



CPB Netherlands Bureau for Economic
Policy Analysis

Uncertain supply

Fragile demand



Roads to recovery

Chapter 3

Markets at risk: Housing market

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3 Markets at risk: Housing market

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- Volatility in house prices has important consequences for the rest of the economy.
- High mortgage debts have forced over a million Dutch households into the red. Their negative home equity will severely constrain their mobility and possibly their consumption.
- Nominal house prices are expected to grow between -0.5% and 4% annually.

3.1 Introduction

The housing market has played a key role in the current crisis. The decline in the US housing market that started in 2005 contributed to a sharp increase in delinquencies in residential mortgage loans. Eventually, the decline led to large losses on subprime mortgage loans and escalated into a global banking crisis and a global economic recession²² (Van Ewijk and Teulings, 2009).

Difficulties in housing markets have not been confined to the US. In the Netherlands, house prices have dropped by more than 20% since their peak in 2008 and nearly 30% in real terms. Combined with the high loan-to-value (LTV) ratios typical in the Netherlands, the drop in nominal house prices has forced numerous households into the red as their mortgage debt exceeds the market price of their house. Declining house prices affect household consumption both through their role as collateral, which was introduced in Chapter 2, and through wealth effects.²³ Moreover, having a larger outstanding mortgage than the value of the house it is secured on can make moving house difficult, if not impossible. This, in turn, could harm labour market mobility if people need to relocate for a new job. Furthermore, falling house prices have the potential to increase the weaknesses on banks' balance sheets since the value of the collateral that banks will get in the case of loan defaults has declined (even though the number of foreclosures has remained relatively low in the Netherlands and a part of the losses is covered by the National Mortgage Guarantee). Finally, lower house prices have also harmed the construction sector, as the building of new houses has become much less profitable.

Low private consumption and dramatically lower investment in housing have been key symptoms of the economic crisis in the Netherlands. As such, the future of the housing market will play an important role in how the Netherlands recovers from the current economic downturn. Due to the large price decreases and low mortgage interest levels, the affordability of housing has substantially improved (to one of the most favourable levels of

²² Following the IMF definition of a global recession (IMF, 2009, pp. 11-14).

²³ The interaction between the housing market and consumption will be examined in more detail in Chapter 6.

the past 25 years). With an improved macroeconomic environment the stabilisation of house prices that has been observed since June 2013 could signal the end of the downturn in the housing market. However, given the large number of houses that are currently for sale, it will take time before the housing market fully recovers.

A number of factors can stimulate the recovery of the Dutch housing market. To the extent that uncertainty and a lack of confidence explains the developments of the last five years, growing financial and economic stability can help existing and potential homeowners to become less pessimistic about the housing market. Furthermore, the low levels of construction during the crisis have lowered supply and should lead to higher house prices in the long-run.

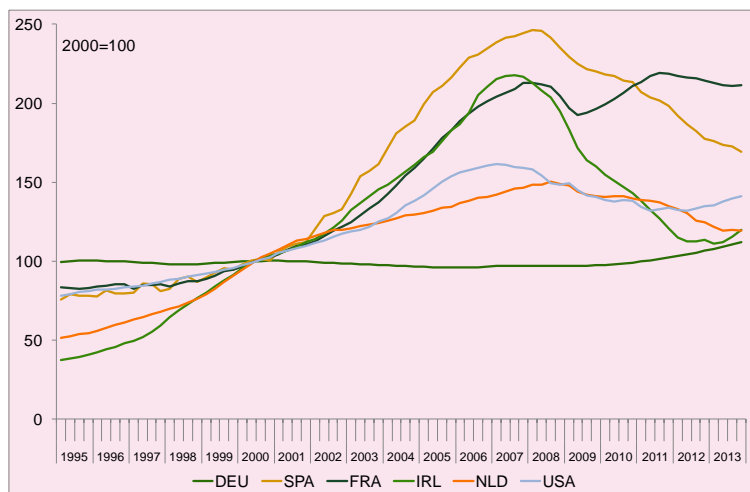
On the other hand, the recovery of the housing market could be delayed if housing market pessimism remains. If households remain concerned about their personal finances and their jobs, they may refrain from buying another home. Furthermore, it may take years for households to decrease their mortgage debts below the value of their homes, particularly if house prices do not recover. Moreover, if banks are unwilling to refinance households' debt, these households are, more or less, forced to stay in their current homes, which may affect their labour market mobility. On the other hand, one can argue that the relatively small commuting distances in the Netherlands limits the labour market consequences.

