



ERASMUS UNIVERSITY ROTTERDAM

Erasmus School of Economics

Bachelor Thesis IBEB – Accounting, Auditing and Control

'The effect of the revision of Guideline 645 on the equity of the largest housing corporations in the Netherlands.'

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Date final version: 05-07-2017

Abstract:

This thesis approaches the effect of the revision of Guideline 645 on equity, by gathering the financial statements of six large housing corporations in the Netherlands. Graphs on the development of equity show that the use of market value leads to an overall increase in equity, as long as the housing market itself keeps a positive development. This indirectly leads to an increase in net profit, as the use of market value has made net profit largely dependent on the unrealizable change in value of property. Overall it can be concluded that the quality of financial data has worsened and that strict control is still necessary in order to prevent future scandals.

Table of Contents

1. Introduction	3
1.1 Background.....	3
1.2 Problem Statement	4
1.3 Research Question	6
1.4 Relevance	6
1.5 Structure & Approach.....	6
2. Legislation & Regulation	7
2.1 Market Value	7
2.2 DAEB and non-DAEB.....	8
2.3 Basis versus Full Version.....	10
2.4 Trend Analysis – Equity	12
2.5 Other major changes – Income Statement	14
2.6 Other major changes – Cash Flow Statement	14
2.7 Summary	14
3. Theoretical Framework.....	15
3.1 Agent-principal problem	15
4. Data	17
5. Methodology	19
6. Results	20
6.1 Stichting DUWO.....	20
6.2 Wonen Limburg.....	21
6.3 Woningstichting Rochdale.....	23
6.4 Woonbron	24
6.5 Woningstichting Eigen Haard	26
6.6 Stichting Ymere	27
6.7 Summary	29
7. Conclusion	30
8. Limitations & Recommendations	31
Bibliography.....	33
Appendix.....	36
A. Descriptive Statistics	36
B. Distribution of Total Sector	37
C. Shrink-and Earthquake Areas	38
D. List of Large Housing Corporations	40
E. Comparison Market Value & Recoverable Value	41
F. Financials of Research Sample.....	42

1. Introduction

A housing corporation in the Netherlands is an organization that builds, manages and rent outs qualitatively good residential housing at an affordable price, for people with a relatively low income (Aedes vereniging van woningcorporaties, 2014). In some cases, the corporation provides housing for special target groups, like students or elderly. This thesis will focus on large housing corporations in particular and how their annual accounts are affected by changes in regulations.

1.1 Background

As of January 2017, there are 347 housing corporations in the Netherlands (Inspectie Leefomgeving en Transport, 2017), but the formation dates back to the 19th century. Inspired by the initiatives to offer good and affordable housing in London, Paris and Berlin, the first housing corporation was founded in 1852 (Beekers, 2015a). The 'Vereeniging ten behoeve der Arbeidersklasse te Amsterdam' was meant to create clean and hygienic housing, suitable for large families. With the discovery of the relationship between personal health and proper housing with ventilation, windows and reasonable space, a significant improvement of the miserable conditions that housing in Amsterdam was known for, could be made. However, these privately funded corporations did not have the resources to provide enough housing to meet the increasing demand. In 1901, the government finally started to interfere and the Housing Act made it possible for housing corporations to get governmental funding and transform the slums of (amongst others) Amsterdam into modern and affordable rental houses (Van der Lans, 2013). After the Second World War, the government gained more control and almost completely decided upon the policies of the corporations (Pflug, 2015). From the number of kitchen cupboards, to the color of wallpaper, everything was determined by the government. More and more houses were build, to keep up with the booming, increasing demand.

The dominating grip of the government on housing corporations was heavily criticized after most of the housing shortage was finally conquered, at the end of the eighties (Beekers, 2015b). The ruling government agreed that corporations should get their freedom back and should once again be private, independent organizations. They had learned that corporations were not only more capable to decide what type of housing was needed the most, they also had become quite the financial burden. The capital of the corporations had significantly increased due to the rise in numbers of property and the relatively low interest. It was unnecessary for the state to continue their funding. Housing corporations would now be financially and administratively independent, but would still operate in a social environment. Instead of getting governmental permission upfront, housing corporations from now on only had to justify their policy afterwards (Beekers, 2015b). Time would tell that not all corporations could handle this newly obtained freedom.

Over the past few years, housing corporations in the Netherlands have shown that being fully privatized and operating in an almost self-governing sector, has led to prioritizing personal gains and unsupported decision making. Unlimited risks were taken with tenants' money, with unforeseen catastrophic consequences. A steamship was sold with massive loss and directors came to work driving a sports car. Housing corporations have been a roaring subject ever since the public became aware of these scandals. A sector that was characterized by its maladministration, severe financial mismanagement and reckless decision making, was unquestionably bound to change. The economic crisis revealed that many housing corporations took on projects that lacked any financial security or return, control by authorities had weakened, enormous risks were taken on the derivatives market, boards of directors were out of control and that the government had failed to effectively carry out repercussions, when needed the most. Also the role of the auditor was questioned, as they were the ones who had been giving out auditor's certificates when they should have been more critical (Wits, 2016).

The crisis had shown that governmental bodies and other organizations had failed to realize the seriousness of the problems of housing corporations. The lack of intervention had led the reckless decision making in day-to-day operations to continue longer than that should have. The Dutch government ordered the setup of a parliamentary survey commission, which was to research these scandals and the problems surrounding housing corporations. They found that not only the directors of the corporations itself were to blame, but also the institutions that should have supervised the sector and its authorizing politicians. The commission Housing Corporations concluded that the corporate culture and behavior had to change, in combination with a tougher, stricter and independent supervision of authorities, good governance and that limitations on the possibilities for housing corporations to obtain capital should be imposed (Tweede Kamer der Staten-Generaal, 2014a). Housing corporations would be forced back to fulfilling its core duty: to build and rent out social properties.

1.2 Problem Statement

The report of the commission has led to the introduction of some severe changes in the Housing Act. The now called "Housing Act 2015" is meant to create clarity and transparency within the sector (Aedes vereniging van woningcorporaties, 2016a). Strict rules and boundaries are to make sure that housing corporations can no longer cross the line. The New Housing Act guarantees the quality of social housing, by limiting the financial risks. One of the alterations in the Housing Act 2015 is the division between "services of common economic interest" (dienst van algemeen economisch belang), from here on referred to as DAEB, and non-DAEB activities. This distinction is made to ensure that

housing corporations have to focus on providing housing for low income and can no longer take on random projects that are classified as having an additional function (Aedes vereniging van woningcorporaties, 2016a). An elaborate discussion on the distinction between DAEB and non-DAEB, will follow in the next chapter. Besides a clarification on activities, the revised Housing Act requires the use of a so called 'suitability test', to ensure that the qualities and characteristics of the directors and other governance are in line with the corporation's goals and purposes (Vereniging van Toezichthouders in Woningcorporaties, 2016). A new supervisory body, the AW (Autoriteit Woningcorporaties), is created to pass judgement on the functioning of housing corporations and to protect the core task of the corporation (Aedes vereniging van woningcorporaties, 2016a). The New Housing Act secures the position of the AW, as an organization that is independent from governmental policies and interests of the housing sector.

The New Housing Act has been implemented, starting July 1st 2015 and complements most of the commission's recommendations. For the fiscal year 2016 (FY 2016), a new alteration presents a challenge for the housing corporations. In the Netherlands, all rules and regulations for external reporting are published in the 'Guidelines for the Reporting of Annual Accounts' (Richtlijnen voor de Jaarverslaggeving). Guideline 645 (RJ 645 Toegelaten instellingen volkshuisvesting) is a separate chapter of this manual and concerns housing corporations in particular. Now, for FY 2016, Guideline 645 has been altered and requires corporations to value and report all real estate at market value (Raad voor de Jaarverslaggeving, 2016a). For most corporations this is a quite demanding and resource consuming alteration and a very important topic, for the FY 2016 annual statements of housing corporations.

One of the core effects of the alteration to market value is the significant increase in the equity of housing corporations. Equity of corporations that used to report their property at recoverable value will almost triple and the increase for corporations reporting at historical cost will be even bigger (Deloitte, 2016a). The biggest challenge here is the realization of this increased equity. The increase in equity is the result of a change in value and can only be realized when property is sold. Due to the nature and task of housing corporations, part of this increase will never be realized (Deloitte, 2016b). Also the solvency* will show a significant improvement (for example when measured with the debt-to-equity ratio), even though the cash flows stay the same. Further analysis of equity and the trend that has been observed over the past year(s) will be discussed in the Theoretical Framework.

Besides having a significant impact on the balance sheet, changes in regulations have imposed restrictions on the use of certain methods on both the income and cash flow statement. For the fiscal

* The ability to meet future long-term financial obligations

year 2016, only the direct method can be used for the representation of the cash flow statement and the income statement has to be arranged according to the so called functional arrangement instead of the categorical (BDO, 2016). The effect of both these requirements will be discussed in the Theoretical Framework.

1.3 Research Question

All these significant changes in regulations for housing corporations for 2016 have led to the formulation of the following research question, which will be addressed for the purpose of this thesis:

'What is the effect of the revision of Guideline 645, on the equity of the largest housing corporations in the Netherlands?'

1.4 Relevance

Changes related to the valuation and external reporting, can have a significant influence on the annual financial statements of housing corporations. For corporations, but also for the internal and external financial supervisors, it is of great importance to fully understand the new financial position and its applicable rules. Given the tumultuous past years for the corporations, any observations regarding the correct application of these regulations could potentially help to improve the supply of information of annual accounts. This is not only beneficial for internal use (within the corporation), but also for its stakeholders.

1.5 Structure & Approach

The research question will be answered by gathering the 2016 financial statements of six of the largest housing corporations in the Netherlands. Trend analysis is used to observe a pattern in the historical data of housing corporations that already applied market value before 2016. From the top 25 biggest housing corporations 70% valued their property at market value, before the fiscal year 2016 (Deloitte, 2016b). Using the 2015 and 2016 financial data, it can be observed whether the revision of the regulations that are only applicable from 2016 onwards, have had an effect compared to 2015. Outcomes of this analysis will be covered in the Results section.

This thesis has been structured as follows: in chapter 2, relevant economic theory and an extensive discussion of the changes implied by the New Housing Act will be portrayed. Chapter 3 will contain the applicable theory, followed by the process of data collection in chapter 4. In chapter 5, the methodology is justified. Chapter 6 contains the results of this research and in chapter 7, conclusions are derived. The final chapter 8, contains the limitations of this research and makes recommendations for further research. A bibliography and appendix can be found after this final chapter.

2. Legislation & Regulation

This chapter will provide the framework for all the applicable legislation and regulation. Explanation of the terminology is necessary, in order to fully understand the impact of the revision of RJ 645. Since there are quite some different concepts involved in the financials of housing corporations, this chapter will focus on those concepts which are applicable to the data that is used for this thesis. A definition of market value, a distinction between DAEB (dienst van algemeen economisch belang) and non-DAEB, followed by a discussion on the Basis and Full-Version and the impact on the Cash Flow Statement and Income Statement will follow within the next section. This chapter also includes a trend analysis on equity, based on the previous alterations of guidelines.

2.1 Market Value

The biggest challenge for the 2016 financial statements of housing corporations is the establishment of market value. Starting this year, housing corporations no longer have the choice, but are required to value and report all their property at market value. To preserve clarity; as prescribed by the 'Manual of exemplary valuation of real estate' (Handboek modelmatig waarderen marktwaarde) and following the International Valuations Standards (IVS) the following definition of market value will be used:

“The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.” (International Valuation Standards Council, 2017)

In the old situation, corporations had a lot of freedom in their choices. The revision of Guideline 645 limits the amount of choices and reduces the differences between housing corporations, making them easier to compare (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2015). By restricting housing corporations in their choices, authorities and other institutional bodies, should have better control and thus would be more capable to prevent previous scandals from happening. Figure 1 illustrates how corporations could choose which method they wanted to use in the old situation. A detailed discussion on the exact differences between recoverable value, historical cost and market value is considered to be beyond the scope of this research. Instead, attention will be paid to the new situation and how this impacts the annual accounts.

