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Bachelor Thesis Economie en Bedrijfseconomie

The reaction of investors on the development of IFRS 16: An event study

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Date of final version: 05-08-2024

Abstract

From 2006 until 2019 the IASB developed a new accounting standard concerning leases, replacing IAS 17. This new accounting standard mainly includes the capitalisation of operational leases to financial leases, which results in drastic changes to the financial reports and key financial ratios. Changes to the financial reports and key ratios lead to a changing perception of investors on the stock market. With the use of an event study the relationship between the development of IFRS 16 and the perception of investors is researched. The event study shows the cumulative abnormal returns of a selected sample in comparison to the stock market activity. This study finds that there are events that trigger a significant reaction from investors, but the overall effect of developing IFRS 16 has no significant effect on investors, even though showing that there is a slight positive influence. Additional cross-sectional research shows no connection between the size of a company and the observed Cumulative Abnormal Return.

Key words: IFRS 16, event study, IASB

Contents

1. Introduction

In 2019 a new part was added to the International Financial Reporting Standard (IFRS), which came in the form of IFRS 16. IFRS 16 saw a big shift in the way companies would show their leasing activities in their financial reports, which led to changes in the way companies would have to handle their leases. In this study the focus will be put on the market reactions to the events that unfolded while developing IFRS 16. The reason to focus on the process of IFRS 16 is the drastic changes that implementing this would bring comparing it to IAS 17, which was the standard for reporting leases before the introduction of IFRS 16. The biggest differences with the previous standard of IAS 17 is the two different ways a lease could appear in the financial reports, the first was an operational lease and the second was a financial lease. Operational leases were not visible on the balance sheet of a company as they were not capitalised, they were only visible to external parties in the notes that were added to the financial reports and in the recognised expenses that occurred in the leasing period. These expenses were recognised under the name of Rent Expenses. Under IFRS 16 these operational leases will cease to exist and all leases will classify as a financial lease, the only exceptions are leases that have a period of less than one year or are of low value. This means that more leases will be capitalised, which impacts the financial statements and various financial ratios. Because shareholders and potential shareholders are aware of what the implementation would mean for the valuation of companies, there view on their investments could be changed.

In this study the effects of this drastic change in accounting standards will be examined through the use of an event study design following Armstrong et al. (2010). An event study design focuses the research on certain key events which are linked to the subject of the research, which in this case is IFRS 16. On these key events the stock market will be analysed, as the stock market is a representation of the perception of investors on the profitability and financial health of companies, industries and other entities. This link between the investors and the stock market is the main focus, specified on the key events, these together would provide results that are interpretable as the effect of the development of IFRS 16 on the investors. Therefore, the research question for this study is:

What was the perception of investors on the development of IFRS 16?

The International Accounting Standards Board (IASB) which is the regulating body for the accounting standards that are being developed and added to IFRS, have a responsibility to develop accounting standards that provide transparent, reliable and comparable financial reports when used by companies as their accounting guidelines. The use of IFRS is the mandatory reporting standard in the European Union and is also recognised by more than a hundred countries, which means that the choices made by the IASB international consequences have. When the IASB publishes documents that provide new

information, either in the form of the development of a new standard or adjustments to already existing standards, it is to be expected that investors have a certain reaction to the publications. With studies on the market reaction to the development of accounting standards, governing bodies can improve their process of publishing development updates and accounting standards. These improvements can result in a more positive reaction of investors to the IASB and other governing bodies, which improves the effectivity of accounting standards

The concept of the perception of investors changing and being visible on the stock market linked of the dates of key events will be used to answer this research question. The event study design controls the reaction of investors for a sample group to the overall stock market activity on the ley events, trying to isolate the effects of the publications. For this study a sample group will be tested, this sample group consists of companies spread over nine countries in Europe and a few different industries, these countries and industries are expected to be impacted more than others by the change in accounting standards. The data for the companies in the sample group will be retrieved from the Eikon & Datastream databases, which houses data for companies all over the world. This data will be used in combination with another database the Wharton Research Data Services (WRDS) provided by the Wharton University of Pennsylvania. The WRDS provides a database with daily stock information, which can be used to provide the data for the sample group as well as the data that is needed for the market reaction. The WRDS also provides a tool to run event studies which uses the sample group that was created with the Eikon & Datastream bases and the daily price data of WRDs and outputs the data that is used for this study. The main metric this study will focus on is the cumulative abnormal return (CAR). The data output will be used in the statistical analysis program STATA to run the required classical t-test to provide the significance of the CAR and if it differs from no effect.

Besides the t-test performed to explain the relationship between the publications of the IASB and the perception of investors, two other tests will run to provide additional information and statistical data on the development of IFRS 16. First the significance of the length of the established event window will be testes. The classical t-test will be run on a sample group with a 7-day event window to include possible effects that can happen on the days around the days of the key events, with the data of the same sample group but with a 3-day event window. With a comparison of the results from the event study run with the different event window, it is possible to examine the difference the event window makes. While running the event study to find the CAR, WRDS will also output a metric concerning the return of a firm over the event windows. This metric will be used to divide the sample group in two separate groups and they will be tested if they produce results that could give a different interpretation to the results of the classical t-test.

