First-time buyers on the Dutch housing market – the starters dilemma

Tackling the starters dilemma – Developers perspective
What are the desired housing preferences of first-time buyers and what trade-offs do they make during the decision-making process to buy an owner-occupied dwelling.

MSc thesis – P5 report

Management in the Built Environment

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Colophon

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Preface

I am proud to present my graduation thesis on the housing preferences of first-time buyers in the Randstad region. This research serves to support the past year of completing my master's degree in Management in the Built Environment at the Technical University of Delft. I had the privilege of working on this research in combination with a graduation internship at Bouwfonds Property Developments, known as BPD, the largest developer in the Netherlands. My internship took place at the research division of the central headquarters in Amsterdam.

While writing this research, I had the opportunity to discover the dynamics and fluctuating housing market in both the Netherlands and specifically for the Randstad region, and to see what impact different influences had on the position of first-time buyers. My experience at BPD has given me further insight into the working process prior to the development of dwellings or neighbourhoods and how this process is initiated.

I would like to express my appreciation to my graduation supervisors at the Technical University of Delft, Harry Boumeester and Joris Hoekstra, for their guidance, feedback, thinking with me and encouraging me to get the best out of myself. I would also like to express my gratefulness to Anke Wolters, my graduation supervisor from BPD, for the brainstorming sessions, stimulating my learning process, giving advice, the overall support for my research and also for the pleasant moments. Furthermore, I would like to thank my colleagues from BPD's research team for the feedback and enjoyable moments in the office.

With this research, I hope to contribute to the understanding of the housing preferences of first-time buyers in the Randstad, and I hope it will make a valuable contribution to the further development and research of suitable dwellings for first-time buyers. Enjoy reading!

Evy Veerhoek
Delft, January 2024

Abstract

"First-time buyer has a chance to buy only 3 percent of owner-occupied dwellings in the Netherlands" (NOS, 2023).

This quote reflects the harsh reality of single first-time buyers in the Dutch housing market. The substantial surge in housing prices has exacerbated challenges for first-time buyers since 2015 (Groot, 2022). The housing supply falls short in comparison to the demand in the Netherlands. Apart from the existing housing shortage, extended waiting periods in the social rental sector, exorbitant house prices, and the recent upswing in mortgage interest rates contribute to the scarcity of suitable options (Boelhouwer & Van Der Heijden, 2022). It appears that, mainly around the provinces comprising Randstad, the housing market is tight (Calcasa, 2023). The share of relocations from the rental market to the owner-occupied dwelling market has declined nationwide in recent years, while demand for owner-occupied dwellings has increased. Despite the government's possible attempts to address this housing shortage, for example, by building around 350,000 affordable owner-occupied or rental dwellings in the middle segment before 2030, availability and affordability remain a stumbling block for first-time buyers. By better targeting the construction of suitable "starter" dwellings, this problem can be addressed for the target group. Therefore, it is essential to consider the balance between the financial capabilities of the first-time buyers and the minimum desired living characteristics and living environment. To find the minimum desired characteristics of first-time buyers, it is important to look at their substitutional behaviour and the possible concessions they are willing to make, to meet the current housing prices.

Therefore, the aim of this research is to identify the preferences and considerations of first-time buyers in the Randstad region. It started with a literature review on the different theories behind the whole moving process, in order to then start the empirical research.

The empirical research initiated with a research on the Dutch housing market with a deepening focus on the Randstad region. Then to research how the financial position of first-time buyers is affected by government regulations and other factors. After gaining an understanding through research into the supply for first-time buyers and their financial capabilities, the housing preferences and considerations of this target group were mapped out utilizing a survey conducted among 326 respondents. Following MAUT's methodology, these respondents rated possible topics (attributes) and characteristics of these topics (attribute levels) to gain insight into their preferences. This quantitative research showed that respondents mostly preferred a corner dwelling with a garden in a suburban area.

Based on these findings, it can be concluded that first-time buyers highly value having a garden and a supermarket in the immediate vicinity, but also that the greatest preference, is not always the most realistic preference in view of financial capabilities.

Keywords
Owner-occupied housing market, first-time buyers, housing preferences, housing shortage, Multi Attribute Utility Theory (MAUT)

Executive summary

In the context of the Dutch housing market, the statement *"(Single) first-time buyers have a chance to buy only 3 percent of owner-occupied dwellings in the Netherlands"* (NOS, 2023) accurately encapsulates the challenges faced by single first-time buyers in the Dutch housing market. Housing price increases, particularly since 2015 (Groot, 2022), have exacerbated the situation. Resuling in a scarcity of suitable options due to limited housing supply, extended waiting times in the social rental sector, elevated house prices, and recent mortgage interest rate hikes (Boelhouwer & Van Der Heijden, 2022). Efforts by the Dutch government and regional authorities to address the housing shortage, including the construction of one million new homes by 2030, are commendable but may still present challenges for first-time buyers due to affordability concerns (Calcasa, 2023). Despite an average annual income of €48.000 for first-time buyers aged 25-35, their ability to secure a mortgage around €200.000 is hindered by the limited availability of dwellings in this price range, especially in most parts of the country (Calcasa, 2023). Additionally, 29% of dwellings sold fall within the €350.000 to €500.000 range, rendering them unfeasible for single first-time buyers with an average mortgage of €200.000 (Calcasa, 2023). House prices, unresponsive to increased interest rates, contribute to rising monthly costs, further challenging the financial landscape for first-time buyers (DNB, 2022). In addressing this, the housing market should consider more affordable options, exploring alternative solutions for a sustainable future. Balancing the financial capabilities of first-time buyers with their minimum desired characteristics and living environment is essential, requiring an examination of their substitutional behavior and willingness to make concessions to navigate the current housing prices.

Research aim and research questions
In order to build more suitable dwellings for first-time buyers in the Randstad region, it is important to balance the financial capacity of first-time buyers together with the minimum desired properties and the possible living environment to arrive at a desired and suitable dwelling. Therefore, this research aims to map the supply and demand side of the housing market for first-time buyers in the Randstad region. Based on the problem statement and the purpose of this research, the following main question has been formulated:
What are the minimum requirements in terms of quality and location of a dwelling concerning the financial resources available to first-time buyers in the owner-occupied market of the Randstad?

This main question is answered utilising several sub-questions, where the first sub-question researches the supply side of the housing market and the second and third sub-questions focus on the demand side of the housing market for first-time buyers.
SRQ 1:   *How did the Dutch housing market change since the economic crisis of 2012?*
SRQ 2:   *What is the current financial position of the first-time buyer?*
SRQ 3:   *Which features in terms of housing characteristics, location and personal considerations are decisive in the trade-offs that first-time buyers make during the decision-making process to buy a dwelling in the owner-occupied housing market?*

Research approach
This study employs a quantitative methodology to address its primary objective of understanding the preferences and considerations of first-time buyers in the housing market. The initial phase, involves an elaborate literature review and theoretical foundation to support the main question. This theoretical background traces the entire relocation process, from motives to preferences and supply assessment, forming the foundation for empirical research. The empirical phase examines both the demand and supply sides of the owner-occupied housing market. Using data from four consecutive WoON databases, trends in housing stock characteristics and first-time buyers' preferences are analyzed. Financial aspects and government regulations impacting first-time buyers' positions are explored, along with a survey capturing the preferences and considerations of potential first-time buyers and recent movers. The Multi Attribute Utility Theory (MAUT) is employed to analyze starter preferences and identify potential improvements. The study concludes by assessing the extent to which first-time buyers can meet their housing preferences within the financial constraints of the

market, identifying concessions and exploring their incorporation into new construction projects. This comprehensive approach ensures a thorough examination of the intricate dynamics between first-time buyers, their preferences, and the evolving housing market, offering an informed perspective on the challenges and opportunities faced by this demographic.

Results SRQ 1:

In recent years, the Dutch housing market has undergone significant changes due to a growing population and increasing demand for affordable dwellings. The housing shortage has led to substantial price increases, peaking in 2022. Some notable trends in the Dutch housing market in 2021 have been identified through the WoON analysis:

- An increase in households aged between 17 and 44 in the rental sector in 2021 compared to 2012;
- An increase in households aged 45 and over in the owner-occupied housing market in 2021 compared to 2012;
- A sharp decline in relocations among young people (aged 17-24) since 2015;
- An increase in the age at which people move into owner-occupied dwellings;
- Older people staying longer in the owner-occupied housing market.

In recent years, the Dutch housing market has faced challenges driven by a growing population and increased demand for affordable dwellings, resulting in substantial price hikes by 2022. Notable trends in 2021 include shifts in ownership ratios, with younger households encountering difficulties entering the owner-occupied market due to rising prices. Older households, benefiting from accumulated wealth, face fewer challenges. The Randstad region experiences an overheated market, particularly impacting first-time buyers aged 17-34. Despite a willingness to move, the ability to realize this ambition has declined since 2012. Favourable mortgage rates and changing preferences contribute to a growing demand for larger owner-occupied dwellings in urban peripheral environments within this age group. The competitive and tight housing market dynamics, especially in Randstad, underscore the unrealized relocation aspirations among households under 44 and the shifting age demographics in entering and leaving the owner-occupied housing market.

Results SRQ 2:

The regulatory landscape significantly shapes the financial landscape for first-time homebuyers in the Dutch housing market. Measures such as the elimination of mortgage interest rate deductions for interest-only mortgages and adjustments to property transfer tax aim to impact purchasing behavior, favoring first-time buyers. Initiatives like the National Mortgage Guarantee and the startup loan offer financial support and protection. Despite these efforts, the dynamics of the housing market, characterized by rising prices and low supply, continue to challenge affordability. The influence of mortgage interest rates on financeability is pivotal, and recent rate increases have strained the financial position of first-time buyers, widening the gap between income growth and housing prices. Although signs of stabilization emerge in 2023, close monitoring of market fluctuations, interest rates, and policy impacts remains crucial for understanding the evolving financial position of first-time buyers. Despite government interventions, the chances for first-time buyers in the competitive Randstad region have diminished significantly, with a reduced probability of securing a dwelling, emphasizing the persistent difficulties in accessing the housing market for this demographic.

Results SRQ 3:

The research utilizes the Multi Attribute Utility Theory (MAUT) to explore the housing preferences, concessions, and trade-offs made by first-time buyers in the Dutch housing market. Employing a survey method focused on young first-time buyers in the Randstad region, the analysis considers factors such as age, income, and relocation desires. Results reveal that both groups, those desiring relocation and those recently moved, prioritize purchase price and outdoor space. The socio-demographic analysis emphasizes the influence of household composition and income on housing preferences, with a couple with a higher income displaying more realistic preferences, as well as the recently moved respondents.

The most preferred housing preferences from the respondent groups are:

- Garden (64)
- Supermarket in the direct surrounding (62)
- Detached dwelling (52)
- Greenery (50)
- Living space between 91 -110 m2 (49)
- 3 bedrooms (47)
- Urban green living environment (46)
- If sharing function; a shared scooter (18)

Concessions, often necessitated by high prices and limited availability, are commonly made on dwelling type and size. The trade-offs highlight the crucial role of purchase price in decision-making. Integrating financial feasibility into housing profiles is recommended, aligning preferences with the budgetary constraints of first-time buyers for more realistic and attainable dwellings.

Conclusion

The study concludes that first-time buyers in the Randstad region consider attributes beyond finances as minimum requirements for owner-occupied dwellings, emphasizing the importance of having a garden and a nearby supermarket. The analysis, incorporating Multi Attribute Utility Theory (MAUT), highlights the nuanced considerations of first-time buyers, who exhibit a higher willingness to compromise on dwelling type and size. Distinctions between 'stated' and 'revealed' concessions suggest that those who recently moved are more realistic in their housing preferences, indicating the complexity of decision-making in a housing market influenced by affordability, preferences, and market dynamics. The findings underscore the need for comprehensive solutions beyond financial incentives to ensure equitable housing market access for first-time buyers.

Discussion

The thesis discussion delves into the realism of housing preferences among first-time buyers, questioning whether respondents had practical considerations or idealized notions when expressing preferences. The willingness to compromise, particularly on dwelling size, indicates an understanding of necessary concessions. The debate extends to the strong desire for owner-occupied dwellings, linked to wealth accumulation, stability, and the perception of ownership. The contemplates of the challenges posed by the housing shortage and advocates for incentivizing mid-rent homes to address the needs of those aspiring to move, emphasizing everyone's right to suitable housing, whether owned or rented. Finally, it discusses current new developments for starter dwellings and whether this is the right target group to build for.

Limitations:

The study is subject to several limitations that warrant consideration. Firstly, the breakdown of the survey into two distinct respondent groups has resulted in a relatively small sample size, consequently constraining the generalizability of observed differences in attribute ratings.

Secondly, the research predominantly centers on preferences for owner-occupied dwellings, neglecting to delve into considerations pertinent to rental properties. This focus may inadvertently overlook unique priorities and preferences of individuals who opt for rental accommodations.

Thirdly, the study acknowledges the inherent volatility of factors within the housing market, encompassing indices, mortgage rates, and governmental influences. These dynamic elements can exert an influence on the financial standing of first-time buyers, adding a layer of complexity to the interpretation of findings.

Furthermore, the research exclusively hones in on households with a predisposition to relocate within the Randstad region. This deliberate regional focus may limit the applicability of the study's findings to those residing outside the specified provinces, thereby introducing a regional constraint.

Finally, the research lacks an explicit evaluation of housing standards. It assumes a high standard for new developments but does not systematically consider the qualitative aspects of existing dwellings as the energy labels. This omission could potentially undermine a comprehensive understanding of participants' housing preferences and priorities.

Recommendations for practice and policy:
The research highlights persistent challenges for first-time buyers, necessitating strategic recommendations for both practice and policy. The research advocates the use of the Multi-Attribute Utility Theory (MAUT) approach to identify preferences and realistically match them to an appropriate product which is within the financial reach of the target group. By using preferences and shifting in this, a suitable product can be designed which can then be tested for financial feasibility. This involves assessing floor plans and environmental factors to create feasible housing products. This can then be tested again using new research among potential first-time buyers. Based on this research, preferences for these residential products can be tested and the residential product eventually developed to then test for interest in sales.

Policy recommendations focus on reducing high competition and housing shortages by widening financial options and encouraging developers to build dwellings specifically for first-time buyers. Encouraging new construction includes developing suitable products to meet the needs of first-time buyers and addressing the challenges developers face due to high prices. To relieve pressure on the owner-occupied market, it is proposed to make the rental market more attractive. Moreover, it recommends more investment in infrastructure to accelerate housing construction, especially in the crucial Randstad region. The study concludes by discussing the potential benefits of a "Opkoopfonds" to accelerate project start-ups and complement existing construction incentives, providing a comprehensive strategy to improve the housing landscape for first-time buyers.

Further Research Recommendations:
Firstly, it is advisable to conduct a thorough investigation into the trade-offs between rental and owner-occupied housing markets. This research should delve into considerations encompassing financial factors, flexibility, and long-term expectations.

Secondly, a comparative study between different regions or cities is proposed. This comparative approach aims to elucidate regional variations in trade-offs and the underlying decision-making factors influencing housing choices.

Furthermore, there is a need for research to explore variations in housing preferences specifically within the rental market in contrast to owner-occupied scenarios. This exploration should encompass a diverse range of attributes and considerations.

Another avenue for research involves delving into substitution behavior among first-time buyers. Understanding the circumstances under which individuals transition from home ownership to the rental market, along with the influencing factors, constitutes a valuable area for further investigation.

Lastly, given the observed low preference for facility sharing, it is recommended to conduct in-depth research to comprehend the reasons behind this reluctance. Additionally, strategies can be developed based on these insights to encourage and promote facility sharing in housing scenarios.

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1. Introduction

The Dutch housing market offers two main options for people who what to join the housing market: the owner-occupied housing market and the rental housing market. However, both markets have their conditions, advantages and disadvantages. Currently, people are experiencing significant challenges in making the move to a new home of their own, given the difficulties in the housing market.

Over the past decade, the owner-occupied housing market has experienced significant price growth. Although average sales prices reached a low point in 2013, since then there has been a sharp increase until 2022. However, recent research (Boumeester, 2023; CBS, 2023a) suggests that for the first time since 2013, house price increases have slowed significantly, with housing prices falling since mid-2022 until mid-2023. This is attributed to several factors, including growing mortgage standards and current inflation, which have significant impact on the Dutch housing market (Groot, 2022).

1.1. Dutch housing market

Recent reports by the Centraal Bureau voor de Statistiek (2023a) show that house prices in the Netherlands increased by about 20% in 2021 compared to 2019. Figure 1.2 and 1.3 illustrate the differences in the average selling price of existing dwellings between 2021 and 2022. The darkening of a large part of the Netherlands, especially around the Randstad, indicates an increase in the average selling price of existing owner-occupied dwellings (CBS, 2023a). These differences are clearly visible and can be traced to the April 2023 price index of 177.7, almost double the benchmark of 100 in 2015 (CBS, 2023a). Several factors contribute to these rising housing prices, including a housing shortage and a large number of dwellings that do not meet the desired type in the current housing supply (ABF Research, 2021).
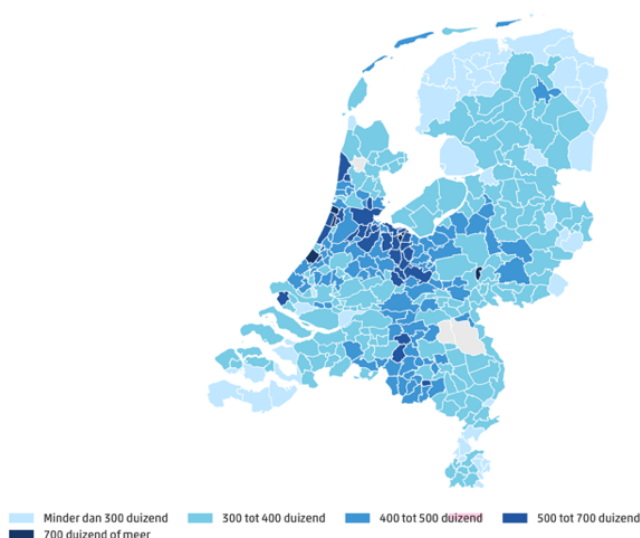

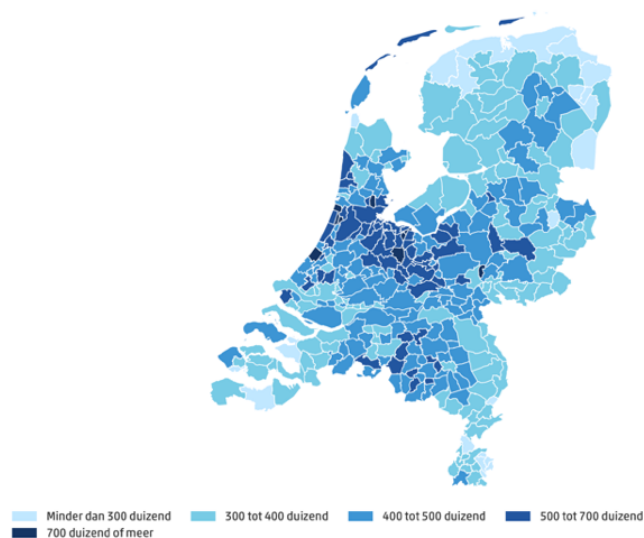Figure 1.1: Average dwelling price 2021 (CBS, 2023a)

Figure 1.2: Average dwelling price 2022 (CBS, 2023a)

When looking at actual prices, 2022 showed that housing prices rose significantly. This increase was mainly due to the combination of low mortgage rates and beneficial mortgage standards, which made it cheaper to obtain a mortgage. However, from 2022, mortgage interest rates began to rise. This, along with reduced economic prospects, led to a cooling of the housing market since the summer of that year. As a result, homes are for sale for longer, resulting in potential buyers having a slightly wider choice in the available supply. Moreover, the number and amount of overbids declined in early 2023, according to DNB (2023).

According to NOS (2023c), young people are postponing important life decisions due to the lack of suitable housing for their life stage. Many continue to live with their parents longer than they would like, leading to a possible delay in their personal and professional development.

Another study by NOS (2021) shows that waiting lists for social housing in the Netherlands are extremely long. The situation is particularly alarming in the five municipalities with the highest waiting times, where waiting times have risen to more than 17 years. Interestingly, the ten municipalities with the longest registration times, all above 14 years, are in North Holland. Even Amsterdam ranks 13th with a registration duration of 13 years and 10 months at the time of the study in 2021. Waiting times are worrying not only in the Randstad, but also in other areas. In Apeldoorn, for instance, the waiting period has reached seven years and nine months. It points to a shortage of social rental housing, largely caused by the landlord levy that corporations have had to pay for eight years. The lack of social housing construction results in unprecedented competition, with an average "competition" of 123 applications per house (NOS, 2021).

In the Netherlands, many people who earn too much for social housing and cannot or do not want to buy, struggle to find affordable accommodation in the free rented sector. Research by RTL Nieuws (2021) shows that rents there are often sky-high. Think 1,700 euros for 54 square metres in Amsterdam or 940 euros for just 33 square metres in Leiden. Dwellings with a rent between 750 and 1.000 euros per month are scarce in many cities.

The scoring system that should determine the maximum reasonable rent turns out not to be watertight. Rulings by the Huurcommissie reveal that landlords regularly charge much more than is legally allowed. And if a dwelling is worth more than 145 points (about 750 euros), the system no longer offers any protection. As a result, some tenants pay much more than what is considered 'maximum reasonable'. The Woonbond advocates extending the scoring system to all dwellings, and politicians and the Woonbond are calling for measures to tackle rising rents in the free sector, such as fining excessive rent increases and protecting middle-income rents.

Issues for young people in the housing market
Since 2012, there has been a noticeable trend of more young people choosing to live with their parents for extended periods of time. This trend can be attributed to several factors, including the significant increase in rental and purchase prices in the housing market, as well as study debts incurred as a result of the loan system implemented in 2015. Within this group, two categories can be identified: "boomerang children" who return home after independent living, and those who have never left home. It's important to keep in mind that various life-cycle events can significantly impact the situation of young first-time buyers, there is a big amount of variation in the desired living situation among individuals in this age group (van den Berg et al., 2023).

New data released by CBS in 2023 sheds light on the reasons behind the growing trend of young adults living with their parents for longer periods. Rising housing costs, mounting student debt, and a limited supply of affordable housing are all contributing factors to this trend. The study also reveals that since the introduction of the loan system in 2015, fewer students are leaving their parental homes, resulting in a noticeable 5% decrease compared to 2012. The research suggests that age plays a significant role in the living arrangements of young adults, with 21, 24, and 27-year-olds experiencing the greatest increase in living with their parents, while 18 and 30-year-olds have seen minimal changes in their living situations over the past decade. These findings suggest that age-related factors are a key driver

of the growing trend of extended cohabitation with parents among young people, which has persisted since 2011 (van den Berg et al., 2023).

A notable proportion of young individuals, wish to move out of their family home but face challenges in securing appropriate housing. This aspiration to move is evident across all age ranges, with the number of individuals struggling to find accommodations nearly doubling since 2015, as per CBS (2023).

Decision-making process when buying the dwelling
When purchasing a dwelling, potential buyers go through a decision-making process influenced by various considerations, both individual and communal. Financial considerations, such as available equity, play a crucial role, assessing income, savings and existing debts being essential (Veul, 2023).
The location and the neighbourhood of the potential dwelling also have an important role to play during considerations. Aspects such as proximity to the workplace, public transport, facilities, safety and the general characteristics of the neighbourhood are included in this process. The type and size of the dwelling are also important considerations. Potential buyers need to determine which type of dwelling best suits their preferences, such as a flat, terraced dwelling, detached house or a newly built dwelling. In addition, factors such as the size of the house and the number of bedrooms can play a role in choosing the potential dwelling (Veul, 2023).

Personal housing preferences, such as the architectural style of the dwelling and the presence of specific facilities (e.g. a garden, garage or modern kitchen), also play a role in the decision-making process. Some potential buyers see their purchase of the dwelling as an investment and examine the potential value appreciation of the dwelling in the future, taking into account developments in the housing market. Current mortgage rates and potential mortgage terms also play a decisive role in decision-making. Favourable interest rates can increase choices, while restrictive loan conditions can limit options (Kromhout, 2014).

The personal lifestyle and prospects of the potential buyer are important considerations, with some focusing on finding a dwelling that fits their lifestyle, while others focus on wealth accumulation. Different parties can offer additional information and advice that can contribute to making informed decisions (Kromhout, 2014; Veul, 2023).

The decision-making process is dynamic, where potential buyers' choices can change based on available supply and financial resources. Kromhout (2014) emphasises that people are often not looking for the perfect dwelling and agree that:

'A dwelling doesn't have to be perfect to make me happy' (Kromhout, 2014).

1.2. Problem statement

"Starter heeft kans op slechts 3 procent van de koopwoningen in Nederland" (NOS, 2023).

This quote is a realistic representation of the current situation for single first-time buyers in the Dutch housing market. The huge housing price increases have worsened the situation for first-time buyers since 2015 (Groot, 2022). The housing supply is small compared to the demand for housing in the Netherlands. Besides the current lack of housing supply, the long waiting times for the social rental sector, sky-high house prices and the recent rise of mortgage interest rates are the reasons why there is little suitable supply available (Boelhouwer & Van Der Heijden, 2022). As the quote begins, an average single first-time buyer can finance about 3% of the dwellings for sale in the Netherlands. With a two-person household, with both a modal income, the percentage consists of a more favourable 40% (Groot, 2022). According to the "Woononderzoek" (later referred to as WoON) (2021), the number moving on from the rental market to the owner-occupied housing market has decreased by 20% since 2018. This is while the demand and preference for an owner-occupied house has increased, 46% preferring to make the switch from rental to owner-occupied dwellings (Stuart-Fox et al., 2022).

Efforts are being made by the Dutch government and regional authorities to tackle the housing shortage in the Netherlands. The Housing programme mandates the construction of nearly 1 million new homes by 2030, intending to build around 350.000 affordable owner-occupied or rental dwellings in the middle segment. This is a positive step towards addressing the problem, but it does not yet solve the dilemma facing first-time buyers. Although these measures will expand the market, obtaining housing eligibility will still be a challenge due to the affordability of homes (Calcasa, 2023). According to the Calcasa report of Q1 2023, first-time buyers or first-time buyers after living in a rental dwelling, in the 25-35 age group have an average annual income of €48.000. With an average mortgage rate of 4%, they can get a mortgage around €200.000. However, figure 1.3 reveals that in most parts of the country, dwellings in this price range are not readily available, making it difficult for first-time buyers to find suitable housing.
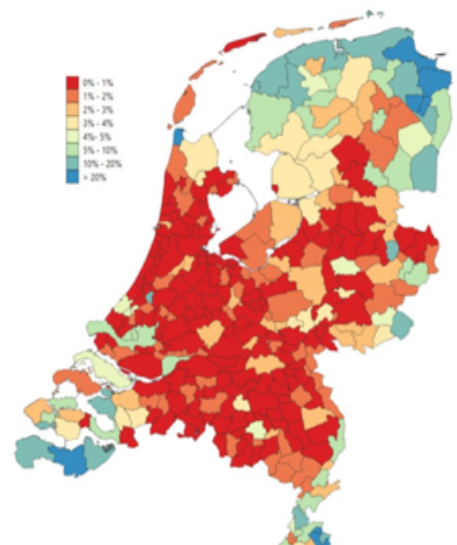
Figure 1.3: Percentage of dwellings for which a single starter with a maximum mortgage of 200,000 euros would qualify per municipality. (Calcasa, 2023)

The facts indicate that the housing supply is inadequate and prices are not affordable for first-time buyers. A considerable 29% of dwellings sold are between the €350.000 to €500.000 range, which is unfeasible for a single first-time buyer with an average mortgage of €200.000 (Calcasa, 2023). According to a report by DNB (2022), house prices have not yet responded to the increased interest rates, resulting in a rise in monthly costs due to these rates, as well as energy bills and inflation. In the rental market, research is being conducted to examine the relationship between rental housing quality and price. Households are willing to compromise on quality to some extent in exchange for a lower rent (Van Ommeren & Koopman, 2011). To improve the challenging situation of first-time buyers, the market must consider more affordable housing options. Since the average salary of first-time buyers aged 25-35 is unlikely to increase in the short term, alternative options must be explored. In the owner-occupied dwelling market, it is essential to consider the balance between the financial capabilities of the first-time buyers and the minimum desired characteristics and living environment (location). To find the minimum desired characteristics of first-time buyers, it is important to look at their substitutional behaviour and the possible concessions they are willing to make, to meet the current housing prices.

1.3.   Societal relevance

Research into the housing preferences of first-time buyers in the Dutch housing market has great social significance. This research provides insights and information that address various social and policy issues. For instance, housing affordability is a growing concern in the Netherlands, especially for first-time buyers in certain areas of the Netherlands (NOS, 2023). By understanding the housing needs and opportunities of this group, developers can devise measures and adjustments to make housing more affordable and accessible. This could include changing housing features or sharing residential functions.

Furthermore, this research can shed light on first-time buyers' preferences for specific housing environments, such as urban, suburban or rural areas. For example, if starters have a preference for urban areas, this could encourage the revitalisation of city centres. Starters' housing preferences also have important economic implications. They can affect demand for certain types of housing and influence property development. For example, if starters prefer smaller, affordable housing, this can increase demand for flats and compact houses and reduce demand for larger housing. Due to rising construction costs, the cost of (larger) homes in the Netherlands is growing. Therefore, in much of the Netherlands, large houses have become very expensive and no longer attractive to live in.

In essence, research on the housing preferences of first-time buyers contributes to the development and planning of more suitable housing for first-time buyers and provides insights to make the housing market more accessible and liveable for future generations and current first-time buyers. Everyone has the right to adequate housing.

1.4.   Scientific relevance

Extensive research has been conducted on the financial and policy aspects of housing market shortages and problems. For instance, Kadaster (2021) and the government itself (MBZK, 2023) have studied the mismatch between the supply and demand side of the housing market. It is widely acknowledged that first-time buyers face difficulties in the housing market, and the need for affordable housing is often cited as a solution. Additionally, regulation in the rental sector is frequently discussed (Adema, 2023). While there are studies on housing preferences for first-time buyers (Keers & de Zeeuw, 2022), little research has been conducted specifically on the preferences and considerations for owner-occupied housing in the most overheated areas of the Dutch housing market.

Little attention has been paid to the preferences and considerations of first-time buyers in the Randstad and how they can be implemented in the current housing market. The topic is important due to the changing housing market and financial position, which is already influencing perceptions of the owner-occupied housing market. This research aims to identify the trade-offs and concessions that first-time buyers are willing to make between the maximum purchase price and the minimum desired features of the property and location. The insights gained from this research can be valuable for the development of new housing aimed at first-time buyers in the housing market. The research is relevant because it indicates that the situation of first-time buyers continues to change due to the fluctuating housing market and the difference between certain target groups.

1.5. Main question

This main question examines what characteristics are needed for first-time buyers and which trade-offs they make to enter the owner-occupied housing market. This main question emerged from the problem statement and the focus of this research.

Main research question – ***What are the minimum requirements in terms of quality and location of a dwelling concerning the financial resources available to first-time buyers in the owner-occupied market of the Randstad?***

1.6. Sub questions

In response to the main question that arose as a result of the problem statement, three sub-questions were generated to answer the main research question. Sub-question 1 is looking into the supply-side of the housing market and sub-questions 2 and 3 is looking into the demand-side of the housing market from the perspective of first-time buyers.

SRQ 1:   **How did the Dutch housing market change since the economic crisis of 2012?**

1.1. What are the characteristics of the Dutch housing market and what are the characteristics of the housing market in Randstad compared to the Dutch housing market?

1.2. What are the current characteristics of the housing market for first-time buyers in Randstad?

In order to gain a better understanding of the potential opportunities for first-time home buyers, it is crucial to examine the current state of the housing market. This sub-question aims to shed light on the trends that have contributed to the current housing market situation. To comprehend the housing market landscape for the targeted group, it is essential to investigate the overall housing market of the Netherlands, as well as the housing market in the specific region where the targeted group resides. By delving deeper and scrutinizing the differences between the targeted group and other households in the country, valuable insights can be gained into the unique challenges and opportunities that first-time buyers face in the Dutch housing market.

SRQ 2:   **What is the current financial position of the first-time buyer?**

2.1. What regulatory developments in the past few years had a big influence on the position of first-time buyers?

2.2. How did the financial capabilities for first-time buyers change over the years?

This sub-question will examine the current financial position of the first-time buyer. To gain a better understanding of the demand of first-time buyers it is important to look at their financial capabilities. These questions will research the governmental regulations that influenced the position of the first-time buyers and their financial capabilities, by looking into the mortgage standards.

SRQ 3:   **Which features in terms of housing characteristics, location and personal considerations are decisive in the trade-offs that first-time buyers make during the decision-making process to buy a dwelling in the owner-occupied housing market?**

3.1. What are the preferences first-time buyers keep in mind during their decision-making process to buy a dwelling?

3.2. Which concessions do first-time buyers make during the decision-making process to buy a dwelling?

The supply side and characteristics of the current owner-occupied housing market have been examined through the first sub-question. The second part of the demand side of the housing market is examined in this sub-question by asking potential and recent first-time buyers; what their preferences are, if they are willing to make concessions, and which concessions they could make during their decision-making process. Which features they consider most important and which features of their future dwelling weigh most heavily in the choice they have to make during the buying process will be analyzed in this sub-question. Ultimately, this sub-question can be used to examine

whether the preferences and considerations that first-time buyers make are realistic for the current owner-occupied housing market.

These sub-questions investigate whether the demand of first-time buyers for the current housing market aligns with the existing supply and explore potential alternative implementations of this demand in the construction of new-build (owner-occupied) dwellings. In this context, it is important to see whether the requirements and needs have a realistic foundation in relation to the current housing market. By researching the developments that have led to the current housing market (sub-question 1), the position of first-time buyers in this housing market (sub-question 2) and examining what the preferences and main considerations are of these first-time buyers (sub-question 3), a well-founded answer can be given to the main question.

1.7.   Reading guide

Besides this introduction, this study consists of 9 chapters, the first of which serves as an introduction. The second chapter discusses the theoretical background, followed by the methodology of the research. Starting from the fourth chapter, the empirical research commences, divided into two segments. Chapter 4 highlights the supply side of the housing market, while chapters 5 and 6 focus on the demand side of first-time buyers housing market. The subsequent chapters, 7 and 8, respectively provide the conclusion answering the main research question and the subsequent discussion. The ninth and final chapter of this study concludes with a reflection.

THEORETICAL FRAMEWORK

2. Theoretical framework

This chapter examines the theoretical literature behind moving behaviour to gain more understanding and information about the moving process, what drivers this involves and how housing preferences are developed. First, different moving theories will be cited, then the decision process of a move will be discussed followed by the constitutional behaviour that can occur during this decision process. The chapter concludes with the conceptual model of this research.

2.1. Moving theories

As people progress through different stages of life, their housing preferences often evolve. According to Priemus (1984), moving to a new place of residence is a way for them to adapt their living situation to meet their changing needs. However, the process of moving can be a significant obstacle for some individuals, as it requires a significant amount of energy, time, and money.

In 1955, Rossi conducted a comprehensive study on moving behavior, becoming one of the first researchers in this area. He demonstrated that the decision to move is linked to different stages in an individual's life cycle, which in turn affects their housing requirements. As people go through various phases of life, their housing needs and preferences also change. Rossi argued that these changes in housing needs and dissatisfaction with current housing are often caused by changes in the household life cycle.

Brown and Moore (1970) further developed Rossi's theory by stating that people's decision to move is motivated not only by changes in the household cycle but also by changes in the environment. They created a model to illustrate the process of moving, which consists of three stages: the decision to search for alternatives (push factors/stressors), the search for alternative housing (pull factors), and the ultimate decision to move or abandon the intention to move.

Spengler and Myers (1977) further extended the theories of Rossi, Brown and Moore on moving. They believed that the purpose of moving is to achieve social and economic development in both the macro and micro spheres. They also argued that the reasons for moving are not always linked to housing factors but can be divided into three spheres: the residential sphere (characteristics of home), the work atmosphere (changing work situation), and the personal sphere (marriage, divorce, etc.).

Another model that examines the motives to move is designed by Speare et al. (1975). They also connect the moving motives to the household cycle. This household cycle includes components such as marriage or divorce, housing characteristics that no longer fit the life stage, living environment, and work-related aspects. Housing demands are related to the different life cycle stages. There can be a distinction between two types of voluntary moving motives, adjustment or induced (Clark & Onaka, 1983).
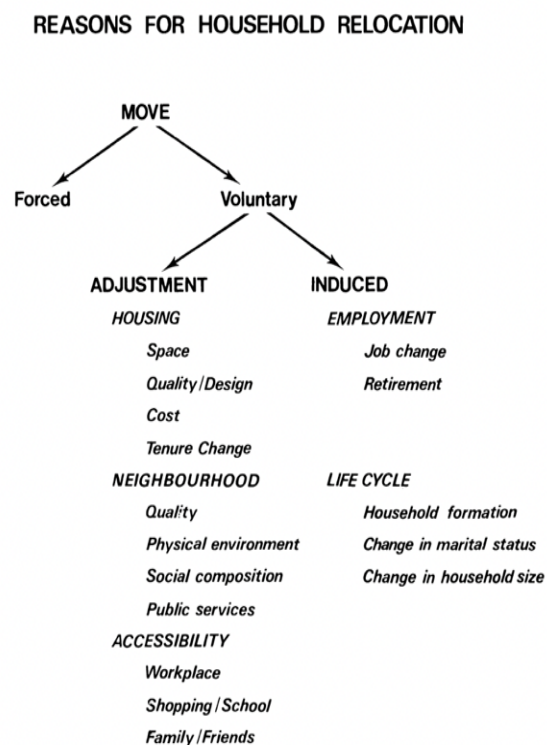

Figure 2.1: Reasons for households to move according to Clark and Onaka (Clark & Onaka, 1983)

The model in figure 2.1 shows a distinction in which the motivation to move can be divided into forced and voluntary, as well as adjustment and induced. Adjustment motives refer to characteristics of the house, environment, and accessibility. Besides characteristics, there are also induced motives, in which a change in the career/life cycle would be the cause of the move. Ultimately, these are intertwined, as when someone gets married and has children, desires in characteristics will change. This figure is a good example of different types of components that can lead to the willingness to move (Clark & Onaka, 1983).

Housing market dynamics
When people move from one place to another, it doesn't necessarily mean they are upgrading their housing. In fact, they might choose to move to a place that's similar or even smaller. However, this movement creates changes in the housing market. When someone moves out of a dwelling, it becomes available for someone else to move in. This creates a high flow of dwellings on the market. For first-time homebuyers, it's important that the available dwellings meet their specific characteristics and financial resources. (Buys, 2005).

2.1.1. Career/ life cycle of households

The composition of households and their motives for moving are closely related to the life cycle and career cycle of individuals. According to Das and Van Daalen (2012), a strong similarity can be seen between moving movements and the career/life cycle. The life cycle and the career cycle characterise the life course of a person, in which certain crucial steps are completed. Both these cycles overlap and run parallel along each other because many of these steps are related to age. Therefore, different steps can be observed, such as the moving motives for starting a study, changes within the professional career, but also changes following life cycle events such as forming relationships or families.

Boumeester (2004) argues that mobility, preference for tenure type, and desired amenities are dependent on the life cycle model. These aspects have a strong relationship with the household's phase in the life cycle. Thus, the timing of moving often takes place in a shift to another phase in the life cycle. For instance, relatively younger households often choose to enter the rental housing market, while as this household progresses in the life cycle, the moving behaviour decreases and the desire for an owner-occupied dwelling increases. The more the life cycle progresses, the more housing services/ facilities are preferred. This is also a motive for moving on from the rental to the owner-occupied sector. More specific preferences are often easier to achieve in the owner-occupied sector than in the rental sector. When the household ages, the willingness to move increases again, and people are more likely to move back into the rental sector at this stage of the life cycle.

In addition to the life cycle model, the career cycle also has a strong influence on the moving behaviour of residents and has a strong relationship with the life cycle progressions. According to Boumeester (2004), a change in income often causes changes in housing preferences. Thus, if a household starts making more money, housing preferences often change too. However, if a household gets a chance to earn more or change jobs and has to move to another location to do so, this also generates moving behaviour. It is generally assumed that as one grows in the life cycle, one's career cycle also grows or changes with it. However, it does not always happen that a forward step is made in the housing hierarchy, considering situations like divorce or moving to another location related to one's career.

