ERASMUS UNIVERSITY ROTTERDAM

ERASMUS SCHOOL OF ECONOMICS

THE INEQUALITY OF SOCIAL HOUSING

Bachelor Thesis Economics and Business Economics

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Final version: July 26th 2020

Abstract: Analysing the effects of social housing on wealth inequality, The Netherlands offer clear financial benefits to low-income renters. In this way, an opportunity to build up wealth without owning a house is offered, but not often used. It is found that house renters accumulate less wealth than homeowners with the same income. A higher consumption preference of renters and a trend-increasing purchase price with favourable housing market conditions cause divergent wealth accumulating patterns of homeowners and renters.

Imagine: you are a young couple looking to buy your first house. You have just entered the labour market after completing your studies. You have both found your first full-time job, and you are ready to start a more 'serious' life, maybe start a family in a couple of years. You begin looking for a 'starters house'. You go to the bank to discuss your financial possibilities to apply for a mortgage. Unfortunately, neither of you has a long term contract at your place of work, and you do not have wealthy parents who can grant you a loan to lighten your mortgage requirements. Your request for a mortgage may be turned down by the bank because you do not have enough financial security to amortise your loan. Instead of buying a house, you would need to look at a house that is available for rent. Most likely, you would be eligible for social renting e.g., you are not earning enough money to get a mortgage from the bank and, therefore, are not earning above the social renting limit of €39.055 a year (Rijksoverheid, 2020). The consequences of renting a house on your wealth are huge in comparison to buying a house with a mortgage. Having financial stability, a better monthly income, or saved up money would then have been able to get you that mortgage and, therefore, build up your wealth by investing money into a house instead of paying rent.

It is assumed that everybody has a right to adequate housing. This right has been implemented as a human right (UN, 2009). The difference in renting or buying seems like a fundamental aspect of creating wealth inequality, assuming that those who earn a good salary will already have a head start in building up wealth. On the other hand, people, who do not earn enough to attain a mortgage, might have to pay rent to housing corporations, instead of building wealth for themselves.

This difference creates a fundamental base for the widespread wealth distribution in the current (Western) society. This paper explores the currently existing knowledge on the topic of wealth inequality, coming from the differences in buying a house and renting one. In doing so, this paper will summarise the academic knowledge on this topic from the several perspectives that are relevant to answer the research question. The article will focus on the Netherlands since the differences in housing policies between countries will determine the possible influence on creating inequality. The Netherlands has a significant social housing sector. More than 25% live in social renting houses (CBS, 2020). Therefore, the possible effects of social housing on wealth will significantly influence Dutch wealth distribution. Also, the Netherlands is unusual since its social housing market was not mainly focused on low-income housing, contrary to other EU countries (van Kempen & Priemus, 2002). In the last decades, new policies pushed the situation towards a low-income focused social housing sector, which makes the consequences of these policy changes interesting in the light of inequality. Therefore, the research question for this paper will be:

What effect does social housing, instead of owning a house, have on wealth inequality in the Netherlands?

This research will be performed by analysing the existing literature on the topic. This literature study will be designed by answering two subquestions. These are the following:

Are there any differences between homeowners and renters in wealth accumulation?

Why are there differences between homeowners and renters in wealth accumulation?

These questions will aid this article because firstly, the paper will look if these differences can be found in the existing literature. This will be done by summarising the economic theory on wealth accumulation of homeowners and housing renters in the *Theoretical Framework*. By doing this, the paper will analyse how people accumulate wealth, and how this influences the choice of buying or renting a house. By using these economic theories, the paper will analyse the data on the wealth accumulation of homeowners and renters in the Netherlands in the *Empirical Analysis*. By analysing these, the paper tries to find possible differences in wealth accumulation between homeowners and renters. The paper will try to explain the possible differences in wealth accumulation in the *Explanations*. Here, the paper will look to mechanisms or behaviour that influences possible wealth differences between homeowners and renters.

This paper has academic relevance, since the specific contrast between owning a house and renting a house in the Netherlands, and the influence of this contrast on wealth inequality, has not yet been studied. Evidently, several papers have studied inequality in the Netherlands and looked at the housing market. They showed in which way homeowners and renters build wealth, and how this depends on age (CPB, 2018). Piketty showed the importance of capital in growing inequality (2014). This was supplemented by Rognlie, who looked further into the importance of net housing capital income and its significant share in this rise in inequality (2015). However, none of these studies looks explicitly into the difference in wealth accumulation between owning and renting a house in the Netherlands. Thus, these studies will be used to link their findings to answer the research question.

II. Theoretical Framework

In the *Theoretical Framework*, the paper will analyse the economic literature on the subject of wealth accumulation, and the differences between homeowners and renters. First, it will look to the motivations behind wealth accumulation. Then, it is interesting to analyse how people accumulate wealth. After that, the paper will specifically analyse the Dutch housing market and how this contributes to the possible wealth differences between

homeowners and renters. With the knowledge of wealth accumulation, the paper tries to show how this influences the wealth differences between homeowners and renters in the last subquestion.

Why build wealth?

To understand the accumulation of wealth, it is necessary to discuss the Life Cycle-Permanent Income theory (Friedman, 1957). This theory assumes that life has three different stages concerning income: a period of studying, a period of working and a period of retirement. In those periods, the income expires differently; when studying you are assumed to make debt, when working you pay off the debt and build retirement savings, and in retirement, you consume those retirement savings. This means that people will smooth out their income and consumption over their lifetime period. This is the basis of the Permanent Income Hypothesis. This is motivated by the Law of Diminishing Returns since people will experience diminishing marginal utility from each extra 'consumed utility'. Thus, people prefer a more permanent income over their life than fluctuations in their income.

To smoothen income for creating a more permanent and fixed income, it is necessary to save and borrow money. In this way, economic agents can spread their utility over their lifetime. To make a reasonable estimation of how to smoothen their consumption, agents need to allocate their utility over their lives and discount their income. However, discounting income to smooth and allocate utility is a difficult task for consumers, and also for economic models. The main cause is uncertainty; a student can not predict what his income will be in 20 years' time, and so, can only make a rough estimation to discount his income. The Euler equation assumes, that optimising consumers, keep their discounted expected value of the marginal utility of consumption constant, to allocate their utility over their lifetime (Attanasio, 1999). This eliminates the unobservable, marginal utility of wealth, and, its influence on consumption. Nevertheless, this does not say anything about the changes in consumption when there are changes in the economic environment of the agent. Thus, consumers try to make the best estimation they can to discount their income, to allocate utility over their lifetime. However, uncertainty will always be part of the choices of economic agents.

