Autumn 2016

Financial Stability Report

DeNederlandscheBank
EUROSYSTEEM

De Nederlandsche Bank
Financial Stability Report

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Country abbreviations are in accordance with the relevant ISO standard.

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Introduction

DNB is responsible for overseeing financial stability in the Netherlands, a task embedded in the Bank Act. DNB expressly considers the interaction between financial institutions and their environment: other institutions, the macro economy, financial markets, and financial infrastructure. Early detection of systemic risks comprises an important part of DNB's financial stability task.

DNB publishes its Financial Stability Report (FSR) every six months. The FSR outlines systemic risks that may affect groups of institutions or entire sectors as well as the Dutch financial system, and which may eventually disrupt the real economy. DNB publishes the FSR to make stakeholders - financial institutions, policy makers and the public - aware of systemic risks and the potential impact of shocks to the financial system. Where possible, DNB uses macroprudential instruments and issues policy recommendations to prevent or mitigate these systemic risks.

The FSR does not include projections, but analyses scenarios. Chapter 1 lists the main current risks to financial stability and includes a risk map that summarises the main risks to financial stability discussed in this and previous issues of the FSR. The next three chapters address a number of financial stability-related themes in more detail: (i) the impact of low interest rates on banks' income; (ii) non-performing loans and flaws in insolvency legislation, and (iii) the Brexit.

1 Overview of Financial Stability

Priorities and recommendations

- Political and economic uncertainties have increased in recent months, fuelled in part by the Brexit. In addition, concerns about the profitability of the European banking sector have deepened further. Especially share prices of weaker European banks underwent sharp price corrections. Dutch banks were affected by the unrest to a lesser extent, as they have substantially strengthened their financial position over the past years.

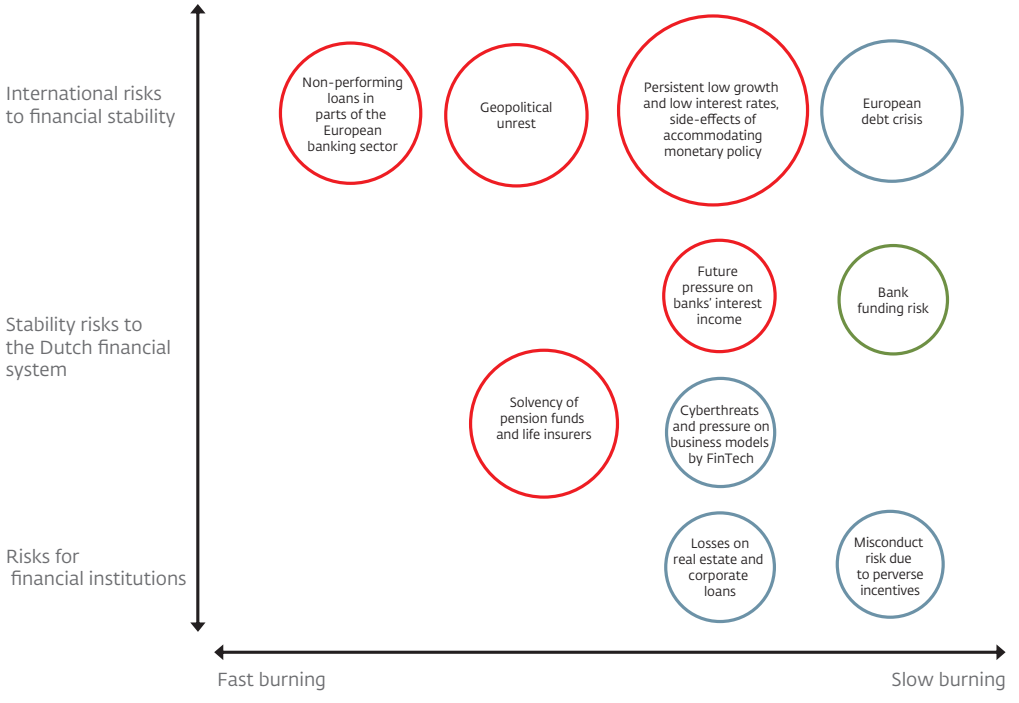
- Interest rates are likely to remain low for some time, which erodes the financial position of pension funds and life insurers. More recently it became evident that banks can also be sensitive to persistently low interest rates. Banks must factor in downward pressure on their interest income. Dutch banks, which thus far have hardly suffered any adverse impact, are no exception. If the interest margin on new loans decreases further, this may slow down lending and thus hamper monetary transmission. The ECB needs to evaluate this side-effect of accommodative monetary policy against its effectiveness in terms of achieving price stability.

- European banks burdened with high volumes in non-performing loans need to resolve these loans, given that they undermine the banking system's resilience, hamper economic growth and constrain monetary transmission. Against this backdrop, faster and more efficient legal procedures and further modernisation and harmonisation of European insolvency laws are desirable.

- It is too early to oversee the economic and political ramifications of the Brexit. For the purpose of stability, the period of uncertainty must be kept as short as possible.

- The recovery of the Dutch economy and housing market is continuing and should be used to further increase the resilience of the housing market to shocks. Accelerating the curtailment of mortgage interest tax relief, a further lowering of the maximum loan-to-value ratio after 2018 and increased construction activities in non-subsidised rented accommodation are therefore needed.

Figure 1 Risk map

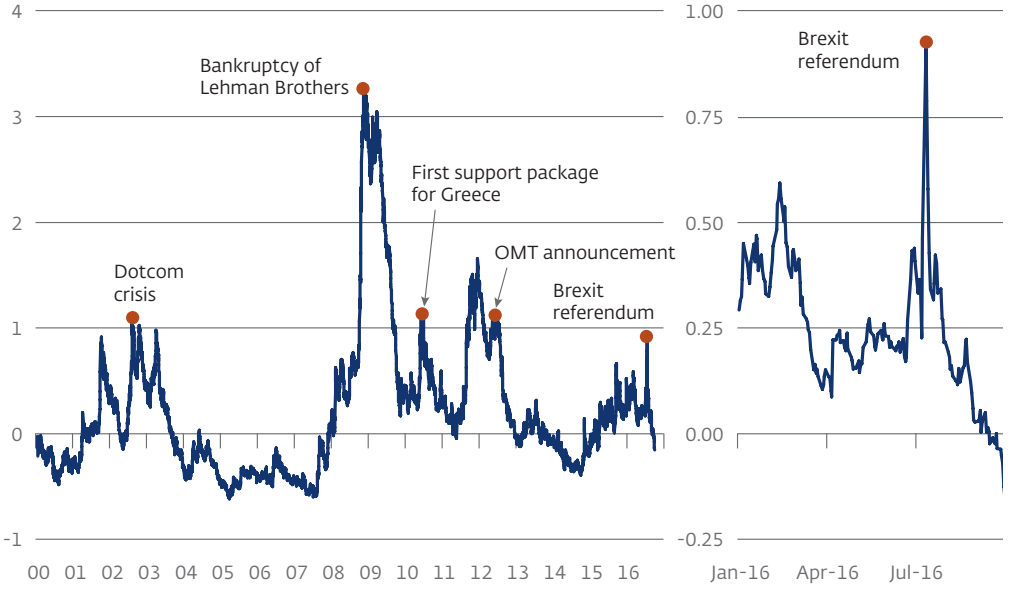


This risk map provides a schematic overview of the key risks to financial stability. The size of the circles reflects the magnitude of the risk. The colour of the circles reflects whether viewed over the medium term, a risk increases (red), decreases (green) or remains unchanged (grey).

International developments

Periods of relative calm and episodes of intense volatility alternated in the financial markets. Following a turbulent start of the year, financial markets witnessed a return to calmer waters in the spring. In the run-up to the June referendum in the United Kingdom, however, unrest resurfaced (see Chart 1). The referendum's outcome showed that a majority of voters chose to leave the EU, initially prompting strong market reactions, with sharp fluctuations seen in foreign exchange and equity markets. Most financial markets recovered soon thereafter. Yet share prices of European banks suffered prolonged downward pressure, as concerns over their financial positions mounted against the background of market unrest. Having shown some recovery since mid-July, European bank shares were still nearly 25% below their early 2016 level by end-August. Dutch banks were not affected as severely as their European peers, with share price losses ending at just over 10% by end-August.

Chart 1 Financial markets jittery around UK referendum



Source: DNB.

Note: Stress index, based on indicators of equity, bond and forex markets relevant to the Netherlands and an index of the financial positions of financial institutions.

Political and economic uncertainties pose a significant risk to the world economy. The outcome of the UK referendum has fuelled economic, political and institutional uncertainties throughout the European Union. Geopolitical unrest in Turkey, Syria and Ukraine and forthcoming elections in the United States and various European countries further increases the uncertainty. As inquietude spreads, investments and sorely needed structural reforms are possibly put off, thereby exacerbating the risk of prolonged subdued growth.

European banks face a multitude of challenges. Partly because of newly introduced European regulations and strengthened European supervision, banks have considerably improved their capital positions over the past few years. On average, the core capital ratio of euro area banks subject to ECB supervision went up from 7% in 2008 to 13% at year-end 2015.[1] Nevertheless, European bank shares performed rather poorly, and risk premiums on bank bonds rose sharply (see Chart 2). This is due, first and foremost, to the pressure on profitability of European banks caused by low interest and growth rates. In addition, in some countries, banks have large volumes of non-performing loans in their balance sheets. Moreover, the European banking

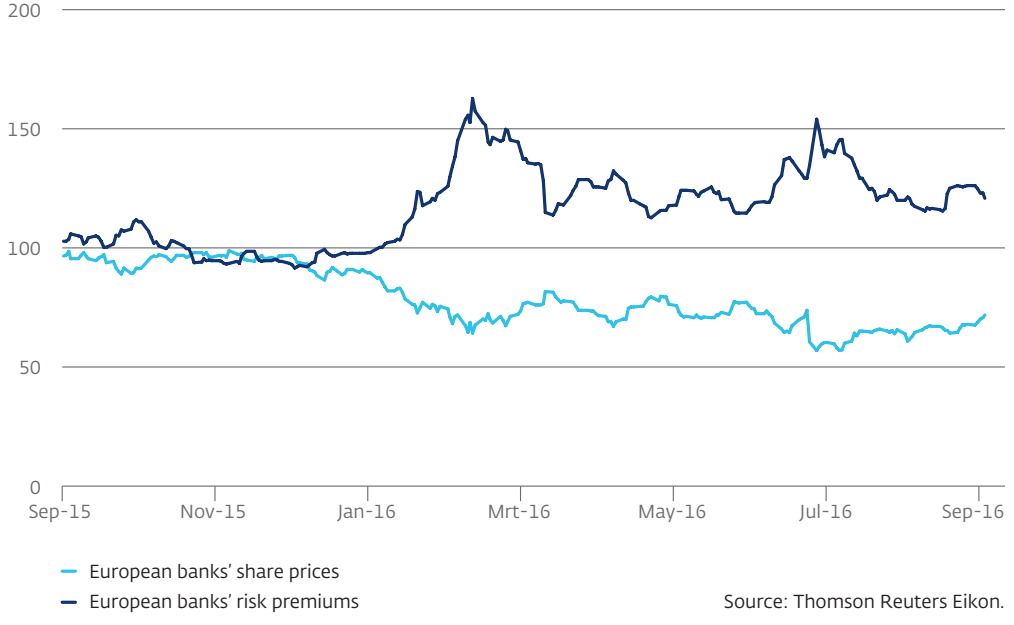
1 See ECB, *Challenges for the European banking industry*, 7 July 2016.

sector faces structural problems, such as surplus capacity and high costs. Clarity on the future framework for banking regulations ('Basel 3.5') should make it easier for banks to adjust their business models to these two factors.

