



NORWAY

FINANCIAL SECTOR ASSESSMENT PROGRAM

TECHNICAL NOTE—MACROPRUDENTIAL POLICY

September 2015

This Technical Note on Macprudential Policy for Norway was prepared by a staff and experts team of the International Monetary Fund. It is based on the information available at the time it was completed in August 2015.

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August 17, 2015

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MACROPRUDENTIAL POLICY

Prepared By
**Monetary and Capital Markets
Department**

This Technical Note was prepared by IMF staff in the context of the Financial Sector Assessment Program in Norway. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations. Further information on the FSAP can be found at

<http://www.imf.org/external/np/fsap/fssa.aspx>

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Glossary

Basel I	International Convergence of Capital Measurement and Capital Standards (July 1988)
Basel II	Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework—Comprehensive Version (June 2006)
Basel III	Basel III: A global regulatory framework for more resilient banks and banking systems (revised version June 2011)
BRRD	Bank Recovery and Resolution Directive
CCPs	Central counterparties
CET1	Common equity tier 1
CPSS	Committee on Payment and Settlement Systems (renamed in September 2014 to Committee on Payments and Market Infrastructures)
CRD4	Capital Requirements Directive
CRR	Capital Requirements Regulation
D-SIB	Domestic systemically important bank
DSR	Debt service ratio
DTI	Debt to income
EAD	Exposure at default
EBA	European Banking Authority
ECB	European Central Bank
EEA	European Economic Area
ESA	European Supervisory Authority
ESRB	European Systemic Risk Board
EU	European Union
FMI	Financial market infrastructure
FSA	Finanstilsynet (The Financial Supervisory Authority of Norway)
HP	Hodrick-Prescott filter
IOSCO	International Organization of Securities Commissions
IRB	Internal ratings based
LCR	Liquidity Coverage Ratio
LGD	Loss given default
LTI	Loan to income
LTV	Loan to value
MREL	Minimum required eligible liabilities
NPL	Nonperforming loan
NSFR	Net Stable Funding Ratio
OTC	Over the counter
PD	Probability of default
RWA	Risk weighted asset
SIFI	Systemically important financial institution
SME	Small and medium sized enterprise
SRB	Systemic risk buffer
TLAC	Total loss absorbing capacity

EXECUTIVE SUMMARY AND RECOMMENDATIONS¹

1. Credit growth, household debt, property prices and banks' wholesale funding are important systemic concerns. Key sources of cyclical systemic risk include the strength of mortgage lending (the credit-to-GDP ratio and the household debt-to-disposable income ratio both stand at around 200 percent), and the strong rise in, and overvaluation of, house prices (house prices are believed to be overvalued by some 20–60 percent). In the structural dimension, systemic risk arises primarily from the heavy dependence of Norwegian banks on wholesale funding. Low interest rates may be fuelling credit and asset price growth, while the main macroeconomic vulnerability is falling oil prices.

2. The authorities have taken or announced a wide range of macroprudential measures to address systemic risk. Since the global financial crisis in 2008, the authorities have deployed a range of measures to safeguard the financial system in Norway. These measures include higher capital requirements, including early adoption and implementation of the EU capital regulations, additional capital buffers (a 3 percentage points systemic risk buffer from July 2014, a 2 percentage points capital surcharge for D-SIBs from July 2016, and a 1 percentage point counter cyclical capital buffer from July 2015), Pillar 2 capital requirements relating to systemic risk, and restrictions on mortgage lending RWAs (bringing the internal-ratings based RWA on residential mortgages up to around 20-25 percent); guidelines on banks' mortgage lending standards (recommended upper limits on LTVs and affordability tests); and a degree of "leaning against the wind" in the setting of the monetary policy instrument. These measures represent a highly active approach to macroprudential policy.

3. These macroprudential measures have focused primarily on building the resilience of banks through higher capital requirements. However, two other areas require further attention. First, the authorities should consider whether additional measures may be needed to supplement the forthcoming implementation of the LCR and the NSFR, given the high degree of reliance of Norwegian banks on wholesale funding, including short-term funding, funding from abroad, and foreign currency funding. Second, the authorities should focus more on structural measures that could contain risks at source in the housing market, and thereby reduce longer term vulnerabilities arising from the levels of house prices, mortgage lending and household indebtedness.