2. Theoretical framework

2.1 institutional details

All publicly listed companies are required to publish a financial report that shows a fair image of their financial status. If every company was able to publish their financial report to their own liking it would be impossible to valuate this report, that is why there are regulations in place to insure the validity of the financial reports. In this research paper the changes in these accounting standards and the consequences are looked at. There are many forms of accounting standards that all have their own use and own governing body. Accounting standards make it that investors and other interested parties have a fair reflection of a company's financial performance. Furthermore, the use of regulated accounting standards ensures that every company have comparable financial reports, which are essential for making informed decisions by (potential) investors.

The most known accounting standards in Europe are the International Financial Reporting Standards (IFRS) which are constructed by the International Financial Reporting Standards Foundation (IFRS Foundation). The IFRS board started constructing accounting standards since 2001 and have since published nineteen sets of accounting standards all concerning a different aspect of financial reporting, including two sets of standards for sustainability reporting. The IFRS standards have been built on the previous constructed standards by the International Accounting Standards Board (IASB) as the IFRS Foundation itself was also created by the IASB, that is why the standards set by both these bodies exist next to one another. Some IASB standards are still in use but others have been replaced by IFRS, as is necessary to keep up with the change in needs of financial reporting, such as the revisions made to leasing and financial instruments.

IFRS 16 is one of these accounting standards made by the IASB and is replacing the old standards of IAS 17, these standards contain mostly information about the reporting standards for leasing. In IAS 17 there were the two kinds of leases possible, financial leases and operating leases. Operating leases were not visible on the balance sheet and the profit and loss statement, but were only mentioned in the notes. Expenses made concerning leases were recognised as rent expenses. With IFRS 16 all the operating leases are capitalised and are now financial leases, which means they are visible on the balance sheet. Companies are required, for all leases, to recognise a right-of-use asset and a lease liability. Also, the expenses would no longer be recognised as rent expense, but as interest expense. These changes to capitalising leases and expense recognition leads to changes in financial ratios of a company, which could change the perception of investors on the financial health of a company.

2.2 Existing literature and contributions

At the 1st of January 2019 the IFRS standard IFRS 16 became effective, a standard that was in development since it was added to the agenda of the IASB in 2006. This standard changes the financial reporting on the subject of leasing, with big consequences for all companies with a reliance on leased assets or companies that provide assets for leasing. IFRS 16 impacts the financial ratios of companies through a change in the recognition of assets and debt and a change in recognition of expenses made related to leasing. Branswijck and Longueville (2011) researched the change in financial ratios as the proposed changes to IAS 17 were published. They conducted a study to apply the proposed changes to the financial reports published by Dutch and Belgian companies including many different sizes and industries. The results of their study showed that the capitalisation of leases would have significant effect on the debt-equity ratio, return on asset ratio and the current ratio. The results of the study did also differ between industries showing that not all companies reacted the same to the proposed changes of IFRS 16. Morales-Diaz and Zamora-Ramirez (2018) reflected on the study from Branswijck and Longueville and widened the scope of this study. They researched the same change in financial ratios, but used a sample that included more companies and industries, spread over more countries. They came to the same conclusion that there would be a significant change in financial ratios, but they also showed the difference in effect between industries.

That the financial ratios of a company would undergo changes when all operating leases were capitalised was already known. Imhoff jr et al. (1991) examined the unrecorded liabilities as a result of operational leases and capitalised them to financial leases. The results of this study shows that the capitalisation of long-term operational leases would provide a more complete and accurate evaluation of the financial results. Imhoff jr et al (1997) widened the scope of their 1991 study on the capitalisation as they now included the effects of lease capitalisation on the income statement, which were previously seen as negligible, thus focussing on profitability ratios. This study also analysed more than just one period in time to better understand the long-term effects. This study showed that also the income statement would benefit from the capitalisation of operational leases, as there is a significant increase in information provided. Imhoff jr. et al even went as far to conclude that the emission of operating leases from the income statement as providing misleading information.

Beattie et al. (1998) also focussed her efforts on researching the change in liabilities after capitalising operational leases. This study was created after a change in accounting standards for leasing was announced in the United Kingdom, which they expected to include the capitalisation of operational leases. The expectation was that the liabilities would increase, which were confirmed in the results. The results showed an increase in liabilities and a significant change in the profit margin and return on

assets, which led to the conclusion that policies concerning lease capitalisation would have extensive economic consequences for firms, as their financial ratios would fall.

