



# Risks on the Dutch housing market

Putting the Dutch housing market into  
European perspective

Client: Dutch Banking Association (NVB)

Brussels, 26 March 2021



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# Preface

The Dutch Banking Association (Nederlandse Vereniging van Banken, NVB) is the representative of all Dutch banks. The NVB represents banks collectively in discussions of social issues and provides a platform for knowledge, exchange of information and representation of interests regarding the themes that affect the sector, now and in future. It aims to bridge the gap between the banks and the public by being the home of dialogue for all parties involved in the sector.

Examples of such public discussion are housing market policies and the trade-offs in financial stability and socio-economic policies. A topic that has been subject to extensive discussions for many years already. The Netherlands occupies an apparently special position in this discussion because of a relatively high Loan-to-Value (LTV) ratio and relatively high level of mortgage debt. From a financial stability perspective, a high LTV ratio and high high level of mortgage debt could lead to higher risk, justifying more risk mitigation measures. Viewed from a broader perspective however, high mortgage debt also serves a purpose. It enables the financing of new construction in a tight housing market (e.g. the Netherlands). Stricter rules for mortgage lending therefore have major consequences for the housing market and the economy as a whole. An example of this is the reduced accessibility of the market for owner-occupied homes. This raises the question whether the aforementioned consequences are desirable and proportionate to any tightening of the mortgage lending regulations.

Therefore, the NVB has called for a coherent and comprehensive picture of the importance and the risk profile of the Dutch housing market.

This report is the result of the mentioned research by Ecorys. It has been prepared by Michel Briene (project leader), Erik van Ossenbruggen and Michel Hek. The research team has been given full freedom and responsibility to independently perform the research. For advisory purposes, the NVB has set up a steering group consisting of the following experts:

- Jeroen van Bockhoven – senior product manager (Volksbank)
- Wim Flikweert – manager Housing (ING)
- Paul van Kempen – senior economic policy advisor (NVB)
- Jasper Willems – senior policy advisor Housing and Mortgage markets (NVB)

We are grateful to the NVB for the fruitful discussions and received comments on interim memos and draft versions of the research. The final responsibility for the methods, results and content of this report rests solely with Ecorys.

# Management summary

Housing markets form an important part of the economy. Access to housing is a basic need and exerts an influence on our wellbeing. At the same time, housing markets are connected to jobs and income. A shock in the housing market as a result of poor risk mitigation can have significant consequences due to the aforementioned interests. Within this field the Netherlands occupies a special position because of the relatively high LTV ratios and high mortgage debt, which can affect financial stability. Therefore, the question arises whether the Netherlands has sufficient safeguards to mitigate the risks that can arise. At the request of the Dutch Banking Association, Ecorys has investigated the possible risks and risk mitigation mechanisms on the Dutch housing market. The results of this study are presented in this report.

The main conclusions are as follows. The relatively high LTV ratios and relatively high mortgage debt in the Netherlands introduce a seemingly high level of risk. Yet, the Dutch mortgage market is characterised by very low default rates, because the Netherlands has an extensive package of risk-mitigating mechanisms on its housing market. These mechanisms effectively cover the higher financial risks (compared to other European countries). The following examples should be mentioned in the first place: an extensive social safety net, a unique pension system and mortgage regulations (including LTV limit) that have been tightened after the credit crisis. On top of that, the extra LTI limits that are unique in Europe provide an ex-ante safety brake to individual households, thus preventing payment problems and foreclosures. In addition, previously introduced mortgage regulations with mandatory repayments in the coming years will further reduce the risks. In the case of foreclosure, the market is still tight with high prices, which reduces the risk of residual debt. From this perspective, there is no need for further tightening of the mortgage rules including lowering the current LTV limit of 100 percent. From a socio-economic perspective it is even undesirable, because it will significantly worsen the availability of housing for first-time buyers and increase the need to save. Due to the pension system in the Netherlands however, the possibility of building up capital for one's own home is limited. The measure will not directly hit financial institutions, but a not negligible part of first-time buyers will be stuck in their housing (and social) career as a result. Also, the resulting decline in spending may introduce extra macro-economic stability risks, which is the contrary of what an LTV limit ought to do.

## 1. Motivation and objective

In the Netherlands, with its relatively high Loan to Value (LTV) ratios – in the past often exceeding 100 percent at origination – the eurocrisis and the following recession led to many households getting underwater with their mortgages due to substantially falling real estate prices. To prevent such risks in the future, multiple measures have been taken by the Dutch government. One important example is the introduction of an LTV limit of 100 percent. Yet, parties such as OESO, IMF, ESRB and the Dutch Central Bank (DNB) argue that the Dutch mortgage market is still prone to vulnerabilities and that further reductions in the LTV limit should be realised. In particular the international institutions promote a one-size-fits-all model. Yet it is a stylised fact that European countries are hard to compare due to different national and regional contexts – this applies to housing markets in particular. The risk profile of a 100 percent LTV mortgage in a densely populated country with housing shortage and large pension savings is different from one in a predominantly rural country with substantially lower pension savings.

To provide a better insight specifically in the Dutch context, Ecorys has investigated at the request of the Dutch Banking Association which risks are present at the Dutch housing market and which mechanisms are present to mitigate these risks. This also raises the question whether further

lowering the LTV limit (towards 90 percent, for example) is desirable, and what the consequences will be. However, the current possibility to extend the LTV limit towards 106 percent when sustainability upgrades are included in the mortgage also raises questions. The desirability of this exemption is also included in the present analysis.

## 2. The Dutch housing market in European perspective

To answer the aforementioned questions and to place these in the right perspective, first some important characteristics of the Dutch housing market should be considered.

### Home ownership increased fast

There are two main types of housing in the Netherlands: owner-occupied housing and rental housing. Historically, owner-occupied housing had a relatively low share in total tenure. This changed rapidly after the Second World War. Home ownership increased fast especially during the 1990s. Currently, the share of home ownership is around 68 percent in the Netherlands, which is comparable to the European average of 69 percent. The rental market can be split in two segments (social and private rental sector) with social rental housing being by far the largest one of the two. The government helps low income households by subsidising the rent. Households with a higher gross income (than approximately € 39,000) are not entitled to social housing.

### Decreasing accessibility for first-time buyers

After the euro crisis and following recession there was a temporary shock in the market for owner-occupied housing, but since 2013 a strong recovery can be observed in amongst others an increasing number of transactions and strongly increasing prices of residential real estate. Affordability and accessibility of owner-occupied housing have decreased in the Netherlands since then. This has two main reasons. In the first place income growth has not kept up with the increasing residential real estate prices. Secondly, the declining interest rates are an issue. Although lower interest rates have made lending cheaper, the low interest rates have made saving for a mortgage deposit difficult for consumers. These two reasons have made it increasingly difficult for first-time buyers to purchase a home. Part of the aspiring buyers are forced into the private rental market. Due to liberalisation of the rental market strong price increases have also taken place in the private rental market, leading to difficulties in finding affordable and suitable housing.

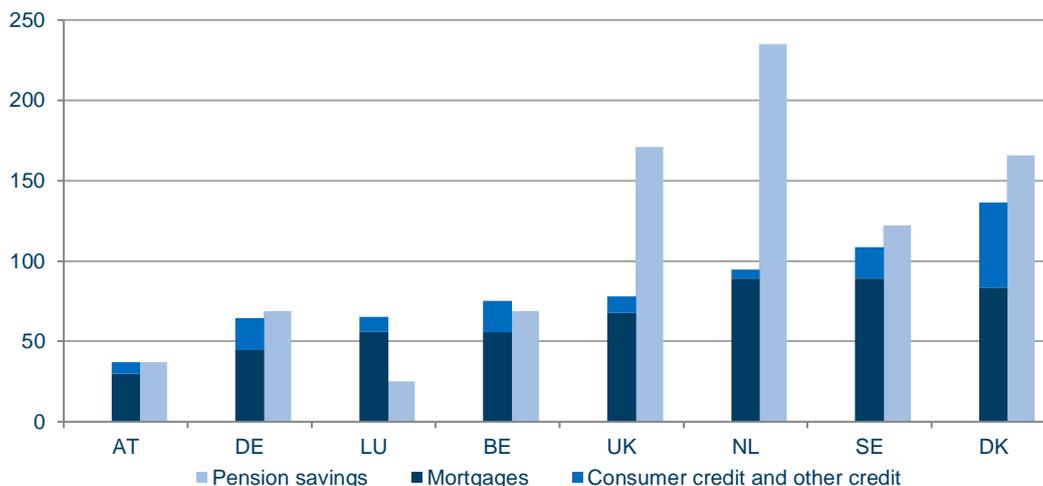
### The lion's share of Dutch owner-occupied housing is financed by mortgages

The fast growth of owner-occupied housing in the Netherlands is a result of the increased welfare, increased female labour participation, looser lending behaviour in the past as well as the government's housing market policy with mortgage interest deductibility as an instrument. Partially due to the favourable fiscal regime, the lion's share of home purchases in the Netherlands is financed by mortgages. This share is much lower in other countries, where a mortgage is used together with (uncovered) consumer credit and other loans. A notable outlier is Danmark where 39 percent of the outstanding household debt consists of consumer credit and other loans.

The necessity to finance the purchase of a home by a mortgage is amongst others related to the social welfare system and the (mandatory) pension system in the Netherlands, which result in a relatively lower disposable income and savings. Especially households at the start of their housing career are therefore not able to save sufficiently for their own home (instead this capital is stored in pension funds). The ability to substitute a part of the mortgage by an own deposit is therefore very limited for many Dutch first-time buyers.

Other credit stocks are often overlooked in the debate about mortgages and financial risks, but when these aspects (mortgage debt versus other debts versus assets) are taken together, the picture changes (figure 1). It shows that the Netherlands has a far more favourable (covered) debt profile than other comparable countries.

**Figure 1: Mortgages, other credit and pensions to GDP (%) in the Netherlands and other countries (2019)**



Source: figure 3.3; figure 3.8; Hypostat (2020)

### 3. Risk mitigating mechanisms

#### Risks in mortgage markets are diverse

Residential real estate markets are characterised by various risks. At the level of individual households there is mainly the risk of income decline, introducing potential payment problems. This risk arises after certain life events have occurred, such as divorce, labour inability and unemployment. It can have large consequences when the number of households with income decline increases due to poor macro-economic performance. At first this has consequences for housing markets and financial markets, but it can trickle down to the real economy in the longer run.

#### Available risk mitigating mechanisms

There is a thorough package of risk mitigating mechanisms for the investigated risks in the Netherlands. In figure 1 (next page) this has been visualised based on a summary of the identified risks and corresponding risk mitigating mechanisms on the Dutch housing market. For each risk is displayed which instruments are available to mitigate the risk(s) and the estimated level of protection offered by the instrument. This estimation is based on expert judgment. The figure shows that the risk of overlending and economic downturn is estimated as relatively high and that the impact of such risk can be relatively high as well. However, this does not apply to the Netherlands solely, but also to the benchmark countries. The impact caused by flooding/ earthquakes and declining housing prices is also estimated as being high, but the probability of these events has been classified as low in the Netherlands.

The figure further makes clear that the Netherlands has a broad range of risk mitigating mechanisms. These instruments offer protection to households, but they also provide protection on a higher scale level.

#### Outcome

This conclusion is corroborated by the exceptionally low share of Dutch households with arrears on their mortgage or rent, and the exceptionally low foreclosure rates in the Netherlands in comparison to other European countries.

**Figure 2: Overview of risk mitigation on the Dutch housing market**

Risk		Risk without mitigation		Level of risk mitigation and instruments	
		Probability	Impact	Level of mitigation	Instrument
Life events	Declining income; disability to meet financial obligations mortgage	●	●	high	Health and life insurance
				low	Unemployment insurance
Disasters and calamities	Fire; storm; burglary	●	●	high	Real estate insurance
	Flooding; earthquake	●	●●	high	Public policy
Financial markets	Payment arrears; foreclosure	●	●	high	Mortgage type and amortisation
				medium	Interest type (fixed vs. variable)
Real estate market	Declining residential real estate prices	●	●●	low	Public policy
	Housing supply/ shortage	●●	●●	medium	Public policy
Law and regulations	Overlending	●	●●	high	LTV limit
				high	LTI limits
				high	Mortgage interest tax deduction
Macro-economic development	Economic downturn	●●	●●	high	NHG-backed mortgage
				high	Pensions
				high	System of social security

In addition, table 1 on page 9 provides a comparative overview of the risk profiles in the Netherlands and the other benchmark countries. This is based on the indicators used throughout the report. The table distinguishes best and worst performing countries using color scales for each indicator. Dots provide further guidance by showing each country's performance relative to the worst performing country.

The table shows that compared to other countries, the Netherlands has a seemingly high risk profile when looking at the LTV (at origination) level, yet is the Dutch non-performing mortgage loan ratio among the lowest – thanks to the relatively well performing risk mitigation mechanisms in the Netherlands.

#### 4. Impact of changes in LTV regulations

##### Lowering the LTV limit to 90 percent can lead to socio-economic problems

An option to further lower the risk profile is to lower the current LTV limit. Parties such as ECB, European Commission, OECD, IMF and ESRB propose an LTV limit of 90 percent for the Netherlands, instead of the current 100 percent. This measure has both positive and negative effects. Positive effects can be expected in further reduction of financial risks for consumers and lenders. It is however questionable to what extent the gains will be significant. It is likely that part of the prospective buyers will rely on consumer credit to fill the gap. This has been observed in amongst others Sweden after the LTV limit was tightened. In such case, there is a deterioration, since consumer credit involves higher costs for consumers (and thus welfare loss), and higher risk due to the uncovered nature of the credit. In fact, this has a negative impact on financial stability. At the same time, substantial negative impact is to be expected for the housing market from a socio-economic perspective. A significant share of prospective home buyers will have to postpone their purchase and will be forced into the (relatively more expensive) private rental market. From a macro-economic perspective, this will result in a welfare loss because these prospective buyers are forced to save additionally. These savings will affect consumer spending.

All in all, the negative marginal effects appear to outweigh the positive marginal effects, even though it proves difficult to quantify this. The consensus based on the literature as well as the interviews is that the current LTV limit of 100 percent is the optimum from a broader societal view.

#### Sustainability upgrades do not result in equally higher market value

A higher LTV (i.e. 106 percent) is allowed in the Netherlands if this excess loan is used for sustainability upgrades. From a theoretical perspective, this is incorrect. Financial institutions already finance mortgages based on value increase. Adding another six percent on top of that will increase the risk of residual debt. Also, from an empirical perspective it is questionable whether a value increase of 6 percent can be expected on average, as lower averages have been reported so far. It seems more reliable to assume a range between 2 to 4 percent value increase. Also, this heavily depends on the label step in case upgrades to the energy performance of the home are planned. Data suggest that currently, measures to achieve label A or better are not cost efficient yet. This could change when investment costs and energy prices change in the future, though.

**Table 1: Comparison of the Netherlands' risk profile against the benchmark countries**

Category	Indicator	Year	 NL	 DK	 SE	 BE	 UK	 AT	 LU	 DE
<b>Risk source</b>	LTV at origination	2017								
<b>Life events</b>	Insurance penetration (premiums to GDP)	2018								
	Employment protection legislation index	2019								
<b>Financial markets</b>	Share of mortgages in total household debt (percentage)	2019								
	Share of consumer credit and other credit (percentage)	2019								
<b>Real estate market</b>	Residential real estate prices (2015=100)	2019								
<b>Law and regulations</b>	LTV limit (legally binding)	2021				No	No	No	No	No
	Additional LTI limit yes/no	2021	Yes	No	No	No	Yes	No	No	No
<b>Economic downturn</b>	Pension savings (percentage of GDP)	2019								
<b>Outcome</b>	Non-performing loan ratio on mortgages (percentage)	2019								

Note: the size of the dots represents the score of the indicator relative to the least performing country on that indicator. A dot that is twice as big thus represents a two times higher value. Exceptions are the LTV at origination, share of consumer credit and other credit, and non-performing loan ratio on mortgages, where a lower score is better.

Sources: Bank of England (2019), Banque centrale du Luxembourg (2020), Danmarks Nationalbank (2020), De Nederlandsche Bank (2020), Deutsche Bundesbank (2020), European Banking Authority (2019), European Insurance Industry Database (2020), Eurostat (2020), Finansinspektionen (2019), Hyostat (2020), National Bank of Belgium (2020), OECD (2020), Oesterreichische Nationalbank (2020)

# 1 Introduction

## 1.1 Motivation and objective

The Dutch housing market has a remarkable position within Europe. Historically, the Netherlands has an extensive history of promoting home ownership and for a long time the financing norms were relatively loose, with loan-to-value ratios (LTV) up to 125 percent. Currently, this remarkable position is prolonged by relatively high LTV ratios combined with a relatively high mortgage debt-to-GDP ratio.