This chapter describes recent developments in the Dutch housing market and, given the typical characteristics of housing markets, what can be expected in the next decade. Although many households rent their homes, the focus of this chapter will be on the owner-occupied sector. This sector has a much larger macroeconomic impact and entails many more uncertainties than the heavily regulated rental sector. In the next section we will look back at what happened to the Dutch housing market during the crisis. Section three introduces a number of stylised facts for housing markets in general, in order to give us some idea what can be expected during a typical housing market downturn. The fourth section then describes important features of the current crisis that set it apart from a normal downturn. The final sections describe the key uncertainties in the coming ten years and conclude with three scenarios for the future of the Dutch housing market.

3.2 What happened in the Dutch housing market?

Since the downturn in the Dutch housing market started in the second half of 2008, house prices in the Netherlands have dropped by over 20% in nominal terms, and by almost 30% in real terms. The Dutch housing market crash started several quarters later than in many other European countries, which can be explained by other countries economic slowdowns starting earlier. In several countries the housing market already showed some signs of recovery in 2009. However, in the Netherlands, like Ireland, Italy and Spain, the housing market downturn has been persistent (Figure 3.1).

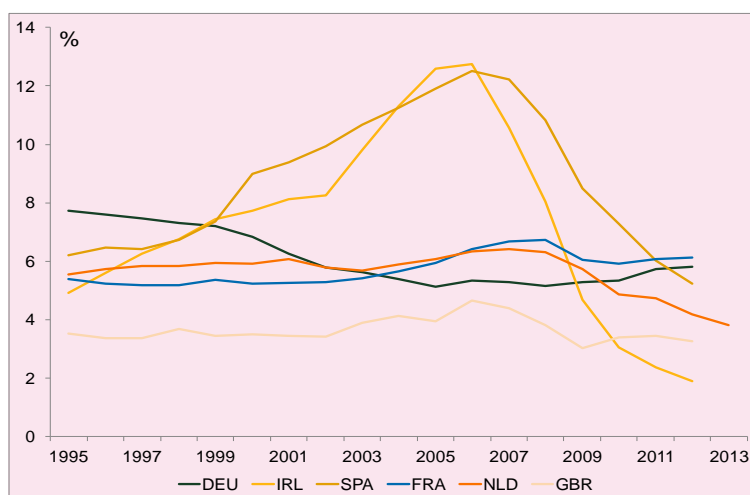
Figure 3.1 House prices during the boom and bust (index, 2000=100)



Source: Statistics Netherlands and Dallas Fed.

At first, the downturn of Dutch house prices was relatively mild: between 2008 and the third quarter of 2010 house price fell just 6%. However, coincident with the double-dip recession starting in 2011 house prices started to fall more quickly, falling a further 17% by the second quarter of 2013. As described in Chapter 5, the double-dip recession coincided with rapidly increasing unemployment and a public debate on housing policy reforms, which had a negative effect on the housing market. Furthermore the number of buyers expecting further falls in house prices was growing (OTB, 2011). At the same time, the Dutch government introduced reforms aimed at lowering fiscal subsidies to homeowners and lowering their mortgage indebtedness. For example, the LTV-ratio for first-time buyers was lowered to 106% and the proportion of any mortgage that could be interest-only was restricted to 50%. Therefore buyers could borrow less, limiting the amount they could pay for a house.

Figure 3.2 Housing investment during the boom and bust



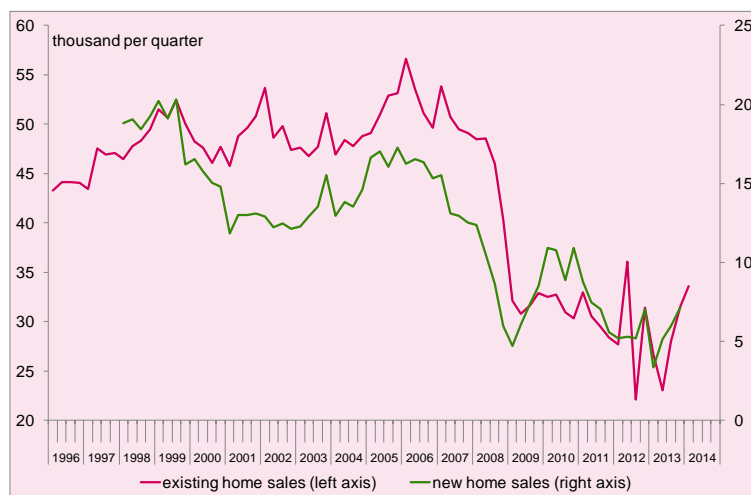
Source: Eurostat.