After the capitalisation of operational leases was put on the active agenda of the IASB, the proposed change of standard created a reaction from the parties that are affected by these changes. Beattie et al. (2006) researched the sentiment around the proposed changes and effects it would have on the shareholders and other interested parties. This study conducted a questionnaire in which prepares of financial statements as well as the users of financial statements were asked to give their opinion on the proposed changed. The results varied a lot between the group of prepares and users of financial statements, as prepares did not see omitting operational leases from the balance sheet as a lack of information given, were as users of financial statements expressed positive views on the capitalisation of operational leases.

Studies focussing on the reaction of firms and investors from specific sectors, specific firms, or certain countries arose. Durocher (2009) conducted one of these studies in which he examined the Canadian banking sector, which is a great example of a study that specifies in one country and one sector Hussey and Ong (2010) conducted a similar study on the Canadian and Malaysian banking sector. Comiran (2013) focusses his study on the comment letters that were sent as response to the introduction of IFRS 16, in which he finds that most respondents were opposed to the proposed changes to lease accounting, as they expected a rise in cost associated with IT, audit and renegotiating previous established contracts. So, the literature shows that investors, accountants and other parties that are impacted by the new accounting standards see the benefits from the new standard such as the increase in transparency and the better representability of the financial reports, but they are also concerned with the cost associated with the implementation of the new standards. The literature shows the concern if IFRS 16 would bring net benefits for firms or investors.

Between the papers written by Imhoff et al. (1991, 1997) and Beattie et al (1998, 2000, 2006) there is a strong sentiment to be found for the capitalisation of operational leases. The capitalisation of operational leases would provide a more accurate and complete overview of the financial statements, even though this change would be quite extensive. Many key financial ratios concerning balance sheets and income statements of companies, which have active operational leases, would look very different after the capitalisation, these changes would often show a worse financial performance. With this information it is clear why the IASB decided to introduce new standards to the IFRS, because capitalisation of operational leases would lead to a higher quality of external reporting and would be in line with the views expressed by users of these external reports

2.3 Hypotheses

Researching the perception of investors regarding the proposed changes to lease accounting in IFRS 16 reflects the perceived net benefits or costs this change will bring. The benefits of a new accounting standards are the improvements to the quality of the financial reporting to provide a more representative image of a firm, where as the costs of implementing can be seen as a loss of information and the costs to implement the new standards. This study expects the implementation cost and the loss of a distinction between a financial lease and operating lease to be greater than the benefits of capitalising all leases. Before the introduction of new accounting regulations, not only in the case of this research concerning the introduction of IFRS 16, it is expected that investor believe they are in an optimal state of the information. This means that changes to the accounting standard are perceived as a negative development as they bring uncertainty and often require financial costs and also an investment in human capital as employees need to adjust to these changes. Also, the loss of being able to choose between an operating and financial lease can be perceived as negative consequence of the implementation of IFRS 16. These changes in perception are most notably at the key event dates as the publications made by the IASB provide new information on IFRS 16. Therefore, the hypothesis is as follows:

H1: Investors have a negative perception of the changes introduces by the IASB for IFRS 16.

The second test in this study concerns the significance of the size of a firm in relation to the abnormal returns. The size of a firm can be influential in implementing new accounting standards as the amount of reporting they have to change grows with the size of a firm, this mean that the costs of implementation also rise with the size of a firm. Larger firms are also able to better offset these costs as they have more financial power, this would result in the investors perception to be increasingly positive as the size of a firm increases.

H2: Larger firms will have more positive Cumulative Abnormal Returns

3. Research design

3.1 Event Selection

For this research paper it is important to specify on which points in time research is conducted, as the development of IFRS took almost thirteen years from the date that it was added to the agenda of the IASB until the effective date of the new set of accounting standards. The events that are selected for this research are between July of 2006 and January of 2019 as these are the dates that mark the start of development and the effective date respectively, but these dates themselves will not be used for this research. In July in 2006 the reformation of lease accounting was added to the agenda of the IASB, at this moment in time it was not yet known how this reformation would look like and what it would entail for the use of IFRS concerning leases. This is the reason that it is difficult to predict what the relation would be between the reaction of investors, if there was any visible in the stock market, and this event. Furthermore, there is not an exact date within July of 2006 known, it is just stated that it was added to the agenda in this month, this makes it also not possible to apply the research method of this paper to this date. Bettie *et al.* (2006) was one of the first to research the potential impact and reaction of investors and prepares of financial statements. The research showed conflicting views as parties acknowledged that there were points of improvement for the existing accounting standards concerning leases, but that there was also opposition to the introduction of new standards as a change to these standards would bring an overhaul of the way they prepare financial statement, which also results in implantation costs. (Barone et al., 2014)

The first major event that will be used in this research happened on the 19th of march in 2009. On this date the discussion paper concerning the new standards for leasing were published by the IASB, which showed the outline of the new accounting standard. In the discussion paper, and was named Discussion Paper DP/2009/1 *Leases: Preliminary Views*, the IASB showed their plan to introduce the recognition principle. This principle would effectively erase the possibility of operating leases as every lease would be recognised as a liability and an asset in the form of a right-of-use asset, which means that the asset is getting used by the firm that recognised it, but is not owned by them. The way the recognition of these liabilities and assets would be constructed were also published in this discussion paper. (IASB, 2009)

The goal of discussion papers is the collect letters, which in the case of the IASB means comments, reactions, and/or suggestions, from parties that are going to be affected by the proposed changes in the accounting standards from the IASB. In this case the parties that are expected to send in their letter are firms which are directly impacted as they have a lot of leases or provide equipment via leases, prepares of financial statements as they have a change in their method of operations and are looking at possible implementation costs if the proposed changes differ drastically from the former standards.