Priemus (1984) visualizes the relationship between the life cycle and the career cycle in Figure 2.2 of his modified career/life cycle model. This model identifies two starting points for the relationship between the career cycle and mobility: the status effect and the mobility effect. The status effect is due to an increase in financial resources, which can create a need for a better living environment. On the other hand, the mobility effect is generated by a change in location due to a job offer or career advancement.
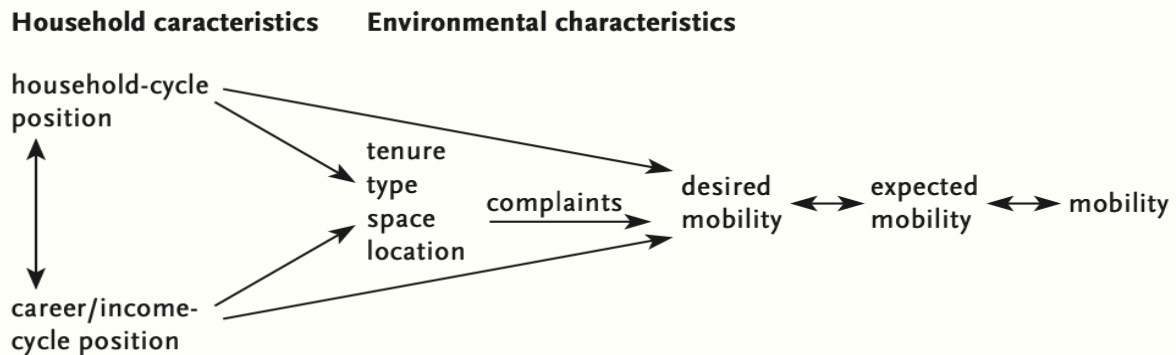
Figure 2.2: Career/ life cycle theory according to Priemus (Priemus, 1984)

In conclusion, the composition of households and their motives for moving are closely related to the life cycle and career cycle of individuals, as highlighted by Das and Van Daalen (2012), Boumeester (2004), and Priemus (1984). These cycles depict the progression of a person's life, with specific steps being taken at different ages and stages, thereby influencing their decision to move. Furthermore, the preferences for mobility, tenure type, and desired amenities are also dependent on the life cycle model, while changes in income, job opportunities, and career advancement can influence a person's housing preferences, as highlighted by Boumeester (2004). Thus, the life cycle and career cycle models are crucial in understanding the moving behaviour of residents.

The above models have also been criticised for taking a dated view of the life and career cycle. Not everyone moves through the same stages in the same order of the life cycle. For instance, nowadays people choose more consciously not to have children or people stay single for longer, which means that the "traditional" life cycle is not followed (Boumeester, 2004). Kendig (1984) states that the different phases in the life cycle have a strong relationship with financial assets and when people do not have a relationship and do not have two incomes, this changes the financial resources of a household.

2.2.   Decision-making process

In the decision-making process, a potential buyer first establishes their housing preferences. After all, to search for a dwelling, the potential buyer needs preferences to be able to make trade-offs. Housing preferences can consist of several personal components. As mentioned earlier, housing preferences partly depend on the life cycle of a potential buyer. They can consist of different topics such as preference for a city or a village, preference for certain neighbourhoods, preferences for certain dwelling characteristics and preferences for the price of the dwelling. These housing preferences are explained in the next section.

2.2.1. Housing preferences

Housing preferences of individuals vary based on their life-cycle and income. Each life-stage corresponds to an average income level for an average person. This chapter primarily concentrates on first-time buyers, who encounter numerous challenges in entering the market for owner-occupied housing. Despite these challenges, 46% of renters prefer to shift to owner-occupied dwellings (Stuart-Fox et al., 2022). However, owning a house requires stability, not only in personal situations but also in financial resources. Research indicates that households with a high degree of commitment, such as married couples with or without children, are more likely to purchase a house than those with a lower degree of commitment. Age and income are also significant factors that affect the stability of a household's housing situation. For instance, young singles have different perspectives on their housing needs than married couples with children. Furthermore, age and income are often linked, with younger individuals typically earning less than older individuals. This demonstrates the career/life cycle concept, which considers both life stage and career (Feijten et al., 2003). Figure 2.3 presents the average sales price per quarter in the Netherlands. The average selling price per dwelling decreased from €443.032 in Q4 2022 to €416.786 in Q1 2023. However, this decrease is still insufficient for many first-time buyers. Additionally, current mortgage rates are rising, with interest rates increasing from 2.8% in November 2022 to 3.8% by March 2023.
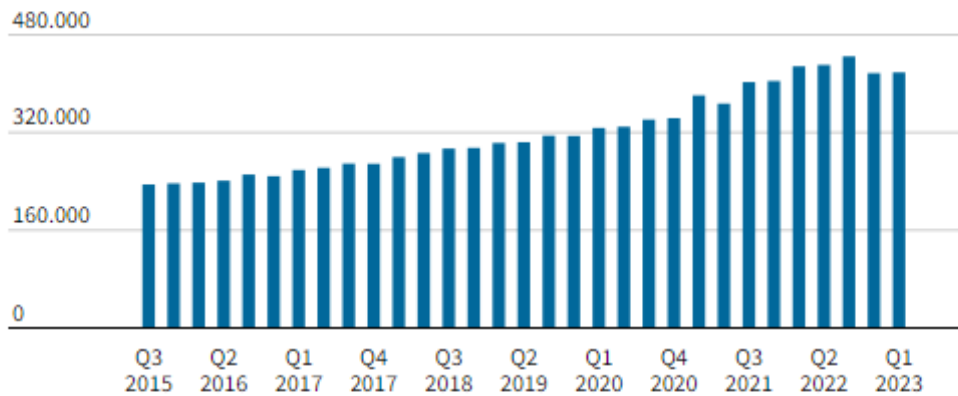
Figure 2.3: Development of average selling prices Dutch housing market (MKZB, 2023b)

A starter has an average income between 1- and 2-times modal. According to Calcasa (2023), a first-time buyer in the 25-35 age group had an average annual salary of €48.000. With the average mortgage interest rate of 4 percent, the average first-time buyer can get a mortgage of approximately €200.000 with NIBUD's loan standards in conjunction with benefits such as not having to pay a transfer tax.

The overview for which single first-time buyers qualifies is shown in table 2.1 (Calcasa, 2023). It shows that first-time buyers are most likely to buy a maisonette dwelling or a gallery flat. For the target group, this is the type of dwelling they are most likely to purchase, only these types of dwellings cover only a small part of the total available owner-occupied housing stock. When two first-time buyers wish to buy a house together, it changes the situation. Two-earners have a bigger financial base allowing them to take a higher mortgage and thus look in a higher segment of price range. The average annual income of a couple of first-time buyers is around €76.000 which implies a mortgage of around €360.000. With this increase in mortgage, a first-time buyers couple can finance almost 40 percent of the available dwellings for sale on the Dutch housing market (Calcasa, 2023).

Dwelling type	Percentage of the housing supply	Percentage available for first-time buyers
Terraced dwelling	30%	3%
Detached dwelling	20%	1%
Semi-detached dwelling	17%	2%
Corner dwelling	15%	2%
Ground floor flat	7%	7%
"Porch" flat	6%	9%
"Gallery" flat	3%	10%
Masionette	2%	16%

Table 2.1 - Overview of the percentage of available dwellings for first-time buyers, Calcasa (own table, 2023)

The Netherlands is experiencing a shift in housing preferences among its residents. Currently, 64% of the housing supply consists of single-family homes, while multi-family homes make up the other 36%. However, projections suggest that by 2035, these percentages will change significantly to 51% single-family dwellings and 49% multi-family dwellings. This demographic shift is largely attributed to changes in population composition resulting from immigration and an ageing population (Groenemeijer et al., 2021).

Various factors are influencing these changes in housing preferences, including the impact of COVID-19, a rise in remote work, and proximity to the workplace. While remote work may lead to longer commutes, its effect on the housing market remains limited, according to the "Plan Bureau voor de Leefomgeving" (2021). However, national migration trends do appear to be driving suburbanisation, as individuals seek more affordable housing options in less urban areas.

As remote work becomes more commonplace, people are also seeking ways to balance their work and personal lives. This has led to a growing demand for separate spaces in the home dedicated to work activities. Additionally, the quality of the living environment and social connections are becoming increasingly important to individuals who spend more time at home. (PBL, 2021).

2.2.2. Possibilities on the housing market

Understanding the housing market requires considering the price/quality ratio of available properties and what potential buyers are willing to pay. The cost of a dwelling is determined by certain characteristics, such as its size, age, and the quality of its living environment. According to research by the "Ruimtelijk Plan Bureau" in 2006, the quality of the living environment has a significant impact on the price of an owner-occupied dwelling.

The scarcity of available dwellings is another factor that influences the selling price. If there are few properties available in a specific price range, the selling price will increase. The supply and demand of properties are influenced by various factors, such as interest rates, financing costs, and economic changes. Ultimately, the selling price of a property is determined through negotiations between the buyer and seller. The value of a property is reflected in the transaction price, which is influenced by both objective and subjective attributes. For instance, a property's attractiveness may be an objective attribute, while its perceived value and meaning are subjective and vary from person to person (Kamil Taylan, 2021).

The residential environment in which a dwelling is located plays a crucial role in determining its value. Potential buyers are willing to pay more for a dwelling in an attractive area with good amenities, such as green spaces, schools, shops and public transport. Additionally, factors such as the safety and livability of the neighbourhood, the presence of crime, noise pollution and air quality can all have an impact on the price of the dwelling. Moreover, the relationship between the living environment and other housing characteristics is also significant. It is possible for the price of a dwelling to be higher even if the dwelling itself has less favourable characteristics, simply because its located in an attractive environment (Visser & van Dam, 2006). The price a prospective buyer is willing to pay for a dwelling is influenced by a wide range of characteristics, including the potential dwelling, its surroundings and location. To better understand these characteristics, Visser and van Dam (2006) suggest four different dimensions:

1.   Physical housing characteristics
Physical dwelling characteristics refer to the various features of a dwelling, including its area, type, volume, number of bedrooms, outdoor space, maintenance status, energy label, and more. These features play a significant role in determining the price of a dwelling, accounting for about half of its total value.

2. Physical environment characteristics
The physical environment characteristics of a dwelling include factors such as the distance from a forest, the presence of green spaces and water amenities in the neighborhood, the building density in the area, the type of built environment, the quality of public spaces, and more. For example, dwellings located in urban areas generally command a higher price per square meter than those in non-urban areas.

3. Social environment characteristics
Social environment characteristics encompass aspects such as population composition, unemployment levels, the distribution of rental and owner-occupied housing in the market, and the average income of the neighborhood. There is often a correlation between housing prices and the status of the neighborhood. For instance, prices tend to be lower in areas with a high crime rate.

4.   Functional environment characteristics
Functional environment characteristics include factors such as accessibility to public facilities, infrastructure, and employment opportunities in the area. The availability of jobs is a crucial factor

that influences the price of a property. The commute time to work is also a significant consideration, particularly for those living in urban areas. Similarly, the distance from a highway can impact the price of a dwelling, with urban areas experiencing a negative impact, while rural areas can see an increase in price due to improved accessibility.

Understanding the relationship between the residential environment and the house price is important for policymakers, developers and possible homeowners. It can help in making decisions related to urban planning, residential investment and determining property values (Visser & Van Dam, 2006).

2.2.3. Living environment

To indicate the preference in urbanity, ABF research's different living environments typology can be used. They distinguish six types of living environments, each of which stands for a certain form of urbanity. However, the sixth living environment, working area, is not included in this research. This is because there are so few dwellings in this living environment. The living environments are as follows (ABF,2012):

Urban city centre: An urban city centre area, located in the heart of a city, is characterised by an abundance of facilities, lively neighbourhoods, and, to a greater or lesser extent, the presence of high-rise buildings. This specific residential environment includes not only the city centre, but also adjacent neighbourhoods immediately near the centre, where a substantial proportion of the dwellings are flats. A diverse range of facilities, including hospitality establishments, shops and cultural institutions such as museums and cinemas, contribute to the vibrancy of this type of residential environment.

The limited number of green spaces in the immediate residential area is striking, with green spaces being more concentrated in the form of parks. A central urban area is characterised by a high population density, where many people live close together. This concentration of residents contributes to the dynamics and liveliness of the area, but is accompanied by a reduced presence of green spaces in the immediate vicinity of the residential areas.

Urban peripheral: The category of urban peripheral includes so-called urban neighbourhoods with a predominance of flats and storey apartments. These neighbourhoods manifest themselves at a somewhat further distance from the city centre and usually house residential complexes consisting of flats and storey apartments. Facilities in these urban peripheral area's usually include hospitality establishments and recreational facilities, such as gyms and neighbourhood or shopping centres. Green space in this context often takes the form of parks or playgrounds.

Despite the population density present in these urban peripheral neighbourhoods, the level of urban activity is usually less intense than in the city centre. Nevertheless, residents here live close to each other, with the presence of green spaces contributing somewhat to the alleviation of urban density.

Urban green: The phenomenon of urban green areas encompasses suburbs of a city, which can also include recently developed new housing estates. A substantial proportion of the dwellings in these areas have private gardens, contributing to a more child-friendly environment compared to city-centre neighbourhoods. Although the number of facilities in these urban green areas is usually less extensive than in the city centre, some facilities such as restaurants and supermarkets are available.

The landscape of these neighbourhoods is characterised by substantial green areas, parks and playgrounds. Unlike the population density in the city centre and adjacent neighbourhoods, residents in urban green areas do not necessarily live close together, resulting in a more spacious living environment.

Centre village: The residential environment defined as the village centre concerns settlements consisting mainly of single-family houses and smaller flat blocks. A characteristic feature of these dwellings is often the presence of gardens or balconies, accompanied by green spaces. In the village centre, there is a modest but targeted supply of facilities, mostly of a necessary nature, such as supermarkets, drugstores and a limited number of catering establishments.

The vast majority of dwellings in this type of residential environment have gardens, while greenbelts are present in the streets. The residents of these village centres experience significantly more space between each other than their urban counterparts. Neighbourhoods in this context tend to be quieter, smaller-scale and more orderly than the busier, larger-scale environments typical of cities.

Rural living: The residential environment referred to as 'rural living' includes areas where dwellings are located outside built-up areas or on the outskirts of villages. The characteristics of these dwellings usually manifest themselves as detached with significant plot areas. These residential areas are often characterised by extensive green environments and a limited range of facilities. The area exudes an atmosphere of tranquillity, rurality and vastness, with a limited presence of fellow residents in the immediate residential environment.

Determining the price of a dwelling

One way to statistically capture the value of features of a dwelling and its surroundings can be by using a hedonic pricing model. Using a hedonic price model gives the "average buyer" a more objective valuation of the possible features of a dwelling. A hedonic price model can examine the relationship between housing characteristics and house price. The model relies on the principle of hedonic pricing, in which the value or price of a good (in this case, a dwelling) is determined by the estimated value of its features or attributes it. By using this model, developers, estate agents and policymakers can gain a better understanding of factors that influence the price of a property and quantify the influence of specific characteristics of, for example, the living environment on the price of housing. These characteristics can range from physical aspects such as location, distance to amenities, views and environmental quality, to social aspects such as neighbourhood composition, crime levels and proximity to schools/employment.

The model uses statistical analysis to determine the valuation and relative impact of these characteristics on housing prices. By collecting large amounts of data on dwellings sold and associated residential characteristics, the model can isolate the specific influence of each characteristic and create a price gradient. With this, the price model can help identify market inefficiencies and discrepancies between the value of a property and its asking price (Herath & Maier, 2010; Visser & van Dam, 2006).

2.3. Substitutional behaviour

To finally move on to the decision process of buying a property, the prospective buyer needs to make a decision. The consideration of preferences, options and current situation can make for a difficult decision. Individuals may choose to buy a dwelling, reconsider their preferences or choose not to move at all. This is called substitution behaviour. Substitutional behaviour among first-time buyers in the housing market is a dynamic process that reflects the adaptability and resilience of individuals as they navigate their entry into the world of homeownership. For these newcomers to the real estate scene, affordability often stands out as a paramount concern. Limited budgets necessitate flexibility in terms of housing preferences and choices. As such, first-time buyers frequently find themselves making substitutions based on a variety of factors (Boumeester et al., 2008).

Priemus (1969): *"Housing is the constant process of adjusting the housing situation to the housing aspirations, housing opportunities and the constant adjustment of housing aspirations, which is the result of theoretic*al opportunities."

One key driver of substitutional behaviour is affordability. Many first-time buyers are forced to recalibrate their expectations to align with their financial constraints. This could entail considering smaller homes, exploring neighbourhoods that are more budget-friendly, or even contemplating properties in need of renovation as a means to reduce the purchase price. Location also plays a pivotal role. While proximity to work, amenities, and quality of life are important to many first-time buyers, they may need to compromise on location to make homeownership a reality. This could entail looking at areas farther from the city center or regions with lower property values.

Furthermore, the type of housing becomes a variable in substitutional behaviour. First-time buyers often remain open to a range of options, from apartments and condos to townhouses and single-family homes. The decision may hinge on factors such as maintenance costs, property size, and personal preferences. Market conditions exert a significant influence as well. In the face of rapidly rising home prices as is happening in the Netherlands at this moment, first-time buyers might pivot their expectations and choices to secure a foothold in the housing market before prices surge beyond reach. Public policies can also cause substitution behaviour to take place. Initiatives such as first-time homebuyer programmes and tax breaks can entice people to certain housing types or locations that are encouraged by these policies.

Understanding the nuanced dynamics of substitution behaviour among first-time buyers is crucial for real estate professionals, policymakers and market analysts. It highlights the resourcefulness of individuals in navigating the ever-changing landscape of housing affordability and availability. It also highlights the importance of providing a diverse range of housing options to meet the unique needs and preferences of people entering the housing market for the first time ((Van Dompselaar, 2013; Goetgeluk & Hooimeijer, 2002). To identify those preferences of first-time buyers, Multi Attribute Utility Theory can be used. Several factors are present during this process, such as the trade-off between alternatives, the current housing situation but also the urgency of the willingness to move. To understand these trade-offs that a first-time buyer makes, MAUT can be used (Janssen, 2011).

Multi Attribute Utility Theory
During the process of choosing to buy a dwelling, trade-offs will have to be made. This decision is often made up of several variants and considerations, which can bring different value dimensions into conflict, making the choice very difficult. Perhaps the decision-maker lives in a large and cheap house but in a bad neighbourhood, and there is an alternative house in a better neighbourhood but more expensive. These are trade-offs that are difficult. Multicriteria decision-making techniques can help with this and might help make the decision easier. Multi Attribute Utility Theory (hereafter MAUT) is a method that weighs respondents' interests with the different attributes available. This is a quantitative approach that provides support in understanding and weighing the relative value of different attributes when making decisions. The decision-maker evaluates each alternative individually on the value dimensions or attributes. A weight is then attached to different attributes, which helps to understand the trade-offs between them. Each attribute is quantified, creating a ranking of choices to identify the most optimal option. According to Jansen (2011), MAUT follows the steps:

1. Defining alternatives and value-relevant attributes;

All key aspects that are important during the decision-making process should be present at this phase. Also, the attributes should be able to be used meaningfully, easily assessed and not adopted in abundance. This identification process is a challenging task and takes a lot of time and research. Interviews, literature reviews and different methods are ways that can facilitate the search process. The choice of attributes should be able to have an easy scale value, like size or price (natural quantitative attribute) but also a measure like quiet, liveable or busy neighbourhood (qualitative scale). When the natural scale contains a distribution inside the valuation, it is advised to use linear or near-linear value functions, by setting a maximum, for example.

2. Evaluating each alternative separately on each attribute;

The alternatives should be evaluated in this step for each of the selected characteristics. A value should be given to the alternatives with different characteristics. Thus, a value can be attached to the characteristics expressed in numbers, from 1 - 100 or from 0.25 - 1.0.

3. Assigning relative weights to the attributes;

After the alternatives are evaluated on all attributes, the attributes themselves should be determined and given a value. Thus, ranking or ratio can be estimated. For example, in ranking, the decision-maker

can allocate 100 points across all attributes. The importance of each attribute relative to the least important attribute should also be taken into account.

4. Aggregating the weights of attributes and the single-attribute evaluations of alternatives to obtain an overall evaluation of alternatives;

After the attribute ratings and weights are determined, scores are calculated for each choice option based on the attribute ratings multiplied by the weights. This results in a score for each option that reflects its relative attractiveness, and potential conflicts are resolved.

5. Perform analyses and make recommendations.

In the final step, analyses are performed to properly analyse the results. The choices can be ranked from high to low, with the option with the highest score considered the most optimal choice (Jansen, 2011).

There are various factors to consider when making decisions as a first-time home buyer. For instance, several challenges can affect the choice of buying a dwelling, such as shifting policies, fluctuating transfer taxes, the cessation of large parental gifts for home purchases (known as the "Jubelton"), environmental considerations, and housing costs that are impacted by energy prices, among others.

2.4.   Conceptual model

Drawing on the problem statement and the literature background, a conceptual model has been developed to better understand the decision-making process of first-time buyers in the housing market. The model, presented in figure 2.4, focuses on first-time buyers in the housing market and their considerations based on preferences, needs and financial resources, as well as the accessibility of the current Dutch owner-occupied housing market.

The model takes into account a range of factors that affect the housing choices of first-time buyers, including their personal preferences, housing needs, and financial resources. It also considers the current conditions of the Dutch owner-occupied housing market, such as the availability of suitable dwellings, interest rates, and government policies. From the problem statement, it appears that first-time buyers find it very difficult to get a suitable dwelling with the current condition of the housing market. To find a dwelling, that could meet the current supply and demand of the housing market, some concessions have to be made sometimes. Those concessions will affect the demand of first-time buyers, to be more aligned with the current demand.

So, when these considerations are in line with the possibilities of the current owner-occupied housing market, first-time buyers can enter this market and purchase their owner-occupied home. By carefully aligning their needs and preferences with the current conditions of the housing market, first-time buyers can make informed decisions and successfully navigate the complex process of purchasing a dwelling.
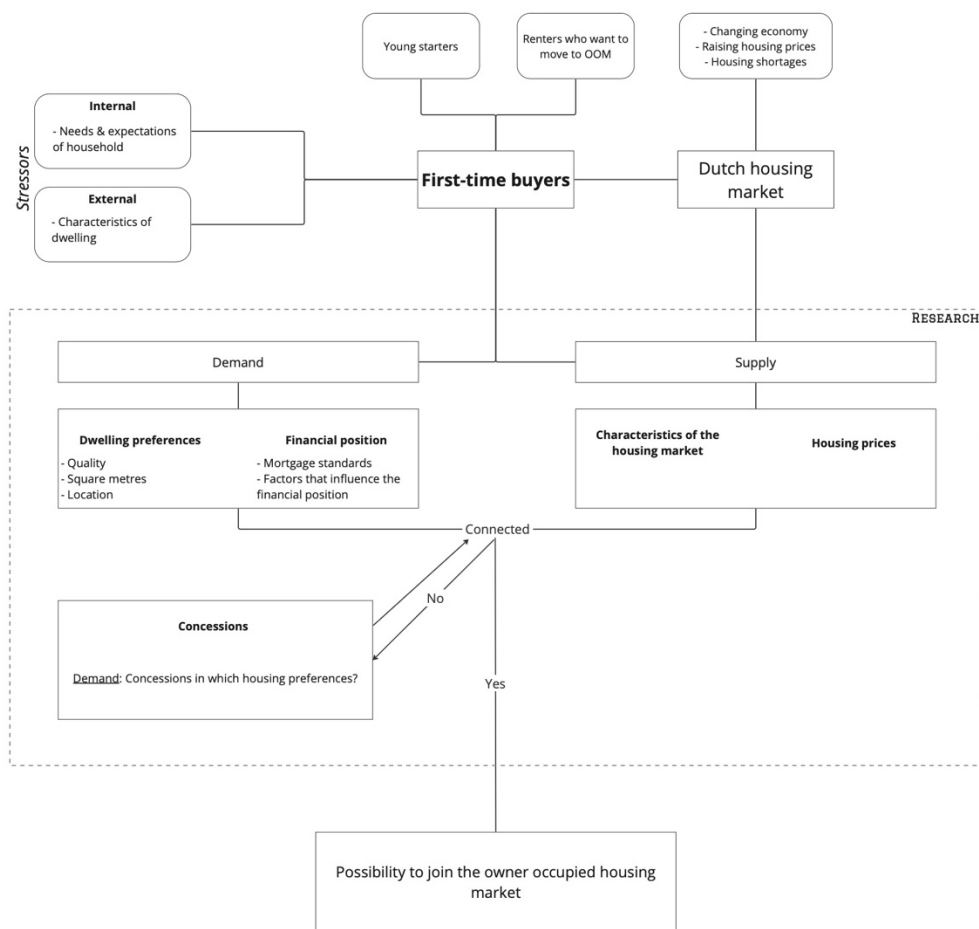
Figure 2.4: Conceptual model (own illustration, 2023)

METHODOLOGY

3. Methodology

This chapter first explains the research design and then discusses the research techniques, data collection and data analysis. After the research design, the target population is elaborated and ethical considerations are explained. This research follows a quantitative study coupled with an extensive literature review.

3.1. Research design

The methodology of this study is based on a quantitative approach, with the primary aim of answering the main question. This main question focuses on identifying the preferences and considerations of first-time buyers in the housing market. This objective is pursued by analysing relationships and connections between the positioning and preferences of first-time buyers and the characteristics of the current housing market.
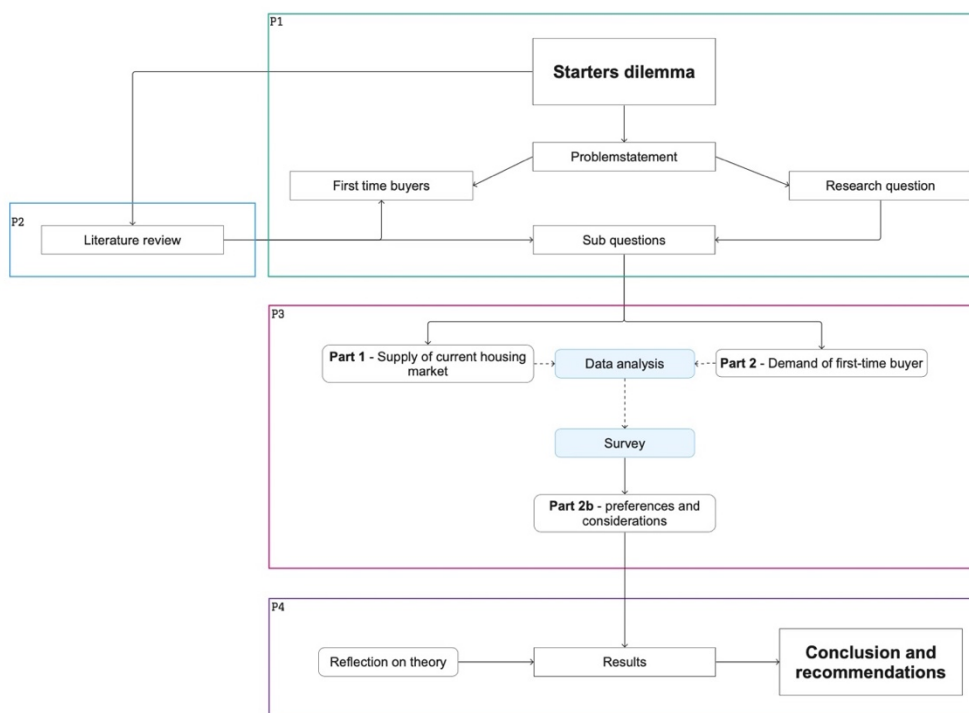
Figure 3.1: Research design (own illustration, 2023)

The methodological structure, as illustrated in Figure 3.1, conforms to the identified P-moments as identified in the educational design. These P-moments are further divided into phases that serve to guide the progress of the study, which are further outlined in this chapter.

In the first phase of this research, the methodology underwent further elaboration and a thorough literature review was conducted through desk research. This phase aims to provide a theoretical foundation to support the continuing research, with the ultimate goal of answering the main question. The comprehensive theoretical background, which highlights the entire relocation process, starts with the relocation motives. These motives highlight the drivers and determinants that drive individuals to decide to move. Over the years, potential buyers have developed specific preferences, which are essential in assessing the current supply in the housing market. The convergence of these preferences with available supply completes the cycle and ultimately results in the acquisition of a new dwelling. This cycle, completed in the decision process of moving, serves as the foundation for the theoretical background.

The empirical research comprises two distinct facets, namely the demand side of potential first-time buyers in the owner-occupied housing market and the supply within this housing market. To gain an in-depth understanding of these aspects, both sides will be carefully highlighted, supported by both desk research and quantitative research on the current housing market and first-time buyers' preferences and considerations.

In the initial part of the empirical research, an analysis of the actual observed behaviour regarding housing preferences and housing characteristics will take place. Data drawn from four consecutive WoON databases will be subjected to analysis, selected based on their relevance, namely the period shortly after the economic crisis and around the significant price increases and housing shortages that followed. This analysis aims to examine housing supply by identifying the trends that have contributed to the current housing market situation. This is achieved by examining how housing stock characteristics and preferences/movements of first-time buyers have evolved throughout housing market fluctuations (SRQ 1).

To obtain a complete understanding of the demand side of the housing market on which first-time buyers find themselves, research is also conducted on the financial position of this group, with a particular focus on government regulations that have affected this position (SRQ 2). In addition to financial position, a thorough understanding of first-time buyers' preferences is crucial in the dwelling purchase decision process. Through quantitative research, in the form of a survey of potential first-time buyers and recent movers (<2 years moved), the housing preferences of first-time buyers will be addressed. This will also include the considerations and concessions made to obtain a comprehensive and realistic picture of the demand side of the starter on the owner-occupied housing market (SRQ 3).

Striking a balance between the demand and supply side of the entire process implies that concessions are often made. These concessions are identified and analysed in the second part of this study. Nevertheless, the preferences resulting from this part of the survey also provide an opportunity to explore whether these preferences can improve the position of the starter. The analysis model chosen for the survey, the Multi Attribute Utility Theory (MAUT), provides an opportunity to identify and interrelate starter preferences (SQ3).

To adequately answer the main question, as visualised in figure 3.1, it is necessary to explore requirements and preferences in addition to housing market opportunities for first-time buyers. Therefore, the second part of the empirical research focuses on exploring the preferences and considerations that prospective first-time buyers make during the dwelling purchase decision-making process (SQ3). Ultimately, the preferences, considerations and financial capabilities of first-time buyers, compared to the characteristics of the current housing market, will enable the answer to the main question to be answered in an informed and realistic manner.

It is expected that a significant number of first-time buyers in the provinces within the Randstad (Noord-Holland, Zuid-Holland and Utrecht) may not be able to fully satisfy their housing preferences, given the financial feasibility for the majority of this target group. As a result, first-time buyers will be forced to make one or more concessions (substitutional behaviour). Identifying these concessions allows us to explore the extent to which they can be included in the development of new construction projects.

3.2. Data collection techniques

Deskresearch

In order to gain an in-depth understanding of the underlying factors and legislation influencing the current housing market and its price trends, a literature review was conducted (sub-question 1a). The identified literature is systematically collected using search terms and the so-called snowball method. While the snowball method offers significant advantages, such as obtaining additional relevant sources, there are also limitations, which are mitigated by using established frames based on relevance and publication year. Given the fluctuating nature and market dependence of the data used for this study, particular attention is paid to the relevance of sources by specific topic.

The result of this literature review will serve as a foundation for further research and the formulation of the questionnaire. It is crucial that the literature consulted takes a critical approach and encompasses diverse perspectives and theoretical approaches. To obtain a comprehensive spectrum of information, searches will be conducted in reputable databases such as the TU Repository, Google Scholar, JSTOR, ResearchGate, and other relevant sources. This will include specific keywords such as "housing market", "regulation", "housing policy", and "mortgage/loan standards".

Enquêtes

A survey was developed with the aim of understanding the preferences and considerations used by first-time buyers during the decision-making process for purchasing an owner-occupied dwelling. Choosing a survey as a data collection instrument provides a structured method to collect data and establish relationships between variables, which can then be subjected to thorough analysis. By using survey results, detailed analyses can be carried out, distinguishing between various sub-target groups. Here, specific insight can be gained into preferences related to different urban origins and other specific preference criteria.

There are different methods to conduct a survey, McCombes (2019) describes the following six steps to achieve a good and well thought-out survey:

1. Determine who will participate in the survey

Survey participants are selected based on their position in the housing market, with an income threshold based on the average income of potential first-time buyers. A distinction is made between first-time buyers and geographical preference. To avoid research bias, the questions are concise and clearly drafted. The chosen analysis method and question structure ensure that the researcher does not exert influence. The survey focuses specifically on first-time buyers in the 25-35 age group with a modal income of almost one to two times modal, so it does not give a general picture of the entire housing market, but concentrates on the formulated target group.

4. Determining the type of research

The research uses a survey instead of interviews to obtain a broader and more representative sample of the target group. The online questionnaire makes it possible to reach a large audience and collect a great amount of data, allowing for a more efficient and less error-prone conversion of results.

The survey, administered to members of the Panelclix panel, was pre-selected for different characteristics of the target group to obtain a substantial dataset. The survey aims to understand concessions made within the target group, with expected differences based on age groups, household composition and financial factors such as income and desired purchase price.

3. Design the survey questions and layout

An online questionnaire following the Multi Attribute Utility Theory (MAUT) is being developed to understand the trade-offs that first-time buyers make during the dwelling decision-making process. MAUT is used to determine which attributes are important, which attribute levels are most crucial, and how important these levels are. This provides a comprehensive overview of the trade-offs that purchase starters make, with further explanation of MAUT later in the chapter. The questionnaire is structured so that each participant per respondent group receives the same questionnaire with identical terms and structure, and answers in their own terms are avoided (Roopa & Rani, 2012).

Table 3.1 shows the specifications of the questionnaire deployment.

Table 3.1: Overview of online survey features (own table, 2023)

Number of participants	Minimum of 300
Who	First-time buyers - In the age between 25-35 - Living in South Holland, North Holland and Utrecht; - Recently moved to an owner-occupied house (2022 and 2023) or not living in an owner-occupied house (i.e. current living situation; in student dwelling, rented dwelling, living with parents, etc). - - Household income between €35.000 and above €100.000 (from single HBO starter to dual earners 2x modal).
Question type	- **Multi Attribute Utility Theory (MAUT)** - Multiple choice questions

4.   Distributing the survey

The distribution of the survey will be done in cooperation with the internship company BPD by an external party called PanelClix.

5.   Analysing the answers

The data are analysed using the questionnaire results, with thorough testing prior to implementation to ensure the accuracy of the questions and answers. Preparation of the questionnaire included careful checking of each version for clarity, concreteness and error-freeness.

The analysis includes exploratory questions on age, household composition and income, allowing for differentiated comparisons within the target group. In this way, research-related questions can be answered in a concrete and balanced way.

6.   Write down the results

The results are examined for relevance and conclusions are drawn to clarify the findings in a tangible and structured way (McCombes, 2019).

3.3.   Data analysis

Desk research

The literature review supports the research on the evolution of the current housing market. The findings serve as a basis for the next research phases and to place the conclusions in a scientific context. The WoON from the year immediately after the economic crisis will be examined with data provided by DANS (2023), with publications in 2012, 2015, 2018 and 2021. Several filters will be applied during the search:

-   HVS = < 3

This filter will be used for all data except when moving propensity and housing preferences are examined.

-   Provinces = Noord-Holland, Zuid-Holland, Utrecht and age = < 3

These filters are applied when researching the target audience of this research.

The WoON study is conducted by examining the following components, among others:

-   Trend in ownership ratio;
-   Residential environment;
-   Different housing characteristics;
-   Moving behaviour and preferences;
-   Future housing preferences (characteristics, location).

Survey

The questionnaire results will be received as SPSS and Excel files and will be analysed quantitatively according to a pre-established Syntax with SPSS. This analysis includes examining, comparing, conceptualising and categorising numerical data and identifying various relationships, phenomena and patterns. Furthermore, correlations between questionnaire outcomes will be sought.

Multi Attribute Utility Theory

Using Multi Attribute Utility Theory, a survey is created and the potential first-time buyer is asked how much preference is given to different topics (attributes) and characteristics of these topics (attribute level). By using MAUT, a distinction can be made in the preference given per attribute (level), but also an overall weighting of housing preferences can be given.

The MAUT analysis follows several steps:
1. **Identify the attributes and attribute levels:** Firstly, define the relevant attributes (properties or criteria) that are important for the decision you want to analyse. Then define the possible attribute levels for each attribute. The following attributes come from the literature reviewed earlier:
   - The type of living environment;
   - Characteristics of the neighbourhood;
   - Distance to facilities;
   - The type of dwelling;
   - The size of the dwelling;
   - The number of bedrooms;
   - The type of outdoor space;
   - The sharing of certain functions.

An overview of the attributes with the different attribute levels surveyed can be found in appendix 1.

2. **Establish attribute weights:** Ask respondents to rate the relative importance or weights of the different attributes. This can be done using scales, e.g. from 1 to 100, with 100 being assigned the highest importance and 1 the lowest importance. Nadat de attribuutniveaus zijn beoordeeld zal er aan de respondent gevraagd worden welke attributen de voorkeur hebben en het zwaarst meewegen in hun beslissing en substitutiegedrag.

An example of querying the attributes is as follows:
What features of the property and living environment do you prefer while looking for your future owner-occupied dwelling?
Choose a number between 0 (absolutely no preference) - 100 (absolute preference)
1.1 Type of living environment
1.2 Neighbourhood characteristics
1.3 …

3. **Score the attribute levels:** The third step amounts to asking respondents to rate the different attribute levels within each attribute based on preferences. This can also be done using scales, with higher scores indicating that a particular attribute level is more attractive than another level.

The weights per attribute level are determined according to the level, in which the respondent is given a choice using a ranking method. A valuation should be given for each attribute level using the following question:

Attribute	Attribute level	Question	Possible answer
Type of dwelling	Apartment	*To what extent does the owner-occupied dwelling type have your preference?*	Choose a number between 0 (absolutely no preference) - 100 (absolute preference)

This is done by direct rating, with respondents choosing in a certain range (0-100) from "least" option to "best" option.

4. **Calculate total utility:** Each attribute level will be multiplied by the value received by the corresponding attribute. This creates a new, yet weighted value that includes preferences at two layers. Finally, based on a housing profile, the total utility can be calculated by cumulating the corresponding attribute levels. This gives a numerical value that reflects the attractiveness of each option based on respondents' preferences and resolves potential conflicts. By moving around these attribute levels, an overall evaluation of the alternatives can be made.

5. **Conduct analysis and make recommendations:** The final step involves analysing the data and comparing outcomes (Jansen, 2011).

In SPSS, new variables can be created to calculate the scores for each attribute level. This can be done with the functions like "recode into different variables" or "compute variables". To compare the outcomes, frequency tables and crosstabs were used to show the differences within an attribute.

3.4. Target group

The target group was determined based on previous research. Calcasa's research report (2023) examined the position of first-time buyers in the housing market. In this, they defined the target group of first-time buyers as the 25-35 age group. This is based on the age limit of 35 years, as people up to 35 years do not have to pay transfer tax for an owner-occupied dwelling up to €440.000 (Ministerie van Algemene Zaken, 2022b). In this and further reports, the group of starters is referred to as first-time buyers and consists of a heterogeneous group of people.

There are two types of starters in the housing market, potential starters and potential first-time buyers (Dol & Boumeester, 2016). The difference between potential starters and first-time buyers is that potential starters have a desire for independent housing in both the rental and owner-occupied sectors. Potential first-time buyers are people who are going to buy a dwelling for the first time, these can be people who are going to live independently for the first time and do not leave a dwelling available (young people moving out of the parental home), as well as people moving on from the rental housing market who do leave an available (rental) dwelling and also want to buy an independent dwelling for the first time.

This definition is adopted as the definition of the target group, namely first-time buyers in the 25-35 age group. Several reports (see DNB, 2022; Calcasa, 2023) indicate that the average first-time buyer has an income of 1- or 2-times modal. This is assumed to be the average income for the target group. The difference between a single first-time buyer and a first-time buyer couple will be made visible in further research to provide a complete picture with a clear distribution. As visible in various sources (see Calcasa, 2023; CBS, 2023f), the housing market in the Randstad region is the tightest for first-time buyers. The internship company's focus is also on areas in the Randstad region. For these reasons, the target group will be researched in and around the Randstad region.

3.5. Ethical

Ethical considerations ensure that research adheres to the principles of integrity, respect and protection of participants' rights. The information that will be collected will be by consent of all participants. This will clearly explain the study's purpose, procedures, risks and benefits and emphasise voluntary participation. Trust and the ability to remain anonymous are important, with all personal information stored securely and accessible only to the researcher and supervisors. In the study, participants will be treated equitably and diversity is encouraged. Discrimination will be avoided at all times within the target group. Finally, the findings of this study will be shared responsibly, ensuring privacy and confidentiality of participants. Contributions will be made to the advancement of the accumulation of knowledge in an ethically desirable manner and the welfare and rights of all involved will be respected.

