



CPB Netherlands Bureau for Economic
Policy Analysis

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The Dutch housing market - mortgage interest rates, house prices and consumption

On request by the Minister for Housing and the Central Government Sector



Centraal Planbureau

CPB Communication

To: S. Blok, Minister for Housing and the Central Government Sector

Centraal Planbureau

Van Stolkweg 14
Postbus 80510
2508 GM Den Haag

T (070)3383 380
I www.cpb.nl

Contactpersonen

Michiel Bijlsma
Johannes Hers
Remco Mocking

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1 Introduction

In a letter of 25 January 2013, with reference 2013-0000048142, the Minister for Housing and the Central Government Sector requested CPB Netherlands Bureau for Economic Policy Analysis to analyse the consequences of the current financial position of banks in relation to the mortgage and housing markets and, following from that, for the current situation of the Dutch economy. This study was to include both the economic and structural aspects of that relationship. CPB honours this request in so far as the questions can be answered on the basis of available expertise and research capacity, as was also indicated in our letter of 31 January with reference 13 00310.

In summary, we conclude the following:

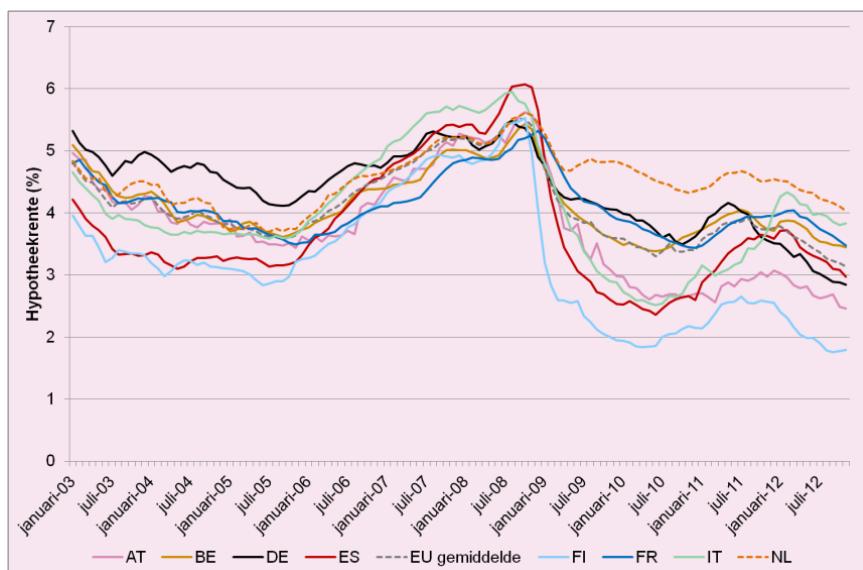
- Mortgage interest rates in the Netherlands, according to European Central Bank (ECB) statistics, are around 1% higher than in the surrounding countries.
- There is no indication that the banks' costs of financing through secured or unsecured debt or securitisation are systematically higher in the Netherlands than in the countries that surround us. For certain types of deposits, however, costs were found to be higher than in some other countries, although this does not apply to all types of deposits and all countries.
- The most likely explanation for the high Dutch mortgage interest rates is therefore not related to the higher costs of bank financing.
- There are three possible alternative explanations for the higher interest rates on mortgage credit:
 - (1) Capacity restrictions, because Dutch banks may be reducing their leverage to a larger degree than banks abroad.
 - (2) Reduced competition, as foreign competitors have either left the market or have reduced their activities since the beginning of the economic crisis.
 - (3) Increased risks on the Dutch mortgage market, due to declining house prices and poor economic developments.
- The Dutch National Mortgage Guarantee (NHG) reduces the risks on the Dutch mortgage market by insuring banks against payment defaults. Two questions relate to the NHG:
 - (1) Why would the single premium of 0.85% result in a much larger advantage for house buyers than, say, half a per cent less mortgage interest rate? This may be partly explained by the fact that the tail risk is run by the government.
 - (2) Is the guarantee constructed in a way that international market parties can understand and would consider credible?
- House-price developments in the Netherlands since 1980 can be explained mainly by the fundamentals (income, capital, interest rates, housing supply).

- Real house prices have declined by around 20%, since 2008, and the historically low interest rate during those years has contributed to this decline. House prices would be around 5% higher than they are today if Dutch mortgage interest rates would be at the even lower EU average.
- Various factors have contributed to the decline in house prices over this period:
 - (1) developments in real disposable income and the (modest) increase in housing stock;
 - (2) housing policy since 2010 (and the uncertainty about its direction).
- The declining house prices are among the main factors that explain the reduction in consumption and the lower economic growth. Nearly half of the lower consumption levels over the 2008–2012 period may be explained by the decline in house prices.

2 Mortgage interest rates in the Netherlands

Figures from the European Central Bank (ECB) clearly indicate that mortgage interest rates in the Netherlands, since the beginning of the financial crisis, have been higher than in the surrounding countries; see Figure 2.1. This figure shows the development of average mortgage interest rates according to a selection of European countries. In most European countries interest rates can be seen to drop sharply following the financial crisis of 2008. For the Netherlands this decline is shown to be less steep.

Figure 2.1 Average mortgage interest rates, all mortgages¹



Source: ECB

¹ This concerns the average interest rate for housing mortgages, weighted according to the volume in new contracts with varying fixed-term interest rates periods. Figures are published by the [ECB](#).

Mortgages with a fixed-term interest rate period of less than 1 year, a fixed term of 1 to 5 years, a fixed term of 5 to 10 years, and a fixed term of more than 10 years exhibit a pattern comparable to what is shown in Figure 2.1. Differences are especially large for mortgages with fixed-term interest rate periods of more than 1 year. On average, mortgage interest rates in the Netherlands are 1 percentage point above the EU average.

The central question is what would explain the high Dutch mortgage interest rates. The mortgage interest rate that banks charge their customers depends on the bank's marginal costs to finance the loan, as well as on the competitive position on the market. The marginal costs depend on the risk profile of the mortgage itself, on the bank's characteristics, and on the opportunity costs related to providing the loan. After all, financiers demand high returns when they invest in loans that carry a higher market or credit risk. Moreover, it is more expensive for banks to persuade financiers to make funds available for an additional mortgage loan if the bank in general poses a larger credit or liquidity risk. Through a bank's opportunity costs, the marginal costs related to providing a loan depend on the amount of capital reserve this would involve.

The following section discusses what indications may point to differences between Dutch and foreign banks in the costs related to the financing of capital, and how the characteristics of Dutch banks, mortgage loans and competitive positions may explain the deviating tariffs on the Dutch market. Differing explanations do not rule each other out.

2.1 Costs of financing capital

First, we discuss possible differences in costs related to the financing of capital for Dutch banks and foreign banks. Banks generally finance new mortgage loans using the following instruments: unsecured debt, secured debt, repurchase agreements, deposits, and securitisation.² Each of these instruments is discussed below, except that of repurchase agreements, because we were unable to get data on prices.

One of the cost components of financing capital is that of unsecured debt. The costs related to unsecured debt of a given maturity may be studied according to the swap rate together with the spread of CDS (credit default swap) contracts of the particular bank, both of the same maturity.³ The swap rate is a measure of risk-free interest in the eurozone. CDS spreads reflect the bank-specific surcharge to cover the credit risk. The weighted average CDS spreads of Dutch financial institutions are below those of banks in the surrounding countries, as is shown in Figure 2.2 for contracts with a maturity of 5 years.⁴ From this we conclude

² For example, see Chapter 4 of <http://www.ecb.int/pub/pdf/other/housingfinanceeuroarea0309en.pdf>

³ The swap rate is the interest on a financial loan for which a contract with a long-term fixed interest rate is being exchanged for one with a short-term variable interest rate. This also involves margin payments if the long-term fixed interest rate is adjusted. As the market of swap contracts is very fluid, it is a good indicator of risk-free interest.

⁴ The with balance-size weighted average of senior CDS MM 5-year CDS contracts in euros, for the following banks: Deutsche Bank; Commerzbank; Landesbank Baden-Württemberg; DZ Bank; Bayerische Landesbank; Norddeutsche Landesbank; HSH Nordbank; Landesbank Berlin; BNP Paribas; Crédit Agricole; Crédit Mutuel; Société Générale; ABN Amro; ING Bank; Rabobank; SNS Bank; Royal Bank of Scotland; HSBC; Barclays; Lloyds; Nationwide BS; Santander UK; KBC Bank; and Fortis. Information on CDS spreads was collected for the period between early 2008 and early 2013.

that, in the Netherlands, financing costs related to unsecured debt are not higher than in the surrounding countries.