4. While the ultimate responsibility for financial stability resides with the Ministry of Finance, some key powers and responsibilities are allocated to other agencies. The authorities have been proactive in implementing macroprudential policy measures. The experience from the banking crisis in the early 1990s led the Norwegian authorities to strengthen their macroprudential surveillance, and focus on monitoring and addressing systemic risk in the financial system. The Ministry of Finance has shown a willingness and ability to take a long term view in the setting of capital buffers, although there has been a political debate on banks' mortgage lending standards,

¹ Prepared by Mr. Clive Briault (IMF external expert).

and the Ministry of Finance took a different approach to the designation of D-SIFIs than the approach recommended by the FSA. The FSA focuses heavily on systemic risks, as a result of the Norwegian financial crisis, and has taken several measures to address systemic risks. The Norges Bank takes account of financial stability in the setting of monetary policy, and provides the decision basis and gives advice to the Ministry of Finance for the setting of the counter cyclical capital buffer. Both the FSA and the Norges Bank publish reports on financial stability. And Norway was among the first countries to establish an analytical framework for the counter cyclical capital buffer.

5. The individual macroprudential measures do not appear to have been coordinated very closely among the three authorities. The authorities do not operate within a clear analytical framework that sets out the overall objectives of macroprudential policy and how the various macroprudential instruments can contribute to these objectives, both individually and collectively. Moreover, the arrangements for the giving of advice by the Norges Bank and the FSA differ markedly across the various macroprudential instruments for which the Ministry of Finance is the decision maker.

6. Good progress has been made on reciprocity agreements to ensure that domestic macroprudential policy measures apply to all banking activities with Norwegian customers. It is important that the branches of foreign banks are also subject to the macroprudential measures applied by the Norwegian authorities. This is being largely achieved through bilateral agreements with the supervisory authorities in Sweden and Denmark in particular; use of the reciprocity conditions contained within relevant EU legislation; and the application of guidelines on lending standards to all banks.

Recommendations:

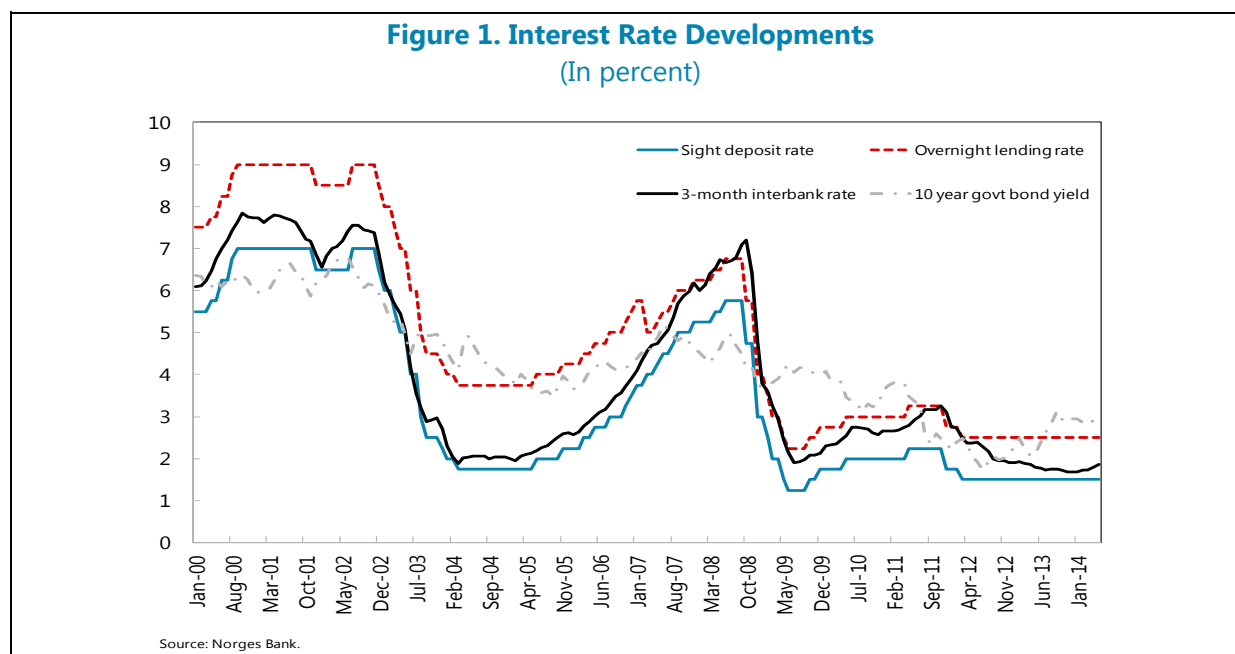
- **The authorities should increase their efforts to produce a more comprehensive and coordinated framework for macroprudential policy in Norway.** This should include a clear specification of the overall objectives of macroprudential policy; the intended objectives of macroprudential instruments, both individually and collectively; the expected benefits and costs of using these instruments; and (notwithstanding the challenges involved) post-implementation reviews of the effectiveness of these instruments. The framework could also include the setting of medium to long term broad ranges for key financial stability ratios as a communication tool to explain the actions of the authorities.
- **The authorities should take additional measures to contain systemic risks from the growth of house prices and household indebtedness.** Measures could include stricter LTV and amortization guidelines; and adding loan-to-income or debt service ratio limits to supplement the affordability (interest rate stress test) guideline. Moreover, the authorities should consider structural measures such as a reduction in the tax incentives for home ownership and a relaxation of planning and building requirements to stimulate the supply of new housing units. The recommendation here is not necessarily to use all instruments. For example, there may be less need for stricter macroprudential measures if structural measures can dampen the growth of house prices and household indebtedness.