Data plan

The collection, storage and sharing of data in this study will comply with the FAIR guidelines for the management of scientific data, which include findability, accessibility, interoperability and reusability (Wilkinson et al., 2016). To increase findability, the scripted report will be uploaded to TU Delft's repository, which will be findable using keywords. In addition, it will be referenced using APA 7th edition, which clarifies identification of references used. The content will be presented in clear formal English, making it available to everyone. Only processed data will be made public and raw data will remain confidential. This is because of ethical considerations and to protect identities of participants.

Empirical research

SUPPLY

This chapter conducts an analysis of the supply side of the housing market in the Netherlands, in part to answer the first sub-question, *"How did the Dutch housing market change since the economic crisis of 2012?" (SRQ 1).*
This sub-question will be answered by two sub-questions, which have a more profound effect on arriving at the specific characteristics of the target group of this study.

The characteristics of the current Dutch housing market are mapped out in the first part of this chapter. This is done by first identifying the Dutch housing market in general, whereby the Dutch housing market will be compared with the housing market of the target group; Randstad. Through this question, graphical differences in the housing market are identified. This chapter starts with the first question, namely sub-question 1.1: *"What are the characteristics of the Dutch housing market and what are the characteristics of the housing market in Randstad compared to the Dutch housing market?".*

Finally, in the last section, this chapter highlights the final sub-question, namely, *"What are the current characteristics of the housing market for first-time buyers in Randstad?" (SRQ 1.2).*

This section links the characteristics of the current housing stock to the specific target group of this study. This chapter concludes with the characteristics and preferences of the young target group in Randstad with a willingness to move.

The characteristics from this chapter consist of a construction of the different years of the Woononderzoek, 2012, 2015, 2018 and 2021. Using this technique, the development of the housing market is presented to substantiate the current state of the housing market.

All findings in this chapter are based on different years, 2012, 2015, 2018 and 2021, of the 3-year Woononderzoek and data from the Central Bureau of Statistics. The Woononderzoek was commissioned by the Dutch "Ministerie van Binnenlandse Zaken" and CBS.

4. The Dutch housing market

In the Netherlands, the population has grown to about 17.5 million people (2021), resulting in more than 8 million households. These statistics show a significant increase compared to the year 2012, consisting of 7.5 million households, showing an increase of about 500,000 households during this period (CBS, 2023b). This population growth also creates a greater need for available dwellings to accommodate the housing of this growing population. The phenomenon of increasing households is reflected in the housing stock, to which almost one million new dwellings have been added since 2012 (ABF Research, 2012). However, this increase in housing does not meet the increasing demand for dwellings due to individualisation and an increasing demand for affordable housing (CBS, 2023b). Therefore, this chapter examines how the current housing market is distributed and its characteristics. This chapter includes research on the trends and characteristics of the Dutch housing market and its residents. The chapter starts by researching the Netherlands as a whole and the trends that were visible over the years, then the focus changes to the Randstad region. After examining the general Dutch housing market and that of the Randstad region, it delves further into the housing market of the target group of this research, ending with the moving behaviour and desire to relocate of this target group, namely the (potential) first-time buyers in the Randstad region.

It is important to mention that the findings used are based on general trends and that (regional) variations may exist within the Netherlands. The housing market is a dynamic domain influenced by various economic and demographic factors, which means that changes may occur over time.

4.1. The characteristics of the Dutch housing market

The housing market is currently facing several problems, a major factor of which is the striking rise in purchase prices, especially in 2022. The price index rose from 100 in 2015 to 185.6 in 2022, corresponding to an average selling price of €428,591 (CBS, 2023a). This significant price increase provides the basis for a further in-depth look at the characteristics and causes of the current housing market in this chapter.

Current housing supply

The average selling price of dwellings in the Netherlands is almost €429.000, Utrecht, Noord-Holland and Zuid-Holland stand out as the most expensive provinces. These provinces also have the highest number of households, resulting in higher demand for dwellings and higher prices compared to the rest of the Netherlands. On the other hand, the more affordable dwellings are generally located in border provinces such as Groningen, Friesland, Drenthe, Limburg and Zeeland.

The ratio of owner-occupied dwellings to rental dwellings in the Netherlands is not proportional, with 59% owner-occupied dwellings and 41% rental dwellings. This ratio has remained virtually unchanged in recent years. However, there has been a shift in ownership ratios within different age groups, as shown in table 4.1. These red markings indicate negative changes since 2012. The table shows the current distribution between rented and owner-occupied dwellings by age group for self-contained households.

Table 4.1 Trend in type of ownership 2012 towards 2021 (own work, from BZK & CBS, 2021)

Current type of ownership by age								
	2012		**2015**		**2018**		**2021**	
	Owner-occupied dwelling	*Rental dwelling*	*Owner-occupied dwelling*	*Rental dwelling*	*Owner-occupied dwelling*	*Rental dwelling*	*Owner-occupied dwelling*	*Rental dwelling*
17-24 years	20%	80%	16%	84%	16%	84%	14%	86%
25-34 years	53%	47%	48%	52%	47%	53%	42%	58%
35-44 years	68%	32%	67%	33%	67%	33%	65%	35%
45-54 years	68%	32%	69%	31%	68%	32%	71%	29%
55-64 years	64%	36%	66%	34%	65%	35%	67%	33%
65-74 years	57%	43%	60%	40%	61%	39%	59%	41%
>75 years	38%	62%	42%	58%	44%	56%	48%	52%
Total	*58%*	*42%*	*58%*	*42%*	*59%*	*41%*	*59%*	*41%*
Total amount	*4258300*	*3039400*	*4342300*	*308500*	*4481800*	*3169500*	*4603500*	*3256400*

Since 2012, there has been a trend with households up to 44 years of age living less often in owner-occupied dwellings. The biggest changes are seen in the age groups 25-34 years and over 75 years. By 2021, the percentage of young people in owner-occupied dwellings will have decreased by 6% compared to 2012. While among older people (>75 years old), on the contrary, a higher proportion live in owner-occupied dwellings in 2021 compared to 2012. This shift is probably caused by the increasing difficulties for young people in the owner-occupied market and older people staying longer in owner-occupied dwellings, with them less likely to move to rented dwellings due to factors such as rising rents and a lack of suitable housing, making it more difficult to move on.

Table 4.2 Decrease of people in the age between 17 - 24 years in the housing market (own work, from BZK & CBS, 2021)

	2012	**2015**	**2018**	**2021**
17-24 years	4,4%	4,3%	3,3%	3,1%

In the 17-24 age group, there is a striking difference in recent moving behaviour, as shown in figure 4.1. Since 2018, there has been a clear decrease in the number of relocations among young people compared to 2012 and 2015. This trend is also reflected in the share of young people in the housing market, which declined sharply after 2015 (BZK & CBS, 2021). These changes suggest that young people are increasingly choosing to stay with their parents or stay longer in student accommodation, especially since the replacement of the "basisbeurs" by student loans in 2015. This shows that young people aged 17-24 are struggling to enter the housing market.
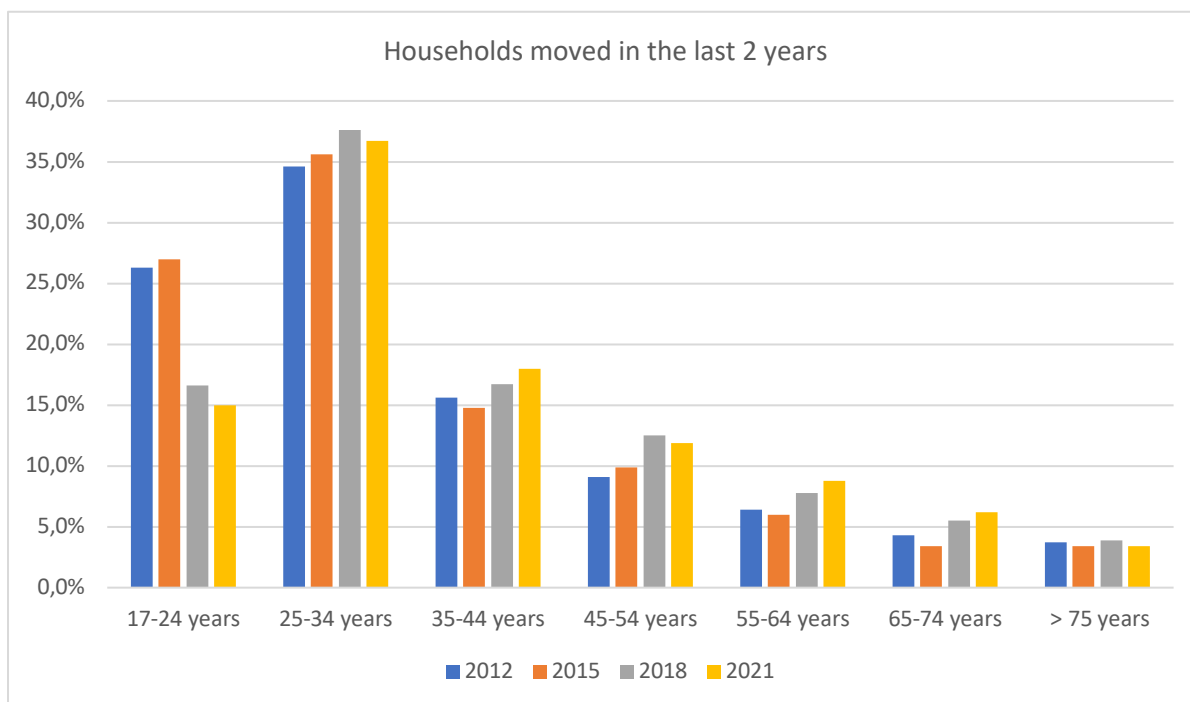
Figure 4.1 trend in movement by age, BZK & CBS (own work, 2023)

Figure 4.1 shows that the 25-34 age group is the most active in moving behaviour, with an increase since 2012. Figure 4.2 shows the most striking ownership change in this age group. Thereby, the share of rented dwellings increases (shown by the orange line), while the share of owner-occupied dwellings decreases slightly (blue line) among households aged 25-34 in the total rent and owner-occupied market.
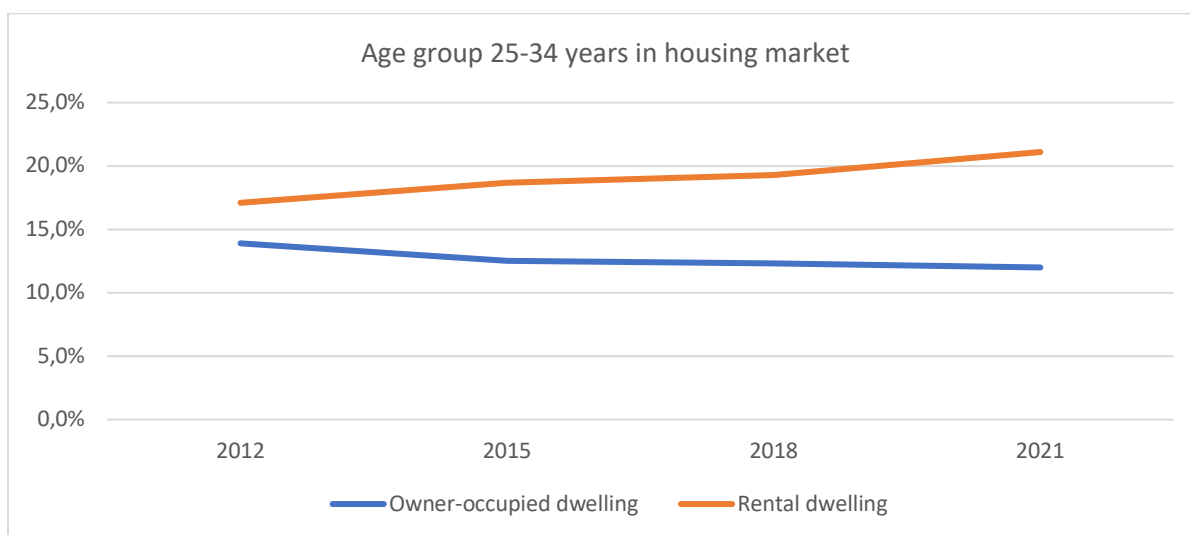
Figure 4.2: More young households in the rental sector, BZK & CBS (own illustration, 2023)

Ownership ratios in the Netherlands have changed significantly in recent years. Figures 4.3 and 4.4 show the curve of ownership ratios to age. The age at which people make the switch from the rental housing market to the owner-occupied housing market has increased, as has the age at which the switch from the owner-occupied housing market to the rental housing market takes place.
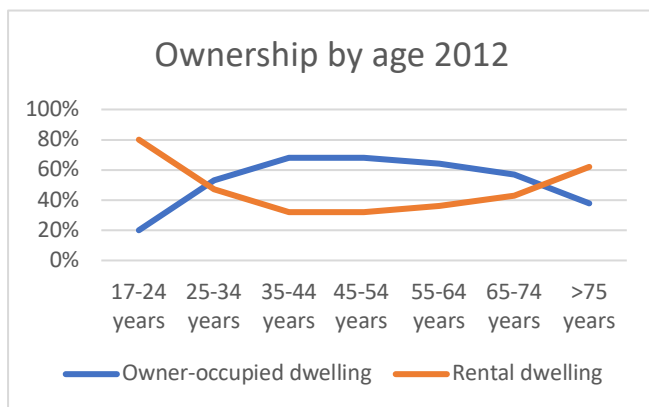
Figure 4.3: Ownership by age in 2012, BZK & CBS (own illustration, 2023)
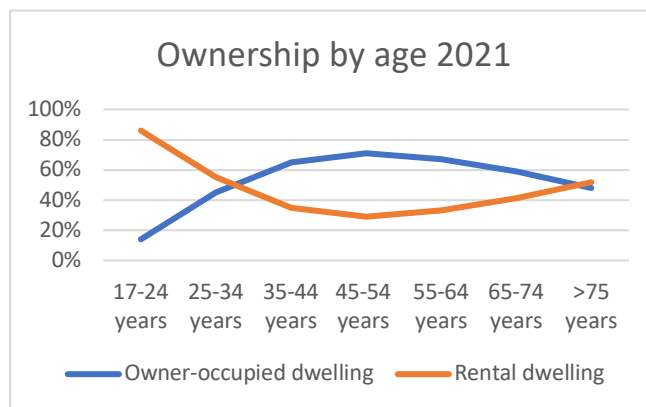
Figure 4.4: Ownership by age in 2021, BZK & CBS (own illustration, 2023)

Single family dwellings vs. Apartments

Besides variation in ownership, the Netherlands also shows diversity in housing types. About 77% of households reside in single-family houses, while 33% reside in flats. Research on the relationship between single-family houses and flats includes relevant factors such as income, ownership ratio, age and urbanity. A correlation is present between those with income below modal and flat occupancy (MFD). The contrast in housing types between households with income below modal and those with at least 1 times modal is illustrated in Figure 4.5. Figure 4.6 shows that flats are largely owner-occupied dwellings, while the majority of owner-occupied dwellings are owner-occupied.
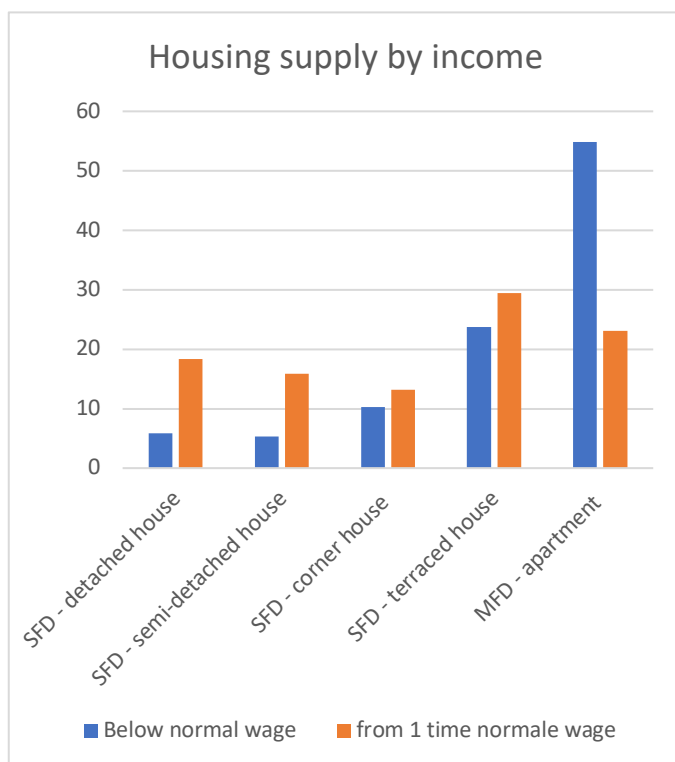
Figure 4.5: Relation between income and housing type, BZK & CBS (own illustration, 2023)
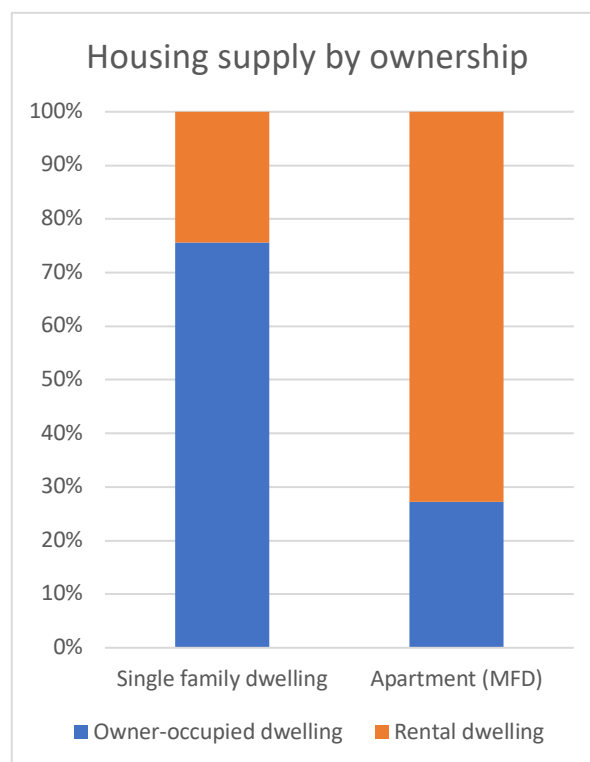
Figure 4.6: Relation between ownership and housing type, BZK & CBS (own illustration, 2023)

Besides income and ownership, age and urbanity also play a role in the difference between single-family dwellings and apartments. Urban centres have relatively more apartments than villages, as shown in Figure 4.8. Figure 4.7 shows a clear age-related distribution of single-family dwellings and apartments. In this regard, the curve indicates changes in housing type over a household's life cycle.

Generally, people start in apartments, move to single-family dwellings as the life course progresses, and show a transition back to apartment living later in life.
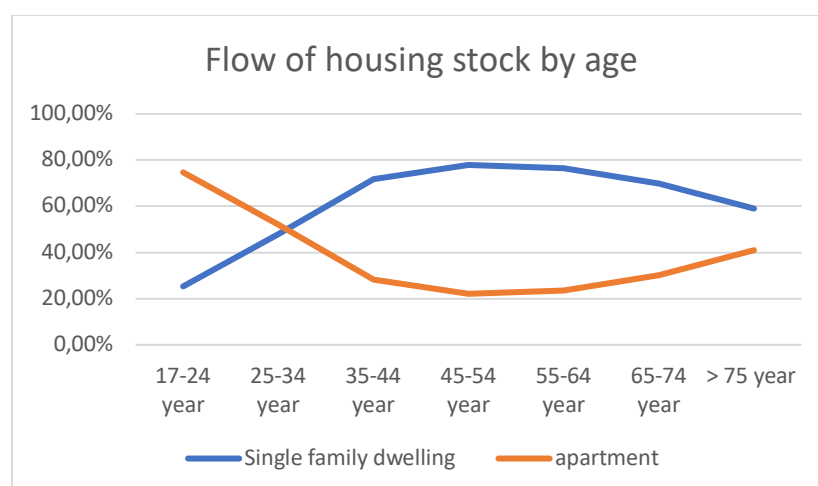
Figure 4.7: Relation between type of housing and age, BZK & CBS (own illustration, 2023)

Living environment

Regarding the geographical location of households in the Netherlands, according to the ABF classification, a significant proportion (40%) are in the "urban fringe" living environment, as shown in Table 4.3. This environment includes neighbourhoods just outside the city centre, with a greater distance from the centre but still within the city limits. This environment includes neighbourhoods just outside the city centre, with a greater distance from the centre but still within the city limits. This prevalence can be explained by the density of such neighbourhoods and their prevalence in the Netherlands. In the "city periphery" residential area, the distribution between single-family dwellings and apartments is reasonably balanced. In contrast, apartments predominate in the "urban centre", while in more rural living environments such as "village centre" and "rural living" there are more single-family dwellings, as shown in Figure 4.8. Large differences can also be seen in the differences between provinces, for instance Randstad provinces are logically more urban and provinces in the north of the country are more centre village. Thus, the living environments are not evenly distributed across the Netherlands.

Table 4.3: Living environments in the Netherlands, BZK & CBS (own table, 2023)

	urban city centre	urban peripheral	Urban green	Village centre	Rural living
The Netherlands	8%	40%	13%	29%	10%
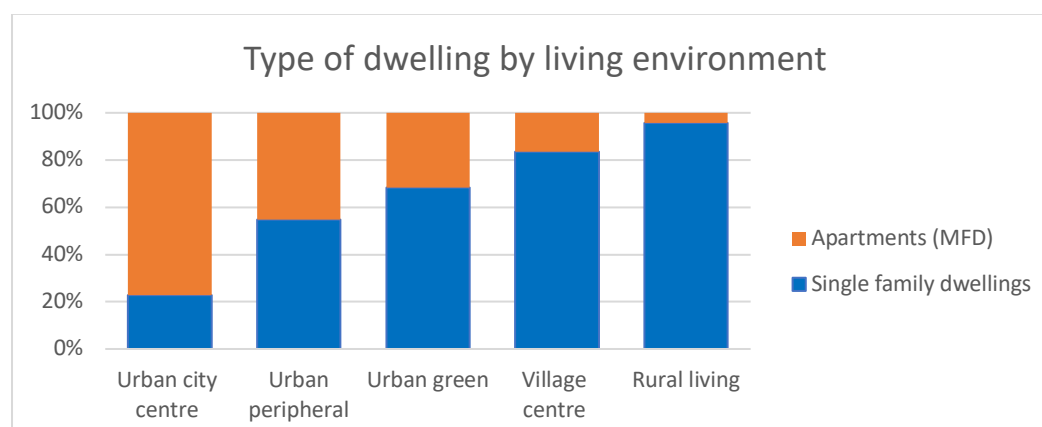
Figure 4.8: Relation between living environment and type of housing, BZK & CBS (own illustration, 2023)

Dwelling characteristics

In the year 2021, the average dwelling in the Netherlands showed the following profile: a purchased terraced dwelling with four bedrooms and a living area of about 105 square metres. Overall, this picture has remained stable since 2012, but there have been changes in the distribution of living space. In 2012, the 90- to 119-square-metre category dominated, albeit with less pronounced differences towards smaller or larger dwellings. For example, in 2012, almost 10% of the dwellings had an area of less than 50 square metres, while in 2021 this percentage is almost halved.

This trend can be attributed to increasing housing shortages, which has led to substantial expansion of the housing stock to meet growing demand, especially for low- and middle-income households. Efforts to build new housing have mainly resulted in standard dwellings of common dimensions, with no specific focus on dwellings with smaller or larger surface areas.

The Dutch housing market is considered "overheated", especially in the Randstad region. The provinces of Utrecht, Noord-Holland and Zuid-Holland in the Randstad showed remarkable differences in housing characteristics compared to the rest of the Netherlands. The higher population density in Randstad results in a higher demand for dwellings, as reflected in the housing shortage formulated by BPD (2023). This high demand requires an expanded housing stock in the region to meet rising demand.

Owner-occupied dwelling
Single-family dwelling
4 bedrooms
90 - 119 m2

Figure 4.9: Characteristics of Dutch housing market, BZK & CBS (own illustration, 2023)

Table 4.4 Distribution of housing type in the Netherlands compared towards the Randstad (own work, from BZK & CBS, 2021)

Housing type	NL	Randstad
Owner-occupied dwellings	59%	54%
Rental dwellings	41%	46%
SFD - detached dwelling	14%	6%
SFD - semi- detached dwelling	13%	7%
SFD - corner dwelling	12%	11%
SFD - terrached dwelling	28%	30%
Apartments	33%	46%

In Randstad, the ratio between rented and owner-occupied dwellings is almost fairly distributed, with 54% owner-occupied dwellings and 46% rented dwellings, as shown in table 4.4. This region is also distinguished by a strikingly different distribution between single-family dwellings (SFD) and apartments (MFD) compared to the rest of the Netherlands. About half of the housing stock (46%) consists of apartments, while this percentage is lower in the Netherlands as a whole, at 33%. The housing supply in Randstad differs from the national average, with fewer detached and semi-detached dwellings. This reflects the urban nature of Randstad, where large urban centres lead to a concentration of dwellings in these areas. In contrast, other parts of the Netherlands, especially rural and remote areas, tend to have a more diversified housing stock spread across different dwelling types.

The diversity in Randstad is also reflected in the residential environment distribution, where more households in Randstad live in urban city centre and urban peripheral compared to the rest of the Netherlands. Moreover, the Randstad often offers a wide range of housing types, ranging from high-rise flats to canal houses and single-family dwellings. In contrast to this scenario, rural areas tend to have more single-family dwellings, as shown by the 2021 WoON data.

It is also noteworthy that dwellings in the Randstad tend to be smaller, with an average area between 70 and 119 square metres per dwelling. This is reflected in the number of rooms per household, where apartments in Randstad tend to have 1-3 rooms, while single-family dwellings tend to have 4-5 rooms.

The price level and availability of dwellings in Randstad differ significantly from other parts of the Netherlands. Due to the high demand for dwellings in this area, property prices here tend to be significantly higher than elsewhere in the Netherlands, as illustrated by the BPD "Hittekaart" (2023). Finding affordable dwellings in Randstad region poses a significant challenge.

The expected average selling prices of dwellings in Randstad start from €300.000, while the national average starts at €200.000 (CBS, 2023a). Despite these price differences, it appears that a higher percentage of the population is willing to move in Randstad (39%) compared to the Netherlands as a whole (35%). This trend is particularly striking within the 17-34 age group, which is probably influenced by leaving the parental home and increased moving behaviour during the student years. The percentage of people with a willingness to move is significantly higher within these younger age groups than in older age groups, as shown in figure 4.10 (BZK & CBS, 2021).
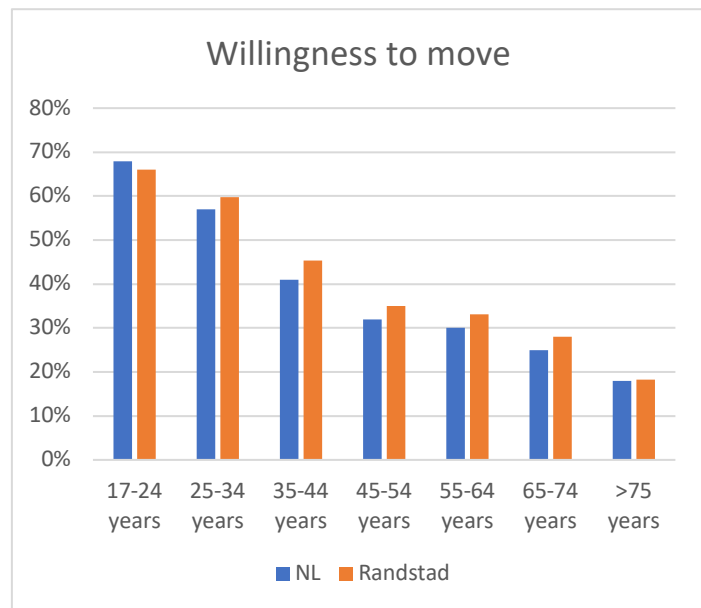
Figure 4.10: Households with a willingness to move by age in the Netherlands compared to Randstad, BZK & CBS (own illustration, 2023)

4.2. Characteristics of the housing market for first-time buyers in Randstad

In today's housing market, young people face significant barriers to entering the owner-occupied housing market, such as increased prices, increasing competition and economic shifts (Groot, 2022). This section highlights the specific characteristics of the housing stock and housing preferences of young people in the Randstad region.

The housing market for young households (aged 17-34) in the Randstad region shows remarkable differences compared to the rest of the Netherlands, partly influenced by the attractiveness of urban areas for young people. Cities offer benefits such as employment, educational opportunities and cultural facilities (Husby et al., 2019). Higher-educated people often prefer urban living because of career prospects and diverse employment opportunities in urban centres. Urban growth is driven by both natural population growth and migration, especially among the higher educated (Painter & Buitelaar, 2021).

Living preferences of millennials indicate a preference for sociability, liveliness and social interactions (Grunder, 2018). Research on housing preferences suggests a preference for medium-sized cities (50.000-150.000 inhabitants) because of nearby facilities and a lively environment. For those who prefer a rural environment, tranquillity and space are prioritised (Grunder, 2018).

The next section highlights the current housing characteristics of young people (aged 17-34) in the three Randstad provinces (Utrecht, Noord-Holland and Zuid-Holland) using the Woononderzoek (2021).

In Randstad, the distribution of rented and owner-occupied dwellings among young people (17-34 years) is not proportional, with more young people in rented dwellings (64%) than in owner-occupied dwellings. Logically, the youngest in the target group (17-24 years) are less likely to have owner-occupied dwellings (12%) than "older" young people (25-34 years) at 40%.

It further shows that the majority of young people in Randstad live alone (51%) and less in a family situation. Relatively speaking, young people are more likely to live in cheaper housing types, such as apartments and terraced dwellings, as shown in table 4.5.

Rental dwellings
Appartments
1-3 bedrooms
<50 m2 - 89 m2
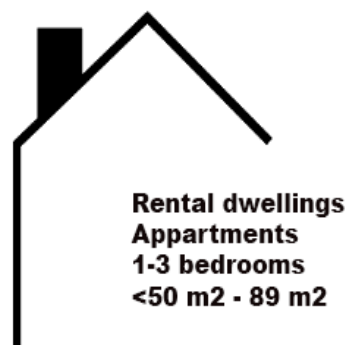
Figure 4.11: Housing characteristics of the target group, BZK & CBS (own illustration, 2023)

Table 4.5: Situation of younger people in Randstad, BZK & CBS (own table, 2023)

Young people (17-34 years old) in Randstad	
Single	51%
Couple	23%
Couple with child(ren)	18%
Single parent with child(ren)	5%
Non-family household	3%
Apartments	69%
Terraced dwelling	20%
Corner dwelling	7%
semi-detached dwelling	2%
detached dwelling	2%

In Randstad, young people tend to occupy dwellings with a limited number of rooms, namely 1-3 rooms. A comparison over the years in the Randstad reveals that a larger number of households in the young target group currently reside in dwellings with fewer rooms. This change is shown graphically in table 4.6, where the colour green symbolises an increase and orange indicates a decrease compared to 2012.

Table 4.6: Trend of housing characteristics of young people in Randstad since 2012, BZK & CBS (own table, 2023)

Number of rooms	2012	2015	2018	2021
1 - 2 rooms	30%	31%	32%	34%
3 rooms	29%	28%	27%	28%
4 rooms	23%	21%	22%	19%
5 rooms	14%	14%	13%	13%
>6 rooms	5%	6%	7%	7%

The difference with the Dutch average can be explained by house size. For both rented and owner-occupied dwellings, a substantial part of the target group lives in dwellings with a floor area of 50-69 square metres (23%) or 70-89 square metres (23%). In addition, a substantial proportion of the target group lives in dwellings with a floor area of less than 50 square metres (20%).

Table 4.7: Trend in housing characteristics since 2012, BZK & CBS (own table, 2023)

Square meters of living space	2012	2015	2018	2021
< 50 m2	19%	18%	19%	20%
50-69 m2	24%	21%	21%	23%
70-89 m2	21%	26%	24%	23%
90-119 m2	18%	23%	23%	20%
120-149 m2	11%	9%	9%	9%
150-199 m2	5%	6%	3%	3%
> 200 m2	3%	2%	1%	2%

In recent years, there has been a modest shift in the distribution of living space. Since 2012, fewer households within the target group have settled in spacious dwellings with an area of >120 m2. In contrast, a slightly increasing number of households have moved into medium-sized dwellings (70-119 m2) in 2021 compared to 2012, as illustrated in table 4.7. Young people in the 17-34 age group, both in the Randstad and throughout the Netherlands, on average occupy dwellings slightly larger than 70-119 m2, as illustrated in figure 4.12. Nevertheless, the data show that young people in the Randstad generally live smaller than their rural peers, even with a smaller living area, which may be influenced by the higher population density in the Randstad.
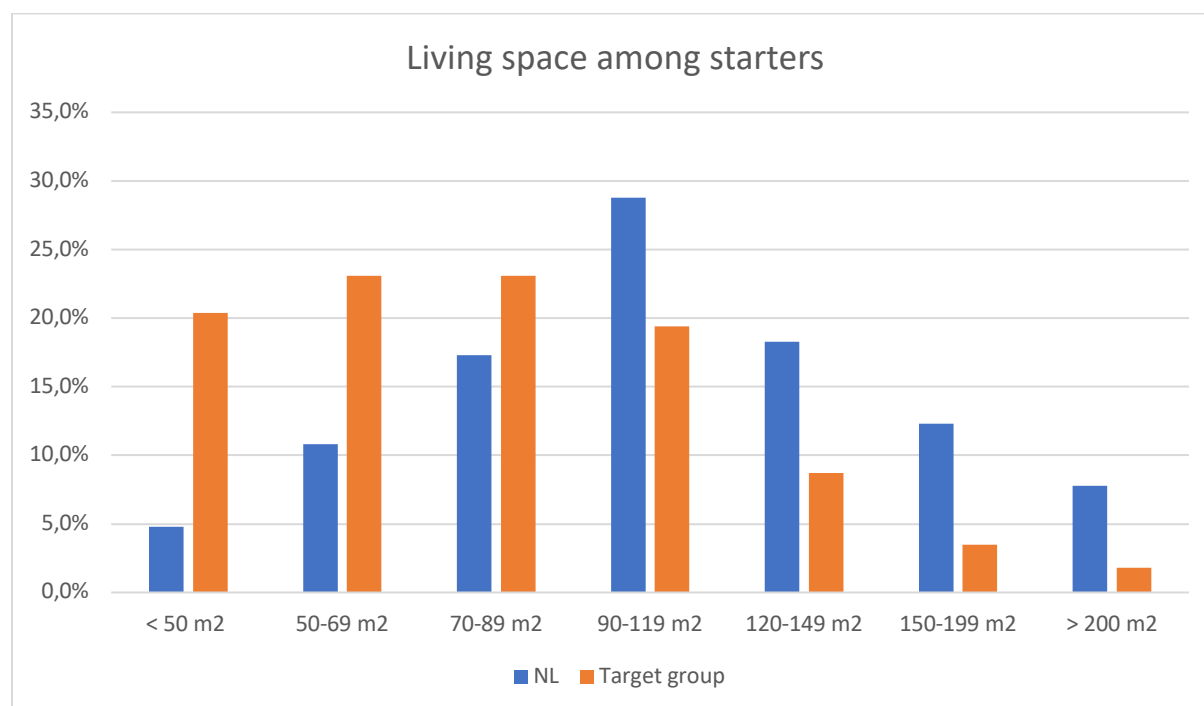
Figure 4.12: Size of the dwelling among first-time buyers, BZK & CBS (own illustration, 2023)

Of all young people in both rented and owner-occupied dwellings, the majority (67%) want to move within two years. The propensity to move is significantly higher among young people currently in rented housing, where 70% intent to move, compared with 43% of those in owner-occupied dwellings.

Research by De Groot et al (2011) confirms that owning one's own dwelling limits mobility, as also reflected in WOON 2021 figures. Households in rented dwellings generally have a more urgent willingness to move than those in owner-occupied dwellings. Nevertheless, a majority in both groups, both rented and owner-occupied households, cherish the willingness to move (BZK & CBS, 2021). The difference in urgency can be explained by the fact that owner-occupied dwellings are often seen as investments, which entails wealth accumulation. Moreover, owner-occupied dwellings are often more spacious and of better quality than rented ones, which reduces the willingness to move (Feijten & Mulder, 2002).

4.3. Moving propensity and housing preferences among young households in Randstad

WoON 2021 data show that in the Randstad region, a significant proportion of young households (aged 17-34) intend to move without having already found a new dwelling (see table 4.8). Only 6% of these households have acquired a new dwelling, implying that 61% still harbour a willingness to move without a new place to live (BZK & CBS, 2021). This phenomenon is related to the well-known scarcity in the Randstad housing market. Almost half of those with a willingness to move (49%) have been actively searching for at least six months.

To interpret the position of these households, it is relevant to look at their motives and housing preferences. About a third of households with a willingness to move either aspire to live independently or give their current dwelling as their reason for moving. The percentage of households with a willingness to move has increased by about 17% since 2012, possibly influenced by favourable mortgage conditions. Nevertheless, the increasing tightness in the housing market makes realising this willingness to move increasingly challenging.

Table 4.8 Trend in moving desire since 2012, BZK & CBS (own table, 2023)

	2012	2021
Willingness to move	**50%**	**67%**
Move uncertain	48%	46%
Move certain	25%	20%
Active looking	10%	17%
Ugrent looking	17%	17%
Amount of households	*398300*	*451700*

In 2021, almost half (46%) of households with a willingness to move in the Randstad are uncertain about finding a suitable dwelling, while only 20% are certain about moving. The number of certainty-convinced households has decreased, with an increase in households actively looking (BZK & CBS, 2021), highlighting the ongoing challenge of finding a dwelling in the Randstad. Research (Goetgeluk, 1992) shows that the moving motive influences the final decision. When there is an urgent willingsness to move, for example, due to changes in work situation, people feel pressure to decide quickly. Not being able to find a suitable dwelling leads to substitution behaviour, where households adjust their preferences or settle for alternative housing options.

25-34 jaar	17-24 jaar

Legend (both charts):
- marriage/ living together
- end of relationship
- desire for independent living
- Health
- study
- work
- Financial reasons
- Current dwelling
- current living environment
- closer to family
- other reasons
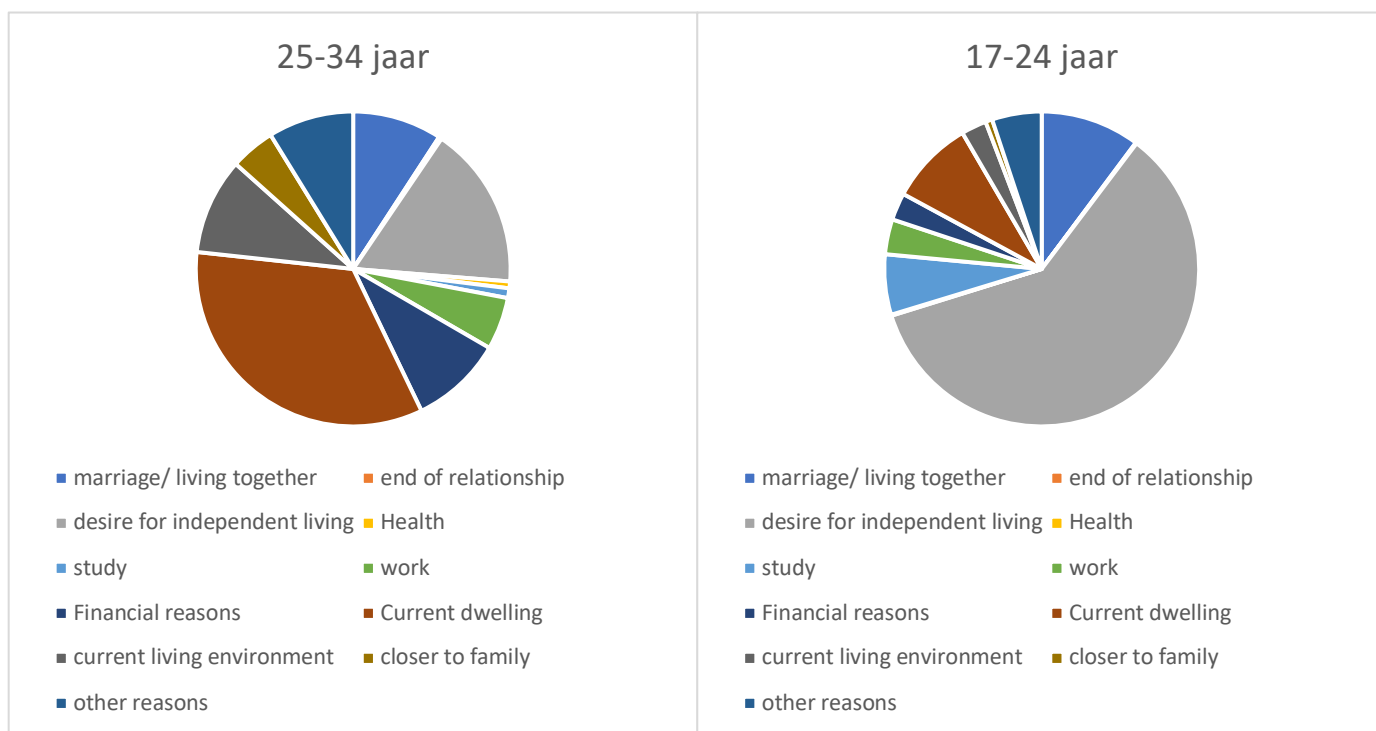
Figure 4.13: The motives of younger households to move, BZK & CBS (own illustration, 2023)

Figure 4.14: The changing motives of young households to move, BZK & CBS (own illustration, 2023)

Young households in Randstad with a willingness to move largely prefer to live in an owner-occupied dwelling (56%), with a notable difference between age groups. In the 25-34 age group, 67% have the desire for an owner-occupied dwelling, while in the 17-24 age group this is lower at 38%, as here the preference for rented housing is relatively high.

