts do not fully anticipate these earnings, resulting in an increased likelihood of exceeding analysts' forecasts.

### **3.2 Emphasis on pro forma earnings**

Frederickson and Miller (2004) do an archival study by investigating whether the equity valuation judgments of two classes of investors, analysts and nonprofessional investors, are affected by pro forma disclosures. They find that nonprofessional investors' stock price judgments are affected by pro forma disclosures when pro forma earnings are presented first in an earnings press release, while those of analysts are unaffected. This indicates that inexperienced users do not fully understand pro forma earnings numbers, while experienced users interpret these earnings correctly.

Bowen et al. (2005) examine the level of emphasis in two different ways. They determine which place pro forma earnings and GAAP earnings are shown in press releases. Based on the place of these earnings numbers, these numbers get an emphasis score. This research provides evidence of the absolute importance of both earnings numbers. Both emphasis scores are compared and the relative importance can be measured. Bowen et al.

find that more favorable earnings have a significantly higher emphasis score. Moreover, they show that companies with a lot of media coverage are more likely to show favorable earnings.

### **3.3 Reporting motives**

There are two underlying reasons why companies show pro forma earnings besides the GAAP or IFRS earnings. On the one hand, showing pro forma earnings can be informative for investors. In this way, investors are better able to assess the firm's core operating performance. This can be useful in identifying trends and predicting future operating results (Halsey & Soybel, 2002).

On the other hand, these numbers can overstate the actual performance of the company. Regulators express concerns that some managers may be motivated to inflate perceptions of core operating performance, which could mislead investors. There is an ongoing debate about whether managers disclose pro forma earnings to inform or to mislead (Young, 2014).

A large body of evidence demonstrates that pro forma earnings are informative. First, the high degree of overlap between adjustments made by management and those made by analysts suggests pro forma earnings represent a step towards permanent earnings (Marques, 2006). Second, pro forma earnings are considered more value relevant by investors than GAAP operating earnings and are better able to predict future earnings performance (Brown & Sivakumar, 2003) (Choi, Lin, Walker, & Young, 2007). Third, management are more likely to disclose and emphasize pro forma measures when GAAP earnings have a low value relevance (Bowen, Davis, & Matsumoto, 2005). Fourth, incremental adjustments by management over those made by analysts are also value and forecasting relevant in some jurisdictions (Choi, Lin, Walker, & Young, 2007), consistent with such adjustments reflecting managements' superior information about the persistence of earnings. In contrast, Marques (2006) find evidence that United States investors do not view incremental adjustments beyond institutional estimation as providing useful information.

A large body of evidence also suggests that management report pro forma earnings opportunistically to present a more favorable view of performance. Bhattacharya et al. (2003) show that pro forma earnings are significantly higher than the corresponding GAAP earnings numbers. Walker and Louvari (2003) show that management are more likely to report pro forma earnings to overturn a GAAP loss, to report positive earnings growth when a GAAP measure is negative, and to meet or beat the consensus earnings forecast when the GAAP



surprise is otherwise negative. Chen et al. (2012) show that optimistic pro forma earnings disclosures are associated with higher audit fees and auditor resignations.

The SEC implemented regulation G to make clearer rules for showing pro forma earnings. Entwistle et al. (2006) show that this implementation is associated with a reduction in the amount of pro forma earnings reporting and a reduction in misleading of pro forma disclosure. Marques (2006) show a decline in the frequency and magnitude of exclusions and an increase in investors' perceptions of pro forma earnings. Kolev et al. (2008) show an increase in investors' perceptions of pro forma earnings.

In conclusion, these findings show that some non-GAAP earnings were motivated by opportunism. But the implementation of regulation G is partially successful in its objective of improving the quality of non-GAAP reporting.

### **3.4 Summary**

In conclusion, these studies suggest that pro forma earnings are generally more associated with abnormal stock returns than GAAP operating income (Bhattacharya, Black, Christensen, & Larson, 2003) (Brown & Sivakumar, 2003). Moreover, Bhattacharya et al. (2004) show that pro forma announcers tend to be relatively 'young' firms that are concentrated primarily in the technology sector and business services industries. Doyle et al. (2013) find that managers tend to exclude more expenses from non-GAAP earnings when it is costlier to use accrual earnings management due to the balance sheet constraints, indicating that these tools are substitutes.

Bowen et al. (2005) find that firms give more emphasis to non-GAAP earnings if they are more value relevant. There is mixed evidence about the reporting motives of non-GAAP earnings. But the implementation of regulation G is successful in its objective of improving the quality of non-GAAP reporting. For example, Kolev et al. (2008) show an increase in investors' perception of non-GAAP earnings. This means that investors better understand non-GAAP earnings.

## **4 Hypothesis development**

This chapter contains the hypotheses, Libby boxes and presents a discussion whether this research meets the criteria of different types of validities. The hypotheses are based on prior research and they are useful to answer the research question of this thesis. The Libby boxes give a structured overview of the research methodology, while the last part of this chapter contains information about the validities.

### **4.1 Emphasis of pro forma earnings**

Vergoosen and Marseille (2005) examine the frequency of showing pro forma earnings. They focus on Dutch listed companies and show that these companies frequently use pro forma earnings in the financial statement and press releases. Moreover, they find that companies sometimes use the pro forma earnings in a misleading way. Pro forma earnings have more emphasis than IFRS measures in press releases, while there is often no additional information about these numbers.

Koning et al. (2007) also focus on Dutch companies and find that Dutch listed companies are not opportunistic in reporting non-IFRS earnings. In addition, they found no evidence that the alternative earnings numbers are more relevant than net income computed with IFRS. Several newspapers ascertain that companies increasingly use pro forma earnings. The increasing use of these numbers can potentially affect the outcome. They research the period 2007-2010. I will investigate if the situation is changed in the last year (2016). This thesis provides an insight into the current situation in the Netherlands. First, I investigate the emphasis placed on pro forma earnings in comparison with IFRS numbers. Bowen et al. (2005) find that management are more likely to disclose and emphasize non-GAAP measures when GAAP earnings have a low value relevance.

Bloomfield (2002) argue that more prominent earnings numbers have more effect on share prices than earnings numbers that have a less prominent place in press releases. This means that managers can influence the share prices by laying more emphasis on earnings numbers that they find favorable. Regulators express concerns that some managers may be motivated to inflate perceptions of core operating performance, which could mislead investors (Young, 2014). However, ESMA issued guidelines on pro forma earnings for European companies. They state that it is not allowed to emphasize alternative earnings measures more

than IFRS earnings numbers (ESMA, 2015). Based on this regulation, I expect that companies lay not more emphasis on pro forma earnings. Hypothesis one can be formulated as follows:

*H1: Managers lay not more emphasis on pro forma earnings than on IFRS numbers*

It is important to analyze the emphasis placed on both earnings numbers. If managers lay significantly more emphasis on pro forma earnings, these numbers can be more informative or managers will inflate perceptions of investors. Insight into emphasis on earnings in press releases makes managers' decisions more understandable.