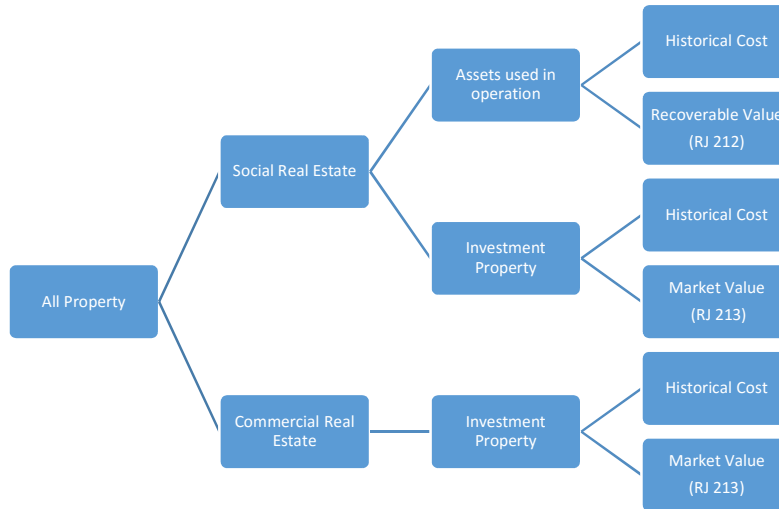


Figure 1: Old Situation (before fiscal year 2016) (Deloitte, 2016a)

The distinction between Social and Commercial Real Estate is still made in the new situation. However, no matter what kind of Real Estate is valued, corporations are obliged to report their property at market value. The market value is established by the so called Basis/Full version, of which a detailed explanation will follow in the next section. Figure 2 gives an overview of what the new situation looks like.

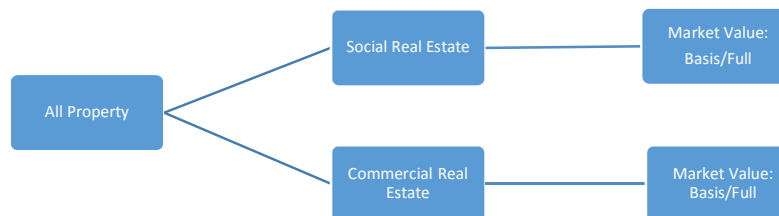


Figure 2: New situation (as of fiscal year 2016) (Deloitte, 2016a)

2.2 DAEB and non-DAEB

Before going into further detail on the Basis/Full version, it is important to understand the key concepts that define this new method. In this section, as distinction will be made between the DAEB and non-DAEB activities of a housing corporation. A good understanding of the differences in these activities helps to understand the impact of having to determine the market value of property.

The core task of a housing corporation is the building, renting out and managing of social rental homes, for people with a low income. This is considered to be a 'service of common economic interest' (dienst van algemeen economisch belang) (Deloitte, 2016c), which is commonly referred to as DAEB. In theory, this would mean that housing corporations provide housing for households with a maximum income of €35.739,- (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2015). The European Commission has required that at least 90% of housing corporations' property is to be rented out, based on this income restriction (Van der Lans, 2015). The other 10% is not restricted by income, but is still considered to be classified as DAEB (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2015). Maintenance, improvement and construction on real estate is also classified as DAEB, but cannot interfere with the primary task of another organization. In that case the housing corporation would be restricted from performing the service itself. Besides social rental homes, constructing and exploitation of own office space is classified as DAEB. Real estate located in the areas in which housing corporations already owns housing and with a social or communal purpose, like a primary school or library is also a DAEB activity. In corporation with municipalities and occupant associations, housing corporations are allowed to invest in the improvement of quality of life, with a maximum of €126,25 per year per housing unit in the DAEB branch (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2015). Examples are the improvement of the neighborhood and reducing harassment. All these activities described are considered to be DAEB and help to fulfil the core duty of a corporation.

Besides the participation in DAEB activities, it can happen that a certain operation of a housing corporation is classified as non-DAEB. However, it is important to emphasize that DAEB activities are the core task of a housing corporation and that non-DAEB activities form an exception to the rule. When it occurs that a housing corporation is involved in a non-DAEB activity, this has to be either legally or administratively separated from the corporation's other current operations and DAEB activities (Deloitte, 2016c). A non-DAEB activity can only be undertaken when no other party is interested in doing so, which is determined by the municipality (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2015). The housing corporation is allowed to issue a loan to its administratively separated non-DAEB entity, when it can prove that external financing is not possible (Inspectie Leefomgeving en Transport: Autoriteit Woningcorporaties, 2016). Under no circumstance is the risk of undertaking a non-DAEB activity to be implemented on the tenant of DAEB property (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2015). The non-DAEB activities should always remain a separate operation.

If a corporation wants to be involved in a non-DAEB activity, it needs to get permission from the AW (Autoriteit Woningcorporaties). The distinction between DAEB and non-DAEB, always needs the approval of the AW, protecting the corporations from mismanagement (Aedes vereniging van woningcorporaties, 2016a). This ensures that housing corporations do not take on project like the renovation of a steamship, which in principle has nothing to do with social housing. The decisions made by the AW are independent from governmental policies and interests of the housing sector, helping to protect the core task of housing corporations.

2.3 Basis versus Full Version

Now that the distinction between DAEB and non-DAEB activities has been established, further analysis of the Basis/Full version will follow. For the annual reports of 2016, housing corporations are required to value their property used in operations, against market value. As instructed by the 'Manual exemplary valuation of real estate' (Handboek modelmating waarderen vastgoed), corporations have the possibility to choose between the Basis and Full version, when determining the market value (Fakton Consultancy, 2016). This manual provides the basis for the valuation of real estate, as for many (smaller) housing corporations the market value is new territory. The manual is also meant to make the annual reports of housing corporations easier to compare (Deloitte, 2016a).

In order to determine the market value, a distinction between types of properties has to be made (Deloitte, 2016a):

- Housing Facilities
- Corporate (Bedrijfsmatig (BOG)) and Social (Maatschappelijk (MOG)) Real Estate
- Parking Spots
- Full-time care facilities (ZOR)

Following the Basis version, market value is determined by using the Discounted Cash Flow (DCF) method, which is common practice in the housing sector (Raad voor de Jaarverslaggeving, 2016b). Pursuing the DCF method, future free cash flows over a 15 year exploitation period are discounted to the present value, using a set discount rate (Fakton Consultancy, 2016). To determine the free cash flows in the DCF-calculation, macro-economic parameters are taken into consideration (Fakton Consultancy, 2016):

- Inflation: used as a yearly indexation of (amongst others) maximum rental price and taxes
- Aggregate Wage Increase: basis for the increase in administrative expenses
- Construction Cost Increase: basis for the increase in (amongst others) maintenance costs
- Increase of Empty Property: basis for the increase in sale proceeds in sale of empty residences scenario

Determining the free cash flows for Housing Facilities and Parking Spots is based on two scenarios. The highest scenario of either further exploitation or the selling of empty residences determines the final value of the market (Fakton Consultancy, 2016). For BOG, MOG and ZOR, only the further exploitation scenario is applicable. If the rental price of the BOG, MOG and ZOR is more than 5% of the total rental price of the DAEB or not-DAEB separately, the use of an external assessor is also required in the Basis version.

If a corporation wants to deviate from the basis version and wants to adjust some of the fixed parameters, it is required to value according to the Full version and employ an external assessor, who is to independently value the property (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2017). All corporations are free to either choose the basis- or full-version, but are obliged to use the full-version when (Fakton Consultancy, 2016):

- The rental price of regular housing, located in so-called shrink- or earthquake areas (Appendix C), combined with the rental price of student housing and extramural care homes is more than 5% of the total rental price for the DAEB or non-DAEB branch separately.
- The rental price of corporate social full-time care property, and regular housing combined is more than 5% of the rental price for the DAEB or non-DAEB branch separately.

The Full version allows some freedom for certain parameters (amongst others the discount rate and rental price), which is why the use of an external assessor is required (Deloitte, 2016a). Most housing corporations do not only use the valuation of their real estate for their annual accounts, but also for real estate management. Because of some freedom in the application of parameters, the full version is more appropriate to manage real estate into a certain direction. The new guidelines limit the activities of housing corporations, in combination with external financing becoming more restricted over the past years. Housing corporations therefore need to make optimal use of their property portfolio. By establishing a portfolio that is compatible with current and future strategies, corporations ensure efficiency (Ortec Finance, 2013).

Property is to be valued at least once every three years (Fakton Consultancy, 2016) and there are two ways in which this may be done:

- A full-valuation of 100% of the real estate in year 1, followed by a valuation-update of this full-valuation in years 2 and 3. In year 4, again a full-valuation of 100% takes place.
- Each year a full-valuation of $\frac{1}{3}$ of the property takes place. The other $\frac{2}{3}$ is valued based on a valuation-update.

For the smaller corporations, the first year in which market value has to be applied, will most likely be characterized by the largest struggles and consequences. When market value is eventually adapted, it can be used as an example for the preparation of future financial statements.

2.4 Trend Analysis – Equity

One of the key effects of the switch to market value, is the significant increase in equity of housing corporations. This can have both advantages and disadvantages. High equity as a result of high market value, can make it difficult to compare corporations that operate in different areas. Also, especially for the smaller corporations, establishing market value can be very time and resource consuming, which is out of proportion given the corporations usual course of business. However, high equity can also make it easier to attract loans and other kinds of debt, securing the long term position of the corporation.

Starting for the year 2016, corporations are obliged to apply the market value, but over the past years some corporations already made the switch (Deloitte, 2016b). These housing corporations and their FY 2015 statements can be used to observe the potential effect of the alteration to market value. They provide the basis of what can be expected to happen to corporations that make the switch this year. Valuing property at market value is a resource consuming and expensive process, which requires very specific knowledge. It is therefore not surprising that mainly the large corporations have already made the switch to market value. Within the largest corporations, 70% already used the market value by 2015 (Deloitte, 2016b). These corporations can be used to observe the effect of the change to market value and provide a basis of what to expect for the financial year 2016.

Figure 1 shows that equity significantly increased over the period 2012-2015 and has almost doubled by 2015. This is a logical event, as the market value of corporations is way higher than the historical cost or recoverable value. However, this value can only be realized when property is sold to an external party. This means that only a small portion of the market value will be recovered, as it is not the primary task of a housing corporation to sell or rent out property at the highest possible price (Deloitte, 2016b). Its core task is to provide affordable rental homes. Maximizing the proceeds from the sale of property is not in the interest of the corporation and therefore, a large share of the equity of housing corporations is 'stuck in the stones'.