Prolonged lower interest rates are starting to have an adverse effect on the profitability of European banks. The low rates are a consequence of the modest economic outlook and the monetary policies pursued by central banks. The ECB deploys unconventional instruments, such as negative rates and purchasing debt instruments, which depress market interest rates. Banks' funding costs do not fall fully in line with declining market rates, however, as banks are hesitant to make further cuts in the savings deposit rates. This, combined with falling lending rates, is squeezing banks' net interest margins. On the other hand, the new series of targeted longer-term refinancing operations (TLTRO II) introduced in June 2016 allows banks, through lower funding costs, to absorb some of the impact on their interest income, thereby supporting

Chart 2 European banks: higher risk premiums and lower share prices

Index 31 August 2015=100



Source: Thomson Reuters Eikon.

Note: Share prices of European bank bonds are based on the MSCI index. The risk premium for European banks is an unweighted average of the five-year CDS premiums for 33 European banks.

profitability.[2] How exactly the low rates feed through to banks' interest income varies from bank to bank, depending, among other things, on their ability to cut savings deposit rates (see Chapter 2).

Non-performing loans have further weakened the position of banks in peripheral European countries. In the first quarter of 2016, non-performing loans accounted for around EUR 1,400 billion in the balance sheets of European banks, representing approximately 4.5% of all loans. Eastern and southern European banks, in particular, have many non-performing loans, which could potentially result in major credit losses. Also, their profitability could suffer, as non-performing loans generate lower interest income than performing loans and result in additional costs. Because of the higher risk weightings that apply to impaired assets, banks are forced to maintain higher amounts of capital, which gives them less room to extend new loans. This, in turn, is an impediment to economic recovery. Furthermore, banks with many non-performing loans gain a lower level of trust of financiers, which is reflected in higher funding costs. Recent experience shows that banks with many non-performing loans are hit harder in times of market unrest. Amendments to insolvency law could help speed up the settlement of non-performing loans (see Chapter 3).

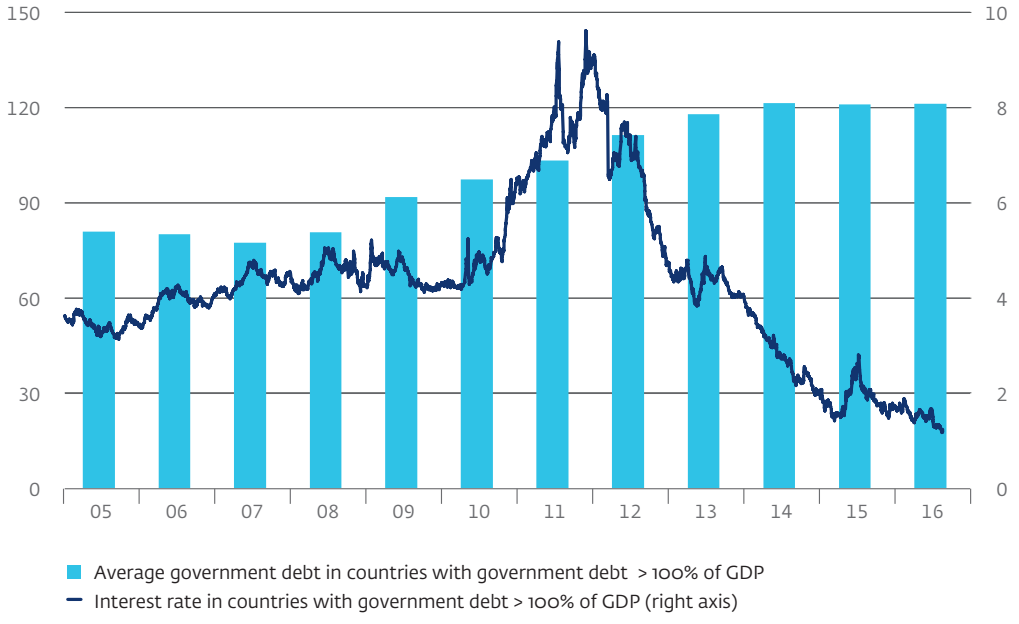
In the euro area, some governments are still vulnerable due to excessive debt levels. In the first quarter of 2016, the average government debt in the euro area stood at 92% of GDP, with Greece, Italy, Portugal, Cyprus, Belgium and Spain exceeding 100% of their GDP, and France approaching the 100%. Interest rates on European government bonds are currently at an unprecedented low (see Chart 3). Countries with high sovereign debts and a weak banking sector are sensitive to unrest in the financial markets, which may increase risk premiums on government bonds. As banks are major government bond holders, they could also be affected. Reducing the preferential regulatory treatment of sovereign exposures for banks on a global and European scale would improve financial stability in the longer run.

Greece's position remains particularly vulnerable. The Eurogroup and the IMF reached an agreement on Greece in late May 2016, under which Greece received EUR 7.5 billion from the European Stability Mechanism (ESM). This will allow Greece to meet all of its external commitments in the upcoming period and eliminate all domestic payment arrears the government had built up. The IMF will reassess the Greek debt's long-term debt sustainability before the end of 2016. Partly on the basis of that exercise, it will decide whether it wishes to involve itself financially. The IMF has stated in the past that it would be willing to participate as a creditor only if the Eurogroup members start to implement the preliminary arrangements about debt relief. DNB considers the IMF's involvement desirable, given its specific expertise and the credible conditionality it can impose.

2 The new operations have a four-year term and are performed on a quarterly basis, from June 2016 to March 2017.

Chart 3 Interest rates keep falling in spite of higher government debts

Debt as a percentage of GDP; interest on ten-year government paper.



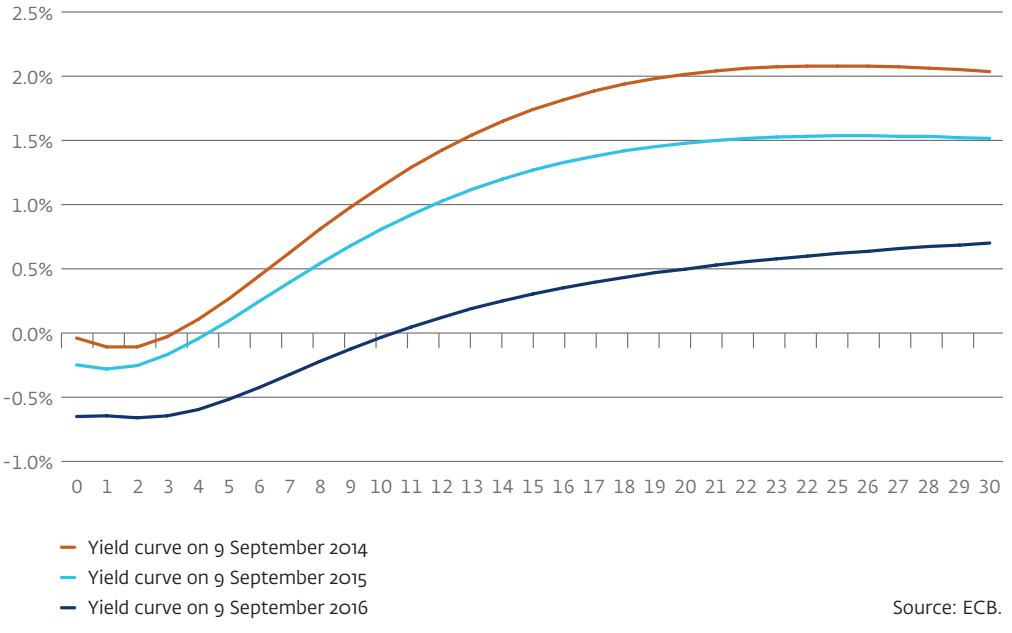
Source: Thomson Reuters Eikon, IMF.

Note: Countries whose government debt exceeds 100% of GDP are Greece, Italy, Portugal, Cyprus, Belgium and Spain.

Market rates came under further pressure in recent months (see Chart 4). Against the background of weak economic recovery, financial markets are anticipating continued accommodative monetary policies from central banks across the globe. In the United Kingdom, the Bank of England further eased its monetary policy to counterbalance the adverse economic impact of the Brexit. Accommodative monetary policies prompt a search for yield and erode the financial position of financial institutions. With economic recovery progressing more favourably in the United States, a raise in interest rates before the end of this year cannot be ruled out.

Chart 4 Yield curve further down

Yields on European AAA government bonds according to years of maturity



Source: ECB.

Note: In September 2014, Germany, Finland, Luxembourg, the Netherlands and Austria had a credit rating of AAA from Fitch. Austria lost its AAA status in February 2015 and Finland in March 2016.

Financial stability in the Netherlands

The recovery of the economy and the housing market in the Netherlands continues. Domestic spending contributes to the recovery of the Dutch economy relatively strongly. Together with the low interest rates and little new construction activity, this fuels the resurgence of the housing market. House prices are increasing across almost all regions (see Box 1), but there are large differences. Fewer home owners now face negative equity: in early 2016, 23% of home owners had an outstanding mortgage debt in excess of the value of the home, against 36% in 2013. Still, of all home owners aged below 40, 46% owns a property worth less than the related mortgage debt.

Box 1: Recent trends in the Dutch housing market

The Dutch housing market has shown an upswing since 2013, following the downward adjustment that started in 2008. Annual sales provide a useful indication: whereas just over 100,000 homes changed hands each year in mid-2013, almost 200,000 homes did so by mid-2016. Likewise, house prices have gained almost 10% relative their lowest point, partly due to low interest rates and lagging construction. Yet, average house prices in the Netherlands still remain below their pre-crisis levels. In addition, there are major differences between regions, with major cities seeing house prices rise rapidly, while peripheral regions record only limited price increases (see Chart 5). The Amsterdam housing market is showing clear signs of overheating. For example, half of the houses sold have been for sale for less than three months. Besides, Amsterdam is currently the only region where house prices have exceeded pre-crisis levels (see Chart 5).