#### **4.2 The magnitude of adjustments**

Prior research shows that pro forma earnings often exclude extraordinary or exceptional items. This makes it plausible that pro forma earnings numbers exceed IFRS earnings numbers. A research into the different performance indicators can be useful for understanding managers' behavior. Prior research often is related to companies which use GAAP as accounting standard. There is only limited research into IFRS reported companies. Koning et al. (2007) investigate all alternative measures to operating income. This thesis focuses on pro forma earnings and the most associated IFRS number. This is a more specific comparison of these income numbers.

Given the fact that pro forma earnings often exclude exceptional items, I expect that pro forma earnings are significantly higher than IFRS income numbers. The hypothesis can be formulated as follows:

*H2: Pro forma earnings are significantly higher than IFRS earnings numbers*

If pro forma earnings are significantly higher than IFRS, this is probably due to a favoritism bias. This means that the motives of managers seem to be opportunistic and they are reporting these numbers to show a better financial position. The understanding of the values is useful for investors. Frederickson and Miller (2004) show that inexperienced users are confused by showing pro forma earnings, where experienced users can easily understand these modified numbers. Insight into the value can make these numbers more understandable. Regulators can use these numbers to make decisions about new regulations. If pro forma earnings are significantly higher, they should make more strict rules. As a consequence, press releases will be less misleading.

### 4.3 Value relevance of pro forma earnings

Ball and Brown (1968) show that earnings announcements contain information value. They capture the information value by the stock price reaction after an event. The extent of the market reaction can be measured with the earnings response coefficient. ERC measures the change in stock prices. One assumption is the efficient market hypothesis. The efficient market hypothesis implies that stock prices fully reflect all publicly available information. In practice, this hypothesis does not automatically work. Information asymmetry<sup>4</sup> can occur, so that the efficient market hypothesis does not hold.

The value relevance of pro forma earnings depends on investors. Bhattacharya et al. (2003) show investors and financial analysts find pro forma earnings more informative and more persistent than GAAP operating earnings. Other researches show different results by measuring the information content of both earnings numbers. Koning et al. (2007) examine Dutch companies between 2000 and 2005. They do not find that pro forma earnings are more relevant than IFRS earnings numbers for Dutch listed companies. Newspapers show that companies more frequently disclose pro forma earnings in the last period (Lasance, 2016).

Based on prior research, my expectation is that pro forma earnings are more value relevant than IFRS earnings numbers. This is in line with the reporting motive theory provided by Halsey and Soybel (2002). They argue that showing pro forma earnings can be informative for investors. Investors are better able to assess the firm's performance and this can be useful in identifying and predicting future performance. The third hypothesis can be formulated as follows:

*H3: For investors, pro forma earnings are more relevant than IFRS earnings numbers*

A better understanding of the market reaction to pro forma earnings is important for policymakers. They can improve their standards and make the financial statement more usable for investors if they know which numbers are value relevant for investors. If pro forma earnings are more relevant, standard setters should take that into account and probably change their standards. Possible changes in the standards are accepting adjusted earnings numbers or change the current guidelines for presenting earnings numbers. For example, the most common adjustments to determine pro forma earnings will be applicable in accordance with the standard in the future.

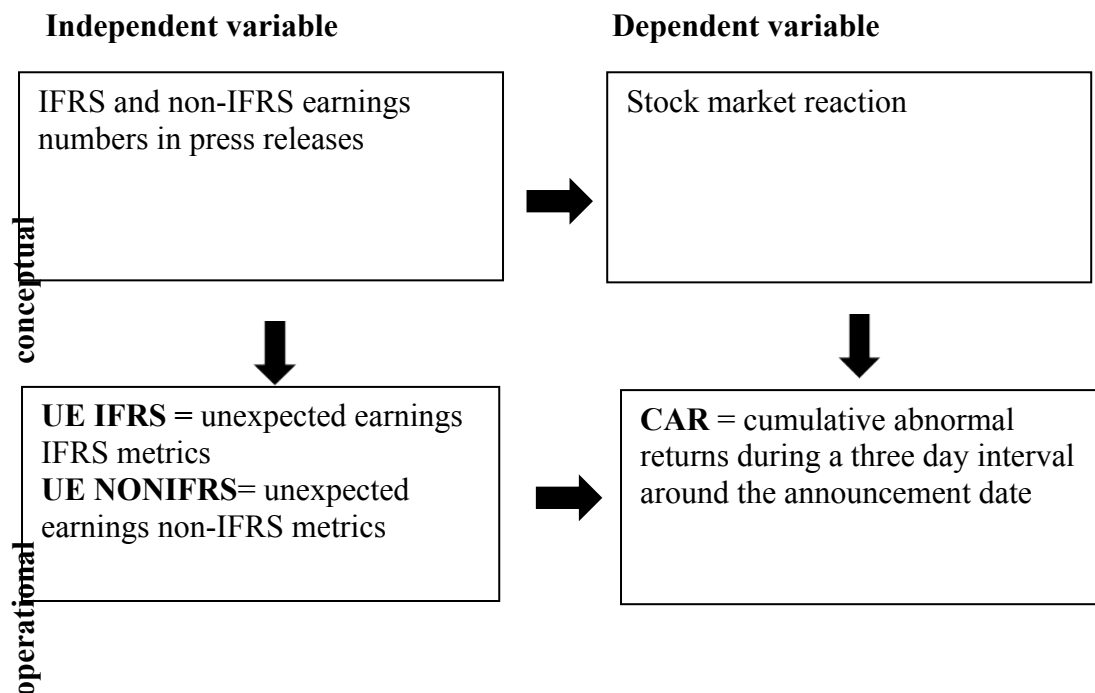
---

<sup>4</sup> Information asymmetry occur when one party has a greater knowledge about the financial position of the company than the other party

#### 4.4 Libby boxes

This part contains the Libby boxes based on the third hypothesis. This section does not contain Libby boxes for hypotheses one and two. These hypotheses used a paired t-test and a chi-square test, respectively. This means that there is not an independent and dependent variable. Because of these alternative tests, it is not possible to show the research design in Libby boxes.

Libby boxes show the research design in a structured way. The two boxes of the top include the concepts of the variables. The two boxes below show how the variables are operationalized in this research.



#### **4.5 Construct validity**

Construct validity is the degree to which a test measures what it claims to be measuring. The purpose of linear regression model is measuring the stock market reaction when companies provide their financial results.

Information content can be measured in two different ways: using earnings forecast errors or earnings surprises. This research uses earnings surprises for determining the information content of pro forma earnings. Earnings surprises occur when a company reports earnings which are above or below analysts' expectations. Analysts' expectations in general are a better proxy, but this data is not available for Dutch companies. Earnings surprises are based on earnings in q-4. This means that all other facts and factors affecting investors expectations are not taken into account.

The stock market reaction is measured by the three day cumulative abnormal returns. It is not certain if this three day window includes all the abnormal returns of these earnings numbers. A bigger window can create some noise, while a smaller window cannot capture the time lag recognition or information can be lost.