Figure 2.2 Average CDS spreads



Source: Datastream, CPB calculations

On the market of secured debt, spreads between secured and senior unsecured debt in 2011, in the Netherlands, were around 50 basis points, comparable to the situation in Germany. The spreads in relation to the national debt for secured debt with an AAA rating were around 70 basis points, again comparable to those in Germany.⁵ In this area, therefore, also no indication was found of a higher market price related to secured debt in the Netherlands than in the countries surrounding it.⁶

In addition, a certain share of mortgages is securitized and sold on the market for Residential Mortgage Backed Securities (RMBS). The spreads of RMBS contracts provide an indication of the costs of financing the secured share of mortgage loans. If market prices have increased, this may be an explanation for the higher charges by the banks. This also applies to banks in other European countries.

However, the spreads of Dutch RMBS contracts were not found to be particularly high, compared to those in other European countries. Prices for Dutch RMBS have dropped over the past two years, and are now between 50 and 100 basis points above the Euribor (Euro Interbank Offered Rate). Monthly reports by Markit, for example, show that the spreads of Dutch RMBS, currently, are slightly above those in the United Kingdom and are comparable with those in France. In early 2012, the spreads of Dutch RMBS contracts were 300 to 400 basis points below those in Spain and Italy.⁷ Here also can be concluded that there are no indications of costs being higher in the Netherlands than in the surrounding countries.

⁵ See the ECB European covered bond fact book 2012

⁶ According to the Dutch DNB, overcollateralisation for the Dutch covered bonds of generally more than 25% is high, due to the specific Dutch legal context (see p.64 in Section 2.4 of the [DNB annual report 2011](#))

⁷ See [Unicredit securitisation outlook](#), 29 January 2013; [Markit structured finance research - European MBS market](#), 25 October 2012; [Markit structured finance research - European MBS](#), January 2013. Also see the relatively low spreads for

There are three additional reasons that indicate that the costs related to financing through securitisation are not higher in the Netherlands than in other countries. First, Dutch mortgages have a low incidence of payment defaults, compared to the mortgages in other countries.⁸ Dutch households that have purchased their first home during the past 10 years, however, do have a relatively high loan-to-value (LTV) ratio.⁹ Note that the average LTV ratio for all houses in 2010 was around 70%.¹⁰ Second, the Dutch National Mortgage Guarantee (NHG) limits the risk level related to secured loans, as it insures banks against possible defaults. Dutch owner-occupiers may acquire such an NHG insurance against a one-time premium, when they lend money to either buy or renovate their homes. The NHG is issued by the Dutch Homeownership Guarantee Fund (WEW) and thus insures repayment to the mortgage lender of the mortgage amount and any additional costs. On the basis of data on 2009 from WoON 2009, a national survey that focuses on housing quality and housing requirements, 29% of the outstanding total in mortgages was guaranteed under the NHG. This percentage is likely to be somewhat higher today, as over the past four years a large number of new mortgages was covered by the NHG. And, third, the market for the issuing of secured Dutch mortgages continues to be relatively active.¹¹

A third cost component of financing using borrowed capital is that of interest on deposits at the Dutch banks. A high interest on deposits could reflect a larger willingness of Dutch banks to attract money from individual savers than from banks in other countries. Differences in deposit interest rates, however, could also be the result of other differences between countries, such as the degree of competition on the savings market.

Figure 2.3 shows that interest rates on fixed-term deposits, in the Netherlands, on average, are high when compared to those in Germany, Austria and Belgium. Dutch interest rates on fixed-term deposits are comparable to those paid by banks in France, Spain and Italy.¹² However, for different maturities, a more varied image emerges (for an overview of the various figures, see Appendix A). Often, the Netherlands is on the high side, but there are also other countries where levels are comparable. The interest rate on deposits redeemable at a period of notice up to three months, for example, is comparable with that paid by Danish, British and French banks, but higher than the interest rate paid by German banks. For deposits with a maturity of one to two years, the Netherlands is positioned below both France and the United Kingdom and on a par with Germany. Only in the case of fixed-term deposits of more than two years, the Dutch interest rate is found to be over one percentage

the NIBC programme issuing [750 million euros on 1 June 2011](#), and another [526.5 million euros on 24 January 2013](#). The loan-to-value (LTV) ratio of that last issue was 72.3%, which is about the average LTV ratio in the Netherlands, according to CBS figures quoted in Footer 8.

⁸ See [Mortgage Market in the Netherlands](#), a publication by the Dutch ABN AMRO bank, comparing prime RMBS 60+ days delinquency rates with those in Ireland, Spain, Portugal, Greece and the United Kingdom. And see [Frequently Asked Questions About Dutch RMBS](#), for an analysis by Fitch Ratings. See also the [International Comparison of Mortgage Product Offerings](#) a publication by the Mortgage Bankers Association, for a comparison on payment defaults (of more than 30 days) in 2010. Here, the Netherlands is positioned below, for instance, Germany.

⁹ See <http://www.ecb.int/pub/pdf/other/housingfinanceeuroarea0309en.pdf>

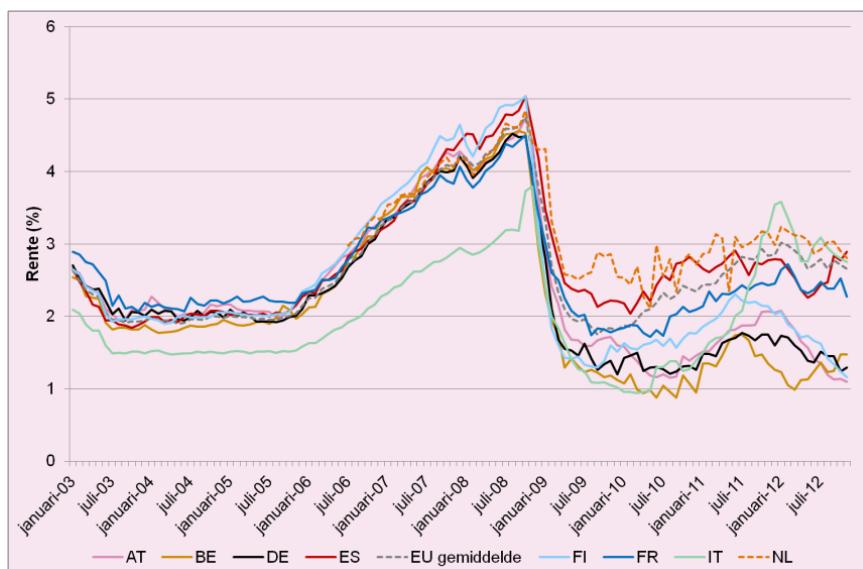
¹⁰ See Figure 9.7 in [this CBS publicatie](#) on mortgage debt in the Netherlands (in Dutch).

¹¹ For example, see the [Overview of Financial Stability, Spring 2012](#), a publication by the DNB.

¹² Differences between these averages may also originate from a different mix of deposit durations in the various countries. Therefore, it is useful to also compare the deposit interest rates for these various durations, see Figure 2.3.

point above that of all other European countries. This leads to the conclusion that, for certain types of deposits, costs in the Netherlands are higher than in the surrounding countries, but for other types of deposits costs are similar or lower. Higher deposit interest rates may be an indication of higher financing costs for Dutch banks than for, particularly, German banks. For France, the United Kingdom and Denmark, however, deposit interest rates do not provide a clear indication of differences in financing costs. Differences in competition on the consumer market for deposits may explain why the Dutch interest rates for certain deposits are higher than abroad.

Figure 2.3 Interest rates on fixed-term deposits (weighted average for all durations)¹³



Source: ECB, DNB

No indications were found that the costs of financing through unsecured or secured debt, or securitisation are systematically higher for the Netherlands than in the surrounding countries. For certain types of deposits, costs in the Netherlands are indeed higher than in surrounding countries. In countries such as France, the United Kingdom and Denmark cost levels are comparable to those in the Netherlands.