Lower house prices and less demand for homes led to lower investment in housing. In most countries before the crisis, investment in housing as a proportion of GDP increased, especially in Ireland and Spain. This can clearly be seen in Figure 3.2 where the proportion of GDP accounted for by housing investment in Ireland and Spain rose from 5-6% in 1995 to over 12% in 2006. In turn, when the crisis started they took the hardest hit. Like many other European countries, the Netherlands saw housing investment increase before the crisis, albeit much less than in Ireland or Spain. However, after Ireland and Spain, the Netherlands has seen the biggest drop in the investment ratio, falling from about 6.5% in 2006-2008 to under 4% in 2013. During the two decades preceding the crisis, the share of GDP accounted for by investment in housing remained close to 6%.²⁴ It is therefore likely that the drop since 2008 reflects a deviation from the long-run equilibrium.

An important difference between the Dutch housing market crisis and the crises in countries that experienced a large construction boom during the last decade is that the availability of housing relative to demand remains relatively low in the Netherlands. The Dutch housing market is characterised by “a surprisingly small supply of houses for such a high income country” (OECD, 2010, p.116). In countries with excess supply of housing, dwellings may remain unoccupied which may depress house prices for a long period of time. The relative scarcity of housing in the Netherlands improves the chance of a quick recovery.

The fall in investment coincided with a dramatic fall in sales of new homes, as shown in Figure 3.3. Sales of new homes fell from around 12 to 16 thousand per quarter to around 5 thousand per quarter in 2012. Having difficulty selling newly completed homes clearly doesn't encourage investment in yet more new houses. It wasn't only sales of new homes that fell dramatically: sales of existing homes plummeted from around 50 thousand per quarter before the crisis to around 30 thousand per quarter in each of the last 5 years.

Figure 3.3 Home sales in the Netherlands



Source: Statistics Netherlands and Monitor Nieuwe Woningen, own calculations.

²⁴ Investment in housing was relatively higher in the 1970s and 1980s, however.

According to data from Statistics Netherlands, 1.4 million households have a mortgage worth more than the value of their home. That is, about 1 out of 3 households that own a house is under water. Their overhang is on average 61.000 euros. These numbers are not corrected for households' savings or savings and investment products directly linked to household mortgages. DNB (2014) reports that 30% of the mortgages are under water when corrected for savings in savings or investment products. This number amounts to 1.1 million mortgages with negative equity. For these mortgages, the value of "under water" debt is unknown.

Negative equity is concentrated among younger owners. Two-thirds of homes with negative equity have owners younger than 45, with people under 40 the worst affected (CBS, 2014). Often, these are the people who bought their home just before the crisis and have paid little of their mortgage off. Consequently, they also run the greatest risk of selling their homes at a loss and being left with residual debt. By comparison, older home owners typically do not face this problem: in January 2013, nearly 45 per cent of home owners over 65 had no mortgage debt and only 3% had negative housing equity.

Although the amount of homes with negative equity is relatively high compared with other countries, mortgage delinquencies are very low (see Table 3.1). However, according to the Rabobank (2014) there is a delay between the peak in unemployment and the peak in delinquencies of around two years. Even so, the level of delinquencies will probably remain low compared with other countries. Possible explanations for this are the relatively unfavorable Dutch recourse laws (especially compared to the US), relatively low unemployment rates, a well developed social safety net, as well as low net interest rates due to the income tax deductibility of mortgage interest payments.

Table 3.1 Financial impact crisis on household in selected countries (source: DNB, 2014, p. 21)

	Netherlands	Denmark	Ireland	Spain	UK	US
Fall in nominal house prices (%)	-21.5	-20.1	-48.9	-30.1	-13.5	-18.1
Delinquencies 2013 (%)	1.3	0.3	12.3	5.2	1.3	9.3
Under water (%)	30	n.a.	52	20	1.6-6.4	13

Although home sales are at historically low levels there are signs of recovery in the Dutch housing market. First of all, house prices are no longer falling: they have been stable since the first quarter of 2013, and affordability of housing has substantially improved. Existing and new home sales have been steadily increasing since then, a sign that potential buyers are becoming less reluctant. Along with the consumers' confidence, housing market sentiment has been rising for more than a year (VEH, 2014). Moreover, surveys indicate that a growing number of potential buyers think further price decreases are unlikely and it is currently a good time to buy a house (OTB, 2014).