Chart 5 Large regional differences in house prices

Changes in price index

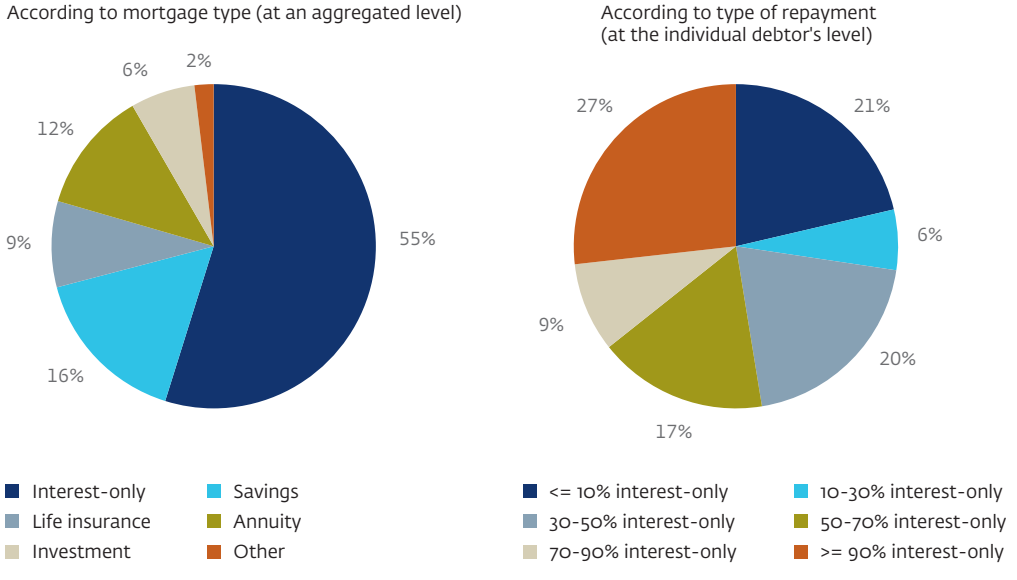
Source: CBS.

Total mortgage debt of Dutch households remains elevated. At EUR 650 billion, representing more than 95% of GDP, the total mortgage debt of Dutch households is still among the highest in the world. Of the total mortgage debt, roughly 6% concern investment mortgages and some 25% are savings and life insurance mortgages (see Chart 6, left-hand panel), which do not involve contractual repayments, but accumulate assets in pledged savings or investment deposits. Roughly 55% of the total mortgage debt of Dutch households is interest-only. Viewed from the individual debtor's perspective, nearly 27% of all home owners have a full interest-only mortgage, whereas 21% repay almost the entirety of their loans (see Chart 6, right-hand panel). The remaining 52% of all home owners combine an interest-only loan with an amortizing loan.

While credit risks for banks appear to be limited, households may face difficulties if they make insufficient repayments on their mortgage debt. DNB calculations show that over one million mortgage loans will expire with residual debts outstanding after 2030. They are interest-only and investment mortgages on which debtors have made only limited repayments during the loan term or for which they have accumulated insufficient assets for full repayment. Voluntary additional repayments have increased in recent years[3], but they are expected to be insufficient to allow full repayment before maturity. Rolling over such residual debt upon expiry may prove problematic for home owners, as they will lose their mortgage interest tax relief after 30 years,

Chart 6 Largest part of mortgage debt is interest-only

Market shares of mortgage debt outstanding at banks, 2016Q1.



Source: DNB.

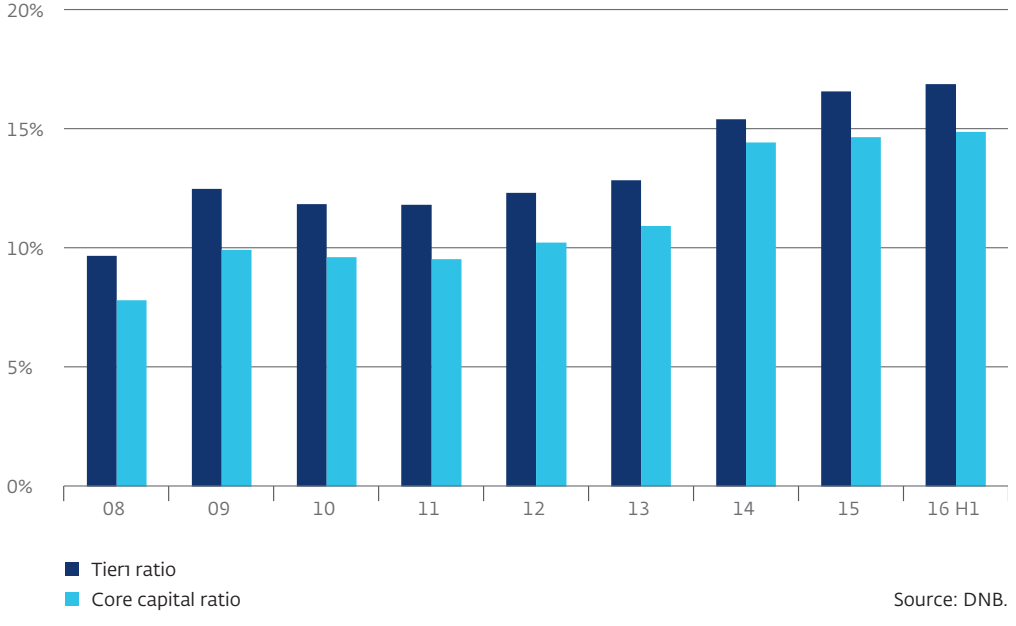
3 Over the past three years, Dutch households have made voluntary mortgage repayments of over EUR 45 billion.

repayments will be mandatory, retirement will mean lower income and interest rates may well be higher. Upon expiry, the value of the home is likely to exceed the amount of the debt that remains outstanding, which means banks are unlikely to face any significant losses.

The financial resilience of Dutch banks has been strengthened further. On average, their core capital ratio went up from less than 8% in 2008 to nearly 15% mid-2016 (see Chart 7). This means Dutch banks are well on track towards meeting the higher capital requirements that will apply from 2019 onwards under Basel III. The European bank stress test performed in mid-2016 showed that Dutch banks are able to withstand considerable stress, although they proved relatively sensitive to a drop in net interest income. Furthermore, despite the deposit funding gap narrowing, their dependence on market funding remains relatively high by international standards. With the refinancing risk of market funding being higher than that of deposit funding, Dutch banks are vulnerable to unrest in financial markets.

Prolonged low interest rates are problematic in particular for life insurers and pension funds. The financial position of insurers and pension funds depends on interest rates – low rates push up the net present value of their long-term liabilities. The fixed-income investments offsetting these liabilities have shorter maturities, and lower rates drive up their rises in value to a lesser

Chart 7 Further strengthening of Dutch banks' financial resilience



Source: DNB.

Note: The core capital ratio refers to the core tier 1 ratio for 2008-2013 and the common equity tier 1 ratio for 2014, 2015 and mid-2016.

extent. For institutions that do not hedge this interest rate risk, falling interest rates therefore lead to declining solvency. Dutch banks will probably also be impacted by the low interest rates in the period ahead (see Chapter 2).

The development of a national resolution framework for insurers marks a significant step forward. The earnings generating capacity in the insurance sector has been under pressure for some time now, due to sluggish demand for life insurance products. In addition, low interest rates have further deteriorated the financial position of insurers over the past few years. Given their interdependence with other financial institutions and the real economy, a large insurance group's inadvertent bankruptcy may cause risks to financial stability. A national recovery and resolution framework is under development in the Netherlands.[4] Proposed legislation provides instruments and powers to ensure the orderly resolution of insurers where needed, in order to provide maximum safeguards for policyholders and maintain the stability of the financial system. Besides, DNB also calls for the creation of a European recovery and resolution regime for insurers.

The financial position of pension funds has been under pressure in recent years. The coverage ratios of a number of pension funds are currently below their statutory minimum. These pension funds are obliged to draw up a recovery plan, outlining the measures they will take to improve their financial position.

An overhaul of the pension system is required to ensure its sustainability. The past few years have exposed the vulnerabilities of the present Dutch pension system. For example, pension scheme members' expectations about guaranteed benefits that safeguard their purchasing power have proved impossible to realise. The pension system also results in opaque and difficult to justify intergenerational transfers that undermine support. An overhaul of the pension system is required to ensure its sustainability in the long run. Doing away with the average contribution system, introducing more individually tailored pension accumulation and age-dependent investment policies are indispensable building blocks for a sustainable pension system.[5]

4 The Dutch Ministry of Finance issued the legislative proposal on the recovery and resolution of insurers for consultation on 13 July 2016. See https://www.internetconsultatie.nl/afwikkelingverzekeraars (Dutch only). Submission to the Lower House of Dutch Parliament is expected in early 2017.

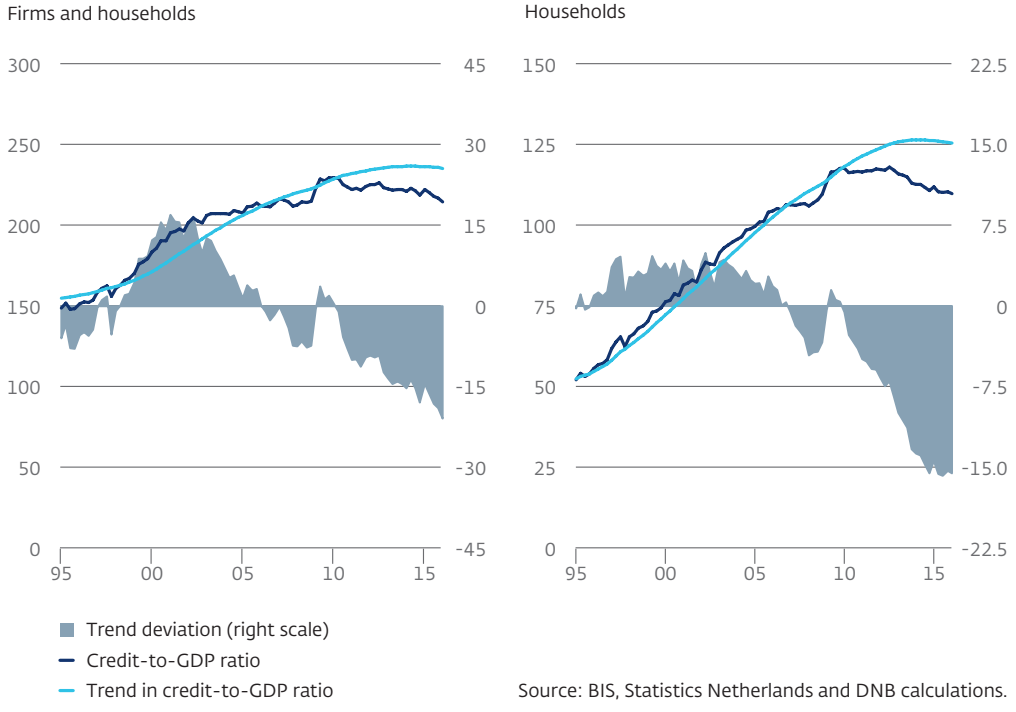
5 DNBulletin, 'DNB: Dutch pension system needs major overhaul', 21 June 2016.

Macroprudential policy in the Netherlands

The countercyclical capital buffer is maintained at 0%. The countercyclical capital buffer is a macroprudential instrument to protect banks against systemic risks that emerge in periods of excessive credit growth, which, combined with rising asset prices, in the past proved to be a harbinger of a financial crisis. A key indicator when deciding on whether to activate the buffer is the credit gap, meaning the discrepancy between credit growth and its trend level. Credit growth in the Netherlands is clearly showing below-trend growth (Chart 8). Other indicators include for instance real estate prices. Although the housing market is showing vigorous recovery in some large cities, lending to households is developing moderately. Against this backdrop, we have decided to maintain the countercyclical buffer at 0%. Most other European countries have likewise set the buffer at 0%.[6] Policies regarding the deployment of other macroprudential instruments in the Netherlands remains unchanged (see Table 1).