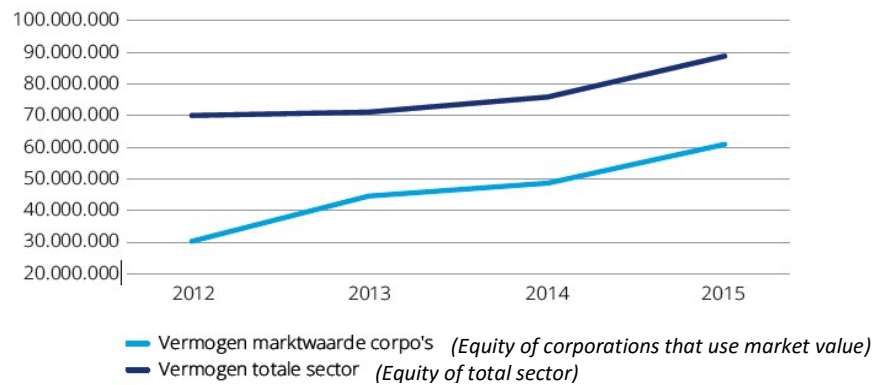


Figure 1: Development of Equity 2012-2015 (Deloitte, 2016b)

Why did the government choose to have all property valued at market price, when it gives an unrealistic and unrealizable value? After the commission published its results, it became clear that housing corporations and its operations should be more transparent. Market value makes it easier to compare different corporations, not only to each other, but also to commercial real estate agents (Aedes vereniging van woningcorporaties, 2016b). The financial position of a corporation becomes more transparent, when it can be compared to actual investors in real estate, who use the same valuation method. Even though market value presents some significant advantages, it has been heavily criticized by academic professionals and other branch representatives (Van Os, 2015). The WSW (Waarborgfonds Sociale Woningbouw) is the organization that secures the financial position of the housing corporations. They have argued that the use of market value makes it unable to pass judgement on the cash flows of the corporation (WSW, 2015). Therefore they require the recoverable value to be included in the notes to the financial statements. This implies that corporations need to make two valuations.

Based on the observed trends in Figure 1 and the nature of market value, it can be expected that for 2016, equity will again be characterized by a significant increase, for all corporations having to change to market value (Deloitte, 2016b). Because most of the largest corporations already report at market

value, total market value (for the entire sector) has already increased a lot. For the smaller corporations, the change in annual accounts will have a severe impact. Given that smaller corporations do not always have the resources and knowledge to implement such a complicated method as the market value, it remains questionable whether the corporations that are not legally dependent on an accountant's certificate present their annual accounts in the right way (Deloitte, 2016b).

2.5 Other major changes – Income Statement

The income statement for housing corporations can be organized using a functional or categorical arrangement. Though the functional arrangement was requested from FY 2013 onwards, the revised RJ 645 from now on requires it (Raad voor de Jaarverslaggeving, 2016c). The categorical arrangement is completely withdrawn. The functional arrangement requires a corporation to split gains and losses per activity (Inspectie Leefomgeving en Transport: Autoriteit Woningcorporaties, 2017). This does not imply that activities are split based on DAEB and non-DAEB, but activities may rather be split by rental activities, development of property and the sale of property. Given the nature of a corporations activities, the functional arrangement is more suitable to use for the income statement (Aedes vereniging van woningcorporaties, 2017). Choices made on the division of activities, always need to be further illustrated in the appendices of the annual accounts (Deloitte, 2016d).

2.6 Other major changes – Cash Flow Statement

The Cash Flow Statement gives an overview of all monetary in- and outflows of the organization, categorized by operating, investing and financing activities. Compared to the Balance Sheet, the Cash Flow Statement gives not only another perspective on the continuity of operations, but also on the liquidity of the organization (Deloitte, 2016d). As of FY 2016, corporations are obliged to follow the direct method when deriving the Cash Flow Statement. This means that the Cash Flow is obtained by adding all cash inflows and subtracting cash outflows. The direct method was considered to be best practice amongst housing corporations, also before FY 2016 (Deloitte, 2016d).

2.7 Summary

The focus in this thesis is on the use of market value. The distinction between DAEB and non-DAEB is used to understand the valuation method, which is either the Basis or Full version. The Full version requires the use of an independent assessor. Based on previous annual statements, it can be expected that equity will continue to increase for fiscal year 2016. Changes in the representation of the Income and Cash Flow Statement do not have an impact on either equity or net profit.

3. Theoretical Framework

There are not many theories involved in the analysis of equity of housing corporations. However, the theory of one concept on its own, can already have a severe impact. History shows that the agent-principal problem can (partly) explain how the scandalous business operations of housing corporations several years ago, could even exist.

3.1 Agent-principal problem

Housing corporations can be characterized by different levels of information asymmetry. First of all, the role of the accountant is to reduce the information asymmetry between management and the shareholders (Watt & Zimmerman, 1983). In the case of housing corporations, these are the boards of directors and organizations like the Dutch Ministry of Internal Affairs, Autoriteit Woningcorporaties (AW) and the WSW, also referred to as stakeholders. The directors might pursue different goals and interests than the stakeholders have intended (Bosch, 2016). Due to the difference in access to information and the different position within the corporation, this is hard for the stakeholders to measure and control. Hence the role of the accountant. Scandals like Vestia and Woonbron are cases where the accountant failed to overcome the information gap and where the stakeholders were unaware of the pursued goals of the directors (Tweede Kamer der Staten-Generaal, 2014a). This became one of the reasons why corporations like Vestia could get so out of control.

Besides reducing the information gap, the accountant has other interests that are not purely beneficiary to the social aspect (Bosch, 2016). Since an accountancy firm strives to make a profit, it tends to move alongside the interest of management. The Supervisory Board is put in place here, in a way to control the auditor (Boot, 2014). This should reduce the risk of information asymmetry between the accountant and the stakeholders.

Even though housing corporations are obliged to hand over the proper documentation to the external auditor, this does not always guarantee that the auditor is capable of fully apprehending the corporation's situation and underlying risks (Tweede Kamer der Staten-Generaal, 2014a). This was also one of the reasons why scandals like Vestia were able to continue for so long. Especially this last case of information asymmetry has been under strict supervision since the scandals of Vestia, Woonbron, Rochdale and others. Different stakeholders have claimed that the auditor should have been more critical, but without accurate and truthful information, combined with the interest of the auditor moving alongside that of management, this presents a challenge (Accountant, 2009). The scandals of the housing sector have stretched out how important it is that the auditor's certificate ensures quality.

There are many different sides and aspects to the agency theory when housing corporations are involved. The information asymmetry between different levels within the organization and external parties, make it hard to overcome the information gap at once. The role of the auditor is to vouch for the validity of the financial information, therefore it is of uttermost importance, that this auditor's certificate is a representation of the actual operations. When this is achieved, the auditor's statement decreases the risk of information asymmetry between the corporation and its stakeholders (Watt & Zimmerman, 1983).

4. Data

As of January 2017, there are 347 housing corporations in the Netherlands. The sample used for this research, will consist of 6 of the largest housing corporations. This selection will be made based on the list of all authorized housing institutions, obtained from the AW (Inspectie Leefomgeving en Transport, 2017). Only corporations that have more than 1.500 rental units will be included in the research sample, as they are considered to be 'organizations of public interest' (organisatie van openbaar belang (OOB)) (Jungheim & Suurland, 2013) and therefore are legally obligated to provide an auditor's certificate each year. Aedes wants corporations with more than 2.500 rental units to be OOB, since the smaller corporations are currently struggling to comply with all of the auditor's requirements (AccountantWeek, 2017). From the remaining list, only corporations with more than 20.000 rental units are considered for the research sample. For the purpose of this research, a housing corporation with more than 20.000 units is considered to be large. Due to time constraints, large corporations will be researched in this thesis as their financial statements are published the soonest. Also, given the fact that most of the largest housing corporations have been using market value before fiscal year 2016, this gives the opportunity to analyze its effect over a longer period of time.

Only including large corporations with more than 20.000 units leaves a list of 24 housing corporations, which can be found in Appendix D. Figure 2 shows how these corporations are distributed based on their rental units.

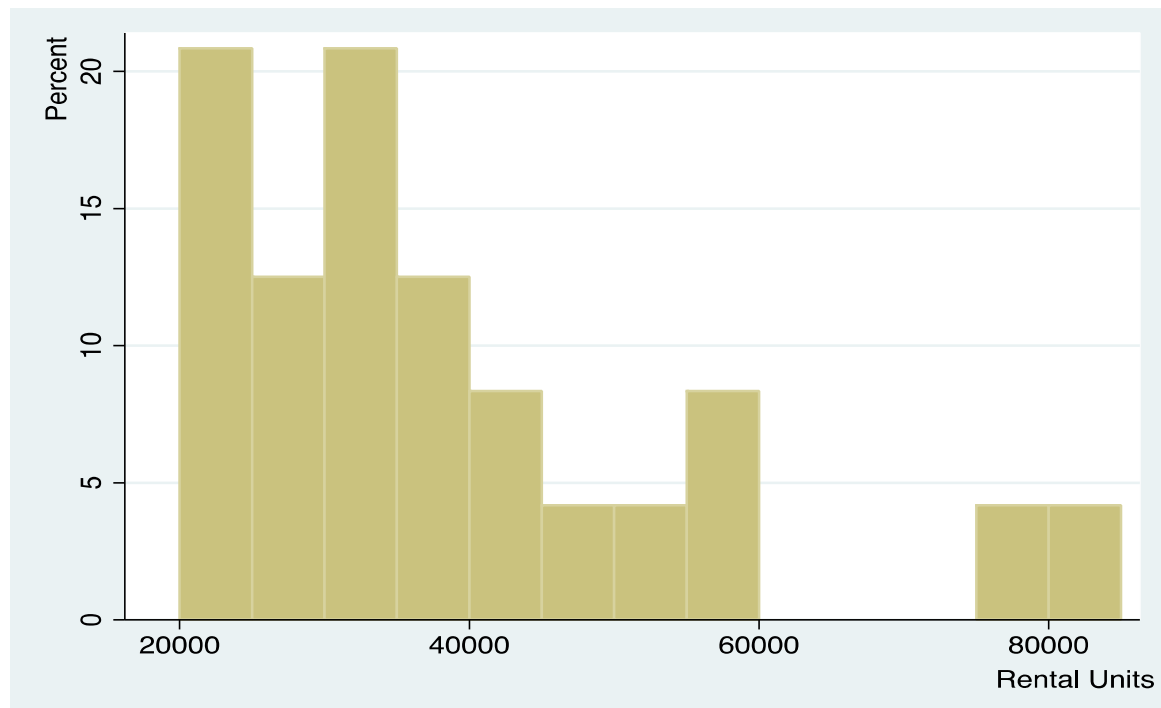


Figure 2: Distribution of the 24 largest corporations, based on their rental units

Keeping the distribution in Figure 2 in mind, a selection of six corporations has been made. The research sample is listed in Table 1:

Table 1: Research sample

Corporation-Name	Market value since FY	Rental Units	Province
Stichting DUWO	2016	22.751	Zuid-Holland
Wonen Limburg	2015	25.798	Limburg
Woningstichting Rochdale	2012	38.209	Noord-Holland
Woonbron	2012	36.378	Zuid-Holland
Woningstichting Eigen Haard	2016	55.370	Noord-Holland
Stichting Ymere	(before) 2012	80.554	Noord-Holland

Note: "Market value since FY" refers to the fiscal year the corporation first started to use market value. Before using market value the corporation either used recoverable value or historical cost.

Given that most corporations have less than 40.000 units, four out of six of the corporations in the research sample have less than 40.000 units, equally divided between the categories 20.000-30.000 and 30.000-40.000. Furthermore, one corporation of around 55.000 and one corporations of around 80.000 has been selected, in order to replicate the distribution in Figure 2 as good as possible.

Figure 3 shows that most housing corporations operate in the urban parts of the Netherlands, which is why the sample used in this research mostly consists of corporations that are located in Noord-Holland and Zuid-Holland. Furthermore, in order to adjust for any differences in market value between rural and urban areas, one corporation in Limburg has been added to the selection. Parts of Limburg are considered to be so called "shrink-areas", and the selling price for houses has developed a different trend compared to urban areas (CBS, 2017). For this reason, and in order to follow the frequencies in Figure 3, Limburg has been included in the sample.