3.3 Stylised facts

As we have seen in the previous section, house prices have fallen significantly in the Netherlands leaving many households with mortgages that are worth more than the houses they are secured against. By definition, the problems of negative equity would disappear if house prices were to return to their former level. Therefore, to put the observations of the previous section in perspective, this section outlines the most important stylised facts for housing markets. We start by discussing the long-run determinants of house prices and then move on to shorter-term price volatility and credit restrictions. Finally, we also discuss evidence of the role that recent trends in the housing market play for household mobility.

Long-run determinants of house prices

Long-run house prices depend, first of all, on the availability of land. Besides the physical availability of land, spatial planning policies and zoning laws are important determinants of house prices. These are important factors in the Netherlands, as the land available for building new dwellings is strictly limited by law (OECD, 2005). Building costs are relevant for the supply side as well, but these are generally quite stable over time.

On the demand side, household income, demographics and the user costs of housing are the main determinants that affect long-run equilibrium prices. Also here, housing policies can be relevant. Tax subsidies for home ownership, for instance, drive down user costs, which lead to greater demand for housing and pushes up house prices when supply is less than fully elastic. Rental market regulations have a similar effect. The excess demand for rental housing that regulation creates partly spills over to the owner-occupied sector, leading to higher house prices for comparable houses.

Finally, from an investor's perspective, the long-run interest rate and the premium that can be earned by investing in housing together determine the value for real estate (see DiPasquale and Wheaton, 1996). In equilibrium, investing in housing must be equally attractive compared to investing in other assets after controlling for risk.

Price volatility and disequilibrium

However, housing markets are characterised by largely fixed stocks in the short-run, which only slowly adapt to changing market conditions (DiPasquale and Wheaton, 1996). This implies that short-term price fluctuations can be substantial. As stocks cannot immediately adjust, a shift in demand fully translates itself into price adjustments. This is especially the case for downward shocks to housing demand since the existing housing stock can only decline slowly through depreciation. Furthermore, the supply of housing may even continue to increase for several years as cancelling construction projects already in progress may be costly. Eventually, the price changes do affect construction. But as these flows are small compared to stock levels, it can take many years before a new long-term equilibrium is reached. As mentioned earlier, in the Netherlands, the price elasticity of supply is particularly low due to restrictions on the availability of land for residential housing. This is especially the case in the Randstad, where the restrictiveness of planning restrictions has

increased over time and employment growth has outpaced the local supply of housing (OECD, 2010).

Therefore, from a theoretical point of view it is easy to understand why it can take a long time before housing markets adjust to a new steady state. Even if house prices are, in any period, equal to their short term equilibrium values, the sluggishness on the supply side hinders a rapid adaptation to changing market conditions. For example, Ambrose *et al.* (2013) show that actual market prices can persistently and substantially deviate from their fundamental values. In particular, they decompose the rent-price ratio into the discounted expected future real interest rate, the discounted expected future growth of rents and the discounted housing risk premium. Using 355 years of data on housing transactions on the Herengracht in Amsterdam, they conclude that the convergence of prices and fundamentals may take decades.

One possible explanation for the weak convergence of prices and fundamentals follows from Glaeser (2013), who argues that booms and busts in housing markets are, to some extent, driven by the limited cognition of investors. Buyers of property don't appear to be fully rational. High prices during a boom and low prices during a bust are, in his view, compatible with reasonable models of housing valuation and defensible beliefs about future price growth or decline. However, investors appear to systematically underestimate the impact of the elasticity of long-run supply on the long-term price, which can increase the volatility of housing prices in the short and medium run.

Price volatility is also addressed by Brunnermeier and Julliard (2008), who argue that money illusion in times of falling inflation drive a boom-bust cycle in house prices. When inflation falls, households fail to take this into account when predicting future nominal house price growth, which leads to a boom in real house prices. This explanation is particularly relevant in the Netherlands, where inflation averaged 3% between 1998 and 2003, but just 1.6% between 2003 and 2008. This may have contributed to an overvaluation of housing prices in the years just before the crisis.