Although the economic crisis has resulted in more stringent rules and the fact that the maximum LTV for new mortgages has been gradually reduced to 100%, Dutch mortgages still get considerable attention from supervising institutions such as the European Central Bank (ECB<sup>1</sup>), European Commission (country-specific recommendations<sup>2</sup>), OECD (country review Netherlands), IMF (article 4 consultation<sup>3</sup>) and European Systemic Risk Board (ESRB<sup>4</sup>). For example, the ESRB concluded in 2016 that the Netherlands – together with Austria, Belgium, Denmark, Estonia, Finland, Luxembourg, Malta, Slovakia, Sweden and the UK – belongs to a group of countries with alarming vulnerabilities on its housing market, from a financial stability perspective. According to the ESRB, the Dutch DTI (debt-to-income), debt-to-GDP and LTV ratios still are among the highest in Europe. The ESRB also claimed that the current speed of reforms in the Dutch housing market is not adequate given the allegedly high risk profile. The ESRB again recommended lowering the maximum LTV ratio in 2019.<sup>5</sup>

Currently, there is a lot of attention for the risks related to real estate and mortgage markets, but we argue that there is a need for broader look at the overall national debt burden. Consumer credit and other credits are often overlooked in prevailing analyses, while our analysis shows that taking these credit forms into account does significantly alter the picture.

Furthermore, it is paramount to deal with the alleged risks effectively and to implement regulations that are appropriate for the risk profile. Therefore, we argue that there is need for a thorough overview of the underlying mechanisms that either fuel or mitigate the alleged mortgage related risks in order to fairly make judgements.

At the same time, the Netherlands offers some unique risk mitigating mechanisms, which requires a deep understanding of the characteristics of the Dutch economy and housing market. These mechanisms are mainly present in a combination of socio-economic and financial policies together with a favourable (low-risk) outcome.

The Dutch Banking Association (De Nederlandse Vereniging van Banken – NVB) therefore has expressed a need to further investigate the risk profile of the Dutch housing market (focusing on owner occupied housing), and to investigate the risk mitigating mechanisms and measures in the Netherlands, driven by the question to what extent these mechanisms provide sufficient protection

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<sup>1</sup> Kelly, J., Le Blanc, J., Lydon, R. (2019), *Pockets of risk in European housing markets: then and now*. Working paper no. 2277.

<sup>2</sup> European Commission (2017), *Commission Staff Working Document - Country Report The Netherlands 2017 Including an In-Depth Review on the prevention and correction of macroeconomic imbalances*. SWD(2017) 84 final.

<sup>3</sup> IMF (2019), *2019 Article IV Consultation — The Kingdom of the Netherlands*. IMF Country Report No. 19/44.

<sup>4</sup> ESRB (2016), *Vulnerabilities in the EU residential real estate sector*.

<sup>5</sup> ESRB (2019), *Recommendation of the European Systemic Risk Board of 27 June 2019 on medium-term vulnerabilities in the residential real estate sector in the Netherlands (ESRB/2019/7)*. Official Journal of the European Union, C 366/22.

against the risks identified, and possibly additional protection that cannot be found in other comparable countries in the euro zone. The present study is thus an explicitly comparative study that places the Netherlands into a European context. This should make clear to what extent the Netherlands' housing and mortgage market is comparable or actually unique compared to the markets in other countries.

Lastly, we aim to explore the socio-economic effect of changes in the LTV cap on first-time buyer's housing careers and on the risk profile. The motivation for this is in the European supervisors' recommendations to further lower the LTV limit. Dutch first-time buyers are the most relying on mortgages with a high LTV. So on the one hand we investigate the socio-economic effect of a further lowered LTV cap. On the other hand we also investigate the socio-economic effect of a slightly higher LTV under the condition of using the excess loan for sustainability upgrades.

## 1.2 Reading guide

In the [next chapter](#), we present the Dutch housing market characteristics. First, we explain policy developments, and show several aspects of supply and demand as well as an explanation of the housing market within the broader economy – linking housing accessibility to savings and ability to build up capital. We put this housing market overview in a comparable perspective by means of figures both for the Netherlands and (whenever available) for a selected group of benchmark countries. These countries include: Austria, Denmark, Germany, Luxembourg, Sweden and the United Kingdom. These countries have been selected to offer a group of countries with a comparable housing market in terms of owner-occupied housing demand and supply.

[Chapter three](#) is the heart of this report: it deals with the risk profile and risk mitigating mechanisms in the Netherlands. At the start of the chapter we shortly uncover the sources of risk to be studied and then we investigate to which extent the Netherlands is able to mitigate the risks per category of risk source. This done again by comparing the Netherlands against the selected group of benchmark countries.

The next chapter, [chapter four](#), explores possible changes in the Dutch LTV limit. First, what would happen in broader welfare terms if the LTV limit would be lowered to 90 percent? Then we also consider the effectiveness of an exception in the Dutch regulations where (under certain circumstances) an LTV of 106 percent is possible.

[Chapter five](#) ends the report by providing a concluding answer to the research questions.

# 2 The Dutch housing market in European perspective

## 2.1 Introduction

The Netherlands has a relatively distinctive housing market compared to other countries. Therefore it is necessary to have a good understanding of the relevant trends and developments on the Dutch housing market before addressing its risk profile.

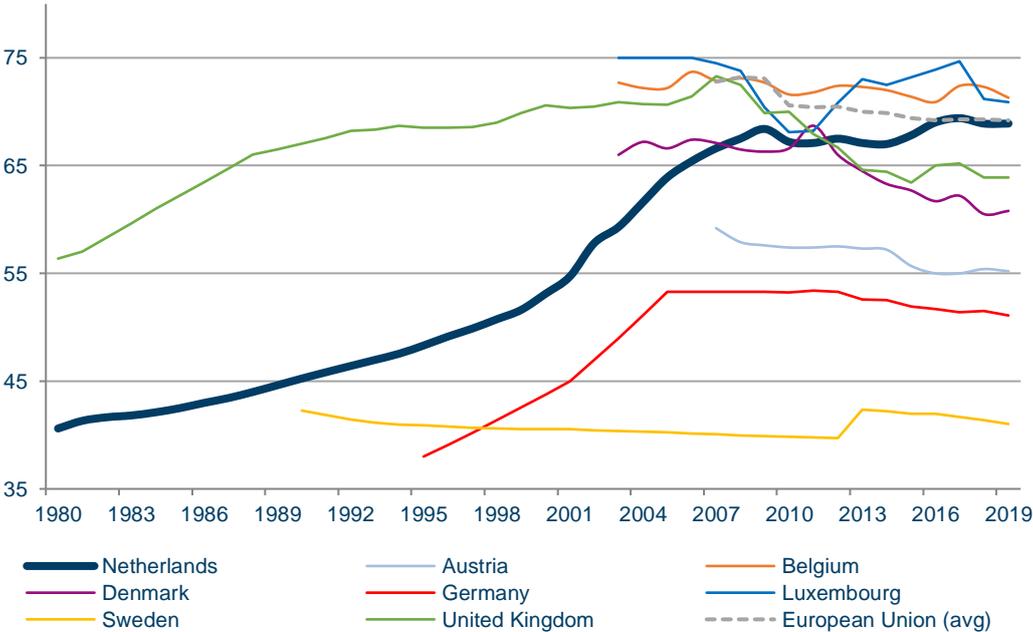
We start this chapter with distinguishing the different market segments and presenting the policy framework in which the Dutch housing market functions. We mainly focus on the owner-occupied segment, but we also shortly compare this with the rental market. We deal with housing prices, transactions, target groups, additions to the housing stock and lastly the size and functioning of the mortgage market. We aim to show that the Dutch housing market is different to the housing market in terms of market tightness and accessibility, compared to other European countries.

## 2.2 Profile of the Dutch housing market

### Market segments

There are two main types of housing in the Netherlands: owner-occupied housing and rental housing. Historically, owner-occupied housing had a relatively low share in total tenure. This changed rapidly after the Second World War. Home ownership increased fast especially during the 1990s. Currently, the share of home ownership is around 68 percent in the Netherlands, which is comparable to the European average of 69 percent (figure 2.1).

Figure 2.1: Share of owner-occupied housing in the Netherlands and other selected European countries



Sources: Eurostat (2020), Hypostat (2020), UK Office for National Statistics (2020), Statistics Sweden / SCB (2020)

## National housing market policy

Different policy regimes have dominated in the Netherlands over the years. Before the Second World War, owner-occupied housing was not publicly regarded as a government responsibility. It was even seen as undesirable for the lower working class, due to capital risks and impedance to labour mobility.<sup>6</sup> This changed considerably after the Second World War, stimulated by shortages of housing. Public opinion also changed to the preference for owner-occupied housing, with opportunities for capital accumulation, better housing and better social conditions as main advocated advantages. The national government's policy thus became to stimulate owner-occupied housing actively.

The most important policy instrument that has been used for this is the mortgage interest deductibility (*hypothekrenteaftrek*). Interest paid on mortgage loans for the main residence is fully deductible from pre-tax income. Tax deductibility thus offers firm income support for homeowners. In 2014 it was estimated that Dutch homeowners receive on average forty percent of their paid interest back as a tax benefit.<sup>7</sup> The Dutch government has decided to slowly scale down these tax benefits towards the future.

Other important elements of Dutch housing market policy for owner-occupied housing are:

- A notional rental value for home owners (*eigenwoningforfait*). Home owners pay an extra tax based on the property's estimated market value under a fictional scenario that the home would generate earnings as rental object.
- Sales and transfer tax (*overdrachtsbelasting*).
- Spatial planning and construction regulations. The Dutch government decides how space can be used by means of zoning plans and can issue land for residential real estate.

Extra measures to lower financial risks and improve financial economic stability. An LTV limit (100 percent) has been introduced to prevent residual debts. Likewise, the mortgage debt should now be amortised in maximally 30 years and using a linear or annuity based mortgage to profit from mortgage interest deductibility. More info on the safety net can be found in chapter 3.

The rental market can be split in two segments, with social rental housing being the largest one of the two. The government helps low income households by subsidising the rent. Households with an annual gross income of approximately € 39,000 are eligible for this. In the social rental market (which is significantly larger in market size), their monthly net rent can never exceed € 752 per month (price level 2021) – and the lowest incomes can get additional subsidy on top of this. Households with a higher gross income (than approximately € 39,000) can only rent in the unregulated private rental market.

## 2.3 Market tightness and accessibility issues

### Sales and transactions

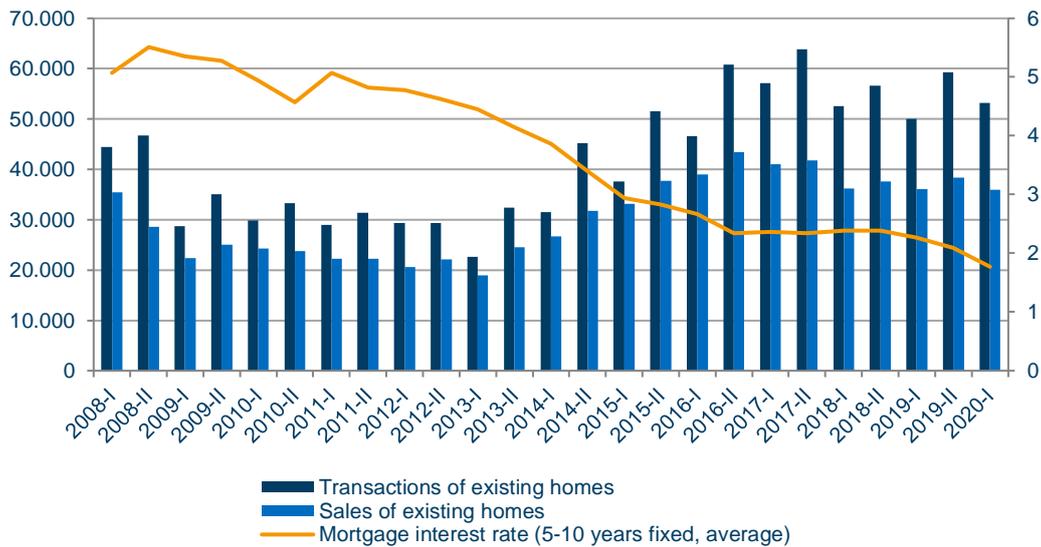
The Dutch housing market is clearly in a phase of market booming, reflected by the high number of sales and transactions of existing homes (figure 2.2). Sales started to drop after 2008 as a result of the financial crisis, but have increased again since 2013. The number of transactions (which is higher, because it is registered by the Dutch cadastre – whereas the number of sales reported includes only sales by NVM, the Dutch association of real estate agents, which has an estimated market share of 70 percent) is also at a relatively high level. The historically low interest rate for

<sup>6</sup> De Zeeuw, F. & Kraan, R. (2001), *Eigenwoningbezit in 100 jaar*. Tijdschrift voor de Volkshuisvesting, February 2001.

<sup>7</sup> NVB (2014), *The Dutch Mortgage Market*.

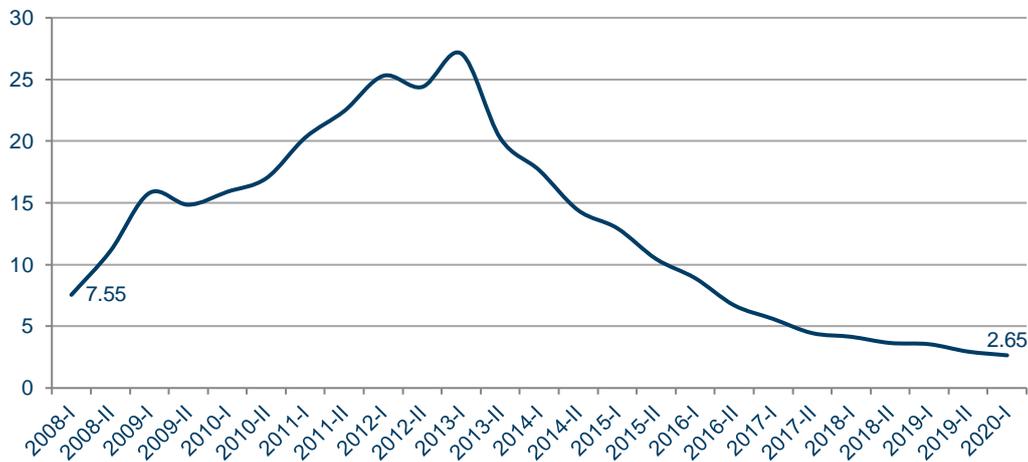
mortgages – which makes financing mortgages relatively cheap and thus sparks demand for owner-occupied housing – is an important driving force in this high amount of transactions. While the number of sales is increasingly rising, this does not apply to the supply side. With the increase of housing stock (see also next section on supply) falling behind, the housing market has become tighter since 2013. This is displayed in figure 2.3, which shows the market tightness indicator, i.e. the ratio between the number of new houses for sale and the number of transactions. After a peak of 27.1 in 2013, the tightness is currently at 2.65. This means that an imaginary buyer has only 2.65 houses to choose from.

**Figure 2.2: Transactions and sales of existing homes against mortgage interest rate in the Netherlands**



Source: Technische Universiteit Delft (2020), Monitor koopwoningmarkt.

**Figure 2.3: Housing market tightness (owner-occupied) in the Netherlands, 2008-2020**

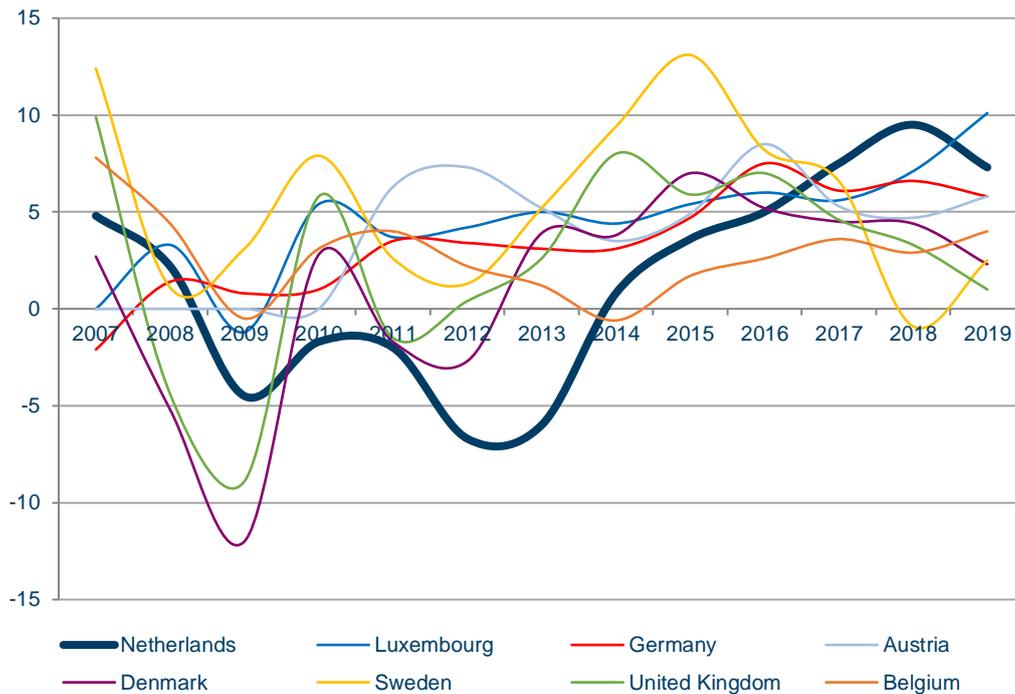


Source: Technische Universiteit Delft (2020), Monitor koopwoningmarkt.

### House prices

As an effect of the financial crisis in 2008, house prices have declined strongly in the Netherlands when compared to the benchmark countries. Still, Denmark and the UK – two countries that are outside of the Eurozone and did not face a Eurocrisis – experienced a stronger decline. Countries such as Sweden saw an increase since 2010 instead of decline. This increase has continued after 2015, but the Netherlands has overtaken this position as fastest grower since 2015. The result is that the Netherlands has again a number one position in Europe with the biggest increase in housing prices. Only Luxembourg is comparable since 2019.