This uncertainty is the other important reason behind accumulating wealth and saving money. Since nobody knows what the future holds, most agents would like to have a reserve amount to cover unforeseen contingencies, the Precautionary motive. This is the first motive that Keynes calls to save money (1936). Mastrogiacomo and Alessie (2014) showed that even 30% of the Dutch savings are motivated to build a reserve for unforeseen contingencies. Other important saving motives that Keynes calls are the Intertemporal Substitution motive (to enjoy interest), the Improvement motive, and the Life-Cycle motive, as called earlier with the Life Cycle-Permanent Income theory. All these motives are

essential when choosing to buy or rent a house since preferences have a significant effect on how agents will save money, and so, define their permanent income over their Life-Cycle.

Adding to the dilemma between buying or renting a house in the Life-Cycle decision model, Silos (2005) modelled how people try to maximise their lifetime utility with the usual Permanent Income decisions of savings and consumption, expanded with maximising the choice of investing in real estate or renting. This choice can differ between lifetime periods since people will develop their capital position at which they decide to buy or rent, during their lifetime. It is shown that younger and poorer people are more concentrated in rental houses. For poorer people, the required capital holdings, and wealth perspectives over their Life-Cycle permanent income are not high enough to purchase a home. For younger people, the large representation of net borrowers explains the deficit of required capital holdings to buy a house. This is also shown by the large Gini coefficient at the age-group of 21-25 years, proving the large wealth inequality in this age-group. In higher age-groups, this Gini coefficient declines. In addition, it can be seen that the fraction of homeowners grew from 19% in younger age-groups to 80% around the age of 50, with a decline to 70% from the age of 70. This decline can be explained by the Life-Cycle motive since retirees will enjoy their interests.

The decision to buy or rent a house, and the timing of switching from one to another, plays a significant role in the Life-Cycle decisions since this is often the biggest investment decision that consumers have to make during their life. Economic agents try to maximise their utility in their lifetime and try to spread this utility according to the Permanent Income Hypothesis. This maximisation of utility over the Life-Cycle is one of the reasons that agents accumulate wealth. In the next sections, the paper will analyse how agents try to build wealth, and how the decision to buy or rent a house plays a part in wealth accumulation.

How to build wealth?

When choosing how to build wealth, there are two main decisions that the economic agent needs to make: the saving decision and the portfolio decision. In this section, the paper will analyse how both decisions influence the choice between buying or renting a house. First, the saving decision will be analysed, to look how the agent decides how to distribute its consumption between the present and the future. After that, the portfolio decision will be analysed, to show how agents choose their investments, and how the decision to invest in housing, or to rent a house, fits in the portfolio decision.

To smoothen income and consumption over a lifetime, as described in the previous section, people have to save or borrow money in certain periods. To maximise this saving decision during the agents lifetime, the time preference of the agent plays a main role.

Agents with a shorter time preference have a higher preference to consume utility on the short term than to postpone consumption to the next period. A higher discount rate of utility shows that an agent cares more about present consumption than future consumption of utility, and so, will save less money for the next period, or will even borrow money. It is shown that wealth causes more patience in time preference; thus, wealth is assumed with a lower discount rate of utility (Becker & Mulligan, 1997). Translating the time preference to the choice between buying and renting a house is vital for several aspects of the choice. When buying a house, it is plausible that the agent needs to take a mortgage loan. This means that he needs to pay off his mortgage for a particular time before the housing asset is completely owned. For renters, it is shown that a social house in the Netherlands gets a discount of around 50% to the market rent (Romijn & Besseling, 2006). At the next sub-question of the *Theoretical Framework* this discount will be explained further, but this finding already shows the possible capital asset that is offered to social renters in income in kind. This means that renters have a larger freely available capital asset to consume or invest in the short term. On the other hand, homeowners build capital trough paying off their mortgage. After the house has been repaid, they have a capital asset in the ownership of their house. This housing asset offers a more fixed and long term capital asset, which can be assumed to be preferred by agents who have a long term time preference. In addition, homeowners are also expected to have more savings for unforeseen circumstances for maintenance for the house (Warnaar & van Gaalen, 2012). For renters, this advised buffer is lower since the costs of maintenance are for the housing corporation. This also is consistent with satisfying a shorter time preference for renters since it is not necessary to have large savings for possible unforeseen circumstances regarding the housing maintenance. In this way, the saving decision between homeowners and renters seems to differ in the freedom to split the income in different capital assets. This choice appears strongly related to the time preference of the consumer. While renters have the possibility to use their capital on a shorter-term, homeowners are more stuck to invest in the long run. The finding of Becker and Mulligan (1997), showing that wealth causes more patience in time preference, seems to conduct with the fact that poorer people are more represented in rental houses (Silos, 2005). Homeowners will save more money, and so, will postpone a larger part of their consumption, while renters have to save less money and are freer to consume or invest their income on a shorter term.

However, the choice to buy or rent a house is also very dependent on the risk that agents want to take. Taking a (mortgage) loan means that you need to pay off the loan in the future. If something negatively changes in the agent's economic situation (like losing your job), this could mean that he is not able to pay off his mortgage anymore, and so, owes the bank a significant debt since housing is a substantial investment. If you do not own much money or do not earn much, the risk of getting a mortgage loan, and the

possibility to lose a large part of your wealth, seems more frightening than for agents who have more substantial wealth. Guiso and Paiella also proved that agents who have less financial resources and less financial certainty have a higher degree of risk aversion (2007). How this degree of risk aversion is considered in the choice between buying or renting a house can be shown by looking at the portfolio decision. The real estate asset constitutes the largest investment of the portfolio for more than half of U.S. households (Campbell & Cocco, 2003). For these households, it is shown that higher mortgages take higher-risk mortgage loans (considered as wealth risk contracts), and lower mortgages take lower-risk mortgage loans (considered as income risk contracts). This assumes that a lower wealth also is consistent with a higher risk aversion in the portfolio selection of real estate assets. Considering that the least wealthy 25% of U.S. households do not have real estate assets (Campbell & Cocco, 2003), assumes that renting a house is considered as the most risk-averse and payable option. This is not surprising as renters do not have to guarantee a debt with their wealth and only need to pay the rents every month. If they do not pay their rents, they only risk their housing spot, and not their private wealth.