#### **4.6 Internal validity**

This study uses real data from press releases of Dutch companies. This means that this is a cross sectional study. It is possible that there are correlated omitted variables which are not included in this model. This is a risk for measuring the causal effect between the information content and the stock market reaction. These correlated omitted variables could possibly influence the effect between the independent and dependent variables. Moreover, it is hard to determine if there will be a causal effect or only an association. A causal effect means that earnings surprises influence the stock market reaction and not vice versa. Thus, it is difficult to determine if there is a causal effect.

In addition to earnings, several other factors can influence the stock market reaction. These factors can be visible for investors, but other factors are not measurable. This research is not able to identify other factors and is limited to earnings numbers. Moreover, this thesis reassumes a causal relation between earnings and stock market reaction, and does not measure a reverse causal relation between these variables. But it is not plausible that the stock market reaction influences earnings numbers.

#### **4.7 External validity**

External validity measures the extent to which the results can be generalized to other circumstances. This study contains a sample with only Dutch listed companies. The scope of this thesis implies that only AEX listed companies are included. This market index contains the biggest companies of the Netherlands. This implies that it is almost impossible to generalize the results to all Dutch firms. Listed companies are dealing with shareholders, while a large number of companies are not listed in the Netherlands. This can influence managers' behavior. A comparison with other Dutch listed companies is more plausible.

This sample is not generalizable to other European firms which use IFRS. This is not possible because of the cultural differences. Managers could have other behavior and investors can react differently from Dutch investors. If this sample includes companies from different countries, then the results are generalizable.

## **5 Research design**

The first part of this chapter describes the sample selection of this thesis. The next part explains how the data are collected and what sources are used. The last part explains the research models for both hypotheses.

### **5.1 Sample selection**

The goal of this thesis is to assess the value relevance of pro forma earnings in the Netherlands. The sample consist of 28 AEX listed companies. This thesis investigates the current value relevance of pro forma earnings. This sample period covers a three-year period (2012-2015) and can give an insight into the current value relevance. Moreover, the timeframe of three years gives the possibility to compare different years.

With respect to the selected companies, the quarterly press releases have been collected manually. These press releases are collected from corporate websites. The total number of press releases is 271. Some companies only publish semi-annual and full year results. These companies are included in the sample but need to be considered separately, because they accumulate two quarters at once.

Trading updates are not included in the sample, because the lack of information about earnings. These updates mostly consist of revenue information and are thus not extensive enough.

The final sample consist of 271 press releases. For the regression model, I include only firms which use non-IFRS and IFRS earnings numbers in their press releases. This implies that that sample consist of 190 quarterly releases and 48 semi-annual releases. The press releases have been analyzed in order to collect information about non-IFRS earnings numbers. The collected information includes the non-IFRS numbers, comparable IFRS numbers, the press release announcement date and the emphasis of both earnings numbers. Table 1 show the sample selection for this research.



**Table 1**

<b><u>Sample selection</u></b>	
<b>Companies listed on AEX 2012-2015</b>	30
Excluded companies	AirFrance KLM <sup>5</sup> Kleppière <sup>6</sup>
Companies included in sample	28
<b><u>Sample for testing emphasis</u></b>	<b><u>271</u></b>
<b><u>Sample for testing values</u></b> (semi-annual press releases are excluded)	<b><u>173</u></b>
<b><u>Sample for testing value relevance</u></b>	<b><u>204</u></b>

## 5.2 Data collection

Previous studies show that there are two different ways to collect pro forma earnings. For example, Brown and Sivakumar (2003) used I/B/E/S data as a proxy for pro forma earnings. Koning et al. (2007) used pro forma earnings collected from press releases. Due to a lack of information about Dutch listed firms in I/B/E/S, I use non-IFRS earning numbers from press releases as a proxy for pro forma earnings.

This thesis focuses on emphasized earnings numbers. This means that the most emphasized non-IFRS metrics will be collected. If there is more than one non-IFRS number, the focus will be on the first mentioned non-IFRS number. This research method is also used by Koning et al. (2007). Moreover, this thesis only contains earnings numbers, which means that other non-IFRS metrics are out of scope. The earnings numbers, announcement date, emphasis scores have been hand-collected from press releases of company's websites.

In order to answer the third hypothesis, the market reaction have to be recognized. The AEX price index and the specific company's daily closing stock price are retrieved from Datastream. The specific model will be explained in the next paragraph.

---

<sup>5</sup> No press releases available

<sup>6</sup> only three months on AEX

### 5.3 Methodology


#### 5.3.1 Emphasis on pro forma earnings

The first hypothesis is formulated as follow:

*H1: Managers lay more emphasis on pro forma earnings than on IFRS numbers*

In order to test the first hypothesis, I will use the research model of Bowen et al. (2005). This model analyses the positioning of pro forma earnings in press releases, if managers can emphasize favorable earnings. An easy way of emphasizing favorable earnings is to posit these numbers in the header or the first paragraph. Bowen et al. (2004) design a research model for emphasizing earnings numbers in press releases. I read and encoded information of the press releases to determine the emphasis of pro forma earnings and IFRS earnings numbers. I encoded several characteristics in the press releases to determine emphasis. First, the first earnings metrics (IFRS or pro forma) are recorded. The place where the earnings number is mentioned in the press releases is determined. Figure 1 shows how the level of emphasis is measured based on a four point scale.

**Figure 1**

Location in press releases	Emphasis score	Ordinal measure of emphasis
Reported in headline or highlights	1	Most emphasis
Reported in first/second paragraph	2	
Reported in paragraph 3 or later	3	
Reported in the financial statements only	4	Least emphasis

All the emphasis scores are collected from press releases. Subsequently, the results of both earnings are analyzed. A chi-square test measures if the difference between years of both earnings group is significant. A chi square test can be formulated as follow:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where:                    O = the frequency observed  
                               E= the frequency expected  
                                $\Sigma$  = the sum of

A chi-square test measures the difference between two groups. The null hypothesis expects that frequencies of emphasis score do not significantly differ. In addition, the O is non-IFRS earnings and P are the IFRS numbers included in this sample. I use Stata to perform this test.

### 5.3.2 Magnitude of adjustments

The second hypothesis 2 is formulated as follow:

*H2: Pro forma earnings are significantly higher than IFRS earnings numbers*

In order to test hypothesis two, the values of non-IFRS earnings numbers and IFRS earnings numbers are compared. To measure which earnings numbers have a significantly higher value, I use a paired t-test. A paired t-test can be formulated as follow:

$$t = \frac{M_1 + M_2}{\sqrt{\frac{SD_1^2}{N_1} + \frac{SD_2^2}{N_2}}}$$

Where:                     $M_x$      = the mean for both samples  
                                $SD_x^2$    = standard deviation of both samples  
                                $N_x$      = number of observations of both samples

One assumption of this test is that both variables have a normal distribution. A paired t-test measures if the two means significantly differ from each other. I use Stata to perform this test. IAS 34 requires that companies show their financial results at least two times a year. This means that some companies show their results two times a year and others show these results quarterly. I split these two different ways of reporting in two different samples. I perform a paired t-test of both samples. This means that there are two separate results.