- **The authorities should also take additional measures to limit banks' wholesale funding.** They should consider whether, in addition to the implementation of the LCR and the NSFR, limits (either overall, or more bank-specific) should be placed on the proportion of short-term wholesale funding, in particular from abroad; and on the mismatch between the maturity of currency swaps (and other hedging techniques) and the maturity of the underlying exposures. Running more severe stress tests, with a greater emphasis on adverse funding and liquidity scenarios, could help the authorities to identify the most effective measures here, and to avoid imposing too many simultaneous restrictions on banks' funding and liquidity structures. The authorities should also implement their proposal to increase transparency about asset encumbrance, continue close monitoring of banks' issuance of covered bonds, and consider the point at which such issuance should be limited, while also recognizing the benefits of covered bonds as a source of long-term funding.
- **The authorities should continue to make progress on establishing and implementing reciprocity agreements.** In particular, reciprocity arrangements for the systemic risk buffer await EEA agreement on the adoption of the EU capital requirements legislation.
- **The authorities should improve the existing institutional structure.** This should include more standardized and transparent procedures for giving advice to the Ministry of Finance; a more transparent "comply or explain" approach by decision-makers; an annual broader overview of the collective purpose, impact and effectiveness of the use of macroprudential instruments; and greater delegation of decision-making powers over macroprudential instruments in due course to the Norges Bank or the FSA, based on clear mandates, objectives, and accountability.
- **Alternatively, some macroprudential policy functions could be exercised through a formal committee.** The powers of the committee would be (at least) to make recommendations to its core members, and possibly to employ (some) instruments directly.