Nevertheless, Sinai and Souleles point to the rent risk that renters have (2005). While homeowners enjoy a fixed mortgage contract that offers a hedge against fluctuations in housing costs, renters are dependent on the rents that are asked by the housing market. However, the Dutch social housing market manages a maximum social rent of €737,14 a month, instead of a free market rent as considered by Sinai and Souleles (Rijksoverheid, 2020). Despite the governmental power on this liberation limit of social housing rents, this limit covered an average growth of 1,3% a year over the last 15 years. Thus, the rent risk is not that much in the Netherlands as is described in the free market situation, but is still an important consideration when choosing between buying or renting a house. When looking at the rent risk for renters, it is also important to consider the price risk for homeowners. The rent risk assumes that houses' prices are growing over time, which is not always the case. For example, during the economic crisis, 23% of the U.S. mortgages went 'underwater', which means that the contracted mortgage-price was higher than the house value (Simon & Hagerty, 2009). If the earlier described negative changes in the economic situation happen in this situation, not rare during an economic crisis, and you must sell your house, you are left with a huge debt. These risks of price fluctuations are significant in the portfolio choice of an agent since comparing these risks with the expected interest on the asset determines if the asset investment is worth it.

The importance of both the saving decision and the portfolio decision in the choice to buy or rent a house is described. The preferences regarding these decisions reflect the preferences regarding wealth accumulation and affect the housing choice. For agents who have a shorter time preference, and for agents who have more risk aversion, renting seems the more attractive option. However, decisions regarding housing are not fixed and will

change during the Life-Cycle. The financial position of agents and the family situation (getting a wife and children) and the housing pricing situation play a major role in the choice between buying or renting a house. When price levels of owner-occupation and interest rates are moderate, more people decide to buy a house (with a positive income perspective) than when the prices and mortgage-interest are higher, and more people move into rental houses (Dieleman & Everaers, 1994). In general, expected real Life-Cycle patterns could be seen in the portfolio investments that households make. As shown by Silos, homeownership rates will grow steadily until the age of 50, where it will find a steady rate of 80% (2005). After the age of 70, the homeownership rates will make a small decline to 70%. This hump-shaped Life Cycle expectation also holds for other asset portfolios (Fagereng & Gottlieb, 2015). They show the same pattern, as it shows how the participation in the stock market rises at a young age, and peaks with a participation of 60% at the age of 45. After that, households will rebalance their stock portfolios before reaching retirement, and exit the stock market after retirement. Thus, the portfolio decisions of agents are also in accordance with the Life-Cycle Permanent Income theory.

Thus-fare, the paper described why agents build wealth and how they build this wealth with the ownership or rental of a house. In the next two sub-questions of the *Theoretical Framework*, the paper will look to the differences between homeowners and renters that are created by the Dutch housing market, and which differences in wealth are already known in the literature.

How do homeowners and renters differ on the Dutch housing market?

To analyse the difference between homeowners and renters on the Dutch housing market, the governmental rules and housing market dynamics will be summarised.

Looking at the renting market for houses, a split between social housing and free sector housing can be seen. The social housing sector is, for the most part, provided by the housing corporations. Social housing prices are lower than €737,14 a month (Rijksoverheid, 2020). If the rent is above that, it is considered free sector housing, where the price is determined by the free market, and there are not as many rules as with social renting. With social renting, more rules exist in order to offer affordable and good quality housing to the lowest income classes. The most important rule is that 80% of housing corporations houses' need to be rented to households who earn a maximum of €39.055 a year. In extending the focus on fair housing for the lower-income classes, the other important component is the rent subsidy. For people who earn a maximum of €22.700 when living alone, or €30.825 together, variable compensation is granted to alleviate the charges for the lowest incomes (Belastingdienst, 2020).

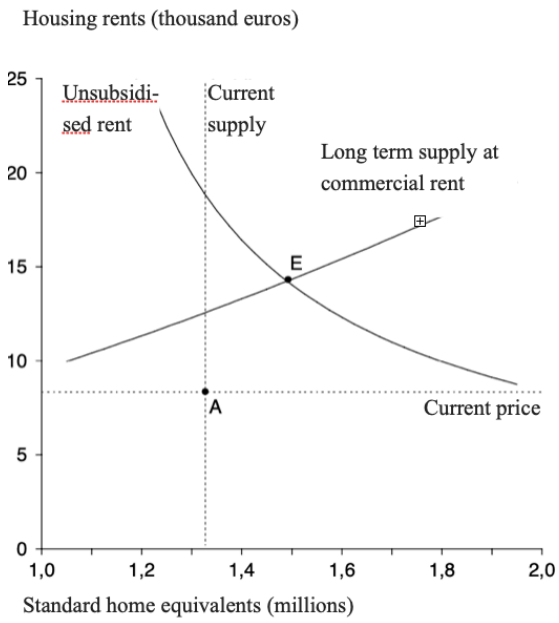

Figure 1: Social rental market situation (Romijn & Besseling, 2006)

As mentioned earlier, it is shown that social housing rents are discounted by around 50% per cent compared to a free market situation (Romijn & Besseling, 2006). This depends on the situation in which people rent, but it is shown that people with rent subsidy receive a discount of 56%. This is due to three different parts. First, the reasonable rent is accountable for 27% of the reduction in comparison to the market rent. This means that after the rent is set for a given moment, it can only be increased by the annual rent-rise. Also, housing corporations are responsible for 13% of the reduction, due to the social rent rules that commit housing corporations to offer quality housing for the social rent price. Also, the rent subsidy gives a 15% additional discount to those who are eligible for social renting. This means that someone with rent subsidy pays €3.358 a year instead of a market rent €8.410. They proved this significant discount on the social rent by creating a model shown in Figure 1. Also, it is shown that a lot of social renting houses are qualitatively better than the real market price would offer, according to the governmental WWS-system (Lejour & Möhlmann, 2017). The WWS-system qualifies houses on the quality, space and state. Regulated social renting homes are obligated to determine the rent on this WWS score. The research compared the WWS scores with the real market value rents. They concluded that the liberation limit of €710,68 (at the time the maximum social rent) undervalued the best social renting houses available according to the WWS score.