### 5.3.3 Stock market reaction on pro forma earnings

The third hypothesis examines the value relevance of both earnings metrics. The two earnings numbers included in this thesis are non-IFRS earnings metrics and IFRS earnings numbers. This hypothesis again contains two different groups. One group consists of semi-annual press releases and the other contains quarterly press releases.

I use unexpected earnings by looking at the quarterly or half year earnings change. Unexpected earnings is the difference between actual earnings and expected earnings. The lack of data availability about analysts' forecast is the reason why I choose unexpected earnings. This model is designed by Koning et al. (2007). The formula is as follows:

$$CAR = \beta_0 + \beta_1 (UE\ IFRS) + \varepsilon$$

$$CAR = \beta_0 + \beta_1 (UE\ NONIFRS) + \varepsilon$$

CAR is the cumulative abnormal return during the three day interval from one day before to one day after the press release. This variable reflects the difference between the firm's stock market return and the average market return. This return contains a three day window. A larger window can induce noise in the results, while a smaller window might not capture enough time lag recognition. The announcement date of the press releases ( $T=0$ ) will be collected from the press releases on the company's website. The cumulative abnormal return is calculated as actual returns minus the expected returns. Actual returns are calculated with the closing stock prices, while expected returns are calculated with the AEX price index. All companies are listed on the AEX, therefore I choose that as benchmark for this research. The returns are calculated as follows:

$$R_{i,t} = \frac{P0_{i,t} - P1_{i,t}}{P1_{i,t}}$$

Where  $R_{i,t}$  = The actual return for company i in period t  
 $P0_{i,t}$  = Price on day 0 for company i in period t  
 $P1_{i,t}$  = Price on day 1 for company i in period t

The individual abnormal returns are calculated as:

$$AR_{i,t} = R_{i,t} - E(R)_{i,t}$$

Where:  $AR_{i,t}$  = The abnormal return for company i in period t  
 $R_{it}$  = The actual return for company i in period t  
 $E(R)_{i,t}$  = The expected return for company i in period t

UE IFRS and UE NONIFRS are the unexpected earnings of both earnings numbers. I use the IFRS earnings numbers four quarters earlier as a proxy for expected earnings. The UE IFRS is computed as (EARN IFRS - EARN IFRS)/MCAP. UE NONIFRS is computed as (EARN NONIFRS - EARN IFRS)/MCAP. MCAP is the market capitalization five trading days before the press release. Market capitalization corrects for size of the firms.

If the market finds non-IFRS metrics a better predictor for future firm performance, returns will be higher correlated with EU NONIFRS than EU IFRS. If the market find IFRS metrics a better predictor for future firm performance, returns will be higher correlated with EU IFRS than EU NON IFRS.

# 6 Results

This chapter includes the final results of this thesis. The first part explains the descriptive results of the emphasis of non-IFRS and IFRS numbers in press releases and subsequently hypothesis one will be tested. The second part includes the paired t-test to measure significance difference between pro forma and IFRS earnings numbers, and then hypothesis two is tested. The third part deals with the descriptive statistics of the regression model. Based on this regression model, hypothesis three is tested in this part.

## 6.1 Emphasis of earnings metrics

In order to test hypothesis one, the model designed by Bowen et al. (2005) will be used. Non-IFRS and IFRS metrics are derived from press releases between 2013 and 2015. The figure below shows the outcome of hypothesis one.

*Figure 2 - Results H1 non-IFRS*

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>2013</b>	48	15	9	16
<b>2014</b>	48	20	8	14
<b>2015</b>	49	21	9	13
<u>TOTAL</u>	<u>146</u>	<u>56</u>	<u>26</u>	<u>43</u>

Chi square 1.45      P = 0.963

This figure shows emphasis scores of non-IFRS earnings. Emphasis score is based on the place of these earnings in press releases. A Chi square test is used to measure changes over time. The outcome is the P value which is mentioned in this figure

The table shows results of non-IFRS earnings metrics, which shows the aggregate quarterly and half year earnings observations. Emphasis of one means that the earnings metric is shown in the header or highlights in the press release. 146 of 271 non-IFRS metrics are shown in the header or highlights. The corresponding percentage is 54%. An emphasis of two means that the earnings metric is shown in the first or second paragraph. The results show that 56 of 271 (21%) earnings metrics are shown in the first or second paragraph. An emphasis of three means that the earnings metrics is shown in paragraph 3 or later. As you can see, only 26 earnings metrics have an emphasis of three (10%). An emphasis of four means that the

earnings metrics is only shown in the financial statements. A percentage of 16 percent is related to an emphasis of four.

The sample period of this research is 2013-2015. As you can see, the differences between years are small. Emphasis one decreases by two percent, where emphasis two increases by six percent. Emphasis three remains stable over time and emphasis four decreases by four percent. I conclude that the distribution of emphasis remains stable over time, with a small shift to a higher emphasis.

A chi-square test is used to test if the changes of non-IFRS metrics change over time. As you can see in figure 2, chi square  $\chi^2$  is 1.45 and have a probability of 0.963. At a significance level of 5% we cannot reject that non-IFRS metrics change over time. This means that we can conclude that the emphasis of non-IFRS metrics are stable over time.

<i>Figure 3 - Results HI IFRS</i>				
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>2013</b>	34	45	9	0
<b>2014</b>	32	42	13	4
<b>2015</b>	24	48	16	4
<u><b>TOTAL</b></u>	<u>90</u>	<u>135</u>	<u>38</u>	<u>8</u>
Chi square 8.17      P = 0.226				

This figure shows emphasis scores of non-IFRS earnings. Emphasis score is based on the place of these earnings in press releases. A Chi square test is used to measure changes over time. The outcome is the P value which is mentioned in this figure

Figure 3 shows the results of IFRS earnings metrics in press releases. As you can see, 90 of 271 IFRS earnings metrics are shown in the header or highlights, while 135 earnings press releases are shown in the first or second paragraph. Furthermore, 38 of 271 press releases are shown in the third paragraph or later and 8 are only announced in the financial statements.

As mentioned above, the sample period is 2013-2015. The table shows that there are small differences over time. Emphasis one decreases by thirteen percent in 2015. This means that managers use less IFRS metrics to be shown in the header or first paragraph. Emphasis two increases by one percent, while emphasis three increases by three percent. Emphasis four increases by four percent. To test if these differences over time are significant, a chi-square test is applied to the sample of IFRS earnings metrics. The chi square  $\chi^2$  is 8.17 and has a

significance of 0.226. On a significance level of 5 percent, the emphasis of IFRS earnings does not change over time.

In order to test hypothesis one, I use a chi square test to determine if the emphasis of IFRS earnings and non-IFRS earnings are significantly different from each other. In other words, I measure if managers put more emphasis on pro forma earnings than IFRS earnings numbers. The outcome of this correlation test has a chi square  $\chi^2$  of 48.59 and has a p-value of 0.0007. The p-value is less than the significance level (0.05). This implies that there is a 0% chance to find the observed degree of association between the variables if they are perfectly independent in the population. The first hypothesis cannot be rejected and this means that the emphasis of IFRS metrics and non-IFRS metrics are significantly different.