Chart 8 Lending in the Netherlands is below trend

Total lending as a percentage of GDP.



Source: BIS, Statistics Netherlands and DNB calculations.

The trend was computed based on an HP filter. For more information see ESRB (2014), *Recommendation on guidance for setting countercyclical buffer rates*, ESRB/2014/1.

6 Only Sweden and Norway have activated the countercyclical capital buffer at 1.0%, whereas the United Kingdom recently reduced it from 0.5% to 0%.

Table 1 Current use of the principal macro-prudential instruments

Instrument	Status	Comment
Systemic buffer	Gradual phasing in until 2019 from 2016 onwards	Applicable to Rabobank, ING Bank, ABN AMRO (all 3%) and SNS Bank and BNG Bank (1%)
Countercyclical capital buffer	At 0% since 1 January 2016	No reason to activate this at the moment
LTV limit	Phased reduction to 100% in 2018	Financial Stability Committee recommends further reduction to 90% after 2018
LTI limit	Over four times gross income	Statutory arrangements based on gross housing costs relative to annual income.

An accelerated curtailment of mortgage interest tax relief and a further reduction of the maximum loan-to-value ratio by next year's new coalition government is desirable.

The housing market is expected to show persistent recovery, which can be used to continue the measures already taken to boost the resilience of the housing market in the years ahead. First and foremost, curtailment of mortgage interest tax relief can be stepped up, so as to curb the incentive to borrow the maximum amounts allowed faster. Secondly, it is desirable to lower the maximum loan-to-value ratio gradually further to 90%, as recommended by the Financial Stability Committee (FSC). As this is expected to push up demand for rented accommodation, accompanying policies directed at increasing the supply of non-subsidised rented accommodation will also need to be developed. Increased construction activities contribute to this.

2 Impact of low interest rates on banks' income

The ECB has maintained an accommodative monetary policy, making use of unconventional instruments such as negative interest rates and quantitative easing. Low interest rates support the economy, but can have negative consequences for banks' interest income. This can, in turn, hamper the transmission of monetary policy to the real economy. The effect of low interest rates on Dutch banks has to date been limited, but they must take into account that it will put downward pressure on their interest income.

The accommodative monetary policy supports economic recovery, but has negative consequences for financial institutions. For insurers and pension funds these have been visible for a longer time, as they saw their solvency levels decline. More recently it became evident that banks can also be sensitive to persistently low interest rates.

Chart 9 Dutch banks strongly depend on interest income

Share of net interest income in total income.

Note: Part of the break in other income between 2007 and 2008 can be ascribed to the separation of ABN AMRO Bank's merchant banking activities.

At over 75% of total income, net interest income is the principal source of earnings for Dutch banks. This is high, compared to banks elsewhere in Europe (see Chart 9, left-hand panel). Before the crisis the share of non-interest income was much higher, but this changed due to a shift towards more traditional banking activities and less investment banking (see Chart 9, right-hand panel).

Chart 10 Dutch interest income remains stable in spite of flattening yield curve

Dutch banks have thus far suffered hardly any adverse impact from the low interest rates. Historically, banks' interest income is related to the yield curve (see Chart 10), with a flattening yield curve resulting in lower interest income. Over the past few years, Dutch banks' net interest income as a percentage of their balance sheet total has broadly remained stable, despite the flattening yield curve. Two developments have sustained net interest income. On the assets side of the balance sheet, mortgage loans have in recent years been concluded at relatively high interest rates. As a result of the crisis, competition in this market had waned, partly due to the ban on competition imposed by the European Commission on banks receiving state support. On the liabilities side of the balance sheet, Dutch banks have benefited from falling funding costs. This has been due not only to the accommodative monetary policy, but primarily to lower risk premiums. The CDS spreads are an indication of this, which have

decreased from over 3% in 2010 to 0.5% in 2016. Dutch banks are sensitive to financial markets´ sentiment because of the deposit funding gap: they largely fund themselves through market instruments instead of deposits.

Looking ahead, however, Dutch banks' interest income is expected to come under pressure. Although Dutch banks largely hedge their interest rate risk (see Box 2), persistently low interest rates are expected to affect their interest income in two different ways.

Firstly, falling market rates do not automatically reduce banks' funding costs, particularly in the case of deposits. Banks currently pay interest on retail deposits at an average of 0.54%. But there is a lower limit, as ever lower interest rates will make it more attractive for customers to maintain cash balances. Banks need stable sources of funding, however, such as savings deposits. Banks are therefore hesitant to allow deposit rates to fall in line with the extremely low market rates (see Chart 11).

Secondly, low interest rates can put further pressure on lending rates, particularly for mortgages. Increasing competition from insurers and pension funds is a relevant factor in this respect. Because the low interest rates erode these institutions' solvency, they are entering the mortgage market in search of yield. Moreover, because insurers and pension funds generally have more long-term obligations than banks, they can compete more easily on the market for long-term fixed-interest rate mortgages. As a result, this can put pressure on lending rates.

Chart 11 Deposit rate lags behind the market rate

Source: DNB, Thomson Reuters Eikon.

Box 2: How do banks generate interest income?

The means that the banks use to finance themselves, such as deposits, generally have shorter maturities than their exposures, such as loans. This traditional maturity mismatch characterises banks' traditional business model. Banks can benefit from this if long-term rates are higher than short-term rates – which is usually the case –, but they face a risk from a spike in short-term interest rates. This would sharply increase their interest expense, while their interest income would increase only gradually. Banks can mitigate this risk by using interest rate derivatives to cover this mismatch.

For a bank that extends long-term mortgage loans and takes short-term deposits, this roughly works as follows. When extending a mortgage loan the bank enters into an interest rate swap based on the swap rate, which is effected on the financial markets and is generally closely related to the yield curve for risk-free government bonds. Under swap agreements, the bank pays its swap counterparty a long-term fixed swap rate corresponding to the term of the mortgage, and in exchange is paid a shorter-term interest rate corresponding to the term to maturity of the deposits or other sources of funding. This hedges the effect of any change in the yield curve over the term of the mortgage.

The bank generates earnings on loans because interest rates on deposits and credits in practice differ from the swap interest rate. Lending rates in particular are usually higher and are influenced by special factors such as the level of competition and liquidity risk compensation. Net interest income is generated because the borrowing margin – the difference between the deposit rate and the corresponding swap interest rate – is smaller than the lending margin — the difference between the mortgage interest rate and the corresponding swap rate. From this net interest income, the bank still has to cover operational costs and any credit losses.

Relatively profitable loans contracted in prior years can now be expected to be rolled over and extended on less profitable terms. This applies particularly to mortgages. Chart 12 illustrates that the interest margin on mortgages was relatively constant in recent years. However, many mortgages taken out in the period 2006 to 2009 are likely to be rolled over in the period ahead. During these years relatively many mortgages were contracted at relatively high margins. Combined with a potentially unfavourable development in deposit rates and lending rates, the Dutch banks' interest income may come under pressure as these loans disappear from the balance sheet.

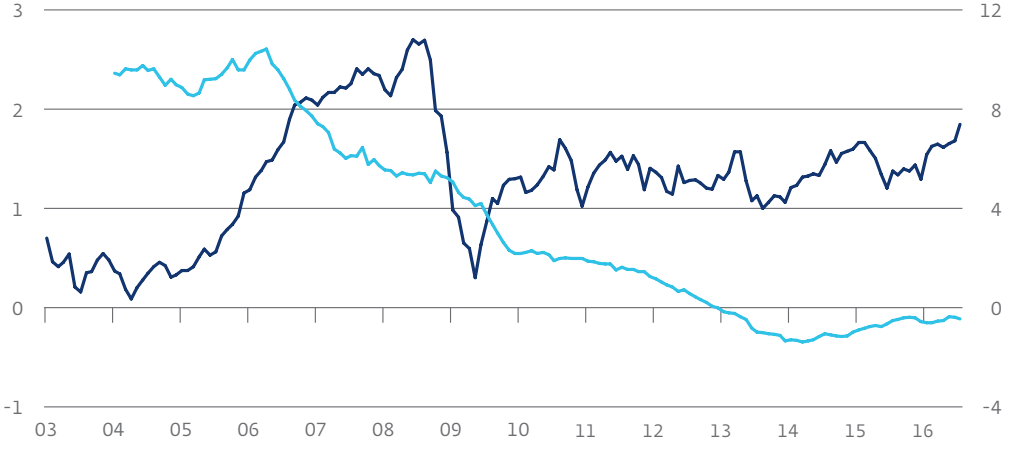
When the interest margin on new loans drops further, it can hamper the transmission of monetary policy to the real economy. Banks do after all act as the pivot in monetary transmission, as they transmit key policy rates into loans to customers via bank lending rates. If extending certain types of loans becomes unattractive, this will hamper monetary transmission.[7]

Policy challenges

The impact of low interest rates on monetary transmission and financial stability poses a challenge to the ECB. If monetary transmission weakens, the further easing of monetary policy becomes less effective. This is in addition to the side-effects of the accommodative monetary policy, such as price increases and the possible risk of bubble formation in the financial markets. The ECB will need to evaluate these side-effects against the extent to which monetary policy contributes to achieving price stability.

Chart 12 Interest rate margin on mortgage loans

The interest rate margin is the difference between the average mortgage interest rate relative to the 7-year market interest rate, minus the difference between the deposit rate and the 2-year market interest rate.



Source: DNB, Thomson Reuters Eikon.

7 See also Jobst and Lin (2016), *Negative Interest Rate Policy (NIRP): Implications for Monetary Transmission and Bank Profitability in the Euro Area*, IMF Working Paper, No. 172..

Banks must factor in increasing downward pressure on interest income. Persistently low – or even negative – interest rates are likely to put pressure on the interest margin.[8] This is a significant risk for Dutch banks, as net interest income is their most important source of revenue (see Chart 9). The European stress test conducted this year also illustrates the effect of a low interest rate environment on interest income. Under the baseline scenario of the stress test, the interest income generated by the three major Dutch banks over the three-year horizon of the test decreased by over 15%.

Banks can implement cost savings or try to increase their income from other sources. They can do this by for example directly charging for services, or by developing new profitable activities. One consideration in this respect is the higher risk attached to search for yield in a low interest rate environment. If banks maintain their current risk profile they are likely to see a fall in the required return on equity.[9]

8 Empirical evidence showing that low interest rates puts pressure on interest margins is presented in Claessens, Coleman and Donnelly (2016), *'Low-For-Long' Interest Rates and net interest margins of banks in advanced foreign economies*, IFDP Notes, Federal Reserve Board. In a panel study of 47 countries, the authors show that the adverse impact on net interest income is larger as interest rates are lower.

9 See also: DNB (2016), *The Return on Equity of Large Dutch Banks*, DNB Occasional Study. In this study, DNB also pays attention to the effect of stricter prudential regulations on banks' profitability.

3 Non-performing loans and flaws in insolvency legislation

European banks have large volumes of non-performing loans (NPLs) in their balance sheets, which undermine the banking system's resilience, erode the economy's growth potential and hamper monetary transmission. European banks have been insufficiently capable of eliminating these NPLs, due in part to flaws in insolvency legislation. For this reason, faster and less costly procedures and further harmonisation of European insolvency laws are needed.