The characteristics of housing market booms and busts

So if house prices are volatile and booms and busts are typical, what are the key characteristics of booms and busts? One specific feature of the housing market is the dependence on the credit conditions, which plays a role in housing market booms and busts having a strong self-driven mechanism: an increase in house prices increases households' leverage and thus improves their access to credit, which can further increase housing demand causing house prices to rise further.

Due to the self-driven mechanism we see prolonged house price booms and busts: Agnello and Schuknecht (2011) use house price data for 18 countries over the period 1970 to 2007 and identify booms and busts as prolonged exceptional price increases or decreases. They estimate the average length of a boom or bust length to be seven years, although booms range from three to 11 years, whilst busts range from three to 15 years. In their sample, they find that nine out of 25 booms were immediately followed by a bust rather than experiencing

a gradual slowdown. A further seven booms were immediately preceded by busts. So it is common for the house prices to have long adjustment cycles and for price booms and busts to happen immediately after each other. They also note that the length and magnitude of house price booms and the following busts are strongly positively correlated: longer and more severe booms are followed by longer and more severe busts.

Igan and Loungani (2010) describe the typical appearance of housing booms and busts in 55 countries from 1970 to 2010. They find that the typical boom lasts 20 quarters, during which real house prices rise by around 50%, whilst the typical bust lasts 18 quarters during which real house prices fall 23%.²⁵ Housing market busts also follow financial crises. Reinhart and Rogoff (2009) identified 15 systemic financial crises and analysed the consequences they had on macroeconomic variables. They find that real house prices fall on average 36% after the outbreak of a financial crisis.

It's not just prices that are subject to the boom-bust cycle: during the cycle the volume of transactions often follows house prices.²⁶ Initially when the prices start falling, home-owners (sellers) do not want to recognise losses and the number of transactions falls. It typically takes some time before home-owners lower their asking prices. Transactions may also fall because some potential buyers wait if they expect prices to fall further. Then, when prices have fallen enough to become affordable for a large number of potential buyers and potential sellers are willing to realise the losses, the number of transactions starts increasing. These increased sales are a signal that house prices may stabilise, which entices more potential buyers who were waiting to enter the market and the number of transactions increases further.

3.4 What is different this time?

Housing policy reforms

Since 2010, the Dutch government has announced various reforms in its housing policy. In 2011, the property transfer tax for private households was lowered from 6% of the transaction price to 2%. Deductibility of mortgage interest payments has also been limited. Since 2013, interest payments on new mortgages are only tax-deductible for annuity or linear mortgages, where the principal is steadily repaid during the lifetime of the mortgage. In addition, from 2014 onwards the maximum deduction rate of 52% (for the highest income tax bracket) for interest payments will be reduced to 38% in steps of half a percentage point per year. Finally, the maximum LTV ratio will be reduced stepwise from 104% to 100% in 2018.

In the rental sector, maximum rents in the social housing sector have been increased, where the actual annual increases depend on the income of the tenant. Furthermore, social housing

²⁵ Many other studies have also described housing markets as being subject to booms and busts. They include Case and Shiller (1989), Muellbauer and Murphy (1997), Bordo and Jeanne (2002), Martínez Pagés and Maza (2003) and Bénétrix *et al.* (2012).

²⁶ This description follows Rabobank (2013).

corporations will be subject to a levy. However, in the long-run, the increased revenues from the increase in maximum rents will offset the tax. This will make investment in rental housing more profitable, inducing more supply of rental housing.

Taken together, these reforms imply a lower fiscal subsidy for owner-occupants and a larger supply of rental houses. Both negatively affect the demand in the owner-occupied sector. Therefore, part of the decline in Dutch house prices can be explained by the reforms in Dutch housing policy that have been announced. However, even when taking into account the highly inelastic supply side, the reforms alone cannot explain the drop in house prices that notably started before the reforms. Obviously, the economic crisis played a key role as well.