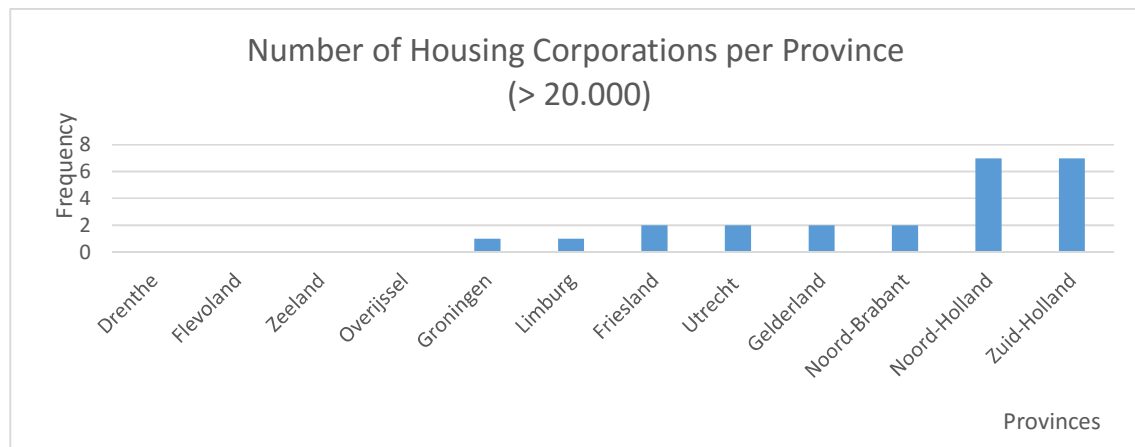


Figure 3: Distribution of housing corporations amongst provinces

5. Methodology

In order to study the effect of the revision of RJ 645 on equity, annual reports of six housing corporations have been gathered. These corporations have been listed in the previous chapter, in Table 1. Annual reports for the period 2012-2016 have been used for the analysis. This period has been chosen, as 2012 is the year that three out of six corporations switched to market value. For the purpose of this thesis, their results can be used to make an analysis of the development of market value over five years, which gives a reasonable picture on the evolution of equity.

Woningstichting Eigen Haard and Stichting DUWO have adapted the market value from fiscal year 2016 onwards. These corporations had to comply with all new rules and regulations all at once. Their results are used to address the effect of the New Housing Act, compared to the use of recoverable value or historical cost before. For Wonen Limburg, FY 2016 is the second year in which property has been valued at market value. This financial data is used to alter any potential differences between market value in FY 2015 and the regulations of the New Housing Act that have to be followed this year. Woningstichting Rochdale, Woonbron and Stichting Ymere are used to record and monitor any differences in market value over the past 5 years. Also this data is used to see if the New Housing Act results in any differences in market value, compared to FY 2015.

For each corporation, two graphs have been drafted: one graph to show the development of equity over time, the other graph is to show the development of net profit and the change in unrealized value of property. These figures are presented in the Results section, categorized per corporation. Other influences on equity (besides the use of market value) are taken into consideration in the Results section. This helps to isolate the effect of the switch to market value from any other external or internal events. Even though market value is not the same thing as market price, the trend that can be observed from analyzing market prices is assumed to impact and influence the trend in market value. Therefore, the development of housing prices is used to make assumptions on the effect of equity. Given the discussed representativeness of the selected corporations in the Data section, it is assumed that the results of these corporations represent all large corporations.

6. Results

In this section, the results of the previously discussed research method will be presented. Each section individually discusses a corporation, presented by two graphs. One graphs represents the development of equity over time, the other shows the relationship between net profit and unrealized change in value. At the end of the chapter, a short summary will briefly list the most important results. The financial data that has been used to draft the graphs can be found in Appendix F. Given the scale of operation of these corporations, all use the Full-version to value rental property.

6.1 Stichting DUWO

Stichting Duwo is a corporation that mainly focusses on student housing. Fiscal year 2016 is the first year for which the corporation uses market value, in previous years DUWO used the historical cost method. Figure 4 shows how equity multiplied more than seven times and steeply increased. As no other change in accounting policy or estimate has been recorded, the increase in equity can mainly be accredited to the difference between historical cost and market value (Stichting DUWO, 2017). Besides that, no severe changes in the number of housing stock have been reported (Stichting DUWO, 2017).

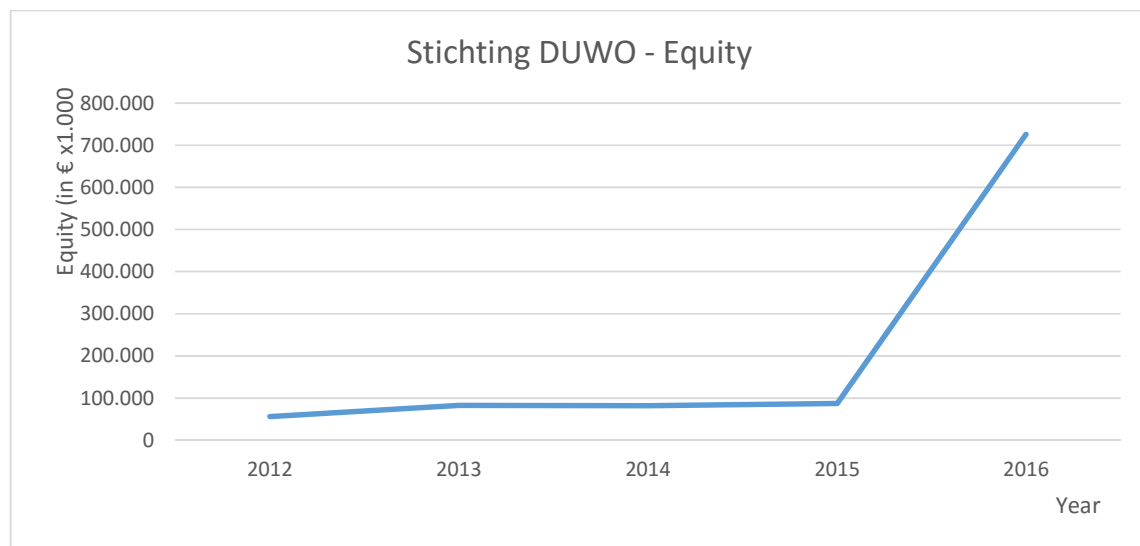


Figure 4: Development of equity over time – Stichting DUWO

As is illustrated in Graph 5, net profit is characterized by a steep increase, which is mainly caused by the large amount of unrealized change in value. Important to note is that DUWO did not record unrealized change in value in its income statement before FY 2016. Therefore, it is not possible to comment on its evolvement. However, the severe increase in net profit after DUWO started using market value is still striking.

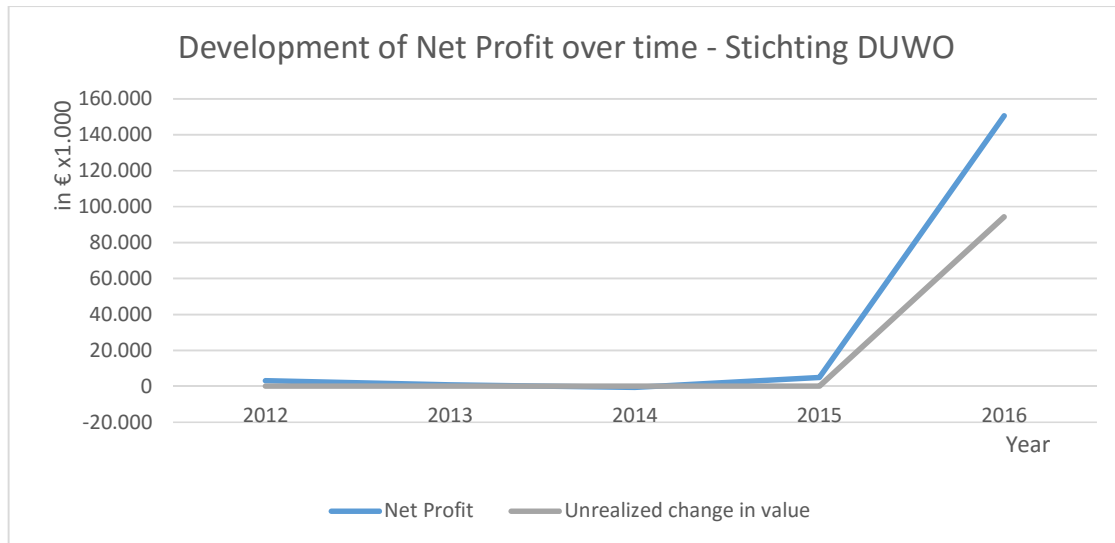


Figure 5: Net profit and unrealized change in value over time – Stichting DUWO

6.2 Wonen Limburg

Figure 6 emphasizes how Wonen Limburg started using market value for fiscal year 2015, as equity nearly doubled. The decrease in 2014 (followed by a significant increase in 2015) can be attributed to a change in the valuation of derivatives (Wonen Limburg, 2015). Before using market value, Wonen Limburg valued all property at recoverable value, representing the future capacity to earn revenues by exploitation of today’s property (Deloitte, 2016b). Figure 17 in Appendix E shows how market value is almost twice as high as recoverable value. Over the years, this difference has only grown bigger. Compared to other corporations, Wonen Limburg’s equity “only” doubled by switching to market value. This is consistent with the fact that Wonen Limburg mainly operates in a shrinkage area, which results in a lower market value, compared to corporations in Amsterdam (Kadaster, 2017b). An overview of all shrink-and earthquake areas can be found in Appendix C. Overall, Figure 6 is in line with an increasing development of equity.

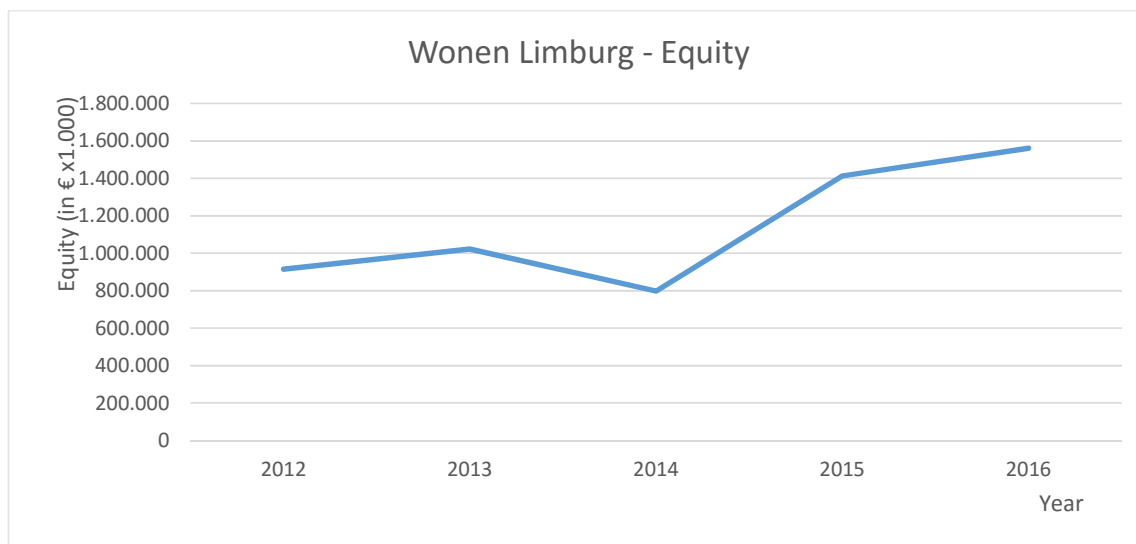


Figure 6: Development of equity over time – Wonen Limburg

From Figure 7 it can be derived that by switching to market value, unrealized change in value heavily decreased, being largely responsible for a negative profit. This is consistent with a housing market that is still in a recovering state, meaning that the market value of property is lower in 2015 than it was in 2014. Also for 2016, the graph shows that profit is largely dependent on the unrealized change in value, which can be accredited to a higher market value, compared to 2015. This is a result of higher prices on the housing market in Limburg in 2016, indirectly leading to a high net profit (Kadaster, 2017b).

