The Effect of the Mandatory Implementation of IFRS on the Accounting Quality of Dutch Companies

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ABSTRACT

In the last years, a lot has been written about the effects of IFRS on the accounting quality, but it has not been done for the Dutch companies. Hence, this thesis will be about the effect of IFRS on accounting quality in Dutch companies in the period 2002 till 2007. The sample consists of 80 companies. The accounting quality will be measured by earnings management and income smoothing. Both of these measures can be calculated by the discretionary accruals. To calculate the discretionary accruals, the Modified Jones model has been used. The outcome was that there is no significant difference in earnings management and income smoothing in the periods before and after implementation of IFRS. As they are the measures, there is also no significant difference in the accounting quality between the two periods. So it can be concluded that there is no significant difference in accounting quality after implementation of IFRS. This is in line with prior literature as there are articles that also did not find a difference between the two periods. The fact that this is based on a small sample in comparison to other researches needs to be taken into account when looking at the results.

Keywords
Mandatory IFRS, Dutch Companies, Accounting quality, Discretionary accruals, Earnings Management, Income Smoothing

1. INTRODUCTION

Nowadays, the world is focused on earning money. Companies need to make money for them to stay in business, but this has to come from somewhere. Many companies issue shares at stock exchanges. Those companies are then required to publicise financial statements. This gives the possibility to investors to make informed decisions on in which company/companies to invest. The previous mentioned is the decision-usefulness theory of Staubus (1980). Those investors are picky with their money; therefore the companies want to represent their performance as high as possible so it seems attractive to the investors. Because of that, companies have a tendency to make their financial situation better than it really is. To counteract that, governments came up with their own Generally Accepted Accounting Practices (GAAP) that the companies were required to follow. Multiple domestic GAAPs are in play together having the capability of sufficiently informing potential investors. According to Levitt (1998), this forms a base for high accounting quality. The International Financial Reporting Standards (IFRS) is nowadays the most widely recognised and used accounting standard in the world. Another accounting standard that needs to be mentioned is the US GAAP as this is still favored by the United States over IFRS. Next to these standards, most of the countries have domestic accounting standards that in addition also need to be followed by the companies in the corresponding country.

As written before, in the past there used to be a different system in place in which every domestic government made their own accounting standards, therefore also in the Netherlands. In the Netherlands, it is said that the theory has strongly influenced the accounting practices. This as Dutch accounting theorists especially Limperg said that the fairest view of the performance and the state of affairs towards the readers of financial statements can be achieved by letting the accountants judge which accounting figures to select and present. The outcome was that replacement cost information gave the best overview of the situation. (Burgert, 1972). This outcome in combination with a relative allowing law and tax requirements has led to today's accounting practice which main focus is on fairness and judgement.

In 2005, the IFRS became mandatory to follow for the listed companies in the European Union. This was already established at 19 July 2002. The main motives for the change was because it would enhance the quality of the financial statements and improve the comparability and the transparency of those statements. When IFRS was just implemented the Dutch GAAP quickly converged towards the guidelines of IFRS as the Dutch Accounting Standards Board (DASB) was copying the standards into their own guidelines. This resulted in a reduction of differences between the two standards. But over the last few years, the DASB has changed its strategy. The reason for this is that many of their guidelines are not applicable to listed companies anymore and thus the focus of their new guidelines changed to unlisted companies. Therefore, the DASB now first looks if new IFRSs are applicable to unlisted companies and/ or if they need to be altered. Because the DASB now is not following the IFRSs completely anymore, there are increasingly coming more differences between Dutch GAAP and IFRS.

The aim of this paper will be to see if there is a significant difference in the accounting quality of Dutch listed companies before, Dutch GAAP, and after the mandatory implementation of IFRS. This will be done by the measuring the difference in earnings management and income smoothing which can both be calculated with the help of the discretionary accruals.

This results in the research question being;
How did the implementation of IFRS affect the accounting quality in Dutch companies?

This study may then be a contribution in showing the results the implementation of IFRS had. Also to see if it has reached the portrayed goals by the European Union. Another contribution it could serve is to provide investors to get a better idea about the interpretation of the financial statements after the mandatory implementation of IFRS.