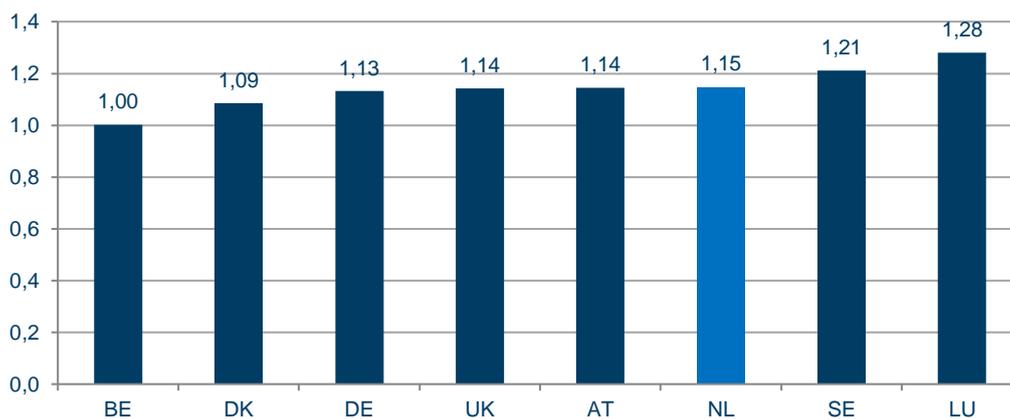
**Figure 2.4: Annual average change (%) in house prices for selected European countries, 2007-2019**



Source: Eurostat (2020)

For buyers the affordability is defined in the end by the interest rate development and the development in the relation between price development and income development. In such perspective, among the benchmark countries only Belgium has a favourable development where price levels and incomes have developed equally, hence a ratio of 1.0 (figure 2.8). In the Netherlands, house prices have risen 15 percent more than household income levels, indicating a deteriorated affordability since 2015. Only in Sweden and Luxembourg the affordability has worsened more. The years 2015-2019 have been crucial to this development.

**Figure 2.5: Ratio of house price increase to income increase between 2015 and 2019**



Source: own calculations by Ecorys, based on Eurostat (2020)

### Position of first-time buyers

Within the market of buyers, there is considerable variation between subgroups in terms of market position. Several subgroups have benefited greatly from the tax relief measures, mostly baby boomers who have purchased a home early in their career and benefit from surplus value. Also the increased labour participation with higher employment levels of women and thus the increase of

dual earners has played a significant role. Lastly existing home owners moving to another home have recently profited from substantive price increases (see section 2.3 for more information).

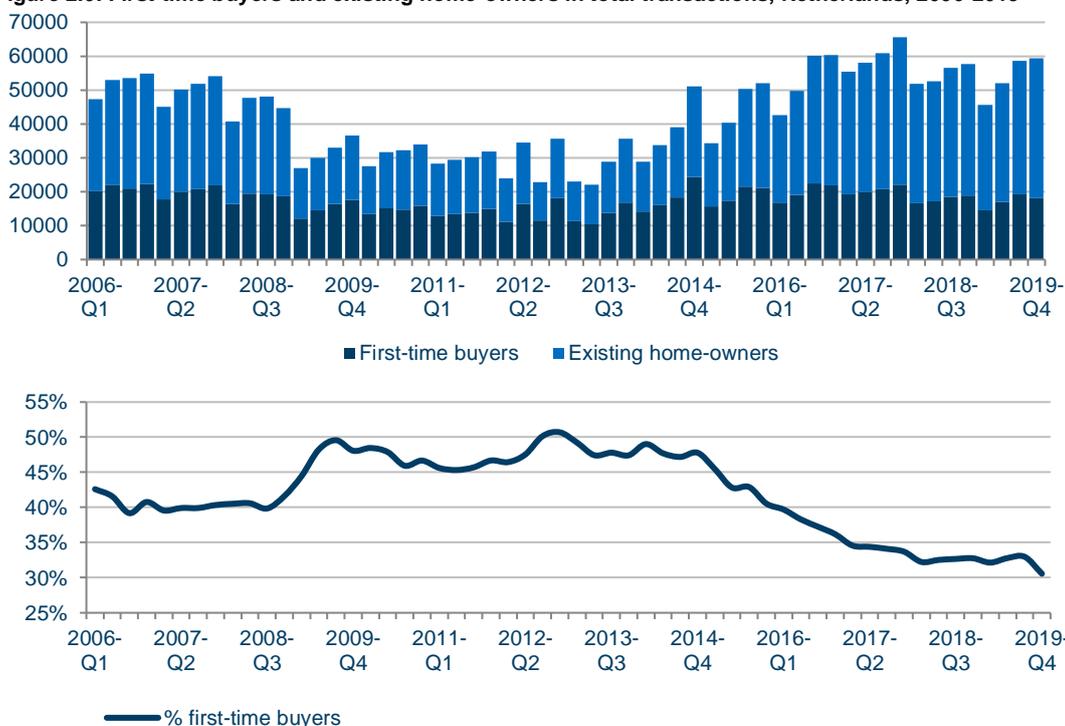
On the other hand, first-time buyers face increasing difficulty to buy a home in the Netherlands. As figure 2.6 shows, the share of first-time buyers has decreased constantly since 2014. In fact, the number of first-time buyers is currently at its lowest level since the availability of data. There are several explanations for this trend:

- The historically high house prices, putting pressure on the absolute affordability;
- Tightened mortgage lending regulations (LTV and LTI – see also chapter 5);
- Capacity issues in the construction sector – leading to less additions to the housing stock than the market demands.

The divergence of buying patterns in urban and rural housing markets adds another dimension to the problem for first-time buyers. Research by the Dutch cadastre shows that in the four biggest cities (Amsterdam, Rotterdam, The Hague, Utrecht) the same decreasing number of first-time buyers can be observed (as seen in figure 2.6), but that the share of first-time buyers in these metropolitan areas is still 10 percentage points higher than in Dutch rural areas.<sup>8</sup> These metropolitan areas are nowadays characterised by very affluent first-time buyers – relatively often supported by family gifts – which can be seen in the fact that transaction prices paid by first-time buyers in the Netherlands’ four biggest cities are on average more than € 100,000 higher than in the rest of the country.<sup>4</sup>

Difficulties for first-time buyers can be faced in other European countries as well.<sup>9</sup> Yet, figure 2.7 – which is based on a European study by ING, asking first-time buyers about their entry chances – makes clear that the Netherlands has risen to the first place in terms of difficulty for first-time buyers to buy a home.

**Figure 2.6: First-time buyers and existing home-owners in total transactions, Netherlands, 2006-2019**

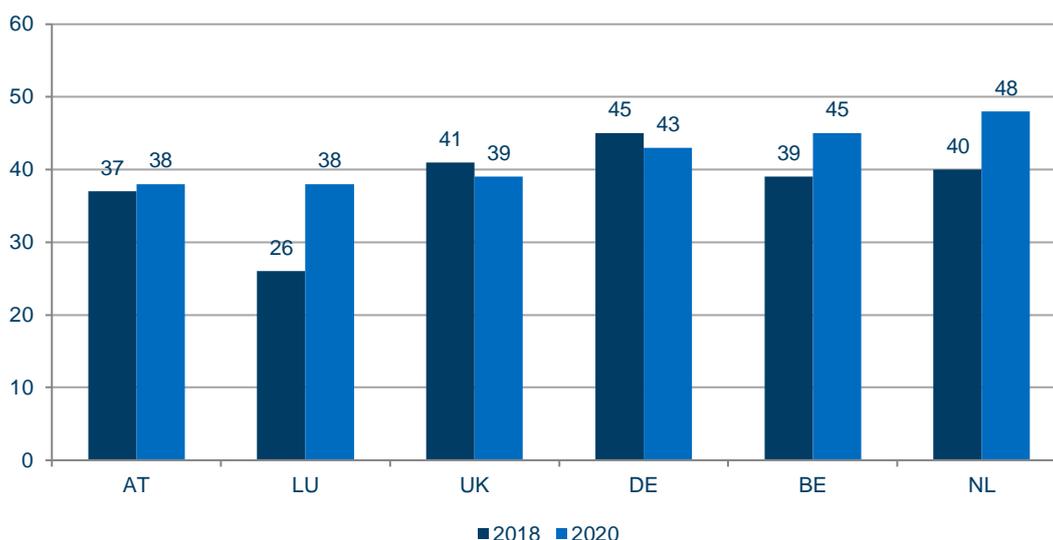


Source: Wisman & de Vries (2020)

<sup>8</sup> Wisman, H. & Vries, P. de (2020), *Moelijke tijden voor koopstarters op de woningmarkt*. Kadaster.

<sup>9</sup> See for example Cribb, J. & Simpson, P. (2018), 9. *Barriers to homeownership for young adults*. In: Institute for Fiscal Studies (IFS) Green Budget, edition 2018.

Figure 2.7: Share of people that expect not to be able to buy a first property (%), 2018 and 2020



Source: ING (2020), ING International Survey on Homes & Mortgages, edition 2018 and edition 2020

### Comparison with Dutch rental market

The Dutch rental market is characterised by excessive market tightness, similar to the market for owner-occupied housing. In the Netherlands there are two types of rental housing, being social housing and private rental housing.

Social housing is associated with state aid in the form of capped rents (the remainder is subsidised by the state) and private housing allowances based on income level. Social housing, which has a market share of 30 percent<sup>10</sup>, is entitled only to the lower income groups in the Netherlands. Since 2015, social housing corporations are obliged to let 80% of their housing stock to households with total incomes up to € 39,055 (price level 2020) – to prevent that the homes for the very poorest are occupied by wealthier tenants.

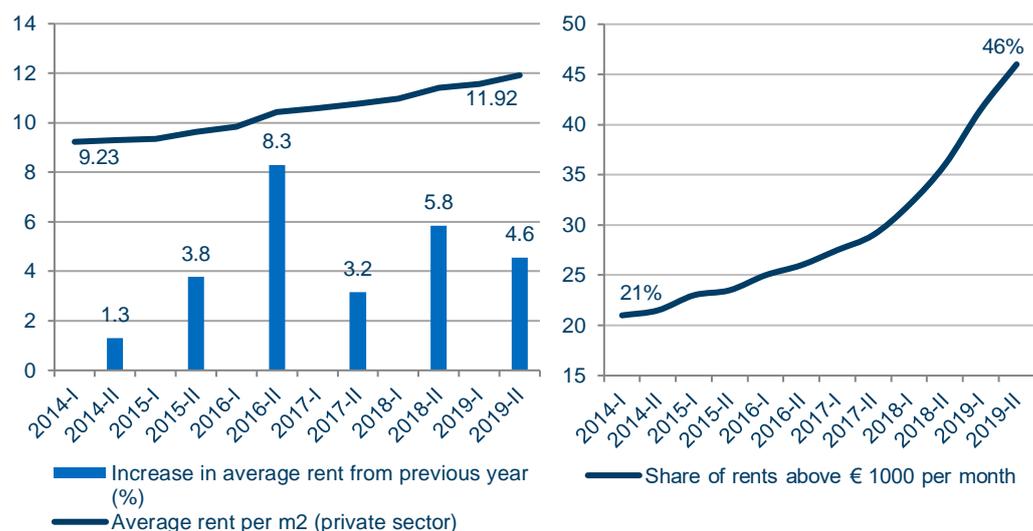
Social housing has generally a very long waiting period. In 2017, people searching for a social home were subscribed in the search system between 2 and 9 years on average before they get to apply for a home, and the time between application and assignment of a social home is between 1 and 6 years on average (again varying by geography).<sup>11</sup>

The private rental sector accounts for 12.8 percent of all Dutch housing stock. Also in this market, tightness has increased over the years, as displayed in figure 2.4. Price levels have increased by almost a third in 5 years time, and the relative weight has transferred from the medium priced segment (rent € 720 – € 1,000 per month) to the expensive segment (over € 1,000 per month). Currently, almost half of the private rental market is made up of expensive homes. A driving force behind this development is the increasing number of people that cannot afford owner-occupied housing and are forced into the private rental market.

<sup>10</sup> Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2020), *Staat van de Woningmarkt Jaarrapportage 2020*.

<sup>11</sup> RIGO Research en Advies (2019), *Stand van de woonruimteverdeling. Wachtlijden en verdeling in de praktijk*.

**Figure 2.8: Average rent in the Dutch private rental sector and share of rents above € 1,000 per month**



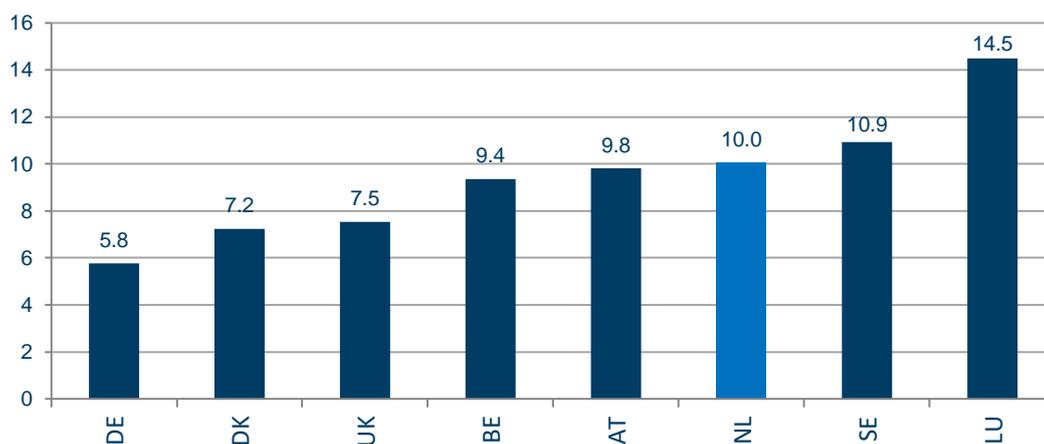
Source: NVM & VGM NL (2019), Markt Rapportage H2-2019: Transparantie in de verhuurmarkt.

The conclusion of this comparison is mainly that the Dutch rental market and owner-occupied market are together a system of interconnected vessels; both a very tight market that provides little backup for home seekers.

### Supply of housing

As a result of additions of newly-built houses to the housing stock and withdrawals of existing homes (usually demolition), the housing stock in the Netherlands has increased by 10 percent over the last decade (figure 2.9). This is more than most of the benchmark countries – bigger increases have only occurred in Sweden and Luxemburg.

**Figure 2.9: Relative increase in total housing stock between 2009 and 2019**

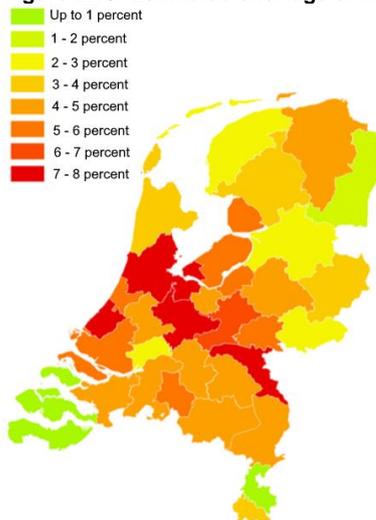


Source: Hypostat (2020)

Despite these increases, there is still a shortage of housing in the Netherlands. The shortage was estimated at 3.8 percent in 2019 and has risen to 4.2 percent (or 331,000 houses) in 2020.<sup>12</sup> This is due to the increase in the number of households, which was stronger than the number of newly-built houses. Due to the Corona crisis as well as the stagnating number of building permits and tightened environmental regulations related to nitrogen oxides emissions, national projections suggest a further increase of the shortage towards 5,2 on average in 2025 (figure 2.10). As a result, the pressure on the price level will remain – assuming no economic shocks will take place.

<sup>12</sup> Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2020), *Staat van de Woningmarkt Jaarrapportage 2020*.

**Figure 2.10: Estimated shortage of housing in the Netherlands per region, 2025**

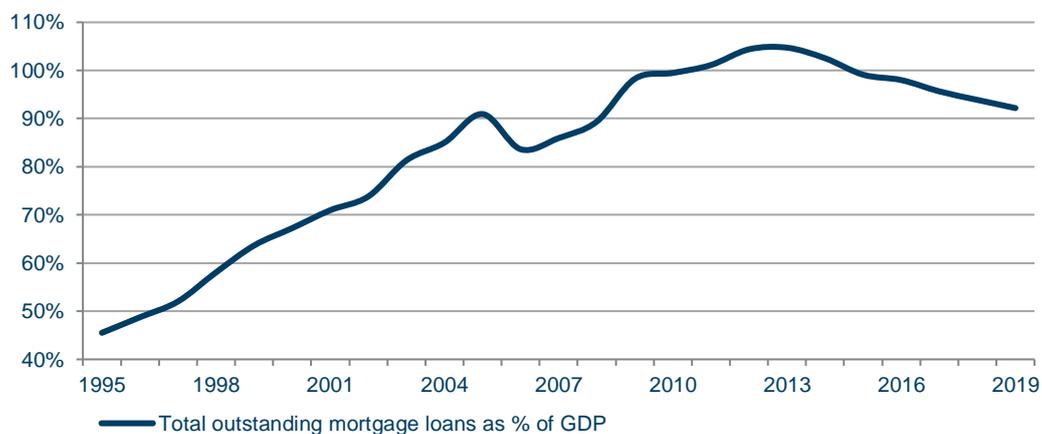


Source: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2020)

## 2.4 Mortgage developments

As explained in section 2.2, the system of mortgage interest tax deduction has stimulated owner-occupied housing in the Netherlands. Yet, the increased welfare, increased female labour participation and looser lending behaviour in the past may have had an even bigger impact. This is reflected in the demand for mortgages, which was at a relatively low level until the 1970s. Then demand started to increase, with extreme growth rates in the 1990s – a period of economic upturn in the Netherlands with more dual earners and more income as a result.