Looking at the Netherlands' housing sales-market, it is important to know how the mortgage market works to understand how to qualify for homeownership. If you want to buy a house, you likely cannot buy a house with some cash or with your bank balance. Especially in the first stage of your 'housing-career', you seem to be designated for a mortgage loan. Some legally required standards need to be satisfied to qualify for a mortgage loan (Vereniging Eigen Huis, 2020). Four main factors are essential for the borrower: their income, their outstanding loans, the market value of the house they want to buy, and the interest of the loan. Regarding the income, the person's total income that

wants to get the mortgage is the main factor of importance. Also, the term of their employment contract is essential; if you have a permanent contract, only the total income is relevant. If you have a temporary contract or if you are self-employed, more factors come into play. There are different rules set per mortgage lender, but mostly they look to your income over the last three years, your job security trough a letter of intent, and by using a labour market scan they analyse the economic circumstances for your specific situation. Because of this, permanent workers have a significantly higher chance to receive a mortgage. Additionally, the outstanding loans of a person need to be subtracted from their income to determine their financial security. Besides the personal financial situation, the house and its market value are also vital for the completion of the mortgage loan. In 2020 you are allowed to borrow a maximum of 100% of the market value of the house, which is determined by the mortgage lender (Vereniging Eigen Huis, 2020). This means you cannot borrow more money for possible renovation or the capital gain if you buy the house above the market value.

After setting the mortgage price, the way of repayment needs to be set. Now, there are several ways to pay the interest and redeem the mortgage. By determining the duration of the loan, the fixed-rate period and the mortgage type, the interest rate will be set. This interest currently varies between 0,79% and 2,42%, following the National Mortgage Guarantee (Hypotheekrente, 2020). This interest rate is at an all-time low, after already declining for decades (Hypotheekshop, 2019). This has affected the housing market significantly since in 2019, 59% of the houses is an owner-occupied house (CBS, 2020). Van Kempen and Priemus showed that this was not the case in the decades before now, growing from an owner-occupation of 28% in 1947 to 35% in 1970 to 45% in 1990 and reaching 59% nowadays (2002). It shows that the interest rate left its mark on the housing-occupation, as is also the case by the mortgage interest deduction. This tax law ensures that homeowners can deduct the interest that they pay per year on their mortgage. This is calculated over the tax bracket in which they fit due to their income (Vereniging Eigen Huis, 2020). People who received more income were in a higher tax bracket and received more fiscal advantages by having a mortgage. This does mean that homeowners with an income of above the liberation limit for social housing, received almost the same subsidy from the government as housing renters, while they even received more subsidy when earning more than €50.000 (Groot, Möhlmann & Lejour, 2016). They showed that, in percentage taken from the WOZ-worth of their home, homeowners collected 1,5% subsidisation compared to 1,7% for renters when looking at the incomes from €34.912-50.000. When earning more than €50.000, renters got 1,6% compared to 1,7% for homeowners. In the coming years, the government is bringing down these tax advantages for the higher-income groups from 52% to 37,1%, to counteract this tax advantages for homeowners (Vereniging Eigen Huis, 2020). Overall, it is found that the mortgage interest deduction stimulates the increase in

housing capital (Poterba, 1983), and also plays a major role in the growth of owner-occupied housing over the years.

Both the buy and social rent housing market in the Netherlands have their advantages. If the agent is eligible for social housing, and maybe even for rent subsidy, social renting offers a large discount on the market rental price. This offers, as mentioned earlier, a free capital asset in income in kind, but also offers qualitatively good consumption of housing since the WWS-quality is often even better than the governmental social renting rules demand. For agents that consider buying a house, the low interest rate of the last decades is favourable. Especially for agents who earned more than €50.000, the tax advantages of the last decades were very advantageous. These advantages will reduce due to the recent tax breakdown. Considering only the Dutch housing market as a motive to choose between buying or renting a house, the income of agents seems to determine the most beneficial choice. This is because of the low-income benefits of social housing and the high-income benefits of the mortgage market. To see how the choice between buying or renting a house reflects on the wealth of agents, the paper will focus on the knowledge on differences in wealth between homeowners and renters in the next sub-question.

Which differences in wealth, between homeowners and renters, are found by the literature?

Until now, the *Theoretical Framework* has described which factors come into play when choosing between buying and renting a house. In this last sub-question of the *Theoretical Framework*, the paper will focus on the consequences of this choice on the wealth of agents.

In the last years, the distribution of wealth became a broader subject of debate in society. The main reason for this debate was the findings of Piketty. He showed how the gain of wealth accumulation grows faster than the average growth of national income, which means that capital assets yield more than the economy does in general (Piketty & Zucman, 2014). This leads to growing wealth inequality, as people with wealth gain more significant economic growth than people without. Rognlie extended this by showing the contribution of housing capital in this growing accumulation of wealth (2015). He argues against the accumulation view of Piketty, who stated that several forces drive up the aggregate savings relative to income, which causes the rise in the capital income share. Rognlie shows that the percentage of housing capital ensures the largest rise of the capital share in aggregate income. He shows that the proportion of net income from housing capital in the aggregate net share of capital rose from 3% to 9% from 1948-2010. These findings are interesting since they show the importance of owning a housing asset for growing your capital. They show how the growing incomes from housing capital mainly

cause the increasing inequality of wealth. This seems to assume that owning a house is a kind of money machine, but this is not true either. On the short run, fluctuations in housing prices exist, which can still cause wealth loss when going 'underwater', as described earlier. However, in the long run, housing turns out to have a positive influence on your wealth (Di, Belsky & Liu, 2006).

Looking at the wealth of renters, Kindermann and Kohls offer exciting findings regarding the wealth accumulation in rental markets (2016). Comparing European rental markets, they show that the majority of renters have little wealth. It follows that countries with lower homeownership rates also have more low-wealth households. It is interesting to see that in these countries with lower homeownership rates, more wealth inequality is exhibited. The model explains this by the rental market institutions that countries have. When a country has more barriers to the rental market, renting becomes more expensive. Thus, households will save more money at a young age to buy a house. In this way, the homeownership rates will grow with worse rental market institutions, and so, wealth inequality will decline. The paper shows that these higher savings with worse rental market institutions significantly affect the consumption streams in a country. For example, they modelled that German consumption will decline by 8% if they had the Spanish rental market institutions. Germany has a lower homeownership rate and higher wealth inequality than Spain. The model showed that the Netherlands has a nearly similar rental market as Germany, looking at the homeownership to wealth inequality rate.