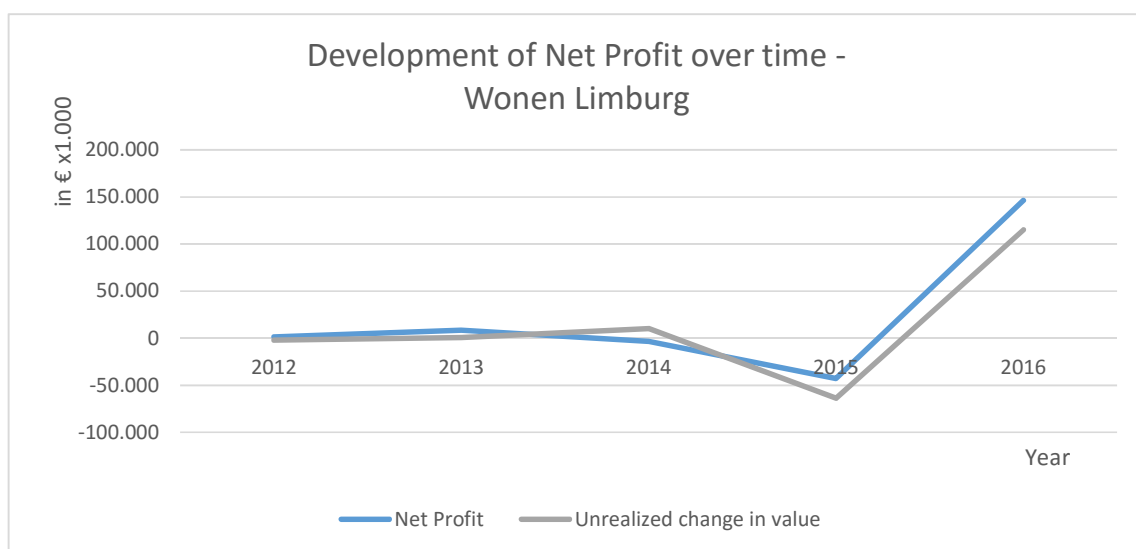


Figure 7: Net profit and unrealized change in value over time – Wonen Limburg

6.3 Woningstichting Rochdale

Figure 8 shows how the equity of Rochdale has developed over the period 2012-2016. Rochdale is one of the corporations that switched to market value in 2012. For 2011 and the years before, Rochdale valued its property at recoverable value. The overall housing stock stayed nearly constant for Rochdale over the years (Woningstichting Rochdale, 2015, 2016), so cannot have resulted in an increase in equity. However, equity was nevertheless characterized by a significant increase in 2015 and 2016. As the housing stock stayed nearly constant and no other change in accounting policy has been recorded (Woningstichting Rochdale, 2016, 2017), the increase in market value is therefore consistent with a recovering housing market. Housing prices in Amsterdam and surroundings have increased to a level that is higher than before the housing crisis (CBS, 2016), which ultimately results in an increasing trend in equity. The annual accounts of Rochdale for fiscal year 2016, reveal that the change in estimation (by following the revised RJ 645) has had zero impact on the market value in 2016. Therefore, following the valuation manual does not cause an increase in market value and cannot be accredited to the increase in equity. The revised version of RJ 645 has no impact on the market value, instead it is most likely the housing prices that have caused the increase in market value and thus equity.

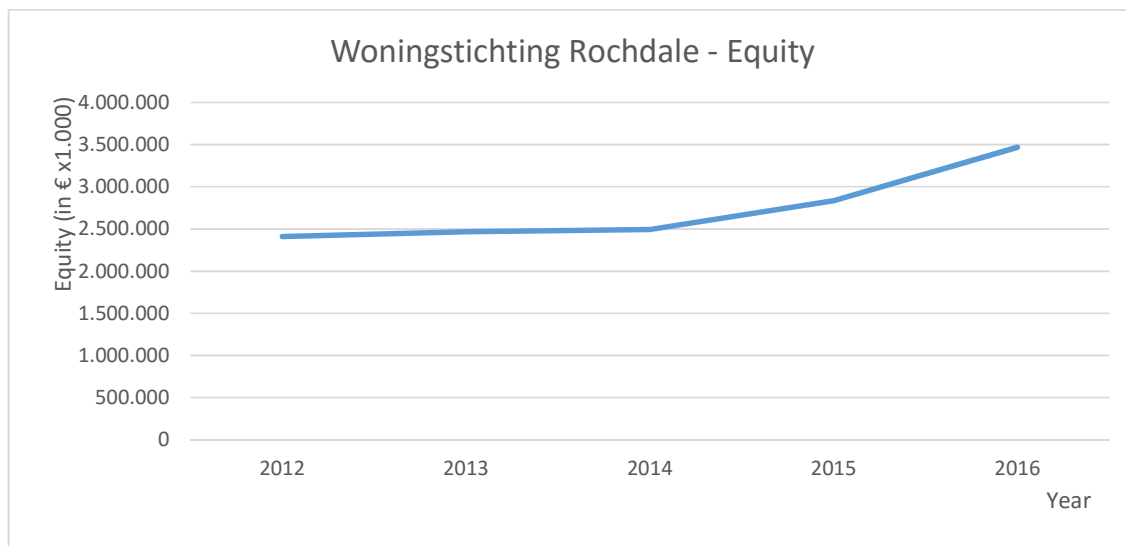


Figure 8: Development of equity over time – Woningstichting Rochdale

After changing to market value for fiscal year 2012, unrealized change in the value of property decreased with more than €160 million for Rochdale, resulting in a negative profit of around €150 million. Important to realize is that unrealized change in value depicts the difference between the market value in 2011 and market value in 2012, even though Rochdale used recoverable value in 2011. This is consistent with a downwards development in the housing market. The results in Figure 9 thus are heavily dependent on the situation of the housing market. A positive market results in a positive net profit and vice versa.

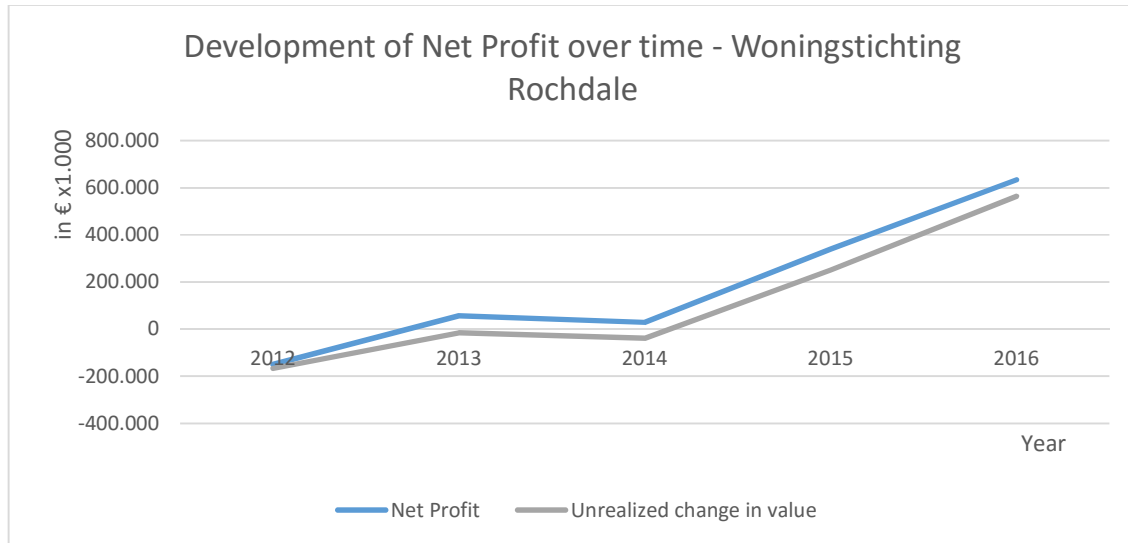


Figure 9: Net profit and unrealized change in value over time – Woningstichting Rochdale

6.4 Woonbron

Woonbron is also one of the corporations that has been using market value since 2012. The fiscal year 2013 was characterized by a decrease in the price index on the housing market (for the province Zuid-Holland) (Kadaster, 2017b), which clearly shows in Figure 10 by a decrease in equity. The increase in 2014 is unaccounted for by the housing stock (Woonbron, 2015) or the price index, as they both stayed nearly constant (Kadaster, 2017b). On the contrary, it is the change in use of parameters when establishing market value (Woonbron, 2015), which has caused equity to increase with more than a million. The increase in 2016 can again be accredited to a recovering housing market.

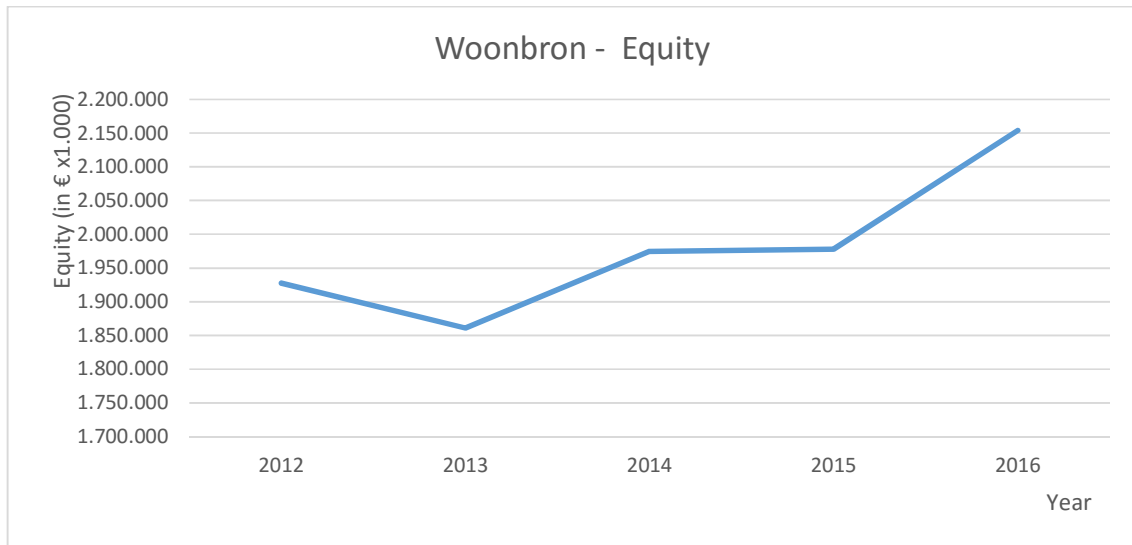


Figure 10: Development of equity over time – Woonbron

Figure 11 again concludes how net profit is highly dependent on unrealized change in value. The change in parameters that resulted in a high market value in 2014, is also mainly responsible for the height of net profit. An upward trend in the housing market has caused net profit to continue to increase as well, with a steep slope in 2016 as a result of the housing market reaching a state that is better than before the housing crisis (Kadaster, 2017a). In comparison with Rochdale, both show a large loss in the year the corporations first started using market value and have shown an increasing trend ever since.