**Figure 2.11: Total outstanding mortgage loan value (% of GDP) in the Netherlands, per year**

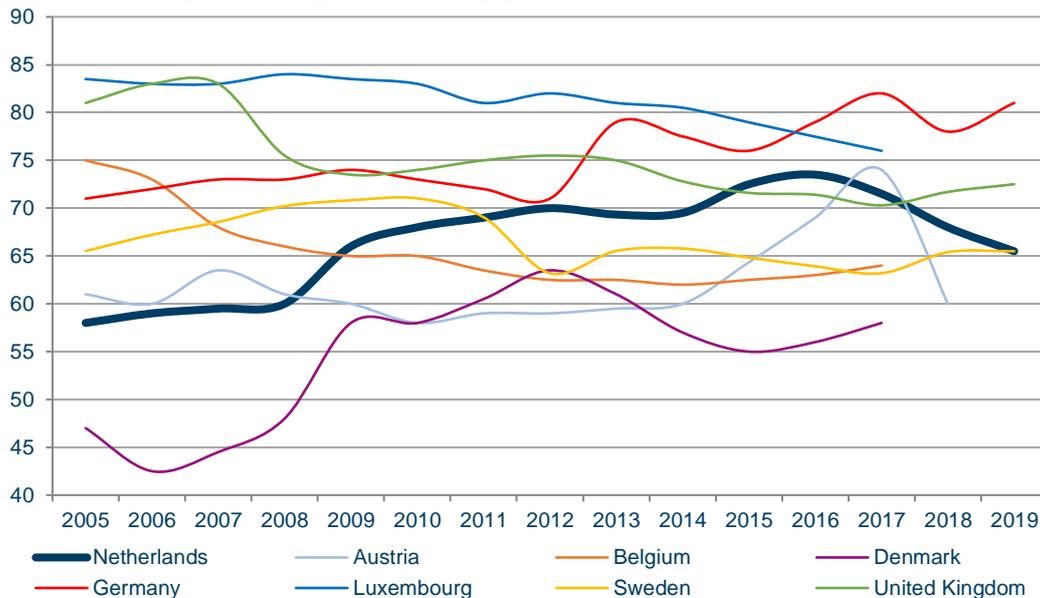


Source: CBS (2020)

The last figures from 2019 indicate a total outstanding mortgage debt of 746.900 billion euros. This is the highest absolute level to date, but a clear development is that the debt-to-GDP ratio (figure 2.11) has steadily decreased since 2014. The tightened mortgage lending regulations (including mandatory amortization and non-issuance of interest only mortgages) have contributed to the lower debt growth. A caveat to the Dutch mortgage debt figures is that savings mortgages represent a fair share of Dutch mortgages – these savings represent own capital and lower the real debt level.

Also the LTV at origination has declined clearly over the last years (figure 2.12), due to the introduction of the LTV cap since 2012 and excess values captures by existing home owners who moved to a different home.

**Figure 2.12: Average LTV at origination of mortgages in the Netherlands and other selected countries**

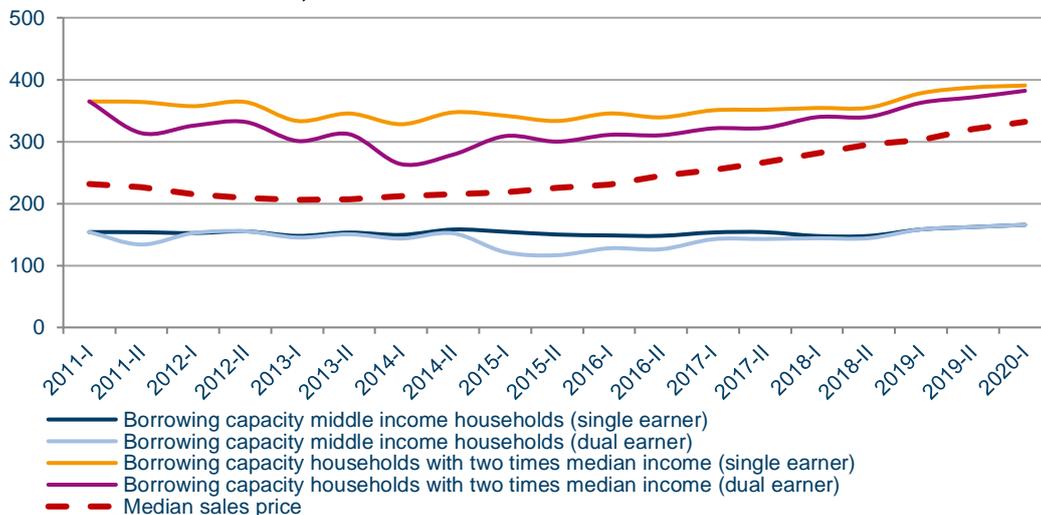


Sources: Technische Universiteit Delft (2020), Oesterreichische Nationalbank (2018), National Bank of Belgium (2020), Danmarks Nationalbank (2019), Hypostat (various editions), European Central Bank (2019), Banque centrale du Luxembourg (2019), Finansinspektionen (2019), UK Finance (2020)

Looking at the current situation based on figures from 2019 and 2020, it is clear that the number of mortgages requested has risen significantly. This relates to the historically low interest rate (as expressed in figure 2.5) which has sparked demand for new mortgages and also demand for refinancing of existing mortgages (to profit from lower interest rates).

In general, the affordability of the Dutch mortgage market is currently favourable due to the low interest rates, but at the same time it has gotten more difficult to finance a home due to the lending regulations. In the Netherlands, borrowing capacity is determined by the Loan-To-Income (LTI) which is legally specified each year for single earners and dual earners separately. Figure 2.13 shows the development of the borrowing capacity for both borrower types and different income levels. Borrowing capacity has not increased significantly over the years, while the median house price has moved gradually towards the borrowing capacity – indicating lowered ease of mortgage financing in real terms.

**Figure 2.13: Borrowing capacity for various borrower types, versus house price development (x € 1.000) in the Netherlands, 2008-2020**



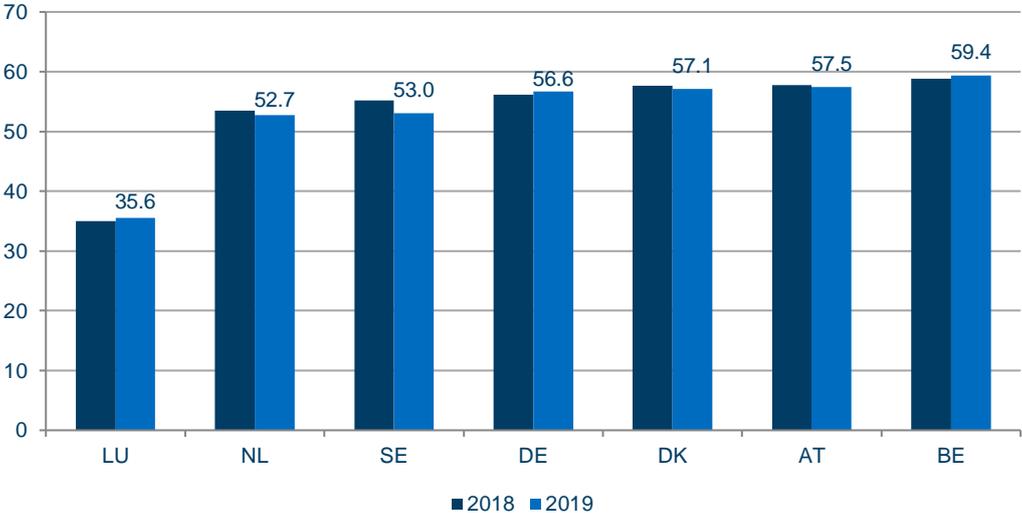
Source: Monitor koopwoningmarkt, Technische Universiteit Delft (2020)

## 2.5 Influence of social transfers and savings

The Netherlands has an extensive social welfare system and a relatively large tax wedge. This consists of amongst others social contributions and pension contributions. As a result, Dutch households enjoy a relatively generous pension (section 3.3.6), however it also means that Dutch median net income is lower than most of the benchmark countries. This also influences the possibilities to save. This is depicted in figure 2.14.

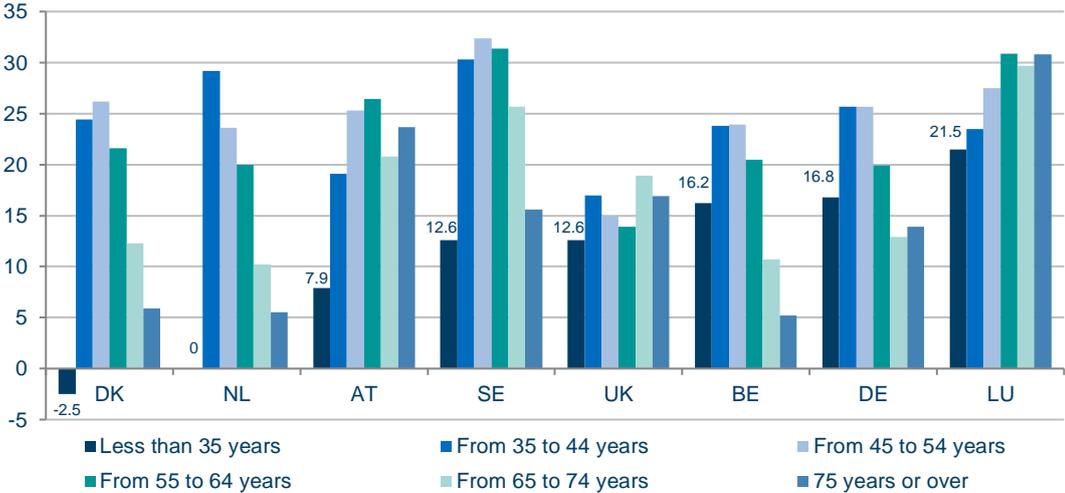
Alongside with this it can be observed that especially younger age groups are hit by this wedge. They have remarkably lower savings rates than older age groups, as indicated in figure 2.15. The fact that younger generations in the Netherlands have relatively more difficulties with saving substantial amounts of money to fund a part of their home purchase by themselves is one of the explanations for the relatively high LTVs at origination in the Netherlands, and something that is not easily altered.

**Figure 2.14: Median net household income as percentage of GDP per capita in the Netherlands and other selected countries, 2018/2019**



Source: Eurostat (2020)

**Figure 2.15: Median saving rate by age group in the Netherlands and other selected countries, 2015**



Source: Eurostat (2020)

## 2.6 Conclusion

Compared to the benchmark countries, the Dutch housing market is characterized by a tight market, with increased issues of accessibility. Aspiring first-time buyers that are still in the private rental market face high rents which makes saving for a mortgage difficult. And price levels in the market for owner-occupied housing have increased significantly and steadily since the economic crisis. As a result of the steep price increases, it has become difficult and sometimes impossible for many aspiring buyers to compensate for this by saving additionally.

Due to other reasons (mainly the wedge and pay-as-you-go tax system in the Netherlands) saving has already been harder for younger generations in the Netherlands compared to many other European countries. These facts together explain the historical dependency on a relatively higher LTV at origination compared to other countries.

## 3 Risk mitigation mechanisms

### 3.1 Introduction

This chapter explores risks in relation to the Dutch housing market. First, [section 3.2](#) presents our framework for studying risks related to housing markets. It uncovers the types of risks that exist.

Next, [section 3.3](#) looks at the underlying mechanisms and instruments present in the Netherlands to mitigate the risks presented. To better analyse the position of the Netherlands, we compare the country's risk profile as well as important outcome variables with a number of selected benchmark countries – as in the previous chapter. We do this in both [section 3.3](#) (risk mechanisms) and [section 3.4](#) (outcomes). Important outcome variables are amongst others: the current size and development of the number of households with arrears, the number of foreclosures and residual debts.

The chapter ends with [section 3.5](#), providing a synthesis and overarching conclusion on the risk profile.

### 3.2 Potential risks

#### 3.2.1 Types of risks and risk factors

##### Different types of risks

Risks related to housing markets can be divided into risks faced by home owners related to owning the home, and risks faced by banks related to their mortgage portfolio. A significant shock on the financial markets or within one of the main monetary financial institutions can lead to a chain reaction in the whole financial sector and then spill over to the real economy.

##### Risk factors

Previously mentioned types of risks are driven by what is called the 'vulnerability of the residential real estate sector' by the ECB (European Central Bank) and ESRB (European Systemic Risk Board). They developed a framework<sup>13</sup> in which three categories of vulnerability are distinguished:

- Collateral stretch: vulnerabilities related to the development of the housing market, for example by the development of real estate value;
- Household stretch: vulnerabilities related to the payment capacity of credit takers;
- Banking stretch: vulnerabilities related to the size and nature of loans provided by banks.

Based on additional literature<sup>14</sup> we have refined the above mentioned three categories. For it is important to mention that there are more risk factors, and that there is a distinction between risk factors at macro level and risk factors at micro level. Therefore, we distinguish the following categories of risk factors, gradually moving from the macro to the micro level in terms of impact:

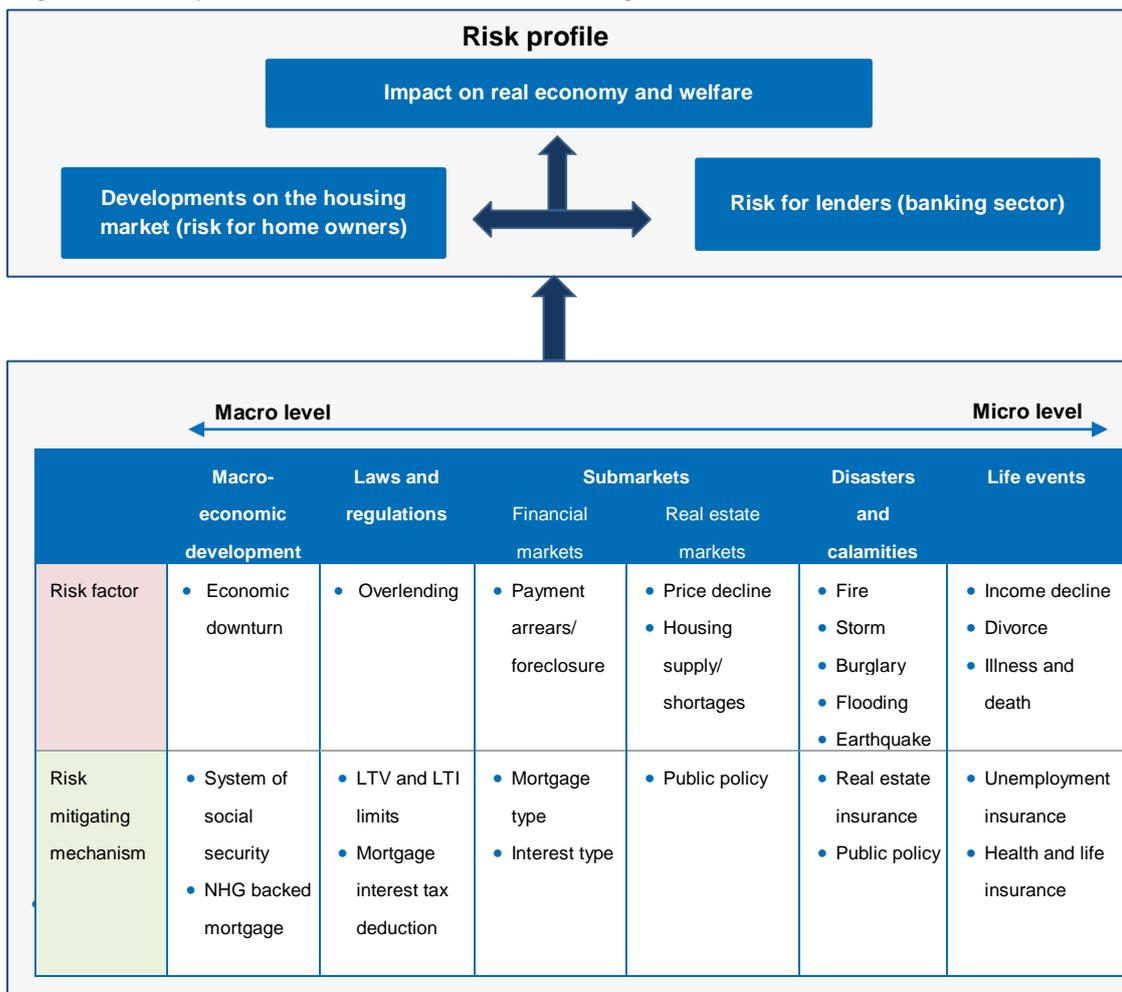
<sup>13</sup> See ESRB (2016), *Vulnerabilities in the EU residential real estate sector*.