Europe has a high volume in NPLs. Combined, European banks had EUR 1,416 billion in NPLs in their balance sheets in the first quarter of 2016.[10] On average, this makes 4.5% of all loans extended by European banks NPLs. The total value of NPLs more than doubled in Europe between 2008 and 2014. However, there are wide differences between countries. Banks in southern and eastern Europe, in particular, have large volumes in NPLs (see Chart 13).

A persistently high volume in NPLs creates an undesirable situation for banks. Not only does it potentially result in high credit losses, it will also put pressure on the bank's profitability, which makes it harder to absorb future losses and strengthen capital buffers. After all, NPLs generate lower interest income than performing loans and result in additional operational, legal and administrative costs. Also, they force a bank to maintain higher levels of capital, due to its own increased risk profile. Lastly, a bank's funding costs will go up, as lenders require higher yields in return for the bank's reduced profitability and increased risk.

In addition, high volumes in NPLs form an impediment to economic growth, notably in economies which depend relatively heavily on bank finance. Banks need to hold provisions against NPLs, which gives them less room to extend new loans. This in turn depresses economic growth. Also, if NPLs are not addressed, the restoration of unhealthy corporate and household balance sheets is blocked, which means new spending and investments are deferred. The resulting lower economic growth will, in turn, create more NPLs. This may lead to negative interaction, with a large volume of NPLs in bank balance sheets hampering economic growth, thereby causing new NPLs. Various empirical studies confirm that weak bank balance sheets are associated with lower economic growth.[11]

10 Source: ECB. This is the total volume in NPLs in 27 of the 28 EU Member States. Data for the Czech Republic are unavailable.

11 See Aiyar, Ilyina and Jobst (2015), *How to tackle Europe's non-performing loan problem*, VoxEU, November 2015, for an overview of studies.

Box 3: When is a loan an NPL?

There is no single definition of a non-performing loan (NPL). The European Banking Authority (EBA) has decided on a definition that applies to banks in the European Union. It refers to a loan as an NPL if 1) payments have been overdue for over 90 days or 2) it is deemed unlikely that the debtor will meet its obligations towards the bank in full without the recovery of collateral or other security. The European Central Bank (ECB) applies this definition to all banks under its direct supervision. As part of a series of Asset Quality Reviews, the ECB verified the correct and consistent application of this definition by a large number of major European banks. This enabled the ECB to get a clear picture of the volume of NPLs in their balance sheets. The definition is not always applied consistently for smaller European banks outside the ECB's direct supervision and banks outside the euro area. It may be safely assumed that full application of the EBA definition to all European banks will result in a higher figure.

Large volumes of NPLs in bank balance sheets hamper the transmission of monetary policy. Transmission in the euro area takes place predominantly in the bank lending channel, where adjustments to key policy rates affect the real economy through bank lending. However, banks that have large volumes of NPLs in their balance sheets cannot respond to changes in key policy rates to the same extent because they need to hold provisions, which reduces the effectiveness of monetary policy.[12]

Causes of the high volume of NPLs

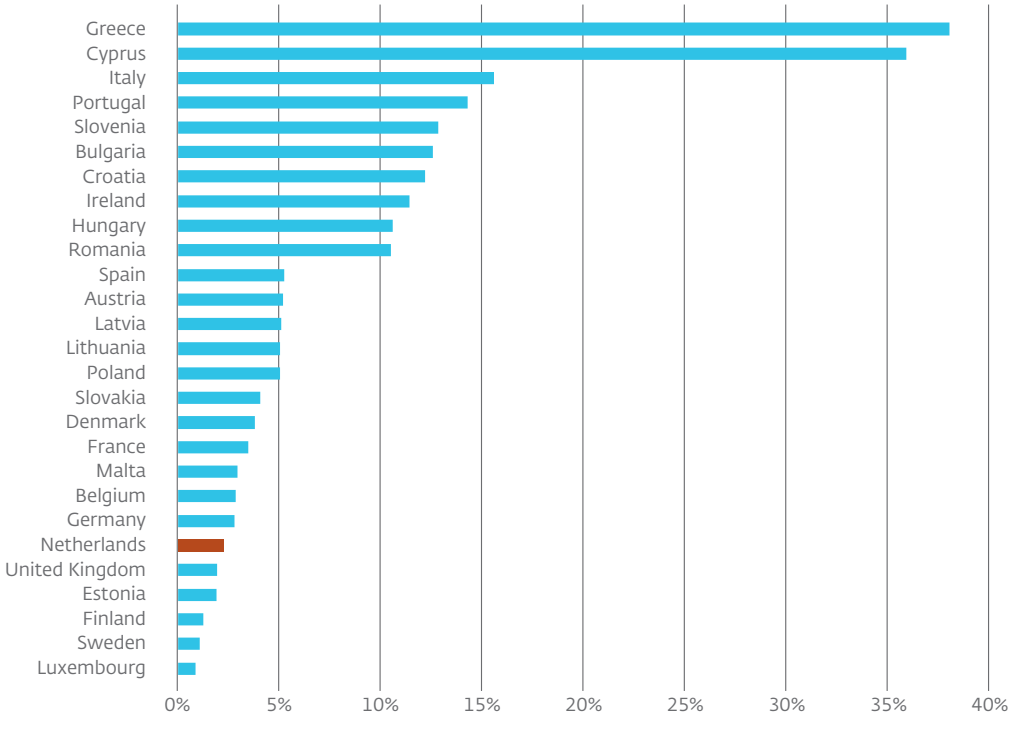
The slow economic recovery in the euro area contributes to the slow decline of NPLs in Europe. The number of NPLs moves in line with the economic cycle, increasing in poor economic times. Likewise, it should go down again as the economy picks up, given that debtors will be able to resume repayments. Post-crisis economic recovery has been weak in the euro area, however, which complicates the elimination of payment arrears.

There are also structural causes for the many NPLs in Europe. Often, European banks keep NPLs in their balance sheets for an unduly long time, and they tend not to write off bad loans. In the first instance this is because banks have little incentive to resolve NPLs quickly and effectively. Some banks still fail to set a restructuring or foreclosure process in motion, opting instead to merely allow deferred repayments and refraining from making provisions in

12 See also Mersch, '*Banks adapting to the new normal: Striking a balance between prudence and pragmatism*', speech held on 19 September 2016.

Chart 13 NPLs in Europe

NPLs as a percentage of total lending; 2016Q1



Source: ECB.

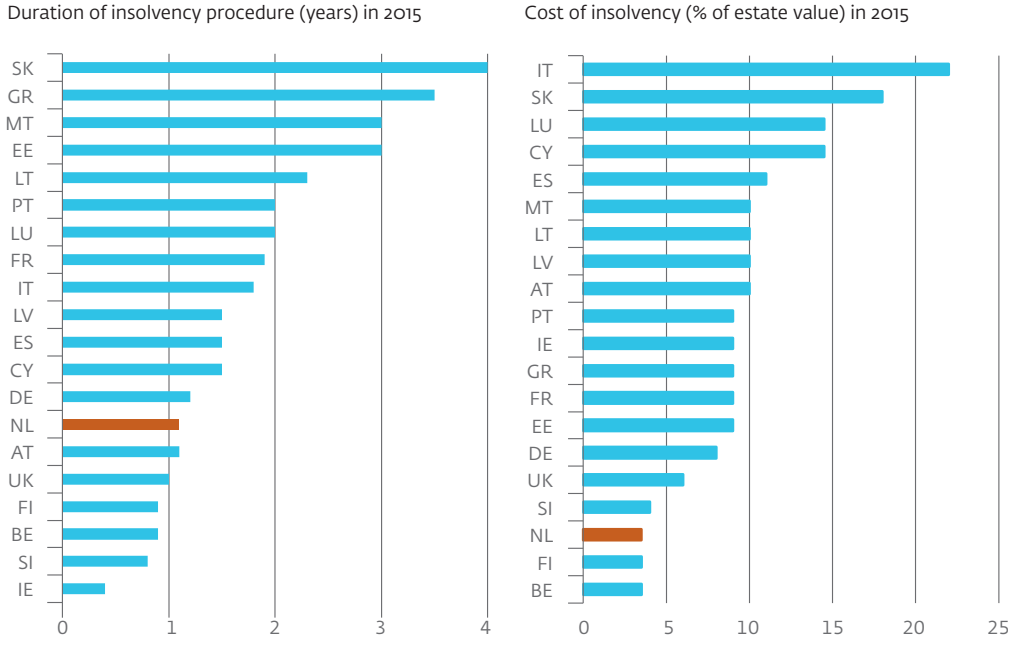
good time. Secondly, the European market for trading NPLs is still very small,[13] which makes it hard for banks to sell NPLs to specialised market operators. Thirdly, flaws in insolvency legislation and inadequate legal procedures make it difficult to resolve NPLs in Europe.

There are large differences between insolvency laws and legal procedures in Europe, as well as in terms of their implementation. Viewed from a bank's perspective, both speed and cost levels are essential when dealing with insolvency,[14] and both aspects vary widely within the EU (see Chart 14). For example, it is not unusual for an insolvency case to be settled after three years in

13 At year-end 2013, the market value of NPL transactions stood at EUR 64 billion, against EUR 469 billion in the United States. See IMF (2015), *A Strategy for Resolving Europe's Problem Loans*, Staff Discussion Note SDN/15/19.

14 Creditors and debtors both have an interest in effective insolvency laws, but their interests may conflict in certain legislative aspects, such as the extent to which creditors have recourse to collateral. Under a non-recourse regime, they have recourse only to pledged assets, while under a full recourse regime, they can hold the debtor liable for the full amount of the debt. In this FSR, we consider insolvency legislation from the creditor's perspective.

Chart 14 Large differences in terms of implementation of insolvency laws



Source: World Bank (2016), Doing Business.

Greece, Slovakia or Estonia, whereas this may be resolved in less than a year in other countries. Similarly, the cost involved in settling insolvency shows high variance: whereas it represents well over 15% of the value of the estate in Italy and Cyprus, it is typically below 5% in the Netherlands, Belgium and Finland. Typically, in countries where settling an insolvency case is a lengthy and costly process, banks often have many NPLs in their balance sheets.

Various countries recently launched initiatives aimed at modernising their insolvency laws. Some are simplifying the insolvency process (e.g. Spain and Portugal), whereas others are introducing new loan restructuring methods, such as bond-for-share swaps (e.g. Germany). Likewise, the European Commission in 2014 issued recommendations for the harmonisation of European insolvency systems, focusing on maintaining and restructuring viable companies, but the Member States only acted on them in part. The Commission is expected to submit a legislative proposal for the European harmonisation of bankruptcy law by the end of 2016.