The willingness to move and ownership preference are partly influenced by income and age. Among young people (aged 17-24), the majority earn below modal (72%), reflecting the realistic desire for a rental property according to the life-cycle theory. Income and house price are crucial in determining housing desire. In the 25-34 age group, a smaller proportion indicates a willingness to move to live independently, with a larger proportion giving up their current dwelling as a moving motive.

Only a small percentage of young households with a willingness to move have an urgent willingness to move, while the majority are potential movers (42%), similar to potential first-time buyers (40%). Single-family owner-occupied dwellings are most desired, followed by rental apartments. Single-family rental properties and owner-occupied apartments are less preferred. Urban character and youthful age make rental housing attractive, which differs significantly from less urban areas and age groups between 35 and 65 years (see figure 4.15).

Table 4.9: Preferred living environment of the target group, BZK & CBS (own table, 2023)

Desired living environment among young households in Randstad	%
Urban city centre	16%
Urban peripheral	47%
Urban green	9%
Centre village	20%
Rural living	8%

Desired dwelling characteristics largely correspond to the current housing characteristics of young households. The most desired living environment is urban peripheral (47%), followed by village centre (20%). The smallest share wants to stay in the urban green living environment, with a large proportion considering relocating to urban peripheral.

Majority of households wish to stay in the same municipality (61%), while a significant proportion are not yet sure (23%) and, remarkably, only 16% plan to change municipalities. While many prefer the same municipality, almost all want to stay in owner-occupied dwellings (including almost half of renters who want to move to an owner-occupied dwelling). This is influenced by the current preponderance of rental dwellings in the young target group in Randstad (75% rental versus 25% owner-occupied).
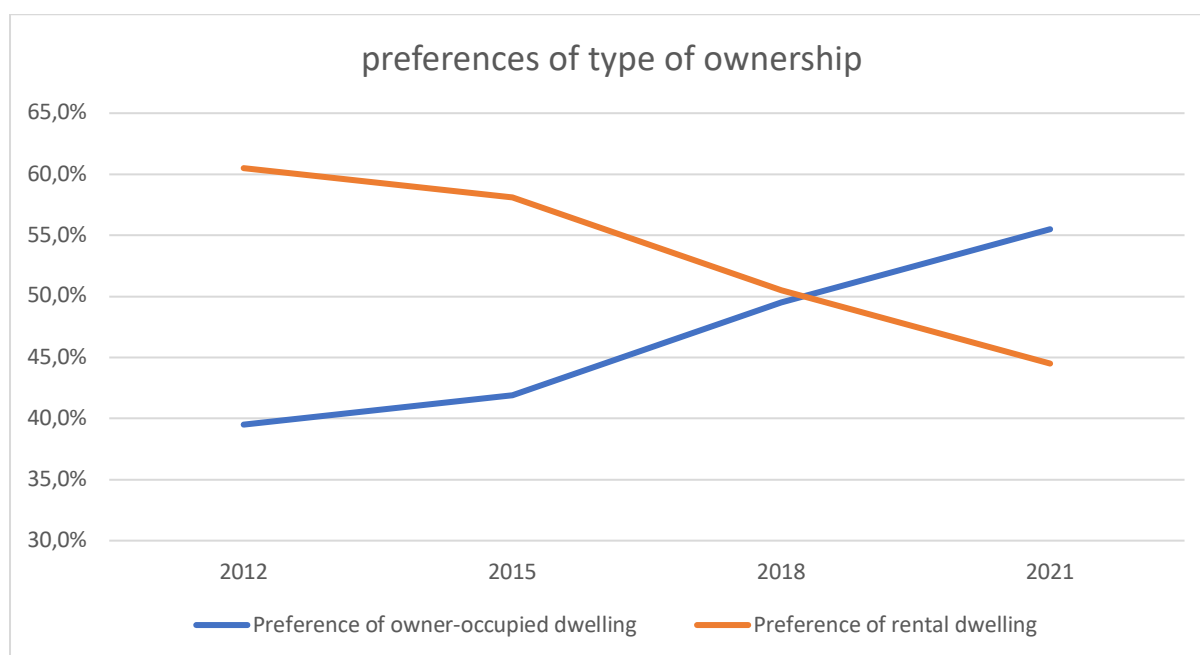
Figure 4.15: Changing trend in ownership preferences, BZK & CBS (own illustration, 2023)

Since 2012, there has been a noticeable change in the preferred form of housing, with a notable trend towards owner-occupied dwellings. Figure 4.15 shows that a shift took place in 2018, with more households preferring owner-occupied dwellings. This change can possibly be attributed to favourable conditions for taking out mortgages, with a discussion of this topic in the subsequent chapter on the financial situation of potential buyers.

Young households in the Randstad tend to prefer dwellings with three rooms (32%) or four rooms (26%), while a smaller group prefers dwellings with 1-2 rooms (16%). Interestingly, the preference for the number of rooms is often related to the distinction between rented and owner-occupied dwellings. Renters tend to prefer a more limited number of rooms, while buyers tend to prefer dwellings with more rooms.

Owner-occupied dwellings
Urban peripheral
3-4 rooms
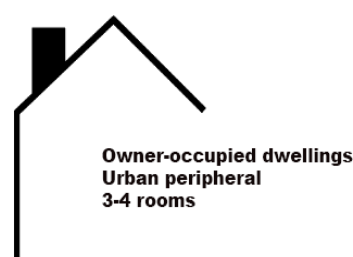
Figure 4.17: Preferred housing characteristics of the target group, BZK & CBS (own illustration, 2023)

When examining young households in the Randstad region, a substantial portion prioritizes the dwelling itself (43%). Location (34%) and price (18%) also hold significance, albeit to a lesser degree. The fact that just under half of the target group values their current neighbourhood suggests a moderate attachment to a specific area. Notably, the presence of a primary school and supermarkets within a 5-kilometre radius is considered important by this target group.

Regarding concessions young households are willing to make, it is evident that many are amenable to adjustments based on specific preferences, such as having a garden or bathtub. However, a lower proportion of potential movers are inclined to compromise on the purchase price or explore alternative dwelling types (BZK & CBS, 2021).

While the WoON survey sheds light on certain housing preferences, it is imperative to acknowledge that certain preferences have been omitted. Housing preferences are inherently subjective and contingent on individual factors. Other research suggests that a considerable number of millennials, including those residing in urban areas, express a preference for owner-occupied dwellings due to the associated freedom and flexibility. Nonetheless, financial constraints often hinder accessibility to owner-occupied dwellings for city dwellers, prompting some to seek housing options in village or rural areas (BPD, 2019).

4.4. Conclusion

The main objective of Chapter 4 was to address the first research question: *"How did the Dutch housing market change since the economic crisis of 2012?" (SRQ1).*

This question was addressed by answering two separate sub-questions, starting with the first sub-question: *What are the characteristics of the Dutch housing market? (SRQ1.1)*

After a general analysis of the Dutch housing market, a deeper look at the housing market focused on the target group of this study is taken by answering the second sub-question of this chapter: *"What are the current characteristics of the housing market for first-time buyers in Randstad?"* (SRQ1.2)

Dutch housing market

In recent years, the Dutch housing market has undergone significant changes due to a growing population and increasing demand for affordable dwellings. The housing shortage has led to substantial price increases, peaking in 2022.

Some notable trends in the Dutch housing market in 2021 have been identified through the WoON analysis:

- An increase in households aged between 17 and 44 in the rental sector in 2021 compared to 2012;
- An increase in households aged 45 and over in the owner-occupied housing market in 2021 compared to 2012;
- A sharp decline in relocations among young people (aged 17-24) since 2015;
- An increase in the age at which people move into owner-occupied dwellings;
- Older people staying longer in the owner-occupied housing market.

There has been a shift in the ownership ratios of certain age groups since 2012. Younger households (< 44 years old) seems to experience difficulties in finding owner-occupied dwellings due to rising prices and increasing tightness in the housing market. It is difficult for younger households to enter the owner-occupied housing market as they have accumulated equity to a lesser extent, this can be perceived as difficult during a competitive housing market. For this reason, a part of this age group is more likely to (have to) choose to live in a rental property.

Older households (> 45 years), with more accumulated wealth and higher incomes, seems to experience fewer problems in the housing market. They experience less difficulties in the housing market because they tend to live in owner-occupied dwellings and can take this equity with them to the next dwelling or are allowed to take the current mortgage conditions for a new one.

The Randstad region is considered an 'overheated' area with a tight housing market and high prices. The three provinces within Randstad are characterised by an urban character, with an over-representation of apartments. Strong competition and high prices in the region lead to a high propensity to move, resulting in a vicious circle of unmet demand and lagging households with a willingness to move.

Housing market for first-time buyers in Randstad

The young age group of 17 to 34 years in the Randstad region shows a significant willingness to move. However, the actual moving behaviour of this age group across the Netherlands has declined, indicating a growing gap between this group's willingness to move and their ability to realise these desires.

On average, households in Randstad show a higher willingness to move than elsewhere in the Netherlands, especially within the young age group, where the propensity to move has increased by 17% since 2012. The presence of a significant number of students in Randstad contributes to the high percentage of young households in this area. Moving behaviour follows the life and career cycle, which is evident in the willingness to move. Young people often start in rental dwellings, and as they continue their life cycle, the desire for owner-occupied dwellings grows.

Since 2015, the demand for owner-occupied dwellings within the young target group has shown an upward trend, while the preference for rental properties has decreased. This shift can be attributed to favourable mortgage rates, which have been significantly low over the past few years. These favourable mortgage rates have encouraged households to take out mortgage loans with ample financing options, boosting demand for owner-occupied dwellings. At the same time, unfavourable conditions in the rental sector, such as high rents and long waiting times for social housing, have reduced the attractiveness of rental properties.

Despite this trend, the young age group in Randstad mainly lives in relatively small rental houses with 1-3 bedrooms. However, their housing preferences are evolving towards a preference for larger owner-occupied dwellings with 3-4 bedrooms, and the most preferred living environment is often "urban peripheral", followed by "centre village". In case of concessions, should the housing market not be accessible with current housing preferences, they prioritise the dwelling itself over the environment in which the dwelling is located.

After analysing the sub-questions, the question of this chapter can be answered by concluding that a general trend can be observed which translates into a competitive and tight housing market. These market dynamics are characterised by strong competition, with the Randstad region standing out as the tightest housing market. As a result of the substantial and growing demand for owner-occupied dwellings, together with high housing prices in both the owner-occupied and rental sectors, many households under the age of 44 experience an unrealised willingness to move. The age at which households enter the owner-occupied housing market has shifted, as has the age at which older people leave this market to switch to the rental housing market.

Within the young age group of 17 to 34, there is significant demand for the next step in the life cycle, namely buying their own dwelling and accumulating equity. Preferably, this happens in the urban peripheral living environment, which is also the most common living environment in both the Netherlands and Randstad, with village centre as the second most chosen preference.

DEMAND

In this part of the research, the demand side of the target group is addressed by examining the current position of first-time buyers in the Netherlands based on their financial position and the government regulations that influence this position. The financial position of first-time buyers in the Randstad region is investigated based on the second research question, namely: *"What is the current financial position of the first-time buyer?" (SRQ 2).*

To answer this question, two sub-questions have been drafted. First, it examines the government regulations that have affected the financial position of first-time buyers, with the first paragraphs of chapter 5 answering the question: *"What regulatory developments in the past few years had a big* influence on the position of first-time buyers*?" (SRQ 2.1).*

This is followed by a deeper look at the actual financial position of first-time buyers by looking at financial options, such as mortgages and financeability. The question answered in the final paragraphs of chapter 5 is: *"How did the financial capabilities for first-time buyers change over the years?" (SRQ 2.2).*

In addition to the financial position of first-time buyers, chapter 6 provides insight into the preferences and considerations of this target group by answering the third and final research question: *"Which features, in terms of housing characteristics, location and personal considerations, are decisive in the trade-offs that first-time buyers make during the decision-making process to buy a dwelling in the owner-occupied housing market?" (SRQ 3).*

This third research question is examined through quantitative analysis of the conducted survey, set up by the researcher, among respondents within the target group. The survey includes questions on the preferences and concessions that first-time buyers are willing to make. It distinguishes between those who have recently realised their desire to buy and households that cherish the desire to buy. Through this comparison, a complete overview of stated and revealed preferences can be generated.

The first part of chapter 6 focuses on the preferences of first-time buyers during the owner-occupied dwelling purchase process, asking: *"What are the preferences first-time buyers keep in mind during their decision-making process to buy a dwelling?" (SRQ 3.1).*

The second part of this chapter then examines what concessions they are willing to make to their housing preferences if the offer does not meet the desired characteristics. This information is obtained by answering the last sub-question: *"Which concessions do first-time buyers make during the decision-making process to buy a dwelling?" (SRQ 3.2).*

5. The financial position of first-time buyers

To look in more detail at the position of the first-time buyer in the housing market, as mentioned earlier, several factors influence this position. The influences exerted by the government to make the housing market more accessible can be divided into two aspects, namely expanding the supply of suitable dwellings and influencing the position of the potential buyer. Both aspects are further explained in this section, starting with the influences on the financial position of the starter.

5.1. Financial position

First, this part of the chapter will look at the various aspects that affected the financial position of first-time buyers. Looking into the mortgage interest deduction, the property transfer tax, the income of the partner, the National Mortgage Guarantee and the starters loan.

5.1.1. Mortgage interest deduction

In 2013, the Dutch government took drastic measures concerning interest-only mortgages, as part of broader reforms in the mortgage market. One of the crucial changes was the introduction of new regulations regarding interest deductions for repayment-free mortgages. The trigger for these measures was the increasing popularity of interest-only mortgages in the Netherlands, leading to concerns about the financial vulnerability of households (Weekers, 2012).

The mortgage forms that are currently eligible for mortgage interest deduction are mortgage forms such as annuity mortgages or linear mortgages. Before 2013, however, the interest-only mortgage was also eligible for mortgage interest deduction. With this form of mortgage, as the name suggests, no repayments are made on the original loan amount during the term, and only interest payments are made. This approach carries risks, as no capital is built up during the term. At the expiry of the term, usually after 30 years, the full loan amount still needs to be repaid. However, since 2013, mortgages may only qualify for mortgage interest deduction if they are repaid within a 30-year term (Belastingdienst, 2023a).

The interest-only mortgage can still be taken out on a partial basis. However, no mortgage interest deduction can be claimed when taking out this form of mortgage as it can only be used when the mortgage will be repaid within 30 years. When a first dwelling is bought, with the mortgage being repaid within 30 years, this mortgage falls into tax box 1. In Box 1, mortgage interest can be deducted from the tax payable, increasing the disposable income for the household. Before the abolition of the mortgage interest deduction for the interest-only mortgage, people were able to derive significantly more financial benefits from the interest deduction because the interest rate remained the same throughout the term (Purperhart, n.d.). However, in 2013, the government made substantial changes to the mortgage interest deduction. As a result, the interest-free mortgage largely lost its appeal, as the interest on it is no longer tax deductible (Ranzato, 2022).

The restrictions on mortgage interest deduction encouraged homebuyers to choose mortgages where they were obliged to repay, such as annuity or linear mortgages. This builds equity in their dwelling and reduces debt, offering long-term financial benefits. It also stresses the importance of financial planning when buying a dwelling. Potential buyers should take into account the financial implications and should therefore ensure sufficient financial stability to meet their mortgage payments (Weekers, 2012).

Nowadays, an interest-only mortgage can still be taken out, however, this amount can contain a maximum of 50% of the dwelling's market value. The remaining part will have to be obtained through a repayment mortgage, for example, a linear or an annuity mortgage (Kloor, 2023b).

5.1.2. Property transfer tax

Different rates and regulations apply to property transfer tax in the Netherlands, depending on whether you are a starter, transferee or investor. This tax is levied when property changes hands, such

as when buying a dwelling. The rates and conditions have changed significantly in recent years, significantly affecting these various groups of buyers and investors (Belastingdienst, 2023b).

First-time buyers, defined as people aged between 18 and 34 years old, have a special property transfer tax exemption since 2021. This means they do not have to pay property transfer tax when buying a dwelling. This policy is designed to facilitate entry into the housing market for first-time buyers and help them realise their housing dreams. This policy is designed to facilitate entry into the housing market for first-time buyers and help them realise their willingness to move. This exemption applies to first-time dwellings where they will live themselves (Kloor, 2023a).

For buyers, those who already own their own home and want to buy a new dwelling from the age of 35, the standard property transfer tax rate applies. This rate is 2% of the purchase price of the new dwelling (Kloor, 2023a).

For real estate investors, a higher property transfer tax rate applies. Since 2021, investors have paid a rate of 8% on the purchase price of a dwelling, this share has increased to 10.4% since 2022. This increase is intended to discourage speculative investment in real estate and make the housing market more accessible to private buyers (Kloor, 2023a).

The exemption for first-time buyers by government influence has contributed to increased competition in the lower end of the market, which has increased prices. The purpose of these schemes by the government is to steer the property market, regulate investment and ensure a balance between different groups of buyers and investors (Vijlbrief, 2020).

5.1.3. Income partner
From 1 January 2023, there will be a major change in the Dutch mortgage market that will offer significant benefits to dual earners. From that date, mortgage providers will be allowed to fully include the second income of dual earners when calculating the maximum mortgage. This means that both incomes will be taken into account for 100% when determining the finance charge, giving two-income earners the same mortgage options as single-income earners with similar gross incomes. This adjustment represents a considerable shift from the situation in 2022, where only 90% of the second income was taken into account (Pijnenburg, 2022; Vereniging Eigen Huis, 2023)

The concept of funding burden is crucial in assessing the maximum mortgage households will be able to afford. It determines the amount of income that can be spent on the mortgage. As a result of this new regulation, dual earners can now get a higher mortgage than before, facilitating their access to the housing market. In some cases, this could mean that in 2023, dual earners are more likely to purchase a dwelling (Vereniging Eigen Huis, 2022).

On the other hand, homeowners and potential buyers with lower incomes, defined as those with an income of up to €31,000, have less good news. This group failed Nibud's 2023 'stress test', which means they will soon be able to borrow significantly less. The Nibud conducted this test to assess households' ability to meet minimum living costs, including energy costs, given high inflation. This could result in more limited opportunities for lower-income households to buy a dwelling or refinance their current mortgage (Pijnenburg, 2022).

5.1.4. National Mortgage Guarantee
The National Mortgage Guarantee (in Dutch: Nationale Hypotheek Garantie) (NMG) is a guarantee that applies to mortgages worth up to €405,000 in 2023. When you take out an NMG mortgage, you are assured of responsible and affordable financing. This mortgage guarantee offers homeowners protection against financial risks in case of forced sale, for example, and entitles them to lower interest rates. For example, in case you can no longer pay your monthly mortgage payments due to unemployment or disability, you could be forced to sell your dwelling. If the sale proceeds are not enough to pay off your remaining debt, the NMG, also known as the Home Ownership Guarantee Fund (in Dutch: Waarborgfonds Eigen Woningen), provides the difference in favour of the lender under certain conditions (Purperhart, n.d.-b).

In 2023, people can use NMG when purchasing a dwelling with a maximum value of €405.000. This limit will be increased to €435,000 on 1 January 2024. For mortgages that include additional energy-saving facilities, the NMG limit will be increased by 6%, amounting to €461.100. These changes increase the accessibility of NMG for homebuyers. The commission for NMG when taking out a mortgage will remain at 0.6% of the mortgage amount in 2024. The government aims to build 981.000 dwellings by 2030, two-thirds of which should be affordable. The affordability limit is indexed according to the consumer price index (CPI) and will be set at €390.000 in 2024 (MBZK, 2023).

5.1.5. Starters Loan

The "Starters Loan" is an additional financing to the regular mortgage for acquiring the first owner-occupied dwelling. Managed by the Stimuleringsfonds Volkshuisvesting Nederlandse Gemeenten (SVn), this loan bridges the difference between the housing price and the maximum mortgage. Conditions vary by municipality and are aimed at homebuyers with no previous buying experience who will live in the dwelling themselves. Among other things, municipalities determine the maximum principal amount and often apply age limits, such as 35 years.

The maximum Starter Loan is usually around 20% of the acquisition costs, with an average maximum of €30,000, depending on the municipality. The SVn Starters Loan functions as an extra mortgage on top of the regular mortgage, both under the National Mortgage Guarantee (NMG) and with a term of 30 years. The loan consists of a mortgage part and a Combination Loan, with no monthly payments due for the first three years. After three years, interest and repayment payments start.

Reassessment is possible after 3, 6, 10, and 15 years, with full repayment required after 30 years. Early repayment of the Starter Loan is penalty-free. Fees include 0.6% of the principal as a bail-in fee to the NMG. However, non-deductible interest after three years, higher monthly costs, and restrictions such as mandatory NMG for dwellings up to €405.000 in 2023 are disadvantages of the Starter Loan. As such, not all municipalities offer this loan (SNv, n.d.).

5.2. Supply

In this section, the various aspects that have influenced the supply of the owner-ouccupied housingmarket will be elaborated. This will be researched by looking into the "Woningbouwopgave", the "Woningbouwimpuls" and the Housing act.

5.2.1. "Woningbouwopgave"

The housing task in the Netherlands is a response to the prevailing housing shortage and the need to develop new dwellings to meet the growing demand for suitable and affordable housing. The primary objectives and challenges of this task have been set by the "Volkshuisvesting en Ruimtelijke Ordening" (VRO, 2022) and include the following key points:

Number of housing
The government aims to build nearly 1 million new dwellings, with a variety of dwelling types, including social rented, free sector rented and owner-occupied dwellings.

Availability
To meet the demand for affordable housing, the aim is that at least two-thirds of the new dwellings to be built will be available as affordable rental and owner-occupied dwellings. Specific attention will be paid here to housing first-time buyers and middle-income households.

Sustainability
The government actively aims to promote the construction of energy-efficient and environmentally friendly dwellings to meet the defined climate targets.

Livability
The housing task attaches value to the liveability of neighbourhoods and strives to create attractive, liveable environments with adequate facilities and green spaces.

Regional differences
The housing task is not distributed evenly across the Netherlands but takes into account regional differences to address diverse housing shortages.

This legislation aims to promote a balanced, equitable and sustainable housing market, enabling various income groups to access suitable dwellings (VRO, 2022).

5.2.2. "Woningbouwimpuls"

In 2019, the government introduced the "Woningbouwimpuls", allocating a budget of €1 billion to stimulate the construction of at least 65.000 affordable dwellings in regions with the greatest housing shortages. Municipalities have the option of claiming the "Woningbouwimpuls" to speed up and facilitate the construction of dwellings, increase the number of new homes built in specific projects, or improve the affordability of these dwellings for first-time buyers and middle-income buyers. To date (2023), grants have already been awarded to 141 projects in five separate phases (MBZK, 2023).

5.2.3. Housing act

The Housing Act, adopted in 2014, aims to promote fair and balanced distribution in the Dutch housing market. The government has identified several components that together should improve access to affordable dwellings and provide a fairer housing opportunity for different target groups (MBZK, 2023).

Local governments make use of this Housing Act to ultimately draft individual municipal regulations, which should set out specific local requirements. These regulations include various aspects, including:

Allocation rules and priority for vital occupations
These housing regulations appoint the requirements and regulations for the allocation of rental housing, as well as the prioritisation of house seekers based on urgency.

Permit for housing change
Municipalities can introduce permits to regulate and manage housing changes, such as the modification of living space, the rental of rooms, or the division of living space.

Tourist rental
Housing ordinances can include measures to prevent or limit tourist rentals to ensure the availability of regular rental housing.

"Opkoopbescherming"
"Opkoopbescherming", which came into force on 1 January 2022, aims to prevent houses in desirable areas from being easily bought up for rental purposes. This will leave more owner-occupied dwellings available for people who intend to occupy them. This measure aims to give house seekers, especially first-time buyers and middle-income earners, a better chance of finding an affordable owner-occupied dwelling in a market characterised by increasing scarcity and high prices. Municipalities can introduce the "opkoopbescherming" in areas with a shortage of affordable and medium-priced owner-occupied dwellings, or when the liveability of a neighbourhood is threatened by the widespread purchase of dwellings for rental purposes. It is up to the municipality to determine in advance which dwellings fall in the affordable and medium-priced segment and thus fall under protection against buying up for rent (MBZK, 2023).

5.3.   Financial capabilities over time

From this section onwards, sub-question 2.2 will be examined using various factors that affect the financial position of the first-time buyer, in addition to government influences on it.

In recent years, there has been considerable publication activity regarding the deteriorating state of the housing market. Annually, BPD (Bouwfonds Property Development) publishes a heat map showing the "heat" or tightness in the housing market, based on various factors, with the ultimate aim of analysing the strengths and weaknesses of the existing owner-occupied housing market. The intensity of the heat map, with darker shades indicating higher scores, indicates high prices and/or a high number of house sales and growth in households. In the year 2020, the housing market was already showing significant pressure, characterised by rising house prices and limited sales activity. The average selling price at that time was €307.987, while in 2023 it rose to an average of €429.000. This significant increase over the past three years is evident and is also confirmed in publications, which note that the housing market is getting "hotter" to date (BPD, 2023).

In the year 2023, despite a brief cooling due to falling house prices at the end of 2022, pressure on the housing market remains high in several Dutch municipalities. Over the whole of 2022, the average purchase price showed an 11% increase, almost reaching the €429.000 mark. The national housing shortage grew to almost 4%, despite a 15% decline in the number of transactions of existing owner-occupied dwellings (BPD, 2023).

Figure 5.1 shows the difference in purchase price in the different quarters of 2022 compared to the same quarter the year before. The effect of inflation and rising mortgage interest rates was visible in average transaction prices in the Netherlands. In the first two quarters, there was still overall price growth in most municipalities. However, in the third quarter, a tipping point took place in price development. In the last quarter of 2022, in one-third of municipalities (33%) the average purchase price was lower than the year before, while in the first quarter of 2022, this was the case in only one in 20 municipalities (BPD, 2023).
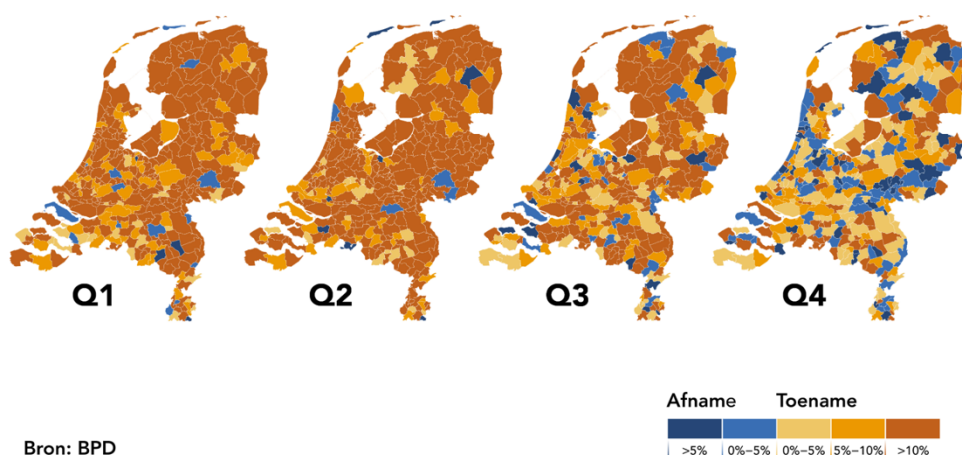
Figure 5.1: Changing housing prices in comparison with a year ago (BPD, 2023)

The increase in selling prices of dwellings has been a notable trend in many housing markets worldwide in recent years, including in the Netherlands. This increase has significant implications for both buyers and sellers. The huge increase in prices since the low point in 2013 is visible in figure 5.2 with the price index set at 100 in 2015. Since 2022, the significant price increases have come to an end. The price increases that have taken place until 2022 have been driven by a combination of factors. Which are discussed further in this chapter.
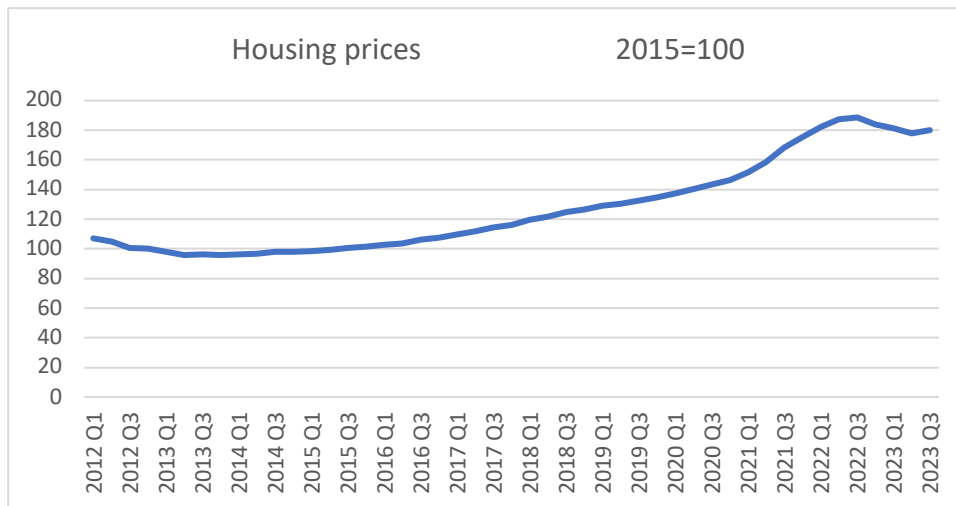
Figure 5.2: Increase of housing prices since 2012 (CBS, 2023a)

5.4. Financeability

Price increases in the housing market are originating from several factors. Low mortgage rates have increased demand for owner-occupied dwellings, but limited supply has led to a tightening of the market. Housing market dynamics are primarily influenced by the balance between supply and demand. The excess of demand over supply has resulted in a tightening market, or a "heated" situation according to BPD (2023).

The supply of dwellings varies significantly from region to region. Several (urban) areas in the Netherlands face a shortage of affordable dwellings, driving up prices and intensifying competition. New construction initiatives and renovation projects play a crucial role in increasing supply, but cannot always keep up with demand. Policies and regulations, such as tax advantages for homeowners and mortgage interest deductions, influence the decisions of both buyers and sellers. At local and national levels, governments can influence the housing market through changes in regulations related to construction, rental and financing (SOMI, 2021).

Despite various influences on the housing market, it does not appear to be in balance in recent years. Until mid-2022, house prices in the Netherlands continued to rise steadily, driven by various factors (CBS, 2023c). The shortage of available dwellings has led to a competitive market, where buyers often bid above the asking price (Kadaster, 2021). A reversal occurred in the second half of 2022, with a halt to price increases. Since February 2023, the price trend compared to the same month a year earlier shows a negative figure, as illustrated in figure 5.3.

Low mortgage rates are identified as a key driver of increased demand in the housing market. Figure 5.3 shows mortgage interest rates since 1984. From 2013, there has been a downward trend, with house prices falling and the market in an unfavourable position. This trend is partly due to the European Central Bank's (ECB) declining interest rates. Falling mortgage rates have increased affordability for home buyers. Nevertheless, it is noteworthy that mortgage rates in 2022 reached the lowest level since measurements were taken in 1984 (Hypotheker, 2022).

The European Central Bank (ECB) sets its interest rates with a view to price stability in the eurozone, aiming for an inflation rate just below 2%. This considers factors such as inflation rates, economic growth, labour market data, and financial stability (ECB, 2021).
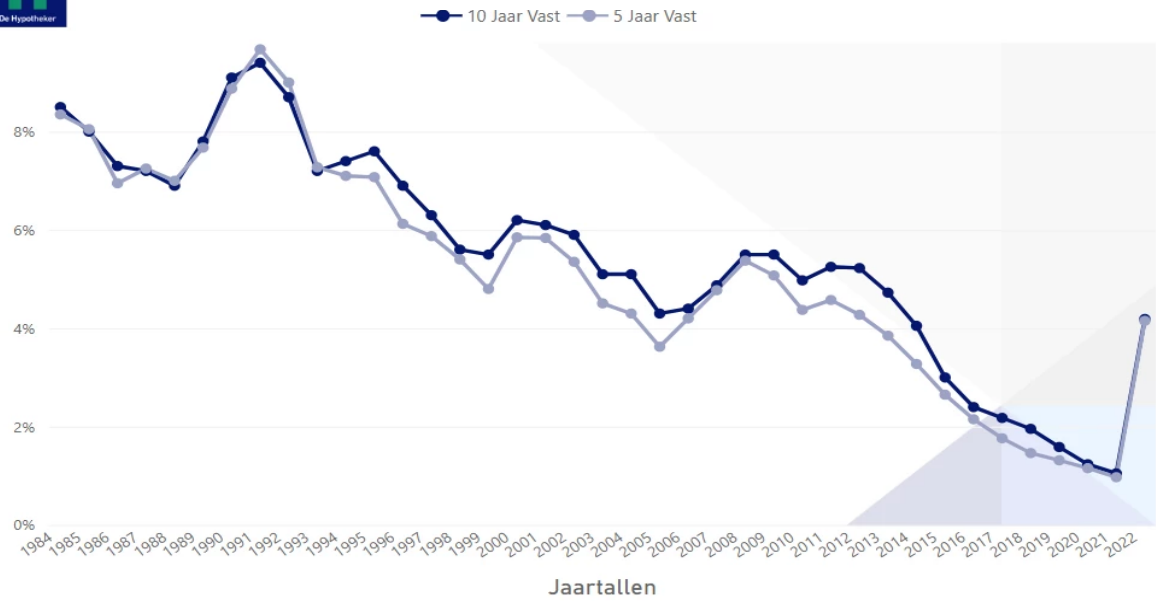
Figure 5.3: Mortgage interest rates since 1994 (Hypotheker, 2023)

In the next section, the mechanics of the financial situation of potential buyers, first-time buyers, are explained using figure 5.4.

5.4.1. Inflation

In recent years, the consumer price index has increased, not as much as the increase in house prices, but it has risen (CBS, 2023g). The index of Consumer Prices (CPI) is an economic indicator used to measure the average change in the prices of goods and services bought and consumed by households. It is an important measure to track inflation, which is used by governments and central banks. Inflation is the increase in general price levels in an economy, and it can affect consumers' purchasing power and government policy decisions, such as adjusting interest rates (CBS, 2023g).

5.4.2. Increase of ECB-interest rate

The ECB aims for price stability in the euro area with an inflation target of just below 2%. In 2022, the ECB raised interest rates for the first time in 11 years, driven by an increase in inflation, currently close to 130 according to CPI figures (2015=100) (ECB, 2023). Interest rates currently stand at 4%, unchanged since September 2023 (ECB, 2023; RTL News, 2023).

The key refinancing rate, the rate at which commercial banks lend from the ECB, has a significant impact on financial markets and credit availability for consumers. Lowering interest rates makes it cheaper for banks to lend money, leading to lower funding costs and commercial banks lowering interest rates to boost demand for loans, including mortgages.

Figure 5.4: The process towards the deacrease of housing prices (own work, 2023)

5.4.3. Increase of mortgage interest rate

The link between ECB interest rates and mortgage rates is indirect but substantial. A fall in refinancing rates can lower mortgage rates in the markets, ultimately making mortgages more affordable for homeowners. This can boost demand for property, promote economic growth and improve accessibility to housing finance. Conversely, when refinancing rates rise, lending becomes more expensive, as happened in 2022/23 (ECB, 2023).

In addition to the main refinancing rate, the ECB's deposit rate also plays a role. This rate affects the interest banks receive for their excess reserves at the ECB. A negative or reduced deposit rate can encourage banks to invest their money elsewhere, for instance by providing more mortgages, which can be an additional factor in determining mortgage rates. However, after the ECB's interest rate hike, no direct impact on deposit rates can yet be seen (DNB, 2023a; Kaag, 2023).

5.4.4. Decrease of financeability

To illustrate a buyer's financeability in the housing market, the effect of mortgage rates on the final mortgage is reflected using two examples.

The maximum mortgage is calculated using the Loan-To-Income (LTI), this follows five different components, namely:

1. Household income
2. The housing cost ratio, which means the finance charge percentage
3. The maximum financial burden, or housing burden

4. The annuity factor on monthly charges
5. The calculation of the maximum mortgage (Execution Only Mortgage, 2023a)

Besides the Loan-To-Income (LTI), the Loan-To-Value (LTV) is used in mortgage applications. This financial ratio expresses the relationship between the amount borrowed (mortgage amount) and the value of the property financed. The LTV ratio, usually shown as a percentage, is calculated as:

LTV = (Mortgage amount / Value of property) * 100%.

In mortgage applications, the LTV affects the loan terms and the lender's risk. A lower LTV indicates more equity and is considered less risky. By 2023, this value may be 100% of the dwelling's market value (van Buuren, 2023).

The maximum mortgage for a first-time buyer on the housing market is primarily influenced by mortgage interest rates and the housing cost ratio, in addition to income and mortgage type. An illustrative example concerns a first-time buyer with a gross annual income of €40.000. The analysis covers two year layers, 2021 (low mortgage rate) and 2023 (current, high mortgage rate).

In 2021, the housing ratio for the owner-occupied starter is set at 19.5% at a mortgage rate of 1.5% for a 30-year annuity mortgage (Purperhart, 2023b). This housing ratio implies that the first-time buyer is allowed a maximum of €650 per month in mortgage payments. This amount is used to calculate the maximum mortgage, resulting in €188.340 as the mortgage amount, as illustrated in figure 5.5 (Execution Only Mortgage, 2023b).

Figure 5.5: Maximum mortgage with 1,5% mortgage interest rate (own work, 2023)

However, mortgage rates have risen to around 4-5% by 2023, affecting financial viability, as illustrated in situation 2, figure 5.6. These conditions include a housing ratio of 24.5% and a mortgage rate of 4.5% (Purperhart, 2023b). Under these conditions, with the same income as in 2021, this results in a maximum mortgage amount of €161.178 for the first-time buyer in 2023 (Execution Only Mortgage, 2023b). The increase in mortgage rates by about 3% (4.5% in 2023 compared to 1.5% in 2021) results in a significant decrease in financeability, with the first-time buyer being able to obtain about €27.000 less in mortgage.

Figure 5.6: Maximum mortgage with 4,5% mortgage interest rate (own work, 2023)

5.4.5. Decrease of housing prices

Reduced purchasing power, or lower financeability for buyers in the housing market, reduces the demand for dwellings. This increases the time to purchase dwellings, people are less likely to decide to purchase an owner-occupied dwelling, which affects the price of dwellings. As a decrease occurs in the demand side of the housing market, it responds by lowering housing prices to attract people more to buy a dwelling (DNB, 2023b).

5.5. Stabilisation of the housing market

Figure 5.7: How the stabilisation of the housing market could lead to the increase of housing prices (own work, 2023)

After outlining the decline in financeability and house prices in recent years, the housing market has shown a slight increase since mid-2023. The earlier price declines in early 2023, combined with the stability created by less or no rising ECB interest rates, point to a possible stabilisation of the housing market.

Although mortgage rates have risen significantly recently, they have been extremely low compared to historical interest rates in recent years. The financeability of potential buyers in the housing market is further helped by the growth in collective wages since the end of 2022 (CBS, 2023c).

With potentially increasing confidence in the owner-occupied housing market and growing financial room for potential (first-time) buyers, together with the continued tightness in the housing market, this could lead to a rise in house prices (De Groot & Vrieselaar, 2023). This is supported by figure 5.2, which shows a slight increase in house prices since mid-2023.