This higher consumption of renters was earlier assumed with a higher short time preference. Boonen also argued that it could be that agents adjust their consuming behaviour to their remaining income after paying their rent and fixed charges (2015). This would mean that renters are assumed to consume the offered capital asset in income in kind that they receive from the social housing discount. For homeowners, the higher costs of housing and the savings for unforeseen circumstances, leave a lower remaining income after paying the fixed charges.

The findings above acknowledge the growing wealth inequality and the influence of homeownership, and the relation with housing rental. This growing inequality seems to be strengthened by the dynamics of housing affordability. Haffner and Boumeester showed that growth in housing prices from 2002-2006 was accompanied by an increasing income gap between homeowners and renters (2010). Although this could be a temporary conclusion, which also could be influenced by other factors than the growing housing prices, the findings suggest that a structural or longer-term widening of the income gap could take place. Besides that, the Dutch housing market is characterised by a trend-increasing purchase price (Deelen et al., 2020). Thus, the Dutch housing market is marked as 'severely unaffordable' according to the housing affordability measurements of Cox and

Pavletich (2007). This measurement looks at the affordability of housing by comparing the median housing price to the median gross income. It shows that the Netherlands is an expensive housing country, compared to other countries, in which Amsterdam is termed as one of the most expensive city regions (Romijn & Besseling, 2006). If the income gap indeed grows with the affordability of housing, the accessibility of homeownership would become more exclusive for wealthier people.

With the knowledge on wealth inequality, and the role of homeownership, rental markets, and housing affordability, the paper will analyse wealth data from the Netherlands in the *Empirical Analysis* to see if the found theories can be recognised in the data.

III. Empirical Analysis

In the *Empirical Analysis*, the paper looks into the data on Dutch wealth accumulation and distribution. The paper tries to find possible differences in wealth accumulation between housing renters and owners. The CPB study will be used to answer the first sub-question to see if there are any differences in wealth accumulation between homeowners and renters.

Accumulating wealth can be done by several capital assets. Boonen (2015) separated them as follows: savings, mortgage pay-off, the capital gain on a property, investments, interest on savings, capital gain from own company, inheritance, retirement and severance payments. Here, the first separation between homeowners and renters can be seen. While homeowners can accumulate wealth by mortgage pay-offs and capital gain on a property, housing renters cannot. In the CPB study that this section will analyse, capital assets are divided into categories: financial assets, properties, inheritance and other assets (2018). Of course, debts will also be used to analyse the wealth distribution. Debts will be divided into the categories: mortgages and other debts. The categories other assets, and other debts, are determined by using the tax returns data.

Generally, it is expected that homeowners have more wealth since they are wealthy enough to qualify for a mortgage or even buy a house with their own money. This already presents a head start in wealth differences that need to be eliminated to provide a good analysis. To resolve the differences in wealth, before choosing between buying or renting a house, the paper will use the methods and data of the CPB research that looked into wealth distribution in the Netherlands (2018). This research used the income and wealth data of Dutch households in 2014 and separated homes on age and wealth in percentiles. This offers a good average of the Dutch population and their income and wealth distribution. By separating the groups on age and dividing them into groups of 10 years, like 50-59 years old, the paper expects to give the best possible overview of the average ‘living career’.

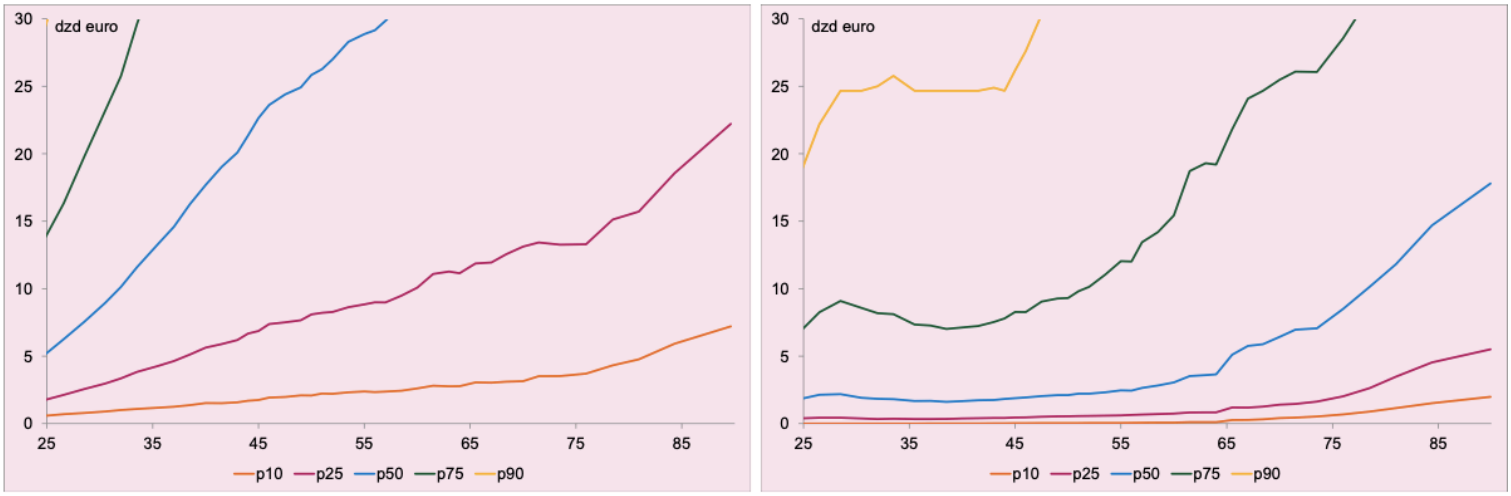

Figure 2: financial wealth by age for homeowners (left) and renters (right), by income percentiles (CPB, 2018)