Also, investors and lobbying parties send it letters with their suggestions and propositions. Investors are dependent on the performance of firms which in turn can be influenced by new accounting standard and change the potential return on their investments and the health of a firm. Whereas lobbying parties can represent any of the before mentioned parties or a group of parties that are not directly impacted, but still want to sound their voice about the proposed changes. (Rey et al., 2020)

The second event is the publication of a *exposure draft* on the 17th of August 2010, which includes the reactions of interested parties through the comment letters received .This event is to be expected to have an influence on the perception of the investors, as this exposure draft show the first revisions of the plans for IFRS 16. The exposure draft includes the comments that were send in by impacted and interested parties, that is why a positive reaction was predicted, because investor would see changes made as a result of their own comments.

On the 21st of July 2011 the IASB announced a second exposure draft would be published on a later moment in time as the amount of reactions to the previous publications and financial developments required more rework on the plans for IFRS 16 to meet the needs of companies and other parties. This key event does not bring new information on the development of IFRS 16, so there is no reaction from the investors expected. This work resulted in *Exposure Draft II*, which was published on the 16th of May 2013. In *Exposure Draft II* the reactions of impacted and interested parties were once again processed in the alteration of the existing plans of to develop IFRS 16, much the same as the process that was used in 2010 when the first exposure draft was published. Also, just like the first exposure draft the reaction of the investors was predicted to be positive as the new exposure draft would act as an addition to the first exposure draft and investors would have a positive view on the IASB using their own comments to make adjustments to the proposed standard changes.

The final two events that are considered as key events are linked to the completion of the IFRS 16 accounting standards. On the 13th of January 2016 the final version of IFRS 16 was published, with this publication the complete standard became public and the effective date was set at the 1st of January 2019. As the prediction for the previous publications were mostly positive, the prediction for this event is also positive. The sentiment of capitalising operational leases was overall positive, such so should the sentiment towards IFRS 16 be. The last key event date of 1st of January 2019 is the effective date, which brings the end of the development of IFRS 16, but brings no new information. This is the reason that the prediction is that there is no significant reaction from the investors. In table 1 the dates, a short description and the prediction are displayed to give an overview of the expectations of the research.

Table 1: key events and predicted market reaction

Date of key event	Description of event	Predicted market reaction	Sign
19th of March 2009	IASB published the discussion paper with the proposal for a rework of the accounting standards concerning lease accounting.	Negative	-
17th of August 2010	Publication of the first exposure draft	Positive	+
21st of July 2011	Announcement that the IASB will publish a second exposure draft after many deliberations about the proposed changes and the comments that the IASB received	No reaction	0
16th of May 2013	Publication of the second exposure draft adjusted for the comments they received after the previous exposure draft	Positive	+
13th of January 2016	IFRS 16 is released by the IASB. The effective date is set for 1st of January 2019	Positive	+
1st of January 2019	The effective date of IFRS 16: Leases	No reaction	0

3.2 Method

To research the market reaction to the events that have been selected previously an event study design will be used to test the predictions to the actual reactions of the market. The event study design of this study will be following the design that has been used by Armstrong *et al* (2010). In this design the returns from the stock market from a certain selection of stock will be compared to the complete market to determine if there are abnormal returns that can be connected to the events that unfolded on that day. In table 1 these key events are displayed together with the predicted market reactions.

The focus point in this research will be the return on the market for the selected stocks that which are impacted by the change in standards for leasing. A metric will be created that reflects the abnormal return over a seven-day period around the dates of the key events, this metric is the Cumulative Abnormal Returns (CAR). The returns of the selected stocks will be compared to the returns of the market as a whole. From the comparison between these two metrics the abnormal returns will be visible as the difference between them, this abnormal return can then be linked to the key events. That is how the market adjusted returns are calculated (Armstrong et al., 2010). With the help of the CAR the influence of certain factors on the return of stock can be brought into relation with one another. The idea through the adjustment with the use of the market return is to control the return of the selected stock for all the factors that could influence the return except for the influence of the publications by the IASB on the days of the key events (Kothari & Warner, 2007).