The rest of this paper will be structured as follows: Chapter 2 summarises previous research literature on accounting quality and IFRS followed by presenting the hypothesis. Chapter 3 will be explaining the methodology related to this research. Chapter 4 then will give a description about the data collection. Based on that data, in Chapter 5 the results will be shown of the analysis and discussed. And the last chapter, Chapter 6, will give a conclusion about the results and possible implications.

2. LITERATURE REVIEW
2.1 Accounting Quality and Its Predictors

First to start with a definition of accounting quality needs to be given. This has been done by Chen et al. (2010) who described accounting quality as "the extent to which a financial statement information reflects the underlying economic situation" (p.222). While according to Knechel et al (2013) a high quality financial statement is "one where execution of a well-designed audit process by properly motivated and trained auditors who understand the inherent uncertainty of the audit and appropriately adjust to the conditions of the client" (p.407). Barth et al (2008) had three features which they considered high accounting quality. First of all, higher accounting quality is the result of applying an accounting standard which has recognition for amounts that correctly display the situation of a company. Secondly, "higher accounting quality is less subject to opportunistic managerial discretion" (p.477). Lastly, "higher accounting quality has less nonopportunistic error in estimating accruals" (p.477).

In their research, Barth et al (2008) found that there is a negative correlation between accounting quality and earnings management. To further understand the question at hand, also a definition for earnings management has to be provided. Healy and Wahlen (1999) described that earnings management happens when managers decide to manipulate to their financial statements to either misinform their stakeholders about their situation or to influence the outcomes of the current contracts that dependent on those numbers. Whereas others researched time-series based, Peasnell et al (1999) researched earnings management with a cross-sectional approach. Their finding was that earnings management is easier to detect if the model is adjusted to the expectations.

According to Ball et al (2000), there is evidence that countries who have a code-law are more prone to using earnings management than the countries with common law. The Netherlands is a code-law based country which suggests that

there is more earnings management than in non-code-law countries.

Ball et al (2008) looked at possible other explanation for what looks like earnings management. In the end they came with four other explanations. The first one is that with the calculation of discretionary accruals, there is a high chance of measurement error getting into play, incorrectly displaying a too high level of earnings management. The second finding was that firms that got newly received money and invest that in non-current assets or current liabilities. That influences the estimates of the discretionary accruals which can potentially be falsely interpreted as earnings management. The third finding is that the valuation model used for the balance sheet can be different from other companies and thus altering the outcome of the calculation for discretionary accruals. Whereas it may seem like earnings management, it is mostly small differences in the valuation of the balance sheet. The fourth and last finding was that the denominator can deflate the outcome. This is often a problem found with ratios. This can be because of conservatism towards the accounting rules or because total assets can understate the true economic assets.

2.2 Effects of IFRS on Accounting Quality

Nowadays, there has been done a lot of research on the effects of IFRS on accounting quality. The first one is Capkun et al (2013) who looked at the effect of IFRS on earnings management. Their findings were that after the first years after the implementation of IFRS the use of earnings management increased. The increase was attributed to the increase in flexibility of accounting choices and the vague criteria related to the implementation of IFRS. Schipper (2005) predicted that the implementation of IFRS would create problems as many countries at the same time wanted to make IFRS mandatory. But as some of the IFRS were shorter than the domestic GAAP, she expected that after the first time adoption many companies would not have done it right as most standards were still ambiguous. Brown (2013) looked at the benefits IFRS had offered after its implementation based on what other researchers have written about it. The main benefits were an increase in comparability of accounting numbers, more precise forecasts from analysts, increased accessibility to the equity market for financial institutions and companies and a 'higher' quality of the financial statements. But he acknowledges that the mentioned benefits are arguable, due to the lack of agreements on what to look for, how and where to do so.