<sup>14</sup> Amongst others: Nederlandse Vereniging van Banken (2014), *The Dutch Mortgage Market*; Theebe, M.A.J. (2002), *Housing Market Risks*. Amsterdam: UvA; Wilhelmsson, M., Zhao, J. (2018), *Risk Assessment of Housing Market Segments: The Lender's Perspective*. Journal of Risk and Financial Management, 11 (69); Banai, Á., Vágó, N. (2018), *The effect of house prices on bank risk: empirical evidence from Hungary*. NBP Working Paper No. 289.

- Macro-economic development;
- Laws and regulations;
- Developments on residential real estate markets;
- Developments on financial markets (mostly banking);
- Disasters and calamities;
- Position of home owners (life events).

In the next figure, these different risk types and risk factors are displayed schematically.

**Figure 3.1: Conceptual framework of risks related to housing markets**



### 3.3 Risk mitigation mechanisms

The Netherlands has an extensive set of mechanisms that act as risk mitigators for risks on the housing market. In this section, we explain the mechanisms that belong to each of the risks identified in the previous section. The order of explanation follows that of the above framework, i.e. from micro level to macro level.

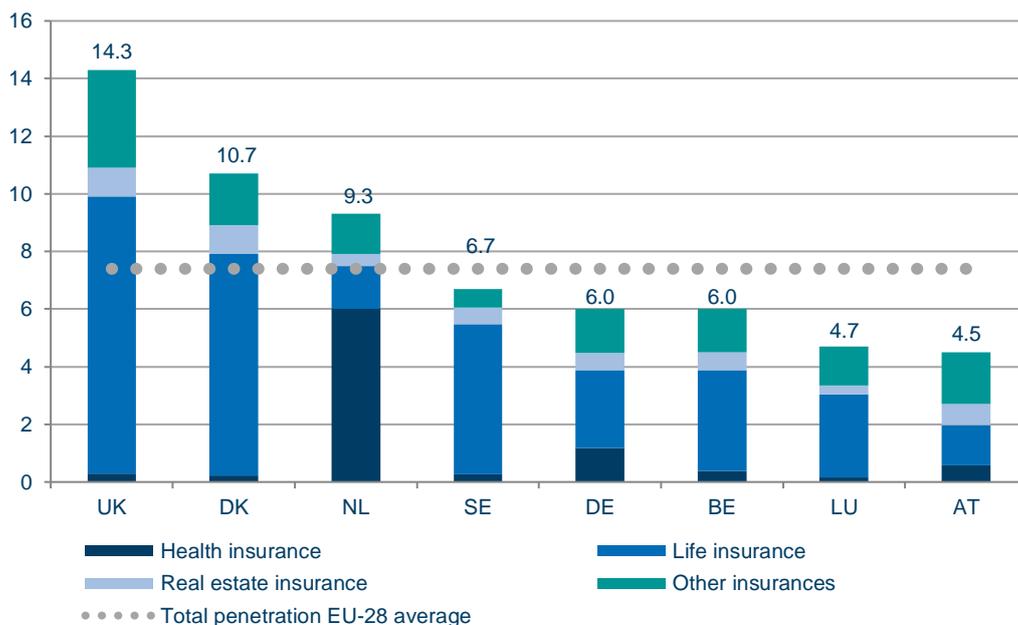
### 3.3.1 Life events

#### Health and life insurance

A significant payment risk is introduced when the husband or spouse deceases. Many mortgages are issued based on the main income earner and the partner. Death of one of these two often results in payment difficulties. Taking out a life insurance mitigates this risk. The life insurance returns an amount of capital in case of being widowed. This capital ensures that the widow will be able to sustain the mortgage payments afterwards and therefore avoid a foreclosure. It should be noted that such an insurance is not mandatory in the Netherlands anymore, but it still is part of the mortgage advisory consultation.

Health problems offer a similar payment risk in case the deterioration of health status results in disability to work. As figure 3.2 shows, people in the Netherlands are very well insured against health problems – taking a number one position in terms of insurance penetration (premiums as percentage of GDP). The graph furthermore shows that the overall insurance penetration in the Netherlands is above average, and among the top rated countries in Europe.

**Figure 3.2: Insurance penetration (premiums as % of GDP) in the Netherlands and other selected countries, 2018**



Source: European Insurance Industry Database (2020)

#### Unemployment insurance

Comparable to health and life insurance, home owners also have the possibility to take out an unemployment insurance, in case of permanent disability or similar life events. Although an extensive social protection system exists in the Netherlands (also see section 3.3.6), but not everyone is eligible for these benefits or full income loss is not covered in all situations. Individual unemployment insurances can be a solution to this, though they usually come at a significant premium which make them less accessible for lower income groups. Unemployment insurances make a big part of the category 'Other' in figure 3.2, indicating that also in this regard the Dutch are roughly equally well insured as inhabitants of the benchmark countries.

### 3.3.2 Disasters and calamities

#### Real estate insurance

The real estate insurance is an important insurance against fires, storms and burglary. Most of these insurances apply a deductible excess, but it is usually also possible to insure the total risk for a higher premium. A home insurance is often mandatory when taking out a mortgage.

Generally, real estate insurances do not cover damage caused by longer running natural events. Examples of such events are subsidence or soil settlement (due to drainage or drought), causing damage to foundations.

#### Public policy

Besides individual insurances, also public policy aimed at preventing or mitigating risks induced by disasters and calamities should be mentioned. The Netherlands has a long history of preventing flood damage with its comprehensive system of hydraulic works and water management. This system is well maintained and adapted when changing conditions ask for this.

There are also measures to mitigate the earthquake damage caused by oil and gas extraction in the province of Groningen (in the north of the Netherlands). For example, there is a measure that provides financial support for making newly-built homes earthquake proof. Furthermore, there have been multiple measures for existing home owners whose residential real estate value has declined due to oil and gas extraction induced earthquakes. The Dutch government has decided to phase out all oil and gas extraction in Groningen, to minimise the negative externalities caused as quickly as possible.

#### COVID-19: a new resilience test

Of recent relevance is the wide impact caused by COVID-19 on the global economy, including the Dutch economy. Due to the efforts made to battle the Coronavirus, significant parts of the Dutch economy have slowed down or have even been shut down. To prevent excessive damage to households' incomes and eventually to the national economy, the national government has made financial support schemes to support employees and employers. Almost half of all Dutch enterprises had to apply for financial support. Up to October 2020, the Dutch government had invested a total of over € 23.094 billion euros worth of financial support schemes<sup>15</sup>, which has helped many households to keep their incomes and keep paying their mortgages.

### 3.3.3 Financial markets

#### Mortgage type

The fiscal treatment of owner-occupied housing in the Netherlands has sparked the emergence of various mortgage products aimed at maximising the benefits of the mortgage interest tax deduction possibilities – under the circumstances of a sufficiently high market interest rate. Examples of such products include the savings deposit mortgage and the interest-only mortgage. With such mortgages, the interest tax deduction is maximal because interest is being paid over the full loan value and amortisation occurs only at the end of the mortgage duration.

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<sup>15</sup> Centraal Bureau voor de Statistiek (2020), *Gebruik van steunmaatregelen corona per 30 september*. Available from: [https://www.csb.nl/-/media/\\_excel/2020/46/financiele-regelingen-corona-13-november-2020.xlsx](https://www.csb.nl/-/media/_excel/2020/46/financiele-regelingen-corona-13-november-2020.xlsx)

As a result of policy changes per 1 January 2013, the mortgage regulations relating to interest tax deduction have been changed drastically. As part of these changes, newly issued mortgages can be only based on linear amortisation or annuities (or a combination) to benefit from interest tax. Compared to the traditional interest-only and savings deposit mortgages, mortgages in the new model have an LTV that quickly drops from 100 percent at origination to below 90 percent within five years on average.<sup>16</sup> And as could be seen in figure 2.11, the Dutch mortgage debt burden has been declining since 2013.

### Interest rate type

A mortgage is usually issued for a period of 30 years. Due to this relatively long period in which households commit themselves to financial obligations there are various uncertainties including an increasing interest rate which can cause payment problems. By choosing a long term fixed interest rate, a household has greater degree of certainty about the level of monthly expenses and lower risk of payment problems in case of an increasing interest rate. This comes at the cost of paying a generally slightly higher interest rate compared to mortgages with a variable interest rate.

The following table shows to which extent long term fixed interest rates are popular in the selected group of European countries. In the Netherlands, a medium term (5-10 years) fixed interest rate is chosen for 43 percent of the newly issued mortgages and in almost a third of the new issuances a fixed period of more than 10 years is chosen. Only in Belgium, Denmark and Germany this percentage is higher, indicating preference for more certainty in the long term.

**Table 3.1: Mortgage issuances by fixed interest period in 2019**

Country	Variable rate (up to 1Y initial rate fixation)	Short-term fixed (1Y-5Y initial rate fixation)	Medium-term fixed (5Y-10Y initial rate fixation)	Long-term fixed (over 10Y initial rate fixation)
Netherlands	19%	9%	43%	29%
Austria	44%	56%	-	-
Belgium	3%	2%	21%	74%
Denmark	10%	15%	1%	74%
Germany	11%	8%	32%	49%
Luxembourg	39%	61%	-	-
Sweden	59%	31%	10%	-
United Kingdom	7%	91%	2%	-

Source: Hypostat (2020)

### Outstanding debts

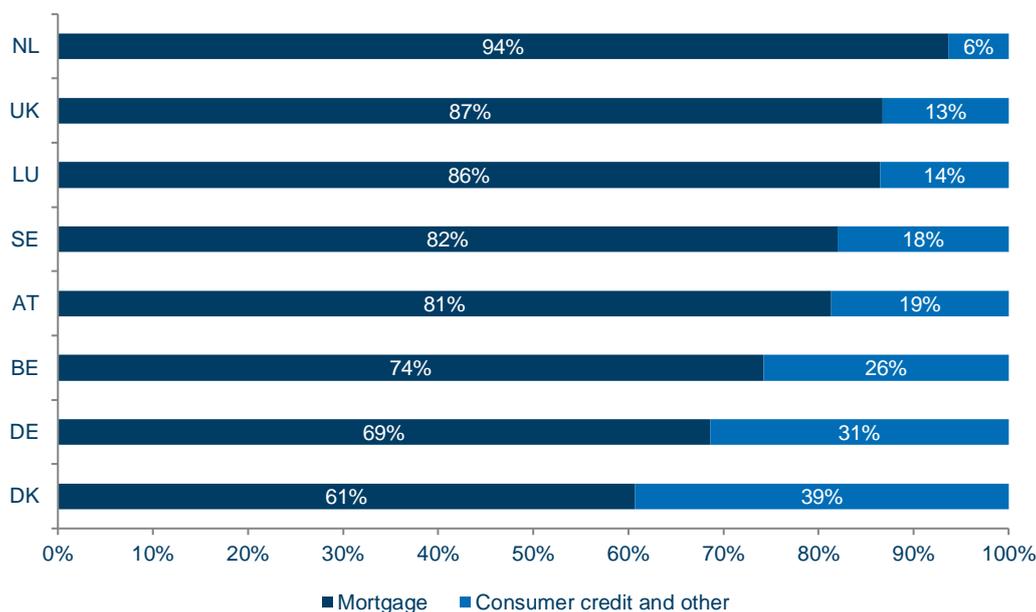
The risk of over-indebtedness is not only determined by a household's outstanding mortgage debt, but by the sum of all outstanding debts that the household has. Yet, many financial institutions do not have a good overview of the household's total debt position. From this perspective, a generic LTV limit at origination will not be all-powerful. Instead, the extent of other debts should be taken into account as well.

To further illustrate this, figure 3.3 shows that mortgages constitute the biggest type of loan in all considered countries, but that these are being combined with other types of loans – consumer credit being the most prominent, but also study loans fall into the category 'other'. The degree to which a mortgage is being combined with other loan types does differ per country. At the extreme is Denmark, where only 61 percent of the outstanding loans exists of mortgages and the remaining

<sup>16</sup> Hoekstra, W.B. (2020), *Beantwoording feitelijke vragen naar aanleiding van maatregel DNB op de huizenmarkt*. Policy brief to the Dutch parliament, 13 februari 2020.

39 percent is made up of consumer credit and other loans. In the Netherlands the situation is the opposite: 94 percent consists of mortgages and only 6 percent consists of credit and other loans. This comparison shows that the Netherlands clearly has a relatively securitised debt portfolio.

**Figure 3.3: Outstanding loans to households, by loan type**



Sources: De Nederlandsche Bank (2020), Bank of England (2019), Banque centrale du Luxembourg (2020), Finansinspektionen (2019), Oesterreichische Nationalbank (2020), National Bank of Belgium (2020), Deutsche Bundesbank (2020), Danmarks Nationalbank (2020)

### 3.3.4 Real estate markets

#### Determinants of residential real estate prices

Residential real estate prices are one of the most important risk drivers in the LTV ratio. Volatility in price levels can either lower the risk level or increase it. In the latter case, dropping residential real estate prices result in an increasing LTV and therefore higher risk of loss for the lender, in case of a foreclosure. Dutch housing prices have shown a sustained increase since approximately 2013, as was indicated earlier in figure 2.7 and figure 2.12. It is not expected that this trend will reverse soon. This can be explained by looking at the most important determinants of residential real estate prices in the Netherlands. Based on hedonic pricing analysis of Dutch real estate, it can be concluded that ranked from bigger to lower contribution, the most important determinants of Dutch residential real estate include<sup>17</sup>:

- **Mortgage interest rate:** a lower interest rate means that borrowing is cheaper, which increases demand for owner-occupied housing and therefore increases price levels;
- **Lending standards:** the tightened lending regulations in the Netherlands have dampened price increases;
- **Mortgage interest tax deduction:** regardless of interpreting this as a subsidy on housing prices or reduction of the net interest rate, it results in higher demand for housing and thus higher prices;
- **Demographic developments:** an increasing population (reflected in increasing number of households) leads to more demand for housing and thus higher price levels;

<sup>17</sup> Dam, F. van & Eskinasi, M. (2013), *Woningprijzen: bepalende factoren en actoren Een overzicht van bevindingen uit studies van het PBL*. Den Haag: Planbureau voor de Leefomgeving; Visser, P. & Dam, F. van (2006), *De prijs van de plek. Woonomgeving en woningprijs*. Den Haag: Ruimtelijk Planbureau.

- **Developments in the housing stock:** when the production of newly-built housing cannot keep up with increasing demand, this acts as an extra boost to residential real estate prices;
- **Characteristics of individual homes:** characteristics such as a higher surface, number of rooms, lower energy bill et cetera will (ceteris paribus) lead to a higher price;
- **Attractiveness of the area:** price levels are significantly higher in area that people find attractive. This experienced attractiveness can be related to social aspects (socio-economic status of the neighbourhood), functional aspects (number of shops and other amenities within the vicinity) and physical aspects (proximity to forests and water).

#### **Determinant that will likely increase the LTV**

The current interest rate on mortgages is at a historically low level (cf. figure 2.5). It is rather unlikely that this rate will decrease significantly. A status quo (depending on the ECB's policy) or an increase are more likely; in case of an increase this will increase LTV levels due to lower residential real estate prices. LTV levels could also increase due to lower residential real estate prices when the COVID-19 crisis converts to an economic crisis, but this is subject to great uncertainty.

#### **Determinants that will likely stabilise or decrease the LTV**

All other determinants are likely to have a stabilising or lowering effect on the LTV. Demographic growth and lowering average household sizes in the Netherlands will remain acting as a pressure on residential real estate prices. The Dutch Central Statistics Bureau (CBS) expects that the Dutch population will grow by almost 15 percent towards 20 million inhabitants in 2063, from 17.4 million in 2020.<sup>18</sup> The number of households will grow by over 10 percent as a result.

Housing supply (i.e. production of newly-built housing) will likely be unable to keep up with this trend, driving up price levels further. As figure 2.10 shows, most regions will face a shortage of residential real estate between 3 and 8 percent in 2025. With constantly rising construction costs, it is unlikely that this trend will be countered. This will likely contribute to a lower LTV because of increasing real estate values driven by scarcity.

#### **Rental market as backup option?**

In some of the benchmark countries (e.g. Germany, Austria, Sweden) the rental market has a relatively higher share in the housing stock than in the Netherlands. As explained in section 2.2, the Dutch rental market consists of social housing and private housing. People that can afford owner-occupied housing in the Netherlands are generally not eligible for social housing based on their income level. What remains is the private rental sector, which has become increasingly expensive as depicted in figure 2.4. Since almost half of all private rents have reached a monthly rent of more than € 1,000 per month, the private rental market is becoming as expensive – and sometimes more expensive – compared to owner-occupied housing. And since renting a home does not lead to capital accumulation, the conclusion for many home owners is that they will be even worse off in the private rental sector.

As a result, home owners with a mortgage will maximise their efforts to pay their mortgage every month and avoid foreclosure. This can be seen in figure 3.10 in section 3.4, which clearly shows the low non-performing loans rates in the Netherlands compared to the benchmark countries.

<sup>18</sup> Centraal Bureau voor de Statistiek (2020), *Prognose: Bevolking blijft komende 50 jaar groeien*. <https://www.cbs.nl/nl-nl/nieuws/2020/51/prognose-bevolking-blijft-komende-50-jaar-groeien>.

#### Mortgage interest tax deduction

Dutch home owners with a mortgage can deduct several costs related to the mortgage from their income tax. These costs include interest paid on the mortgage loan, formalisation costs and periodic payments for a right of leasehold or surface right. In 2014 it was estimated that Dutch homeowners receive on average forty percent of their paid interest back as a tax benefit.<sup>19</sup> The maximum tax benefit has been reduced since 2018 (to 49,5%) and will be gradually reduced towards 37% in 2023. Still, the mortgage interest tax deduction system can be seen as an effective way to lower the net mortgage costs for households and thus lower the risk of defaults, foreclosures and associated losses for lenders.