---

<sup>7</sup> See Appendix 3



**6.2 Magnitude of adjustments**

Prior research shows that adjusted earnings mostly exclude exceptional costs. Based on this statement, I expect that non-IFRS numbers exceed IFRS numbers. As explained in the research design, this thesis tests the difference between non-IFRS numbers and the most comparable IFRS number.

Other studies like Koning et al. (2007) use one standard bottom line income number. Comparing two comparable numbers should make the data less noisy. Comparing two incomparable earnings numbers can create a statistical noise, because the difference of these earnings numbers can be influenced by exclusion of some expenses or revenues.

A paired sample t-test is used to test if the earnings numbers differ significantly. This test compares the means pair-wise. The outcome of the t-test shows which earnings number exceed the other and shows if the results are significant. I split semi-annual and quarterly press releases, making the results more appropriate. One assumption of a paired t-test is a normal distribution of the sample. The histograms of the variables show that semi-annual press releases earnings numbers are not distributed normally. This means that semi-annual press releases are excluded from the sample. The paired t-test only includes quarterly press releases and semi-annual press releases are not included in this test. In the table below, the results of the test are provided.

<i>Table 2 - Results H2 Paired t-test quarterly press releases</i>		
<b>Variable</b>	<b>Mean</b>	<b>Std error</b>
IFRS	331.92	385.72
non-IFRS	384.81	327.52
<b>N of Observations</b>	173	
Ha diff <0 = 0.085*		

This table shows the means of IFRS and non-IFRS numbers. The means include earnings numbers of quarterly press releases. A paired t-test is used to measure if there is a significant difference between these means.  
 \* indicates a significant difference between the means at a 10% confidence interval

The results show a P-value of 0.0858, indicating that non-IFRS numbers are marginally significantly higher than IFRS numbers.  $H_a \text{ diff} < 0$  mean that *mean IFRS – mean non-IFRS* is significantly smaller than zero. The results support the opinion that non-IFRS earnings numbers exceed IFRS earnings numbers. This can lead to biased favorable earnings numbers. Managers probably show these numbers to present a more favorable financial position of the company. Prior research points out that opportunism is the most important reason for showing non-IFRS numbers. Hypothesis two, which stated that non-IFRS numbers are significantly higher than IFRS numbers, can be confirmed for quarterly press releases.

### 6.3 Value relevance

In order to reject or confirm hypothesis three, a linear regression model is created. Semi-annual and quarterly press releases are split into two different groups. This makes the results more reliable, because the length of the period is the same for all companies in both regression models. A regression model assumes that the independent variables are distributed normally. The normal distribution shows some outliers in the variables. These outliers can distort the results, therefore they are eliminated from the model. This results in four normal distributions<sup>8</sup>. The descriptive statistics of the variables are shown in Table 3.

*Table 3- Descriptive results regression model H3*

<u>Quarterly press releases</u>			
<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std deviation</b>
CAR	167	-0.01	0.11
EUIFRS	167	0.01	0.02
EUNONIFRS	167	0.02	0.02
<u>Semi annual press releases</u>			
<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std deviation</b>
CAR	36	0.01	0.01
EUIFRS	36	-0.02	0.07
EUNONIFRS	36	-0.01	0.06

The regression models are performed with EUIFRS or EUNONIFRS as dependent variable. This model is performed with CAR as independent variable. Obs is the number of observations that are included in this test.

The descriptive statistics show that CAR has a negative mean in the sample of quarterly press releases and a positive mean in the semi-annual press releases. A negative mean means that

<sup>8</sup> See appendix 5 for the normal distributions

the cumulative abnormal returns is below zero, indicating that expected returns are higher than the actual abnormal returns. A positive mean means that the actual abnormal returns are higher than the expected returns. This might happen if earnings grow faster than expected. The variables EUNONIFRS and EUIFRS a negative mean in semi-annual press releases This implies that earnings were higher last year and the stock market is negatively surprised. In Table 4 you can find the results of the linear regression model. There are four models generated in total. Two models are about semi-annual press releases and two models are about quarterly press releases.

<i>Table 4 - Regression results model H3</i>		
<u>Quarterly press releases</u>		
<b>Variable</b>	<b>Coefficient</b>	<b>p-value</b>
<i>Intercept</i>	-0.001	0.894
<i>EUNONIFRS</i>	-0.097	0.843
R <sup>2</sup>	0.001	
F-statistic	0.04	
Observations	1645	
<b>Variable</b>	<b>Coefficient</b>	<b>p-value</b>
<i>Intercept</i>	-0.002	0.805
<i>EUIFRS</i>	0.062	0.884
R <sup>2</sup>	0.002	
F-statistic	0.02	
Observations	167	
<u>Semi-annual press releases</u>		
<b>Variable</b>	<b>Coefficient</b>	<b>p-value</b>
<i>Intercept</i>	0.009	0.225
<i>EUNONIFRS</i>	0.181	0.024**
R <sup>2</sup>	0.1403	
F-statistic	5.55**	
Observations	36	
<b>Variable</b>	<b>Coefficient</b>	<b>p-value</b>
<i>Intercept</i>	0.006	0.31
<i>EUIFRS</i>	-0.228	0.002**
R <sup>2</sup>	0.247	
F-statistic	11.17***	
Observations	36	

This table shows the results of all regression models. CAR is the independent variable in all models. EUIFRS and EUNONIFRS are the dependent variables. \*\* and \*\*\* indicate significance at 5% and 1% level of the variable or model.

First, the results of quarterly press releases are shown. The variables and both models are not significant. This means that it is impossible to draw a conclusion which model explains the dependent variable. The results show that R-squared is 0.001 for EU NONIFRS and for EU IFRS 0.002. This can indicate that model two has a higher predictive value. Because of the insignificant numbers, this conclusion cannot be stated with certainty. Therefore, hypothesis three cannot be supported or rejected on the basis of quarterly press releases results.

Secondly, the results of semi-annual press releases are shown in this table. Both regression models are significant. Moreover, both independent variables are significant. The total variance numbers explained by the models are 0.1403 and 0.2472. EU NONIFRS have a lower R-squared than EUIFRS. This indicates that IFRS earnings numbers have more information value than non-IFRS numbers. Based on these results, I conclude that IFRS numbers have more information value than non-IFRS numbers in semi-annual press releases. This means that hypothesis three can be rejected. This result contradicts prior research. Koning et al. (2007) and Bhattacharya et al. (2003) show opposite results. Probably the situation has changed in the Netherlands, this means that non-IFRS do not have more value relevance. This suggests that regulators and standard setters should not change their standards.