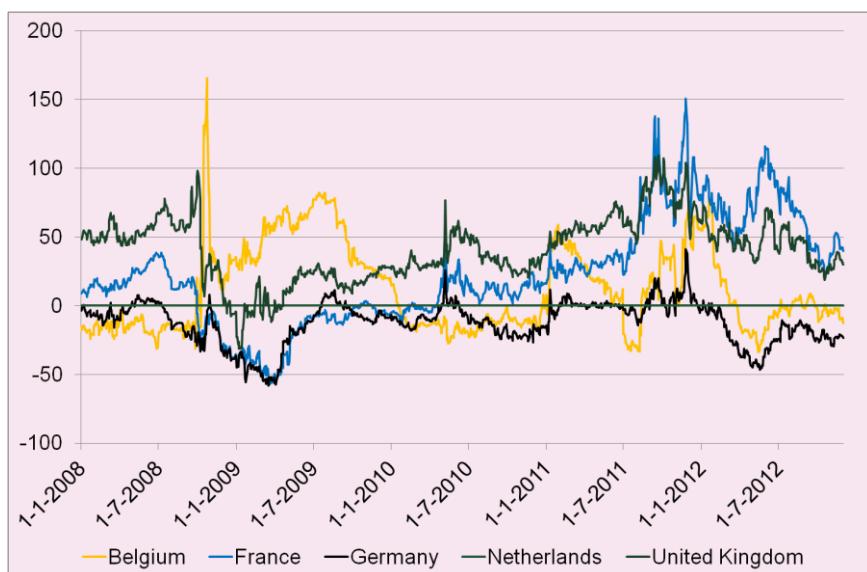
Therefore, for individual components of financing, we found no indications that their costs are higher in the Netherlands than in the surrounding countries. However, banks in the Netherlands could have a different and possibly more expensive marginal *financing mix* than banks in, for example, Germany or France. The outcome of the comparison depends on the assumptions on the exact financing mix for new production. For instance, under the assumption that a bank cannot simply attract additional deposits, especially unsecured and secured debt and financing through securitisation would be relevant for the costs related to new production.

Figure 2.4 shows the weighted costs related to capital in various countries compared with those in the Netherlands, from the perspective of a specific assumption. The Netherlands'

¹³ This concerns the average interest rate for fixed-term deposits, weighted according to the volume of new contracts of varying durations. These figures have been published by the [ECB](#).

relative position would alter under different assumptions about the weights of the various sources of financing. For each country, deposits as a percentage of the banks' total assets were determined on the basis of ECB data, and the remainder was assumed to be financed through unsecured debt financing. The five-year swap rate, as published by the DNB, together with the average CDS spread, was taken as the price of unsecured financing. The ECB's interest rate on deposits redeemable at a period of notice up to three months was taken as the price of deposits.¹⁴ The figure shows that costs, when defined in the above manner, in the Netherlands would not systematically be higher than in the surrounding countries. For 2011, the picture does not change when some of the unsecured financing is replaced by secured financing, under the assumption that all outstanding secured bonds per country as well as a quarter of outstanding securitising loans are being used to finance mortgage loans and loans to non-financial companies, with the weight of the deposit financing remaining constant (see Appendix A).¹⁵

Figure 2.4 Weighted costs related to the Netherlands, in basis points (NL = 0)



Source: ECB, DNB, Datastream, CPB calculations

Finally, differences in financing costs between Dutch and other European banks are likely not only to be reflected by the interest rates on mortgages. The interest rates on other lines of credit would be expected also to show comparable differences, as any higher costs for banks to attract financing also would be passed on to their customers. However, for example, tariffs for small business loans were found to be in line with those in surrounding countries – particularly for loans of over 1 million euros (see figures in Appendix A). For these types of loans, large differences were found between countries; although Dutch interest rates are similar to those in Germany and France, those in Belgium and Austria are lower. This implies that differences in interest rates are not particularly determined by the characteristics of the method of financing the bank balance, but rather are a reflection of those of the product markets on which banks operate.

¹⁴ The weighted costs per country were determined as $\text{price_financing}(t) = (1-x(t)) * (\text{price_swap}(t) + \text{spread_CDS}(t)) + x(t) * \text{interest_deposit}(t)$, where $x(t)$ equals $\text{total_amount_deposit's}(t) / \text{size_total_bankbalance}(t)$

¹⁵ Belgium here was left out, as data on prices were not available for RMBS and secured bonds.

If we assume that the costs of financing, in contrast to the analysis above, are in fact higher than those for foreign competitors, does this then mean that this *deposit funding gap* (as defined by the DNB in Chart 20 of its [Overview of Financial Stability \(Autumn 2011\)](#)) is the only possible or most plausible cause? The hypothesis states that this funding gap causes the Dutch banks to be relatively dependent on financing through capital markets. The liquidity risks run by banks as a result of the short-term share of that financing would induce markets to charge high interest.

From a liquidity risk perspective, the important difference concerns that between the total in bank balance, on the one hand, and outstanding deposits together with the bank's own capital, on the other – as banks would need to finance their entire balance sheet. Starting therefore from this alternative measure, there are also other structural differences with financial sectors in the surrounding countries that may result in differences in financing costs. Some of the main differences between the Netherlands and surrounding countries are the relatively large number of foreign assets¹⁶ and the large foreign liabilities on the balances of the Dutch banks, the size of the Dutch financial sector compared to the GDP (see Figure 7 in the [CPB Financial Stability Report \(2012\)](#)), and the relatively large leverage of Dutch financial institutions (see Figure 2.5 below). All of these factors, in theory, may increase the costs related to attracting capital.

2.2 Capacity restrictions

Another alternative explanation for the higher Dutch mortgage interest rates could be the fact that Dutch banks are faced with capacity restrictions due to a lack of risk bearing equity capital. If banks would wish to lower their leverage, they can do so in various ways: by withholding dividend payments (profits will then be used to repay debts or finance new assets), by attracting new own capital, or by reducing the balance. Bank owners, in practice, often prefer to reduce the balance over any of the other options, although this is not necessarily the optimal solution, from a societal perspective. Empirical studies have shown that if banks find themselves in trouble and therefore have to add to their capital, this process involves a decrease in the number of new loans granted as well as an increase in interest rates.¹⁷ Under normal circumstances, healthy banks would be able to take over their competitors' reduction in the provision of credit. However, if all banks would be affected at the same time, or if the decline would be of such a magnitude that healthy competitors cannot take over, such credit rationing could lead to higher interest rates on mortgage markets.

In addition, there is the capital reserve related to new mortgage production. When banks grant a mortgage loan, they must reserve part of the amount in own capital, as stipulated

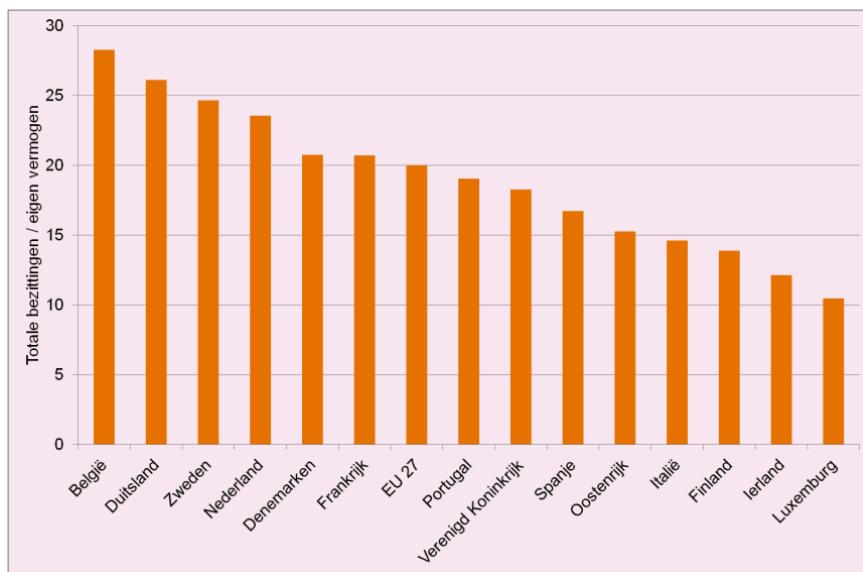
¹⁶ In September 2012 this was USD 1176 billion, see BIS Table 2A – external positions of banks in all currency units versus all sectors.