#### Legal terms for mortgages

During the last decade, the Dutch government and financial sector incorporated several regulations for mortgages to lower the systemic risk. The most important ones are:

- Introduction of an **LTV limit**. Starting in 2012, the ceiling was lowered each year by one percentage point towards 100% in 2018. This cap on the LTV has resulted in lowering LTV rates at origination (see figure 2.12 that was already presented in chapter two). Currently the Dutch average is at 65 percent, which is even below some of the benchmark countries including Germany and the UK, and it is at the same level as in Sweden. This is due to a high level of refinanced existing mortgages. The average LTV at origination of first-time buyers is 88 around 88 percent.<sup>20</sup> More interestingly, the Dutch overall figure is even below the European average, which was at 81 percent in 2018.<sup>21</sup> Also, the share of relatively risky mortgages (LTV >90%) is currently just above 18 percent, which is higher than in the UK and Sweden, but lower than in Belgium and Luxembourg. Data on the other benchmark countries is not available.
- To be eligible for mortgage interest tax deduction, the **maximum amortisation period** has been capped at 30 years and on condition that repayments are done at least on annuity basis. Historically the mortgage interest tax deduction had incentivised interest-only mortgages due to providing the maximum possible tax benefit (and as such I-O mortgages became the majority of all mortgage issued), but the side effect became a rapidly increasing mortgage debt. The new regulations appear to be effective, since IO-mortgages had a market share in new issuances of only 10 percent in 2019.<sup>22</sup> And as a result, the mortgage debt to GDP ratio in the Netherlands has been declining since 2012.
- Next to the LTV cap, the Netherlands has very detailed **Loan-to-Income (LTI) limits**, as specified in the *Tijdelijke regeling hypotheek krediet* (2012). Although some countries have LTI regulations as well<sup>23</sup>, but the Netherlands takes a unique position in Europe with its detailed LTI regulations. Each year, the Dutch government calibrates the maximum LTI ratio for borrowers. These LTI lending norms are calculated by the government together with NIBUD (the Dutch National Institute for Budget Advice) based on multiple parameters, of which the following two are the most important:
  - Means-test income based on the borrower's income over a longer period of time, to ensure stability of income. For dual earner households, the highest of the two incomes is taken as reference point, plus 90 percent of the second income.

<sup>19</sup> NVB (2014), *The Dutch Mortgage Market*.

<sup>20</sup> Hoekstra, W.B. (2020), *Beantwoording feitelijke vragen naar aanleiding van maatregel DNB op de huizenmarkt*. Policy brief to the Dutch parliament, 13 februari 2020.

<sup>21</sup> Lang, J.H., Pirovano, M., Rusnák, M., Schwarz, C. (2020), *Trends in residential real estate lending standards and implications for financial stability*. In: European Central Bank, Financial Stability Review, May 2020.

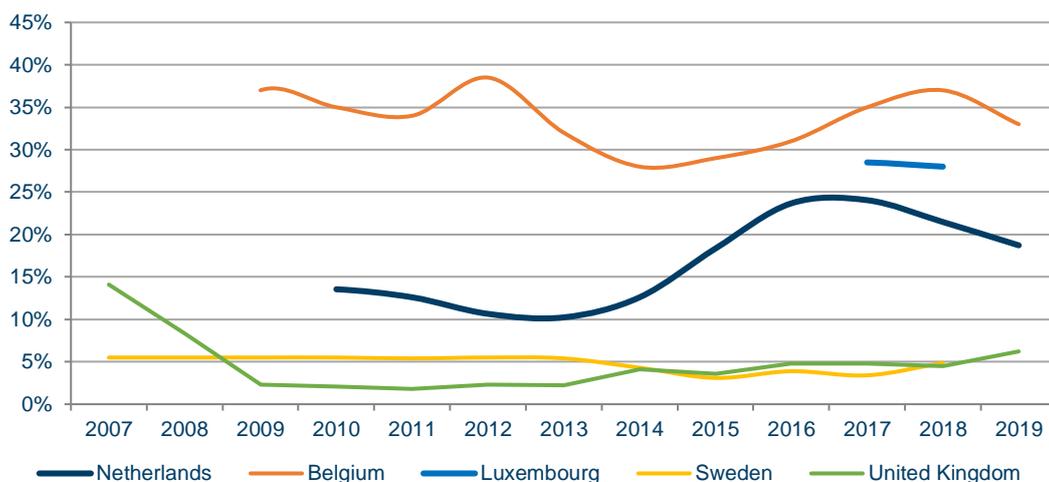
<sup>22</sup> Hypotheek Data Netwerk (2020), *Jaaroverzicht 2019*. Available at: <https://www.hdn.nl/jaaroverzicht-2019>

<sup>23</sup> In the United Kingdom, mortgages with an LTI higher than 4.5 can comprise at most 15 percent of all new issuances by MFIs since 2014, and in Denmark there is a regulation for borrowers with an LTI above 4.0 and an LTV above 60% forcing the interest rate to be initially fixed for a minimum of 5 years and limits on deferral of amortisation.

- Market interest levels. In case of a >10-year fixed interest rate, the offered debit interest rate is used; in the other cases a debit interest rate of 5% is used, but this is calibrated every quarter. It is important to note that the maximum LTI rate is not linearly dependent on the market interest rate: the limits are deliberately tighter in times of low interest rates than in times of higher interest rates. This is to protect households from overlending. Figure 3.5 displays the working of the LTI lending norms in the Netherlands.

Even though data on average LTI rates across the benchmark countries are far from complete, it appears that the Netherlands has a relatively low average LTI at origination, being 3.6 on average in 2019. In comparison, LTI rates in Sweden and the United Kingdom were 4.2 and 3.88 in the same year, respectively.<sup>24</sup> As a result, the Netherlands belongs to the group of countries with the lowest housing cost overburden rates in Europe (figure 3.6).

**Figure 3.4: Share of mortgages issued with LTV >90% in the Netherlands and other selected countries**

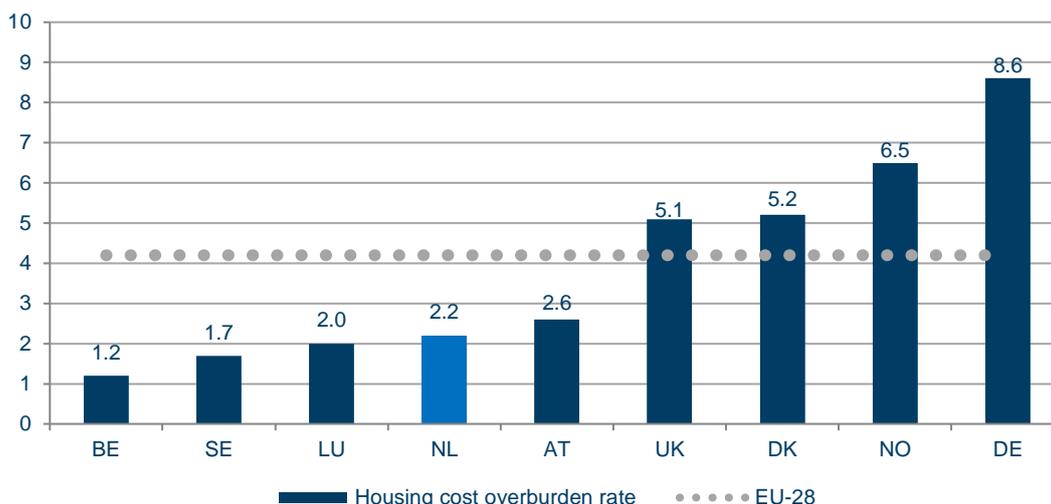


Sources: Technische Universiteit Delft (2020), National Bank of Belgium (2020), Banque centrale du Luxembourg (2019), Finansinspektionen (2019), UK Finance (2020)

Basically, the above figure shows that the Dutch debt is not excessively risky, especially when regarded in combination with both the obligation for first-time buyers (since 2013) to amortise within 30 years and the covered nature of Dutch debt (see figure 3.3) – contrary to many other countries where high shares of consumer credit are observed.

<sup>24</sup> Technische Universiteit Delft (2020), *Monitor Koopwoningmarkt*; Bank of England (2020), *Housing tools: 1. LTI and LTV ratios*; Finansinspektionen (2020), *The Swedish Mortgage Market*.

**Figure 3.5: Housing cost overburden rate in the Netherlands and other selected countries, 2018**



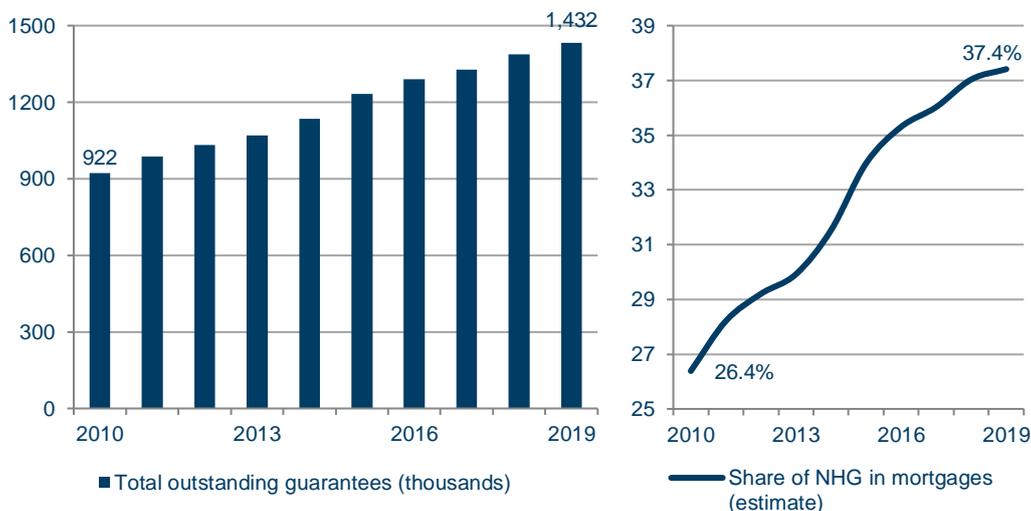
Note: the housing cost overburden rate is defined as the proportion of households that spend more than 40% of their disposable income on housing cost. The above HCOR includes only households with a mortgage. Source: Eurostat (2020).

### Collective insurance

The last type of regulation in the Netherlands that requires particular attention is the existence of collective insurance. The Netherlands has a system of collective insurance for mortgages, known as the NHG: *Nationale Hypotheek Garantie* (Dutch Mortgage Guarantee Scheme). The NHG is available for mortgages with a loan value up to the national mean of residential real estate prices (€ 325,000 in 2021). During the issuance of a mortgage with NHG, the borrower pays a one-off commission to the NHG fund.

In case of payment problems related to either divorce, disability or unemployment, the borrower can rely upon assistance by NHG. In some cases, this entails job coaching and reskilling assistance to avoid foreclosure. When a foreclosure cannot be prevented, NHG will pay back the loss to the lender. This loss amount will turn into a debt between the borrower and NHG. If the borrower meets specified criteria (e.g. the payment problems could not have been prevented, and the borrower has put maximum effort in minimising the loss), NHG will write off the debt. NHG also offers the opportunity to finance the loss debt into a new mortgage. Figure 3.6 shows that the number of outstanding guarantees is increasing each year, and that an increasing share of mortgages includes NHG backing.

**Figure 3.6: Total outstanding NHG guarantees and NHG market share**



Source: Nationale Hypotheek Garantie (2020); CBS (2020); Hypostat (2020); calculations by Ecorys

The NHG provides a unique mechanism that significantly reduces the risk of the Dutch mortgage portfolio. In fact, there is no directly comparable mechanism in other European countries. Only France has a somewhat comparable system, with a mortgage insurance (covering divorce, disability or unemployment) that is mandatory for each new mortgage. The premium is around 0.5 percent of the loan. Yet, the insurance does not support the borrower to such a great extent as in the Netherlands.

### 3.3.6 System of social security

The risks induced by the business cycle are well covered by the Dutch social security system, which is widely regarded as one of the best in the world, especially the pension system.

#### Pensions

The Dutch pension system consists of three pillars. In the first place, every Dutch citizen aged 65 years and over is entitled to a basic state pension, financed under the '*Algemene Ouderdomswet*' (AOW) law. This works by a pay-as-you-go principle: all employed persons in the Netherlands fund the AOW pension through their income tax. The AOW pension differs per person (based on the number of years lived in the Netherlands) but (as of 1 July 2020) the maximum gross pension amounts to € 1,270.67 per months for single-person households and € 870.03 per month per person for couples.<sup>25</sup> On average, a person aged 65 years and over received an AOW pension of

€ 1,152 per month in 2017.<sup>26</sup> Some countries have comparable figures (€ 1,281 per month on average in Belgium) but some have lower figures, such as the UK (£ 780 per month<sup>27</sup>).

What the Dutch system excels in, is however its second pillar. This consists of savings in pension funds. Employees as well as employers both contribute to pensions by saving part of the employee's income which is transferred into a collective pension fund. As figure 3.9 convincingly shows, the Netherlands has by far the biggest pension reserves in the whole European Union, with an asset value of 235 percent of the national GDP. This pension system offers income security and prevents payment arrears. On the other hand, this system reduces the possibilities to save and increases the necessity of a higher mortgage.

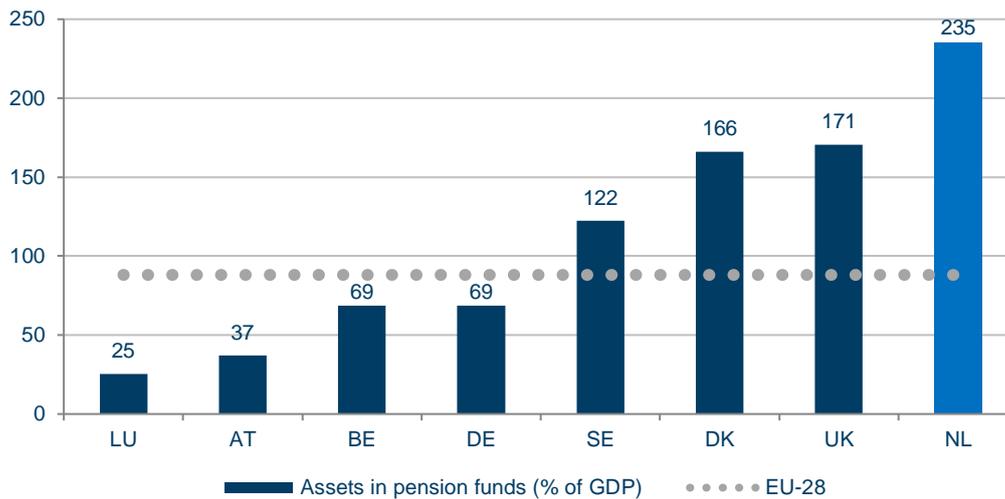
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<sup>25</sup> Sociale Verzekeringsbank (2020), *AOW-bedragen vanaf 1 juli 2020*. <https://www.svb.nl/nl/aow/bedragen-aow/aow-bedragen>

<sup>26</sup> Centraal Bureau voor de Statistiek (2019), *Welvaart van gepensioneerden*. <https://www.cbs.nl/nl-nl/achtergrond/2019/27/welvaart-van-gepensioneerden>

<sup>27</sup> Office for National Statistics UK (2020), *Pensioners' incomes series: financial year 2018 to 2019*.

**Figure 3.7: Assets in pension funds in the Netherlands and other selected countries, in % of GDP, 2019**



Source: Eurostat (2020)

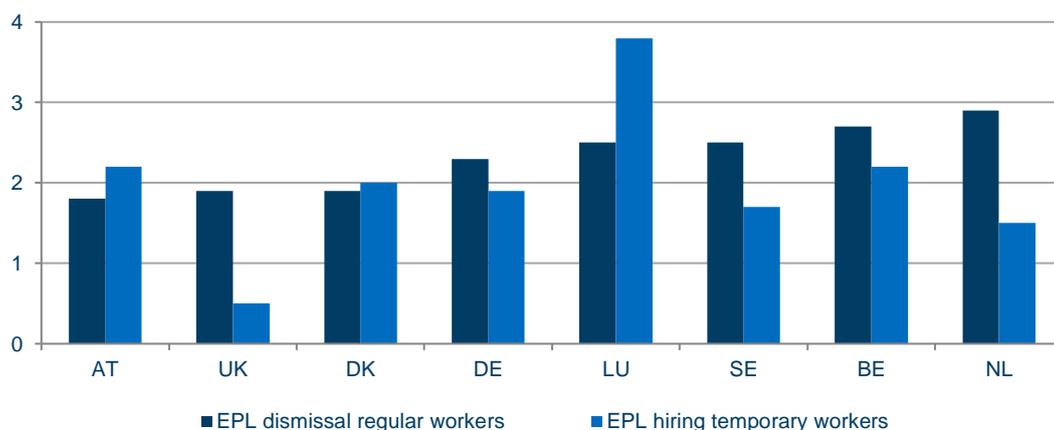
Lastly, the third pillar consists of additional, private savings meant for the future old-age income. The combination of these three pillars makes that the Dutch pension system was in 2020 declared again as the best in the world in a very thorough benchmark.<sup>28</sup> A large majority of the Dutch population has no risk of a ‘pension gap’ at old age and thus does not need to rely on residential real estate as source of income at old age.