When the IASB publishes documents like discussion papers and exposure drafts it is to be expected that not only on the event date, but also on the days around it abnormal returns can be observed. Information about publications made by the IASB could leak, which would provide investors with information before the publishing has happened. Beside effects that could play a part before publishing. It is also expected that there are effects that are still influential days after the date of publishing. To capture the effects of the day before and after publishing these documents an event window will be established of seven days, which includes three days prior to the event date, the event date, and three days after the event day. The adjusted abnormal returns will be summed with each other to form a metric that reflects the possible effect from publishing documents by the IASB. So, the CAR can be defined as follows:

$$CAR_t = \sum_{t=-3}^{3} (R_t - MR_t)$$

In this equation CAR is the cumulative adjusted return with t the day of publishing. R is the return of the selected stocks and MR is the market return. This equation follows the works of Callaghan, Kleiman & Sahu (1996) who researched many forms of event studies.

The selection of stock to use as the test sample consist of companies that are listed on and stationed in nine major European countries which all have adopted the use IFRS as their accounting standards as was made mandatory in 2005. This test sample was constructed with the help of the Eikon and Datastream databases. The countries included are Belgium, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain and The United Kingdom. For the research design it is important to choose sectors in the economy that are strongly related to leasing of equipment, as IFRS 16 focusses on leasing. The sample contains the basic materials, energy, industrials, and utilities sectors. The selection of these sectors is a combination of multiple factors, such as the reliance on lease equipment, which is essential for the industrial and materials sectors. The utilities and energy sectors are chosen for the impact that was reflected in research by PriceWaterhouseCoopers in 2018. With these reasons the sample was put together. Lastly the International Securities Identification Number (ISIN) was obtained for every firm that was part of the test sample.

Besides the use of a sample to conduct the event study, there is also a sample that is used for the market adjustment to get to the abnormal returns. The Compustat Global database provided by the Wharton Research Data Services (WRDS), an institution that collects financial data for 38 countries all over the world and provides multiple automated calculators to conduct studies, such as an event study. The Compustat Global contains daily price stock price data of the stocks that are listed in the 38 countries the database collects data, this data will be used as the standards market reaction in the event windows around the key events, with the help of the ISIN to identify the stock for the test sample. The output from the database and calculators is the cumulative abnormal return for the sample data adjusted for the market in own country.

The output that is created by the Compustat Global database and the calculators provided by WRDS will be further analyse in the statistical program STATA to run the classical t-test to test the significance of the cumulative abnormal return on the key events. The t-test provides statistical data on the significance of the mean of the CAR, which provides insight in the effect of the publications made by the IASB and gives the data to form conclusions on the hypotheses and the research question.

4. Results

4.1 Event Study

The results that are produced by the test that are run on the data output of the Compustat lobal database are displayed in table 2. This table displays again the date of the key events and the description of these event. Only the key event date is displayed, but this includes the event window of [-3, 3]. Furthermore, the Cumulative Abnormal Return and the Cumulative Total Return (CRET) to show the data output by the database, which shows these variables connected to the sample on the event window. These event studies have been run separately for each individual event window and produced six separate CAR an CRET. Finally, the table 2 shows the t-statistic that was the result of the t-teste, beside the t-statistic the p-value is also displayed to display the significance

For every event window a t-test has been conducted to test if the mean of the CAR differs from zero. When the mean of the CAR significantly differs from zero a relation between the publications by the IASB and the CAR. The first publication made was on the 19th of March in 2009 The predicted reaction for this event date was negative, as the proposed changes to the accounting standards for leases were drastic and would lead to a rework of leases. Changes in accounting standards in general receive a negative reception as the market was assumed to be at an equilibrium with the accounting standards of IAS 17. Table 2 shows that the mean of the CAR differs by -.0001136 from zero but the t-statistic is -0.0204 and the p value related to this statistic is 0.9838, which shows that there is almost no significant difference of the seven-day event window between the mean of the CAR and zero. There are multiple possible explanations for this outcome. First is the possibility that investors already saw this change coming as the capitalisation of operational leases was already being researched (Beattie et al., 1998) (Imhoff Jr et al., 1991) and they expected that this would be the main focus of the discussion paper. That way investors would have already changed their perception on this topic, as they were aware that a change to the accounting standards concerning leases was on the agenda. This implies that for this event the event window is poorly chosen as the change in perception occurred before the actual event window and over a longer time period, which explains the insignificant results.

On the 17th of August of 2010 the first exposure draft was published. Table 2 reflects a positive mean of the CAR which differs with 0.0111048 from zero, the associated t-statistic is 4.0058 and the p-value is 0.001. The event study on this event shows a positive effect of the exposure draft on the perception of investors so the null hypothesis can be rejected for this event. This result corroborates the ideas of investors having a positive outlook on the exposure draft because their own comments have been used to revise the original plans from the discussion paper from 2009 and expects the benefits from IFRS 16 to be bigger than the costs of implementation. The exposure draft also stated that the revised

accounting standards would greatly increase the transparency and completeness of leases in the financial reports, this sentiment is in line with the positive results from the t-test.