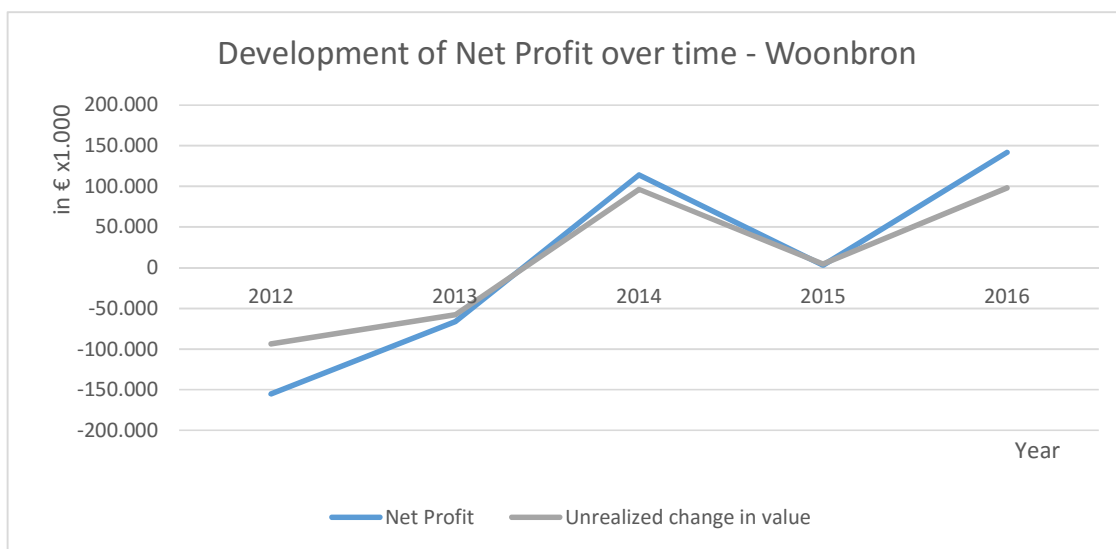


Figure 11: Net profit and unrealized change in value over time – Woonbron

6.5 Woningstichting Eigen Haard

Woningstichting Eigen Haard only started using market value for fiscal year 2016. Previously, Eigen Haard would value its property at historical cost or recoverable value, whichever would be lower (Woningstichting Eigen Haard, 2017). Figure 12 exhibits how the use of market value in 2016 has led equity to be multiplied around thirty times. Since housing prices in Amsterdam have significantly increased in value over the years, this has caused the difference between historical cost and market value in 2016 to be incomparable, resulting in an equity of more than six billion on the 2016 balance sheet. In comparison with Wonen Limburg, who had been using recoverable value instead of historical cost, Wonen Limburg's increase in equity is significantly lower. However, one also needs to take into account that Eigen Haard operates around Amsterdam, which also attributes to a steeper increase in equity.

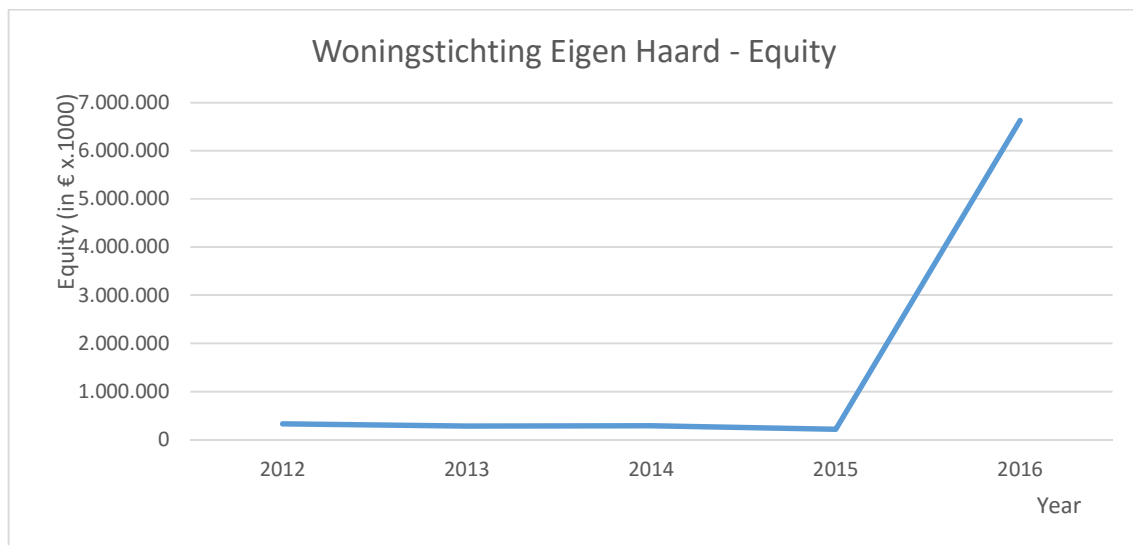


Figure 12: Development of equity over time – Woningstichting Eigen Haard

The significant increase of equity, as a result of the use of market value is consistent with a steep increase in net profit, which can be observed from Figure 13. What Figure 13 also shows, is that net profit almost completely exists of unrealized change in value and that the two lines are parallel to each other. This implies that even though net profit may be high, most of this will never result in an actual cash flow, as it is not the nature of the corporation to sell its property.

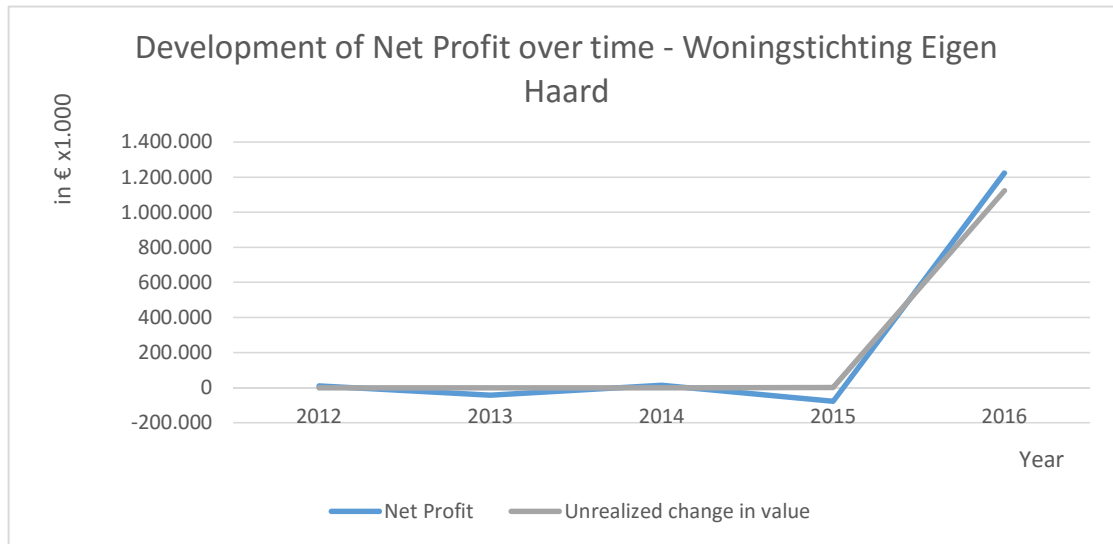


Figure 13: Net profit and unrealized change in value over time – Woningstichting Eigen Haard

6.6 Stichting Ymere

Stichting Ymere has been valuing and reporting property at market value for quite some years. Figure 14 again shows the increasing trend in equity. Like Rochdale, Ymere’s 2016 annual accounts reveal that the change in accounting estimate (by following the valuation manual instead of RJ 213) has had almost zero impact on the market value (Stichting Ymere, 2017). The market value that is derived from following the valuation manual, derives the same value as the method Stichting Ymere has been using in previous years. Ymere also operates in and around Amsterdam, which is why the market value has been showing an increasing trend since 2012, indirectly resulting in an increasing trend in equity.

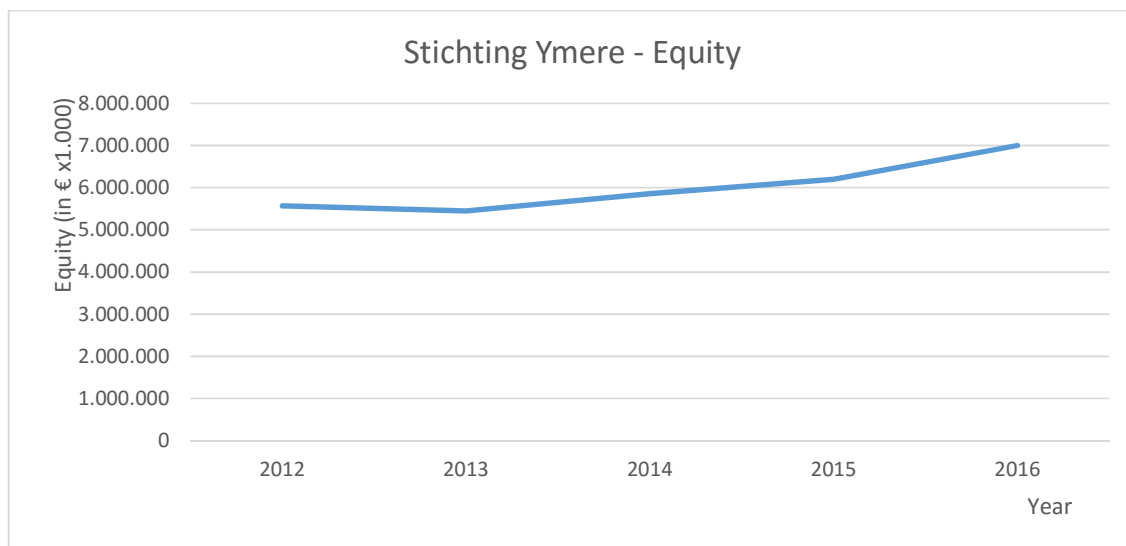


Figure 14: Development of equity over time – Stichting Ymere

Again, Figure 15 shows that unrealized change in value moves alongside net profit. Even though Ymere sold 1.865 residences (out of more than 80.000) (Stichting Ymere, 2017), unrealized change in value almost tripled, as a result of the increasing market value in the Amsterdam area (Kadaster, 2017a). The restored housing market, which in 2016 is at a better position than it was before the crisis (CBS, 2016), causes the net profit of Ymere to double, compared to the year before.

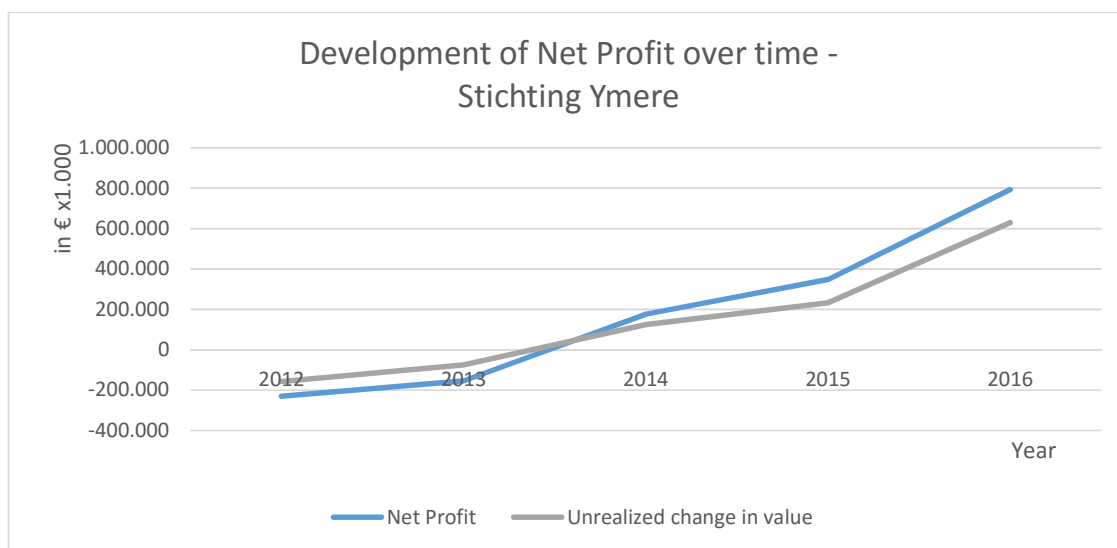


Figure 15: Net profit and unrealized change in value over time – Stichting Ymere

6.7 Summary

The financial statements of six of the largest housing corporations in the Netherlands, show that the effect of the use of market value is dependent on several factors. First of all, the year in which the switch has been made decides on the sign and size of the effect. Whereas corporations that started using market value for fiscal year 2012 still show an increasing trend in equity, the housing crisis caused a large loss as a result of a negative change in unrealized value. Corporations that switched when preparing their 2015 or 2016 annual statements, show both significant increases in equity and net profit. This is the result of a recovering housing market, which causes unrealized change in value to be relatively high. Second, the method the corporation used before market value, has a large impact on the change in equity. The difference between market value and historical cost is much larger than the difference between market value and recoverable value, resulting in a steeper increase in equity. Lastly, the area in which the corporation operates also decides on how steep the increase in equity is. The difference in market prices between urban and rural areas, causes the change in equity not to be consistent throughout the country.