Brown (2013) already confirmed different outcomes. For example, Ahmed et al (2013) found that accounting quality decreased due to more earnings management, and a decrease in timeliness of loss recognition. That while Barth et al (2008) found that there was less income smoothing and an increase in the timeliness of loss recognition. According to Brown (2013) and Capkun et al (2013) this can be attributed to the fact that Ahmed et al (2013) used companies with mandatory adoption of IFRS, while Barth et al (2008) looked at companies that voluntarily adopted IFRS. Christensen et al (2015) researched before and after implementation of IFRS for both voluntary and mandatory adoption in Germany. The only improvement found was a decrease in income smoothing by the companies that voluntary adopted IFRS. Callao and Jarne (2010) found that earnings management had increased after implementation of IFRS. This was based on 11 countries within the European Union. They contributed this increase to the different valuation

models that were still in place from the domestic standards. Jeanjean and Stolowy (2008) researched if accounting standards itself still matter nowadays. They found that there was no difference between earnings management and the accounting standard used. Their conclusion was that a common business language cannot be reached by having shared rules alone.

There are also multiple that did not find a significant difference in accounting quality between pre- and post-mandatory IFRS adoption. The first one is Doukakis (2014), who looked at more than 15 thousand observations in companies from 22 countries in the period 2000 till 2010. He found that there was no significant difference in the earnings management and thus accounting quality remains unchanged. Bryce et al (2015) researched the adoption of IFRS in Australia by taking 200 companies from the top 500 listed companies at the Australian Stock Exchange over a six-year period. Their result was that there was no significant difference in accounting quality but there was an increase in the ability to maintain the accounting quality. Van Tendeloo and Vanstraelen (2005) found that, based on a research of around 600 listed German companies, companies that adopted IFRS voluntarily did not exhibit different earnings management behavior than their German GAAP counterparts. According to Salewski et al (2014) on the short-term after the mandatory implementation of IFRS, the earnings management had increased. The reasoning behind it was that in the beginning there is low compliance, no to little experience and there is not yet a strong enforcement. Over time, those factors will come into play and thus on the long-term the earnings management has decreased again. The last article is by Litjens et al (2012) and is about how SMEs perceive IFRS. Many SMEs are unlisted on the stock exchange which gives them the option to choose between Dutch GAAP and IFRS. The SMEs are more focused on the costs than on the benefits that an accounting standard has.

There is no clear result of the implementation of IFRS on the accounting quality. There are many factors that also have an effect on the accounting quality and thus the quality is not solely influenced by the accounting standards.

2.3 Hypothesis

Based on the literature review, the main hypothesis will be constructed. The thought of the European Union behind obliging the implementation of IFRS was that it increases the accounting quality. For that reason, the mindset is that a positive relationship will be found between IFRS and accounting quality.

This study will look at if the mandatory implementation of IFRS has resulted in an increase in the accounting quality in Dutch companies. In many articles there is acceptance over the fact that the quality of IFRS is higher than the domestic accounting standards (Leuz, 2000 and 2003; Ashbaugh, 2001; Barth, 2007 and 2008). Therefore, the assumption is that the implementation of IFRS had a positive effect on the accounting quality. This expected relationship is the same as the expectations and findings of Chen (2010), accordingly we expect that:

Hypothesis: After implementing IFRS, Dutch companies will have less discretionary accruals and less income smoothing.

Figure 1. Expected relationships between the adoption of IFRS and Accounting Quality.
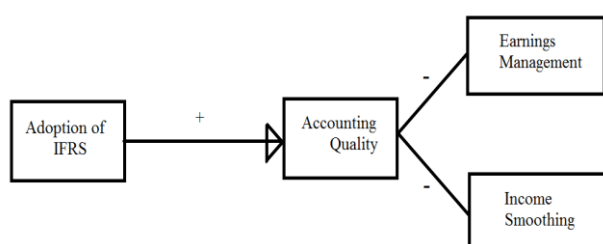
3. METHODOLOGY
3.1 IFRS and Accounting Quality

To measure accounting quality, a regular used measure is the amount of discretionary accruals (Kothari et al, 2005; Becker et al, 1998). There are two kinds of discretionary accruals; income increasing and income decreasing. Income increasing discretionary accruals are used by opportunistic managers to cover up their performance. Income decreasing discretionary accruals are used to spread out the profits to secure the future (Guay et al, 1996).