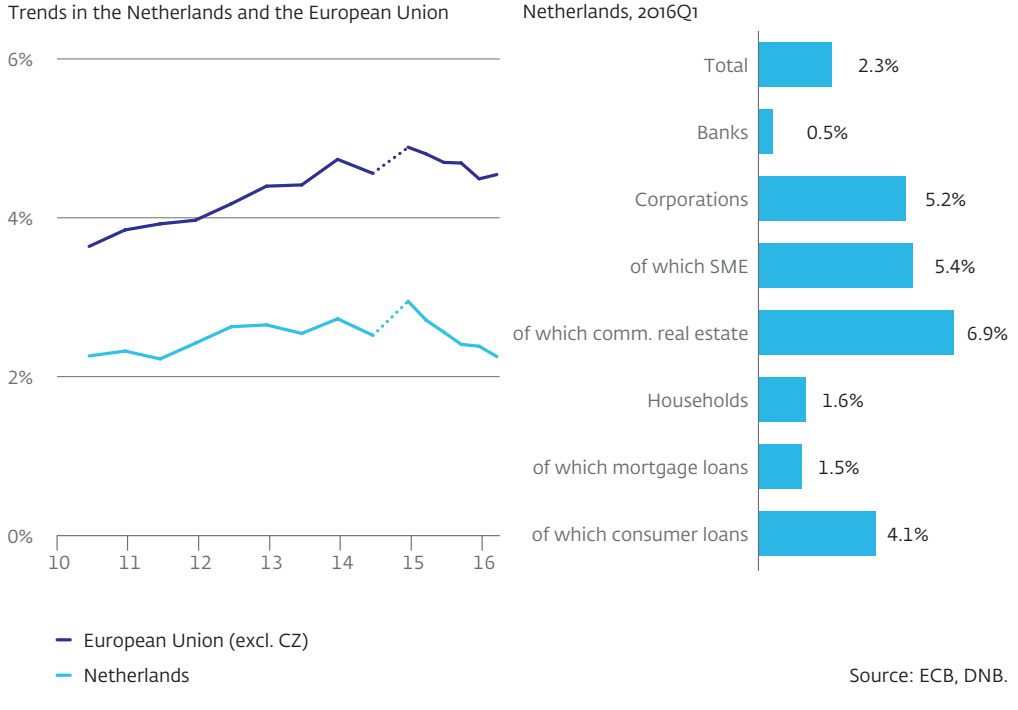
The situation in the Netherlands

Compared to banks elsewhere in Europe, Dutch banks have relatively low volumes of NPLs. Chart 15 provides an overview of NPLs in portfolios of Dutch banks through the years and according to debtor sector. In the first quarter of 2016, Dutch banks had around EUR 48 billion in NPLs in their combined balance sheets.[15] This corresponds with 2.3% of their total outstanding loans. They held EUR 21 billion in provisions to cover them. Dutch banks also generally devote a great deal of attention to identifying and resolving NPLs, and they typically have a 'special asset management department' in place.

Nevertheless, there is room for improvement in the Netherlands. The figures cited above may provide a somewhat distorted view. For example, the proportion of NPLs in the Netherlands is low because it is driven by low volumes of non-performing mortgage loans to retail borrowers (at 1.5%, or EUR 10.6 billion gross, the NPL ratio for private mortgage loans is almost

Chart 15 NPLs according to debtor sector

NPLs as a percentage of total loans



Source: ECB, DNB.

Note: The dotted lines in the left-hand chart illustrates the changeover from CRDIII to CRDIV.

15 Source: DNB.

the lowest in Europe). Retail mortgage loans dominate the balance sheets of many Dutch banks. The proportion of NPLs to firms is higher, however. This means the Netherlands ranks mediocre in Europe.[16] In commercial real estate, no less than 6.9% of the total volume in loans contracted are NPLs (see Chart 15, right-hand panel). In part, this is because of the nature of the Dutch NPLs, such as loans in the shipping sector, in which expropriation and sale of collateral is a difficult and lengthy process. Although the Netherlands ranks favourably in terms of the cost and duration of settling insolvency cases, (see Chart 14), it has announced further improvements to its insolvency laws.

Policy challenges

To facilitate economic recovery and improve monetary transmission, insolvency legislation and legal procedures in Europe must be further modernised, with remaining flaws being eliminated. Procedures could be expedited and made less costly in countries where they are lengthy and expensive. Setting statutory settlement deadlines may be helpful in this regard. Also, more options must be created for restructuring out of court, which will shorten an insolvency process and often make it less costly.

Harmonisation of European insolvency laws is desirable. The wide differences between insolvency laws in European countries mean that debtors and creditors have different rights and obligations, depending on the national jurisdiction they are under. This creates uncertainties and inefficiencies. Harmonisation of insolvency laws throughout Europe may contribute to the more efficient settlement of insolvencies and restructuring of firms. This would eliminate the main flaws from each individual insolvency framework, and each Member State would further align the various insolvency procedures.

Improved insolvency laws will only be effective in eliminating NPLs if further efforts are put into creating the right incentives for banks and developing a market for selling NPLs. Banks burdened with many NPLs must adopt a clear strategy aimed at easing that burden, in which incentives to defer interest and repayment commitments are minimised. In addition, recognising provisions and write-downs sooner,[17] and assessing the value of collateral more prudently could help reduce the volume of NPLs. Lastly, it should be made easier for banks to sell NPLs to third parties, for example to firms that specialise in their recovery, or to securitise NPLs. Further developing a market for this will make a positive contribution. Addressing these structural problems in an integrated manner may contribute to the reduction of the large volume in NPLs in Europe and expedite their settlement in the future.

16 IMF (2015), *A Strategy for Resolving Europe's Problem Loans*, Staff Discussion Note SDN/15/19.

17 International Financial Reporting Standard 9, which is due to take effect in 2018, will contribute to this. IFRS 9 stipulates that future losses, for example on NPLs, must be recognised sooner, making it more difficult for banks to defer them.

4 Brexit

On 23 June 2016, the citizens of the United Kingdom (UK) voted to leave the European Union. Although financial markets and institutions demonstrated resilience in the wake of the referendum's outcome, uncertainties about the exact consequences for trade and other relations between the UK and the EU are set to remain for a considerable time to come. Initial survey figures about producer and consumer confidence show a moderately adverse impact on the UK economy. Any substantial growth deceleration resulting from the Brexit may potentially affect financial stability, which may slow down European economic recovery, the resolution of legacy issues in the financial sector and the return to normal monetary policy. From a financial stability perspective, the duration of uncertainties should be kept short and a solution must be found that causes the least possible harm to economic interactions between the UK and the EU.

The UK voted to leave the EU. In a referendum held on 23 June 2016, UK citizens voted to withdraw from the EU, shortly after which Prime Minister David Cameron resigned from office. Succeeding him, Theresa May issued a clear political message: 'Brexit means Brexit', suggesting the outcome of the referendum would be respected. She appointed a dedicated Brexit minister to her cabinet and announced that the UK would relinquish the EU presidency scheduled for the second half of 2017. European Commissioner Lord Hill, responsible for Financial Stability, Financial Services and the Capital Markets Union also resigned, and the European Commission appointed former Commissioner Barnier to oversee the disentanglement process from Brussels.

Uncertainties over the exact consequences of the Brexit are set to remain for years to come. It is the first time a Member State has indicated its intention to opt out of the EU, which casts uncertainty over how the exit process will take shape and how long it will last, what post-Brexit relations between the UK and the EU will look like and what the impact on the economy will be. Formally, withdrawal will start when the UK invokes Article 50 of the Lisbon Treaty, after which the procedure must in principle be completed within two years (see Box 4). Diplomats, however, have indicated that such a period may well be too short to negotiate the many political obstacles. Extension of the withdrawal period is a possibility. The UK does not seem to be in a hurry to start the procedure. After all, deferral enables the UK to continue its present trade relations and form its own vision of how to proceed after the EU.[18] If, in accordance with the most recent reports, the UK invokes the procedure in 2017, implementation of the withdrawal agreement will start in 2019 at the earliest.

18 After all, the Brexit will not only affect the UK's economic and financial policy areas, but also foreign and security policies and energy and climate policies. For an overview of policy areas directly affected by the Brexit, see House of Commons (2016), *Brexit: impact across policy areas.*

Box 4. The withdrawal procedure

Since the adoption of the Lisbon Treaty in 2009, a procedure has been in place that governs withdrawal from the EU. This is set out in Article 50 of the Treaty on European Union. A Member State's decision to withdraw is unilateral, which means that approval from the other Member States is not needed, nor can they block the decision.

At the same time, the Treaty prescribes that agreement must be reached on the terms on which a Member State withdraws and on its future relations with the EU. The resulting withdrawal agreement will be an EU decision taken by the European Council, acting by qualified majority. The European Parliament must also give its consent to the agreement.

The UK will cease to be a Member State on the date when the withdrawal agreement enters into force, which the parties may set and which need not coincide with the date on which the agreement is concluded. Should no withdrawal agreement be concluded, the UK's withdrawal will take place by operation of law two years following its notice of withdrawal, unless that period is extended.

It is unclear what must be arranged under the withdrawal agreement, and a separate trade agreement may need to be negotiated. Furthermore, the UK will most likely need to be 'deleted' from existing EU treaties. From a legal perspective, a treaty change should ideally take place at the time of the UK's withdrawal. Member States may decide to use a treaty change procedure to incorporate other wishes they may have, which could further complicate negotiations. In the Netherlands, treaty changes and a trade agreement with the UK can be subjected to a non-binding referendum, similar to the earlier EU association agreement with Ukraine. They are also eligible for referendum in various other EU Member States.

Further complications and loss of momentum may result from the fact that each Member State, the European Parliament, the European Council and the European Commission may refer the agreement to the European Court of Justice (ECJ) for its ruling on compatibility with EU treaties. Although requesting the ECJ's advice is not mandatory, the procedure may well be adhered to, given the legal complexities and the precedent that will be created. If the ECJ should rule the agreement to be incompatible with the EU treaties, it cannot enter into effect and it must be renegotiated.

The Brexit creates political uncertainty in the UK and other EU Member States. On the one hand, it escalates domestic tensions in the UK. Scotland's first minister has stated her support for remaining in the EU and holding a renewed referendum about a split-off from the UK. On the other hand, the Brexit raises hopes among EU critics in other Member States that they will be able to lead their country out of the EU through a referendum. Further exits from the EU, particularly by a euro country, will heighten political and economic uncertainty. The emergence of Euro-sceptic political parties with elections imminent in various EU Member States fuels sentiment that may slow down further political and economic integration within the EU, even with no further exits.

Consequences for financial markets and institutions

Financial markets and institutions showed resilience. Even though the outcome of the referendum came as a shock to most market operators, the atmosphere in the financial market was one of composure, once the initial impact of the reaction had subsided. Importantly, market operators and policymakers such as the Bank of England were well-prepared, given that the referendum had been announced long in advance. Moreover, it will most likely take several years for the exit to be effectively implemented. As markets had anticipated a 'remain' vote, the referendum result initially prompted investors to seek refuge in safe haven investments. This caused the pound sterling to drop over 10% against the euro and the US dollar. Stock exchanges in the UK and elsewhere in Europe fell briefly, but recovered fairly quickly. There was very little contagion to peripheral European sovereigns, and banks and other financial institutions did not face any liquidity problems or other funding issues. Bank share prices experienced heavy pressure shortly after the referendum result was announced, however (see Chart 16).

For market operators in the City, access to the European single market is at stake. Crucially, the many financial service providers operating in the financial heart of Europe will want to ensure they can retain their 'European financial passport'. Under such a single licence, banks, insurers, asset managers and other financial institutions have the right to provide their services in all member countries of the European Economic Area (EEA). (See Box 5 for more details of the European passporting rules). Without a single license, financial institutions will need to apply for authorisation in each of the EU Member States in which they wish to provide their services. Should exit negotiations cause the UK to be positioned outside the EEA, London can no longer be used as a springboard to Europe, which may prompt foreign institutions to relocate operations to outside the UK.