By only taking data from the Dutch population in 2014, it is vital to be aware of two possible biases of the sample. First, the sample is sensitive to cohort effects. These effects represent the differences between generations since there is, for example, a large difference in wealth accumulation for 60-year-olds and 20-year-olds. Of course, there is a difference in the years that agents lived and the possible wealth they could have built. However, there are also generational differences between the current 60-year-olds and the 60 year-olds in 2030. Generations differ in the economic circumstances that they experience during their lifetime, and these generational differences affect the wealth accumulation of these different generations. It is shown how these cohort effects can be explained by productivity growth and changes in Social Security (Kapteyn, College & Lusardi, 2005). Hence, agents born between 1960 and 1990 will benefit the most from the economic circumstances over their full life cycle in the Netherlands (Ter Rele & Labanca, 2012). In this way, it is known that these cohort effects influence the current distribution of wealth. It is important to keep this in mind when interpreting the results of the paper since the future wealth distribution over age-groups can be very different due to these cohort effects. Secondly, it important to recognise that this sample of the income in 2014, could mean that people earned more money or less money in previous years, and therefore are wealthier or less wealthy than their income shows. This leads to a small selection bias that needs to be noted, but this should not provide significantly different results for the wealth distribution.

However, looking at the current distribution of wealth, and comparing homeowners and renters can give more insight into the research question. Figure 2 already shows the difference in wealth between homeowners and renters. These graphs show the accumulation of wealth over a lifetime. The different lines represent the 10th, 25th, 50th, 75th and 90th income percentiles. Homeowners in the 90th percentile of income are already above a wealth of €30.000 at the age of 25, while the 75th percentile follows before the age of 35, and the 50th percentile around the age of 55. On the other hand, renters in the 90th percentile reach a wealth above €30.000 around the age of 50, and renters in the 75th percentile after the age of 75. The 50th percentile does not even reach the wealth of €30.000 during their lifetime.

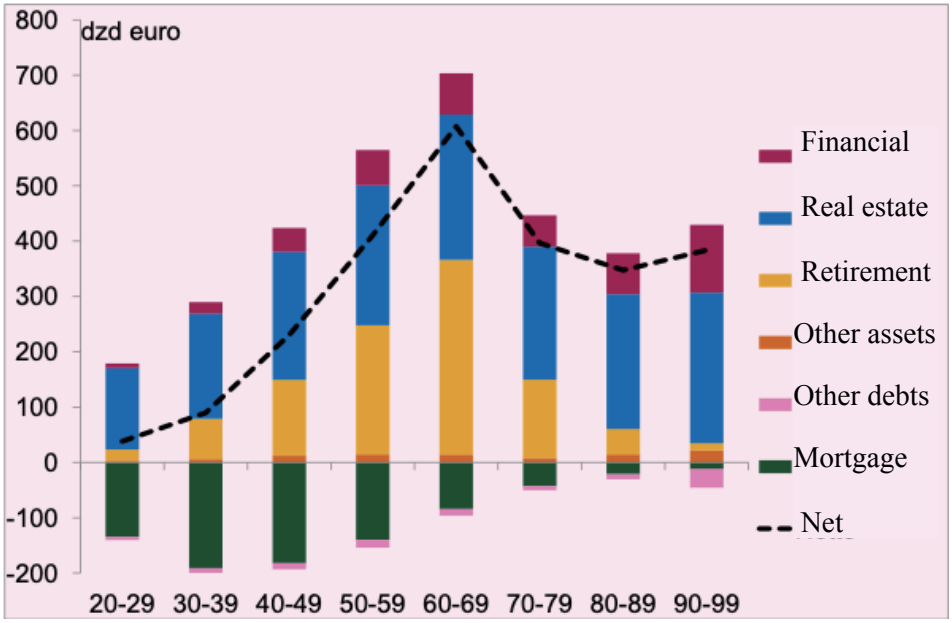

Figure 3: Household balances of people who own a house (CPB, 2018)

These results are interesting as they show that homeowners and renters have a very different path of wealth accumulation, despite having the same income. The wealth accumulation of renters is much lower than the wealth accumulation of homeowners. Of course, homeowners will accumulate wealth much easier since they own a house and probably pay off mortgages, which contributes to their wealth. Also, homeowners will need a larger buffer to maintain their house. However, renters do not build wealth through ownership since they must pay rent to housing corporations or landlords. Although the Nibud advises renters to have an average buffer of €5000 for unforeseen eventualities, it can be seen that a lot of renters do not have that buffer (Warnaar & van Gaalen, 2012). Still, the renters represented in the graphs are in the same income groups as the homeowners. While earning the same income, they are not able to accumulate wealth on an equivalent pattern, even though the lower incomes are offered a significant discount on housing consumption trough the social housing rent (Romijn & Besseling, 2006).

By dividing the wealth data into the different assets that people own in Figure 3 and 4, it can be seen that homeowners are wealthier than renters. This is not a surprise since these figures are not divided by income percentiles. So, it is not strange that people who can buy a house have more wealth since they generally have a higher income and invest the costs of housing consumption in their real estate asset. The development over the lifetime seems to be in accordance with the Life Cycle-Permanent Income theory (Friedman, 1957). It can be seen, especially with renters, how people build wealth from their 30s to their 60s and bring this down after retirement. Of course, this is mainly due to consuming the retirement capital. Still, the net wealth distribution over a lifetime shows the expected hump-shaped Life Cycle distribution.