Negative housing equity and household mobility

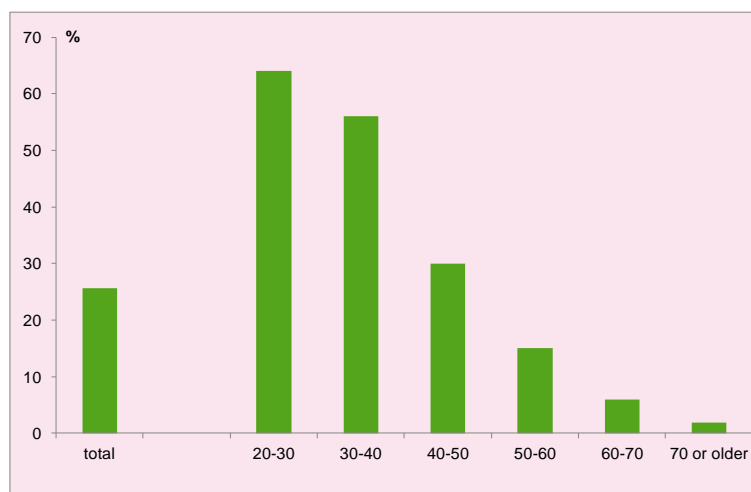
As described above, a distinctive feature of the current housing market crisis is the large share of households with a mortgage worth more than the home it is secured against. As Figure 3.4 shows, the share of underwater mortgages is particularly high for younger families, who often have 'top'-mortgages both when compared to the value of housing and their incomes. Starting in the 1990s, it became common in the Netherlands to not only buy a house without any down payment, but also to finance sales taxes (6% until 2011) and other costs related to buying a house with loans. Hence, a large fraction of households already had their mortgage between 8 and 10 percent underwater at the moment of buying. Many new homeowners therefore had an under water mortgage just after buying. Until the crisis high nominal house price growth typically resolved this within a few years, thereby removing constraints on their mobility. Banks have become less willing to finance mortgages with a high LTV ratio, making this practice less common.

A high incidence of interest-only mortgages has further contributed to the high share of households with their mortgage underwater, since the outstanding principal is not reduced over the lifetime of the mortgage. Given their initial preference for interest-only mortgages, it is not obvious that these households will compensate for this by other forms of saving.

It is worth mentioning that in the Netherlands more than half of all underwater mortgages are covered by the National Mortgage Guarantee (NHG) (DNB, 2014). If households are forced to sell their house (for example, because of divorce, unemployment or disability), NHG may, under some conditions, cancel debts that remain after selling the house. In these cases, the remaining debt is remitted without personal bankruptcy. Through the NHG scheme, the government ultimately bears a substantial part of the financial risks of underwater mortgages, thereby reducing risks for financial institutions.

Since 2008, the number of households with an underwater mortgage has tripled. There are several ways in which having an underwater mortgage affects the behaviour of households. It reduces the mobility of these households, thereby potentially reducing their labour mobility as well. Further, these households may reduce their consumption to save or repay their mortgage. While Chapter 6 discusses the effects of underwater households on consumption and saving, this section will focus on how negative home equity affects household mobility.

Figure 3.4 Share of households with underwater mortgages, 2013



Underwater households have limited options, and their mobility is severely constrained due to liquidity problems (Stein, 1995). Even though affordability of housing has improved during the crisis, and many owners are in the stage of their lifecycle where incomes tend to increase, if they wish to move house they will need to cover the remaining debt. Since it is difficult to take a loan higher than 105% of the new house's current price, they will generally need to have savings to be able to buy a new house. They can also move to a rental house by selling the current house and finance the loss by taking out a loan. However, the ability to rent another house will also be constrained by the outstanding liabilities from the previous house. As real interest rates on personal loans without collateral are much higher than those on mortgages, these liabilities can be substantial. At the reduced rates offered by banks for this specific purpose, there is currently²⁷ a premium of about 400 basis points. Also, households currently living in an owner-occupied house will often not be eligible for social renting, and renting in the private sector is more expensive than owning a house. An option that many households use is to put the house on the market for a price higher than the market price and wait. Because selling the house at a price above the market value is next to impossible, this option boils down to waiting until the market has recovered.

Besides liquidity constraints, loss aversion may also affect mobility negatively. As losses are only realised when a property is sold, households may avoid this such that the loss remains theoretical. Even though loss aversion may be particularly strong for households that are underwater (because they end up with a residual debt), it could play a role for households with lower mortgages as well. Empirical research (see Van Dijk, 2013, for an overview) has shown that loss aversion increases the minimum price at which households are willing to sell their property, which reduces housing market turnover.