RISKS TO FINANCIAL STABILITY

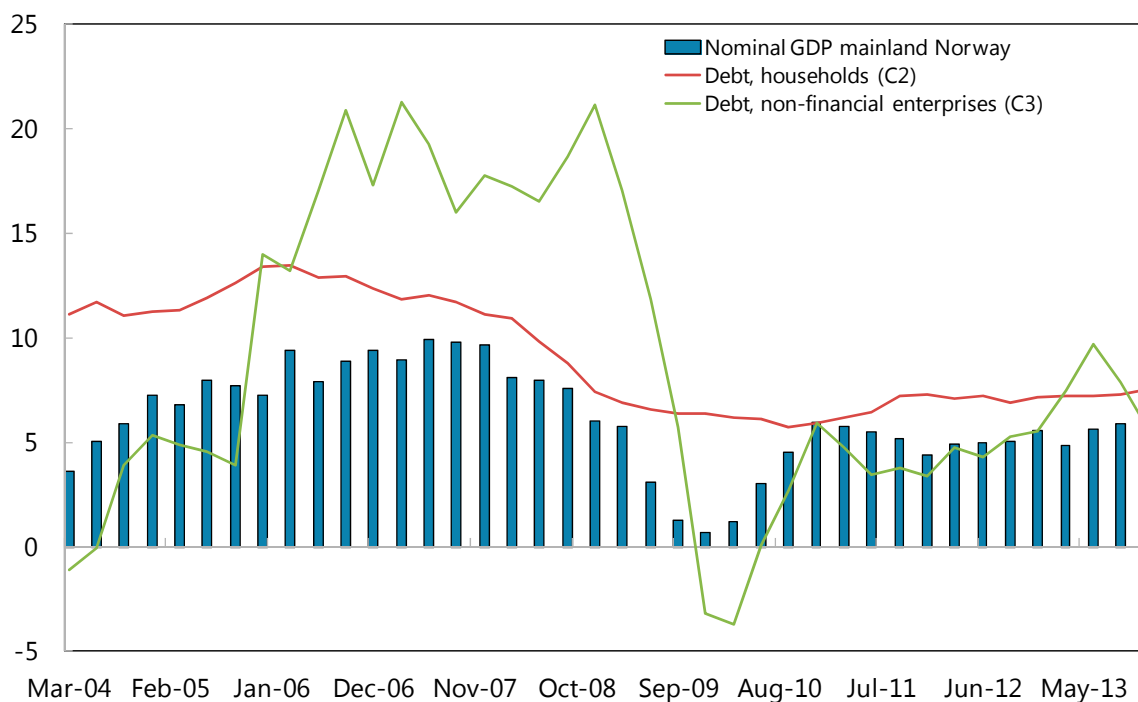
A. Cyclical

1. The low interest rate environment, globally and in Norway, may be encouraging the buildup of debt, leverage and rising asset prices in Norway. The official short-term interest rate remained at 1.5 percent from early 2012, before being reduced to 1.25 percent in December 2014, reflecting the weakness of inflationary pressures; and interbank rates have fallen to below 2 percent since mid-2012. Yields on covered bonds declined to just above 2 percent by end-2013, having peaked at nearly 4 percent in the second half of 2011.



2. The overall rate of credit growth has eased since 2008, although lending to the household sector remains significantly above the rate of growth of nominal GDP. From the mid-1990s until 2008, total credit to both households and mainland enterprises grew at a markedly faster pace than economic activity. Bank lending to households grew less rapidly than bank lending to corporates between 2006 and 2008, but has continued to grow steadily at around 6–7 percent a year since 2008, and has more than doubled between 2004 and 2012. Bank lending to corporates borrowers has been weak since 2008. There have been some modest signs of a growth of capital markets, in particular debt issues by large corporates, which have doubled since 2011, albeit from a low base. This may reflect, in part, the tightening of banks' lending standards since 2008, and the worsening of the external credit ratings of banks relative to those of corporates.

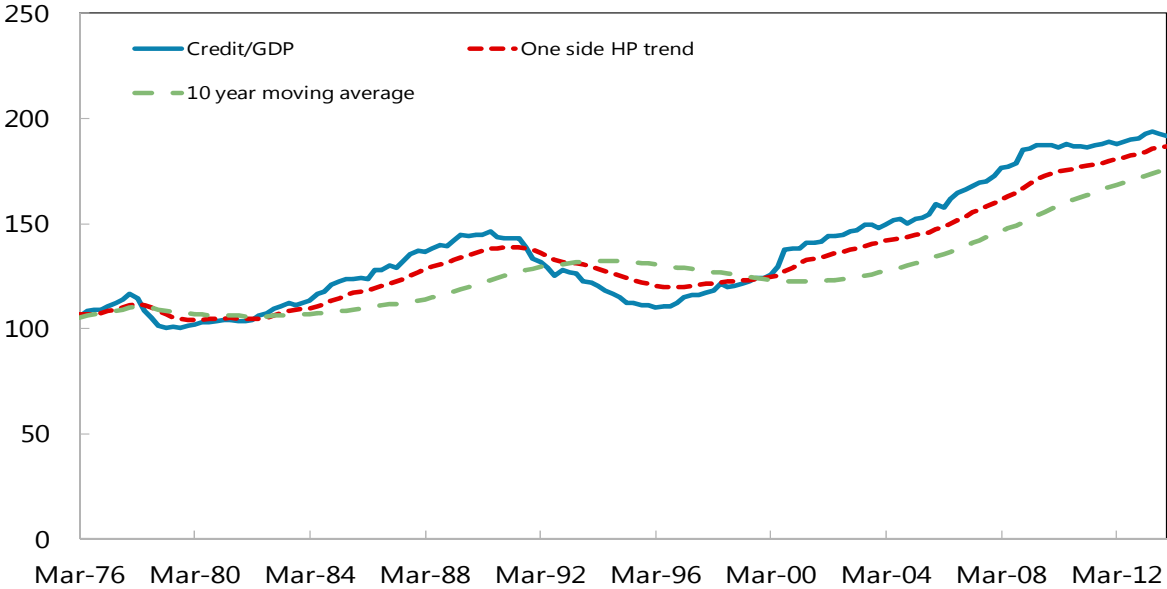
Figure 2. Growth in Credit and Mainland GDP
(Fourth quarter growth, in percent)



Sources: Statistics Norway and Norges Bank.