¹⁷ For an overview of the relevant literature, see the CPB Document 215: '[Are stricter capital requirements costly?](#)'

under the Basel Accords.¹⁸ If own capital is scarce, costs of capital reserves are higher. This in turn also increases the price of mortgages. The level of capital reserves for mortgages is determined through the Basel regulations and is the same for all comparable banks. The so-called standardised approach under Basel II assumes an 8% capital requirement, within which mortgage loans to households are awarded a risk weight of 35%. This results in a rate of 2.8%. Mortgages of similar sizes, thus, require the same amount of capital reserve in all European countries.

The main question, here, would be why these effects would be stronger for the Netherlands than for other countries. A possible explanation could be the relatively large leverage of Dutch banks. Figure 2.5 shows that this leverage of Dutch banks is above the European average.¹⁹ The [CPB Financial Stability Report \(2012\)](#) describes that, although the Dutch banks had a high score on their core Tier 1 ratio in the stress tests by the European Banking Authority (EBA) in 2011, they also had an average leverage that was higher than that of banks in other countries (see also the [DNB Annual Report 2011](#)). This may be explained by the low risk weight of the Dutch banks' assets, which also means that they have relatively little core Tier 1 capital, compared to their total capital, and that this makes them relatively vulnerable to unexpected losses. Another factor is a lack of market entries; if healthy foreign banks would enter the Dutch market and provide mortgage loans against lower interest rates, this would limit capacity restrictions and, therefore, potential price increases.

Figure 2.5 Average banking sector leverage per country (2011)



Source: ECB data on balances per country, CPB calculations

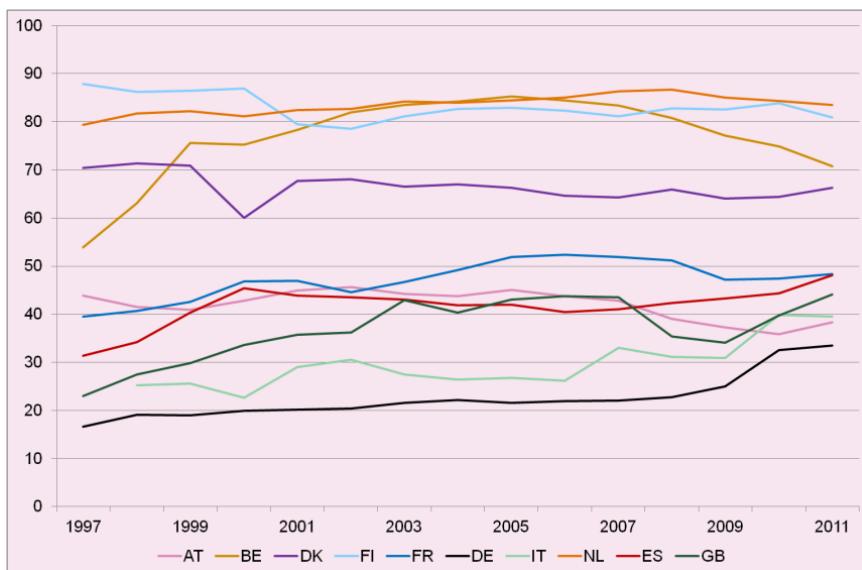
¹⁸ Banks' own capital refers to Tier 1 Common Tangible Equity.

¹⁹ The figure shows balance sizes, divided by own equity, using data from the ECB.

2.3 Competition

A second alternative explanation for the higher Dutch mortgage interest rates could be the fact that competition on the Dutch mortgage market has declined. Figure 2.6 presents the market shares for the five largest banks per country. It clearly shows that the Dutch banking sector indeed is much more concentrated than those in the surrounding countries.

Figure 2.6 Market share of the 5 largest banks per country (C5)



Source: ECB

The mortgage market in the Netherlands is also highly concentrated. From a historical perspective, the three largest Dutch banks (Rabobank, ING Bank and ABN AMRO), together, have a market share of around 70%.²⁰ Moreover, there is little variation in the Top 10 mortgage lenders (based on market share).²¹ Notable is also the change in the presence of foreign mortgage lenders on the Dutch market. In 2010, foreign parties were reportedly slowly returning, but late 2011 BNP Paribas stated its intention to withdraw due to financial difficulties. If profits on the Dutch mortgage market are indeed high, this begs the question of why this is not attracting any foreign banks. This is a question that is difficult to answer. In the recent past, a number of foreign banks successfully entered the Dutch mortgage market. Although, since the economic crisis, they have withdrawn from this market, once the European debt crisis is over, they may return. The European banking union could ease such foreign market entries.²² In 2011, the Netherlands Competition Authority NMa, published a study about the competitiveness on the Dutch mortgage market.²³ The study indicated that, with respect to the competition on the mortgage market, it would be important for existing

²⁰ <http://www.economie.nl/artikel/hollands-hoge-hypotheekrentes> (article in Dutch).

²¹ 2010:

http://www.igh.nl/app/attach/iJrlGXyc/20205836/7b2aa05cecef4d5c830b4ce68284cd47/IGH_Hypotheekupdate_jan_2011.pdf (in Dutch).

2011: http://www.igh.nl/app/attach/yGZjlecf/20241341/ab349152cb4de84b504eb2ccdd1634df/IGH - Hypotheekupdate - 2011_Q4.pdf (in Dutch).

²² <http://www.economie.nl/artikel/hollands-hoge-hypotheekrentes> (in Dutch).

²³ <https://www.acm.nl/nl/publicaties/publicatie/7091/Sectorstudie-Hypotheekmarkt/>

and sometimes smaller mortgage lenders and new potential lenders to exert a certain amount of pressure on the already established mortgage lenders. From this perspective, the withdrawal of a foreign actor such as BNP Paribas has a negative impact on the competitiveness on the mortgage market. The NMa has announced a new study to explore the situation on the Dutch mortgage market.²⁴ Incidentally, there is the possibility that the reduced competition on the mortgage market is only temporary, and that this will recover in the future when foreign banks re-enter the Dutch market or when the Dutch banks find a new leverage equilibrium.

The high Dutch mortgage interest rates may also be explained by the restrictions on price leadership following the intervention by the European Commission²⁵. Banks that had received government support were giving a price-leadership banning order, prohibiting them from charging lower interest rates than those charged by banks that had not received this government support. This situation could cause one of the three major banks to in fact become price leader. Note, within this context, that mortgage margins as calculated by the NMa had already increased in the Netherlands before the banning order came into effect. In addition, the price-leadership banning order for ING Bank was lifted on 19 November 2012, and AEGON also repaid all the support it had received and thus also had its banning order lifted. The banning order for ABN AMRO is still in effect.

2.4 Increased risk on the Dutch mortgage market

A third possible explanation for the higher Dutch mortgage interest rates is that banks are operating on the perception that the risks related to new mortgages has increased, while in fact the market is not pricing these risks accordingly, due to the implicit government guarantees.

The Netherlands, however, continues to score well in comparison with other European countries with respect to payment defaults, as indicated earlier. In addition, current home buyers are in fact running a lower risk because of lower prices and new regulation limiting the loan-to-value (LTV) ratio on the housing market, compared with those who purchased a house, say, five years ago. This, of course, does not apply to mortgages that need to be rolled-over. For certain groups of households, LTV ratios are high from an international perspective, and the decline in house prices in the Netherlands is also relatively large compared to the situation in the surrounding countries (see also Figure A9).²⁶ This causes these mortgages to carry a greater risk. Nevertheless, the spreads on Dutch RMBS are still low. Here, it must be noted that the Dutch National Mortgage Guarantee (NHG) functions as a guaranteeing mechanism for banks in the Netherlands against risks related to mortgages, and for which a uniform risk-independent premium is charged.

²⁴ <http://nos.nl/artikel/418726-hypotheeken-te-duur-door-brussel.html> (in Dutch).

²⁵ <http://www.economie.nl/artikel/hollands-hoge-hypotheekrentes> (in Dutch).

²⁶ See <http://www.cbs.nl/NR/rdonlyres/EC5E7E8A-8A14-4A51-BC57-8F2464BEAEC0/0/HypotheekschuldenNederland.pdf> (in Dutch).