Empirical evidence on the mobility of the underwater households is mixed. For the US, some studies find evidence of housing lock-in (see, for example, Ferreira *et al.* 2010 and 2011, or Andersson and Mayock, 2012), whilst a significant number of others find no evidence (Coulson and Greico, 2012 and Valletta, 2012). A few even find that households with negative

²⁷ May 2014, ING website.

equity are more likely to move than other households (Demyanyk *et al.*, 2013 and Coulson and Grieco, 2013). However, lending conditions in the Netherlands are substantially different from the US, where households often have the option to default on their mortgage by returning the keys to the bank. This may be one of the reasons why only 13% of all mortgages in the US are underwater (DNB, 2014). There are also a number of studies that analyse negative equity in European countries. In the UK, Henley (1998) finds that negative equity reduces the probability of a household moving. For households with negative equity, the probability of moving quickly falls from 10% per year for a typical household to zero as negative equity gets worse. However, based on the relatively small relation between commuting time and the probability to move, he concludes that the effect on labour market mobility may be relatively small.

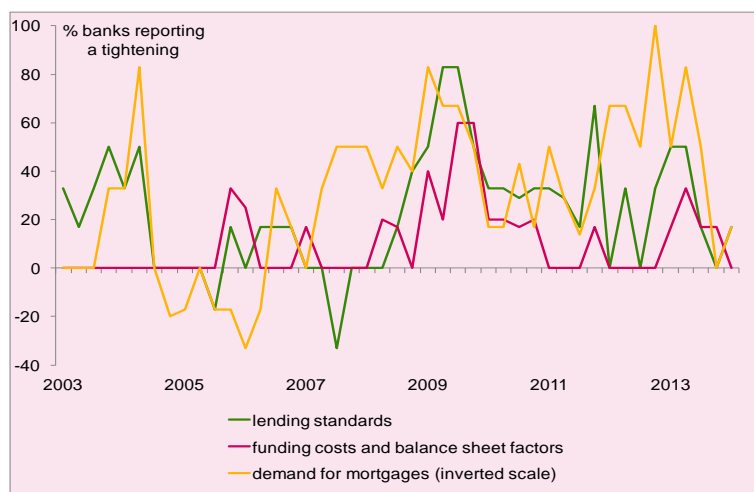
Even though there is some evidence that negative equity limits housing mobility, the literature shows that the associated labour market effects are likely to be limited. Moreover, due to the relatively small commuting distances in the Netherlands, especially in the Randstad region, the effects of negative equity on labour market mobility may even be smaller than in other, larger countries.

Restrictions in mortgage lending

Figure 3.5 shows how bank lending standards have changed over time for mortgage applicants. The data come from the Bank Lending Survey of DNB, where banks are periodically asked if their lending standards have changed. This figure shows the net percentage of banks that reported to have tightened their lending standards. So, if 30% of banks report a tightening and 10% report a loosening, the net percentage is simply 20%.

Since the crisis started in 2008, banks have clearly tightened lending standards for mortgages. In all years since 2008 the banks that reported a tightening outnumbered the banks that reported a loosening. Although, as the discussion in Chapter 2 made clear, these survey responses do not distinguish supply from demand effects, the survey does ask banks why they have changed their lending standards. Banks have often reported that the typical mortgage applicant looks different now from their perspective than the typical applicant before the crisis. When the downward risks to house prices increase, that means that the probability that the value of the collateral pledged when securing a mortgage falls also increases. This, in turn, increases the risk that a bank will not be able to get its money back, should there be problems with the loan. Therefore, banks are less willing to lend when house prices are falling. Similarly, lower transaction volumes make housing markets less liquid, further increasing the probability of losses for any given loan. If we add in the fact that unemployment has increased, which increases the probability that a given mortgage applicant will be unable to meet the monthly payments, we can see why applicants are more risky than before the crisis.

Figure 3.5 Bank lending survey for mortgage conditions



Source: DNB Bank Lending Survey.

As Figure 3.5 shows, the reported lending standards are also positively correlated with both funding cost and balance sheet issues and negatively correlated with the perceived demand for mortgages.²⁸ Whilst banks have been tightening lending standards for mortgages since 2008, some of that tightening follows from reduced demand for mortgages since 2007 and some from a reduction in the supply of mortgage credit. As described in Chapter 2, weak banks restrict lending to rebuild capital positions - and lending standards have only got stricter since the crisis started.

In short, the developments in the housing market over the last five years have made banks less willing to lend to households. Tighter lending standards limit the number of households who can secure a mortgage and also limit how much they can borrow. This translates into lower demand and lower house prices.