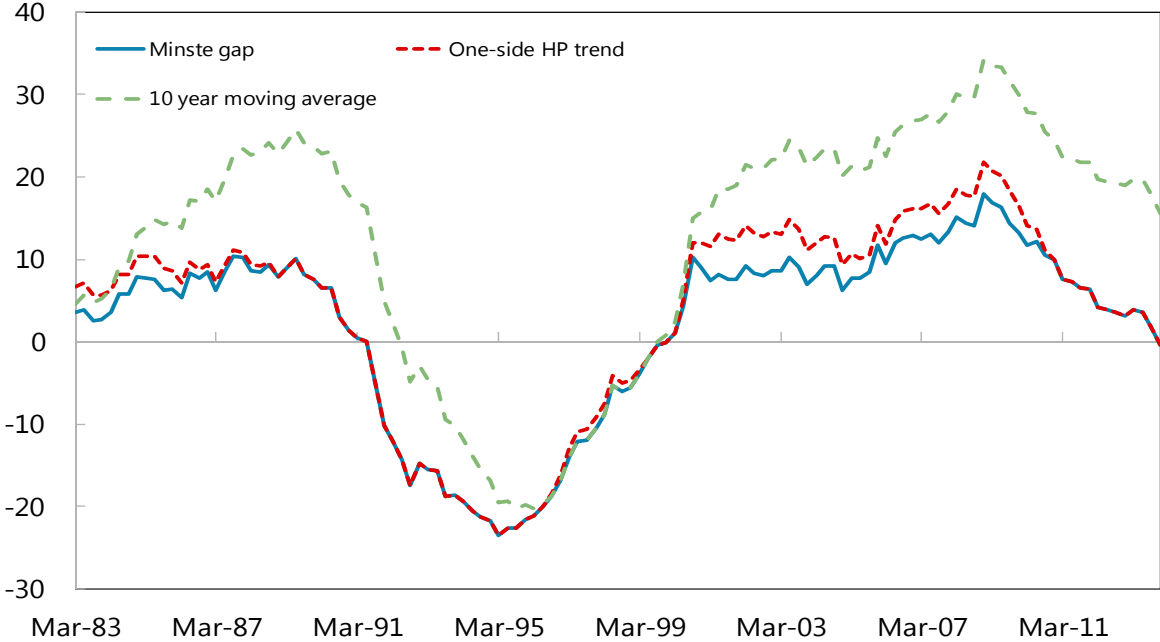
3. The credit-to-GDP ratio increased from around 110 percent in 1996 to nearly 200 percent by 2013, albeit at a much slower growth pace since 2008. Calculations of the credit-to-GDP gap show that the gap peaked at around 15 percent above trend in 2008, and has fallen steadily since then to around 0–5 percent (depending on the measure used). However, as recognized by the authorities, an upward trend in the credit-to-GDP ratio may not be sustainable or desirable, so a measure of credit accumulation based on deviations from trend—such as the credit-to-GDP gap—may underestimate the extent of financial imbalances.

Figure 3. Credit to GDP
(In percent)



Sources: Statistics Norway; and Norges Bank.

Figure 4. Credit to GDP—Deviation from Trend
(In percent)



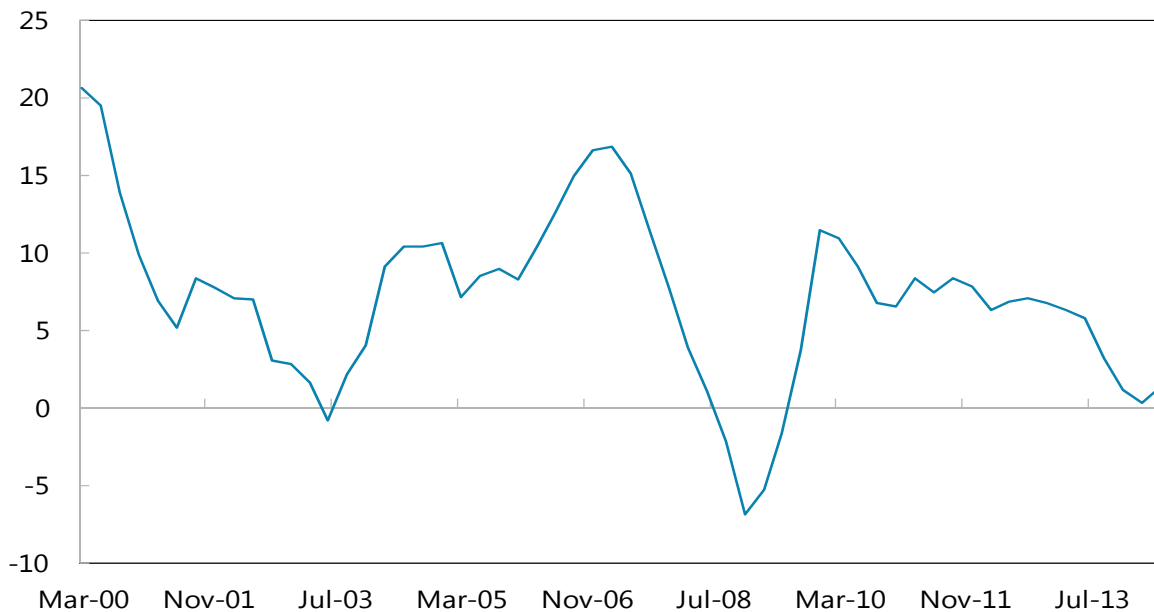
Sources: Statistics Norway, IMF, and Norges Bank.