5.6. Financeability in numbers

The average income of young people aged 17-24 is just below the €25.000 mark. In contrast, young people aged 25-34 enjoy an average gross annual income of €40.000, which is equivalent to one time the modal income. When the 2021 average gross annual income is compared with that of 2015, an increase of more than €15.000 per year is observed (BZK & CBS, 2021).

Nevertheless, despite this income growth, partly caused by inflation, the average house price has increased significantly. In 2015, the average price level was €230.194, while in 2021 this figure rose to €386.714 (CBS, 2023a).

Table 5.1: Changing income target group, modal income and housing prices (own work, 2023)

	2012	**2015**	**2018**	**2021**
Average income target group (BZK & CBS, 2021)	€ 38.822,50	€ 40.905,21	€ 47.111,28	€ 55.274,20
average modal income (de Jong, 2023)	€ 33.000,00	€ 33.000,00	€ 34.500,00	€ 37.000,00
Average housing prices (CBS, 2023a)	€ 226.661,00	€ 230.194,00	€ 287.267,00	€ 386.714,00

Figure 5.8 documents an income increase of 42.4% within the target group between 2012 and 2021, while average house prices increased by 70.4% during the same period. This discrepancy sheds light on the growing problem lower-income individuals face in finding suitable housing. The difference between the increase in average income of the target group and the average increase in house prices illustrates a significant gap of almost 30%.
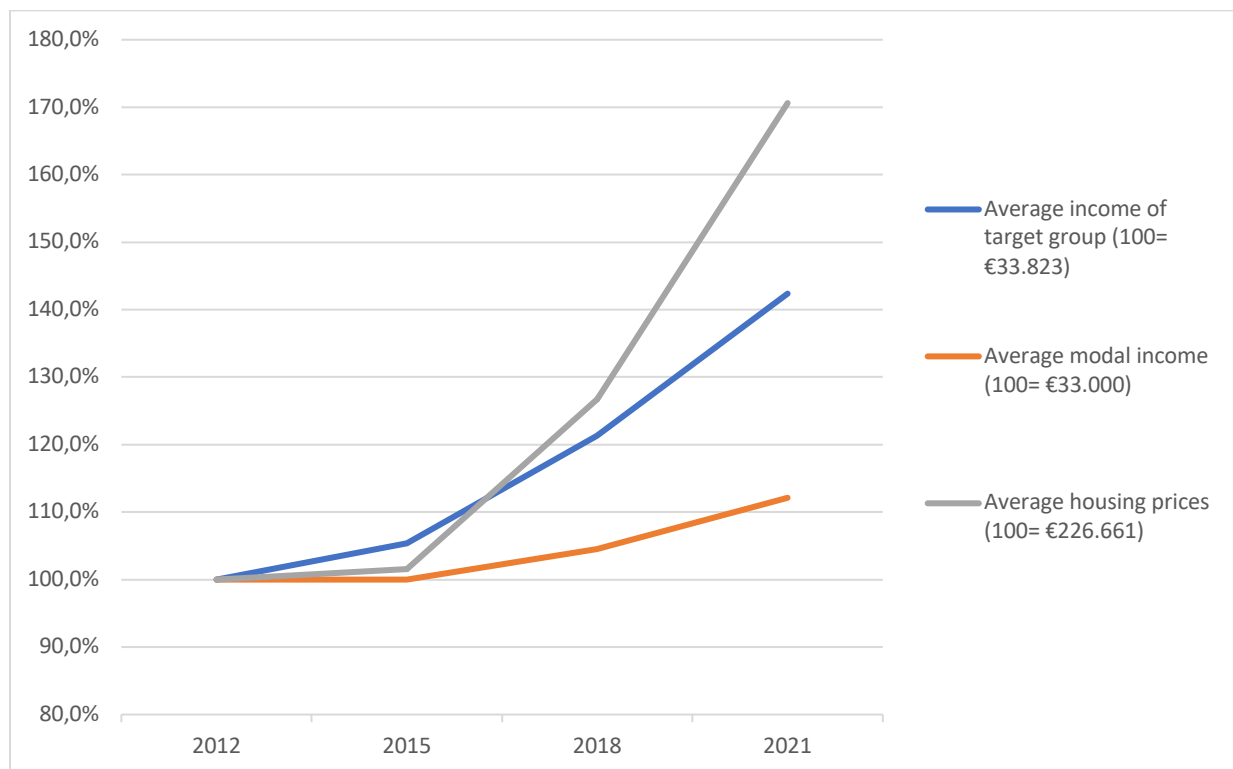
Figure 5.8: Trends in the housing market (own illustration, 2023)

Analysis of the average gross annual income of the target group, which is around €55,000 in 2021, shows that this corresponds to more than 1.5 times the modal income. Under current lending standards, this income category can borrow a maximum of €291,940, as shown in table 5.2 (Boumeester, 2023). Compared to the current average sales price in the Netherlands, which is currently €417,656 (CBS, 2023a), there appears to be a significant difference between these sales prices and the loan capacity of the first-time buyer. This discrepancy shows that a first-time buyer needs almost a household income of twice modal to meet the average purchase price in the Netherlands.

Table 5.2: Maximum mortgage in comparison towards modal income, Boumeester (Own table, 2023)

Income x times modal	Maximum mortgage
1x modal income	€ 186.842,00
1,5x modal income	€ 291.940,00
1,75 x modal income	€ 367.844,00
2x modal income	€ 428.179,00

As illustrated in figure 5.9, the discrepancy between the average selling price (black) and the maximum borrowing capacity at an income of 1.5 times modal is significant (blue). This gap between the sales price and maximum mortgage peaked in early 2022. Although house prices have fallen since the end of 2022, lending capacity has also declined. In 2023, house prices fell further compared to 2022, but mortgage rates rose, resulting in a further decline in lending capacity. As clearly shown in figure 5.9, the "gap" has been steadily growing since 2015. Remarkably, 2015 acted as a "tipping year"; since then, house prices have risen significantly, worsening the difficult position for (first-time) buyers. Despite the income increases that took place in 2023, lending capacity increased only slightly, although this year is not yet shown in the table (DNB, 2023b).
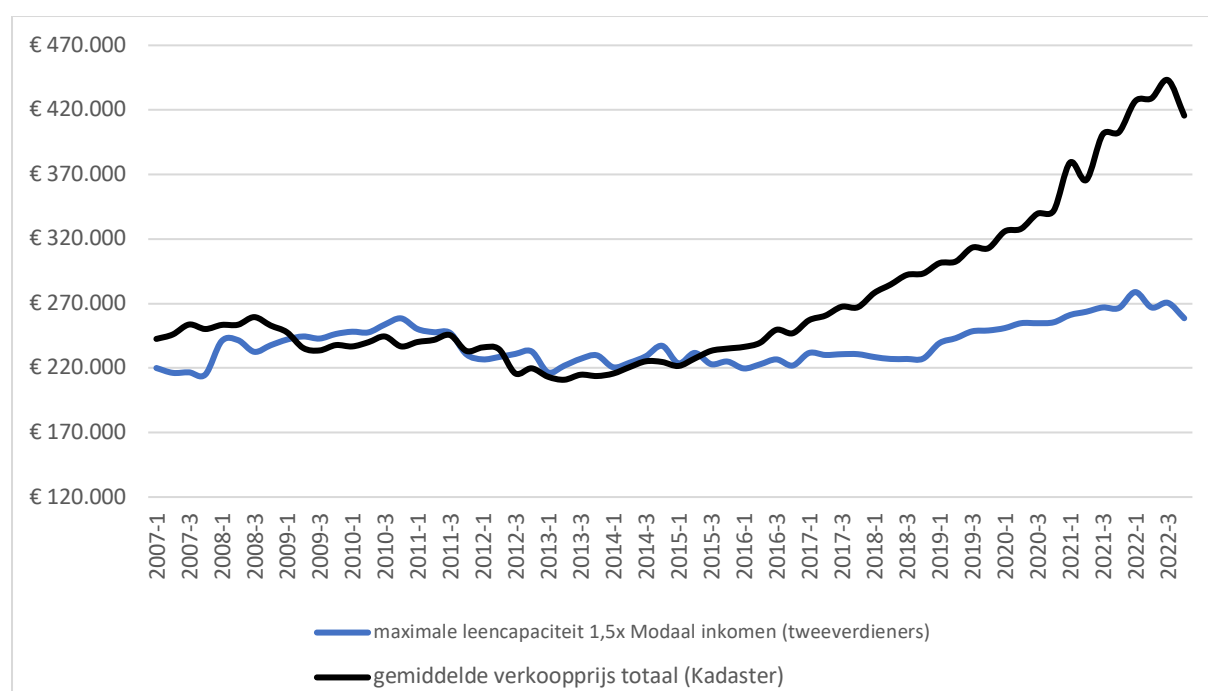
Figure 5.9: Gap between average housing prices and maximum income (Boumeester, 2023)

5.7. Conclusion

The aim of this chapter was to answer SRQ 2: *"What is the current financial position of the first-time buyer?"*
This question was answered by means of two sub-questions, namely:

1. *"What regulatory developments in the past few years had a big influence on the position of first-time buyers?"*
2. *"How did the financial capabilities for first-time buyers change over the years?"*

Regulatory developments
In conclusion, the regulatory developments in the Dutch housing market over the past few years have had a profound impact on the financial landscape for first-time home buyers. The shift away from mortgage interest rate deductions on interest-only mortgages towards instalment mortgages directly affected the lending capacity of first-time buyers, prompting adjustments in borrowing strategies to navigate increased net housing costs.

Critical measures, such as changes in property transfer tax and the introduction of a tax exemption for first-time buyers, demonstrated a commitment to sustaining the availability of affordable starter dwellings. These initiatives aimed to create enhanced opportunities for first-time buyers, aligning with broader efforts to make homeownership more accessible.

The recalibration of the maximum mortgage calculation for two-income earners, fully considering the second income, further facilitated entry into the housing market for this demographic. This adjustment played a pivotal role in streamlining the mortgage acquisition process, contributing to the overall goal of increasing housing market accessibility.

The establishment of the National Mortgage Guarantee (NMG) and the introduction of start-up loans acted as crucial safety nets, providing financial advantages and security against forced sales, particularly beneficial for young individuals entering the housing market. These measures not only eased initial financial burdens but also contributed to a more stable and secure environment for first-time buyers.

The government's Housing Impulse initiative, aimed at stimulating affordable housing projects, indirectly supported first-time buyers by increasing the availability of dwellings within their financial capacity. This strategic move aligned with the broader objective of achieving a significant number of affordable dwellings to meet the growing demand.

Empowering local governments through the Housing Act to create fair distribution regulations and protection against buyouts further demonstrated a commitment to ensuring equity in the housing market. This initiative sought to provide first-time buyers with a fair chance of acquiring a dwelling while strengthening their overall position.

In essence, the diverse set of regulations and measures implemented underscore the intricate nature of the housing market. The ongoing commitment of the government reflects a dedication to maintaining accessibility and fairness within the housing market for various population groups, with a particular emphasis on supporting and empowering first-time buyers to buy their first dwelling.

The financial capacity of first-time buyers
To answer the second sub-question of this chapter, research was conducted into the financing options of first-time buyers, looking at mortgage standards and the trend in financing options over recent years.

Financing options for first-time buyers have been strongly influenced by the dynamics in the Dutch housing market in recent years. A central factor in this change is the rise in housing prices, which has been significant in recent years. BPD's heat map illustrates a continuing trend of tightness in the housing market, characterised by high prices and a growing shortage of available dwellings.

A key driver of rising housing prices is low mortgage interest rates, which has further fuelled demand for owner-occupied dwellings. However, the supply of affordable dwellings lags behind, especially in urban areas, resulting in a competitive market where buyers often (have to) bid above the asking price. Policies and regulations, such as tax breaks and mortgage interest deductions, have had an impact on buyers' and sellers' decisions, but have not always resulted in a balanced housing market.

Analysis of the financeability of first-time buyers shows that mortgage interest rates play a crucial role. Low interest rates have increased financeability, but the recent rise in mortgage interest rates, partly prompted by European Central Bank decisions, has had a negative impact on the first-time buyer's financial position. This is particularly evident in the calculation of maximum mortgage amounts, where a rise in mortgage interest rates results in significantly lower financing options for buyers. It also highlights the discrepancy between income growth and rising housing prices. Despite a significant increase in the average gross annual income of the target group between 2012 and 2021, it appears that housing prices have increased by an even larger percentage. This creates a challenge for first-time buyers, as housing affordability has not kept pace with income growth and the "gap" between income growth and house price increases has widened.

To answer SRQ 2.2, it appears that although the housing market shows signs of stabilising in 2023, the tension between affordability, mortgage interest rates and housing prices remains a crucial factor for first-time buyers. The recent increase in collective wages since the end of 2022 offers some improvement in the financeability of first-time buyers. However, this financeability remains dependent on housing market fluctuations in housing prices and mortgage interest rates, so it is important to monitor these developments closely. This especially given the volatility of interest rates and the impact of policy measures on these dynamics.

Ultimately, sub-questions 2.1 and 2.2 can be used to answer the question: *What is the current financial position of the first-time buyer?"* (SRQ 2).

In conclusion, the financial position of the first-time buyer is influenced by various government regulations that ultimately affect the financing options of first-time buyers. For instance, the government has put in place various regulations to widen the opportunities for first-time buyers in the housing market. These include regulations as the adjustment on the property transfer tax to encourages first-time buyers to buy their first dwelling; the NGM which reduces the risk of buying a dwelling and the starters loan, making it easier for first-time buyers to expanding their financial capabilities.

Besides the financial incentives, the government has also tried to stimulate the housing stock by giving more opportunities through the housing incentive to build (affordable) dwellings. As well as regulation through the Housing Act to give certain target groups a better chance of getting a dwelling.

Despite this attempt to strengthen the position of first-time buyers, it turns out that it is still very difficult for first-time buyers on the housing market; first-time buyers on the housing market in the Randstad region have had less and less chance of finding a dwelling with the average income of this target group in recent years.

Rising housing prices, high demand for dwellings and the recent rise in mortgage interest rates make it difficult for first-time buyers to enter the housing market. The financing space has been reduced by the rise in mortgage interest rates, which has an impact on the maximum mortgage amount for which first-time buyers are eligible. The first-time buyer needs to have a relatively large aggregate income to meet the current purchase prices in the housing market in the Randstad region.

6. Preferences and trade-offs during the decision-making process to buy an owner occupied dwelling.

This chapter examines the preferences and considerations of first-time buyers in the Randstad region, with the aim of answering the third research question: *"Which features in terms of housing characteristics, location and personal considerations are decisive in the trade-offs that first-time buyers make during the decision-making process to buy a dwelling in the owner-occupied housing market?"* (SRQ 3).

The chapter begins by identifying the preferences of first-time buyers in the Randstad region, addressing sub-question 3.1: *" What are the preferences first-time buyers keep in mind during their decision-making process to buy a dwelling?".*

Subsequently, the different concessions first-time buyers make when looking for an owner-occupied dwelling are examined in the second part of this chapter with sub-question 3.2: *"Which concessions do first-time buyers make during the decision-making process to buy a dwelling?".*

To answer this research question, a survey of 326 respondents was conducted in the first part of the chapter. The respondent group was selected based on the research's target group, consisting of households living or wanting to live in the Randstad provinces of Utrecht, Noord-Holland and Zuid-Holland. The age of respondents ranged between 25 and 35 years, with an annual income starting from €35.000 (HBO starter salary). The survey focused on housing preferences and considerations during the search for an owner-occupied dwelling. Two groups of respondents were distinguished: the 'stated preferences' of respondents with a willingness to move within now and ten years, and the 'revealed preferences' of respondents who recently (<2 years) moved into their first owner-occupied dwelling.

The results discussed in this chapter are based on the survey data, using the Multi Attribute Utility Theory (MAUT approach). This approach examines both housing preferences, and the concessions, respondents are willing to make if the purchase price of the dwelling is not sufficient. The second part of the chapter focuses on the trade-offs and concessions considered by respondents.

Ultimately, answering these two sub-questions contributes to the conclusion of the last research question in this study.

6.1. The Multi Attribute Utility Theory approach

To gain insight into the housing preferences and considerations of first-time buyers, an online survey was deployed. The survey was distributed to members of the Panelclix panel, using strict selection criteria. The pre-selection focused specifically on the intended target group: young first-time buyers on the owner-occupied housing market in the Randstad region. By selecting the regions Noord-Holland, Zuid-Holland and Utrecht, not only the (major) cities within Randstad were included, but also the surrounding areas. In addition to the regional preselection, criteria were applied to age and income. Respondents had to be between 25 and 35 years old with an average gross aggregate income of €35.000 or above. Respondents with a willingness to move were currently living in independent rental accommodation or were living with parents or in a student house. The lower income limit was set to obtain a realistic picture where obtaining a mortgage to purchase a dwelling would be possible.

The first part of the questionnaire included exploratory questions, which allowed for disaggregations by different characteristics among respondents. First, it asked whether the respondent had a willingness to move within the next 10 years or had recently, in the past 2 years, moved into their first owner-occupied dwelling. This question resulted in a distinction between the two groups of respondents and led to two versions of the questionnaire.

The content questionnaire followed the Multi Attribute Utility Theory (MAUT) approach. This approach provides insight into respondents' housing preferences, where different trade-offs can ultimately be made. As each respondent assigns values to different topics (attributes) that are important during the decision-making process, MAUT can provide insight into the respondent's

preferences based on these attributes. MAUT goes further by, after valuing the attributes, going deeper into the various components (attribute levels) of these topics. An example is:

Attribute: Type of the dwelling (valuation: 25)
Attribute levels:
- Apartment (valuation: 74)
- Studio (valuation: 29)
- Terraced dwelling (valuation: 69)
- Corner dwelling (valuation: 60)
- Semi-detached dwelling (valuation: 25)
- Detached dwelling (valuation: 25)

By first allowing the respondent to choose how important the dwelling type is in their choice, and then making a choice among the different attribute levels available, the respondent's housing preferences are explored in more detail.   The respondent has to give a rating based on the level of importance/preference. In each case, they chose a value between 0 and 100. Figure 6.1 shows an example of the rating scale.

Absolutely not important	Neutral	Absolutely most important
Not important		Important
0		**100**
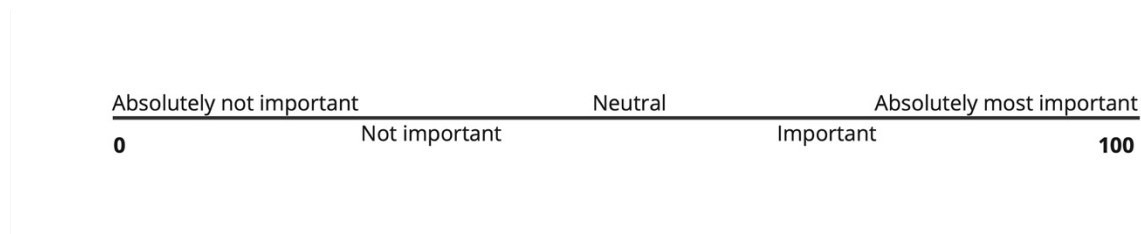
Figure 6.1: Scale of survey response options (Own illustration, 2023)

The rating for the attribute, in this case, dwelling type (valued at 25), is multiplied by the value per attribute level. The value per attribute level is divided by 100 to achieve normalisation of the rating. This produces a weighted valuation per attribute level. The multiplication takes into account the trade-off and the difference in general preference and specific preference, thus including both aspects in the consideration. In the given example, this calculation results in a combined value of 19 for the attribute level "apartment".
The following formula is used for this purpose:

$$\text{Combined value} = \frac{\text{value attribute} \times \text{value attribute level}}{100}$$

The calculated combined value of 19 for apartment ownership shows that, regardless of how strong the preference is within the attribute level, if the overall preference is not focused on the attribute in question, the final combined rating will not be high. This approach provides a complementary interpretation of respondents' housing preferences. However, it is important to note that the respondent groups in this research are relatively small in number, which makes the findings from this chapter indicative.

6.2.   Outcomes of the respondents' preferences

The survey was completed by 326 respondents, with the respondent group showing various characteristics. Table 6.1 presents the socio-demographic data of both respondent groups, consisting of 209 respondents with a willingness to move and 117 respondents who have moved to their first owner-occupied dwelling within the past two years. Due to the sampling method chosen, using a panel, it is not possible to name the response rate of the sample.

Table 6.1 presents the socio-demographic data of the 326 respondents and serves as a basis to contrast different groups within the respondents. The differences in the number of respondents per item are striking, indicating that not all items can be disaggregated due to the validity of the responses. Small groups of respondents with certain characteristics are aggregated or not used due to insufficient validity to make reliable statements.

The data from the respondent group with a recent willingness to move shows that a small majority (53%) are in the age group of 25-28 years old. In terms of household composition, there are notable differences, with a relatively high proportion of respondents being single (41%), while multi-person households are over-represented (59%). Most of these respondents with a willingness to move currently live in rental accommodations (68%) or are living with parents or other relatives (28%). In general, more respondents are part of a couple with two incomes, which may influence housing preferences compared to single respondents. Most respondents with a willingness to move live in the 'urban peripheral' living environment and predominantly have a relatively lower income, with the most common household income being between €35.000 and €50.000.

The group of respondents who have recently moved is on average older than those with a willingness to move. The most common age in this group is between 29 and 32 years old (45%), and many are part of a couple (48%). In terms of living environments, most respondents who recently moved live in the 'centre village' (38%) and 'urban peripheral' (32%), mainly in terraced dwellings (49%). This group logically has a higher average income, ranging between €40.000 and €70.000.

Table 6.1 Socio-demographic characteristics of the respondents (Own work, 2023)

		Willingness to move - 209		Recently moved - 117	
		N	*%*	*N*	*%*
Age	25 - 28 years	*111*	**53%**	*38*	33%
	29 - 32 years	*75*	36%	*53*	**45%**
	33 - 35 years	*23*	11%	*26*	22%
Household composition	Single	*86*	41%	*16*	14%
	Couple	*91*	**44%**	*56*	**48%**
	Couple with child(ren)	*21*	10%	*42*	36%
	Single parent with child(ren)	*6*	3%	*0*	0%
	Others	*5*	2%	*3*	2%
Current living situation	Living in their owner-occupied dwelling	*0*	0%	*100*	**100%**
	Living in a rental dwelling	*142*	**68%**	*0*	0%
	Living with parents	*58*	28%	*0*	0%
	Living in student dwelling	*8*	4%	*0*	0%
	Others	*1*	1%	*0*	0%
Current living environment	Urban city centre	*52*	25%	*13*	11%
	Urban peripheral	*72*	**35%**	*37*	32%
	Urban green	*22*	11%	*19*	16%
	Village centre	*54*	26%	*44*	**38%**
	Rural living	*9*	4%	*4*	3%
Living environment before moving	Urban city centre	-	-	*18*	15%
	Urban peripheral	-	-	*40*	**34%**
	Urban green	-	-	*19*	16%
	Village centre	-	-	*31*	27%
	Rural living	-	-	*9*	8%
Current type of dwelling	Apartment	*119*	**57%**	*20*	17%
	Studio	*9*	4%	*0*	0%
	Terraced dwelling	*40*	19%	*57*	**49%**
	Corner dwelling	*18*	9%	*20*	17%
	Semi-detached dwelling	*10*	5%	*13*	11%
	Detached dwelling	*10*	5%	*6*	5%
	Others	*3*	1%	*1*	1%
Total year income of household after the (possible) move	€35.000 - €40.000	*59*	**28%**	*8*	7%
	€40.000 - €50.000	*53*	25%	*18*	15%
	€50.000 - €60.000	*33*	16%	*20*	17%
	€60.000 - €70.000	*21*	10%	*18*	15%
	€70.000 - €80.000	*21*	10%	*31*	**27%**
	€80.000 - €90.000	*15*	7%	*15*	13%
	€90.000 - €100.000	*5*	2%	*5*	4%
	> €100.000	*2*	1%	*2*	2%

6.3. Preferences of first-time buyers

First, it is important to note that the differences between the two respondent groups in this analysis may not be directly generalisable to the overall population. After performing a significance test, the confidence interval (95%) was calculated for both respondent groups, with an interval of 6.8% for the group with a willingness to move (209 respondents) and 9% for the group that recently moved to an owner-occupied dwelling (117 respondents), respectively. These findings suggest that the differences between the two groups by attribute level are so small and cannot be considered significant in most cases. For this reason, rather than comparing specific attribute levels, the construction of preferences within attributes is examined.

When comparing the results of the questionnaire across both respondent groups, much similarity can be seen in the level of preference. Both groups indicate purchase price as the most important, followed by having outdoor space. This preference for purchase price can be reasoned logically as it is one of the most decisive factors when buying a dwelling.

The purchase price of a dwelling is highly preferred as it is usually the maximum price a first-time buyer can spend for a dwelling. Since the purchase price is mostly about options and not preference, the purchase price is not considered a separate attribute level. The effect of purchase price and the concessions respondents are willing to make will be discussed in a later section.

The characteristics of the neighbourhood and the sharing of certain functions are given the least importance by the respondent group. Nevertheless, a clear difference in valuation between the two attributes can be observed. The characteristics of the neighbourhood are considered less important, resulting in an overall lower rating. However, the rating for sharing functions is so low that it is assumed that this attribute is not desirable or to a lesser extent. Furthermore, respondents generally give higher ratings to having outdoor space, compared to ratings for dwelling type or size, showing that the respondents consider this to be most important.

The weighted attribute levels are explained in the following section. All findings in this section are based on Table 6.2, which shows the value of the attribute levels as weighted values.

Table 6.2: The different preferences of people with a willingness to move and people who are recently moved (own work, 2023)

		Willingness to move - *209*	Recently moved - *117*
ATTRIBUTE			
	Living environment	67	72
	Characteristics of the neighbourhood	67	70
	Facilities	74	72
	Type of dwelling	68	73
	Living space	71	74
	Bedrooms	70	74
	Outdoor space	76	80
	Sharing of functions	51	46
	Purchase price	84	79
ATTRIBUTE LEVEL			
Living environment			
	Urban city centre	30	-
	Urban peripheral	39	-
	Urban green	46	-
	Village centre	40	-
	Rural living	33	-
Characteristics of the neighbourhood			

	Greenery	50	50
	Child-friendly	41	46
	Social contacts	37	43
	Car parking	45	48
	Diversity within the neighbourhood	35	31
Facilities			
	Train	43	37
	Bus/ metro and tram	50	37
	Supermarket	62	56
	Medical centre	51	46
	Park/ play ground	53	49
	Cafes/ restaurants	46	37
	Gym	38	33
	Daycare	37	38
Type of dwelling			
	Apartment	30	21
	Studio	13	11
	Terrached dwelling	43	46
	Corner dwelling	49	52
	Semi-detached dwelling	48	48
	Detached dwelling	52	46
Living space			
	30-50 m2	15	11
	51- 70 m2	28	20
	71-90 m2	42	31
	91-110 m2	49	43
	> 110 m2	49	55
Bedrooms			
	1 bedroom	13	15
	2 bedrooms	32	29
	3 bedrooms	47	46
	4 bedrooms	44	49
Outdoor area			
	Garden	64	66
	City garden/ patio	30	19
	Rooftop terrace	41	24
	Balcony	37	23
	Shared outdoor area	18	14
	No outdoor area	7	15
Shared functions			
	Kitchen	10	9
	Office	17	14
	Hobby space	11	10
	Shared car	17	14
	Shared bicycle	17	13
	Shared scooter	18	14

Living environment

Respondents appear to value all living environment types more or less equally, with the highest rating being assigned to the "urban green" living environment. This preference indicates a strong appreciation for living in a suburb of the city. In this type of residential environment, extra attention is paid to a spacious and green neighbourhood design. The dwellings usually have gardens, while there are fewer facilities compared to city centres. Nevertheless, there are some hospitality venues and supermarkets in these neighbourhoods.

Compared to the current living environments where respondents with a willingness to move currently live, a shift from the current urban peripheral living environment to a preference for a dwelling in the urban green living environment is evident. This changing preference could possibly be related to the first-time buyer's life stage; at a younger age, living in a city may be attractive, but as they want to settle down and perhaps start a family, the preference shifts to a suburb. Moreover, there may be a link between the desire for an owner-occupied dwelling and the preference for a suburb, where generally more owner-occupied dwellings are available for first-time buyers.

Characteristics of the neighbourhood

Both groups of respondents place the highest value on a green environment in the future residential neighbourhood. Besides green spaces, respondents consider having parking facilities near the dwelling as important, as well as a child-friendly neighbourhood. These preferences of the respondents show that first-time buyers prefer a neighbourhood where they can settle down and possibly start a family. These characteristic preferences for a suburban living environment correspond to the appreciation of the urban green living environment. First-time buyers with relocation plans are less focused on the social aspects of a future neighbourhood in their initial search, which translates into lower ratings for social contacts in the neighbourhood.

Facilities

Respondents with a willingness to move show on average higher ratings for the attribute levels related to distance to facilities compared to recently moved respondents. The highest rating is assigned to having a supermarket close to the dwelling, accessible within a 10-minute travel time. In addition, respondents consider having a park or playground in the immediate vicinity to be important. These preferences are in line with the earlier findings that indicate the life stage of the first-time buyer tends towards settlement and possible family expansion. The attribute levels "gym" and "daycare" receive the lowest ratings, indicating that respondents are more willing to travel a greater distance for this purpose. The lower importance attributed to daycare in the immediate vicinity may be explained by the suspicion that a relatively small number of relocating respondents have already started a family with children. Although recently moved households are more likely to have one or more children, they also give a relatively low rating to having a daycare in the immediate area, possibly because the daycare may also be located elsewhere or because they have less need to use a daycare.

Type of dwelling

Several notable aspects are apparent in the preference determination for dwelling type. For instance, among respondents with an expressed willingness to move, the highest preference appears to be for a detached dwelling. Subsequent preferences include a corner dwelling and a semi-detached dwellings (semi-detached dwelling). Notable is the significant difference in preference between these housing types and an apartment, for which the rating is significantly lower within this respondent group.

Contrastingly, respondents who have recently moved give the highest preference to a corner dwelling. The second-highest preference concerns semi-detached dwellings, while terraced dwellings and detached dwellings have equivalent ratings. This discrepancy is remarkable, especially given the significant price difference between these house types. It can be questioned whether the desire for a detached dwelling is realistic, given the current housing market conditions in the Randstad region where these potential first-time buyers live. From the current housing situation of recently moved first-time buyers, terraced dwellings seem to paint a much more realistic picture.

Living space

The respondents with a willingness to move generally show higher ratings for the different attribute levels related to dwelling size compared to the recently moved respondents. Both respondent groups show the highest preference for a living area above 110 m2. Interestingly, respondents with a willingness to move show an equal preference for a living area of 91-110 m2, while in the group of recently moved respondents a difference in preference is observed between a living area of 91-110 m2 and > 110 m2.

Nevertheless, both groups show a consistent preference structure; a larger dwelling is generally valued more highly. Nevertheless, respondents also show a significant preference for the average dwelling size, namely between 71-90 m2. This preference fits well with the type of dwelling, such as a terraced dwelling or a smaller corner house. House size preference is often linked to dwelling type preference, a relationship that is also reflected in the degree of preference in the survey.

Bedrooms

Respondents' primary preference is for dwellings with three or four bedrooms. A notable pattern emerges, with an increasing number of bedrooms correlating with a greater preference. Nevertheless, the difference between three and four bedrooms appears to be minimal among both respondent groups, and the preference for dwellings with only one bedroom is marginal.

Outdoor area

This attribute receives the highest rating from both respondent groups, but not every level necessarily scores higher than other attributes. Remarkably, among both respondent groups, the greatest preference of all attributes is having a garden. Among respondents with a willingness to move, other forms of outdoor space, such as a balcony or a roof terrace, come reasonably close to the ratings for other attributes. In contrast, among respondents who have recently moved, the greatest preference is for having a garden, and other forms of outdoor space are rated remarkably low. The type of outdoor space is related to the type of dwelling and the degree of urbanity. Respondents who want to live in the city centre or urban suburbs may have a more realistic preference for a roof terrace or balcony than respondents who desire a green environment, where having a garden is often more common.

Sharing of functions

Shared functions have low ratings. Respondents do not have a (high) preference for sharing certain functions of a dwelling, however, respondents are to some extent willing to share means of transport or an office. It is expected that this low preference for sharing functions may be due to the preference for the type of dwelling and type of living environment. If one lived in an apartment in urban city centre or urban peripheral, there might be a higher degree of preference in using a shared car. Similarly, if the dwelling were smaller, take an apartment for example, then having a flex office space in the building could possibly be more preferred. Using a shared function may not be a preferred, but has to do with possibility and is probably more (housing) situation dependent to generalise this picture.

6.3.1. Desired purchase price

In the questionnaire, both respondent groups were asked which purchase price they most preferred. In doing so, respondents were able to choose from different purchase price ranges. This question was not asked according to the MAUT method, because most of the time the most preferred purchase price will not be an issue. Respondents will assume a maximum feasible amount given their lending capacity.

The results of this question can be found in tables 6.3 (first-time buyers with a willingness to move) and 6.4 (recently moved first-time buyers). A distinction was also made according to the level of household income among both respondent groups. For the recently moved group, they were specifically asked about their original desired purchase price before buying their current dwelling, with the actual purchase price of their current owner-occupied dwelling found in table 6.5.

In the questionnaire used, both respondent groups were asked about their preference regarding the purchase price of a dwelling. Here, respondents had a choice of different purchase price ranges. It is important to note that this question was not asked according to the MAUT method, as respondents will usually assume a maximum feasible amount, taking into account their lending capacity.

The results of this question can be found in tables 6.3 (young people relocating) and 6.4 (recently moved first-time buyers). A distinction was also made according to the level of household income among both respondent groups. For the recently moved group, they were specifically asked about their original desired purchase price before buying their current dwelling, with the actual purchase price of their current owner-occupied dwelling found in table 6.5.

The difference in purchase price preference is striking, but logically explainable. The group of respondents with a willingness to move shows a preference for a relatively lower purchase price, with almost half of them indicating a desire to buy a dwelling for a price up to and including €300.000. Moreover, a distinction can be seen between the group of respondents with a gross aggregate income below €50.000 and the group with an income above €50.000. Thus, table 6.3 shows that the part of respondents with a willingness to move and an income below €50.000 predominantly wants a lower purchase price than the part with an income above €50.000.

The preference for a lower purchase price can stem from several considerations. Initially, this preference could arise from ignorance of purchase prices in the market or lack of financial capabilities. On the other hand, the results also indicate that the preference for a lower purchase price is related to lower assets or income, which may prevent the desired purchase price from being higher. This could be one of the factors why these respondents have not yet found a suitable dwelling, although this conclusion is indicative as the motivations were not explicitly questioned in the survey.

Moreover, 38% of the respondent group with a willingness to move prefer a purchase price between €300.000 and €400.000. This preference is considered more realistic given the current housing market in the Randstad region for first-time buyers. The preferences for a dwelling with a higher purchase price are further supported by the fact that a higher proportion of the respondent group with an income above €50.000 is more willing to pay this higher purchase price than the group with an income below €50.000.

As for the respondent group that recently moved to an owner-occupied dwelling, it appears that their preferences were more realistic during the search for an owner-occupied dwelling. These preferences mainly start from €300.000, as shown in table 6.4. However, this table shows that the recently moved respondent group with an income below €50.000 is not representative. For this reason, only the desired purchase prices of the recently moved with higher income have been shown.

Furthermore, the question is whether the respondent group that recently moved and had a higher income was able to realise this willingness to move because they had a higher income. They would also have been able to fill in their desired purchase price with the knowledge they gained during the buying process. The breakdown of recently moved respondents to owner-occupied dwellings shows that a smaller number had a gross aggregate income below €50.000, namely 26 respondents, see also table 6.1. Within this breakdown, it can be assumed that those recently moved to an owner-occupied dwelling generally have incomes above €50.000.

Table 6.3: Results of the desired purchase price among respondents with a willingness to move to an owner-occupied dwelling (own work, 2023)

	Desired purchase price - willingness to move							
	< €200.000	€200.000 - €250.000	€250.000 - €300.000	€300.000 - €350.000	€350.000 - €400.000	€400.000 - €450.000	> €450.000	N
Income from €35.000 - €50.000	17%	22%	23%	19%	13%	6%		112
Income from €50.000 and higher	12%		18%	21%	24%	17%	9%	97
Total	11%	16%	21%	20%	18%	11%	5%	209

Table 6.4: Results of the desired purchase price among respondents who recently moved towards their first owner-occupied dwelling (own work, 2023)

	Desired purchase price - Recently moved to an owner-occupied dwelling							
	< €250.000	€250.000 - €300.000	€300.000 - €350.000	€350.000 - €400.000	€400.000 - €450.000	€450.000 - €500.000	> €500.000	N
Income from €50.000 and higher	6%	8%	21%	24%	20%	9%	13%	91

Table 6.5 shows the actual purchase prices that were spent for the respondent group that recently moved to an owner-occupied dwelling. Interestingly, this distribution is relatively similar to the previously expressed preference for purchase prices within the same respondent group. This finding is remarkable as it would imply that during the past two years, a period when the housing market was tight, house prices were high and overbids were frequent, there was little deviation from the original preferred purchase prices. It is expected that respondents who had recently moved filled in the expected purchase prices with knowledge of their actual home purchase. The table omits the proportion of lower-income respondents, as this number was too small to provide a meaningful breakdown by realised purchase price ranges.

Table 6.5: Result of the realised purchase price of the survey among recently moved households (own work, 2023)

	Realised purchase price - Recently moved to an owner-occupied dwelling							
	< €250.000	€250.000 - €300.000	€300.000 - €350.000	€350.000 - €400.000	€400.000 - €450.000	€450.000 - €500.000	> €500.000	N
Income from €50.000 and higher	6%	8%	17%	22%	21%	11%	15%	91

6.4.   Different preferences between single and multi- person households

When looking at survey results, it is interesting to look at differences in preferences between different subgroups of the target population. For example, it is interesting to research the preferences of different subgroups, including the preferences of singles and couples. A single person, simply said, has to consider one person and their preferences. This would make it easier to make concessions than a couple who have to consider more preferences because they are with two ore more people. Therefore, it is interesting to look at the preferences of single and multi- person households.

In the comparison of this section (6.4) and the next section (6.5), only the results of respondents with a willingness to move are included, as the size of the recently relocated respondent group is insufficient for a representative representation. In contrast, the recently moved respondent group is included in the analysis of the differences between stated and revealed preferences and concessions.

When analysing housing preferences between single first-time buyers and first-time buyers who are part of multi-person households, some notable observations were made. Single respondents by nature have single-person incomes, while multi-person households consist of couples and households with children, usually with a higher income than a single household as shown in table 6.1.

In general, both the respondent groups give higher priority to dwelling characteristics and facilities than to the immediate environment of the dwelling, as shown by the preferences for different attribute levels. While there are similarities with the overall preferences in table 6.2, there are some differences between the order of the preferences of single and multi-person households. For example, multi-person households value a child-friendly neighbourhood more highly in their raking, while for single households the child-friendly neighbourhoods is ranked as fourth in the preferred charactistics of the neighbourhood. This can be explained by the fact that multi-person households often have or plan to start families.

In terms of facilities, both respondent groups give the highest preference to have a supermarket within 10 minutes of travel from the dwelling. However, multi-person households have a clearer preference for the type of dwelling, wherein the largest dwelling, a four-bedroom detached house, has the highest preference. Single households within the respondent group also have a strong preference for a larger dwelling but prefer a slightly smaller type, such as a corner dwelling with an area between 71-110 m2 and three bedrooms, which is more realistic given their needs.

When it comes to the type of outdoor space, it is noticeable that both single households and multi-person households have a strong preference for a garden, as also shown in table 6.2. Within the respondent group, it appears that multi-person households attach more importance to having a garden than single households.

The preferences of single households are generally closer together than those of multi-person households. This variation can be logically explained by the fact that single households only have to consider their preferences, while multi-person households have to consider the preferences of several people and thus have to consider more factors. As a result, single-person households are more likely to make concessions or have more choices within a given attribute than multiperson households.