After the publications of the discussion paper and the first exposure draft, the IASB announced that they would publish a second exposure, this announcement does not directly provide new information about the change of standards and only announces that the IASB is still working on finalizing the plans, that is why the prediction is that there will be no reaction visible on the stock market as the perception of investors should not have changed. For this event the mean of the CAR is -.0137102, which show a negative influence of the announcement and the perception of the investors. The t-test provides a statistic of -4.5803 and has a p-value of 0.000, which shows that the results are significant and the null hypotheses can be rejected. The results of this mean comparison show a different outcome to the predicted result of no influence between the announcement and the investors perception. An explanation for this result can be found in the idea that new revisions lead to uncertainty on the contents of the new exposure draft. Another explanation might be that investors fear that the changes that were made based on the comments they themselves send in and that were used in the first exposure draft will get lost and that the second exposure draft may differ from the needs of the impacted and interested parties.

Almost two years after the announcement the second exposure draft was published by the IASB on the 16th of May 2013 In table 2 the mean of the CAR shows a difference to zero equal to -.0005977, which is a slight negative reaction to the publications. The other results of the t-test show a t-statistic of -0.2209 and a p-value of 0.8252 which shows that there is almost no significance to the slight negative difference of the mean, therefore the null hypotheses cannot be rejected. The results differ from the expectation as there is no significant reaction to the publishing of the second exposure draft by the IASB where the expectations were that the investors would react to this. This reaction is expected when the contents of the first and second exposure drafts stayed roughly the same and investors saw the costs and benefits outweighs each other with the new information published. Another explanation might be that the contents were predictable and investors already adjusted their expectation, which led to no abnormal reaction within the event window.

On January 13th 2016 was the date of the publication of the new standard IFRS 16 Leases by the IASB, this also marks the fifth event in this event study. Table 2 reflects that there is a negative influence of the publication of IFRS 16, but this influence is not strong enough to be significant. The p-value for this test was 0.6643 and the mean of the CAR differs with -0.0017225 of zero. Even though this result differs from the prediction made, this result falls in line with the results of the fourth event, which also showed no significant influences when the predication was that investors would react positively. The perception

of investors between the fourth and fifth event has stayed the same which can be linked to the contents of the publication staying is essence similar. There have not been major changes which would evoke a strong reaction by the investors.

The effective date that was set in 2016 for the start of 2019 makes the sixth and last event in this event study, even though this event provides no new information to the impacted or interested parties, this date marks the end of the development of IFRS 16 which started in 2006 when it was added to the agenda of the IASB. Table 2 shows that the mean of the CAR differs from zero by 0.0076999 and the p-value is 0.0168, which shows that the mean of the Car of the last event is significant and it is possible to reject the null hypotheses. This result is different from the prediction that there would not be a significant market reaction. Investors see that the benefits in the form of transparency and completeness of the financial reporting due to IFRS 16 are greater than the cost of implementing this new accounting standard.

To summarize the results of the event study, there is also a t-test run on the complete set of event dates together and the results have been displayed in table 2. These results show a slight positive influence of the publications made by the IASB, but these results are insignificant.

Table 2: data of market reaction to the key events of the development of IFRS 16, 7 -day event wind

Date of key event	Description	Predicted reaction	Mean cumulative total return	Cumulative Abnormal Return	t-statistic	p-value
19th of March 2009	IASB published the discussion paper with the proposal for a rework of the accounting standards concerning lease accounting.	Negative	0.494346	-0.001136	-0.0204	0.9838
17th of August 2010	Publication of the first exposure draft	Positive	-0.0058575	0.0111048	4.0058	0.0001
21st of July 2011	Announcement that the IASB will publish a second exposure draft after many deliberations about the proposed changes and the comments that the IASB received	No reaction	0.0041530	-0.0137102	-4.5803	0.0000
16th of May 2013	Publication of the second exposure draft adjusted for the comments they received after the previous exposure draft	Positive	0.0210153	-0.0005977	-0.02209	0.8252
13th of January 2016	IFRS 16 is released by the IASB. The effective date is set for 1st of January 2019	Positive	-0.0493507	-0.0017225	-0.4341	0.6643
1st of January 2019	The effective date of IFRS 16: Leases	No reaction	0.035536	0.0076999	2.3964	0.0168
Effect over total development time		Negative	0.0085608	0.0006533	0.4451	0.6563

4.2 Cross-sectional research

With the use of an event study design there is no factor used to differentiate companies on size. When focussing on the implementation of accounting standards the size of a firm can influence the way it is done, this can be either because the organisational structure is different (Eierle & Haller, 2009) or that the implementation cost is disproportionate high for smaller entities (Evans et al., 2005). To test this difference a linear regression model will be used, which takes the CAR as the dependent variable and the full-time employee equivalent of a firm as the size proxy. As controls the following factors are used: Return on average total equity and weighted average cost of capital.