4. House prices have increased significantly since the mid-1980s, despite significant declines during the banking crisis in the late 1980s and in the wake of the global financial crisis and a modest correction in 2013. House prices deflated by consumer prices rose 200 percent from 1985 to 2013, and by 40 percent when deflated by hourly wages. The ratio of house prices to disposable income has risen from a low of around 70 percent in the early 1990s to around 140 percent in early 2013 (where Q4 1998 = 100), before declining during 2013. Against estimated trends, the deviation of this ratio fell from around 10–15 percent throughout the period 2000–2007 to close to zero by the end of 2013. IMF estimates suggest that house prices in Norway may be overvalued by between 20 and 60 percent.²

5. House price inflation turned negative at the end of 2013, but has moved back up to around 7 percent toward the end of 2014, above the rate of growth of household disposable income. The decline in house prices in the second half of 2013 may have been partly due to the higher lending margins of banks from early 2012, possibly reflecting the tougher FSA guidelines on mortgage lending released at the end of 2011, and higher actual and prospective capital ratios. Lending rates have fallen again more recently as banks seek market share. The increase in RWAs on mortgages has not seemingly had much impact on house prices, and in the second half of 2014 there are some signs of a re-emergence of growth in house prices, household indebtedness and bank credit at above the rate of nominal income growth.

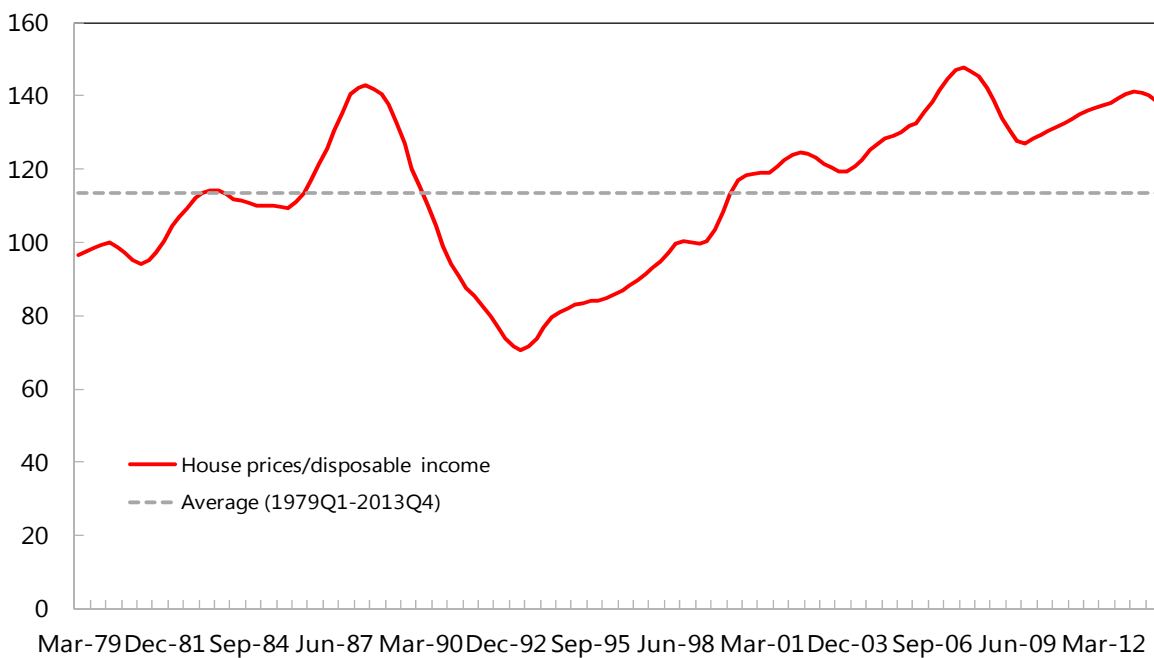
² Norway 2014 Article IV Consultation, IMF, August 2014, page 22.