## **6.5 Summary**

The first hypothesis tests the emphasis of non-IFRS and IFRS numbers. The descriptive statistics show that non-IFRS numbers have not changed significantly over time, while IFRS earnings numbers remain significantly stable over time. Subsequently, the emphases of the groups are compared. The results show that the emphases of the earnings numbers are significantly different. Thus, we can reject hypothesis one. Secondly, the magnitude of the adjustments is measured. These adjustments are made by managers to generate non-IFRS numbers. The results show that non-IFRS numbers are significantly higher than IFRS numbers. This is consistent with the theory that opportunistic managers want to show favorable earnings. Thirdly, the regression models for hypothesis three are developed. The results show that the models based on quarterly press releases are not significant. In contrast, the models based on semi-annual press releases are both significant. Based on these regression models, IFRS numbers have more value relevance than non-IFRS numbers. Therefore, we reject hypothesis three.

## 7 Conclusion

In recent years, companies increasingly use pro forma earnings. Prior research show different results about the information value of these numbers. Koning et al. (2007) investigate Dutch companies in the period 2000-2005. Recent newspapers suggest that companies increasingly use pro forma earnings in press releases. This research investigates the role of pro forma earnings in recent years. This research is important for regulators, standard setters, users and preparers of the financial statement. If pro forma earnings are more value relevant, then standard setters and regulators have to take this into account when making new rules. Moreover, the emphasis of pro forma earnings gives an insight into how managers report these earnings numbers. This research also investigates if pro forma earnings are significantly higher than IFRS numbers. The research question can be stated as follows:

*RQ: Are non-IFRS earnings numbers more relevant than IFRS earnings numbers in the financial statements of Dutch AEX listed companies?*

The sample contains press releases of Dutch AEX listed companies between 2013 and 2015. The expectation is that managers lay more emphasis on pro forma earnings than on IFRS earnings numbers (hypothesis 1). In addition, the expectation is that pro forma earnings should be higher because of excluding exceptional items (hypothesis 2) and the prediction is that they contain more information value (hypothesis 3).

The outcome shows mixed results about pro forma earnings. First, the emphases of pro forma earnings and IFRS earnings are analyzed. The results show that managers do lay significantly different emphasis on pro forma earnings than on IFRS earnings numbers. Secondly, a paired t-test compares the means of pro forma and IFRS earnings numbers. This test proves that pro forma earnings are significantly higher than IFRS numbers.

The third part of this thesis contains a linear regression model. This model examines the relation between the information content of earnings numbers and the stock market reaction. The results show that IFRS earnings numbers are more informative than pro forma earnings numbers in semi-annual press releases. The models which include earnings numbers of quarterly press releases are not significant. This implies that I cannot draw a conclusion which earnings numbers in quarterly press releases are more informative.

These results give an insight into the current situation in the Netherlands. Pro forma earnings have different emphasis in comparing with IFRS earnings numbers. Based on the results, they do not add value to press releases. Investors can take into account that pro forma earnings are not more value relevant than IFRS numbers. Based on these results, pro forma earnings can be ignored in press releases. Managers probably show these numbers because they are more favorable.

This research has several limitations. First, this study contains only non-IFRS earnings metrics and no other non-IFRS metrics. The conclusion that pro forma numbers do not contain more information is only based on earnings numbers. This means that other pro forma earnings are not included in this study. Moreover, this study contains only Dutch AEX listed companies. This implies that it is not possible to generalize these results to all Dutch firms. Furthermore, the results of IFRS numbers only hold for these Dutch companies and advising an international standard is not possible in this context.

In addition, the limitations of the stock market have to be taken into account. This research is based on the efficient market theory. This should work in practice, but there is no assurance that this is actually working. Moreover, investors do not know all the public information, which may lead to information asymmetry. This study has a three day window to calculate expected earnings, but it is not certain if this three day window includes all the abnormal returns of these earnings numbers. A bigger window may create some noise, while a smaller window cannot capture the time lag recognition or information can be lost.

Besides, the sample for testing emphasis is bigger than the sample for the regression models. Information about market capitalization and stock prices was not available for all companies and all dates of announcement. The sample of the press releases is relatively small. This can induce a lack of significant power of the tests. Final criticism is that differences in industries are not taken into account.

There are several suggestions for future research. It is interesting to research the differences between industries. There is no literature available about this subject and maybe these differences are significant. Moreover, research about pre and post implementation of IFRS can be interesting. Probably the implementation leads to more pro forma earnings numbers. Moreover, research to other non-IFRS metrics is useful. Most studies focus on earnings numbers, while companies also make adjustments for other accounting numbers.

Finally, availability of analysts' forecast can contribute to pro forma earnings in the Netherlands. Due to the lack of availability, most studies focus on hand collected data from

press releases. A larger sample based on analyst forecasts can make the regression models more appropriate and can measure differences between industries.

## Bibliography

- Baik, B., Farber, D., Petroni, K. (2009). Analyst' incentives and street earnings. *Journal of Accounting Research*.
- Ball, B. & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 159-178
- Barth, M., Gow, I., & Taylor, D. (2012). Why do pro forma and street earnings not reflect changes in GAAP? Evidence from SFAS 123R. *Review of Accounting Studies*, 526-562.
- Baumker, M., Biggs, P., & Pierce, J. (2014). The Disclosure of Non-GAAP Earnings Following Regulation G: An analysis of transitory gains. *Accounting Horizons*, 77-92
- Bhattacharya, N., Black, E., Christensen, T., & Mergenthaler, R. (2004). Empirical evidence on recent trends in pro forma reporting. *Accounting Horizons*, 27-43.
- Bhattacharya, N., Black, E., Christensen, T., & Larson, C. (2003). Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics*, 285-319.
- Bloomfield, R. (2002) The incomplete revelation hypothesis and financial reporting. *Working paper, Cornell University*
- Bowen, M., Davis, A., & Matsumoto, D. (2005). Emphasis on Pro forma versus GAAP earnings in quarterly press releases: determinants, SEC intervention, and market reactions. *The Accounting Review*, 1011-1038.
- Bradshaw, M., & Sloan, R. (2002). GAAP versus the street: An empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research*, 41-66.
- Brown, L., & Sivakumar, K. (2003). Comparing the value relevance of two operating income measures. *Review of Accounting Studies*, 561-572.
- Chen, L., Krishnan, G., & Pevzner, M. (2012). Pro forma disclosures, audit fees, and auditor resignations. *Journal of Accounting and Public Policy*, 237-257.
- Choi, Y., Lin, S., Walker, M., & Young, S. (2007). Disagreement over the persistence of earnings components: evidence on the properties of management-specific adjustments to GAAP earnings. *Review of Accounting Studies*, 595-622.
- Collins, D., Maydew, E., & Weiss, I. (1997). Changes in the Value Relevance of Earnings and Book values over the past forty years. *Journal of Accounting and Economics*, 39-67.
- Curtis, A., McVay, S., & Whipple, B. (2014). The Disclosure of Non-GAAP Earnings Information in the Presence of Transitory Gains. *The Accounting Review*, 933-958.
- Doyle, J., Lundholm, R., & Soliman, M. (2003). The predictive value of expenses excluded from pro forma earnings. *Review of Accounting Studies*, 145-174.