In an earlier study, CPB Netherlands Bureau for Economic Policy Analysis has analysed the impact of raising the NHG.²⁷ This showed that the NHG lowers the risks for banks and facilitates the securitisation of loans. It shields mortgage lenders from the risk of being left with uncollectable debts following a forced property sale. The NHG allows mortgage lenders to hold a lower amount in capital reserve related to these mortgages, which reduces the share of the bank's capital reserve that is needed as a buffer against risks. This, in turn, means lower costs and thus offers the possibility of charging a lower interest rate to home buyers, making it easier for them to purchase a house.²⁸ Thus, the NHG offers price support and the guarantee also increases the number of transactions. This may lead to an upward impact on house prices, depending on the housing supply elasticity in the NHG housing segment. This, in effect, reduces some of the advantages for the home buyer and delivers them to the seller.

In contrast to these advantages there is the risk for the guarantor behind the NHG (which is the national government and, therefore, the taxpayer), as buffers built from the premiums received, may not be sufficient. In such cases, under unfavourable economic circumstances, the national government will grant an interest-free loan to the Dutch Homeownership Guarantee Fund (WEW).²⁹ From this perspective, it must be noted that the interest rate advantage for consumers is substantially larger than the premium paid for the insurance. This may be due to the fact that the amount in capital reserve related to NHG mortgages is lower, but also because the national government carries the tail risk. Furthermore, the knowledge of the government guarantee may lead to a moral risk of financiers granting mortgages too easily. And finally, there is the relevant question about how widespread the knowledge on the NHG is among international financiers and how credible they concern this guarantee to be. Transparency and credibility, after all, will increase the tradability of securitised Dutch mortgages.

2.5 Conclusion

The differences in the financing costs of unsecured debt of Dutch banks do not differ systematically from those of comparable foreign banks. This is also true for the prices of securitisations based on Dutch mortgages, when compared to those in surrounding countries. However, for certain types of deposits, costs in the Netherlands are higher than in some of the surrounding countries. In France, the United Kingdom or Denmark, however, the costs of some types of deposits are comparable, while mortgage interest rates in those countries are in fact lower than in the Netherlands. The composition of the marginal

²⁷ The following paragraph was based on this study (see <http://www.cpb.nl/publicatie/verhoging-nationale-hypotheekgarantie> (in Dutch)).

²⁸ The interest advantage for a mortgage with an LTV of 100% currently is around 40 to 70 base points, according to <http://www.hypotheekrentes.nl> (a website that provides an overview of mortgage interest rates in the Netherlands (in Dutch)).

²⁹ On pages 7 and 8 of the report it is stated that the ORTEC analysis shows that only at a premium of around 2% the risks for nearly all imaginable (99%) scenarios is covered. At such a premium payment, under normal circumstances, on average, a substantially higher guarantee fund would be established. The ca 1.5 percentage point difference between the current premium (normally, over a long period this is sufficient to cover costs) and the premium amount that would be needed to suffice under nearly all circumstances (including extremely unfavourable ones) reflects the amount of risk taken on by national government and municipalities without being reimbursed for doing so.

financing mix of Dutch banks is likely to vary from those in other countries. Therefore, the higher costs of financing for Dutch banks is not the most likely explanation for the higher mortgage interest rates in the Netherlands

There are three possible alternative explanations for the higher mortgage interest rates in the Netherlands. First, capacity restrictions could play a role if Dutch banks would be reducing their leverage to a greater degree than foreign banks. The second cause may be related to a decline in competitiveness due to the economic crisis, causing foreign actors to withdraw from the Dutch market, or be less active. In both cases, the question remains as to why financially stronger foreign actors are not entering the Dutch market. The third possible reason for the higher Dutch mortgage interest rates could be that the increased risks on the Dutch mortgage market, as a result of declining house prices and disappointing economic developments, lead to a higher risk reserve. In that case, the questions would be why the National Mortgage Guarantee (NMG) does not cover these risks, and whether these developments are much more unfavourable in the Netherlands than they are elsewhere.

3 Mortgage interest rates and declining house prices in the Netherlands

Economic impacts of mortgage interest rates are largely determined by the interest rate's impacts on consumption and house prices. As long-term interest rates become higher, the financial burden for households increases and house prices decline.³⁰ This section further elaborates on the question of the degree to which the latter would be the case.

Empirical research has shown that the impact of interest rates on house prices generally is limited. Recent US research (for an overview see Kuttner, 2012) has indicated that the impact of a lower interest rate of 100 basis points on house prices would be in the range of 3 to 9 percentage points. This corresponds with an average elasticity of around -6 per percentage point for long-term interest. This order of magnitude is also confirmed by IMF research (World Economic Outlook 2008, see Figures 3.10 and 3.11), which found an elasticity for the Netherlands of -5 (100 basis points higher interest leads to 5% lower house prices). Incidentally, in the IMF research, this is the upper end of the international range; the impact varies from zero in Germany to -5% in the Netherlands, for every 100 basis points in higher interest.

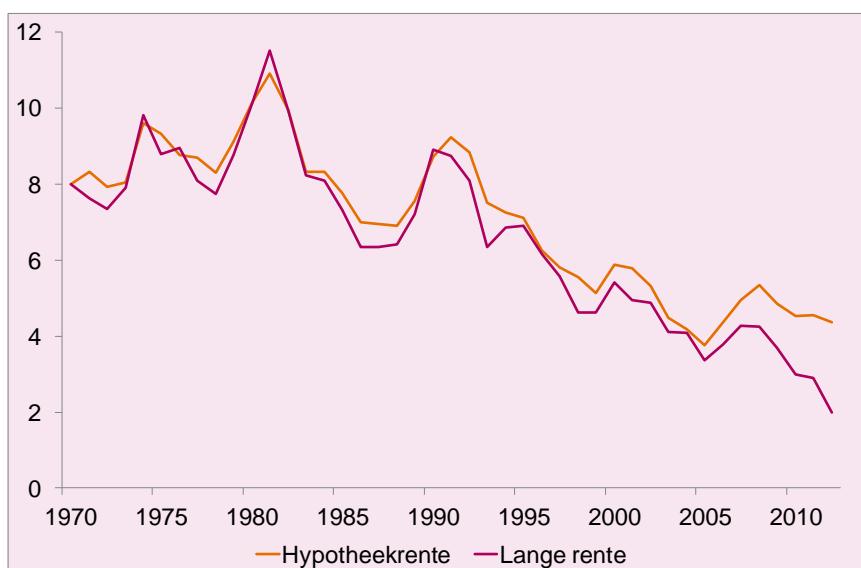
Research by Verbruggen and Kranendonk (2008) into the factors that may be of influence on house prices in the Netherlands found an elasticity of around -5% for every 100 basis points in higher, long-term interest.³¹ The study made a decomposition of the contributions by the

³⁰ Many studies use the low interest rate as a proxy for the mortgage interest rate. In as far as both rates are strongly correlated, this is not a problem.

³¹ <http://www.cpb.nl/en/publication/are-houses-overvalued-netherlands> This CPB Memorandum presents an estimated comparison for real house-price developments in the Netherlands, from data on disposable income levels, real long-term interest rates, other household assets, the housing supply and the increase in housing supply. This comparison then leads to a clear explanation of house-price development in the Netherlands between 1980 and 2007. As long-term interest rates and mortgage interest rates in the Netherlands have varied considerably since 2009 (see Figure 3.1), an additional comparison was made for the mortgage interest rate; this resulted in a similar elasticity to the -5 reported here.

various factors related to house price development. This decomposition shows that interest rate developments since the turn of the century have only had a limited impact on house prices. If elasticities would be used to extend the decomposition for the 2008–2012 period, the impact of the interest rate also would have been slightly positive in these years. This can be explained by the fact that although the current mortgage interest rate in the Netherlands is higher than in other EU countries, from a historical perspective, it is still relatively *low*. The mortgage interest rate of today is lower than, for example, in the second half of the 1990s (see Figure 3.1), when house prices increased strongly. The currently high interest rate, therefore, should have an upward effect on house prices. Therefore, apparently, there are other factors involved that cause a downward pressure on the prices.