Table 6.6: Housing preferences of single households and multiple person households (own work, 2023)

		Single household - *86*	Multi- person household - *123*
Attribute			
	Living environment	66	67
	Characteristics neighbourhood	63	69
	Facilities	71	75
	Type of dwelling	65	71
	Living space	67	74
	Bedrooms	63	74

	Outdoor space	72	79
	Sharing of functions	51	50
	Purchase price	87	81

<u>Attribute level</u>

Living environment

	Urban city centre	31	29
	Urban peripheral	39	40
	Urban green	44	48
	Village centre	39	41
	Rural living	32	34

Characteristics neighbourhood

	Greenery	46	52
	Child-friendly neighbourhood	32	48
	Social contacts	34	39
	Car parking	42	47
	Diversity within the neighbourhood	30	38

Facilities

	Train	41	45
	Bus/ metro and tram	48	51
	Supermarket	59	63
	Medical centre	48	53
	Park/ outdoor and play ground	50	56
	Cafes and restaurants	44	47
	Gym	36	40
	Daycare	26	44

Type of dwelling

	Apartment	37	25
	Studio	16	11
	Terrached dwelling	41	45
	Corner dwelling	45	52
	Semi-detached dwelling	43	52
	Detached dwelling	45	56

Living space

	30-50 m2	20	12
	51- 70 m2	34	23
	71-90 m2	42	42
	91-110 m2	42	54
	> 110 m2	39	55

Bedrooms

	1 bedroom	19	9
	2 bedrooms	39	27
	3 bedrooms	43	50
	4 bedrooms	32	53

Outdoor area

	Garden	55	70
	City garden/ patio	29	30
	Rooftop terrace	41	41
	Balcony	41	34
	Shared outdoor area	18	18
	No outdoor area	8	6

Shared functions

	Kitchen	11	9
	Office	19	15
	Hobby space	12	10
	Shared car	15	18
	Shared bicyle	16	18
	Shared scooter	17	18

6.5. Different preferences between households with a lower income and a higher income

Table 6.7 breaks down the preferences of respondents with a willingness to move by income, dividing the respondent groups into those with a gross aggregate income between €35.000 and €50.000 and those with a gross aggregate income from €50.000 onwards. Both income types represent the gross aggregate income of the household after a possible relocation. A larger proportion of respondents with a willingness to move are expected to have a gross aggregate income below €50.000, while a slightly smaller proportion (97 respondents) have a gross aggregate income of €50.000 or more. People with a higher income are more likely to buy their first owner-occupied dwelling than people with a lower household income, therefore, it is interesting to look at their differences in most preffered dwelling characteristics.

Table 6.7 indicates that the degree of preference is more or less similar among both respondent groups. Regarding the characteristics of the environment, a slight difference in the preference for the type of living environment appears. Both groups have the highest preference for living in the "urban green" living environment. However, the lower-income group shows the second highest preference for living in the "village centre" living environment, while the higher-income group shows the highest preference for "urban peripheral" after "urban green". This difference is expected to be explained by the differences in living prices between these living environments.

Furthermore, it appears that there is little difference in the preferences of respondents with lower aggregate income and those with higher aggregate income. This is notable given that higher-income households tend to have more budget for a possibly larger dwelling, as also shown in table 6.3 where the higher-income respondent group is willing, or has the ability, to pay more for the purchase price. Several conclusions can be drawn from these findings, including the less realistic desire of lower-income households for a larger dwelling. It can also be concluded that it matters less what the aggregate income is, as the largest preferences remain the same in both groups.

Table 6.7: Housing preferences of households with a lower income and a higher income (own work, 2023)

		Income of €35.000 till €50.000 - *112*	Income from €50.000 - *97*
Attribute			
	Living environment	68	65
	Characteristics neighbourhood	67	66
	Facilities	73	74
	Type of dwelling	69	68
	Living space	71	72
	Bedrooms	68	71
	Outdoor space	74	79
	Sharing of functions	48	53
	Purchase price	85	82
Attribute level			
Living environment			
	Urban city centre	29	31
	Urban peripheral	39	40
	Urban green	47	46
	Village centre	42	38
	Rural living	35	31
Characteristics neighbourhood			
	Greenery	49	51
	Child-friendly neighbourhood	40	43
	Social contacts	35	39

	Car parking	46	43
	Diversity within the neighbourhood	34	36
Facilities			
	Train	41	45
	Bus/ metro and tram	49	51
	Supermarket	61	62
	Medical centre	52	50
	Park/ outdoor and play ground	53	54
	Cafes and restaurants	44	48
	Gym	37	40
	Daycare	33	41
Type of dwelling			
	Apartment	33	27
	Studio	15	10
	Terrached dwelling	45	41
	Corner dwelling	48	50
	Semi-detached dwelling	48	49
	Detached dwelling	49	54
Living space			
	30-50 m2	19	11
	51- 70 m2	34	21
	71-90 m2	44	40
	91-110 m2	47	50
	> 110 m2	47	51
Bedrooms			
	1 bedroom	16	9
	2 bedrooms	36	27
	3 bedrooms	45	49
	4 bedrooms	40	48
Outdoor area			
	Garden	60	68
	City garden/ patio	29	31
	Rooftop terrace	41	41
	Balcony	38	36
	Shared outdoor area	18	18
	No outdoor area	9	4
Shared functions			
	Kitchen	11	9
	Office	17	17
	Hobby space	11	10
	Shared car	16	18
	Shared bicycle	16	18
	Shared scooter	16	20

Further breakdowns into the differences in housing preferences based on age categories and the housing preferences of respondents currently living in independent rental accommodation, compared to those who are still living with their parents or in student dormitories, show no significant differences compared to the overall findings, as shown in Table 6.1. The comparisons can be found in the attached Annex 5.

6.6.   Concessions

This paragraph discusses the concessions a respondent is willing to make if the price of the dwelling is not within their financial reach. In light of the current housing market, characterised by high selling prices and limited supply, this is especially relevant for the average first-time buyer. The phenomenon often occurs when this group prefers dwellings with a significant cost, such as detached houses with several rooms and a garden. Given current market conditions, there is a possibility that first-time buyers may be forced to revise their initial preferences or increase their financial capacity, with the latter option often having limitations and a clearly defined upper limit. For this reason, respondents were asked on which specific aspects they would be willing to make concessions, should the price of the intended dwelling be above their financial capacity. This question was presented to the two groups of respondents in two different ways. The respondent group with a willingness to move was asked the following question:

"It may be that the price of your desired owner-occupied dwelling is too high for your budget. To what extent are you willing to compromise on parts of the dwelling or the living environment to be able to buy a property in the end?"

The respondent group was asked to give a score between 0 and 100, choosing between absolutely willing to make concessions (0) and absolutely not willing to make concessions (100). In this case, a lower score implies a higher willingness to compromise on the attribute in question, while a higher score indicates a lower willingness to make concessions.

Based on the results, it appears that respondents who are willing to move are most likely to make concessions on dwelling type and size, followed by neighbourhood characteristics. Interestingly, in contrast to the results of the MAUT questionnaire in which the living environment was rated relatively low, it scored reasonably high in the direct question on substitution behaviour. This phenomenon could be explained by the fact that when having to make concessions, they mainly take place at the level of the dwelling itself, and to a lesser extent at the aspect of the living environment.

A slightly different question set was used for the respondent group who had recently moved, namely:

"If, during your search for your current owner-occupied dwelling, you found out that your wishes regarding your home and living environment were not within your budget, to what extent did you compromise on items when choosing your current owner-occupied dwelling?"

The respondent group that had recently moved was asked to indicate which attributes they actually gave up on during their search for their current owner-occupied dwelling. On average, this group gave up the most on dwelling type and dwelling size. Ratings on the other attributes show fairly similar scores to those of respondents with a willingness to move, as discussed earlier.

Both respondent groups place a high value on sharing functions, meaning they are not willing to compromise on this or have not made any concessions on this. However, the attribute "sharing of functions" generally has a low preference among respondents, as shown in table 6.1. This suggests that respondents have little preference for sharing certain functions, nor are they willing to make concessions for this. Interestingly, the attribute "outdoor space" gets a fairly high score, implying that respondents are less willing to compromise on this and have actually compromised on this.

However, it is interesting to note that during the analysis of housing preferences, the attribute "outdoor space" with the level of a garden always emerged as the highest preference, after purchase price. In the context of concessions, there seems to be no clear difference between the concessions made on outdoor space and those made on the living environment. It can be inferred that, although respondents indicated that they were less willing to compromise on outdoor space, they may still have made some concessions in this area, but did not perceive this as significant compared to other attributes.

Table 6.8: The willingness to make concessions (own work, 2023)

Concessions		*Willingness to move (209)*	*Recently moved (117)*
	Living environment	45	56
	Characteristics neighbourhood	41	55
	Facilities	43	56
	Type of dwelling	40	51
	Living space	40	49
	Bedrooms	44	55
	Outdoor space	54	55
	Sharing of functions	64	78

6.7.   Implementation: from research findings to application in practice

In this section, the respondent groups' housing preferences are translated into concrete housing profiles of existing dwellings that match the preferences of first-time buyers. First, the results of the Multi-Attribute Utility Theory (MAUT) analysis will be used to outline the most ideal starter home profile. Then, four housing profiles, both for new construction and existing dwellings, will be calculated based on the preference analysis from the survey.

Table 6.9 shows the results of the survey, with the attribute levels in bold as the highest value. The values after the attribute levels represent the combined preference values from table 6.2. For the respondent group with a willingness to move, the attribute levels in bold are considered to be the highest value. The final value of this theoretical dwelling profile is calculated by the summed preference values of the different attribute levels. For example, a dwelling with the listed attributes would have a total value of 388, making this dwelling the most ideal preference profile for the respondent group. The dwelling would look like:

A detached dwelling in a green suburb of a city with a supermarket in the immediate vicinity. The dwelling would have a living area between 91 and 110 square metres with 3 bedrooms and a garden. Shared functions would be minimal, and a shared scooter in the neighbourhood would have a slight preference.

Table 6.9 The attribute levels with the highest score of the survey among the potential first-time buyers (Own work, 2023)

	Willingness to move (N - 209)
Attribute	**Purchase price (84)**
	Outdoor space (76)
Living environment	**Urban green (46)**
	Village centre (40)
Characteristics of the neighbourhood	**Greenery (50)**
	Child-friendly neighbourhood (41)
Facilities	**Supermarket (62)**
	Park/ outdoor and playground (53)
Type of dwelling	**Detached dwelling (52)**
	Corner dwelling (49)
Living space	**91-110 m2 (49)**
	> 110 m2 (49)
Bedrooms	**3 bedrooms (47)**
	4 bedrooms (44)
Outdoor space	**Garden (64)**
	Rooftop terrace (41)
Shared functions	**Shared scooter (18)**
	Shared office (17)
Total	**388**
	334

By using the Multi-Attribute Utility Theory (MAUT) analysis method, various housing profiles can be constructed to calculate the final value of a dwelling based on the valuation of first-time buyers. Table 6.9 also includes the second largest attribute level, which is below the attribute levels in bold. Since housing prices, the maximum financeability of the first-time buyer and the state of the housing market must be taken into account, the dwelling may not always meet the largest preferences of first-time buyers. However, this method offers a solution that takes into account the concessions respondents are willing to make. For example, paragraph 6.6 showed that the respondent group is most willing to compromise on housing characteristics such as dwelling type and dwelling size.

Both table 6.2 and table 6.9 show that some values of attribute levels are relatively close to each other. Using this approach, preferences can be shifted to determine how a suitable dwelling can be developed within the range of financeability of first-time buyers. Using table 6.9, another dwelling type can be outlined that is smaller and likely to be located in a cheaper location, resulting in a lower price than the residential profile with the highest preference. The following housing profile is given a value of 370, which is relatively little different from the most preferred housing profile:

A dwelling in a child-friendly and quiet suburb of a village, with a supermarket in the immediate vicinity. The property is a corner dwelling of about 95 m2 with three bedrooms and a garden. Share scooters are available in the neighbourhood for use as required.

Despite the small difference in value with the most preferred housing profile, which receives a score of 388, the latter housing profile receives a score of 370. However, this difference in value translates to a significant price difference between the two housing profiles. The price difference between a detached house and a corner dwelling is significant, as is the price difference between a house in a village and a dwelling in a suburb of the city. Using this approach, shifting can be done to find an ideal housing profile, taking into account the housing preferences of the first-time buyer, while realistically considering the purchase price of the dwelling.

Table 6.10 shows three residential profiles of dwellings under development by BPD, as well as one residential profile of an existing dwelling currently for sale at Funda (2023).

A value can be assigned for each dwelling based on the preferences of the respondent group, which represents the target group of this research. Using the breakdowns in paragraphs 6.4 and 6.5, value can also be determined for a more specific target group with certain socio-demographic characteristics. It is notable that the dwellings mainly fall in the more expensive segment but are also labelled as starter homes, especially the terraced dwelling and corner dwelling. Only 34% of respondents fall in the desired price range for dwelling 1, 2 and 4, as shown in table 6.3.

A second noteworthy point is that dwelling 2 and dwelling 4 are both terraced dwellings, but one is an existing dwellings and the other is a new construction. When considering only preference characteristics and excluding dwelling quality, dwelling 4 receives significantly higher ratings than dwelling 2. This difference is mainly determined by the type of outdoor space of the dwellings.

Lastly, it appears that the greatest preference value is given to single-family dwellings, while apartments are assigned significantly lower scores. However, using the MAUT method, the different attribute levels can be shifted around. For example, dwelling 3 has an area of 50 m2 with one bedroom. If this dwelling were slightly larger, say 65 m2 with two bedrooms, the rating changes significantly. The same apartment, but with a larger living area and an extra bedroom, would then receive a rating of 283 instead of 251 with the current attributes.

Housing-dependent preferences, such as purchase price and specific location, are not included in the weighted preference valuation for this overall analysis. However, for project-specific developments, both factors must be taken into account to develop a suitable dwelling for the project's target group. This can be done by shifting in the different attribute levels within the chosen project location to achieve the greatest possible preference for the target group, within the financial reach of this target group and the project.

Table 6.10: Four housing profiles of housing to be developed or an existing house with the characteristics that can be measured using the preference analysis (own work, 2023)

Dwelling 1: Corner dwelling (122 m2) (BPD)	Dwelling 2: Terraced dwelling (89 m2) (BPD)	Dwelling 3: Apartment (50 m2) (BPD)	Dwelling 4: terraced dwelling (86 m2) (Funda, 2023)
€355.000 (NMG)	€362.000 (NMG)	€268.000 (NMG)	€384.500 (NMG)
3 bedrooms	3 bedrooms	1 bedroom	3 bedrooms
Garden – South East	City garden – North	Balcony – South West	Garden – South
Village centre	Urban peripheral	Urban peripheral	Urban green
A+++	A++++	A++	A+
'T Zand – Noord-Holland	Vlaardingen	Alkmaar	Schiedam
360	318	251	366

When the different groups within the target group are broken down, a difference is apparent in the final ratings of the dwellings, as shown in table 6.11. Dwelling 1, 2 and 4 are single-family dwellings and seem to be more suitable for multi-person households with a combined income of more than €50.000, while dwelling 3, an apartment, seems most suitable for a single household with an income below €50.000. However, it is important to note that the desired price ranges have not been included in this overall calculation. As mentioned earlier, these price classes are not included in the valuation using the MAUT method. If these price classes are included, it will be found that the apartment will receive such a higher value because of the lower purchase price. It therefore appears to be important to carefully consider the purchase price of the dwelling when considering concessions and preference in the decision-making process of buying a dwelling, because purchase prices are a determining factor in the decision-making process.

Table 6.11: The four housing profiles rated by characteristics within the respondent group (own work, 2023)

	dwelling 1	dwelling 2	dwelling 3	dwelling 4
General	360	318	251	366
Singles households	318	304	283	341
Multiple person households	390	327	240	383
Households with an income untill €50.000	351	314	257	361
Households with an income from €50.000	371	322	244	367

In addition to preference characteristics, dwelling quality is also an important factor. As this research focuses on the developer's perspective, these factors are currently not included in preference valuation. The choice of dwelling type and its specific characteristics depends on the target group and its location. However, developers can benefit from the results of the MAUT analysis during the process of developing new dwellings. Within the range of location and price of the dwelling, developers can further research which features are best suited to develop a suitable offering for the specific target group of the project.

Finally, it is notable that the dwellings currently being developed are actually outside the scope of the starter budget. Only the apartment falls within the starter budget, but this receives a significantly lower rating in terms of preference. As noted earlier, three of the four dwellings fall above the desired purchase price of 66% of respondents. Only 34% list a purchase price above €350.000. This shows that many of the dwellings currently being developed, for which a first-time buyer should qualify, are not within the financing options of this target group. The combined income of first-time buyers needs to be almost twice modal to finance these dwellings, as shown in paragraph 5.11. In conclusion, many first-time buyers therefore need two incomes to meet these conditions. A single first-time buyer would need to earn almost 1.5 times modal to finance dwelling 3, an apartment. This shows that regardless of first-time buyers' preferences, house prices determine the first-time buyer's position in the housing market. Because of current government regulations and the drive to build more affordable dwellings, developers need to respond to this demand.

6.8. Conclusion

The aim of this chapter was to answer the final sub-question, namely:
"Which features in terms of housing characteristics, location and personal considerations are decisive in the trade-offs that first-time buyers make during the decision-making process to buy a dwelling in the owner-occupied housing market?" (SQR 3)

This last sub-question is answered through the analysis of first-time buyers' housing preferences, using the first sub-question: *"What are the preferences first-time buyers keep in mind during their decision-making process to buy a dwelling?"* (SRQ 3.1)

Then, to further research what concessions first-time buyers are willing to make, the final sub-question of this chapter is examined: *"Which concessions do first-time buyers make during the decision-making process to buy a dwelling?" (SRQ 3.2)*

Preferences
The Multi Attribute Utility Theory (MAUT) method was employed to examine the preferences of first-time buyers in the process of making decisions regarding the purchase of a dwelling. The MAUT method involves a deployed survey among members of the Panelclix panel, focusing on young first-time buyers on the owner-occupied housing market in the Randstad region. The selection criteria include age (25-35 years), income (from €35.000), with a willingness to move or having recently moved to an owner-occupied dwelling. Utilizing the MAUT analysis, difference values are given to characteristics (attribute levels) of different subjects (attributes) that may be important in forming housing preferences.

The results indicate that both respondents groups with a willingness to move and those who have recently moved consider purchase price to be the most important attribute, followed by having outdoor space. The preference for purchase price makes sense, given the financial situation of first-time buyers and thus a determining factor when looking for a dwelling. In addition, a distinction was made between the general preferences of both respondent groups, those with a willingness to move (N = 207) and those who recently moved to an owner-occupied dwelling (N = 119).

First of all, several components stand out in the socio-demographic comparison of the respondent group. Namely, as visible in table 6.1, a logically explainable difference can be observed in age and income among the two respondent groups. It can be logically explained that among the respondent group, those with a willingness to move tend to be younger with a lower income than the respondent group that has recently moved. This fits well with the life course theory mentioned in the theoretical framework, in which moving behaviour changes with a person's age and income. Also, a previously mentioned table 6.1 shows that despite a higher proportion of couples in the respondent group with a willingness to move, a significant proportion of this respondent group (41%) is still single. With the findings from the previous chapters, it appears that with the current housing market and financial capacity for young people in the housing market, it is enormously difficult to find owner-occupied dwellings. When a person is older, it is assumed that they may have accumulated more assets in savings and have grown in wage scales in the labour market. It can be assumed that when a person has been in the labour market longer, there is a greater chance of getting an adequate mortgage payment than a younger person at the beginning of their career.

When looking at stated and revealed preferences, it appears that the respondent group who have recently moved to an owner-occupied dwelling (revealed) have more realistic housing preferences than the respondent group with a willingness to move (stated). A comparison between income and desired purchase price also shows that the recently moved mostly have a higher income than the respondent group with a willingness to move. This also shows that households with an income below €50.000 are significantly underrepresented in the recently moved respondent group. Households with incomes above €50.000 have a greater opportunity for a larger mortgage payment.

Despite the dependence on the financial resources of a potential first-time buyer, housing preferences certainly matter for those households that have yet to realise the desire for an owner-occupied dwelling. Table 6.9 shows the greatest preferences of the respondent group with a willingness to move and also answers the first sub-question of this chapter (SRQ3.1). Here, the following attribute levels come out as greatest preference:

- Garden (64)
- Supermarket in the direct surrounding (62)
- Detached dwelling (52)
- Greenery (50)
- Living space between 91 -110 m2 (49)
- 3 bedrooms (47)
- Urban green living environment (46)
- If sharing function; a shared scooter (18)

Through the exploration questions, breakdowns could be made, with some preferences differing among these breakdowns. For instance, a comparison was made between single first-time buyers and multi-person households, noting differences in preferences, such as preference for a child-friendly neighbourhood among multi-person households and a green environment among singles. The preferences of these two subgroups are found to differ on the grounds of the child-friendliness of the dwelling and neighbourhood. This shows that there is a solid difference in housing preferences for families and for single households.

The two income groups were also contrasted against each other, the respondent group with a gross aggregate income below €50.000 and above €50.000. This reveals few differences in preferences, however, lower-income respondents expressed a greater preference for a larger dwelling than the higher-income respondent group. It is expected that this respondent group has not yet developed a realistic preference relative to the maximum financial capacity. However, lower-income respondents show a greater preference for living in the village centre and higher-income respondents for living in the urban peripheral. This preference has more realism as the recently moved respondents have a higher average income than the respondents with a willingness to move. Characterising the different living environments is the difference in the average purchase price of the two environments.

In general, first-time buyers' preferences can be summarised as a balance between financial feasibility, dwelling type, neighbourhood characteristics and dwelling size. Using this MAUT analysis, an insight into the decision process and housing preferences of (potential) first-time buyers was created.

Concessions
Due to high housing prices and limited availability in the current housing market, first-time buyers are often faced with the need to adjust their housing preferences or stretch their financial budget. The most common concessions relate to dwelling type, dwelling size and neighbourhood characteristics.

The survey shows that first-time buyers with a willingness to move are most willing to compromise on dwelling type and size. Interestingly, although the living environment was rated relatively low in the housing preference table, it scored reasonably high in the concession table. This suggests that respondents are less willing to make concessions on the living environment. For the group that recently moved, it appears that they made the most concessions on dwelling type and size. Which corresponds to the concessions the respondent group with a willingness to move are willing to make.

When concessions had to be made, respondents were less likely to compromise on outdoor space and low desire to use shared functions. Similarly, outdoor space came out as one of the highest preferences in housing preferences. In contrast, making use of shared features received a very low rating in the housing preferences and respondents are much less willing to do make use of shared preferences, with both ratings making this additionally clear.

Then, with this knowledge, we can look at the trade-offs that first-time buyers are willing to make, which answers the last sub-question of this research (SRQ 3.2). As shown in the concession table in section 6.6, respondents are more willing to make concessions on the attributes dwelling type and dwelling size, which is strikingly different from the WoON results. This shows that the group with a willingness to move give the highest priority to the dwelling itself, meaning that they are less willing to compromise on these preferences.

The trade-offs that first-time buyers make depend on the valuation of the attribute levels in relation to the purchase price of the dwelling or the first-time buyer's financing options. By sliding in the attribute levels with different values, which should be as positive as possible, it is possible to see whether the most ideal dwelling can be realised (developer) or purchased (first-time buyer), which fits as much as possible within the described housing preferences (attribute levels).

To answer sub-research question 3, it appears that several preferences are rated highest, which can be used to describe the most desired dwelling as:

"A detached dwelling in a green suburb of a city with a supermarket in the immediate vicinity. The dwelling would have a living area between 91 and 110 square metres with 3 bedrooms and a garden. Shared functions would be minimal, and a shared scooter in the neighbourhood would have a slight preference."

It also logically appears that the purchase price of the dwelling is one of the most determining factors that it should be included in the consideration for an owner-occupied dwelling. From this, it can be concluded that concessions have to be made because not all preferences always fit within the budget and housing market realities. It is suggested that attribute levels be shifted to develop more realistic housing profiles that both meet first-time buyers' preferences and are financially feasible.

To fully implement this approach, it is necessary to integrate financial feasibility into the definition of ideal housing profiles. It is evident that dwelling price is a critical factor that strongly influences first-time buyers' choices. Integrating purchase price into the consideration of preferences suggests developing more realistic housing profiles that both meet the specific preferences of first-time buyers and are within the financial reach of this target group. Shifting attribute levels within financial limits offers the opportunity to create dwellings that not only meet ideal characteristics but also take into account the financial constraints of first-time buyers and the realities of the housing market.

CONCLUSION

7. Conclusion

First-time buyers in the Netherlands face significant barriers, with only a 3% chance for single first-time buyers and a 40% chance for couple first-time buyers, to secure a suitable dwelling in the Netherlands. The larger increase in house prices since 2015, limited supply and long waiting lists in the rental housing market make the situation even more difficult. Although the government's initiative to build almost one million dwellings by 2030 to address the housing shortage, the problem of affordability for first-time buyers is not solved sufficiently as appears from the problemstatement. Despite an average income of €48.000 for this population group in the Netherlands, there are insufficient dwellings within their financial reach.

This research has provided insight into the challenging situation in which first-time buyers find themselves in the Dutch housing market, with a specific focus on the Randstad region. The central question of this research is: *"What are the minimum requirements in terms of quality and location of a dwelling concerning the financial resources available to first-time buyers in the owner-occupied market of the Randstad?"*.
This research has led to an analysis of the changing dynamics in the housing market since the economic crisis of 2012 until the recent year 2023 and an insight into the preferences and possible willingness to make concessions of this target group. The research on this main question has been expanded by several sub-research questions. Each question was designed to highlight specific aspects, from both the demand and supply side of housing of the young target group in the Randstad region.

In light of the unfavourable conditions in the Dutch housing market, this research highlights the urgent need for effective measures to improve housing affordability for first-time buyers. Identifying strategies to increase housing accessibility, addressing house prices, encouraging new construction initiatives and implementing targeted policies, is crucial to provide equal opportunities to this key demographic group in the housing market.

Supply
To answer the main question, it is important to start with the research on the condition of the current housing market, where the leading sub-question was: *"How did the Dutch housing market change since the economic crisis of 2012?" (SRQ 1).*

A first-time buyer is able to enter the housing market when the supply and demand match. The target group of this research concerns a potential first-time buyer aged between 25 and 35 years old, in the Randstad region with a minimum aggregate income from 35.000 euro. The supply side of this research includes the Randstad housing market and has been examined using comparisons with the Dutch housing market.

First, the findings show that the Dutch housing market has experienced significant transitions, with an increase in demand for affordable housing and a significant housing shortage. The Randstad region, which includes Noord-Holland, Zuid-Holland and Utrecht, is characterised by a highly urbanised nature, a tight housing market and high housing prices. This has resulted in a competitive environment where households, especially younger age groups, struggle to acquire owner-occupied dwellings. The age at which households move from the rental housing market to the owner-occupied market is shifting, as is the age at which older people move back into the rental housing market. Despite age increases when young people enter the owner-occupied housing market, the willingness to move remains high. People want to move within their life and career cycle and with that, a new demand for different dwellings appears. If those needs for a different type of housing cannot be met, could this lead to postpone important life choices as getting children or switching jobs. As a result of this high demand for housing and a housing shortage, many young people have an unrealised willingness to move.

Besides the shift in age, a shift in the desired form of housing among young people in the Randstad region also appears to be visible. Since 2015, the desire for owner-occupied dwellings has increased sharply among this target group. This increase is expected to be related to the favourable mortgage rates. The desire for an owner-occupied dwelling is related towards the different steps in the life cylce of a (young) person, but is also dependent on the availability in the housing market. Since 2015 it became easier to access a higher mortgage for an owner-occupied dwelling, and therefore the desire was triggered.

These developments highlight the complexity of the current housing market, where the financial options and housing preferences of first-time buyers are influenced by macroeconomic factors, such as the economic crisis and interest rates, as well as regional dynamics such as housing shortages and urbanisation. Further analysis will be carried out in the remainder of this research to more accurately understand the impact of these developments on the decision-making of first-time buyers seeking to acquire a dwelling in the Randstad region.

Demand

The surge in demand for owner-occupied dwellings is related to extremely low mortgage rates, which have allowed homebuyers to obtain larger mortgage sums for equal monthly costs, in the last few years. The chapters researching the demand side of first-time buyers, answer the following two questions:

1. *"What is the current financial position of the first-time buyer?" (SRQ 2).*
2. *"Which features, in terms of housing characteristics, location and personal considerations, are decisive in the trade-offs that first-time buyers make during the decision-making process to buy a dwelling in the owner-occupied housing market?" (SRQ 3).*

The financial capabilities of first-time buyers are influenced by both regulations and market dynamics. Governmental influences and other measures taken, such as adjustments to the transfer tax and the introduction of the start-up loan, seek to strengthen the position of first-time buyers. These measures cover various aspects of the housing market, from stimulating dwelling construction to adjustments in the transfer tax.

Nevertheless, the tension between affordability, mortgage interest rates, and housing prices remains a challenge. The rise in mortgage interest rates over the past year has affected financing options, allowing first-time buyers to obtain a lower mortgage sum for the same income. Nevertheless, mortgage interest rates were historically very low in the years before 2022. From the third quarter of 2023, the housing market appears to be stabilising, with "high" but more stable mortgage interest rates and a slight rise in housing prices. The salaries in the Netherlands are mostly changing with inflation, which also indicates an increase in collective wages by the end of 2023. These findings show that the financial situation of the first-time buyer depends on several financial factors and the tightness of the housing market.

The research also provided deeper insights into the housing preferences of first-time buyers. Purchase price and outdoor space are considered crucial attributes, with financial situation playing a leading role in the decision-making process. The results highlight a strong preference for having a garden, along with a strong preference for having a supermarket close to the dwelling. Younger people, the target group of this research, are at the beginning of their adult lives. At this stage of life, a lot is or can change, including dwelling preferences. The demand for a larger dwelling, may stem from possible decisions the age group is or will make, such as having children. Because the target group, in their first home, often wants the option to be able to live up to this in their owner-occupied dwelling, the demand for a home with more bedrooms, for example, is also such. A new dwelling, as mentioned earlier, is also related to taking steps in the life cycle, on which preferences are therefore based.

Features of a smaller dwelling, logically, emerged as least attractive in the survey. This is given that people naturally prefer a larger dwelling. It appears important to establish a housing profile with the right balance of housing characteristics while considering financial feasibility. In addition, the results of socio-demographic characteristics among the respondents reveal a less realistic view among the respondents with a willingness to move. From this, it appears that it is important that when preferences are formed, the potential first-time buyer should also consider their financial position. This is confirmed by several differences in the survey results between the two respondent groups. The respondent group that has recently moved has a more realistic preference than those with a willingness to move.

Rising housing prices, high demand for dwellings, and the recent rise in mortgage interest rates are creating a challenging environment. The financial capacity has narrowed, requiring first-time buyers to have significant aggregate income to meet current purchase prices in the Randstad region.

In answer to the main question, it can be concluded that the minimum requirements for first-time buyers in the Randstad region go beyond mere financial considerations. First of all, it appears that having a garden and a supermarket in the immediate vicinity are highly valued. Furthermore, respondents are less willing to compromise on these, leading to the conclusion that these attribute levels, among others, serve as minimum requirements of the future owner-occupied dwelling.

The combination of affordability, housing preferences and market dynamics creates a complex environment in which first-time buyers have to make strategic decisions. Finding solutions that go beyond financial incentives alone is crucial to ensure the accessibility and fairness of the housing market for this target group. Many of these "solutions" cover strong competition and high housing prices and amount to building more suitable dwellings for first-time buyers.

Using the insights gained from the prepared Multi Attribute Utility Theory (MAUT) analysis, an in-depth analysis was conducted to identify the considerations that first-time buyers are willing to make. On average, respondents showed a significantly higher willingness to make concessions with regard to dwelling type and size. This allows it to be concluded that the type of dwelling and the size of the dwelling, is not such a minimal requirement, but it is about the aspects that make the dwelling. Nevertheless, many of these aspects, like a garden and the number of bedrooms, for example, do depend on the size and type of the property. In this way, preferences can be shifted taking into account the minimum requirements of a garden and a supermarket within 10 minutes' travel distance from the house.

Nevertheless, a distinction was observed between the so-called 'stated' and 'revealed' concessions made by the different respondent groups; the group of recently moved respondents showed a greater tendency to make concessions than the group of respondents with a willingness to move. This observation can possibly be explained by their more realistic housing preferences. Perhaps their preferences are less fixed, and they are more willing to make concessions to realise their wishes.

The possible trade-offs that first-time buyers may make depend heavily on the valuation of attribute levels concerning the purchase price of the dwelling or the first-time buyer's financing capabilities. By varying attribute levels with various values, aiming for the most optimal configuration possible, it is possible to assess whether the most ideal dwelling can be realised (from the developer's perspective) or purchased (from the first-time buyer's perspective) that most closely matches the described housing preferences (attribute levels).

DISCUSSION – LIMITATIONS – RECOMMENDATIONS

8. Discussion

How spoiled is my generation?

The housing preferences that emerged from the survey showed predominantly expected patterns. It is well known that people generally have a strong preference for spacious dwellings with extensive facilities at a favourable price. The application of Multi Attribute Utility Theory (MAUT) in the survey provided a method to deal with this, but still resulted in predictable preferences. A critical question that can be asked regarding the outcomes of the housing preferences of first-time buyers in this research, from both the WoON and the survey, is whether respondents had a realistic picture of a dwelling in mind when filling in their preferences.

Considerations can be made about the nature of these preferences, whether they are considered purely ideal preferences or whether respondents state preferences that are realistic within their current financial means. Nevertheless, the results show that respondents are aware of the need to make concessions, especially with regard to dwelling size. The willingness to make concessions on attributes that are usually unrealistic for the young target group, such as a large detached dwelling with several bedrooms, testifies to their understanding of the aspects that are likely to have to be compromised in order to realise their willingness to move.

In considering my own housing preferences, I also understand that housing seekers, seek maximum value for their money, which could be translated into a preference for spacious dwellings. In conversations with potential first-time buyers, this dynamic should be clearly discussed. The difference between 'stated' and 'revealed preferences' confirms this point of discussion. Respondents who recently moved to an owner-occupied dwelling most likely experienced moments of awareness during their search for their current home, which may have adjusted their housing preferences.

Nevertheless, preferences remain inherently subjective and not necessarily realised traits. It is a logical and human phenomenon to place a strong emphasis on housing characteristics in the early stages of the owner-occupied dwelling search.

Why do so many people want to buy their own owner-occupied dwelling?

Another discussion point concerns the fact that so many people wish to live in owner-occupied dwellings. There appears to be a sharp increase in the number of people wishing to live in owner-occupied dwellings. The literature found, also shows that this is a logical step in the life and career cycle of a household. When one gets the (financial) opportunity, the preference usually grows for buying a dwelling. This comes, logically, from the fact that an owner-occupied dwelling builds wealth. I often hear the comment:

"Renting is a waste of money"

My understanding of why people wish to live in an owner-occupied dwelling starts with having stability and creating ownership. People more often only feel that a house is really theirs when they buy it as can be seen back in the literature. It appears to be logical to make a step in the live cycle, to settle in an owner-occupied dwelling. Also, building wealth through repayment is an important factor that makes people want to buy a dwelling. However, mortgage interest relief also plays a part in the advantage of buying over renting. Because one has to pay less income tax when they can deduct mortgage interest rates, this provides a greater advantage than for renters who cannot. Apparently the price quality ratio is "better" when buying their dwelling, but when the cost of buying this dwelling is so high, is it really the case that the price quality is better with an owner-occupied dwelling?

With current construction costs and the large gap between the financeability of an owner-occupied dwelling and options available to potential buyers, this consideration of what is a "better" option changes. This leaves the question, what happens if the housing shortage cannot be solved within a certain timeframe? The construction of mid-rent homes should be given more incentives to accommodate those with a willingness to move who cannot realise them. Everyone has the right to live in a suitable dwelling, be it an owner-occupied dwelling or a rented one.

Who should we build for?

A third discussion point concerns the construction of dwellings for first-time buyers. In chapter 6, the results of the MAUT analysis were applied to actually developed dwellings labelled as starter dwellings. However, it soon became clear that an "affordable" starter dwelling is still not within the financial reach of the target group. This raises the discussion as to whether the dwellings being built now are suitable for first-time buyers. However, this turns out to be a difficult discussion, because with the current housing market, with strong competition and current housing shortage, together with the high construction costs, it is also more logical to explain that the price of new-build homes is higher. Then the question actually arises, should we build dwellings targeted for first-time buyers? And then which dwellings are suitable for first-time buyers? New housing developments create a move within the housing flow because when someone buys a new dwelling, another dwelling becomes available. From this, it can therefore also be concluded that when a household wants to move into its first owner-occupied dwelling, another owner-occupied dwelling does not immediately become available. A different take on this problem could also mean, for example, building dwellings for the elderly, freeing up their other owner-occupied dwelling and making them available for other households which promotes housing flow.

It is important to research carefully which dwellings currently provide sufficient opportunities in the housing market. Are these new-build dwellings which are actually suitable for first-time buyers? Or are these dwellings for other types of buyers, who can then move to their new dwelling, and their old dwelling becomes available for first-time buyers?

8.1.   Limitations

Generalisability

The first limitation of this research concerns the generalisability of the survey results to a wider population. As a result of the breakdown between the two respondent groups, potential first-time buyers with a willingness to move and recently moved to an owner-occupied dwelling, the frequency proved to be on the low side. The first respondent group had 207 respondents and the second group consisted of 119 respondents. This size is not the problem, but the differences between the attribute ratings of both groups were not significant. In conclusion, the differences in the responses between the two respondent groups could not be generalised to the entire target group of this research. The statements made, were analysed separately for both respondent groups, which reflect the population of the target group of this research.

Focus on owner-occupied dwellings

The second limitation of this research which is discussed is that the research focuses on the willingness to move to an owner-occupied dwelling and excludes, preferences for rental dwellings. Indeed, renters may have unique priorities and considerations that are not fully reflected in the analysis of housing preferences of first-time buyers. The target group for rental housing or owner-occupied dwellings may differ widely. However, preferences also tend to be different for a rental property, as these tend to be existing standard dwellings. A more extensive, possibly future, research could eventually plot the housing preferences of first-time buyers against the housing preferences of renters to generate a comprehensive picture. However, the chosen concessions of attributes/housing preferences did not include the substitution behaviour when the household chooses to give up the search for owner-occupied dwelling and continue in the rental market. The rental housing market is also experiencing many difficulties these days, where there are completely different financial policies behind it besides preferences. There are different classes in this, such as social rent, middle rent or private rented housing, making this a complex picture. Due to this complexity and large differences within this housing market, this is not a feasible topic for this research.

Fluctuating housing market

Furthermore, the third limitation of this research includes the fluctuating factors of the housing market. The housing market in itself is not changing as such, there has been strong tightness in the housing market for a number of years. However, there are several factors that are changeable, for

example, current indices, mortgage interest rates and government influences. Housing prices depend on market supply and demand and, as the year 2022/ 2023 showed, the financial position of first-time buyers can change a lot in a year.

Only Randstad region

Next, the fourth limitation includes the fact that households with a willingness to move in the Randstad region include those with a willingness to move from the provinces of Noord-Holland, Zuid-Holland and Utrecht. However, households currently living outside these three provinces but wishing to live in the three provinces comprising Randstad were not included in this research. This could include households all over the Netherlands and even outside the Netherlands, making this very complex to survey. Also, the WoON has its limitations in this and no specific desired locations are included in the dataset.

Maintenance level of the dwelling

The last limitation of this research concerns the fact that state of the dwelling was not included in the survey. This is because this research was written using the developer's perspective. This view concerns new-build dwellings, assuming high quality standards because of their new-build nature. Existing dwellings are not the focus of the survey, however, to support implementation, they have been included in this section. In further research focusing on the considerations of first-time buyers in the existing housing market, it is important to include the desired or minimum state of the dwelling in any survey. Besides the state of the dwelling, specific locations are not included in the survey. This is because the research focuses on the overall housing market in the Randstad region, covering the three provinces; Noord-Holland, Zuid-Holland and Utrecht. The questionnaire asks about desired urban form, but not specifically about location. Specific preferences for this will certainly be important for first-time buyers and it is therefore recommended that in a follow-up research on a more specific location, these should also definitely be included in any questionnaire.

8.2.   recommendations for practice and policy

After conducting my research, it appears that the situation for first-time buyers is difficult and will remain so for the time being. To improve the position and opportunity of first-time buyers based on this research, this section discusses recommendations aimed at policy adjustments and recommendations for practice. These recommendations follow the conceptual model of this research, in which recommendations have been drawn up based on the different disciplines that are important for a first-time buyer to eventually enter the housing market.

8.2.1. Practice

Findings MAUT

To begin with, the results of the chosen method, namely the MAUT approach, can be used to identify the preferences of first-time buyers. What emerged from the research was a most desired housing profile of a large ground-level single-family dwellings. However, it also showed that this dwelling was not identified as most suitable, considering the current owner-occupied housing market for the middle-income target group. By using the results of MAUT, these preferences can be shifted to generate a more realistic picture which fit within the financial means of the target group. The question addressed in the discussion; "How spoiled is my generation?", covers the demand for potentially oversized dwellings. It would be interesting for developers, as well as developers and policymakers, to research the results of this questionnaire and engage further with first-time buyers. This is to get a better picture of what wishes, the target group they are developing for, actually have. Also, based on these researches, a campaign could be launched or (better) guidance could be offered when buying a first-time dwelling. This is to ensure that the wishes first-time buyers have are realistically matched to the current supply and vice versa.