In table 3 the results of the linear regression for every event date are displayed, which shows very small coefficients for the full-time employee equivalent. The small coefficients indicates that only a small to almost none of the CAR can be explained through the use of full-time employee equivalent as the size proxy. In this case there is no sufficient statistical data to indicate that size, in the form of full-time employee equivalent, has a significant effect on the cumulative abnormal return. This result may be explained though the design chosen for this regression as the controls used might not been able to control well enough, as all the controls used are related to financial performance. The sample used did not contain the data for all controls, which need to be taken into account for the results. So, the full-time employee equivalent cannot be used to show that size significantly influences the CAR.

In some of regressions run on the key event dates the results in table 4 show significant results for two variables that are used as controls. These two variables are the return on total average equity and the weighted cost of capital. The significance of the return on total average equity indicates a relationship between the amount of return on equity and the CAR. If this variable is taken as the size proxy, it is possible to say that there is a connection between the size of a company and the CAR. Still it is difficult to say what the link is between the return on equity and the size of a company, therefore it is not possible to use this result as statistical evidence of a connection between the two. The significance of the results for the weighted cost of capital indicates that the capital structure could be used to explain a part the CAR results.

Table 3: Data of linear regression on CAR

Variable	19th of March 2009 Coefficient (t-statistic)	17th of August 2010 Coefficient (t-statistic)	21st of July 2011 Coefficient (t-statistic)	16th of May 2013 Coefficient (t-statistic)	13th of January 2016 Coefficient (t-statistic)	1st of January 2019 Coefficient (t-statistic)
Intercept	-0.0278 (-1.21)	0.0434 (3.56)***	-0.0447 (-3.38)***	-0.0158 (-1.05)	0.0560 (2.93)***	-0.0076 (-0.58)
Log (Full-time equivalent employee)	0.0027 (1.14)	-0.0044 (-3.55)***	0.0019 (1.39)	-0.0015 (-1.03)	-0.0033 (-1.77)*	-0.0003 (-0.27)
Return on average total equity	-0.0430 (-1.66)*	0.0436 (3.15)***	0.0417 (2.78)***	-0.0145 (-0.85)	0.0261 (2.92)***	-0.0030 (-1.73)*
Weighted cost of capital	0.0049 (0.02)	-0.0123 (-0.12)	0.2013 (1.77)*	0.3532 (2.75)***	-0.4659 (-2.90)***	0.2117 (1.91)*
Firms	270	274	277	292	300	327
R²	0.0136	0.0682	0.0483	0.0305	0.0582	0.0213

* = significance level of 10%, ** = significance level of 5%, *** = significance level of 1%.

This table represents the results from cross-sectional analysis examining the relation between firm size and CAR. The OLS model used has the following form: `

$$CAR = \beta_0 + \beta_1 fullTimeEquivalentEmployee + \beta_2 eturnOnAverageTotalEquity + \beta_3 WeightedCostOfCapital + \varepsilon$$

4.3 Robust equal-variance test

All these event studies have been run whit an event window of seven days [-3, 3] which was chosen to include effects of publications leaked in the time prior to the publication date and days after the publication date to include after effects. Besides the event study run for a seven-day run, this research also conducted the same research design for a three-day window [-1, +1]. A robust equal variance f-test is performed to test if the result of these both event windows differ significantly from one another. The result of the robust equal-variance test shows the influence of increasing the event window and shows how much effect the publication has in the days around the publication date. The mean of the CAR is once again the dependent variable in these tests.

After running the robust equal-variance test on the event windows the first observations can be made regarding the mean of the CAR that is displayed for both the event windows. Starting by the first event date, the publication of the discussion paper, the test show that there is a large difference in the mean of the CAR. While the mean of the 3-day event window displays a positive influence between the publication and the stock market reaction, the 7-day window shows a negative influence. This result shows that the extra four days taking into account in the 7-day window show greatly alters the outcome. This elaborates that the effect of the publication shifted the investors perspectives closer to the publication date, as table 3 displays a significant effect for the first event date in the 3-day window model, and that there were no major influences that affected more than one day from the publication date.

For events two until six the results of this test shows that the mean of the CAR for both of event windows are all in the same direction. The amount of influence is specified in table 2 for the 7-day event window and in table 3 for the 3-day event window. Even though all these results show a same effect, negative, positive or no significant influence, the magnitude of impact is different across the time windows. This is where the result of the robust equal-variance test comes in. This test measures, with the use of the standard deviation of the means, if the means of the different event windows differs significantly from each other. The f-test showed for every of the six-event is that there is a p value of 0.000, which effectively means that for every event the situation of a 3-day window and a 7-day window significantly differs from one another. The null hypotheses for the f-test were that there would be no significant difference and the events would have significantly the same results regardless of event window. The significant results from the equal-variance test shows that adding more days to the event window reduces the amount of influence that can be explained by the publications of the IASB.