Figure 3.1 Long-term interest rates and mortgage interest rates (nominal)

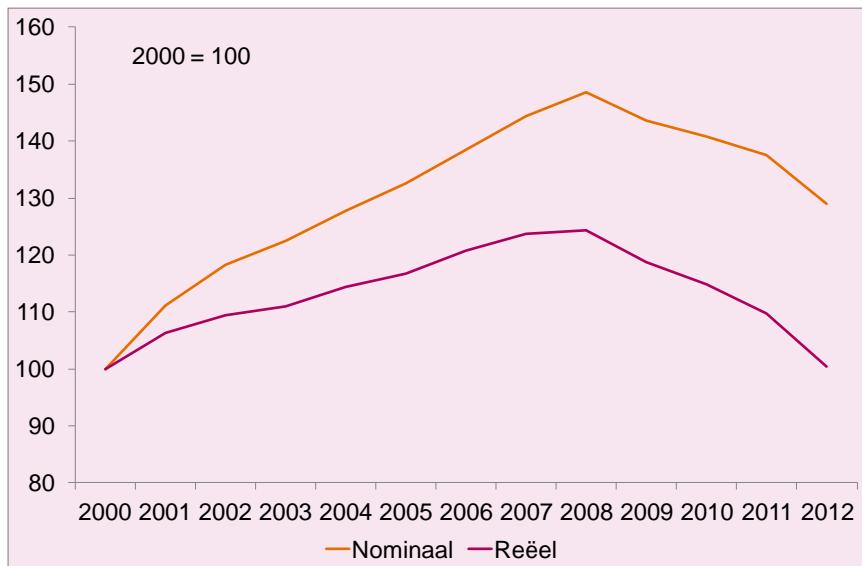


According to this decomposition, two other factors have also contributed to the declining house prices, namely the decrease in real disposable income and the small increase in the housing stock. A third factor that is likely to have played an important role is that of the housing market policy and the related uncertainty about this policy since 2010. Policy measures from the Budget Agreement and the Government Agreement of 'Rutte II' have been limiting, among other things, the borrowing capacity of house buyers and thus have put pressure on house prices.³² Calculations using the CPB model on the housing market have shown that, in the short term, the downward impact of these policy measures on house prices ranges between 5% and 10%.³³ This also made a substantial contribution to the decline since 2008. The nominal decrease in price over the 2008–2012 period was 13%, the real decrease in price was nearly 20% (Figure 3.2).

³² See <http://www.cpb.nl/publicatie/uniraming-2012-de-nederlandse-economie-tot-en-met-2017-inclusief-begrotingsakkoord-2013>, pp.43–44 (in Dutch), and <http://www.cpb.nl/publicatie/actualisatie-analyse-economische-effecten-financieel-kader-regeerakkoord>, from p.23 onwards (in Dutch).

³³ <http://www.cpb.nl/publicatie/de-gevolgen-van-het-huurbeleid-nader-bekeken>, p. 5 (in Dutch).

Figure 3.2 Nominal and real house prices, from 2000 onwards



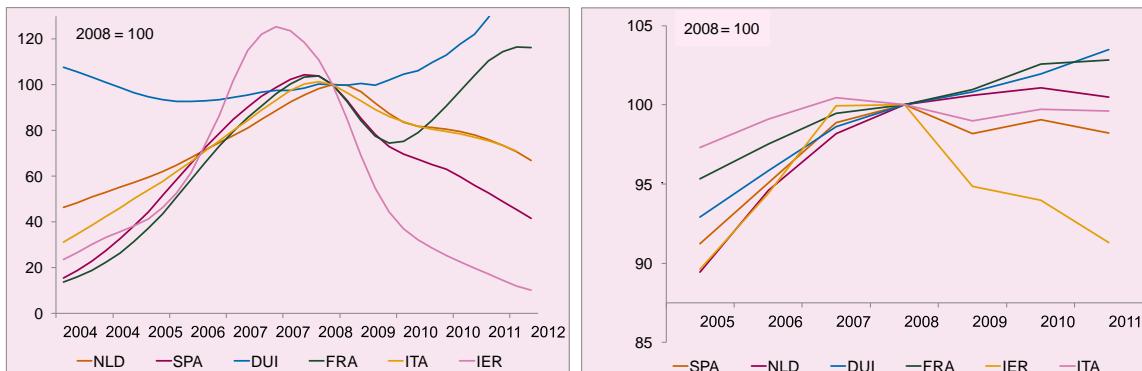
The preliminary conclusion would be that the low interest rate of the past years has had a small positive effect on house prices. Real house prices, which have declined by around 20% since 2008, would be around 5% higher than they are today if the Dutch mortgage interest rate would be at the lower EU average (around 100 base points). The decline in house prices has been particularly driven by the decrease in real disposable income and probably also by the housing market policy and the related uncertainty since 2010.

4 Declining house prices: Impact on consumption

According to the capital-theoretical approach to consumption, the *permanent income hypothesis*, consumption is determined by permanent income. According to this theory, households make their consumption decisions on the basis of their total current and future capital. If this capital declines, so will consumption, and vice versa. This applies to share capital as well as housing capital; value changes in houses, in the short and medium term, have a direct impact on consumption.³⁴ Figure 4.1 shows that developments of both issues have been similar in many countries since 2004; with the growing drop of the housing market since 2008 (Ireland, Spain) consumption has declined in equal measures, and vice versa. The relatively favourable situation on the German and French housing markets also has its effect on consumption. The situation for the Netherlands is in between these two.

³⁴ Incidentally, there is a discussion on the question of whether housing capital can be regarded in the same way as other capital, when it comes to consumption. For example, Buiter (2008) argues that changes in house prices primarily lead to redistribution on the housing market between households that wish to trade up (young people) and those that are looking to trade down (the elderly). In this line of argument there is not necessarily any impact on aggregated consumption, although there may be a temporary effect on consumption, for example, by way of credit constraints due to changes in the collateral value of real estate property.

Figure 4.1 International comparison of house prices (left) and the total in private and public consumption (right) since 2004



Since the turn of the century, much research has been done into the (capital) impact of house prices on consumption. Comparisons between countries and research based on micro-data have shown a positive impact of housing capital on consumption. An international analysis by the IMF (2012) concluded that a declining housing market, preceded by a strong growth in consumer debt, would lead to a stronger and longer lasting decrease in a county's consumption level. Dynan (2012), on the basis of micro-data, concluded that home owners with high debts experienced a larger decline in consumption, between 2007 and 2009, than other home owners, and that this impact was greater than would be expected on the basis of income effects. Campbell and Cocco (2007), on the basis of UK micro-data, found a clear impact of housing capital on consumption levels, with relatively large impacts for older home owners. In addition to this micro-data research, many studies have proceeded to relate changes in housing capital on macro-level to household consumption levels.³⁵ A range, based on this literature, between 0.03 to 0.08 for (housing) capital impacts in the United States therefore seems reasonable.

For the Netherlands, a coefficient of 0.035 was included in the consumption comparison by CPB's Saffier II model.³⁶ Each housing value loss of 10,000 euros results in 350 euros less in consumption. This means that current losses in housing capital will be compensated within around 30 years. This coefficient, thus, is on the lower end of the range found for the United States. The order of magnitude for the ultimate impact on consumption, however, would be comparable, because the total housing capital in the Netherlands is larger in relation to its total consumption than that in the United States. A comparable decrease in capital, in terms of percentage, for the Netherlands, translates into a relatively large capital loss in euros, of which a relatively small share (0.035 in NL vs 0.03–0.08 in the US) is translated into consumption. On balance, the impacts on consumption in both countries are fairly comparable, in terms of percentage. Whether for the Netherlands the impact of house-price changes on consumption would be asymmetrical (e.g. greater for price decreases than for price increases) is unknown.

35 For the United States, Case, Quigley and Shiller (2012) report elasticities of between 0.03 and 0.18; the impact of a decrease in house prices on consumption was found to be larger than the impact of an increase. Calomiris, Longhofer and Miles (2012) arrive at elasticities of between 0.05 and 0.08. Mishkin (2007) estimates an elasticity of 0.04. Carroll, Otsuka and Slacalec (2011) found a positive but smaller impact of 0.02 for the short term and 0.09 for the long term.

36 <http://www.cpb.nl/en/publication/saffier-ii-1-model-dutch-economy-2-qualities-3-uses>, pp.44–46 (in Dutch). This document also includes a variant containing economic impacts of an increase in house prices of 10%, p. 103.

According to Saffier II variants, a 10% lower nominal house price over 4 years would lead to 1.6% less consumption and over 8 years to a decrease of 2.6%.³⁷ When scaled, this means that the 13% decrease in nominal house prices since 2008, after 4 years would have a 2.1% downward impact on consumption, and after 8 years this would be 3.4%. This analysis, however, assumes that such a decrease would have taken place at once and in the first year (2009). In practice, this has not been the case; thus, the actual impact on consumption has occurred with some delay and, therefore, was lower in 2012 than the 2.1% projected by the model variant.