Box 5. European passporting rules

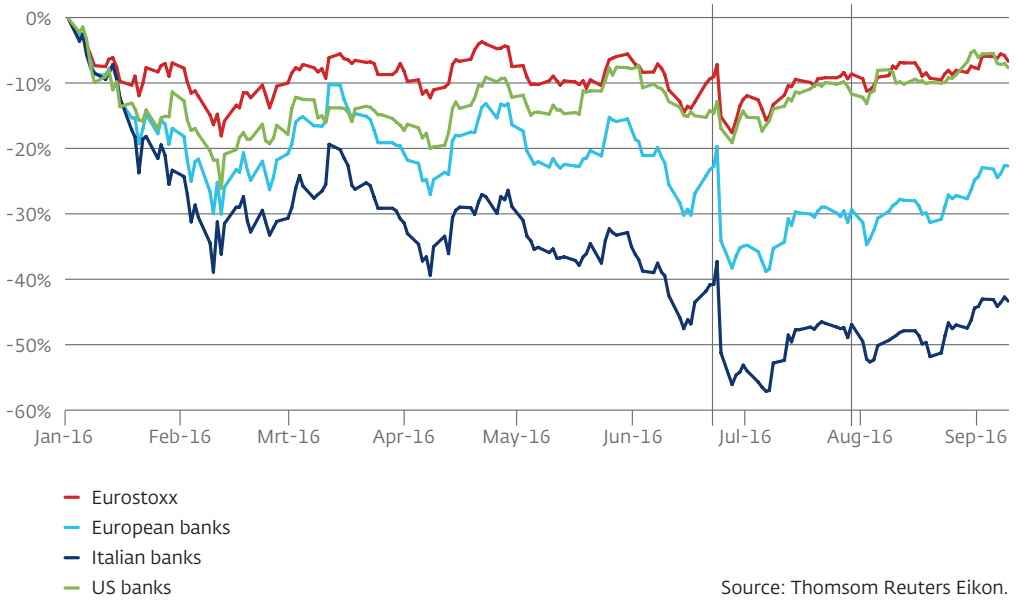
Pursuant to various European directives, banks and other financial institutions may set up branch offices and offer services in other EEA countries under authorisation issued in their home country in what is termed the single licence or European passporting arrangement. Accordingly, if a Dutch bank operates a branch office or sells products to customers in the UK, the Dutch supervisory authority exercises supervision of this branch office in accordance with the principle of 'home country control'. Financial institutions originating outside the EEA may also use a financial passport through a subsidiary established in the EEA that holds EEA authorisation. For example, a US merchant bank may offer its products throughout the EEA through a UK-supervised subsidiary.

It will depend on the outcome of the Brexit negotiations whether UK-supervised financial institutions keep their single licence. UK banks are likely to be substantially impacted, as a significant proportion of their operations will be affected. They will need to bear the cost of setting up a subsidiary outside the UK. Likewise, US merchant banks are likely to be impacted, given that all of them currently operate through London-based subsidiaries. Any substantial relocation of operations required to ensure that autonomous EEA subsidiaries are granted authorisation would require significant modifications to their operating structure.

UK investment funds might retain access to the single market, however, under the equivalence provisions of MiFID II, which is due to come into effect on 3 January 2018. Suppose a non-EU investment fund wishes to provide its services in the EU without setting up a branch office, it may request entry in the register kept by the European Securities and Markets Authority (ESMA), provided its home country has supervision of equivalent quality. Following an equivalence assessment performed by the ESMA but decided on by the European Commission, it may provide its services in the EU without setting up a branch office. It is currently uncertain whether financial supervision in the UK is considered at least equivalent to MiFID II after 2018.

Chart 16 Share prices of European banks under heavy pressure

Price movements since 1 January 2016.



Source: Thomsom Reuters Eikon.

Note: Movements calculated on the basis of indices expressed in euro.
The dates indicated are the Brexit referendum (23 June 2016) and the EBA stress test (29 July 2016).

Uncertain economic consequences

Heightened uncertainty may slow UK growth. The EU's trade relations will remain unchanged at least until 2019, but uncertainties over the outcome of the withdrawal process may already be reflected in a growth slowdown in the UK. After all, investors dislike uncertainty when making investments that should yield returns in the longer run. As a result, investments may be postponed or halted. Similarly, consumer confidence could be eroded, with domestic consumption potentially suffering from knock-on effects. Furthermore, the referendum's outcome will depress consumption growth and send the pound sterling lower, resulting in lower imports into the UK without any trade barriers having been raised. By contrast, UK exporters will benefit from depreciation, as their products and services will be cheaper for customers abroad. Such a foreign exchange adjustment cannot be considered separately from the UK's long-lasting current account deficit (4.3% of GDP in 2015). In the near term it may restore some of the balance in the current account.

Worsening trade relations could also inhibit the European economies. Roughly 13% of euro area exports go to the UK. Hence, a deteriorating trade relationship may hit the main trading partners of the UK hard. Of Dutch exports, 7% are shipped to the UK, and measured by value added, Dutch trade with the UK is equally important as with Germany. Apart from such direct effects, worsened trade relations could also have indirect effects in the longer run, such as lower output growth throughout Europe.[19]

Estimates suggest the UK would suffer a substantial slowdown in growth, even if economic relations between the UK and the rest of Europe were to remain strong. The mildest variant in terms of economic ramifications is termed the 'Norway scenario', which will not bring many changes in economic terms in relations between the UK and the EU. The UK will retain access to the EU's single market for goods and services, in common with Norway, but will also need to accept continuing free movement of persons. Furthermore, under this scenario the UK will still have to contribute significantly to the EU's budget. Effectively, the Norway scenario resembles EU membership without the right to vote, which would seem an unattractive option from a political viewpoint. IMF estimates[20] suggest that the UK's economic growth will be 0.2% lower in 2016 and 0.9% lower in 2017 under this scenario. The Bank of England figures the UK economy will have contracted by 2.5% at year-end 2018 compared to a 'remain' scenario. The OECD and the HM Treasury had earlier quantified the cumulated impact on the GDP volume at -3% by 2030. For the Netherlands, the Netherlands Bureau for Economic Policy Analysis (CPB)[21] projected the cumulated impact to be in the order of -1.2%.

The slowdown in growth is bound to be more pronounced as economic ties with the UK weaken. The scenario that has the biggest impact will materialise if the EU and the UK fail to reach any new agreements on trade or other subjects. This means relations will revert to the World Trade Organisation's basic trade rules. According to OECD and CPB estimates, respectively, the cumulative impact of this scenario on GDP will be -8% for the UK and -2% for the Netherlands by 2030.

19 CPB Netherlands Bureau for Economic Policy Analysis, Dutch costs of Brexit resulting from lower trade, CPB Policy Brief, 2016/07.

20 IMF, *WEO update*, July 2016

21 CPB Netherlands Bureau for Economic Policy Analysis, Dutch costs of Brexit resulting from lower trade, CPB Policy Brief, 2016/07.

Initial evidence suggests that the impact has been moderately negative. Hard data on the economic impact are still scarce, and short-term indicators are volatile and subject to the influence of numerous factors, which means that uncertainty about the actual impact is set to last for some time to come. Even so, the impact on the UK economy would appear to be limited. For example, the pound sterling weakened over 10% against the euro on the day of the referendum's outcome, having stabilised since then. Both consumer and producer confidence edged down in the July-August period in the UK (EC),[22] with a notable and relatively strong decrease in construction sector sentiment. Similarly, the Bank of England in July reported a drop in the number of newly contracted mortgage loans to the lowest level seen in eighteen months. Also, fairly soon after the result of the referendum was announced, various property investment funds with investments in the UK were forced to extend the notice period subject to which money invested in their funds could be withdrawn. This is in line with anecdotal evidence showing that the UK real estate market is under pressure, notably in the financial services hub of London. According to the EC, confidence in the economy also receded in the euro area in the July-August period, with relatively sizeable drops registered in the Netherlands and Germany, which are major trading partners of the UK. By contrast, the OECD[23] does not see any change in the short-term outlook for Europe caused by the referendum.

Stimulus measures should mitigate the consequences in the UK. In anticipation of adverse economic consequences of the referendum result, UK policymakers have announced stimulus measures. The Bank of England cut the key policy rate to 0.25%, the lowest level in its history, and will purchase GBP 70 billion worth of government and corporate bonds. In addition, banks will be given access to a long-term liquidity facility and the countercyclical buffer requirement for banks has been brought down to nil. Expectations are that the UK government will moreover introduce a nationwide programme to replace subsidies which the UK currently receives under the EU's regional development and agriculture programmes.

22 European Commission, *Business and Consumer Survey Results*, August 2016

23 OESO, *Composite Leading Indicators*, September 2016

Policy challenges

The Brexit has increased the likelihood of financial stability in Europe remaining fragile for a prolonged period, especially if a scenario materialises that implies a fallback to the basic rules set by the World Trade Organisation. In that case, the uncertainties and slowdown in growth associated with the Brexit will first of all hinder the recovery of Europe's economy. Secondly, they will complicate the resolution of legacy issues in the financial sector (see Chapter 3). Thirdly, with dampened growth and inflation expectations, the low interest rates policy is likely to be maintained longer. This entails risks to financial stability, such as an unhealthy search for yield, growing habituation to prolonged low interest rates and increasing difficulties for financial institutions seeking to operate in a low-interest environment (see also Chapter 2).

A quick and cooperative negotiating result will be desirable. It might seem attractive for political policymakers to adopt a tough stance towards the British with respect to their withdrawal, as it may discourage others from going down the same road. From a financial stability perspective, however, the duration of uncertainties should be kept short and a solution must be found that causes the least possible harm to economic interactions between the UK and the EU.