Figure 5. House Price Growth
(12-month percentage change)



Source: Statistics Norway.

Figure 6. House Prices to Household Disposable Income
(In percent)



Sources: Statistics Norway, Norges Eiendomsmeglerforbund (NEF), Eiendomsmeglerforetakenes forening (EFF), Finn.no, Eiendomsverdi and Norges Bank.

6. Demand and supply pressures are contributing to the growth in house prices. Although property taxes have been introduced in many municipalities, home ownership is generally encouraged by tax incentives: mortgage interest payments are tax deductible (at a tax rate of 27 percent, reduced recently from the flat rate of 28 percent that had been in force since 1992); the imputed rent from home ownership is tax exempt, and a homeowner can rent out part of a property tax free; housing is subject to a lower wealth tax than other assets (at approximately 20–25 percent of market value); there is no capital gains tax if a house has been owned for more than a year (this also applies to second and third properties); and saving for house purchase is encouraged by tax deductions on a savings scheme for house purchase by persons under 34 years of age. The December 2014 report of a Commission on corporate taxation included recommendations to increase the wealth tax on housing, to increase the tax on rental income, and to remove the home savings scheme for young persons. Meanwhile, house completions are running behind the growing number of households. Strict planning restrictions are imposed on new house building. There have been some proposals from municipalities to speed up the planning process and to reduce costs and risks to developers.³

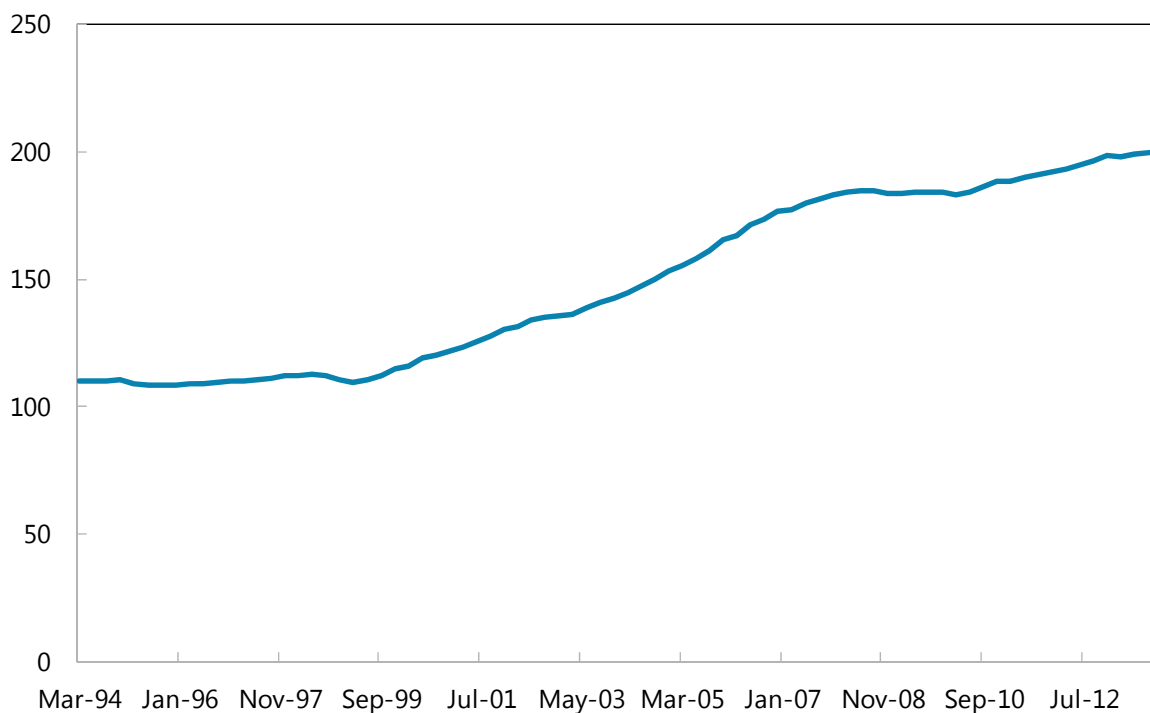
7. Household debt has increased sharply since the early 2000s, leaving households vulnerable to the impact of a marked increase in interest rates. Household debt ratios are high, and household debt is still rising more rapidly than disposable income. Household debt stood at above 200 percent of disposable income (from around 115 percent in 2000) and 130 percent of total income at end-2013. Households take on relatively large mortgage loans, and more than three quarters of households own their own home. 85 percent of lending to households is secured against dwellings, mostly at floating rates. Around 20 percent of lending is interest only, and households do not appear to make significant use of the refinancing of positive equity in residential properties to increase household consumption. Anecdotal evidence suggests that there are less signs of speculative activity in the housing market than had been the case ahead of 2008. Nevertheless, households are vulnerable to higher interest rates and a fall in house prices. Household debt service (including interest) to income ratios has remained low because of low interest rates. The household interest burden stood at 6 percent of disposable income at the end of 2013, but with a wide dispersion of this ratio across households.