### Employment protection and unemployment benefits

Income security is relatively high in the Netherlands. In the first place, Dutch employment protection (as measured in the OECD’s employment protection legislation index) for workers with a fixed contract ranks highest among the benchmark countries, as well as generally in Europe (figure 3.8).

In the second place, unemployment benefits in the Netherlands are rather generous. Table 3.2 compares the Dutch system with those in the benchmark countries, showing that both the length and size of unemployment benefits is favourable in the Netherlands, securing part of the mortgage payment risk.

**Figure 3.8: Employment protection legislation index in the Netherlands and other selected countries, 2019**



Source: OECD (2020), Eurostat (2020)

<sup>28</sup> Mercer CFA Institute (2020), *Global Pension Index*. Edition 2020.

**Table 3.2: Description of unemployment benefits in the Netherlands and other selected countries**

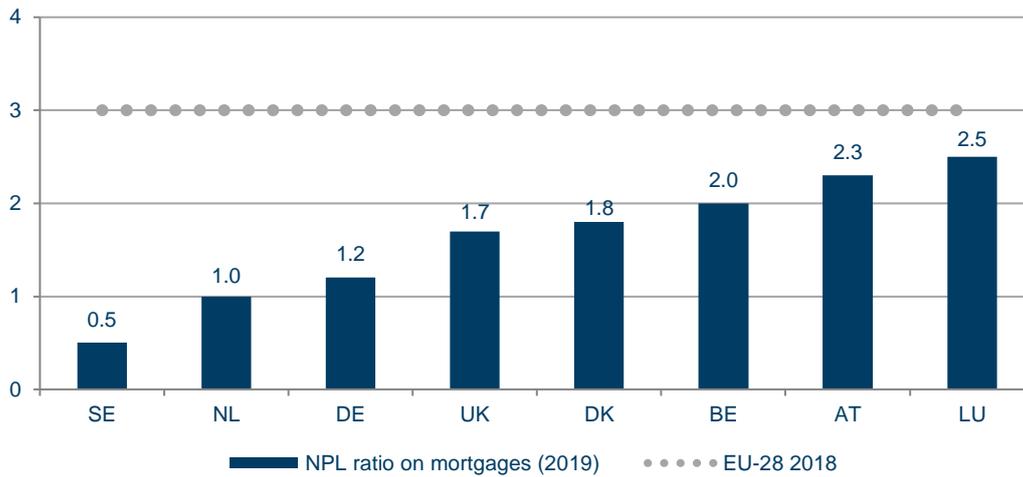
Country	Eligible duration of benefits	Eligible amount of benefits
Netherlands	At least three months. In case of having worked at least four years in the past five years: one extra month for every year worked. Maximum duration is 24 months.	First two months: 75% of previous income; After two months: 70% of previous income.
Austria	At least twenty weeks, and increases with age and participation in a follow-up training or retraining measure.	At least 55% of previous income in second last calendar year, and up to 80% in case of entitlement to family supplements.
Belgium	Unlimited, as long as concrete attempts are made to find work	Differs per family situation and time worked, but in general: First three months: 65% of last wage; After three months: 60% of last wage.
Denmark	Maximum duration is 24 months within a maximum period of three years.	Differs per hours worked, education and age above 25. The highest possible benefit is € 2.564 per month. Requirements are: have been a member of a recognised unemployment insurance fund for at least 1 year; and have been registered at jobcentre (the Public Employment Service).
Germany	Maximum duration is 12 months (up to 24 months for older people).	Families: 67% of previous net wage; Others: 60% of previous net wage. This is then reduced by the legal salary deductions for employees.
Luxembourg	Equal to the duration of work, carried out over the 12 months preceding the date of registration as a jobseeker. Maximum duration is 12 months per 24 months (to be extended under certain conditions (age, ability to work or insurance period)).	80% of the gross salary of the last three months prior to becoming unemployed, or 85% for families.
Sweden	Maximum duration is 300 days. In this period, maximally 5 days per week are paid out.	The basic remuneration is approximately € 36 per day. This is complemented by a percentage of last wage earned: 80% of last wage (max. € 90 per day) during first 200 days, then 70%.
UK	Maximum duration is 182 days.	Age 18-25 years: approximately € 63 per day Age 25 and over: approximately € 80 per day

Source: European Commission (2020)

### 3.4 Outcome

The result of the thorough Dutch mortgage risk mitigation system is a very low probability of payment problems for households and thus low risk for financial institutions. Statistics show that Dutch households are among the best performing within Europe – and definitely within the benchmark group – in terms of arrears. Only Sweden had a better score on the non-performing loan (NPL) ratio for mortgages, but still 1.0 percent is an exceptionally low score.

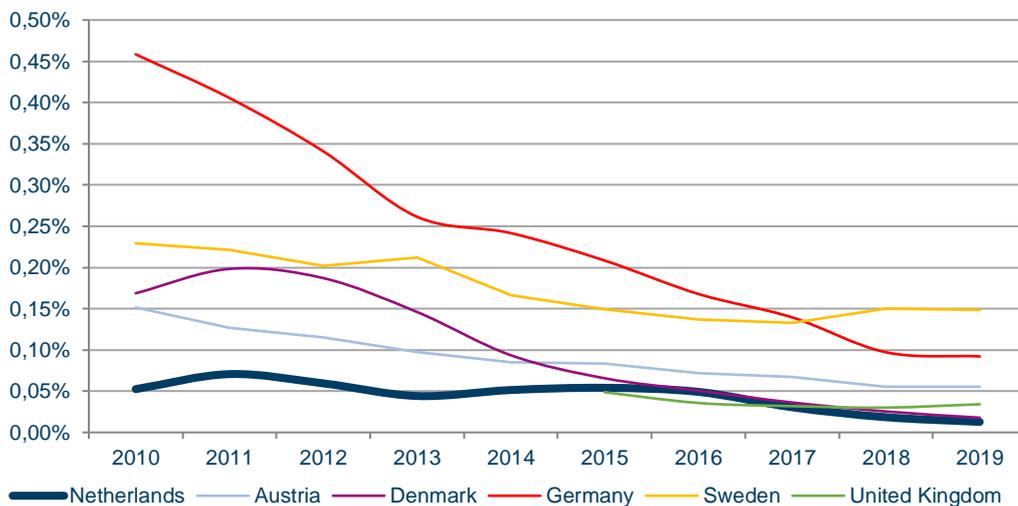
**Figure 3.9: Non-performing loan ratios in the Netherlands and other selected countries**



Sources: Eurostat (2020), European Banking Authority (2019)

These low arrear rates lead to very low foreclosure rates. It may be even more interesting to focus on the foreclosure rates, as the risk of high LTV rates becomes most apparent there (since underwater mortgages only become a problem in case of a foreclosure). The foreclosure rates throughout the last years can be seen in figure 3.10 for the Netherlands and the benchmark countries. In 2019 the Netherlands had the lowest foreclosure rate (0.01 percent) among all investigated countries. The Netherlands takes a distinctive position as Dutch banks have a strong legal position in reclaiming the collateral. Moreover, they play an active role in solving payment problems via loan modifications and budget counselling.

**Figure 3.10: Foreclosures (% of owner-occupied housing stock) in the Netherlands and other selected countries, 2010-2019**

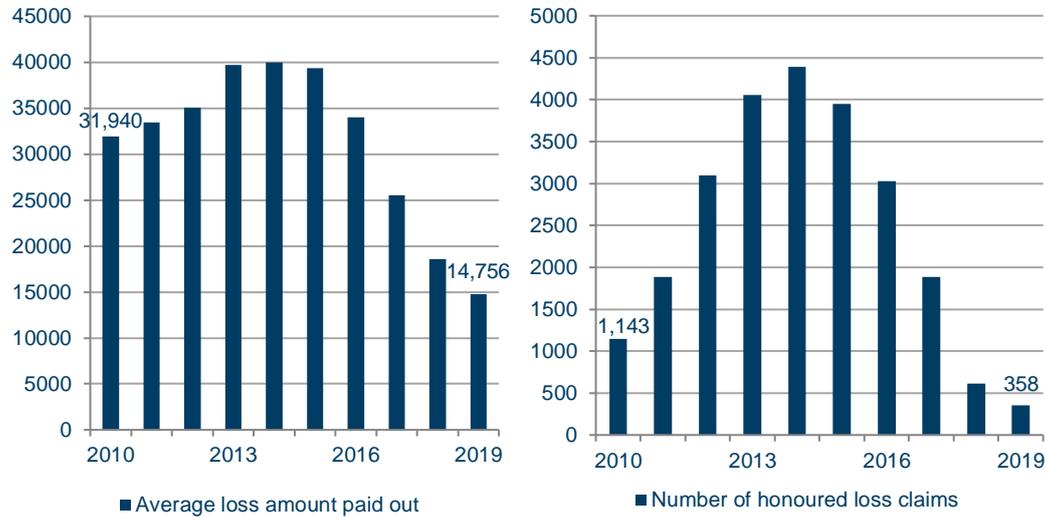


Sources: Technische Universiteit Delft (2020), SmartFacts (2020), Finance Denmark (2020), Argetra (2020), Kronofogden (2019), UK Finance (2019)

Still, if a foreclosure leads to a loss, then many households are covered for this loss by the Nationale Hypotheek Garantie (NHG). Lower incomes are likely to face losses because they have less alternative sources of money. So, the NHG is targeted.

As figure 3.11 shows, in the worst year (2014) NHG covered up losses of € 40,000 on average, for 4,394 households in total. That amount had fallen to only 358 households in 2019, that had a loss of € 14,756 on average. Between 2010 and 2019, the average total yearly loss was € 86,773,199. This was 0.01 percent of the average total outstanding mortgage debt in the same period – which indicates an exceptionally low risk.

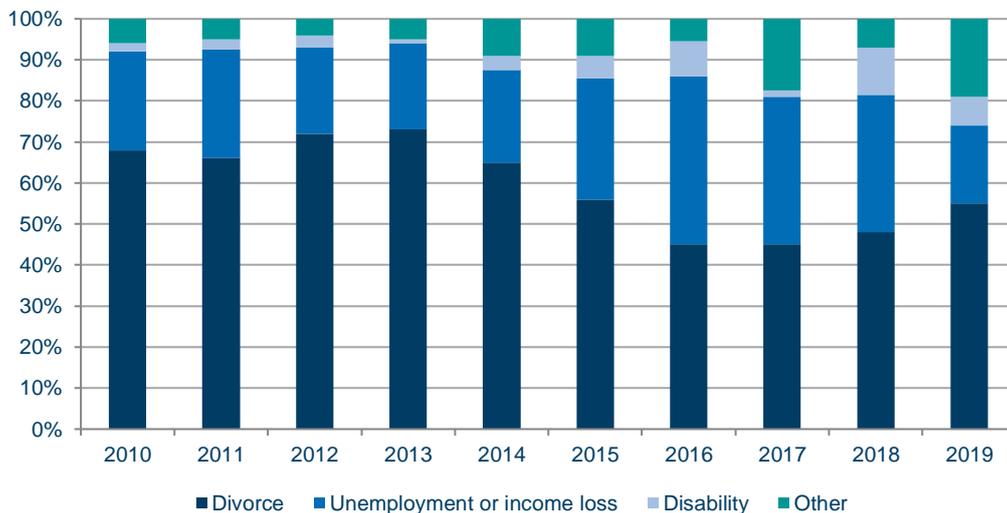
**Figure 3.11: Number of honoured loss claims and average loss amount paid out by NHG**



Source: Nationale Hypotheek Garantie (2020)

Lastly it is worth to consider the causes of loss giving mortgages. Statistics of loss giving NHG mortgages indicate that more than half of all loss claims are caused by divorces. This number tends to be higher in times of economic downturn, but overall the picture remains clear.

**Figure 3.12: Causes of loss giving mortgages**



Source: Nationale Hypotheek Garantie (2020). Note: the figures only relate to NHG mortgages.

### 3.5 Conclusion

In the next figure we present a visual summary of the identified risks and corresponding risk mitigating mechanisms on the Dutch housing market. For each risk is displayed which instruments are available to mitigate the risk(s) and the estimated level of protection offered by the instrument. This estimation is based on expert judgment. The figure shows that the risk of overlending and economic downturn is estimated as relatively high based on historic observations and that the impact of such risk can be relatively high as well. However, this does not apply to the Netherlands solely, but also to the benchmark countries. The impact caused by flooding/ earthquakes and declining housing prices is also estimated as being high, but the probability of these events has been classified as low in the Netherlands.

The figure further makes clear that the Netherlands has a broad range of risk mitigating mechanisms. These instruments offer protection to households, but they also provide protection on a higher scale level.

**Figure 3.13: Overview of risk mitigation on the Dutch housing market**

Risk		Risk without mitigation		Level of risk mitigation and instruments	
		Probability	Impact	Level of mitigation	Instrument
Life events	Declining income; disability to meet financial obligations mortgage	●	●	high	Health and life insurance
				low	Unemployment insurance
Disasters and calamities	Fire; storm; burglary	●	●	high	Real estate insurance
	Flooding; earthquake	●	●●	high	Public policy
Financial markets	Payment arrears; foreclosure	●	●	high	Mortgage type and amortisation
				medium	Interest type (fixed vs. variable)
Real estate market	Declining residential real estate prices	●	●●	low	Public policy
	Housing supply/ shortage	●●	●●	medium	Public policy
Law and regulations	Overlending	●	●●	high	LTV limit
				high	LTI limits
				high	Mortgage interest tax deduction
Macro-economic development	Economic downturn	●●	●●	high	NHG-backed mortgage
				high	Pensions
				high	System of social security

The conclusion that the Netherlands has sufficient risk mitigation mechanisms is corroborated by the exceptionally low share of Dutch households with arrears on their mortgage or rent, and the exceptionally low foreclosure rates in the Netherlands in comparison to other European countries.

## 4 Impact of changes in LTV regulations

### 4.1 Introduction

The last question is to which extent the risk profile changes under different LTV limits. This question originates from the ongoing recommendations (by e.g. ESRB/ECB, IMF, De Nederlandsche Bank) to change the current LTV limit in the Netherlands. Deviations from the current LTV limit of 100 percent in the Netherlands are possible in two different ways. The most relevant one is a decrease towards 90 percent, as advocated by DNB<sup>29</sup> and the IMF<sup>30</sup>.

And in the Dutch context it is also relevant to examine the broader effect of a higher LTV. In the Netherlands it is possible to borrow up to 106 percent, provided that the additional 6 percent is used for sustainability upgrades. Hence, in a second case study we examine the broader effect of this exemption. To answer both questions, we make use of (mostly) existing literature, complemented by collected statistics.

### 4.2 Impact of lowering the LTV limit to 90 percent

In order to describe the impact of further lowering the current Dutch LTV limit to 90 percent, we perform a meta-analysis of existing literature that explores the subject. There are three important sources in the literature that are able to give a reliable insight into the future impacts in the Dutch context: Nationale Hypotheek Garantie/ NHG (2012)<sup>31</sup>, De Nederlandsche Bank/ DNB (2015)<sup>32</sup> and Centraal Planbureau/ CPB (2015, 2017 and 2020)<sup>33</sup>. NHG made use of empirical (historical) data on the Dutch mortgage market since 1995, whereas DNB made a purely model based theoretical estimation. CPB used a mixed methods approach with literature review and a model based general equilibrium estimation.

We identify three different categories of impact where a lowered LTV limit could have an impact:

1. the risks for a) home owners and b) lenders;
2. the socio-economic effect(s) on the housing market (e.g. availability and affordability of housing);
3. systemic risks (macro-economic impact).

Table 4.1 (see annex) summarises the expected impacts for each of the three categories, according to the above-mentioned literature. There are more international publications that could be displayed in the table, but the CPB has already included these in its own study; these results are therefore indirectly included in the table.

The main conclusion is provided by the box text below.

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<sup>29</sup> De Nederlandsche Bank (2017), *Jaarverslag 2016*.

<sup>30</sup> IMF (2017), *Netherlands Financial System Stability Assessment*. Country Report No. 17/79.

<sup>31</sup> NHG (2012), *Effecten DNB-voorstel voor lagere LTV-norm*. Available from: [https://www.nhg.nl/Portals/0/Documenten/Publicaties/Factsheet\\_nr\\_1\\_2012-Effecten-DNB-voorstel-voor-lagere-LTV-norm.pdf](https://www.nhg.nl/Portals/0/Documenten/Publicaties/Factsheet_nr_1_2012-Effecten-DNB-voorstel-voor-lagere-LTV-norm.pdf)

<sup>32</sup> De Nederlandsche Bank/ DNB (2015), *Effects of further reductions in the LTV limit*. Occasional Studies, 13 (2).

<sup>33</sup> Centraal Planbureau/ CPB (2015), *De economische effecten van een verdere verlaging van de LTV-limiet*. CPB Notitie 28 mei 2015; Centraal Planbureau/ CPB (2017), *Actualisatie economische effecten van een verdere verlaging van de LTV-limiet*. CPB Achtergronddocument 6 juni 2017; Centraal Planbureau/ CPB (2020), *Kansrijk woonbeleid. Update 2020*.