3.5 Key uncertainties in the coming ten years

The recovery of the Dutch housing market depends on many factors. We identify three key uncertainties that will most likely shape the developments in the Dutch housing market over the next ten years. Obviously, regional differences will play a role as well, but here we focus on the Dutch housing market in general.

As the signs of economic recovery are only weak, many households are probably not explicitly considering moving yet. But in time, the latent desire to move can become more manifest. However, as we discussed in this chapter, being underwater can seriously limit housing market mobility. Will households anticipate this and give priority to deleveraging? And if so, to what extent are they willing to sacrifice current consumption in order to save more and pay off some extra mortgage debt? The future behaviour of households who

²⁸ Inverted scale - when the depicted demand line goes up, demand for mortgages has fallen.

currently face negative equity constitutes the first key uncertainty in the Dutch housing market. If households put only limited effort into deleveraging their financial positions, many of them will find it very difficult to buy another house in the coming ten years. A substantial part of the potential demand for housing will then be ineffective.

The second key uncertainty relates to the availability of mortgage lending. International organisations advice further reforms of the mortgage deductibility regime. While lending standards have been tightened, their future developments over the next ten years are uncertain. A further tightening would ration household credit. Significant uncertainty about future reductions in LTV ratios also has the potential to lower demand and reduce prices. The Dutch government has already imposed a gradual reduction of the maximum LTV ratio to 100% in 2018. However, they have also announced that in the long-run, a further reduction would be desirable. Although no concrete policy measures have been announced, it is possible that after 2018 the maximum LTV ratios will be further reduced.

Finally, consumers' confidence in the Dutch housing market will also play a key role. Consumers' confidence will obviously be related to actual developments on the housing market and will, therefore, be partly related to the previous two key uncertainties. Additionally, confidence in the housing market can also be fed by consumer confidence in general. So a further recovery of macroeconomic conditions and global financial stability could make households more confident and increase their willingness to consume more housing services.

3.6 Summary: the housing market in three scenarios

Since the start of the Dutch housing market crisis in 2008 house prices, transactions and construction have dropped substantially. Even though real estate markets, with highly inelastic short-run supply conditions, have a cyclical nature where booms and busts are common, the current crisis has a number of distinctive features. Of particular interest is the large number of Dutch households with negative equity, which likely forms a substantial hurdle for moving. Furthermore, during the crisis the Dutch government has announced various reforms in its housing policy. These reforms imply a lower fiscal subsidy for owner-occupants and will eventually induce a larger supply of rental houses. Both reduce demand in the owner-occupied sector.

Therefore, part of the decline in Dutch house prices can be explained by the announced reforms in Dutch housing policy. The other part is related to the crisis. Eventually, one might expect that the negative impact of the crisis will eventually vanish. But even though house prices have stabilised since mid-2013, it remains uncertain to what extent and at what pace the Dutch housing market will recover. Recovery will largely depend on three key factors: deleveraging by households, credit availability and consumer confidence. Below, we summarise the range of possibilities in three scenarios that will be further developed in Chapter 8.

Accelerating Recovery: Recent figures on house prices and transactions contribute to growing confidence. Current low interest rates stimulate demand as well, the growing latent desire to move gradually becomes manifest, and availability of mortgage credit will increase. As a result demand increases, leading to rising house prices and favourable credit conditions. Fewer and fewer households are underwater as house prices increase, which further increases mobility. In the accelerating recovery scenario, nominal house prices will increase by 4% per year on average. After a number of years in which house prices fell much more than what would be expected from their fundamentals, this growth rate is consistent with a robust recovery towards their fundamental level.

Moderate Recovery: In this scenario, households put some effort into deleveraging and are helped by nominal house prices increases. Nevertheless, some households remain underwater and postpone moving. Mortgage availability remains at the level during the crisis and consumer confidence in the housing market is more or less neutral. Nominal house prices increase by 3% per year in this scenario. This growth rate is consistent with a slow recovery towards the fundamental house price level.

Delayed Recovery: Homeowners only put a little effort into deleveraging. Only when above water, do they consider moving. Ongoing or renewed global financial instability results in continuing job uncertainty and low consumer confidence. Banks further restrict mortgage lending; loan-to-value ratios are limited to levels below 100%. Consequently, demand from both new and existing home owners is restricted, resulting in decreasing nominal house prices (-0.5% per year on average). House prices do not move towards their long run fundamental values in the projected period for this scenario.

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