Testing financial feasibility

Once these preferences from the research have been used to draw up a housing profile, it is important to test these preferences against the target group's financial feasibility. This housing product should then be tested taking into account floor plans and environmental factors to generate a complete picture. In this financial assessment, the different preferences that emerge from the research can then also be shifted around. In order to design a feasible housing product. Furthermore, this assessment will produce a result, namely a number of residential products with different floor plans that can be placed in different living environments. This financial test concerns a test of one of the most decisive factors for the target group to be able to make the step to an owner-occupied dwelling. Reflected in the conceptual model of this research, the demand of first-time buyers should be balanced with the supply on the housing market. Often, it turned out that the financial position of first-time buyers is not sufficient for the dwelling that comes out as their biggest preference, or is only sufficient at all for a small part of the available dwellings, especially in the Randstad region. Regardless of several incentives from governments and agencies to improve this financial position of first-time buyers, it remains difficult for this target group to purchase a dwelling.

Apart from the possibilities for a starter loan, the second income that counts and the protection of the mortgage guarantee, many dwellings that are considered starter dwellings are not sufficient for first-time buyers, especially in the Randstad region. The government has abolished the so-called jubilee bonus to make a more equitable distribution among the target group. Possible solutions to improve the financing space of first-time buyers are not simple. For instance, an increase in borrowing capacity or equity eventually drives up housing prices as there will be more competition in the housing market. However, any step taken to increase the financing space ultimately continues to exacerbate tightness. A solution to this should be a combination of several steps, including expanding the supply of dwellings for this target group to then cope with this competition, which is partly caused by the increase in the financing space. Beside the tightness in the housing market, I believe that more consideration should be given to opportunities for first-time buyers. For instance, more attention can be given to the start-up loan, so that it is better known and can be used appropriately. Also, first-time buyers will be able to take into account help from parents or bring larger amount of savings in the future when buying their dwelling.

Testing the new housing product by the target group

After the housing profiles have been drawn up and tested for financial feasibility, a new research can be drawn up. Here, it is recommended to test the different housing products in different living environments to the target group. This could be done using conjunct surveys where floor plans with environmental factors are tested among potential first-time buyers. From this, we can see which residential products, which fit within the financial reach of this group, are most preferred. By specifically presenting a number of housing products to potential first-time buyers, their choice is "narrowed down" to a number of options within their financial reach. Going through these steps also addresses the discussion point of an unrealistic desire of the potential first-time buyers.

<u>Apartments</u>: The research revealed a slight preference for apartments, not ground-level dwellings. It would be interesting to conduct this research again with apartments in mind, as this is an attractive housing product for the target group, especially in the Randstad region. Land-bound dwellings are nowadays, with the current tightness in the housing market and certainly in the Randstad region, not financially feasible for part of the target group. Therefore, we could look at how to increase preference and options for a suitable housing product in the form of apartments.

Develop, put it on the market and test interest

After testing among the target group, the housing product can be adjusted based on the preferences from the MAUT analysis and research through conjunct measurements. With this, specific housing products can be developed targeting first-time buyers. Subsequently, steps can be taken to develop these housing products and put them on sale. This also allows actual testing of the interest of possible buyers and the characteristics of these buyers, whether they actually fall within the desired target group or not.

8.2.2. Policy

A number of policy concerns also emerge from this research. For example, earlier in this research and this section, it appears that many of the "solutions" come out of high competition and housing shortages. Several recommendations, such as widening the financial options available to the target group, intensify competition. This high competition leads to an increase in the final selling price. Therefore, many possible options and the current (increasing) housing demand end up increasing the supply of dwellings. As developers specifically develop dwellings aimed at the target group of first-time buyers, this housing supply can be increased. By building dwellings for first-time buyers, the supply is increased; on the other hand, many new construction projects create flow in the housing market. The government tries to stimulate many new construction projects, through various tools like "Bouwimpuls" and the "Startbouwimpuls".

However, many new construction projects for first-time buyers, are not financially adequate for first-time buyers. It is therefore important to develop appropriate products to give these first-time buyers a chance to buy a dwelling. Developers and builders are also running into high prices, which is holding back the construction of dwellings. For instance, the government has reduced the target number of new homes to be built from 100.000 dwellings to 70.000 new homes by 2023. Through the "Woningbouwimpuls", area development is stimulated and through the "Startbouwimpuls", the construction of a specific project is encouraged. In this way, the government tries to promote the construction of dwellings. However, granting subsidies does not always solve the problem; when subsidies are granted, it is still a long and complex project to actually obtain this money. As a result, granting subsidies does not directly solve the housing shortage problem, but it does encourage developers and builders to move faster to an agreement with municipalities, for example, when a subsidy is in prospect. The entire process of obtaining subsidies can/should be checked, where it can be promoted. By facilitating this process, projects can be moved more quickly to actual construction.

Furthermore, in recent years, private landlord regulations have been amended and made stricter, this has caused some of these private landlords to sell their dwellings. This has mostly removed rental properties that were precisely a suitable option for the age group of first-time buyers. This has actually increased the pressure on the owner-occupied housing market, as there is also a large scarcity of medium- and private rental properties in the rental sector. To reduce this tightness and strong competition in the owner-occupied market, the rental housing market should be made more attractive. People have the greatest preference for owner-occupied dwellings, as discussed in the literature found. However, this has to do with wealth accumulation, monthly costs and the security of an owner-occupied dwelling. When rental housing is made more interesting or there is more supply of rental housing, the age group might be more inclined, when they cannot find an owner-occupied dwelling, to move to a rental property. If it is easier to find a rental property, or if it is attractive to the target group for longer, they will also be less likely to want or need to move to the owner-occupied market.

To stimulate new construction, it could be recommended to invest more money in infrastructure. These tend to be expensive components, which are only recouped later in the process. If the government were to encourage the construction of infrastructure, including public transport, it would speed up the process of new housing construction and thus stimulate it. Indeed, without good infrastructure, especially in the Randstad region, a developer is less likely to start a project.

As a final recommendation for policy incentives and recommendations, the so-called "Opkoopfonds" is discussed. Indeed, developers usually start building only when 70% of the project is sold. However, with the rise in interest rates recently, it is visible that people are more in anticipation towards pre-financing, so it now takes longer until the 70% is achieved. This can also be seen in recent times, with fewer dwellings being sold. Through this so-called "Opkoopfonds", the developer can be offered a guarantee for these 70% sold dwellings, allowing construction to start earlier. This "Opkoopfonds" has not yet been taken up by the government, but is being considered. This fund could be a good addition alongside the construction incentives to boost housing construction.

8.3.   Further research recommendations

First of all, as indicated earlier, it is advisable to comprehensively research the trade-offs between the rental and owner-occupied housing market. In this current research, only owner-occupied dwelling preferences have been addressed. However, for a full understanding of the decision-making process surrounding a move, it is essential to also examine considerations for a rental property. An in-depth analysis of the trade-offs between the two housing markets made by a household with moving plans can provide a deeper understanding of the complexity of this decision-making process. Future research could focus on identifying and analysing the specific factors households consider when choosing between rented and owner-occupied dwellings. This could include financial considerations, flexibility, long-term expectations, and other relevant criteria that influence the decision-making process. In addition, a comparative study between regions or cities could be conducted to understand regional variations in these trade-offs.

Through these complementary approaches, a broader understanding of housing market dynamics and the various factors that households consider when planning a relocation can be obtained. This could be valuable for policy-making and developing appropriate support measures for housing seekers.

Besides comparing the two types of housing markets, the intriguing issue of differences in preferences between the owner-occupied and rental housing markets looms large. Here it is plausible that there will be variations in housing preferences and the degree of appreciation for various attributes with their specific attribute levels. Moreover, alternative attributes may be explored that are beyond the scope of this study. The selected range of attributes in this research represents a specific choice of housing preferences identified by the researcher in the decision-making process for purchasing an owner-occupied dwelling. Nevertheless, several other facets exist that may be relevant to certain households during their search for owner-occupied dwellings.

Further research into a hedonic price model could show the relationship between preferences and attributes determining the price of a dwelling. Ultimately, specific attributes that apply to dwelling prices could then be sought to lower or change them.

A second focus includes further research on substitution behaviour among first-time buyers with regard to their housing preferences. This can be approached by taking the findings of this study as the basis for subsequent research, for instance through additional surveys, focus groups or interviews within the target group. A deeper insight can be gained into the threshold at which first-time buyers decide to switch to the rental housing market or ultimately abandon further search attempts and stay in their current dwelling. This will require further in-depth analysis, with specific attention to the concessions made.

Finally, survey data indicates a low, to absent, preference for sharing certain facilities. This phenomenon constitutes an intriguing research topic that deserves deeper research. It is relevant to understand why households are reluctant to share certain facilities. Encouraging facility sharing may benefit from a greater awareness of the potential (financial) advantages it can bring. By researching the motives behind respondents' reluctance to share certain functions, a strategy can be developed to promote this behaviour and create more awareness.

9. Reflection

This chapter presents a reflection on the course of the writing process of my thesis. It covers various aspects, including the process itself, the results obtained, and personal development during this process.

9.1. The (learning) process

At the start of this academic year, several themes for my thesis research were possible. My interest soon shifted to the Dutch housing market and its prospects for my age group. The master's programme Management in the Built Environment (MBE) offers a good grounding in different disciplines and research methodologies, and the discussion of current issues piqued my curiosity. This resulted in my decision to initiate research on the housing preferences and considerations of young households in the owner-occupied housing market.

Leading up to the second phase of the research, I encountered the pitfall of excessive diversity in applied research methods, without such a realistic estimate of the time required. A decent research design was eventually established through conversations with my supervisors and fellow students.

During the past year, I experienced challenges while researching the dynamic topic, namely the housing market. Constant changes, such as fluctuations in housing prices, sometimes made the research challenging. Nevertheless, this complexity underlines the relevance of the research at a time of changing housing market and limited opportunities for first-time buyers.

The methods chosen worked for conducting this research. By first researching the overall housing market and eventually having a deeper focus on the specific target group using the WoON analysis, I was able to generate a good understanding of the housing market. Because I worked on the questionnaire design during this analysis, I was able to incorporate these findings and make adjustments to the research design for the WoON analysis. In the end, the connection between the WoON analysis and the outcomes of the survey became visible and a complete overview could be generated. The further in-depth analysis of the financial situation of first-time buyers and the government's influences on this served, in addition to this analysis, to analyse the preferences and considerations of the target group and make connections.

During the process, it did become clear that proper delineation of the chosen methodology was necessary. For instance, overly ambitious goals are not always achievable, and it is good that the "brakes were occasionally applied" by my supervisors. I sometimes needed this to be able to eventually complete my research.

These moments with the supervisors were sometimes necessary to shift my focus and sometimes look beyond what I was doing myself. An example is the desire to establish a hedonic pricing model. I was made aware by one of my supervisors of the amount of work this would entail and, alongside the other chosen research topics, this would not have been feasible to carry out. Also, by applying the snowball method, I had gone into theory and at times made too much use of dated literature. Through a conversation with the supervisors, I realised this. Furthermore, I needed the guidance moments to sometimes shift my focus and gain new insights into the data obtained, by looking at my findings in a different way. During the guidance moments at BPD, the supportive comment often came:

"What do you want to research with this? What do you want to achieve with this information/ data?"

These questions got me thinking, and through this path, I was able to keep focus on the bigger picture and the red line throughout my research.

9.2.   The results

The data examined in this research amounts to data from the WoON, from the years 2012, 2015, 2018 and 2021, and data obtained from the survey conducted among 326 respondents. First of all, the findings can be recognised to a certain extent, as they mostly deal with (housing) preferences and the current housing market. By diving deeper into this, I ended up extracting new findings from the analysed data. It allowed me to delve into the preferences first-time buyers have and into the possibilities on how these can be used in practice.

Preparing the questionnaire took more time than expected. Every question (proposition) needed to be thought through, how it would come across to the respondent and how it could be interpreted. This took a lot of time, but ultimately produced valuable results. This was also confirmed with BPD, indicating that they will use this data themselves for further thematic research. However, some expectations were not met when analysing the results. For instance, my expectation was to see a greater difference between respondent groups with different socio-demographic characteristics. However, this was a learning process, because this expectation was not confirmed it turned out that there was apparently little difference between these respondent groups.

9.3.   Personal development

The whole process of graduation has taught me quite a lot. The connection with the master's track MBE and my research lies in the discipline of development. Because I had the opportunity to do a graduation internship at BPD, I learned how things work on the shop floor, at developers, and how research like this is incorporated into the work processes.

During the past year, I learnt a lot, as Anke often said: "This is good for your learning process". During the emperical research of this thesis, I learned a lot, including:

- To work well with SPSS;
- To learn to understand and read data;
- How much effort it takes to set up a correct and valid questionnaire;
- To draw conclusions from the researched data in a better way.

Prior to writing my thesis, I had little affinity for quantitative research. For this reason, I started towards P1 and P2 with a qualitative research which gradually tilted towards a quantitative research. This was challenging due to the little prior knowledge I had about conducting quantitative research. Through the moments with my graduation supervisors and further research, I eventually chose MAUT's method for the survey design. This was a learning process in itself. Because MAUT is a relatively unknown method, both in the existing literature and at BPD, it was a difficult process at first. Eventually, after learning a lot about this method and talking to and discussing with Harry, I understood this process and saw its advantages. Because this method was unknown at BPD, it was sometimes difficult while setting up the questionnaire, but by consulting a lot, I eventually managed to draw up a survey using this method.

Furthermore, I learned to work well with SPSS, where the WoON has such an extensive database, it was sometimes difficult not to "get lost" in all the data. So in the end, I learned a lot during this whole process of researching the preferences and considerations of first-time buyers in the Randstad region. Despite some delay due to the distribution of the survey, in my opinion, I was able to update this sufficiently and put down a research I can proudly look back on.

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APPENDICES

Appendices

1. Attributes and Attribute levels

Attribute	Attribute level
<u>Living environment</u>	
	Urban city centre
	Urban peripheral
	Urban green
	Village centr
	Rural living
<u>Neighbourhood</u>	
	Greenery
	Child-friendly
	Social
	Car- use
	Diversity (communities)
<u>Distance to facilities</u>	
	Train
	Bus, metro and tram
	Supermarket
	Medical facilities
	Play ground and park
	Hospitality
	Gym
	Daycare
<u>Type of dwelling</u>	
	Apartment
	Studio
	Terraced dwelling
	Corner dwelling
	Semi-detached dwelling
	Detached dwelling
<u>Number of bedrooms</u>	
	1
	2
	3
	4
<u>Living space</u>	
	30-50 sqm
	51-70 sqm
	71-90 sqm
	91-110 sqm
	>110 sqm
<u>Outdoor area</u>	
	Garden
	Patio/ city garden
	Rooftop terrace
	Balcony
	Shared outdoor area
	No outdoor area
<u>Shared function</u>	

	Kitchen
	Office
	Hobby room
	Shared bike, - scooter, - car
<u>Purchase price</u>	
	< €200.000
	€200.000 – €250.000
	€250.000 – €300.000
	€300.000 – €350.000
	€350.000 – €400.000
	€400.000 – €450.000
	€450.000 – €500.000
	>€500.000

2. Survey

Welkom bij deze vragenlijst!

Starters op de woningmarkt kunnen lastig een eigen koopwoning vinden en betalen. Met deze vragenlijst onderzoeken wij de voorkeuren van starters die op zoek zijn naar een koopwoning en starters die kortgeleden een woning hebben gekocht.

Jouw antwoorden helpen ons met het krijgen van inzicht voor het ontwikkelen van passende koopwoningen voor starters.

Wil je de vragenlijst invullen? Het invullen van de enquête duurt 10-15 minuten.

Alvast bedankt dat je mee wil werken!

Persoonlijke informatie
Vraag 0.1
Denk je binnen nu en tien jaar te verhuizen naar een koopwoning of ben je in 2022 of 2023 verhuisd naar een koopwoning?
[1. Nee] → Einde enquête
[2. Ja ik ben in 2022 of in 2023 verhuisd naar een koopwoning] → Naar vragenlijst 2
[3. Ja, ik wil verhuizen binnen nu en 2 jaar] → naar vragenlijst 1
[4. Ja, ik wil verhuizen over 2 tot 5 jaar] → naar vragenlijst 1
[5. Ja, ik wil verhuizen over 5 tot 10 jaar] → naar vragenlijst 1

Deel 1 TOEKOMSTIGE VERHUIZERS

Vraag 0.2
Wat is jouw leeftijd?
< Eén antwoord mogelijk >
* [1. Jonger dan 25 jaar] → Einde enquête
[2. 25 t/m 28 jaar]
[3. 29 t/m 32 jaar]
[4. 33 t/m 35 jaar]
* [5. Ouder dan 35 jaar] → Einde enquête

Vraag 0.3
Wat is de samenstelling van jouw huishouden na de verhuizing?
<Eén antwoord mogelijk >
[1. Alleenstaand]
[2. Stel]
[3. Stel met kind(eren)]
[4. Eenouder met kind(eren)]
[5. Anders, namelijk]

Vraag 0.4
Ben je op dit moment huurder of ben je inwonend? *< Eén antwoord mogelijk >*
[1. Huurder van een zelfstandige woning]
[2. Inwonend bij ouders of verzorgers]
[3. Huurder van een kamer]
[4. Anders, namelijk]
*[5. Eigenaar van een koopwoning] → Einde enquête

Vraag 0.5
Om te bepalen of je in het centrum van de stad of op het platteland woont, ongeacht jouw specifieke woonplek, wordt gebruik gemaakt van een verdeling in woonmilieus. Wil je de omschrijvingen beneden doorlezen en dan aangeven in welk type woonmilieu je woont.

Type woonmilieu	Omschrijving
Centrum stedelijk	**Centraal in een stad, veel voorzieningen, drukke wijken en omgeving en in meer of mindere mate hoogbouw.** Toelichting in i button: Dit type woonmilieu bevat de binnenstad van steden, maar ook wijken die direct aan het centrum liggen waar een groot deel van de woningen uit appartementen bestaat. Er zijn veel voorzieningen, zoals horecagelegenheden, winkels en culturele voorzieningen (als musea, bioscoop, enz.). Relatief is er weinig groenperkjes in de directe woonomgeving en is het groen gecentraliseerd in de vorm van parken. Een centrum stedelijk gebied wordt gekenmerkt door veel mensen die dicht op elkaar wonen.
Stedelijk buiten centrum	**Zogenaamde stadswijken met veel appartementen en etagewoningen.** Toelichting in i button: Dit zijn wijken die op een iets verdere afstand van het centrum van een stad liggen en bevatten vaak appartementen of etagewoningen. De voorzieningen die zich in deze wijken bevinden zijn voorzieningen zoals horecagelegenheden en recreatieruimten zoals sportscholen en wijk/ winkelcentra. Hier is de groenvoorziening vaak in de

	vorm van een park of speeltuin. Ook hier wonen mensen dichter op elkaar, maar is het minder druk dan in het centrum.
Groen stedelijk	**Huis met tuin in een buitenwijk van de stad.**
	Toelichting in i button: Dit zijn wijken aan de buitenranden van een stad, denk hierbij ook aan nieuwbouwwijken. De wijken zijn ruimer en groener opgezet. Veel van deze woningen hebben een eigen tuin en zijn kindvriendelijker dan wijken midden in de stad. Er zijn minder voorzieningen dan in de centra van de stad, maar voorzieningen zoals enkele horecagelegenheden en supermarkten zijn aanwezig. Hier zijn veel groene stroken, parkjes en speeltuinen. Mensen wonen niet per se dicht op elkaar, zeker niet in vergelijking met het centrum van de stad en de directe wijken aan de stad.
Centrum dorps	**Eengezinswoningen en kleine appartementengebouwen in dorpen**
	Toelichting in i button: Dit type woonmilieu gaat over dorpen en bevat veel eengezinswoningen en kleine appartementengebouwen. Veel woningen hebben een tuin of balkon en er is groenvoorziening aanwezig. Er is een klein en gericht aanbod aan voorzieningen, dit zijn vaak noodzakelijk voorzieningen zoals supermarkten, drogist en een klein aantal horecagelegenheden. Veel woningen hebben een tuin en er zijn groenperkjes in de straten aanwezig. Hier wonen mensen (veel) minder dicht op elkaar dan in de steden, en de wijken zijn veelal rustiger kleinschaliger en meer overzichtelijk dan een stad.
Landelijk wonen	**Wijken aan de rand van of buiten het dorp**
	Toelichting in i button: Dit type woonmilieu zijn gebieden met woningen die buiten de bebouwde kom of in een buitenwijk van een dorp zijn gevestigd. Deze woningen zijn vaak vrijstaand en hebben een groot perceeloppervlakte. Dit is veelal een groene omgeving met weinig voorzieningen. Het gebied is rustig, landelijk en weids met weinig mensen in de directe woonomgeving.

In welk soort woonmilieu woon je nu?
< Eén antwoord mogelijk >
[1. Centrum stedelijk]
[2. Stedelijk buiten centrum]
[3. Groen stedelijk]
[4. Centrum dorps]
[5. Landelijk wonen]

Vraag 0.6
In welk type woning woon je nu?
< Eén antwoord mogelijk >
[1. Appartement, etagewoning of flat]
[2. Studio]
[3. Tussenwoning]
[4. Hoekwoning]
[5. 2-onder-1 kap]

[6. Vrijstaande woning]
[7. Anders, namelijk]

Vraag 0.7
Wat is het verzamelinkomen van jou en je eventuele partner?
< Eén antwoord mogelijk >
[1. 35.000 – 40.000 euro bruto per jaar]
[2. 40.000 – 50.000 euro bruto per jaar]
[3. 50.000 – 60.000 euro bruto per jaar]
[4. 60.000 – 70.000 euro bruto per jaar]
[5. 70.000 – 80.000 euro bruto per jaar]
[6. 80.000 – 90.000 euro bruto per jaar]
[7. 90.000 – 100.000 euro bruto per jaar]
[8. > 100.000 euro bruto per jaar]

We vragen je straks naar jouw voorkeur voor diverse kenmerken van je toekomstige woning en woonomgeving. Het is de bedoeling dat je per vraag een voorkeurscijfer invult dat ligt tussen 0 en 100. Ter verduidelijking staat hier beneden een afbeelding met een schaalverdeling. Let op dat je bij elke vraag of subvraag een waarde invult. Jij bent vrij om te kiezen welk cijfer je invult, het cijfer geeft weer met welke waarde jij een voorkeur waardeert. Zo kan je bijvoorbeeld met het cijfer 20 of 60 een kenmerk waarderen, maar mocht je specifieker willen zijn dan kun je ook cijfers zoals 75 of 82 gebruiken.

Absoluut geen voorkeur	Neutraal	Absolute voorkeur
Geen voorkeur	Voorkeur	
0		**100**
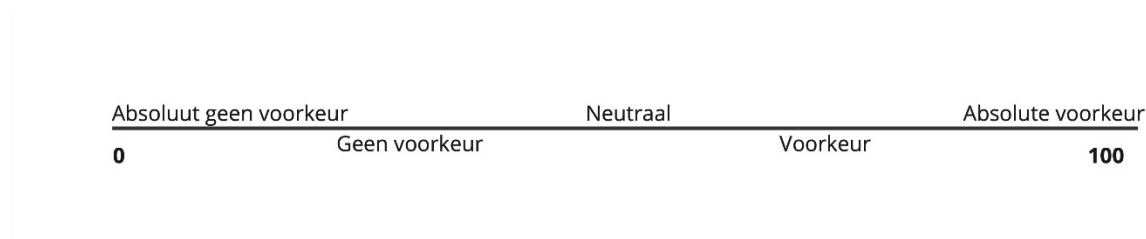
Vraag 1: De voorkeur voor verschillende eigenschappen van de woonomgeving en van de koopwoning

Welke eigenschappen van de woning en de woonomgeving hebben jouw voorkeur tijdens de zoektocht naar jouw toekomstige koopwoning?

Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

1.1	Type woonmilieu	0 – 100
1.2	De kenmerken van de wijk	0 – 100
1.3	De afstand tot voorzieningen in de directe omgeving	0 – 100
1.4	Het type koopwoning	0 – 100
1.5	De woonoppervlakte van de koopwoning	0 – 100
1.6	Het aantal slaapkamers	0 – 100
1.7	Het hebben van buitenruimte	0 – 100
1.8	Het delen van bepaalde functies	0 – 100
1.9	De aankoopprijs	0 – 100

Vraag 2: De voorkeur voor het type woonmilieu

Om te bepalen of je liever in het centrum van de stad of op het platteland woont, ongeacht jouw specifieke woonplek, wordt er gebruik gemaakt van woonmilieus. Deze zijn als volgt opgedeeld:

Type woonmilieu	**Omschrijving**
Centrum stedelijk	**Centraal in een stad, veel voorzieningen, drukke wijken en omgeving en in meer of mindere mate hoogbouw.** Toelichting in i button: Dit type woonmilieu bevat de binnenstad van steden, maar ook wijken die direct aan het centrum liggen waar een groot deel van de woningen uit appartementen bestaat. Er zijn veel voorzieningen, zoals horecagelegenheden, winkels en culturele voorzieningen (als musea, bioscoop, enz.). Relatief is er weinig groenperkjes in de directe woonomgeving en is het groen gecentraliseerd in de vorm van parken. Een centrum stedelijk gebied wordt gekenmerkt door veel mensen die dicht op elkaar wonen.
Stedelijk buiten centrum	**Zogenaamde stadswijken met veel appartementen en etagewoningen.** Toelichting in i button: Dit zijn wijken die op een iets verdere afstand van het centrum van een stad liggen en bevatten vaak appartementen of etagewoningen. De voorzieningen die zich in deze wijken bevinden zijn voorzieningen zoals horecagelegenheden en recreatieruimten zoals sportscholen

en wijk/ winkelcentra. Hier is de groenvoorziening vaak in de vorm van een park of speeltuin. Ook hier wonen mensen dichter op elkaar, maar is het minder druk dan in het centrum.

Groen stedelijk	**Huis met tuin in een buitenwijk van de stad.** Toelichting in i button: Dit zijn wijken aan de buitenranden van een stad, denk hierbij ook aan nieuwbouwwijken. De wijken zijn ruimer en groener opgezet. Veel van deze woningen hebben een eigen tuin en zijn kindvriendelijker dan wijken midden in de stad. Er zijn minder voorzieningen dan in de centra van de stad, maar voorzieningen zoals enkele horecagelegenheden en supermarkten zijn aanwezig. Hier zijn veel groene stroken, parkjes en speeltuinen. Mensen wonen niet per se dicht op elkaar, zeker niet in vergelijking met het centrum van de stad en de directe wijken aan de stad.
Centrum dorps	**Eengezinswoningen en kleine appartementengebouwen in dorpen** Toelichting in i button: Dit type woonmilieu gaat over dorpen en bevat veel eengezinswoningen en kleine appartementengebouwen. Veel woningen hebben een tuin of balkon en er is groenvoorziening aanwezig. Er is een klein en gericht aanbod aan voorzieningen, dit zijn vaak noodzakelijk voorzieningen zoals supermarkten, drogist en een klein aantal horecagelegenheden. Veel woningen hebben een tuin en er zijn groenperkjes in de straten aanwezig. Hier wonen mensen (veel) minder dicht op elkaar dan in de steden, en de wijken zijn veelal rustiger kleinschaliger en meer overzichtelijk dan een stad.
Landelijk wonen	**Wijken aan de rand van of buiten het dorp** Toelichting in i button: Dit type woonmilieu zijn gebieden met woningen die buiten de bebouwde kom of in een buitenwijk van een dorp zijn gevestigd. Deze woningen zijn vaak vrijstaand en hebben een groot perceeloppervlakte. Dit is veelal een groene omgeving met weinig voorzieningen. Het gebied is rustig, landelijk en weids met weinig mensen in de directe woonomgeving.

Kun je voor ieder van de onderstaande woonmilieus aangeven hoe graag je hier wil wonen?
Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

2.1 Centrum stedelijk	0 – 100
2.2 Stedelijk buiten centrum	0 – 100
2.3 Groen stedelijk	0 – 100
2.4 Centrum dorps	0 – 100
2.5 Landelijk wonen	0 – 100

Vraag 3: De voorkeur voor de kenmerken in de buurt waar je wilt gaan wonen
Wij vragen hier naar jouw voorkeur voor bepaalde kenmerken in de toekomstige buurt waar je wilt gaan wonen.
Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

3.1   Groene omgeving   0 – 100
       In welke mate gaat je voorkeur uit naar een groene omgeving in de buurt van je toekomstige koopwoning, denk hierbij aan groene lanen, voldoende bomen, grasvelden?

| 3.2 | Kindvriendelijkheid | 0 – 100 |

In welke mate gaat jouw voorkeur uit naar een kindvriendelijke wijk?

| 3.3 | Sociaal | 0 – 100 |

In welke mate heb je een voorkeur voor contact met je buren?

| 3.4 | Auto bij woning | 0 – 100 |

In welke mate heeft het jouw voorkeur dat je jouw auto op jouw eigen oprit of direct bij jouw toekomstige koopwoning kan parkeren?

| 3.5 | Diversiteit | 0 – 100 |

In welke mate gaat jouw voorkeur uit naar een diverse bevolkingssamenstelling in je toekomstige wijk?

Met een diverse bevolkingssamenstelling wordt divers in herkomst/ etniciteit, inkomen, leeftijd en gezinssamenstelling bedoeld.

Vraag 4: De voorkeur voor voorzieningen in de buurt van de koopwoning

In welke mate heb jij de voorkeur dat de volgende voorzieningen zich bevinden binnen tien minuten reistijd van jouw toekomstige koopwoning?

Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

4.1	Treinstation	0 – 100
4.2	Bus-, tramhalte of metrostation	0 – 100
4.3	Supermarkt	0 – 100
4.4	Medische voorzieningen zoals huisarts en/of apotheek	0 – 100
4.5	Park, buitengebied en/of speeltuinen	0 – 100
4.6	Horeca zoals koffiezaakjes, cafés, restaurants	0 – 100
4.7	Sportschool	0 – 100
4.8	Kinderdagverblijf en/of basisschool	0 – 100

Vraag 5: De voorkeur voor het type koopwoning

In welke mate heeft het type koopwoning jouw voorkeur?

Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

5.1	Appartement, etagewoning of flat	0 – 100
5.2	Studio	0 – 100
5.3	Tussenwoning	0 – 100
5.4	Hoekwoning	0 – 100
5.5	2-onder-1 kap	0 – 100
5.6	Vrijstaande woning	0 – 100

Vraag 6: De voorkeur voor de grootte van de toekomstige koopwoning

In welke mate heb je een voorkeur voor de woonoppervlakte van de koopwoning?

Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

6.1	30-50 m2	0 – 100
6.2	51-70 m2	0 – 100
6.3	71-90 m2	0 – 100
6.4	91-110 m2	0 – 100
6.5	> 110 m2	0 – 100

Vraag 7: De voorkeur voor het aantal slaapkamers

Met slaapkamers worden de kamers van een woning bedoeld zonder woonkamer/ keuken/ badkamer en toilet. Een losse kamer die gebruikt wordt als kantoor of hobbykamer telt in deze vraag ook mee als slaapkamer.

In welke mate gaat je voorkeur uit naar een bepaald aantal slaapkamers?

Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

| 7.1 | 1 slaapkamer | 0 – 100 |
| 7.2 | 2 slaapkamers | 0 – 100 |

| 7.3 | 3 slaapkamers | 0 – 100 |
| 7.4 | 4 slaapkamers | 0 – 100 |

Vraag 8: De voorkeur voor de buitenruimte

In welke mate gaat jouw voorkeur uit naar het type buitenruimte bij de koopwoning?
Kies een cijfer tussen 0 (absoluut geen voorkeur) - 100 (absolute voorkeur)

8.1	Tuin	0 – 100
8.2	Stadstuin of patio	0 – 100
8.3	Dakterras	0 – 100
8.4	Balkon	0 – 100
8.5	Gemeenschappelijke buitenruimte	0 – 100
8.6	Geen eigen buitenruimte	0 – 100

Vraag 9: De bereidheid om functies te delen

Wij vragen bij dit onderdeel of je bereid bent om een bepaalde activiteit uit te voeren in een gemeenschappelijke ruimte of in de directe woonomgeving in plaats van in je eigen koopwoning.
Kies een cijfer tussen 0 (absoluut niet bereid) - 100 (absoluut bereid)

9.1   Keuken   0 – 100
In welke mate ben je bereid om een grote keuken te delen in het pand wanneer je zelf kan kiezen voor een kleinere keuken in je koopwoning? Het doel van deze vraag is om te kijken of er bijvoorbeeld een kleinere keuken (kitchenette) kan worden gerealiseerd, waardoor eventueel de aankoopprijs van de koopwoning kan zakken. Daar tegenover staat een grote keuken die je kunt reserveren wanneer je veel mensen te eten krijgt.

9.2   Kantoor   0 – 100
In welke mate ben je bereid om kantoorruimte te delen? Het doel van deze vraag is om te kijken of het een optie kan zijn om bijvoorbeeld een kleinere woonkamer of 1 slaapkamer te hebben in de koopwoning. Hier staat dan tegenover dat je in een gezamenlijke ruimte een kantoorruimte kan reserveren om te werken.

9.3   Hobbyruimte of extra woonkamer   0 – 100
In welke mate ben je bereid om een extra hobbyruimte of woonkamer te delen, wanneer je zelf een kleinere woonkamer hebt? Het doel van deze vraag is om te kijken of het een optie kan zijn om bijvoorbeeld een kleinere woonkamer of 1 slaapkamer te hebben in de koopwoning, maar dan in een gezamenlijke ruimte een hobbyruimte kunt reserveren of een plek hebt waar je kan zitten los van de eigen ruimte van een woonkamer.

9.4   Deelauto/ -fiets/ -scooter   0 – 100
9.4a In welke mate ben je bereid om gebruik te maken van een deelauto?
9.4b In welke mate ben je bereid om gebruik te maken van een deelfiets?
9.4c In welke mate ben je bereid om gebruik te maken van een deelscooter?

Het doel van deze vraag is om vast te stellen of het een optie is om geen parkeerplaats te hebben, of beperkte toegang tot, maar gebruik te maken van een gedeeld vervoersmiddel.

Vraag 10: Aankoopprijs

Of in welke prijscategorie zoek jij een woning?
< Eén antwoord mogelijk >
[1. < 200.000 Euro]
[2. 200.000 – 250.000 Euro]
[3. 250.000 – 300.000 Euro]
[4. 300.000 – 350.000 Euro]
[5. 350.000 – 400.000 Euro]
[6. 400.000 – 450.000 Euro]
[7. 450.000 – 500.000 Euro]
[8. > 500.000 Euro]

Vraag 11: Concessies

Het kan zijn dat de prijs van de door jouw gewenste koopwoning te hoog is voor je budget. Op welke onderdelen van de woning of van de woonomgeving ben jij dan bereid in te leveren om toch een woning te kunnen kopen?

Kies een cijfer tussen 0 (hier wil ik absoluut <u>wel</u> op inleveren) - 100 (hier wil ik absoluut <u>niet</u> op inleveren)

11.1	In welk woonmilieu je gaat wonen	0 – 100
11.2	De kenmerken van de mogelijk toekomstige wijk	0 – 100
11.3	De afstand tot voorzieningen in de buurt van je koopwoning	0 – 100
11.4	Het type koopwoning	0 – 100
11.5	Oppervlakte van de koopwoning	0 – 100
11.6	Aantal slaapkamers	0 – 100
11.7	Het hebben van buitenruimte	0 – 100
11.8	Bepaalde functies delen van de woning	0 – 100

< Einde enquête 1>

Deel 2 verhuisd in 2022 of 2023

Vraag 0.2
Wat is jouw leeftijd?
< *Eén antwoord mogelijk* >
* [1. Jonger dan 25 jaar] → Einde enquête
[2. 25 t/m 28 jaar]
[3. 29 t/m 32 jaar]
[4. 33 t/m 35 jaar]
* [5. Ouder dan 35 jaar] → Einde enquête

Vraag 0.3
Wat is de samenstelling van jouw huishouden?
<*Eén antwoord mogelijk* >
[1. Alleenstaand]
[2. Stel]
[3. Stel met kind(eren)]
[4. Eenouder met kind(eren)]
[5. Anders, namelijk]

Vraag 0.5
Om te bepalen of je in het centrum van de stad of op het platteland woont, ongeacht jouw specifieke woonplek, wordt er gebruik gemaakt van de verdeling van woonmilieus. Deze zijn als volgt:

Type woonmilieu	Omschrijving
Centrum stedelijk	**Centraal in een stad, veel voorzieningen, drukke wijken en omgeving en in meer of mindere mate hoogbouw.** Toelichting in i button: Dit type woonmilieu bevat de binnenstad van steden, maar ook wijken die direct aan het centrum liggen waar een groot deel van de woningen uit appartementen bestaat. Er zijn veel voorzieningen, zoals horecagelegenheden, winkels en culturele voorzieningen (als musea, bioscoop, enz.). Relatief is er weinig groenperkjes in de directe woonomgeving en is het groen gecentraliseerd in de vorm van parken. Een centrum stedelijk gebied wordt gekenmerkt door veel mensen die dicht op elkaar wonen.
Stedelijk buiten centrum	**Zogenaamde stadswijken met veel appartementen en etagewoningen.** Toelichting in i button: Dit zijn wijken die op een iets verdere afstand van het centrum van een stad liggen en bevatten vaak appartementen of etagewoningen. De voorzieningen die zich in deze wijken bevinden zijn voorzieningen zoals horecagelegenheden en recreatieruimten zoals sportscholen en wijk/ winkelcentra. Hier is de groenvoorziening vaak in de vorm van een park of speeltuin. Ook hier wonen mensen dichter op elkaar, maar is het minder druk dan in het centrum.
Groen stedelijk	**Huis met tuin in een buitenwijk van de stad.** Toelichting in i button: Dit zijn wijken aan de buitenranden van een stad, denk hierbij ook aan nieuwbouwwijken. De wijken zijn ruimer en groener opgezet. Veel van deze woningen hebben een eigen tuin en zijn kindvriendelijker dan wijken

Centrum dorps	midden in de stad. Er zijn minder voorzieningen dan in de centra van de stad, maar voorzieningen zoals enkele horecagelegenheden en supermarkten zijn aanwezig. Hier zijn veel groene stroken, parkjes en speeltuinen. Mensen wonen niet per se dicht op elkaar, zeker niet in vergelijking met het centrum van de stad en de directe wijken aan de stad.
Centrum dorps	**Eengezinswoningen en kleine appartementengebouwen in dorpen** Toelichting in i button: Dit type woonmilieu gaat over dorpen en bevat veel eengezinswoningen en kleine appartementengebouwen. Veel woningen hebben een tuin of balkon en er is groenvoorziening aanwezig. Er is een klein en gericht aanbod aan voorzieningen, dit zijn vaak noodzakelijk voorzieningen zoals supermarkten, drogist en een klein aantal horecagelegenheden. Veel woningen hebben een tuin en er zijn groenperkjes in de straten aanwezig. Hier wonen mensen (veel) minder dicht op elkaar dan in de steden, en de wijken zijn veelal rustiger kleinschaliger en meer overzichtelijk dan een stad.
Landelijk wonen	**Wijken aan de rand van of buiten het dorp** Toelichting in i button: Dit type woonmilieu zijn gebieden met woningen die buiten de bebouwde kom of in een buitenwijk van een dorp zijn gevestigd. Deze woningen zijn vaak vrijstaand en hebben een groot perceeloppervlakte. Dit is veelal een groene omgeving met weinig voorzieningen. Het gebied is rustig, landelijk en weids met weinig mensen in de directe woonomgeving.