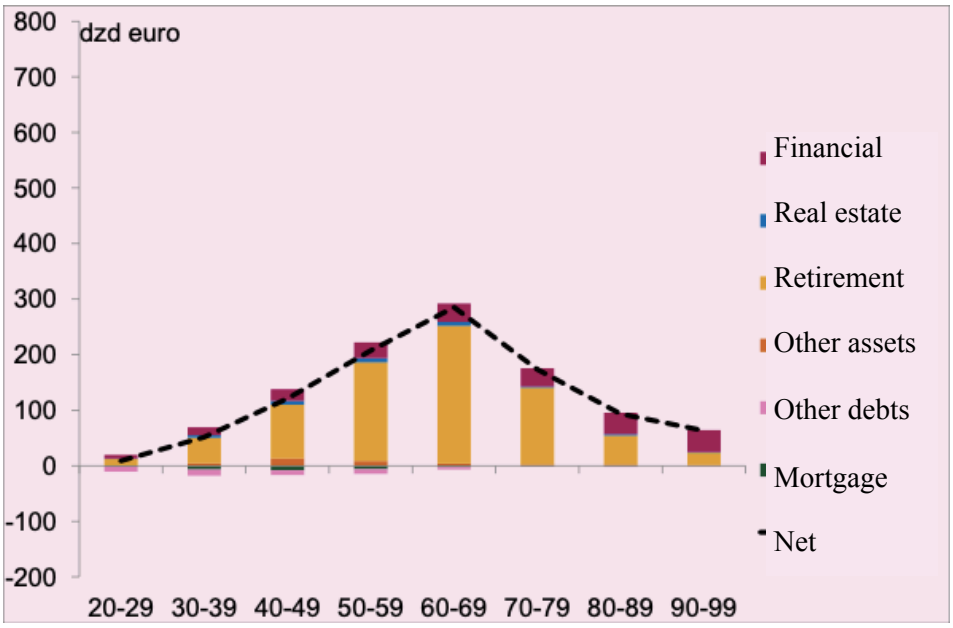

Figure 4: Household balances of people who not own a house (CPB, 2018)

Specifically, Figure 2 shows that there is a difference in wealth accumulation between the two groups. The findings are based on a sample of 3 million households in the Netherlands, between 2005 and 2014, using the data of the CBS. Using the sample of 2014 and being aware of the cohort effects, makes it trustworthy research from where the conclusion can be drawn that, there are differences between homeowners and renters in wealth accumulation.

Combining these findings with the findings of Romijn and Besseling makes the low wealth accumulation of renters even more interesting. As mentioned earlier, they showed that the social housing rents in the Netherlands are discounted by around 50% per cent compared to a free market situation (2006). The data confirm the findings of Kindermann and Kohls, who showed that renters have little wealth (2016). They found that countries with better rental market institutions have a lower homeownership rate, and so, have a larger wealth inequality. We acknowledge the favourable rental institutions in the Netherlands, and the results of the model of Kindermann and Kohls, who show that the Dutch rental market is correlated with higher wealth inequality. Looking at the data of Figure 2, these findings also seem to be confirmed by the wealth inequality between equal earners who own a house and who rent. To understand this wealth inequality, and the lower wealth accumulation of renters, the paper will try to declare these dynamics in the next section.

IV. Explanations

In this section, the paper attempts to explain the differences that are found in the *Empirical Analysis*, and why these differences exist. This will be done by looking at the consequences of renting a house and buying a house. First, the housing market rules regarding renting, and preferences of renters will be analysed, to see if this causes any

differences in wealth accumulation. After that, the wealth accumulation that is caused by homeownership will be analysed.

The Dutch rental market

In the *Empirical Analysis,* the CPB data showed that renters differ from homeowners in their wealth accumulation, despite having the same income. Acknowledging the possible selection bias of the data, the differences are still significant enough to conclude that there exists wealth inequality between homeowners and renters. This is consistent with the findings of Rognlie, who showed the role of income from housing capital in the growing wealth inequality that is coming from wealth accumulation (2015). Kindermann and Kohls also showed the role of rental institutions with low barriers to wealth inequality, proving that good rental institutions lead to more housing rental, and less homeownership (2016). A lower homeownership rate is proved to be correlated with higher wealth inequality.

Looking at the Dutch rental institutions, it can be seen that the Dutch social rental market offers many benefits. On average, social renters get a discount of 50% with their social rent on the market rent (Romijn & Besseling, 2006). Also, the quality of the housing consumption is very high, according to the WWS-system, which measures the quality of houses (Lejour & Möhlmann, 2017). In this way, renters get offered quality housing for half the price of the market rent. This discount offers renters a freely assessable capital asset in income in kind. Looking at Figure 4, this asset cannot be recognised in the wealth accumulation of renters. It can be seen that renters only build significant wealth through retirement savings while other savings do not make a significant growth during the lifetime. This would be consistent with larger consumption of renters, assuming that renters, in general, use the offered capital asset in income in kind for a higher consumption pattern (compared to a homeowner with the same income). This is shown in the model of Kindermann and Kohls, which models that countries with more renters would have a lower consumption stream if they had worse rental institutions and a higher homeownership rate (2016). This can be explained by the larger part of income that, especially young, homeowners save to finance the purchase of a house. The higher consumption can also be explained by the consumption of the remaining income (Boonen, 2015). It is assumed that agents consume a large part of the remaining income, after paying the rents/mortgage pay-off and the fixed costs. For renters, this remainder is lower since they have a discount on rent, and need smaller savings than homeowners due to the precautionary saving motive, which is higher for homeowners who are responsible for the maintenance of their house (Warnaar & van Gaalen, 2012). Thus, a difference in consumption seems to be one of the reasons behind the differing wealth accumulation between renters and homeowners.

The preferences of an agent can also explain this difference in consumption. Since agents try to maximise utility, they will follow the Permanent Income hypothesis (Friedman, 1957). This states that agents experience diminishing marginal utility. Hence, they try to spread their income over the Life-Cycle. Thus, when accumulating wealth, agents need to decide how much they want to consume in the current period, and how much they want to consume in future periods. While some agents prefer more savings, some agents prefer more consumption in the current period. This depends on the time preferences of agents. It is shown that wealth causes more patience (Becker & Mulligan, 1997). Looking at the wealth distribution for homeowners and renters in Figure 3 and 4, this assumes that renters have a higher current time preference than homeowners, who have more wealth. This is consistent with the higher consumption of renters that was found earlier. Besides the time preference, the preference regarding risk aversion is also important for the choice between homeownership and housing rental. The purchase of a house not only involves the decision to consume housing but also is an investment choice. Mostly it is the largest investment decision of an agents portfolio (Campbell & Cocco, 2003). If an agent owns a house by getting a mortgage loan, he could get a profit on the housing capital asset, but he can also get a loss, and get 'underwater'. This could have major consequences on the wealth, and lives, of agents. It is shown that people who are less wealthy have a higher risk aversion (Guiso & Paiella, 2007). While the risks of getting a mortgage are high, the risks of renting for an agents wealth are much lower. Thus, it is important to recognise that the choice to rent a house could be driven by agents preferences on consumption and risk and is not only dependant on the income of agents.

Wealth accumulation by homeownership

By showing the higher consumption of renters, one part of the wealth inequality between homeowners and renters is explained. By looking at the wealth accumulation of homeowners, another reason for the wealth inequality can be given.