Annex 1: Macroprudential indicators

	Most recent observation	Trend after 1998			
		Min	Max	Average	Period under review
Credit conditions					
Trend deviation credit/GDP ratio[1]	-20.9	-20.9	17.0	-0.1	1998Q1-2016Q1
Growth in household lending (y-o-y)	1.0	-2.0	17.1	6.8	1998Q1-2016Q1
Growth in non-financial corporations lending (y-o-y)	-2.4	-4.4	16.8	3.9	1998Q1-2016Q1
Credit terms for non-financial corporations[2]	0	-48	98	11	2003Q1-2016Q2
Credit terms for residential mortgages[2]	-25	-33	98	20	2003Q1-2016Q2
Leverage					
Leverage ratio CRD IV, fully loaded[3]	4.1	3.4	4.1	3.7	2014Q1-2016Q2
Tier 1-capital/balance sheet total of the banking sector (up to 2013 Q4)	5.0	3.0	5.0	3.9	1998Q1-2013Q4
CET1 ratio of banks CRD IV, based on transition rules	14.9	13.6	14.9	14.3	2014Q1-2016Q2
Tier 1 ratio of banks based on CRD III (up to 2013 Q4)[4]	12.5	8.2	12.8	10.0	1998Q1-2013Q4
Debt of households (% GDP)	109.9	65.4	118.0	100.3	1998Q1-2016Q1
Debt of non-financial corporations (% GDP)	104.7	100.7	120.7	110.6	1998Q1-2016Q1
Real estate					
Growth in house prices (y-o-y)	4.9	-9.9	20.0	3.9	1998Jan-2016Jul
Growth in commercial property prices (y-o-y)	5.4	-7.8	9.4	2.0	1998Q1-2016Q2
Loan-to-value-ratio for first-time buyers[5]	94.6	93.4	99.9	96.9	2003-2015
Loan-to-income-ratio for first-time buyers[6]	4.5	4.2	4.7	4.4	2003-2015
Interest rate of new mortgage loans, 5-10 years (bp)	261.0	261.0	561.0	419.2	2003Jan-2016Jul
Bank liquidity					
Loan-to-deposit-ratio[7]	150.7	150.7	194.8	174.4	1998Q4-2016Q2
Proportion of market funding with maturities < 1 year	31.6	16.6	38.3	29.7	2003Aug-2016Aug
Systemic importance					
Size of bank balance sheets as a percentage of GDP	388.5	306.5	562.5	418.4	1998Q1-2016Q2
Share of G5 banks in balance sheet total of the banking sector[8]	84.7	79.9	90.3	86.9	1998Q1-2016Q2
Rating uplift of systemically important banks (in steps)[9]	1.0	1.0	2.3	2.0	2012-2015
International risks					
Long-term interest rates (bp)[10]	2.7	2.7	566.6	344.6	1998Jan-2016Aug
BAA-AA risk premium (bp)[11]	129.0	81.0	463.0	174.8	2001Jan-2016May
Risk premium in money market (bp)[12]	4.4	1.2	186.0	22.2	1999Jan-2016Aug
Risk premium on senior unsecured bank bonds (bp)[13]	60.7	12.6	321.5	85.7	1999Jan-2016Aug
Financial stress index [14]	-0.02	-0.56	3.12	0.22	1999Dec-2016Aug
Global credit growth of non-financial corporations (y-o-y)[15]	0.1	-5.7	20.1	6.2	2000Q1-2015Q4
Global growth in house prices (y-o-y)	1.1	-7.9	10.4	2.9	2001Q1-2016Q1

42

Concentration of exposures of Dutch banks[16]

	Netherlands	Abroad
Total of debt securities and loans	49.5	50.5
Central bank	1.5	0.6
Governments	6.8	6.4
Credit institutions	1.8	13.4
Other financial institutions	2.9	6.8
Non-financial corporations	10.8	15.4
Of which: Small and medium-sized enterprises	2.4	3.5
Of which: Commercial property	3.8	2.3
Households	25.8	8.0
Of which: Mortgage loans	24.5	6.8
Of which: Consumer credit	0.7	0.7

Sources: Bloomberg, BIS, CBS, DNB, IMF, IPD, Moody's, Thomson Reuters Datastream.
Figures are in percentages, except when otherwise indicated; bp = basis points.

1 The difference between a) the ratio of lending to the non-financial private sector and Dutch GDP and b) the long-term trend for that ratio as calculated in ESRB (2014), Occasional Paper No. 5. Operationalising the countercyclical capital buffer: indicator selection, threshold identification and calibration option.
2 The proportion of banks tightening credit conditions and easing credit conditions, with a positive number indicating a net tightening and a negative number indicating net easing.
3 Calculated on the basis of the most recent definition of leverage ratio as agreed by the Basel Committee in January 2014.
4 The Tier 1 ratio reported here includes the Basel I floor.
5 The ratio of the amount of the mortgage to the value of the property at the time the mortgage is taken out. First-time buyers are defined as individuals younger than 30 at the time the mortgage is taken out. DNB estimate based on a sample of Dutch mortgages.
6 The ratio of the amount of the mortgage to the income of the borrower at the time the mortgage is taken out. First-time buyers are defined as individuals younger than 30 at the time the mortgage is taken out. DNB estimate based on a sample of Dutch mortgages.
7 The ratio of loans (including securitised loans) to deposits made by the domestic non-financial private sector.
8 The five largest Dutch banks' assets (ABN AMRO, ING, Rabobank, SNS Bank and BNG) as a percentage of the Dutch banking sector's total assets.
9 The difference between the credit ratings including and excluding government support, based on Moody's methodology. This is an average of ABN AMRO, ING, Rabobank and SNS Bank, weighted by balance sheet total.
10 Yields on Dutch government bonds with ten-year maturities.
11 The yield differential between international BBB-rated corporate bonds and international AA-rated corporate bonds.
12 The difference between three-month EURIBOR interest rates and the three-month EONIA swap index.
13 The yield differential between European senior unsecured bank bonds and the five-year swap rates.
14 Index-based on indicators of Dutch equity, bond and forex markets.
15 Development of lending to the non-financial private sector in all countries reporting to the BIS.
16 The share of Dutch and foreign countersectors in the exposures of all Dutch banks, based on reported consolidated figures for supervisory purposes (2016Q2).

Annex 2: FSR follow-up monitor

In the FSR, DNB identifies systemic risks and makes related policy recommendations. This annex provides an overview of how DNB followed up on these risks and recommendations. The purpose is to be transparent about the pursued actions, and to keep abreast of the progress made.

The risks identified in the FSR are addressed through a variety of channels. Firstly, the FSR contributes to timely awareness of different systemic risks. Secondly, it urges legislators to implement specific legislative amendments through policy recommendations. Finally, DNB uses its own micro- and macroprudential instruments to address specific risks. In the table below, column 1 lists systemic risks identified and recommendations made in FSR editions since 2011, column 2 describes DNB's follow-up, and column 3 gives the status since the issue was first cited in the FSR.

Overview of risks and FSR recommendations: follow-up and current status

Subject	Relevant actions taken by DNB	Status
Banks		
1. Insufficient capital reinforcement: banks are required to strengthen their capital positions (autumn 2011).	DNB supervises accelerated movement towards Basel III capital requirements. Extra capital buffers imposed.	The rise in CET1 ratios proves that capital buffers have been reinforced. Almost all Dutch banks are following the migration path towards compliance with the final Basel III solvency requirements. Systemically important banks are building up extra buffers.
2. Funding risk: caution with respect to secured funding (autumn 2011); reduction of dependence on market funding (spring 2012).	DNB supervises accelerated movement towards Basel III capital requirements, imposing additional liquidity requirements in a few cases. DNB is monitoring developments surrounding the deposit funding gap and calls for limited asset encumbrance by Dutch banks.	Our monitoring shows that all Dutch banks currently already meet the LCR and the Basel definition of the NSFR. The deposit funding gap and asset encumbrance are decreasing.

Overview of risks and FSR recommendations: follow-up and current status (continued)

3. Commercial real estate: Segmented price trends and structural factors (autumn 2015).	DNB gathers detailed information about banks' exposures to commercial real estate, advocating more transparency about transactions, prices and valuations.	Higher buffers have reduced the vulnerability of banks. Commercial real estate remains an important market to monitor closely.
4. Upward interest rate shock: adequate management of interest rate, market and credit risks in the event of an upward interest rate shock (spring 2013).	In regular supervision, DNB supervises the adequate management of these risks by banks.	This risk remains in place due to low interest rate environment (see also Chapter 2).
5. Ineffective bail-in: embedding of bail-in in European legislation (autumn 2013); sufficient bail-in buffers (spring 2015).	DNB contributes to domestic and international regulations designed to enable credible bail-in. DNB also supervises banks' measures to anticipate such regulations.	After implementation of the Bank Recovery and Resolution Directive (BRRD) and the establishment of the national resolution authority, it is now important to ensure that sufficient bail-inable debt is created and interdependence between financial institutions is minimised.
System-wide		
6. Financial market volatility: financial market volatility has increased since mid-2014 (spring 2016)	DNB monitors management of funding risks at banks and its regular supervision includes the impact of market stress.	The outcome of the stress tests will be taken on board in DNB's regular supervision.
7. Risks on the housing market: reduction of the LTV limit (autumn 2011), curbing of tax incentives (autumn 2011), increased shock absorbing capacity of households (spring 2016).	The Financial Stability Committee issued advice on lowering of the LTV limit and curbing of tax incentives.	Risks have decreased. LTV limit and mortgage interest tax relief to be reduced in stages. Further steps are necessary from a structural perspective.

8. Search for yield and bubble formation: formulating realistic return targets (autumn 2014) persistently low interest rates (spring 2015).	DNB performs follow-up investigations into the extent of the search for yield and adequacy of risk management in 2016.	The current macro-economic situation requires increasing alertness from DNB and the institutions alike.
9. Governance and variable remuneration policies: structural change in culture (spring 2015); no incentives for excessive risk-seeking (spring 2015).	DNB supervising compliance with laws and regulations, providing input when new laws and regulations come into force. DNB also held in-depth investigations at several banks.	Awareness is increasing, but the cultural change still has some way to go.
10. FinTech: rise of technological innovation in the financial sector (spring 2016).	DNB and the AFM jointly work to achieve a differentiated authorisation process and the InnovationHub. In addition, DNB performs in-depth examinations into FinTech's implications for its own financial stability task.	Technological innovation in the financial sector creates both opportunities and risks. It is important to monitor trends in an active way and control potential financial stability risks.
Insurers		
11. Sustainability of business models of life insurers: pursuing sustainable business models (spring 2014) Taking account of the situation that solvency may inadvertently prove to be inadequate (spring 2015).	DNB has examined to what extent insurers' business models are future-proof, using the outcome to formulate recommendations for the sector aimed at cutting costs and increasing the earnings generating capacity. DNB is assessing the adjustment strategies of a number of insurers in terms of their realism and specificity, as well as conducting follow-up examinations into future provisions for costs.	This risk has a structural character. There is increased awareness among insurers about the need to make adjustments to business models. The sustainability of business models continues to be an important component of ongoing supervision.

Overview of risks and FSR recommendations: follow-up and current status (continued)

12. Unit-linked insurances: efforts to find solutions to breach of duty of care (autumn 2011).	The AFM – jointly with other parties, including DNB – monitors the insurers' further steps aimed at activating customers. Claim risk must be quantified, and DNB continues to urge insurers to try to find a fitting solution for all stakeholders.	Target figures for activation of customers are embedded in law. Insurers are making progress, but claim risk is still high and the further restoration of trust still poses a challenge.
13. Guaranteed returns: caution with respect to return guarantees (autumn 2013).	DNB monitors adequate valuation of guarantees and that institutions proceed with care where issuing of new return guarantees is concerned.	This risk remains and is included as a component of ongoing supervision of the sustainability of business models.
Pension funds		
14. Sustainability of the pension system: pension funds are required to increase their buffers and be transparent about plans for curtailment of pension benefits (autumn 2011); pensionable age must be raised (spring 2012).	DNB provides advice with respect to laws and regulations and assesses their practicality. DNB has contributed to the advice issued by the Social and Economic Council of the Netherlands (SER) about the future of the Dutch pension system. In tandem with the AFM, it examines whether pension funds inform their members correctly and adequately about expected trends.	Some steps have been taken to improve resilience (implementation of revised Financial Assessment Framework, increasing the pensionable age), but the fundamental debate on the sustainability of the pension system is still ongoing.

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