5. Conclusion

The research in this study was focussed on finding a relationship between the development of the new accounting standard IFRS 16, that replaced the IAS 17, and the perception of investors. The perception of investors has been linked to the returns generated on the stock market, which are used to form an image of the changes in perception. The relationship between IFRS and investors shows the influence the introduction of new accounting standards or the adjustment of already existing accounting standard on parties, like accountants and investors, that are directly working with accounting standards. This study answers the research question: *What was the perception of investors on the development of IFRS 16?*

The results of this study show that only three of the six events have significant effects on the Perception of investors. The first exposure draft is positively significant, so investors expected IFRS 16 to be beneficial for financial reporting with the proposed changes used in the exposure draft. The event after that, the announcement of a second exposure draft, had a significant negative effect on the perception of investors, because the plans will change after they expected benefits from the first exposure draft. The last significant event is the effective date of IFRS 16, which concludes that at the effective date investors see the net benefits of the new accounting standard and have a positive outlook on the way it will be implemented from this moment forward.

For the other three events can be concluded that the abnormal returns were not significant and the abnormal returns can not with certainty be linked the publication made by the IFRS. Reasons can include that investors see neither benefit nor costs or think the benefits and costs outweigh each other. Another reason can be that the key event date is not representable for the new information published as information could be leaked or the contents were predictable. Finally, it is also possible that the

With a robust equal-variance test the effect of using different event windows was researched, which resulted in a significant difference between the 3-day event window and the 7-day event window. This result indicates that choosing different lengths of event windows can significantly alter the results the study produces, in this case the cumulative abnormal return. For this study it means that the reported CAR and its significance are only representable for the 7-day window and can be different using different event windows. In the cross-sectional research, with the help of a linear regression model, it became clear that there was not enough statistical data to conclude that the size of a company has a significant effect on the CAR. The size proxy, full time employee equivalent, shows small coefficients and no significance. This results can be the results of controls that are related to the dependant variable and each other's or that the sample size was not sufficient to form clear results.

With an event study design the goal is to control for as many factors as possible to compute the CAR, but it is almost impossible to attribute the results solely to the publications made by the IASB, as there is always the probability of factors that affect the results which are unknown. This is a limitation of this research which is difficult to identified, but there are limitations which are identified. First it is important to look critically at the test sample that is used, which included four different industries and data from countries situated in nine major European countries. Even though the IASB is mandatory in the European Union there are over a hundred countries that have incorporated the use of the accounting standards set by the IASB, this means that the publications made by the IASB concerning IFRS 16 could have significant effect outside the nine countries that were present in the sample, either within or outside of Europe. Besides the sample only containing nine countries it also only included four of the sectors that were deemed impacted by the development of IFRS 16. These four sectors were indeed impacted but they were certainly not the only ones that were impacted significantly, as the accounting standards for every company that uses IFRS would undergo changes in there accounting systems, some more than others. Because of these limiting factors for the sample, the study ended up with around 600 companies that were analysed. This sample is relatively small, which makes that the results of research conducted in this paper is limited in its representability.

Besides the limitations from the sample, also the selection of the key events raises a problem. The key events in this study were linked to the publications made by the IASB, but it is possible that there were other events, which were not linked to publications made by the IASB, but are linked with the development of IFRS 16 and have a significant on the perception of investors. Those events could include other accounting standards that were worked on by the IASB which would also be impactful for IFRS 16/leasing or events that are linked with external factors, such as changes in US GAAP which indirectly could influence the perception on IFRS 16.

Future research could tackle these issues to upscale this research and broaden in to include as many IFRS using countries and companies as possible and also research more events that could influence the investors perception of IFRS outside of publications by the IASB. Taking In these factors would greatly increase the representability of the findings of this research. Future research could also include similarities between the development processes of other IFRS standards and study common aspects between them, building on the research conducted on this event study of IFRS 16.

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7. Appendix

Table 4: Data of market reaction to the key events of the development of IFRS 16, 3-day event windo

Date of key event	Description	Predicted reaction	Mean cumulative total return	Cumulative Abnormal Return	t-statistic	p-value
19th of March 2009	IASB published the discussion paper with the proposal for a rework of the accounting standards concerning lease accounting.	Negative	0.494346	0.0076244	2.1092	0.0352
17th of August 2010	Publication of the first exposure draft	Positive	-0.0058575	0.0004017	0.1666	0.8678
21st of July 2011	Announcement that the IASB will publish a second exposure draft after many deliberations about the proposed changes and the comments that the IASB received	No reaction	0.0041530	-0.0128657	-9.1399	0.0000
16th of May 2013	Publication of the second exposure draft adjusted for the comments they received after the previous exposure draft	Positive	0.0210153	-0.0014574	-3.0116	0.0027
13th of January 2016	IFRS 16 is released by the IASB. The effective date is set for 1st of January 2019	Positive	-0.0493507	-0.0008260	-0.2064	0.8365
1st of January 2019	The effective date of IFRS 16: Leases	No reaction	0.035536	0.0054933	3.6668	0.0003
Effect over total development time		**Positive**	**0.0085608**	**0.0006533**	**0.4451**	**0.6563**