Homeownership has risen sharply in the Netherlands in recent decades. This is mainly caused by the low-interest rate on the mortgage loans, which is at an all-time low, and the mortgage interest deduction. The mortgage interest deduction stimulates the increase in housing capital (Poterba, 1983). This tax reduction will be built down in the coming years but has played a major role in the growth of owner-occupied housing over the years. These advantages of the low costs of mortgage loans offered homeowners a good opportunity to profit on the rise in housing prices over the years. In Figure 5 the real housing prices index shows how the housing prices are above the price level for the most part of the time, except during the dip following the Economic crisis. Considering that the housing asset will be owned for a longer time period, agents will profit from this trend-increasing purchase price (Deelen et al., 2020). This seems to be consistent with the findings of Di,

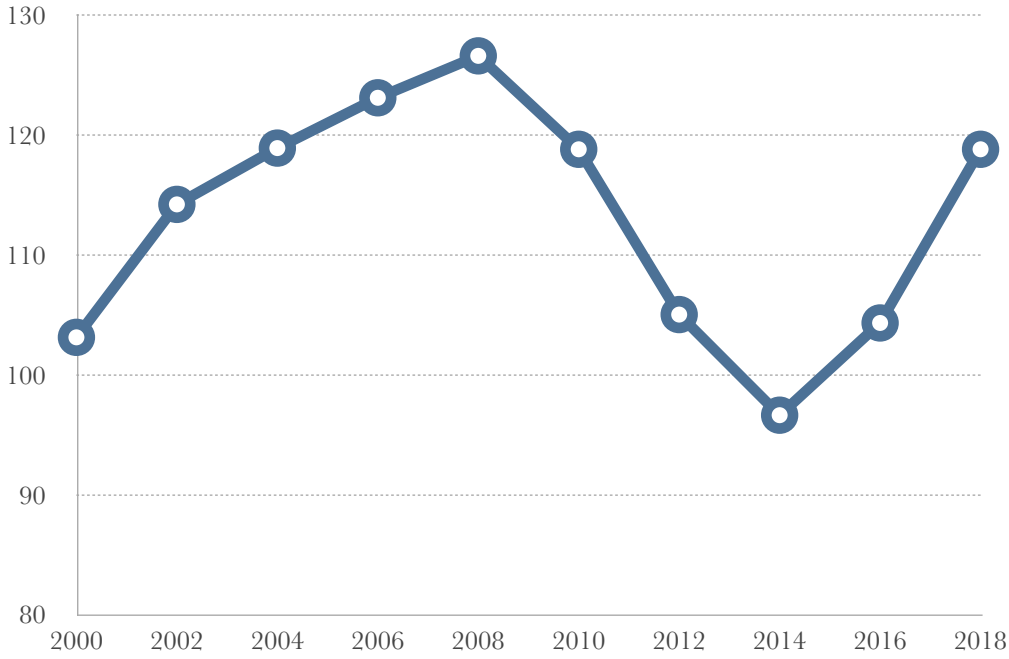

Figure 5: Real housing prices index, 2015 = 100 (OECD, 2020)

Belsky and Liu that on the long run, housing turns out to have a positive influence on your wealth (2006). This is also confirmed by the findings of Rognlie, who showed the rise of income from housing capital (2015). This does not mean that houses are always a good investment, as described with the possibility of going ‘underwater', but overall has positive effects on agents wealth.

The difference in wealth between renters and owners that can be seen in Figures 3 & 4 seems to be caused by the different incomes that both groups in general have. It is shown earlier how renters are in general lower-income groups, while homeowners are in higher-income groups. This difference in income naturally results in different wealth. By looking at Figure 2, it can be seen that income is not the only explanation for the difference in wealth. This graph shows that homeowners are able to generate more wealth despite having the same income as renters. Besides the earlier called high consumption of renters, this wealth inequality can be explained by the high profits on the housing capital asset as showed above. Buying a house (on the right moment) mostly has a positive influence on wealth on the long-run since a trend-increasing purchase price characterises the Dutch housing market, and the low costs of mortgage loans (Deelen et al., 2020). While homeowners invest their monthly mortgage pay-offs in their housing capital asset, renters pay rents which do not return in a capital asset. In addition, renters also have the rent risks and see their rents grow over the years. Concluding, the literature and data of the CPB together show that the wealth inequality that is found between homeowners and renters is mainly caused by the positive influence of homeownership on wealth, and the higher consumption of renters.

V. Concluding remarks

Looking into the question '*What effect does social housing, instead of owning a house, have on wealth inequality in the Netherlands?*', this paper analysed the known literature on this subject. The paper found that there are clear differences in the wealth accumulation between homeowners and renters. There are two main reasons for these differences: the positive influence of homeownership on wealth, and the higher consumption of renters. The positive influence of homeownership on wealth is caused by a trend-increasing purchase price on the Dutch housing market. Homeowners can get mortgage loans against low-interest rates and a favourable mortgage interest deduction. This shows that investing in housing capital is, in general, a good investment on the long-run, in accordance with the findings of Rognlie that housing capital ensures the largest rise in the growing share of capital in income (2015). The different wealth accumulation of renters is also caused by a different consumption pattern. Renters are offered a discount of 50% on social rent, compared to the market rent (Romijn & Besseling, 2006). This offered capital asset in income in kind is largely used to improve the consumption instead of building wealth, as shown by the relation between homeownership and consumption in the model of Kindermann and Kohls (2016). The social housing market in the Netherlands does not contribute to wealth inequality itself. The Dutch system is rich in policies that stimulate wealth accumulation for less wealthy people who can live in the social rented houses. Nevertheless, the difference in wealth accumulation between equal earners who own a house, and who rent a house, is present and contributes to the wealth inequality between homeowners and renters.

This paper has its limitations since it has studied several articles, which sometimes had different research methods to find their data. Also, the paper ignored the presence of market renting. Nonetheless, the goal was to give an overview of existing knowledge regarding the subject of wealth accumulation for homeowners and social renters. The paper showed what dynamics cause the difference in wealth accumulation between social renting and owning a house in The Netherlands. Hopefully, this will give reasons for further improvements in the housing system of The Netherlands, where people have equal chances to build wealth and make their own choices regarding owning or renting.

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