The model that will be used to measure the amount of discretionary accruals is the Modified Jones Model as according to Dechow et al (1995) it is the strongest identifier of earnings management. Examples of researches that followed the same model are Healy and Wahlen (1985), DeAngelo (1986), Van Tendeloo and Vanstraelen (2005) and Bryce et al (2015).

$$\frac{TAcc}{TA(t-1)} = \alpha_0 + \beta_1 \frac{1}{TA(t-1)} + \beta_2 \left(\frac{\Delta REV}{TA(t-1)} - \frac{\Delta REC}{TA(t-1)} \right) + \beta_3 \frac{PPE}{TA(t-1)} + \varepsilon$$

Where;

TAcc = Total accruals (Net income – Cashflows)

TA(t-1) = Total assets in year (t-1)

ΔREV = Revenues year t minus revenues (t-1)

ΔREC = Receivables in year t minus receivables (t-1)

PPE = Level of Gross Property, Plant and Equipment for year t

In this model α_0 is the intercept and β_1, β_2 and β_3 are representing the coefficients for Total Assets, Revenues minus the receivables and the Plant, Property and Equipment respectively and ε represents the error term.
To get to the discretionary accruals, first the independent variables measuring the total accruals have to collected and measured. After having the dataset complete the regression analysis will be done with the total accruals as the dependent variable. Then importing those coefficients into the formula, the nondiscretionary accruals (NDA) can be calculated.

$$\frac{NDA}{TA(t-1)} = \alpha_0 + \beta_1 \frac{1}{TA(t-1)} + \beta_2 \left(\frac{\Delta REV}{TA(t-1)} - \frac{\Delta REC}{TA(t-1)} \right) + \beta_3 \frac{PPE}{TA(t-1)}$$

At last, the nondiscretionary accruals have to be subtracted from the reported total accruals values which gives the discretionary accruals. Or in other terms model the level of discretionary accruals will be calculated by the prediction error:

$$DA = \frac{TAcc}{TA(t-1)} - \frac{NDA}{TA(t-1)}$$

Where;

DA= Prediction error, level of discretionary accruals

After the calculation of the discretionary accruals, the dataset will be split up between the period before the implementation of IFRS (2002-2004) and after (2005-2007). Based on this division, the research will look for a significant difference between the mean of discretionary accruals before and after IFRS.

3.2 IFRS and Earnings Management/ Income Smoothing

On the basis that the Netherlands is a code law country, they are perceived to have more earnings management than common law countries. Therefore, the assumption is that the implementation of IFRS had a positive effect on the accounting quality by reducing the earnings management. So the expectation is that there will be a negative relationship between accounting quality and earnings management. This is in the same line of thinking as Ewert and Wagenhofer (2005) and Barth et al (2008). As with the practice of earnings management not the true underlying economics will be shown. Therefore giving a wrong impression about the company's situation towards the shareholders. Not representing the real economic situation is considered decreasing the accounting quality.

With the formulas from 3.1, it is also possible to research the effect of the adoption of IFRS on income smoothing which on it turn improves accounting quality. A negative relationship is expected as by decreasing income smoothing, the transparency and the faithfulness of financial statements are increased. By increasing the transparency and faithfulness, the underlying economics are better represented and therefore is seen as better accounting quality. This relationship was also the expected relationship in Barth et al (2008), Christensen et al (2015) and Chen et al (2010).

According to Leuz et al (2003), the extent to which there is income smoothing present is proportionally to if there is a negative correlation between cash flow and discretionary accruals. The higher the negative relationship, the higher the income smoothing within companies.

The expected relationships for both earnings management and income smoothing are both represented in Figure 1.

The split up of groups mentioned in 3.1 will also be present for finding a difference between before and after implementation of IFRS, but this time to find the significant difference related to the mean of income smoothing.

4. DATA

An initial list of companies has been collected from the ORBIS database and companies' annual reports. The data has been limited to listed Dutch companies which are listed on the AEX from 2002 until at least 2007. As financial institutions and real estate companies have different accounting standards, those will not be included in the sample. The amount of companies will remain the same pre- and post-IFRS adoption in order to control firm-specific factors. In the end, 80 companies have available data which will be analysed over the period 2002-2007. This gives 480 firm-year observations. Thus three years before implementation of IFRS and three years afterwards. These years have been chosen to see the direct impact of the change in accounting standards.

5. RESULTS

Before analysing the data, an interquartile range will be performed to see if there are outliers that need to be dealt with. Outliers are values that are outside of the distribution which results in impacting the calculation and thus the value of the mean and standard deviation. To deal with those outliers, the method of trimming will be used. Trimming is eliminating the outliers in an equal amount on both the high and low side.