7. Conclusion

In this paper, annual accounts of six large housing corporations in the Netherlands have been used to measure the effect of the revision of RJ 645 on equity. By analyzing the trend of equity and the development of net profit, taking into account the structure of unrealized change in value, the following can be concluded:

The purpose of this thesis was to map the effect of new regulations on equity. This inevitably leads to the conclusion that the quality of the financial data of housing corporations has deteriorated. Given that net profit largely consists of unrealized change in value, the situation on the market mostly decides on the height of profit. This implies that net profit gives an unrealistic image of the actual operations of the corporation. As for equity, the corporation should have no intention to be selling its property and therefore results in an improbable picture of liquidity and solvability. Whereas these new regulations are mainly put in place to prevent new scandals from occurring, a possible misinterpretation of equity and net profit, only imposes more risks and requires an even stricter control.

Though indeed the required use of market value makes it easier to compare housing corporations to real estate investors, housing corporations have become mutually incomparable across country. The differences in market value between provinces, make it unrealistic to compare the operations of a corporation in Limburg to one in Amsterdam. After all, the WSW (Waarborgfonds Sociale Woningbouw) still requires the inclusion of recoverable value, as they otherwise would not be able to pass judgement on the current cash flows of the corporation. Resulting in corporations having to make two valuations, which takes time and is very resource consuming.

Interesting to note is what happens to the quality of financial data if the housing market were to crash again. Corporations would record heavy losses, even though they continue the exact same operation with the exact same property. The annual accounts are heavily dependent on external factors and the new regulations only result in positive outcomes in the current, relatively stable situation of the corporation's industry. Alteration of rules and regulations would again be required, if the stability of the market were to change again.

In short, the use of market value in the annual accounts of housing corporations give an unrealistic image of the state of operations. Whereas it contains several of the parliamentary commission's recommendations and shows significant improvements compared to the old situation, it still imposes risks on the interpretation of annual statements and requires strict monitoring.

8. Limitations & Recommendations

This thesis has attempted to measure the effect of the revision of RJ 645 on the equity of large housing corporations in the Netherlands. The conclusions that can be drawn from this research are therefore only applicable to large corporations. A suggestion for further research could be to broaden the scope of research and see if the conclusions from this research can also be relevant for the sector as a whole. Also, the results of this research are very sensitive to the area in which the corporation operates. This thesis has attempted to prevent any bias by including Limburg as a province in the research sample. However, a larger research sample which includes other provinces like Groningen or Zeeland, which also operate in shrink- and earthquake areas, could rule out bias with a higher certainty.

Corporations are required to use the 'Manual exemplary valuation of real estate' (Handboek modelmatig waarderen vastgoed). This requires the use of an external taxation when using the Full version, or is some specific situations of the Basis version (Fakton Consultancy, 2016). However, as the past has shown, the establishment of market value among housing corporations has been questionable. Given that it is not the primary task of a corporation to be selling real estate, property for sale would often be settled with another corporation. Rochdale is an example of a corporation that took advantage of this former lack in regulations, as they had a significant interest in a real-estate agent (Capelle Makelaars), who would mediate the sale of property (Tweede Kamer der Staten-Generaal, 2014b). Now, the 'Manual exemplary valuation of real estate' imposes some restrictions on the use of an external assessor, but its main requirement lays within independence (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2017). More restrictions would be required in order to fully benefit from the use of an independent assessor (Bruins, 2013). The questionable method of the establishment of market value, imposes a limitation on this research, as it might misrepresent the actual market value, for which a corporation's property would be sold. This holds for any research that uses the market value as it is presented in the annual statements.

Furthermore, the situation and state of social rental property in the Netherlands is quite unique compared to the rest of the world. No other county has been able to realize so many social rental houses (Van der Lans, 2015). Though the Netherlands acknowledges this as a successful situation, the European Commission considers the Netherlands to be an exception, rather than an example (Van der Lans, 2015). A suggestion for further research would be to provide an analysis of how the situation of social rental property differs around the world (or Europe). Whether this unique situation in the Netherlands is actually an example or an exception to the rule, might be an interesting extension of research.

Given time constraints and the scope of this research, the topics discussed are fairly general but could be used as a starting point for further detailed research. The revision of RJ 645 has many more implications than the use of market value, like the requirements on the separation of DAEB and non-DAEB, the presentation and classification of equity on the balance sheet and the use of deferred tax assets or liabilities. These are all topics that should be included, in order to measure the entire effect of the use of the New Housing Act. Especially the division of DAEB and non-DAEB activities is an important topic and can potentially provide better understanding of the effect of new regulations. Involving more specific rules and legislation in the research process gives the opportunity to go into further detail and can be seen as a suggestion for further research.

Bibliography

- Accountant. (2009). *Accountants moeten beter opletten bij woningcorporaties*. Retrieved from <https://www.accountant.nl/nieuws/2009/7/accountants-moeten-beter-opletten-bij-woningcorporaties/?search=true>
- AccountantWeek. (2017). *'Geen OOB-status voor corporaties met minder dan 2.500 woningen'*. Retrieved from AccountantWeek: <https://accountantweek.nl/artikel/geen-oobstatus-voor-corporaties-met-minder-dan-2500-woningen>
- Aedes vereniging van woningcorporaties. (2014). *Woningcorporaties: partners in het wonen 2014*.
- Aedes vereniging van woningcorporaties. (2016a). *Woningwet in de praktijk: de hoofdpunten*.
- Aedes vereniging van woningcorporaties. (2016b). *Het vermogen van corporaties*.
- Aedes vereniging van woningcorporaties. (2017). *Handreiking toegelaten instellingen volkshuisvesting 2016*.
- BDO. (2016). *Praktische handleiding aanpassingen jaarverslaggeving woningcorporaties*.
- Beekers, W. (2015a). *1852: Vereeniging ten behoeve der Arbeidersklasse*. Retrieved from Canon Volkshuisvesting Nederland: http://www.canonsociaalwerk.eu/nl_vhv/details.php?cps=0&canon_id=472
- Beekers, W. (2015b). *1955: Operatie-Heerma*. Retrieved from Canon: Volkshuisvesting Nederland: http://www.canonsociaalwerk.eu/nl_vhv/details.php?cps=20&canon_id=489
- Boot, A. W. (2014). Realisme rond rol commissarissen nodig. *Maandblad voor Accountancy en Bedrijfseconomie*, 164-165.
- Bosch, A. (2016). *AccountantWeek*. Retrieved from De onafhankelijke externe assessor: verfijning van de agency theory: <https://accountantweek.nl/artikel/de-onafhankelijke-externe-assessor-verfijning-van-de-agency-theory->
- Bruins, R. (2013). *Accountant plukt vruchten van betere vastgoedtaxatie*. Retrieved from Accountant: https://www.accountant.nl/globalassets/accountant.nl/blad/2013-nr.-3/acc_2013_3_accountant_plukt_vruchten.pdf
- CBS. (2016). *Woningen Amsterdam dunder dan voor de crisis*. Retrieved from CBS: <https://www.cbs.nl/nl-nl/nieuws/2016/16/woningen-amsterdam-dunder-dan-voor-de-crisis>
- CBS. (2017). *Bestaande koopwoningen; verkoopprijzen prijsindex 2010 = 100*. Retrieved from CBS StatLine: <http://statline.cbs.nl/Statweb/publication/?DM=SLNL&PA=81884NED&D1=0-2&D2=16,101,186,271,288,305,322,339-342,344-346,348-350,352-354,356-359,361-363,365-367,369-371,373-376,378&VW=T>
- Deloitte. (2016a). *Veranderingen in het verantwoordingslandschap: Herziene Richtlijn 645 voor woningcorporaties*.
- Deloitte. (2016b). *Trendanalyse woningcorporaties: Versteving van het fundament*.
- Deloitte. (2016c). *Handboek Daeb - Niet Daeb: Nieuwe regels nopen tot strategische keuzes. Deel 2*.

- Deloitte. (2016d). *Handboek woningcorporaties 2016: Een handreiking voor de praktijk*.
- Fakton Consultancy. (2016). *Handboek modelmatig waarderen marktwaarde*.
- Inspectie Leefomgeving en Transport. (2017). *Lijst Toegelaten instellingen* .
- Inspectie Leefomgeving en Transport: Autoriteit Woningcorporaties. (2016). *Beoordelingskader scheiding DAEB/niet-DAEB*.
- Inspectie Leefomgeving en Transport: Autoriteit Woningcorporaties. (2017). *Handleiding voor het toepassen van de functionele indeling van de winst-en verliesrekening bij corporaties: verslagjaar 2016*.
- International Valuation Standards Council. (2017). *Glossary*. Retrieved from https://www.ivsc.org/standards/glossary#letter_u
- Jungheim, E.-J., & Suurland, L. (2013). Verslaggeving van toegelaten instellingen volkshuisvesting. *Maandblad voor Accountancy en Bedrijfseconomie*, pp. 595-609.
- Kadaster. (2017a). *Prijsindex Bestaande Koopwoningen (PBK): Totaal per grote gemeente*. Retrieved from Kadaster: <https://www.kadaster.nl/prijsindex-per-regio>
- Kadaster. (2017b). *Prijsindex Bestaande Koopwoningen (PBK): Totaal per provincie*. Retrieved from Kadaster: <https://www.kadaster.nl/prijsindex-per-regio>
- Koninklijke Nederlandse Beroepsorganisatie van Accountants. (2016). *NBA Alert 41 Woningcorporaties*.
- Ministerie van Binnenlandse Zaken en Koninkrijksrelaties. (2015). *woningwet2015.nl*. Retrieved from [woningwet2015.nl](http://www.woningwet2015.nl/): <http://www.woningwet2015.nl/>
- Ministerie van Binnenlandse Zaken en Koninkrijksrelaties. (2017). *Handreiking implementatie full-versie*.
- Ortec Finance. (2013). *Portefeuillesturing bij woningcorporaties* .
- Pflug, M. (2015). *1945: Woningnood: volksvijand nummer 1*. Retrieved from Canon: Volkshuisvesting Nederland: http://www.canonsociaalwerk.eu/nl_vhv/details.php?cps=11&canon_id=487
- Raad voor de Jaarverslaggeving. (2016a). *Richtlijn 645 Toegelaten instellingen volkshuisvesting*.
- Raad voor de Jaarverslaggeving. (2016b). *Richtlijn 213 Vastgoedbeleggingen*.
- Raad voor de Jaarverslaggeving. (2016c). *Richtlijn 360.2 Inhoud van het Kasstroomoverzicht*.
- Stichting DUWO. (2017). *Jaarverslag 2016*.
- Stichting Ymere. (2017). *Jaarstukken 2016*. Retrieved from <https://www.ymere.nl/assets/bestanden-over-ymere/jaarstukken-2016.pdf>
- Tweede Kamer der Staten-Generaal. (2014a). *Parlementaire enquête Woningcorporaties*.
- Tweede Kamer der Staten-Generaal. (2014b). *Parlementaire enquêtecommissie Woningcorporaties - Openbaar verhoor dag 3 - Hubert Möllenkamp*. Retrieved from <https://www.youtube.com/watch?v=1dpjTMXu1Pk>