- Entwistle, G., Feltham, G., & Mbagwu, C. (2006a). Financial reporting regulation and the reporting of pro forma earnings. *Accounting Horizons*, 39-55.
- Entwistle, G., Feltman, G., & Mbagwu, C. (2006b). Misleading disclosure of pro forma earnings: an empirical examination. *Journal of Business Ethics*, 355-372.
- ESMA (2015). ESMA guidelines on alternative performance measures. Retrieved from ESMA: <https://www.esma.europa.eu/sites/default/files/library/2015/10/2015-esma-1415en.pdf>
- EY. (2015, September). *Pro forma financial information: a guide for applying Article 11 of Regulation S-X*. Retrieved from EY: [http://www.ey.com/Publication/vwLUAssets/ey-proforma-financial-information/\\$FILE/ey-proforma-financial-information.pdf](http://www.ey.com/Publication/vwLUAssets/ey-proforma-financial-information/$FILE/ey-proforma-financial-information.pdf)
- Frederickson, J., & Miller, S. (2004). The effects of Pro Forma earnings disclosures on analysts' and nonprofessional investors' equity valuation judgments. *The Accounting Review*, 667-686.
- Gu, Z., & Chen, T. (2004). Analysts' treatment of nonrecurring items in street earnings. *Journal of Accounting and Economics*, 129-170.
- Halsey, B., & Soybel, G. (2002). All about pro forma accounting. *The CPA Journal*, 13.
- IAS 1 — *Presentation of Financial Statements*. (2016). Retrieved from IASPlus: <http://www.iasplus.com/en/standards/ias/ias1>
- IAS. (2016). *IFRS 5 — Definition of 'discontinued operations'*. Retrieved from IASPlus: <http://www.iasplus.com/en/projects/completed/fs/ifrs-5-definition>
- Johnson, W., & Schwartz, W. (2001). Are investors misled by "pro forma" earnings? *Working paper, The university of Iowa*.
- Kaszniak, R., & Lev, B. (1995). To warn or not to warn: Management disclosures in the face of an earnings surprise. *The Accounting Review*, 113-134.
- Kolev, K., Marquardt, C., & McVay, S. (2008). SEC scrutiny and the evolution of non-GAAP reporting. *The Accounting Review*, 157-184.
- Koning, M., Mertens, G., Roosenboom, P. (2007) The impact of media attention on the use of alternative earnings measures, *working paper, Erasmus Universiteit*
- Lasance, A. (2016, March). *SEC: pas op met creatief boekhouden*. Retrieved from AccountantWeek: <http://accountantweek.nl/artikel/sec-pas-op-met-creatief-boekhouden>
- Lougee, B., & Marquardt, C. (2004). Earnings informativeness and strategic disclosure: An empirical examination of "pro forma" earnings. *The Accounting Review*.
- Marques, A. (2006). SEC interventions and the frequency and usefulness of non-GAAP financial measures. *Review of Accounting Studies*, 549-574.

Micheals, D. (2016, March). *Fuzzy-Math Accounting Gets Fresh SEC Scrutiny*. Retrieved from Accountingtoday: <http://www.accountingtoday.com/news/audit-accounting/fuzzy-math-accounting-gets-fresh-sec-scrutiny-77352-1.html>

Securities and Exchange Commission. (2003). *Final rule: Conditions for use of non-GAAP financial measures*. Retrieved from U.S. securities and exchange commission: <https://www.sec.gov/rules/final/33-8176.htm>

*Subject 6. Non-recurring items and Non-operating Items*. (2016). Retrieved from AnalystNotes: <http://analystnotes.com/cfa-study-notes-non-recurring-items-and-non-operating-items.html>

Vergoossen, R., & Marseille, E. (2005). Het gebruik van alternatieve financiële prestatie-indicatoren in persberichten. *Maandblad voor Accountancy en Bedrijfseconomie*.

Walker, M., & Louvari, E. (2003). The determinants of voluntary disclosure of adjusted earnings per share measures by UK quoted companies. *Accounting and Business Research*, 295-309.

Young, S. (2014). The drivers, consequences and policy implications of non-GAAP earnings reporting. *Accounting and Business Research*, 444-465.

## Appendix 1: List with used non-IFRS earnings metrics in sample

Adjusted EBITDA	Net profit excluding special items
Adjusted EBITDA from continuing operations	Operating income excluding exceptional items
Adjusted operating profit	Operating income excluding incidental items
Adjusted net loss	Operating income excluding impairment
Adjusted net income	Operating profit before depreciation and amortization
Adjusted net profit	
Core operating profit	Operating result
Directional EBIT	Ordinary EBITA
Earnings before identified items	Profit from operations
EBIT (beia)	Recurring net result
EBIT excluding exceptional items	Underlying adjusted operating profit
EBITA excluding restructuring and acquisition related costs	Underlying earnings before tax
EBITA	Underlying directional EBIT
EBITDA (excluding restructuring costs)	Underlying EBITA
EBITDA excluding exceptional items	Underlying operating income
Net profit (beia)	Underlying net profit
Net profit before exceptional items	Underlying net result

## **Appendix 2: Companies included in sample**

Aalberts Industries

ABN AMRO

Aegon

Ahold

AkzoNobel

Altice

ArcelorMittal

ASML

Boskalis

Delta Lloyd

DSM

Fugro

Galapagos

Gemalto

Heineken

ING

KPN

NN groep

PostNL

Philips

Randstad

RELX

Royal Dutch Shell

SBM Offshore

Unibail/Rodamco Unibail-Rodamco

Unilever

Vopak

Wolters Kluwer

### Appendix 3: output chi-square test

. tabulate emphasis year, chi2

emphasis	year			Total
	2013	2014	2015	
1	48	49	49	146
2	15	20	21	56
3	9	8	9	26
4	16	14	13	43
Total	88	91	92	271

Pearson chi2(6) = 1.4423 Pr = 0.963

. tabulate emphnongaap year, chi2

emphnongaap	year			Total
	2013	2014	2015	
1	34	32	24	90
2	45	42	48	135
3	9	13	16	38
4	0	4	4	8
Total	88	91	92	271

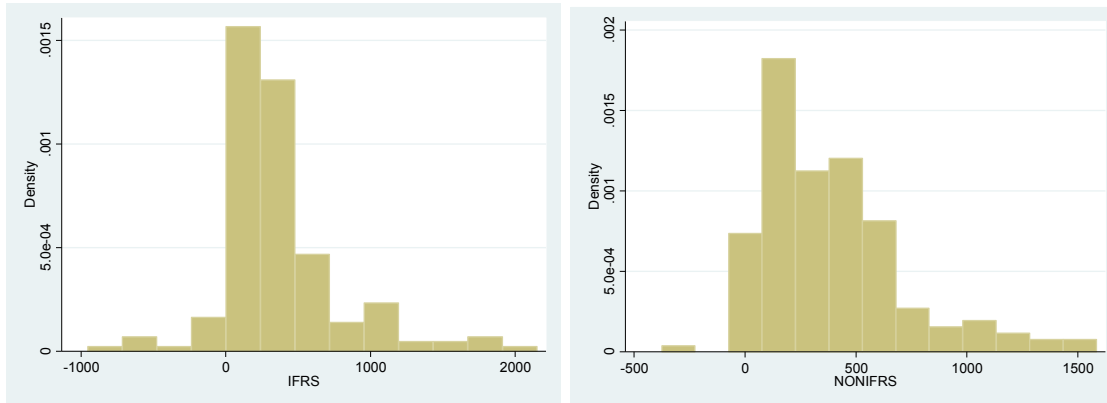
Pearson chi2(6) = 8.1694 Pr = 0.226

emphnongaap	emphasis				Total
	1	2	4	3	
2	68	44	13	10	135
	0.3	9.3	3.3	0.7	13.6
1	52	2	25	11	90
	0.3	14.8	8.0	0.6	23.8
3	23	5	5	5	38
	0.3	1.0	0.2	0.5	2.0
4	3	5	0	0	8
	0.4	6.8	1.3	0.8	9.2
Total	146	56	43	26	271
	1.3	31.9	12.8	2.6	48.6