On balance can be concluded that half of the 4% decrease in consumption, over the 2008–2012 period, may be attributed to the decline in house prices.³⁸

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37 Incidentally, in this way, the total negative impact on consumption is underestimated, because the variant assumed no increase in house prices, whereas over the 160–2012 period a both nominal and real price increase occurred.

38 For a detailed analysis of the macroeconomic impact of the housing market, see Van Ewijk and Ter Rele (2008), Chapter 7, Macroeconomic outlook for the housing market, in: Agenda voor de woningmarkt, 2008, Koninklijke Vereniging voor de Staatshuishoudkunde, Preadviezen 2008 (in Dutch).

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Appendix A

Figure A1: Interest rates on deposits with a fixed term (average)

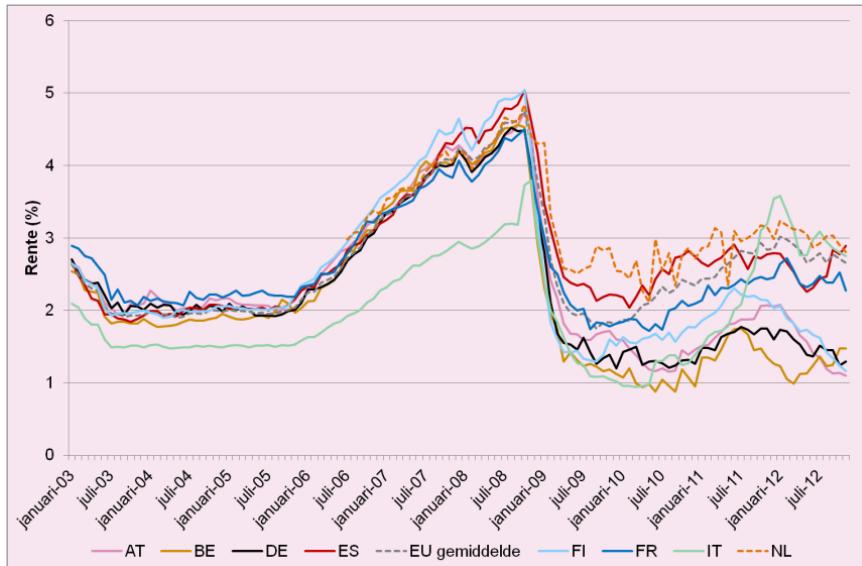


Figure A2: Interest rates on deposits with a fixed term (<1 year)

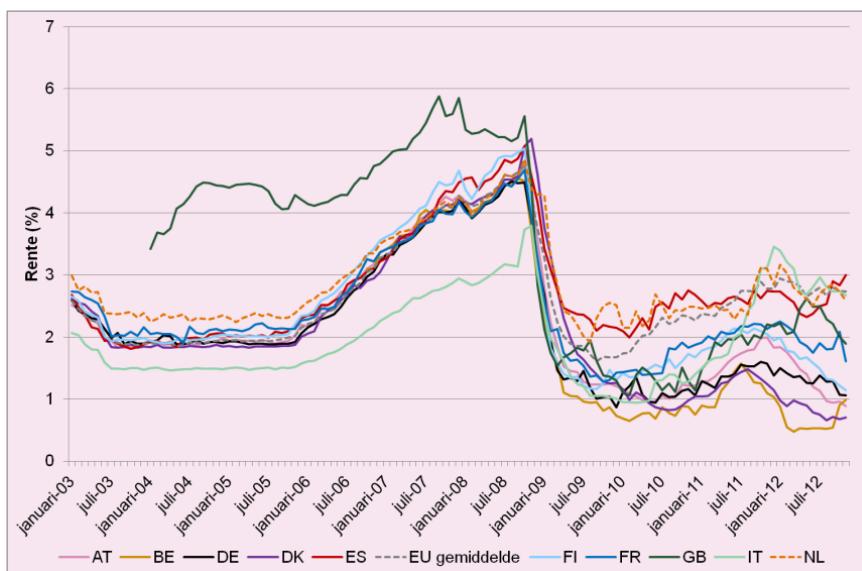


Figure A3: Interest rates on deposits with a fixed term (1–2 years)

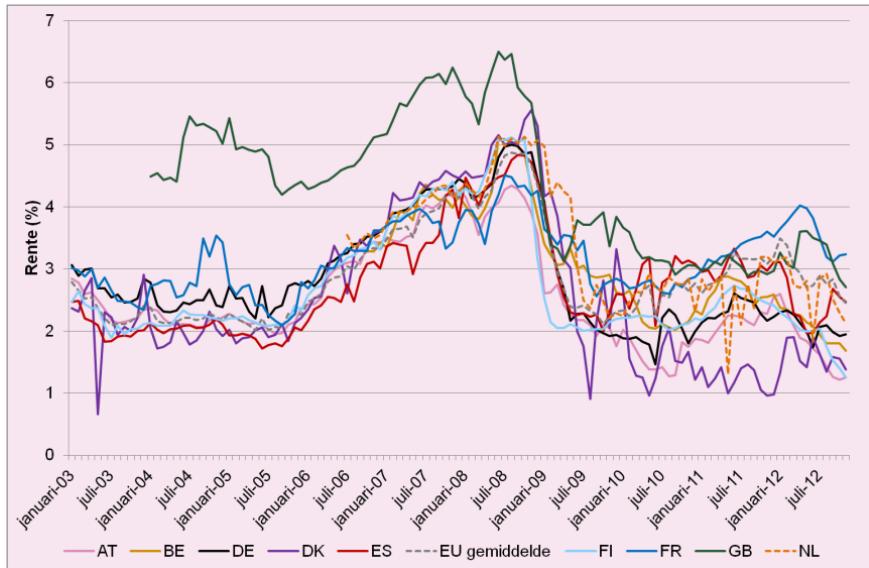


Figure A4: Interest rates on deposits with a fixed term (>2 years)

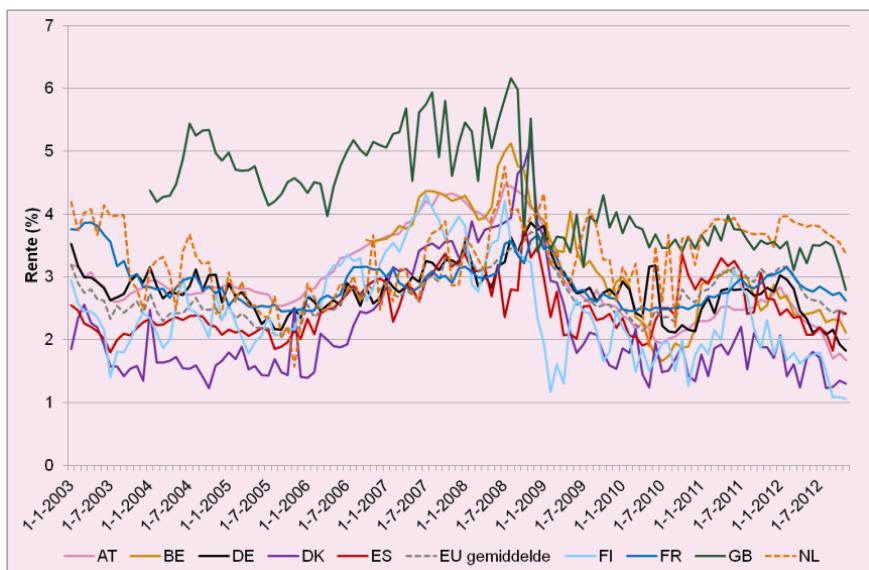


Figure A5: Interest rates on deposits with a cancellation term (average)