- Van der Lans, J. (2013). *1901: De Woningwet*. Retrieved from Canon: Volkshuivering Nederland: http://www.canonsociaalwerk.eu/nl_vhv/details.php?cps=2&canon_id=265
- Van der Lans, J. (2015). *2005: Uniek in de wereld*. Retrieved from Canon: Volkshuivering Nederland: http://www.canonsociaalwerk.eu/nl_vhv/details.php?cps=22&canon_id=480
- Van Os, P. (2015). *Sturen op marktwaarde in de corporatiesector; de verkeerde afslag*.
- Vereniging van Toezichhouders in Woningcorporaties. (2016). *Geschiktheids- en betrouwbaarheidstoets*. Retrieved from <https://www.vtw.nl/faq/themas/fit-en-proper-toets>
- Watt, R. L., & Zimmerman, J. L. (1983). Agency Problems, Auditing, and the Theory of the Firm: Some Evidence. *Journal of Law and Economics*, 613-633.
- Wits, J.-W. (2016). *Accountants en aansprakelijkheid*. Retrieved from Accountant: <https://www.accountant.nl/opinie/2016/3/accountants-en-aansprakelijkheid/?search=true>
- Wonen Limburg. (2015). *Jaarverslag 2014 Wonen Limburg Koersvast*. Retrieved from https://www.wonenlimburg.nl/Brochures_en_publicaties/Jaarverslag/Jaarverslag_2014.org
- Woningstichting Eigen Haard. (2017). *Jaarverslag 2016*.
- Woningstichting Rochdale. (2015). *Jaarverslag 2014*. Retrieved from https://www.rochdale.nl/uploads/tx_ddownload/2014_jaarverslag_Rochdale_web.pdf
- Woningstichting Rochdale. (2016). *Jaarverslag 2015*. Retrieved from https://www.rochdale.nl/uploads/tx_ddownload/2015_jaarverslag_Rochdale_web.pdf
- Woningstichting Rochdale. (2017). *Krachtige keuzes om mensen een thuis te geven: Jaarverslag 2016*. Retrieved from https://www.rochdale.nl/fileadmin/user_upload/PDF_bestanden/Jaarverslagen/2016_jaarverslag_Rochdale.pdf
- Woonbron. (2015). *Transitie & Prestatie Woonbron Jaarverslag 2014*.
- WSW. (2015). *Waardering op "marktwaarde in verhuurde staat" en de toepassingsmethode conform de herziene Woningwet*.

Appendix

A. Descriptive Statistics

Table 2: Descriptive statistics of all corporations in the Netherlands

Total Observations	347
Mean (in Rental Units)	6.911,53
Std. Dev. (in Rental Units)	10.411,91
Min (in Rental Units)	22
Max (in Rental Units)	80.554
Total Rental Units	2.398.300

B. Distribution of Total Sector

Table 3: All housing corporations divided into categories, based on rental units

Category (in Rental Units)	Frequency
< 1.500	97
1.500 - 5.000	112
5.000 - 10.000	72
10.000 - 15.000	30
15.000 - 20.000	12
> 20.000	24
Total	347

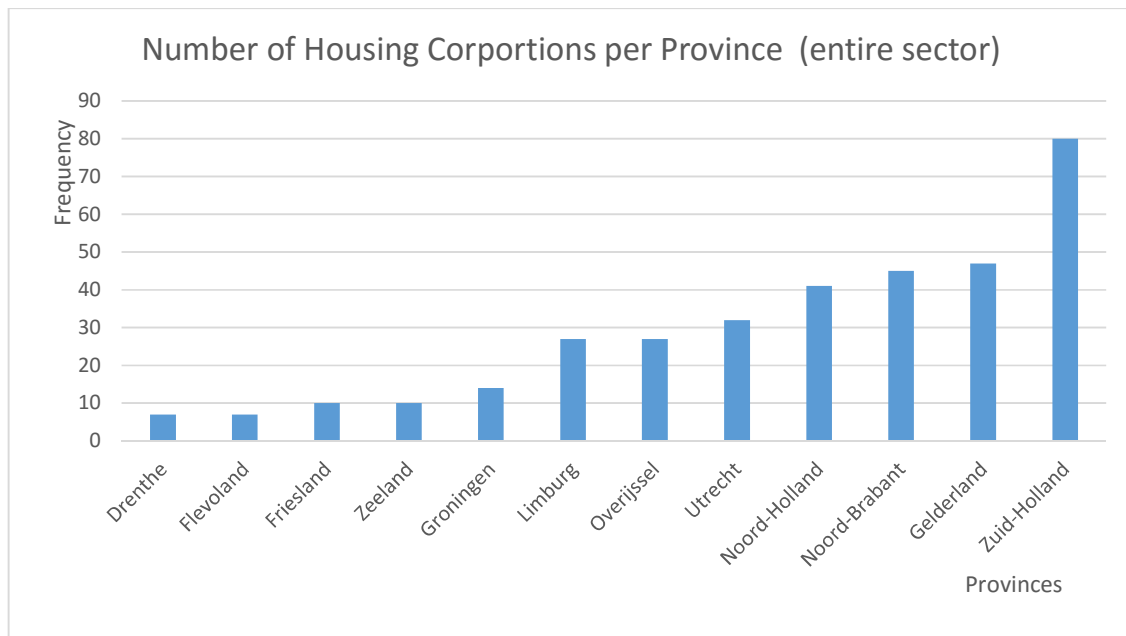


Figure 16: Frequency of corporations by provinces (whole sector)

C. Shrink-and Earthquake Areas

Table 4: List of all shrink-and earthquake areas in the Netherlands (Fakton Consultancy, 2016)

Shrink- and earthquake areas	Region	Municipality
1.	Eemdelta	Appingedam
		Delfzijl
		Eemmond
		Loppersum
2.	Oost-Groningen	Bellingwedde
		Menterwolde
		Oldambt
		Pekela
		Stadskanaal
		Veendam
		Vlagtwedde
3.	Overig Groningen	Hoogezand-Sappermeer
		Slochteren
		Winsum
		Bedum
4.	De Marne	Ten Boer
4.	De Marne	De Marne
5.	Parkstad Limburg	Brunssum
		Heerlen
		Kerkrade
		Nuth
		Landgraaf
		Onderbanken
		Simpelveld
		Voerendaal
6.	Maastricht-Mergelland	Eijsden-Margraten
		Gulpen-Wittem
		Maastricht
		Meerssen
		Vaals
		Valkenburg aan de Geul
7.	Westelijke Mijnstreek	Beek
		Schinnen
		Sittard-Geleen
		Stein
8.	Zeeuws-Vlaanderen	Hulst
		Sluis
		Terneuzen
9.	Achterhoek	Aalten
		Bronckhorst
		Berkelland
		Doetinchem
		Montferland

		Oost Gelre
		Oude IJsselstreek
		Winterswijk
10.	Noord-Friesland	Achtkarspelen
		Dantumadiel
		Dongeradeel
		Ferwerderadiel
		Kollummerland
		Tytsjerksteradiel

D. List of Large Housing Corporations

Table 5: List of the 24 largest housing corporations in the Netherlands

Corporation-Name	Municipality	Province	Rental Units
Woningstichting Rochdale	Amsterdam	Noord-Holland	38.209
Stichting Woonstad Rotterdam	Rotterdam	Zuid-Holland	45.084
Woningstichting Eigen Haard	Amsterdam	Noord-Holland	55.370
Stichting Portaal	Utrecht	Utrecht	52.369
Stadgenoot	Amsterdam	Noord-Holland	31.401
Stichting Havensteder	Rotterdam	Zuid-Holland	44.738
Woningstichting Haag Wonen	's-Gravenhage	Zuid-Holland	22.156
Stichting Elkien	Leeuwarden	Friesland	20.329
Vivare	Arnhem	Gelderland	24.287
Woonbron	Rotterdam	Zuid-Holland	36.378
Stichting Woonbedrijf SWS.Hhvl	Eindhoven	Noord-Brabant	31.196
Stichting Lefier	Hoogezand-Sappemeer	Groningen	30.087
Stichting Woonzorg Nederland	Amsterdam	Noord-Holland	43.103
WoonFriesland	Leeuwarden	Friesland	20.442
Wonen Limburg	Roermond	Limburg	25.798
Staedion	's-Gravenhage	Zuid-Holland	35.507
Stichting Mooiland	Wageningen	Gelderland	26.454
Stichting WonenBreburch	Tilburg	Noord-Brabant	27.561
Stichting de Alliantie	Huizen	Noord-Holland	55.343
Stichting Vestia	Rotterdam	Zuid-Holland	79.374
Stichting DUWO	Delft	Zuid-Holland	22.751
Mitros	Utrecht	Utrecht	30.177
Stichting Ymere	Amsterdam	Noord-Holland	80.554
Woonstichting De Key	Amsterdam	Noord-Holland	32.486

E. Comparison Market Value & Recoverable Value

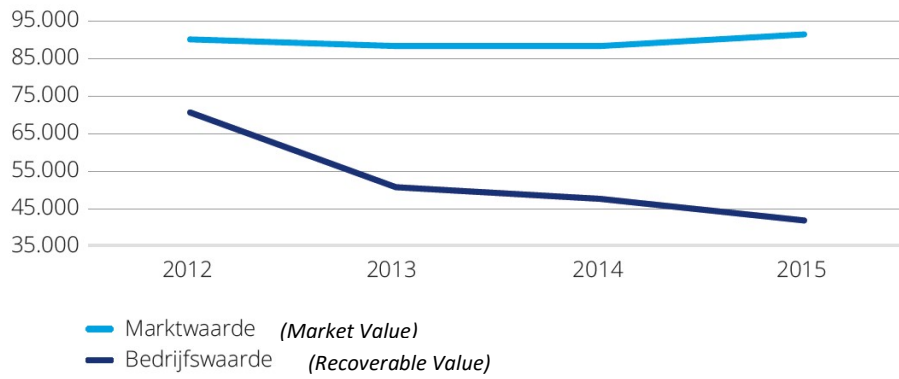


Figure 17: Development of market value and recoverable value over time (Deloitte, 2016b)

F. Financials of Research Sample

Table 6: Financial data of the used research sample

in € x1.000		2012	2013	2014	2015	2016
Stichting DUWO	Equity	56.078	82.491	81.924	86.788	726.024
	Net Profit	3.128	781	-567	4.864	150.574
	Unrealized change in value	-	-	-	-	94.370
Wonen Limburg	Equity	915.911	1.022.599	797.713	1.413.873	1.560.559
	Net Profit	1.313	8.494	-3.397	-42.806	146.379
	Unrealized change in value	-2.204	879	10.373	-63.703	114.923
Woningstichting Rochdale	Equity	2.409.079	2.465.592	2.494.708	2.835.638	3.469.257
	Net Profit	-149.656	56.513	29.116	340.930	633.619
	Unrealized change in value	-166.524	-16.308	-38.613	251.432	563.849
Woonbron	Equity	1.927.285	1.860.863	1.974.939	1.978.026	2.154.038
	Net Profit	-155.168	-66.422	114.076	3.086	141.639
	Unrealized change in value	-93.558	-57.878	96.243	4.777	98.062
Woningstichting Eigen Haard	Equity	327.040	282.716	292.691	214.742	6.631.967
	Net Profit	8.869	-44.324	11.763	-77.949	1.222.469
	Unrealized change in value	-653	-1.756	-1.266	675	1.122.146
Stichting Ymere	Equity	5.570.000	5.447.000	5.858.000	6.205.000	6.998.000
	Net Profit	-230.000	-155.000	176.000	347.000	793.000
	Unrealized change in value	-158.000	-75.000	124.000	233.000	629.000