Pearson chi2(9) = 48.5863 Pr = 0.000

## Appendix 4: T-test output STATA and normal distribution of the sample

### Quarterly press releases



Two-sample t test with equal variances

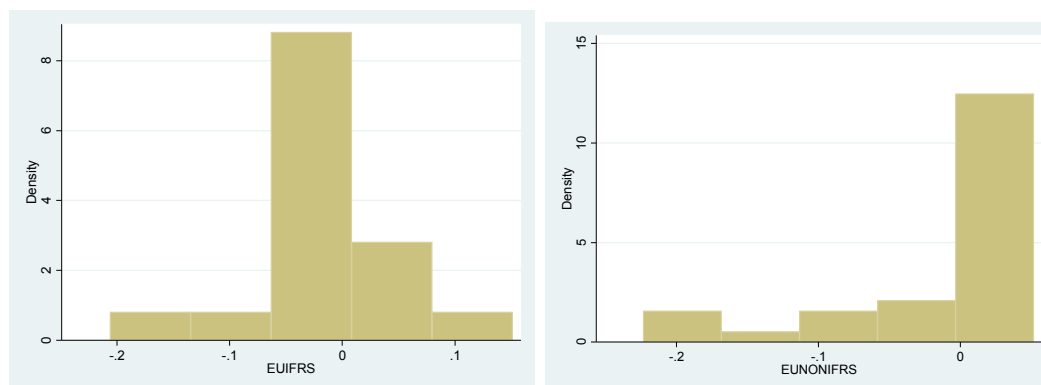
Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
IFRS	173	331.915	29.32625	385.7266	274.0293	389.8007
NONIFRS	171	384.8064	25.046	327.519	335.3652	434.2477
combined	344	358.207	19.32555	358.4355	320.1955	396.2185
diff		-52.8914	38.60241		-128.8194	23.03663

diff = mean(IFRS) - mean(NONIFRS) t = -1.3702  
 Ho: diff = 0 degrees of freedom = 342

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0  
 Pr(T < t) = 0.0858 Pr(|T| > |t|) = 0.1715 Pr(T > t) = 0.9142

## Appendix 5: Regression model results

### Semi-annual press releases



. regress CAR EUIFRS

Source	SS	df	MS	Number of obs	=	36
Model	.016708921	1	.016708921	F(1, 34)	=	11.17
Residual	.050871452	34	.001496219	Prob > F	=	0.0020
Total	.067580374	35	.001930868	R-squared	=	0.2472
				Adj R-squared	=	0.2251
				Root MSE	=	.03868

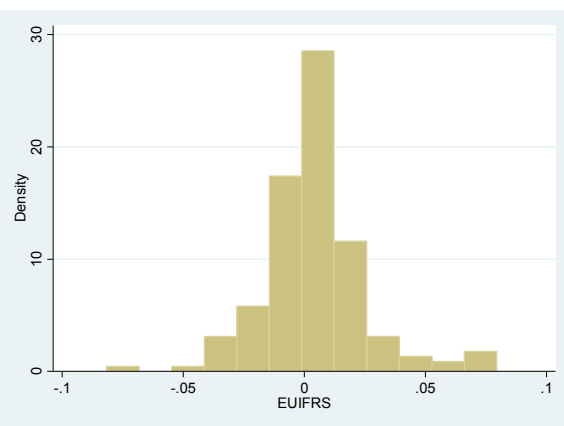
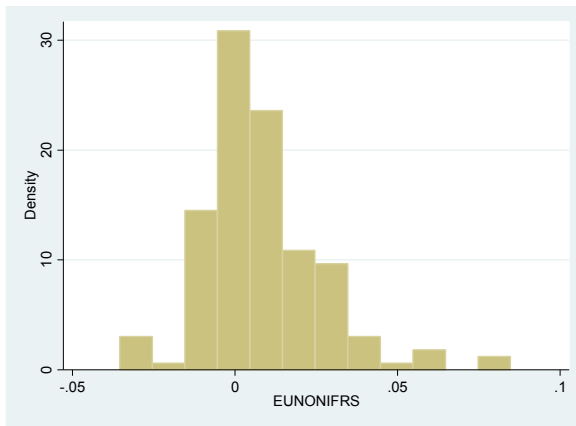
CAR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
EUIFRS	.2664467	.0797322	3.34	0.002	.1044114 .428482
_cons	.0067186	.0065238	1.03	0.310	-.0065392 .0199765

. regress CAR EUNONIFRS

Source	SS	df	MS	Number of obs	=	36
Model	.009483197	1	.009483197	F(1, 34)	=	5.55
Residual	.058097177	34	.00170874	Prob > F	=	0.0244
Total	.067580374	35	.001930868	R-squared	=	0.1403
				Adj R-squared	=	0.1150
				Root MSE	=	.04134

CAR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
EUNONIFRS	.181054	.0768544	2.36	0.024	.024867 .3372409
_cons	.0090057	.0072915	1.24	0.225	-.0058125 .0238238

## Quarterly press releases



Source	SS	df	MS	Number of obs	=	167
Model	.000290724	1	.000290724	F(1, 165)	=	0.02
Residual	2.2408641	165	.013580995	Prob > F	=	0.8839
Total	2.24115483	166	.013500933	R-squared	=	0.0001
				Adj R-squared	=	-0.0059
				Root MSE	=	.11654

CAR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
EUIFRS	.0622815	.4256811	0.15	0.884	-.7782026 .9027657
_cons	-.002277	.0091876	-0.25	0.805	-.0204174 .0158634

. regress CAR EUNONIFRS

Source	SS	df	MS	Number of obs	=	165
Model	.000539765	1	.000539765	F(1, 163)	=	0.04
Residual	2.23931278	163	.013738115	Prob > F	=	0.8431
Total	2.23985254	164	.013657637	R-squared	=	0.0002
				Adj R-squared	=	-0.0059
				Root MSE	=	.11721

CAR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
EUNONIFRS	-.0979933	.4943764	-0.20	0.843	-1.074201 .8782144
_cons	-.0013487	.0101174	-0.13	0.894	-.0213268 .0186294