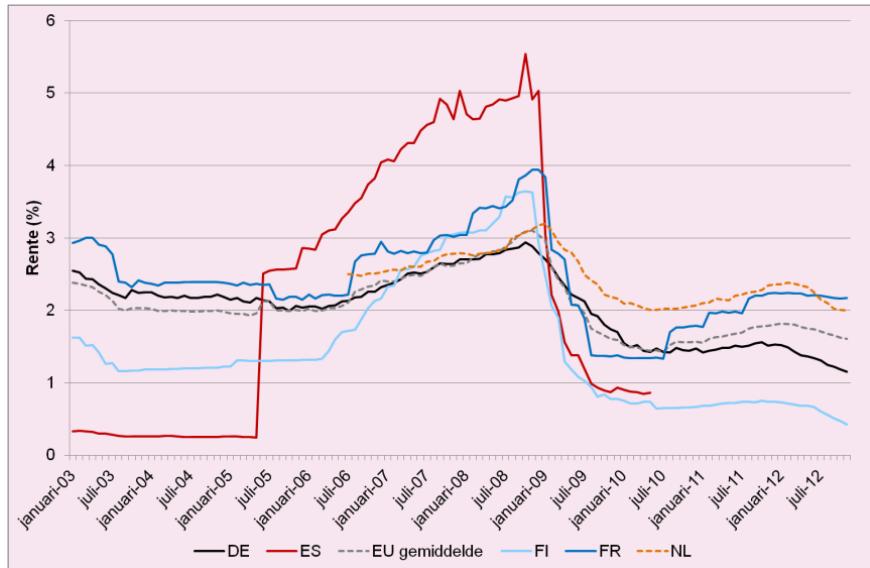


Figure A6: Interest rates on deposits with a cancellation term (<3 months)

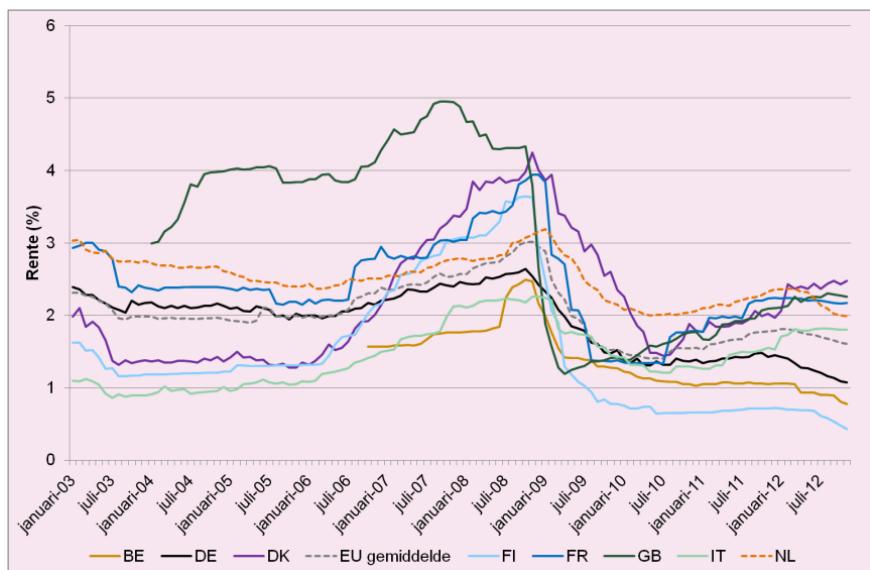


Figure A7: Interest rates on deposits with a cancellation term (>3 months)



Figure A8: Loans to non-financial companies (<1 million EUR)

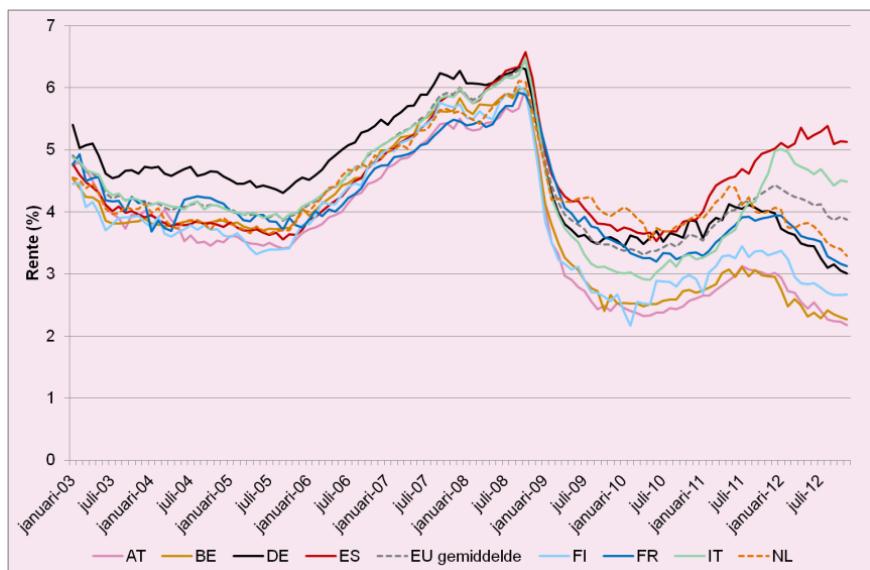


Figure A9: Loans to non-financial companies (>1 million EUR)

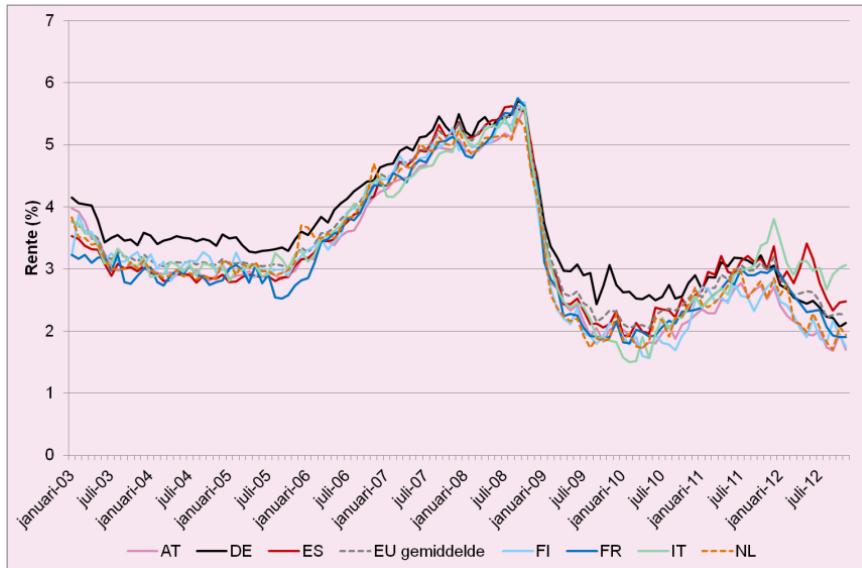
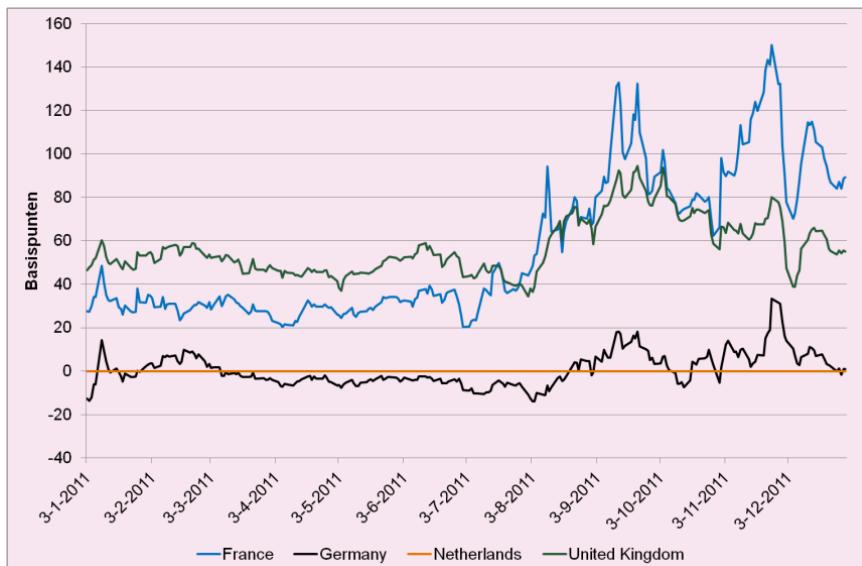


Figure A10: Weighted financing costs related to secured loans



Data that were used:

	Outstanding CB (million EUR)	Outstanding securitisations (million USD)	RMBS spread (basis-point, average)	CB spread (basis points)
NL	54243	427030	157	70
GB	194783	780490	157	120
DE	223676	111450	0	60
FR	198395	59000	228	60

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T (070) 3383 380

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