In welk soort woonmilieu woon je nu?
< Eén antwoord mogelijk >
[1. Centrum stedelijk]
[2. Stedelijk buiten centrum]
[3. Groen stedelijk]
[4. Centrum dorps]
[5. Landelijk wonen]

Vraag 0.5a (toelichting in i buttons erbij, zie vraag 0.5 uitleg)

Centrum stedelijk	Centraal in een stad, veel voorzieningen, drukke wijken en omgeving en in meer of mindere mate hoogbouw.
Stedelijk buiten centrum	Zogenaamde stadswijken met veel appartementen en etagewoningen.
Groen stedelijk	Huis met tuin in een buitenwijk van de stad.
Centrum dorps	Eengezinswoningen en kleine appartementengebouwen in dorpen
Landelijk wonen	Wijken aan de rand van of buiten het dorp

In welk soort woonmilieu woonde je voor de verhuizing naar je huidige koopwoning?
< Eén antwoord mogelijk >
[1. Centrum stedelijk]
[2. Stedelijk buiten centrum]
[3. Groen stedelijk]
[4. Centrum dorps]
[5. Landelijk wonen]

Vraag 0.5b
Was het soort woonmilieu waar je naar toe bent verhuisd en nu woont, ook het woonmilieu waar je wilde gaan wonen toen je een woning zocht?
< Eén antwoord mogelijk >
[1. Ja] → door naar 0.6
[2. Nee] → door naar 0.5c

Vraag 0.5c
Je hebt aangegeven dat het woonmilieu waar je bent gaan wonen niet je eerste voorkeur had. Welk woonmilieu had wel jouw eerste voorkeur?
< Eén antwoord mogelijk >
[1. Centrum stedelijk]
[2. Stedelijk buiten centrum]
[3. Groen stedelijk]
[4. Centrum dorps]
[5. Landelijk wonen]

Vraag 0.6
In welk type woning woon je nu?
< Eén antwoord mogelijk >
[1. Appartement, etagewoning of flat]
[2. Studio]
[3. Tussenwoning]
[4. Hoekwoning]
[5. 2-onder-1 kap]
[6. Vrijstaande woning]
[7. Anders, namelijk] → invulveld

Vraag 0.7
Wat is het verzamelinkomen van jou en je eventuele partner?
< Eén antwoord mogelijk >
[1. 35.000 – 40.000 euro bruto per jaar]
[2. 40.000 – 50.000 euro bruto per jaar]
[3. 50.000 – 60.000 euro bruto per jaar]
[4. 60.000 – 70.000 euro bruto per jaar]
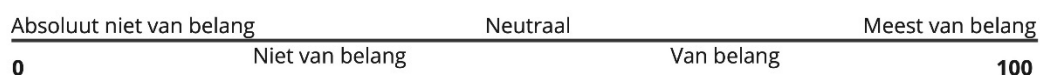[5. 70.000 – 80.000 euro bruto per jaar]
[6. 80.000 – 90.000 euro bruto per jaar]
[7. 90.000 – 100.000 euro bruto per jaar]
[8. > 100.000 euro bruto per jaar]

In dit deel van de vragenlijst vragen we je om terug te gaan naar de afwegingen die je destijds hebt gemaakt in het proces om je huidige koopwoning aan te schaffen. Welke kenmerken van de woning of buurt waren voor jou bepalend om juist voor dit huis te kiezen?

Het is de bedoeling dat je per vraag een voorkeurscijfer invult dat ligt tussen 0 en 100. Ter verduidelijking staat hier beneden een afbeelding met een schaalverdeling. Let op dat je bij elke vraag of subvraag een waarde invult. Jij bent vrij om te kiezen welk cijfer je invult, het cijfer geeft weer met welke waarde jij een voorkeur waardeert. Zo kan je bijvoorbeeld met het cijfer 20 of 60 een kenmerk waarderen, maar mocht je specifieker willen zijn dan kun je ook cijfers zoals 75 of 82 gebruiken.

Absoluut niet van belang		Neutraal		Meest van belang
0	Niet van belang		Van belang	**100**

Vraag 1: Het belang van verschillende eigenschappen van de woonomgeving en van de koopwoning

Welke eigenschappen van de koopwoning en de woonomgeving waren voor jou het meest van belang bij de keuze voor je huidige koopwoning?

Kies een cijfer tussen 0 (absoluut niet van belang) - 100 (meest van belang)

1.1 Soort woonmilieu	0 – 100
1.2 De kenmerken van de wijk	0 – 100
1.3 De afstand tot voorzieningen in de directe omgeving	0 – 100
1.4 Het type woning	0 – 100
1.5 De grootte van de woning	0 – 100
1.6 Het aantal slaapkamers	0 – 100
1.7 Het hebben van buitenruimte	0 – 100
1.8 Het delen van bepaalde functies	0 – 100
1.9 De aankoopprijs	0 – 100

Vraag 2 wordt overgeslagen in dit deel

Vraag 3: De voorkeur voor de kenmerken in de buurt waar je wenst te gaan wonen

Wij vragen hiernaar hoe belangrijk jij het vond dat bepaalde eigenschappen in jouw wijk gelegen zouden zijn. Welke kenmerken van de wijk waren voor jou het meest van belang bij het maken van de keuze voor je huidige koopwoning?

Kies een cijfer tussen 0 (absoluut niet van belang) - 100 (meest van belang)

3.1   Groene omgeving   0 – 100
In welke mate vond je een groene omgeving, denk hierbij aan groene lanen, voldoende bomen, grasvelden belangrijk tijdens de zoektocht naar jouw huidige buurt?

3.2   Kindvriendelijkheid   0 – 100
In welke mate vond je een kindvriendelijke wijk van belang tijdens de zoektocht naar jouw huidige buurt?

3.3   Sociaal   0 – 100
In welke mate vond je het hebben van contact met de buren van belang tijdens de zoektocht naar jouw huidige buurt?

3.4   Auto bij woning   0 – 100
In welke mate vond je het van belang dat je auto op eigen oprit of direct bij jouw huidige koopwoning geplaatst kon worden?

3.5   Diversiteit   0 – 100

In welke mate vond je een diverse bevolkingssamenstelling van belang tijdens de zoektocht naar jouw huidige buurt?

Met een diverse bevolkingssamenstelling wordt onder andere divers in herkomst/ etniciteit, inkomen, leeftijd en gezinssamenstelling bedoeld.

Vraag 4: De voorkeur voor voorzieningen in de buurt van de koopwoning

In welke mate vond je het belangrijk bij het maken van de keuze voor je huidige koopwoning dat de volgende voorzieningen zich bevonden binnen tien minuten reistijd van jouw koopwoning?

Kies een cijfer tussen 0 (absoluut niet van belang) - 100 (meest van belang)

4.1	Treinstation	0 – 100
4.2	Bus-, tramhalte of metrostation	0 – 100
4.3	Supermarkt	0 – 100
4.4	Medische voorzieningen zoals huisarts en/ of apotheek	0 – 100
4.5	Park, buitenruimte en/ of speeltuinen	0 – 100
4.6	Horeca zoals koffiezaakjes, cafés, restaurants	0 – 100
4.7	Sportschool	0 – 100
4.8	Kinderdagverblijf en/of basisschool	0 – 100

Vraag 5: De voorkeur voor het type woning

In welke mate was jouw voorkeur voor het type woning van belang bij het maken van de keuze voor je huidige koopwoning?

Kies een cijfer tussen 0 (absoluut niet van belang) - 100 (meest van belang)

5.1	Appartement, etagewoning of flat	0 – 100
5.2	Studio	0 – 100
5.3	tussenwoning	0 – 100
5.4	Hoekwoning	0 – 100
5.5	2-onder-1 kap	0 – 100
5.6	Vrijstaande woning	0 – 100

Vraag 6: De voorkeur voor de grootte van de koopwoning

In welke mate was je voorkeur voor de woonoppervlakte van jouw huidige koopwoning van belang bij het maken van de keuze voor je huidige koopwoning?

Kies een cijfer tussen 0 (absoluut niet van belang) - 100 (meest van belang)

6.1	30-50 m2	0 – 100
6.2	51-70 m2	0 – 100
6.3	71-90 m2	0 – 100
6.4	91-110 m2	0 – 100
6.5	> 110 m2	0 – 100

Vraag 7: De voorkeur voor het aantal slaapkamers

In welke mate heeft het aantal slaapkamers bijgedragen aan het maken van de keuze voor je huidige koopwoning?

Met slaapkamers worden de kamers van een woning bedoeld zonder woonkamer/ keuken/ badkamer en toilet. Een losse kamer die gebruikt wordt als kantoor of hobbykamer telt in deze vraag ook mee als slaapkamer.

Kies een cijfer tussen 0 (absoluut niet van belang) - 100 (meest van belang)

7.1	1 slaapkamer	0 – 100
7.2	2 slaapkamers	0 – 100
7.3	3 slaapkamers	0 – 100
7.4	4 slaapkamers	0 – 100

Vraag 8: De voorkeur voor de buitenruimte

In welke mate vond je het type buitenruimte bij de koopwoning van belang bij het maken van de

keuze voor je huidige koopwoning?

Kies een cijfer tussen 0 (absoluut niet van belang) - 100 (meest van belang)

8.1	Tuin	0 – 100
8.2	Stadstuin of patio	0 – 100
8.3	Dakterras	0 – 100
8.4	Balkon	0 – 100
8.5	Gemeenschappelijke buitenruimte	0 – 100
8.6	Geen eigen buitenruimte	0 – 100

Vraag 9: De voorkeur voor een aantal gedeelde functies

Wij vragen bij dit onderdeel of je tijdens je zoektocht naar je huidige woning bereid zou zijn geweest om bepaalde voorzieningen te delen in een gemeenschappelijke ruimte of in de directe woonomgeving in plaats van in je eigen koopwoning.

Kies een cijfer tussen 0 (absoluut niet bereid) - 100 (absoluut bereid)

9.1   Keuken   0 – 100

In welke mate zou je bereid zijn geweest om een grote keuken te delen wanneer je zelf een kleinere keuken in je koopwoning zou hebben gehad?

Het doel van deze vraag is om te kijken of jij bereid zou zijn geweest om een kleinere keuken (kitchenette) te krijgen in jouw woning, waardoor eventueel de aankoopprijs van de koopwoning zou zakken. Daar tegenover zou dat een grotere keuken staan die je zou kunnen reserveren in jouw omgeving wanneer je een grotere groep mensen te eten krijgt.

9.2   Kantoor   0 – 100

In welke mate zou je bereid zijn geweest om een kantoor te delen in jouw woonomgeving?

Het doel van deze vraag is om te kijken of het een optie zou zijn geweest om bijvoorbeeld een kleinere woonkamer of 1 slaapkamer te hebben in de koopwoning. Hier had dan tegenover gestaan dat je in een gezamenlijke ruimte een kantoorruimte kan reserveren om te werken.

9.3   Hobbyruimte of extra woonkamer   0 – 100

In welke mate zou je bereid zijn geweest om een extra hobbyruimte of woonkamer te delen, als je zelf een kleinere woonkamer zou hebben gehad?

Het doel van deze vraag is om te kijken of het een optie zou zijn om bijvoorbeeld een kleinere woonkamer of 1 slaapkamer te hebben in de koopwoning, maar dan in een gezamenlijke ruimte een hobbyruimte zou kunnen reserveren of een plek hebt waar je kan zitten los van de eigen ruimte van een woonkamer.

9.4   Deelauto/ -fiets/ -scooter   0 – 100

9.4a In welke mate zou je bereid zijn geweest om gebruik te maken van een deelauto?

9.4b In welke mate zou je bereid zijn geweest om gebruik te maken van een deelfiets?

9.4c In welke mate zou je bereid zijn geweest om gebruik te maken van een deelscooter?

Het doel van deze vraag is om te vragen of het een optie zou zijn geweest om geen parkeerplaats te hebben, of beperkte toegang tot, maar gebruik te kunnen maken van een gedeeld vervoersmiddel.

Vraag 10: Aankoopprijs

In welke prijsklasse zocht je een koopwoning?

        < Eén antwoord mogelijk >

[1. < 200.000 Euro]
[2. 200.000 – 250.000 Euro]
[3. 250.000 – 300.000 Euro]
[4. 300.000 – 350.000 Euro]
[5. 350.000 – 400.000 Euro]
[6. 400.000 – 450.000 Euro]
[7. 450.000 – 500.000 Euro]
[8. > 500.000 Euro]

10.1   Wat was de aankoopprijs van je huidige koopwoning?
        < Eén antwoord mogelijk >

[1. < 200.000 Euro]
[2. 200.000 – 250.000 Euro]
[3. 250.000 – 300.000 Euro]
[4. 300.000 – 350.000 Euro]
[5. 350.000 – 400.000 Euro]
[6. 400.000 – 450.000 Euro]
[7. 450.000 – 500.000 Euro]
[8. > 500.000 Euro]

Vraag 11: Concessies

In deze vraag wordt er gevraagd om de verschillende onderdelen te beoordelen voor de volgende situatie:

In het geval dat je tijdens jouw zoektocht naar je huidige koopwoning erachter kwam dat je wensen ten aanzien van je woning en de woonomgeving niet binnen je budget vielen, op welke onderdelen heb jij ingeleverd bij het maken van de keuze voor jouw huidige koopwoning?

Kies een cijfer tussen 0 (hier heb ik absoluut wel op ingeleverd) - 100 (hier heb ik absoluut niet op ingeleverd)

11.1	In welk woonmilieu je gaat wonen	0 – 100
11.2	De kenmerken van de mogelijk toekomstige wijk	0 – 100
11.3	De afstand tot voorzieningen in de buurt van je koopwoning	0 – 100
11.4	Het type koopwoning	0 – 100
11.5	Oppervlakte van de koopwoning	0 – 100
11.6	Aantal slaapkamers	0 – 100
11.7	Het hebben van buitenruimte	0 – 100
11.8	Bepaalde functies delen van de woning	0 – 100

< Einde enquête 2>

3. Data Management Plan

Plan Overview
A Data Management Plan created using DMPonline

Title: First-time buyers – the starters dilemma

Creator: Evy Veerhoek

Data Manager: Evy Mariëlla Joyce Veerhoek

Affiliation: Delft University of Technology

Template: TU Delft Data Management Plan template (2021)

Project abstract:
This research consists of desk research, survey and interviews. The desk research will follow a literature study, which will be used to figure out why the housing market has become what it is today. The findings will be used as a foundation for the following phases of the research and to put conclusions of the research in a scientific context.
A survey will be used to gain deeper insight into the preferences and trade-offs that first-time buyers have/ make during the decision-making process to buy an owner-occupied dwelling. The survey will be conducted using an online questionnaire to reach a wider audience and generate a generic and complete picture.
Interviews will be carried out to gain a better understanding about the current housing market and about the decision process for first-time buyers who want to join the owner-occupied market. Conducting these interviews with professionals in the field will increase the knowledge I have and can support the research, but also help to better analyse and understand the results of the questionnaires.

ID: 125588

Start date: 24-04-2023

End date: 19-01-2024

Last modified: 15-11-2023

First-time buyers – the starters dilemma

0. Administrative questions

1. Name of data management support staff consulted during the preparation of this plan.

       Janine Strandberg

2. Date of consultation with support staff.

       2023-09-06

I. Data description and collection or re-use of existing data

3. Provide a general description of the type of data you will be working with, including any re-used data:

Type of data	File format(s)	How will data be collected (for re-used data: source and terms of use)?	Purpose of processing	Storage location	Who will have access to the data
Questionnaire results of the WoON 2012, 2015, 2018 & 2021. The information gathered is about the type of dwelling, moving motives, questions about their preferences and current dwelling.	.csv files	Re-use of data from the Woononderzoek (access via DANS) using SPSS.	To analyse the trend (of 2012 till 2021) of the housing market conditions and to set up survey questions and to answer SRQ 1 and 2	Project storage drive TU Delft	Evy Veerhoek (Master student researcher), Dr. H.J.F.M. (Harry) Boumeester (1st supervisor), Dr. J.S.C.M. (Joris) Hoekstra (2nd supervisor)
Anonymized Quantitative questionnaire data. Personnal data included categories of age (e.g. 25-28 year) and income in categories (e.g. €50.000 - 60.000). Respondents are living in the region of Randstad	.csv files	From a survey in collaboration with PanelClix. Panelclix will send the survey to members of their panel, the researcher does not have	To find out what trade-offs first-time buyers make during the decision-making	Storage drive internship company and temporary storagedrive / platform	Evy Veerhoek (Master student researcher) and Research Team from internship

and are in the age between 25-35.	access to the personnal data from the members of the panel.	process of buying a dwelling and to answer SRQ 3.	from Panelclix.	company BPD.

4. How much data storage will you require during the project lifetime?

< 250 GB

II. Documentation and data quality

5. What documentation will accompany data?

- Methodology of data collection

- Data will be deposited in a data repository at the end of the project (see section V) and data discoverability and re-usability will be ensured by adhering to the repository's metadata standards

- README file or other documentation explaining how data is organised

- Data dictionary explaining the variables used

- I will adhere to disciplinary metadata standards - please explain which standards in the box below

III. Storage and backup during research process

6. Where will the data (and code, if applicable) be stored and backed-up during the project lifetime?

- Project Storage at TU Delft

- Another storage system - please explain below, including provided security measures

The storage drive from the internship company BPD. This is a secured environment, with information I will not share with others/ other data storages.
The data gathered from the survey will be storaged at the storage drive/ platform of Panelclix. After sending the data to the researcher/ BPD, the data will be deleted from the storage drive/ platform of Panelclix.

IV. Legal and ethical requirements, codes of conduct

7. Does your research involve human subjects or 3rd party datasets collected from human participants?

- Yes

8A. Will you work with personal data? (information about an identified or identifiable natural person)

If you are not sure which option to select, first ask your Faculty Data Steward *for advice. You can also check with the* privacy website *. If you would like to contact the privacy team: privacy-tud@tudelft.nl, please bring your DMP.*

- Yes

8B. Will you work with any other types of confidential or classified data or code as listed below? (tick all that apply)

If you are not sure which option to select, ask your Faculty Data Steward *for advice.*

- Yes, I work with other types of confidential or classified data (or code) - please explain below

- Yes, politically-sensitive data (e.g. research commissioned by public authorities, research in social issues)

Dataset from woononderzoek, 2012, 2015, 2018 and 2021. This is a confidential dataset which was provided from the organization for the researcher (student).

9. How will ownership of the data and intellectual property rights to the data be managed?

For projects involving commercially-sensitive research or research involving third parties, seek advice of your Faculty Contract Manager *when answering this question. If this is not the case, you can use the example below.*

This research is for a master's thesis executed by a student. Therefore, the researcher will be the owner of the data and the output of this data will be shared with the university. Also, the information used in the thesis will only be the main findings from the results, the whole data set will not be published and will stay on the data storage drive from the internship company BPD (as agreed on in the contract with BPD). The internship company will own the dataset from the survey, the findings can be used in the thesis, but the whole dataset will not be published (as agreed on in the contract with BPD and the (master student) researcher).

10. Which personal data will you process? Tick all that apply

- Other types of personal data - please explain below

- Gender, date of birth and/or age

Survey questions on the preferences of first-time buyers and trade-offs they (will) make during their decision-making process.
In the survey people have to tell their age by choosing a category for example:
25-28 years or 26-29 years, therefore they do not have to give their specific age or income (categories as 50.000 -60.000 a year).

11. Please list the categories of data subjects

Survey --> First-time buyers:
- Between the ages of 25 and 35;
- Living in South Holland, North Holland and Utrecht;
- Recently moved to a owner-occupied house (2022 and 2023) or not living in an owner-occupied house (i.e. current living situation; in studenthousing, rented accommodation, living with parents, etc).
- Household income between 35,000 and 160,000 (from single HBO starter to dual earners 2x modal).

12. Will you be sharing personal data with individuals/organisations outside of the EEA (European Economic Area)?

- No

15. What is the legal ground for personal data processing?

- Informed consent

Informed consent from Panelclix.

16. Please describe the informed consent procedure you will follow:

The members of Panelclix have given their consent to use their opinions (filled-in surveys) to be a part of the panel.

17. Where will you store the signed consent forms?

- Other - please explain below

The consent was given via Panelclix and therefore there is not a physical signed consent form.

18. Does the processing of the personal data result in a high risk to the data subjects?

If the processing of the personal data results in a high risk to the data subjects, it is required to perform a Data Protection Impact Assessment (DPIA). **In order to determine if there is a high risk for the data subjects, please check if any of the options below that are applicable to the processing of the personal data during your research (check all that apply).**
If two or more of the options listed below apply, you will have to complete the DPIA**. Please get in touch with the privacy team: privacy-tud@tudelft.nl to receive support with DPIA.**
If you have any additional comments, please add them in the box below.

- Evaluation or scoring

Respondents are giving their preferences for different aspects of their future dwelling. How much they would like to have a dwelling with 1 or 2 bedrooms for example.

19. Did the privacy team advise you to perform a DPIA?

- No

22. What will happen with personal research data after the end of the research project?

- Other - please explain below

- Anonymised or aggregated data will be shared with others

The data from the survey is anonymized by design (people will not give personal data upfront).
The data that will be published to the repository of the TUDelft, will be also published on the storage drive from the internship company BPD. The raw data from the survey will be managed by the internship company BPD - research team, for further research.

23. How long will (pseudonymised) personal data be stored for?

- 10 years or more, in accordance with the TU Delft Research Data Framework Policy

The raw data from the survey (no personal data) will be storaged on the storage drive of the internship company (as agreed on by contract).

24. What is the purpose of sharing personal data?

- Other - please explain below

Not sharing any personal data

25. Will your study participants be asked for their consent for data sharing?

- Yes, in consent form - please explain below what you will do with data from participants who did not consent to data sharing

The participants of the survey have given their consent to share the data upfront to panelclix.

V. Data sharing and long-term preservation

27. Apart from personal data mentioned in question 22, will any other data be publicly shared?

- Not all non-personal data can be publicly shared - please explain below which data and why cannot be publicly shared

The dataset from the survey can not be publicly shared. Only the results and analysis for the research can be shared publicly.
The data gathered from the woononderzoek will also not be published publicly. Only the results and analysis for the research can be shared publicly.

29. How will you share research data (and code), including the one mentioned in question 22?

- All anonymised or aggregated data, and/or all other non-personal data will be uploaded to 4TU.ResearchData with public access

The results of the data will be uploaded to the repository of TUDelft.

30. How much of your data will be shared in a research data repository?

- < 100 GB

31. When will the data (or code) be shared?

- At the end of the research project

32. Under what licence will be the data/code released?

- CC BY

VI. Data management responsibilities and resources

33. Is TU Delft the lead institution for this project?

- Yes, leading the collaboration - please provide details of the type of collaboration and the involved parties below

In collaboration with the internship company BPD - Nederland.

34. If you leave TU Delft (or are unavailable), who is going to be responsible for the data resulting from this project?

The dataset from the survey will be managed by the internship company BPD - research team.
Dr. H.J.F.M. (Harry) Boumeester

35. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

4TU.ResearchData is able to archive 1TB of data per researcher per year free of charge for all TU Delft researchers. We do not expect to exceed this and therefore there are no additional costs of long term preservation.

4. HREC application

Delft University of Technology
HUMAN RESEARCH ETHICS
CHECKLIST FOR HUMAN RESEARCH
(Version January 2022)

IMPORTANT NOTES ON PREPARING THIS CHECKLIST

1. An HREC application should be submitted for every research study that involves human participants (as Research Subjects) carried out by TU Delft researchers
2. Your HREC application should be submitted and approved **before** potential participants are approached to take part in your study
3. All submissions from Master's Students for their research thesis need approval from the relevant Responsible Researcher
4. The Responsible Researcher must indicate their approval of the completeness and quality of the submission by signing and dating this form OR by providing approval to the corresponding researcher via email (included as a PDF with the full HREC submission)
5. There are various aspects of human research compliance which fall outside of the remit of the HREC, but which must be in place to obtain HREC approval. These often require input from internal or external experts such as Faculty Data Stewards, Faculty HSE advisors, the TU Delft Privacy Team or external Medical research partners.
6. You can find detailed guidance on completing your HREC application here
7. Please note that incomplete submissions (whether in terms of documentation or the information provided therein) will be returned for completion **prior to any assessment**
8. If you have any feedback on any aspect of the HREC approval tools and/or process you can leave your comments here

I.   Applicant Information

PROJECT TITLE:	**The starter dilemma**
Research period: *Over what period of time will this specific part of the research take place*	**15-08-2023**
Faculty:	**Architecture, Urbanism and Building Sciences**
Department:	**Management in the Built Environment**
Type of the research project: *(Bachelor's, Master's, DreamTeam, PhD, PostDoc, Senior Researcher, Organisational etc.)*	**Master's thesis**
Funder of research: *(EU, NWO, TUD, other – in which case please elaborate)*	
Name of Corresponding Researcher: *(If different from the Responsible Researcher)*	**Evy Veerhoek**
E-mail Corresponding Researcher: *(If different from the Responsible Researcher)*	**e.m.j.veerhoek@student.tudelft.nl**
Position of Corresponding Researcher: *(Masters, DreamTeam, PhD, PostDoc, Assistant/ Associate/ Full Professor)*	**Masters**
Name of Responsible Researcher: ***Note:*** *all student work must have a named Responsible Researcher to approve, sign and submit this application*	**Harry Boumeester**
E-mail of Responsible Researcher: *Please ensure that an institutional email address (**no Gmail, Yahoo, etc.**) is used for all project documentation/ communications including Informed Consent materials*	H.J.F.M.Boumeester@tudelft.nl
Position of Responsible Researcher : *(PhD, PostDoc, Associate/ Assistant/ Full Professor)*	**Professor**

II.   Research Overview

NOTE: You can find more guidance on completing this checklist here

a)   Please summarise your research very briefly (100-200 words)
What are you looking into, who is involved, how many participants there will be, how they will be recruited and what are they expected to do?

Add your text here – (please avoid jargon and abbrevations)
This research consists of desk research, survey and interviews. The desk research will follow a literature study, which will be used to figure out why the housing market has become what it is today. The findings will be used as a foundation for the following phases of the research and to put conclusions of the research in a scientific context.   A survey will be used to gain deeper insight into the preferences and trade-offs that first-time buyers make during the decision-making process to buy an owner-occupied dwelling. The survey will be conducted using an online questionnaire via the company Panelclix to reach a wider audience and generate a generic and complete picture.   Interviews will be carried out to gain a better understanding about the current housing market and about the decision process for first-time buyers who want to join the owner-occupied market. Conducting these three interviews with professionals in the field will increase the knowledge I have and can support the research, but also help to better analyse and understand the results of the questionnaires.

b) **If your application is an additional project** related to an existing approved HREC submission, please provide a brief explanation including the existing relevant HREC submission number/s.

Add your text here – (please avoid jargon and abbrevations)

c) **If your application is a simple extension of, or amendment to,** an existing approved HREC submission, you can simply submit an HREC Amendment Form as a submission through LabServant.

III. Risk Assessment and Mitigation Plan

NOTE: You can find more guidance on completing this checklist here

Please complete the following table in full for all points to which your answer is "yes". Bear in mind that the vast majority of projects involving human participants as Research Subjects also involve the collection of **Personally Identifiable Information (PII)** and/or **Personally Identifiable Research Data (PIRD)** which may pose potential risks to participants as detailed in Section G: Data Processing and Privacy below.

To ensure alighment between your risk assessment, data management and what you agree with your Research Subjects you can use the last two columns in the table below to refer to specific points in your Data Management Plan (DMP) and Informed Consent Form (ICF) – **but this is not compulsory**.

It's worth noting that **you're much more likely to need to resubmit your application if you neglect to identify potential risks**, than if you identify a potential risk and demonstrate how you will mitigate it. If necessary, the HREC will always work with you and colleagues in the Privacy Team and Data Management Services to see how, if at all possible, your research can be conducted.

ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? *Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!*	MITIGATION PLAN – what mitigating steps will you take? *Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.*	DMP	ICF
If YES please complete the Risk Assessment and Mitigation Plan columns below.					*Please provide the relevant reference #*	
A: Partners and collaboration						
1. Will the research be carried out in collaboration with additional organisational partners such as: - One or more collaborating research and/or commercial organisations - Either a research, or a work experience internship provider[1] *[1] If yes, please include the graduation agreement in this application*	X		**In collaboration with the internship company BPD bouwfonds gebiedsontwikkeling. (graduation agreement did not have to be filled in because of thesis internship)**		X	
2. Is this research dependent on a Data Transfer or Processing Agreement with a collaborating partner or third party supplier? *If yes please provide a copy of the signed DTA/DPA*		X				
3. Has this research been approved by another (external) research ethics committee (e.g.: HREC and/or MREC/METC)? *If yes, please provide a copy of the approval (if possible) and summarise any key points in your Risk Management section below*		X				
B: Location						

ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? *Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!*	MITIGATION PLAN – what mitigating steps will you take? *Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.*	DMP	ICF
			If YES please complete the Risk Assessment and Mitigation Plan columns below.		*Please provide the relevant reference #*	
4. Will the research take place in a country or countries, other than the Netherlands, within the EU?		X				
5. Will the research take place in a country or countries outside the EU?		X				
6. Will the research take place in a place/region or of higher risk – including known dangerous locations (in any country) or locations with non-democratic regimes?		X				
C: Participants						
7. Will the study involve participants who **may** be vulnerable and possibly (legally) unable to give informed consent? (e.g., children below the legal age for giving consent, people with learning difficulties, people living in care or nursing homes,).		X				
8. Will the study involve participants who **may** be vulnerable under specific circumstances and in specific contexts, such as victims and witnesses of violence, including domestic violence; sex workers; members of minority groups, refugees, irregular migrants or dissidents?		X				
9. Are the participants, outside the context of the research, in a dependent or subordinate position to the investigator (such as own children, own students or employees of either TU Delft and/or a collaborating partner organisation)? *It is essential that you safeguard against possible adverse consequences of this situation (such as allowing a student's failure to participate to your satisfaction to affect your evaluation of their coursework).*		X				
10. Is there a high possibility of re-identification for your participants? (e.g., do they have a very specialist job of which there are only a small number in a given country, are they members of a small community, or employees from a partner company collaborating in the research? Or are they one of only a handful of (expert) participants in the study?		X				
D: Recruiting Participants						
11. Will your participants be recruited through your own, professional, channels such as conference attendance lists, or through specific network/s such as self-help groups		X				
12. Will the participants be recruited or accessed in the longer term by a (legal or customary) gatekeeper? (e.g., an adult professional working with children; a community leader or family member who has this customary role – within or outside the EU; the data producer of a long-term cohort study)		X				

ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? *Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!*	MITIGATION PLAN – what mitigating steps will you take? *Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.*	DMP	ICF
			If YES please complete the Risk Assessment and Mitigation Plan columns below.		*Please provide the relevant reference #*	
13. Will you be recruiting your participants through a crowd-sourcing service and/or involve a third party data-gathering service, such as a survey platform?	X		**The survey platform, Panelclix, will be collecting the survey data. The data that will be collected will be anonymous.** The third party, Panelclix, will collect the data from the survey (survey was conducted among members of panelclix). They have signed a contract with the internship company to only send the anonymized data by design to me and the internship company. (BPD works with Panelclix, I do not have the agreement between both parties)		X	
14. Will you be offering any financial, or other, remuneration to participants, and might this induce or bias participation?		X				
E: Subject Matter *Research related to medical questions/health may require special attention. See also the website of the CCMO before contacting the HREC.*						
15. Will your research involve any of the following: • Medical research and/or clinical trials • Invasive sampling and/or medical imaging • Medical and *In Vitro Diagnostic Medical* Devices Research		X				
16. Will drugs, placebos, or other substances (e.g., drinks, foods, food or drink constituents, dietary supplements) be administered to the study participants? *If yes see here to determine whether medical ethical approval is required*		X				
17. Will blood or tissue samples be obtained from participants? *If yes see here to determine whether medical ethical approval is required*		X				
18. Does the study risk causing psychological stress or anxiety beyond that normally encountered by the participants in their life outside research?		X				
19. Will the study involve discussion of personal sensitive data which could put participants at increased legal, financial, reputational, security or other risk? (e.g., financial data, location data, data relating to children or other vulnerable groups) *Definitions of sensitive personal data, and special cases are provided on the TUD Privacy Team website.*		X				
20. Will the study involve disclosing commercially or professionally sensitive, or confidential information? (e.g., relating to decision-making processes or business strategies which might, for example, be of interest to competitors)		X				

			If YES please complete the Risk Assessment and Mitigation Plan columns below.		*Please provide the relevant reference #*	
ISSUE	**Yes**	**No**	**RISK ASSESSMENT – what risks could arise?** *Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!*	**MITIGATION PLAN – what mitigating steps will you take?** *Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.*	**DMP**	**ICF**
21. Has your study been identified by the TU Delft Privacy Team as requiring a Data Processing Impact Assessment (DPIA)? *If yes please attach the advice/ approval from the Privacy Team to this application*		X				
22. Does your research investigate causes or areas of conflict? *If yes please confirm that your fieldwork has been discussed with the appropriate safety/security advisors and approved by your Department/Faculty.*		X				
23. Does your research involve observing illegal activities or data processed or provided by authorities responsible for preventing, investigating, detecting or prosecuting criminal offences *If so please confirm that your work has been discussed with the appropriate legal advisors and approved by your Department/Faculty.*		X				
F: Research Methods						
24. Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g., covert observation of people in non-public places).		X				
25. Will the study involve actively deceiving the participants? (For example, will participants be deliberately falsely informed, will information be withheld from them or will they be misled in such a way that they are likely to object or show unease when debriefed about the study).		X				
26. Is pain or more than mild discomfort likely to result from the study? And/or could your research activity cause an accident involving (non-) participants?		X				
27. Will the experiment involve the use of devices that are not 'CE' certified? *Only, if 'yes': continue with the following questions:*		X				
• Was the device built in-house?						
• Was it inspected by a safety expert at TU Delft? *If yes, please provide a signed device report*						
• If it was not built in-house and not CE-certified, was it inspected by some other, qualified authority in safety and approved? *If yes, please provide records of the inspection*						
28. Will your research involve face-to-face encounters with your participants and if so how will you assess and address Covid considerations?		X				
29. Will your research involve **either:** a) "big data", combined datasets, new data-gathering or new data-merging techniques which might lead to re-identification of your participants **and/or**		X				

ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? *Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!*	MITIGATION PLAN – what mitigating steps will you take? *Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.*	DMP	ICF
			If YES please complete the Risk Assessment and Mitigation Plan columns below.		*Please provide the relevant reference #*	
b) artificial intelligence or algorithm training where, for example biased datasets could lead to biased outcomes?		X				
G: Data Processing and Privacy						
30. Will the research involve collecting, processing and/or storing any directly identifiable PII (Personally Identifiable Information) including name or email address that will be used for administrative purposes only? (eg: obtaining Informed Consent or disbursing remuneration)		X				
31. Will the research involve collecting, processing and/or storing any directly or indirectly identifiable PIRD (Personally Identifiable Research Data) including videos, pictures, IP address, gender, age etc and **what other Personal Research Data** (including personal or professional views) will you be collecting?	X		I will collect their age in categories such as 28-30 years. I will also collect information about their living environment, but not their specific address, all the data collected will not be tracable to a specific postal code.		X	
32. Will this research involve collecting data from the internet, social media and/or publicly available datasets which have been originally contributed by human participants	X		**I will use the data from the Woononderzoek of 2012, 2015, 2018 and 2021.**		X	
33. Will your research findings be published in one or more forms in the public domain, as e.g., Masters thesis, journal publication, conference presentation or wider public dissemination?	X		My thesis will be uploaded on the TU Delft repository.		X	
34. Will your research data be archived for re-use and/or teaching in an open, private or semi-open archive?	X		My research, will be saved to the private intership company storage drive.		X	

H: More on Informed Consent and Data Management

Your research involves human participants as Research Subjects if you are recruiting them or actively involving or influencing, manipulating or directing them in any way in your research activities. This means you must seek informed consent and agree/ implement appropriate safeguards regardless of whether you are collecting any PIRD.

Where you are also collecting PIRD, and using Informed Consent as the legal basis for your research, you need to also make sure that your IC materials are clear on any related risks and the mitigating measures you will take – including through responsible data management.

IV.   Signature/s
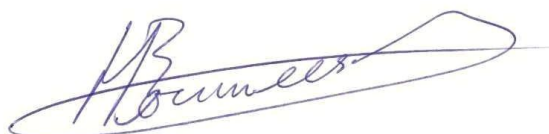
> *Please note that by signing this checklist list as the sole, or Responsible, researcher you are providing approval of the completeness and quality of the submission, as well as confirming alignment between GDPR, Data Management and Informed Consent requirements.*

Name of Corresponding Researcher (if different from the Responsible Researcher) (print)

Signature of Corresponding Researcher: Evy Veerhoek

Date: 27-10-2023

Name of Responsible Researcher (print)

Signature (or upload consent by mail) Responsible Researcher: Harry Boumeester

Date: 15-10-2023

V.   Completing your HREC application
Please use the following list to check that you have provided all relevant documentation

Required:
- o **Always:** This completed HREC checklist
- o **Always:** A data management plan (reviewed, where necessary, by a data-steward)

o **Usually:** A complete Informed Consent form (including Participant Information) and/or Opening Statement (for online consent)

Please also attach any of the following, if relevant to your research:

Document or approval	Contact/s
Full Research Ethics Application	After the assessment of your initial application **HREC will let you know if and when you need to submit additional information**
Signed, valid Device Report	Your Faculty HSE advisor
Ethics approval from an external Medical Committee	TU Delft Policy Advisor, Medical (Devices) Research
Ethics approval from an external Research Ethics Committee	Please append, if possible, with your submission
Approved Data Transfer or Data Processing Agreement	Your Faculty Data Steward and/or TU Delft Privacy Team
Approved Graduation Agreement	Your Master's thesis supervisor
Data Processing Impact Assessment (DPIA)	TU Delft Privacy Team
Other specific requirement	Please reference/explain in your checklist and append with your submission

5. Survey results – breakdowns

Below are the breakdowns by age and current living situation.

<u>Breakdown by age</u>

		Age 25-28 - *111*	Age 29-35 - *98*
Attribute			
	Living environment	66	67
	Characteristics neighbourhood	66	67
	Facilities	73	74
	Type of dwelling	68	68
	Living space	71	72
	Bedrooms	67	72
	Outdoor space	75	78
	Sharing of functions	52	49
	Purchase price	84	83
Attribute level			
Living environment			
	Urban city centre	29	31
	Urban peripheral	38	40
	Urban green	45	47
	Village centre	39	42
	Rural living	32	34
Characteristics neighbourhood			
	Greenery	50	49
	Child-friendly neighbourhood	41	42
	Social contacts	37	37
	Car parking	44	45
	Diversity within the neighbourhood	34	36
Facilities			
	Train	41	45
	Bus/ metro and tram	48	52
	Supermarket	62	61
	Medical centre	51	51
	Park/ outdoor and play ground	53	54
	Cafes and restaurants	46	46
	Gym	36	41
	Daycare	35	39
Type of dwelling			
	Apartment	30	30

Studio	13	13
Terrached dwelling	44	43
Corner dwelling	49	49
Semi-detached dwelling	48	49
Detached dwelling	52	51

Living space

30-50 m2	14	16
51- 70 m2	28	27
71-90 m2	42	42
91-110 m2	47	50
> 110 m2	48	50

Bedrooms

1 bedroom	14	12
2 bedrooms	35	28
3 bedrooms	47	47
4 bedrooms	41	48

Outdoor area

Garden	62	65
City garden/ patio	32	27
Rooftop terrace	44	38
Balcony	38	36
Shared outdoor area	17	19
No outdoor area	7	7

Sharing functions

Kitchen	10	10
Office	17	17
Hobby space	11	10
Shared car	16	18
Shared bycile	17	17
Shared scooter	19	17

Breakdown of current housing situation

Attribute		Independent tenant- *142*	dependent living situation - *67*
	Living environment	68	64
	Characteristics neighbourhood	67	65
	Facilities	74	72
	Type of dwelling	70	65
	Living space	73	68
	Bedrooms	72	65
	Outdoor space	81	67
	Sharing of functions	51	51
	Purchase price	83	85

Attribute level

Living environment

	Urban city centre	31	28
	Urban peripheral	42	35
	Urban green	48	41
	Village centre	40	40
	Rural living	34	32

Characteristics neighbourhood

	Greenery	50	48
	Child-friendly neighbourhood	43	37
	Social contacts	37	37
	Car parking	45	44
	Diversity within the neighbourhood	36	33

Facilities

	Train	44	41
	Bus/ metro and tram	50	51
	Supermarket	62	61
	Medical centre	50	52
	Park/ outdoor and play ground	54	51
	Cafes and restaurants	47	44
	Gym	38	39
	Daycare	39	33

Type of dwelling

	Apartment	27	37
	Studio	9	21
	Terrached dwelling	44	43
	Corner dwelling	51	44
	Semi-detached dwelling	51	43
	Detached dwelling	54	47

Living space

30-50 m2	14	19
51- 70 m2	24	35
71-90 m2	42	43
91-110 m2	52	42
> 110 m2	52	41

Bedrooms

1 bedroom	11	17
2 bedrooms	29	38
3 bedrooms	48	44
4 bedrooms	47	37

Outdoor area

Garden	70	51
City garden/ patio	30	29
Rooftop terrace	42	37
Balcony	37	35
Shared outdoor area	17	20
No outdoor area	6	8

Sharing functions

Kitchen	9	13
Office	17	16
Hobby space	11	11
Shared car	18	15
Shared bycile	18	15
Shared scooter	18	17