5.1 Descriptive Statistics

First a look will be taken at the descriptive statistics of the independent variables to find out their key factors such as mean and standard deviation. (see Table 1.)

Table 1. Descriptive Statistics of the independent variables

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
1/TA(t-1)	433,00	,00000005	,000076	,000008	,000016
PPE/TA(t-1)	433,00	,01	,88	,27	,20
Tacc/TA(t-1)	377,00	-,09	,17	,05	,06
ΔREC/TA(t-1)	437,00	-,09	,21	,01	,05
ΔREV/TA(t-1)	433,00	-,55	,58	,05	,18
Valid N (listwise)	272,00				

These descriptive statistics show that the mean value of plant, property and equipment is 27% of the total assets. The change in receivables and revenues in percentages of total assets are 1% and 5% respectively.

5.2 Correlation Matrix

Up next is to find out the correlation of the independent variables to see their interactions between each other. (see Table 2.)

Table 2. Correlation Matrix of the independent variables

	1/TA (t-1)	PPE/TA (t-1)	ΔREC/TA (t-1)	ΔREV/TA (t-1)
1/TA(t-1)	1			
PPE/TA (t-1)	-,118**	1		
ΔREC/TA(t-1)	,103**	-,069	1	
ΔREV/TA(t-1)	-,070	-,046	,434***	1

This table shows the correlations between independent variables.
***, ** and * denotes the Correlation is statistical significant at 1%, 5% and 10% respectively

From the correlation can be seen that there is a negative relationship between the total assets and the property, plant and equipment (PPE). This can be explained by the fact that the PPE is part of the total assets so if PPE goes up, in general total assets goes up as well. That results in the 1/total assets to decrease as the denominator goes up but the nominator remains unchanged. This same explanation can be said for the relationship between the change in receivables and the total assets. This as receivables is also part of the total assets. Another relationship that can be explained is the positive relationship between the change in receivables and revenues. This is mainly because when goods or services are sold, there is a possibility that the customers will not pay immediately at their purchase and thus increasing receivables.

5.3 Regression Analysis

Table 3. Regression coefficients

	Independent variables	Coefficients (T-value)	Level of Significance
	Intercept	0,046	
		(4,447)	***
	1/TA(t-1)	-0,015	
		(-0,262)	
	PPE/TA(t-1)	-0,005	
		(-0,090)	
	REV-REC/ TA(t-1)	,260	
		(4,359)	***
Post IFRS	δDA2007	0,021	
		(0,272)	
	δDA2006	0,048	
		(0,611)	
	δDA2005	0,046	
		(0,604)	
Pre IFRS	δDA2004	-0,167	
		(-2,153)	**
	δDA2003	-0,083	
		(-1,082)	
	R-square	0,116	
	Adjusted R-square	0,09	

This table shows the results from the regression from the equation with Tacc/TA(t-1) as the dependent variable. The table includes a dummy variable for 'Year' noted by δ. ***, ** and * denotes the correlation is statistical significant on a 1%, 5% and 10% level respectively

Then next, based on these coefficients, the discretionary accruals can be calculated. But from here on a difference will be made between the period before and after implementation of IFRS. After finding the value of the means for both groups a statistical test will be performed to find out if there is a significant difference between the two means.

Table 4. Means for Discretionary accruals pre- and post-IFRS implementation

Descriptive Statistics

IFRSsplit		N	Minimum	Maximum	Mean	Std. Deviation
Pre-IFRS	Discretionary Accruals	192,00	-,05	3,67	,43	,77
Post-IFRS	Discretionary Accruals	198,00	-,02	2,37	,35	,54

From these descriptive statistics, can be seen that the mean for discretionary accruals before IFRS is 0.43 and the mean for after IFRS is 0.35. The next step after this, is to find out if that difference in the means is a significant difference. This has been done by performing an independent sample test. (Table 5.)

Table 5. Independent samples test

	t	df	Sig. (2-tailed)
Discretionary Accruals	-1,216*	342,872	,225

*P < 0.05; Equal variance not assumed (Levene's Test)

Based on this test, it can be seen that the significance level is 0.225. This means that there is not enough evidence to say that there is a significant difference between the mean value of discretionary accruals before and after implementation of IFRS.