## Conclusion

Synthesis of the existing literature leads to the conclusion that a further reduction of the LTV limit towards 90 percent has both positive and negative impact. Positive impact may be expected in further reduction of financial risks for consumers and lenders. It is however questionable whether the gains will be significant. It is likely that part of the prospective buyers will rely on consumer credit to fill the gap. This has been observed in amongst others Sweden after the LTV limit was tightened.<sup>28</sup> In such case, there is in fact a deterioration, since consumer credit involves higher costs for consumers (and thus welfare loss), and higher risk due to the uncovered nature of the credit. In fact, this has a negative impact on financial stability.

At the same time, substantial negative impact is to be expected for the housing market from a socio-economic perspective. The available impact studies (e.g. CPB<sup>36</sup>) show that about 70 percent of prospective home buyers and a third of existing home owners will have to postpone their desired purchase and will be forced into the (relatively more expensive) private rental market. From a macro-economic perspective, this will result in a welfare loss because these prospective buyers are forced to save additionally. These savings crowd out consumer spending.

All in all, the negative marginal effects appear to outweigh the positive marginal effects, even though it proves difficult to quantify this. The consensus based on the literature as well as the interviews is that the current LTV limit of 100 percent is the optimum from a broader societal perspective.

### 4.3 Impact of a 106 percent LTV for sustainability upgrades

The Netherlands has a generic LTV limit of 100 percent. Yet, since 2017 there has been an exemption for buyers that are either aiming to upgrade the energy performance of the purchased home or purchasing an energy efficient home (energy label A++ or better). In such case it is possible to extend the LTV to 106 percent. The excess loan should be fully spent on sustainability upgrades.

As an effect, mortgage issuance figures show that demand for 'greening mortgages' (EBV) has risen annually.<sup>34</sup> In 2017 the percentage of greening mortgages was 2.4, then 3.7 in 2018 and 5.0 in 2019. Growth seems to have stalled however: the average over the first three quarters of 2020 amounted to 5.1 which is barely higher than last year's level. In 2019 the average loan for a greening mortgage was € 229,500 where the home was worth on average € 425,500. This is significantly more than the € 354,264 that an average mortgage giver's home was worth – and for which the average loan was € 247,002. Greening mortgages were more often used by buyers of an energy inefficient home (8 percent) than by buyers of an energy efficient home (3.9 percent).

The main question remains however, to which extent a greening mortgage is cost efficient compared to a generic mortgage. From a theoretical perspective, a higher LTV limit for sustainability upgrades is incorrect. Financial institutions already finance mortgages based on value increase. Adding another six percent on top of that will increase the risk of residual debt.

From an empirical perspective an additional question is whether the home becomes at least six percent worth more than less energy efficient homes when the loan is six percent higher. This is relatively hard to prove, because many Dutch homes still lack an energy label. It is therefore not possible to estimate the premium based on the total stock of owner-occupied dwellings in the Netherlands.

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<sup>34</sup> Hypotheek Data Netwerk (2019 and 2020), *Jaaroverzicht 2018* and *Jaaroverzicht 2019*.

However, studies using transaction data including energy labels emerged recently. A study by Calcasa<sup>35</sup> revealed that a better energy label is associated with a two percent higher sales price on average. In case a comparable home has an energy label that is better by two steps or more, this is associated by a 2.8 percent price increase. The premium is 3.6 percent on average when the difference is three or more label steps. Table 4.2 shows the premiums in more detail.

**Table 4.1: Premium associated with a better energy label (averages based on pair-wise comparison)**

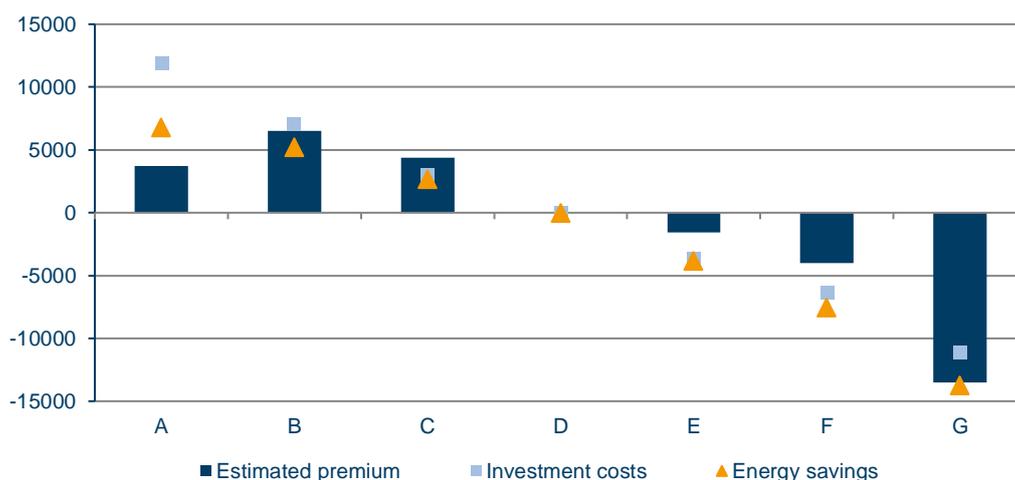
Energy label	Compared to:		
	1 label lower	2 labels lower	3 or more labels lower
<b>A</b>	0.5%	1.4%	2.7%
<b>B</b>	1.3%	2.2%	3.5%
<b>C</b>	1.9%	2.3%	3.7%
<b>D</b>	1.5%	2.5%	3.8%
<b>E</b>	1.7%	3.2%	
<b>F</b>	2.3%		
<b>G</b>			

Source: Calcasa (2018)

Table 4.2 shows that none of the possible label steps are associated with a price increase of at least 6 percent, when comparing similar homes. It should be noted that the data used covers transactions between 2015 and midway 2018; it could be that nowadays the energy performance is priced differently by the market mechanism.

In fact, recent research by De Nederlandsche Bank<sup>36</sup> claims that the price difference between energy efficient homes (label A, B or C) and energy inefficient homes can be well explained by the costs involved in upgrading the energy performance of the home. According to this source, homes with an A, B or C label are worth more (ceteris paribus) than homes with a D label. And in turn, homes with an E, F or G label are sold at significantly lower prices compared with D label homes. The (negative) premium for G label houses is € 13,500 on average for example, as can be seen in figure 4.1.

**Figure 4.1: Premiums of energy label improvements, investment costs and savings in the Netherlands**



Source: De Nederlandsche Bank (2019)

<sup>35</sup> Calcasa (2018), 2018 Q2 WOX kwartaalbericht: Beter energielabel leidt tot 2% hogere verkoopprijs woning. Available from: <https://www.calcasa.nl/nieuws/2018-q2-wox-kwartaalbericht-beter-energielabel-leidt-tot-2-hogere-verkoopprijs-woning>

<sup>36</sup> De Nederlandsche Bank (2019), DNBulletin: Energy efficiency is factored in well in the Dutch housing market. Available from: <https://www.dnb.nl/en/news/news-and-archive/DNBulletin2019/dnb385503.jsp>

The figure also depicts the investment costs and energy savings relative to label D. This shows that in general premiums are reasonably in line with the expected costs and savings. This does not hold for label A however. According to DNB, a possible explanation could be that in order to achieve label A, the investment costs exceed the expected energy savings.

### **Conclusion**

From a theoretical perspective, a higher LTV limit for sustainability upgrades is incorrect. Financial institutions already finance mortgages based on the assumption of value increase. Adding another six percent on top of that will increase the risk of residual debt.

Also, from an empirical perspective it is questionable whether a value increase of 6 percent can be expected on average, as lower averages have been reported so far. It seems more reliable to assume a range between 2 to 4 percent as value increase. Also, this heavily depends on the label step in case upgrades to the energy performance of the home are planned. Data suggest that currently, measures to achieve label A or better are not cost efficient yet. This could change when investment costs and energy prices change in the future, though.

## 5 Conclusions

### 1) Dutch residential real estate market has a unique position in Europe

The Dutch residential real estate market is characterised by two important aspects that set it apart from other countries. In the first place, it has the greatest market tightness of the benchmark countries, and worsened affordability due to steep and steady price increases. These price increases cannot be matched by income increases and savings. Secondly, the wedge and pay-as-you-go schemes lead to low saving rates. These characteristics result in the necessity of higher LTVs compared to other countries.

### 2) Accessibility of owner-occupied housing is increasingly at stake, especially for first-time buyers

Especially first-time buyers are the victims of the extreme housing market tightness and steep price increases. They are increasingly facing problems to buy their first home, as can be seen in their declining market share. The private rental market is often no viable alternative for this group – potentially leading to a social divide.

### 3) Overlending and economic downturn are risks with potentially large impact

In relation to the housing market, we distinguish various risks. These risks can be apparent at the individual household level (e.g. life events such as divorce or a devastating fire), but also at higher level (economic shock on a submarket or whole economy). Out of the identified risks, overlending and economic downturn are the risks with the largest impact. This is however not unique for the Netherlands, but applies to many countries. The impact caused by floods, earthquakes and sharply declining house prices is also large, but the probability of these events has been classified as low in the Netherlands. The same applies to the probability of overlending, which is low due to the prevailing laws and regulations (e.g. LTI and LTV limits).

### 4) Available risk mitigating mechanisms in Netherlands offer high degree of protection

To cover the identified housing market risks, the Netherlands has a broad range of risk mitigating mechanisms. These instruments offer protection to households, but they also provide protection on a higher scale level. This conclusion is corroborated by the exceptionally low share of Dutch households with arrears on their mortgage, and the exceptionally low foreclosure rates in the Netherlands in comparison to other European countries.

### 5) Lowering the LTV limit to 90 percent can lead to socio-economic problems

To reduce the risk profile, the LTV limit has been lowered in recent years from 108 percent to 100 percent in 2018. Further reduction of the LTV limit towards 90 percent could further reduce financial risks for consumers and lenders. It is however questionable whether the gains will be significant. And a lower LTV limit will ask for a higher saving rate, which can even introduce a new macro economic stability risk since spending and the business cycle are very interconnected in the Netherlands.

It is also likely that part of the prospective buyers will rely on consumer credit to fill the gap. This has been observed in amongst others Sweden after the LTV limit was tightened. In such case, there is in fact a deterioration, since consumer credit involves higher costs for consumers (and thus welfare loss), and higher risk due to the uncovered nature of the credit.

At the same time, substantial negative impact of a lower LTV limit is to be expected for the housing market from a socio-economic perspective. About half of the prospective home buyers will have to postpone their purchase and will be forced into the (relatively more expensive) private rental market. From a macro-economic perspective, this will result in a welfare loss because these prospective buyers are forced to save additionally. These savings crowd out consumer spending. It will probably even cause a social divide when these people remain stuck in the private rental market.

All in all, the negative marginal effects appear to outweigh the positive marginal effects, even though it proves difficult to quantify this. The consensus based on the literature as well as the interviews is that the current LTV limit of 100 percent is the optimum from a broader societal perspective. We therefore conclude that there is no need to further lower the current LTV limit of 100 percent to improve the risk profile.

#### **6) Sustainability upgrades do not result in equally higher market value**

A higher LTV (i.e. 106 percent) is allowed in the Netherlands when this excess loan is used to green the home. Part of the mortgage lenders offers this option. From a theoretical perspective, a higher LTV limit for sustainability upgrades is incorrect. Financial institutions already finance mortgages based on the assumption of value increase. Adding another six percent on top of that will increase the risk of residual debt.

Also from an empirical perspective it is questionable whether a value increase of 6 percent can be expected on average, as lower averages have been reported so far. It seems more reliable to assume a range between 2 to 4 percent value increase. Also, this heavily depends on the label step in case upgrades to the energy performance of the home are planned. Data suggest that currently, measures to achieve label A or better are not cost efficient yet. This could change when investment costs and energy prices change in the future, though.

## Annex 1: impact of lowering the LTV limit – literature review summary

Source	Impact on risks for home owners and lenders	Impact on housing market	Impact on systemic (macro-economic) risk
NHG (2012)	<ul style="list-style-type: none"> <li>A lower LTV limit lowers the risk for lenders.</li> <li>The probability of loss-giving foreclosures with LTV &lt; 90% is 1 on 1,000. At LTV &gt; 90% it becomes 10 on 1,000.</li> <li>The LTV 95 – 100% bucket has a higher share in losses than LTV &lt; 90%, but the difference is relatively small, since the lion's share of losses (84%) can be attributed to LTVs &gt; 105%.</li> </ul>	<ul style="list-style-type: none"> <li>Home ownership will be less attainable for first-time buyers.</li> <li>In 2010 and 2011, approximately 70% of NHG mortgage issuances had LTV &gt; 90%. First-time buyers constituted the majority of these issuances.</li> </ul>	N/A
DNB (2015)	<ul style="list-style-type: none"> <li>A lower LTV limit lowers the risk for borrowers.</li> <li>In 2013, two thirds of first-time buyers who bought their home since 2004 were underwater with their mortgages. With annuity mortgages and an LTV limit of 100% just under half of these households would be underwater, while the figure would have been 13% if the LTV limit had been 90%.</li> <li>Mortgage debt will fall by approx. 6%.</li> </ul>	<ul style="list-style-type: none"> <li>A lower LTV limit is associated with less volatility on residential real estate markets (in terms of boom-bust cycles).</li> <li>A lower LTV will lead to lower demand for owner-occupied housing (approx. minus 2.5%) and lower price levels (approx. minus 4-5%).</li> <li>The lower demand is largely caused by restricted first-time buyers, who cannot borrow enough to purchase a home (11,000 – 19,000 homes per year). This group will be forced into the private rental market or will have to save maximally during a couple of years.</li> </ul>	<ul style="list-style-type: none"> <li>A lower LTV ratio helps dampen the type of cyclical movements that have affected the Dutch economy over the past few decades.</li> <li>A lower LTV ratio will harm macro-economic development due to increased saving and hence decreasing consumption (minus 1.2% in first ten years). As a result, GDP growth will be 0.3% lower in the first ten years.</li> </ul>
CPB (2015/ 2017/ 2020)	<ul style="list-style-type: none"> <li>A generic LTV limit of 90 percent will force all prospective buyers under a price ceiling, even when it is not necessary in terms of risks.</li> <li>The decrease of the LTV limit to 100 percent in 2018 has already taken away most of the residual debt risk.</li> <li>Lowering the LTV limit further will probably have no significant additional positive effect. Instead, it will result in additional demand for consumer credit as a replacement. Furthermore, it will make the existing LTI limits less effective.</li> <li>Introducing a mandatory mortgage insurance on maximum value mortgages will be more effective to further reduce the risk of residual debt.</li> <li>Tightening the LTI limits and/or reducing the mortgage interest tax deduction rate will be also more efficient to reduce overlending.</li> </ul>	<ul style="list-style-type: none"> <li>A lower LTV limit will negatively affect the affordability of owner-occupied housing. With a 90% LTV limit, over 70% of first-time buyers will have to postpone their purchase – 20 percentage points more than with the current 100% LTV limit. For existing home owners this is around a third, which is 14 percentage points more.</li> <li>As such, prospective buyers than cannot afford it with the lower LTV limit will have to postpone their purchase by three to five years. This period is twice the current period with an LTV limit of 100%.</li> <li>Assuming that prospective first-time buyers are willing to save maximally during two years at most, then half of all prospective first-time buyers will be unable to buy a new home and be forced into the private rental market. This will dampen their capacity to save because of higher housing costs, and further postpone a purchase.</li> <li>Due to declining demand, house prices will decline by 1 – 2 % and the share of the private rental market will rise by 3 to 8 percentage points.</li> </ul>	<ul style="list-style-type: none"> <li>A lower LTV limit restricts households' possibilities to spread consumption. This leads to a welfare loss.</li> </ul>

## Annex 2: list of interview partners

Organisation	Name
De Nederlandsche Bank (DNB)	Remco van der Molen
Dutch Association of Real Estate Agents and Appraisers (NVM)	Gerco van den Berg
Dutch Cadastre (Kadaster)	Paul de Vries
Dutch Ministry of Finance	Daniëlle Lubberts
	Mark Damink
Dutch Ministry of the Interior	Richard Hitzemann
	Peter Simonse
Nationale Hypotheekgarantie (NHG)	Frederiek Busweiler
Netherlands Bureau for Economic Policy Analysis	Dr. Stefan Groot
	Beau Soederhuizen

# About Ecorys

Ecorys is a leading international research and consultancy company, addressing society's key challenges. With world-class research-based consultancy, we help public and private clients make and implement informed decisions leading to positive impact on society. We support our clients with sound analysis and inspiring ideas, practical solutions and delivery of projects for complex market, policy and management issues.

In 1929, businessmen from what is now Erasmus University Rotterdam founded the Netherlands Economic Institute (NEI). Its goal was to bridge the opposing worlds of economic research and business – in 2000, this much respected Institute became Ecorys.

Throughout the years, Ecorys expanded across the globe, with offices in Europe, Africa, the Middle East and Asia. Our staff originates from many different cultural backgrounds and areas of expertise because we believe in the power that different perspectives bring to our organisation and our clients.

Ecorys excels in seven areas of expertise:

- Economic growth;
- Social policy;
- Natural resources;
- Regions & Cities;
- Transport & Infrastructure;
- Public sector reform;
- Security & Justice.

Ecorys offers a clear set of products and services:

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- programme management;
- communications;
- capacity building;
- monitoring and evaluation.

We value our independence, our integrity and our partners. We care about the environment in which we work and live. We have an active Corporate Social Responsibility policy, which aims to create shared value that benefits society and business. We are ISO 14001 certified, supported by all our staff.



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