5.4 Income smoothing

The last step is to look at the effect of implementing IFRS on the amount of income smoothing done by companies. Income smoothing was calculated by discretionary accruals minus the cash flow, both as a fraction of total assets. (see table 6.)

Table 6. Correlation between Cash flow and Discretionary Accruals pre- and post-IFRS

Correlations

IFRSsplit		Cashflow	Discretionary Accruals
Pre-IFRS	Cashflow	1	
	Discretionary Accruals	-0,205***	1
Post-IFRS	Cashflow	1	
	Discretionary Accruals	-0,309***	1

This table shows the correlation between Cash flow and Discretionary Accruals. Both are seen as independent variables for the dependent variable Income Smoothing. ***, ** and * denotes the correlation is statistical significant on a 1%, 5% and 10% level respectively.

As shown in table 6 the correlation between cash flow and discretionary accruals is -0.205 for the period before IFRS and -0.309 for after IFRS. The correlations both are significant at the 1% level.

To see if there is a significant difference between the correlations, a Fisher Z's test will be done. From this test, the significance level was 0.149. This means that there is no significant difference in the correlations. Therefore, there is not enough evidence to say that the amount of income smoothing has decreased.

6. CONCLUSION AND IMPLICATIONS
6.1 Conclusions

This paper aims at providing evidence for an improvement in accounting quality after the implementation of IFRS in Dutch companies. It was expected that the quality would increase after the implementation. This relationship was tested by calculating the discretionary accruals for Dutch public listed companies. This was subdivided into the measures earnings management and income smoothing.

Before being able to make conclusions about the effect of IFRS on accounting quality, first the conclusions need to brand about the measures used for accounting quality; earnings management and income smoothing. They were both based on the discretionary accruals. For earnings management, the mean of discretionary accruals was taken as the measure. There was no significant difference between before the implementation of IFRS and after. For income smoothing, the calculation was finding the correlation and its corresponding significance level.

For earnings management no significant difference was found between the means of before and after the implementation of IFRS. For the relationship between earnings management and accounting quality can then also be said that there is no significant difference in accounting quality related to earnings management.

For income smoothing there was also no significant difference found between the correlation of cashflows and discretionary accruals. This means that there is also no significant difference in accounting quality attributable to a change in income smoothing.

Relating the previous mentioned to the hypotheses that was constructed, there is no significant evidence that the implementation of IFRS has improved the accounting quality of Dutch companies in the period 2002 till 2007. Thus the implementation of IFRS has not had the expected effects towards the measured variables the European Union hoped to achieve. So based on these measures, if an accounting standard is globally applied does not necessary mean that it is better than the domestic standards.

Previous literature is limited in their consistency in their findings. This is because there are many that say there was a positive relationship while there are almost as many that say there is a negative relationship. A big factor that can have played a role in this, is the difference between mandatory and voluntary adoption of IFRS. As many argue that voluntary adoption was mainly done for self-interest as IFRS increased their performance in comparison with the domestic GAAP. Whereas mandatory adopters, waited as long as possible before adopting it as, they saw their performance drop in comparison to the domestic GAAP.

6.2 Implications

There are some implications with this research that interfere with the generalisation of the results to other datasets. An implication is that the sample size is considered small in comparison to other studies in the same field. This was because there are already a limited amount of Dutch public limited companies and then on top of that most of them did not manage to provide the needed data to be able to include them in the dataset. When getting a bigger sample size, the reliability will also go up. Another implication is that other possible influencing factors that could affect the accounting quality are not taken into account. So it is possible that other factors outside of the model have an impact on accounting quality.

6.3 Contributions

Further research can be on the difference between the mandatory and the voluntary adoption of IFRS for Dutch companies to see if there is a difference in accounting quality between them. There is also an option to calculate the accounting quality for Dutch companies by other models then the one used here. Another possibility is to uncover more variables that can measure and influence the accounting quality both internal and external. New research can also be put in looking at more recent data to find out how high the accounting quality is nowadays. Finally, the last option is to research the reasons for some companies being outliers in this model.

7. ACKNOWLEDGEMENTS

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