8. The FSA and the Norges Bank have emphasized that particular attention should be given to household debt and developments in housing prices when assessing systemic risk in the current economic situation. Research by the FSA and Statistics Norway showed that an increase in interest rates by 2 percentage points would increase the proportion of households with an interest burden of between 20 and 30 percent from 5.5 percent to 12 percent, and increase the proportion with an interest burden of above 30 percent from 2.5 percent to 7 percent. Meanwhile, the 2014 Norges Bank Financial Stability Report shows the proportion of households with debt above five times disposable income has more than doubled since the late 1990s to around 12 percent of households. These households hold 35 percent of household debt, up from 15 percent

³ This was discussed in the Nordic Regional Report, IMF, September 2013.

in the late 1990s. However, over the same period there has been a decline in other categories of vulnerable households—those with low debt service capacity and those with inadequate collateral. Less than 3 percent of households fall into all three of these categories of vulnerability.

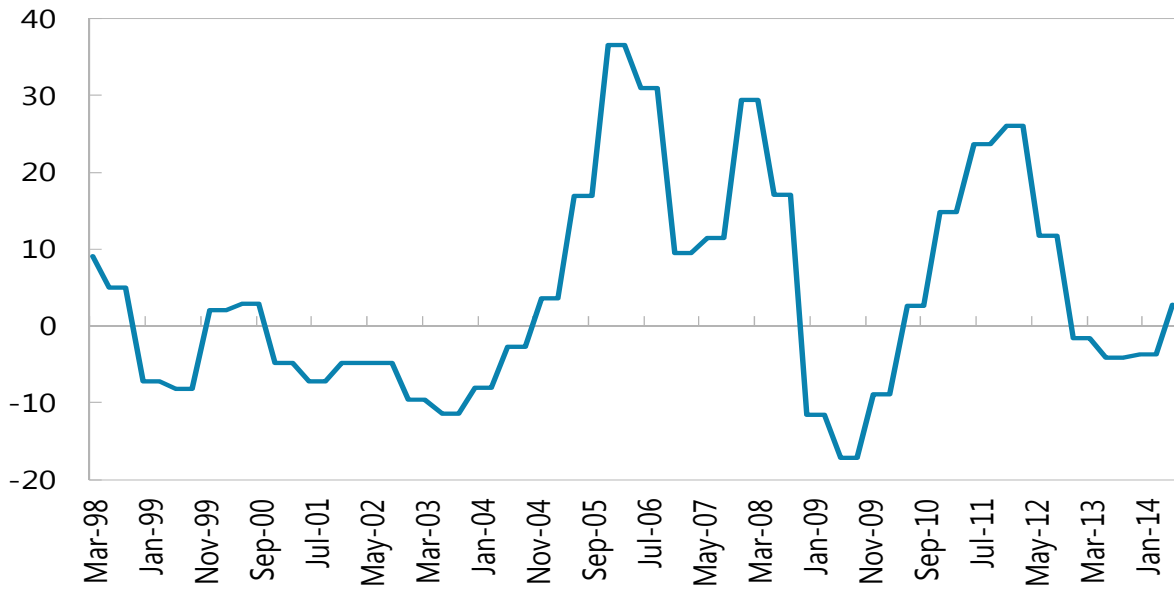
Figure 7. Household Debt to Disposable Income Ratio
(In percent)



Source: Norges Bank.

9. Commercial real estate prices have increased more rapidly and have been more volatile than house prices since the mid-2000s. Real commercial property prices (derived from observed rents for high-standard Oslo office premises, deflated by the mainland GDP deflator, with 1998 = 100) have risen from around 75 in 2005 to above 160 in late 2012, before easing back during 2013 and picking up again in the first half of 2014. Real commercial property prices stand at around 10–15 percent above trend using an HP filter.

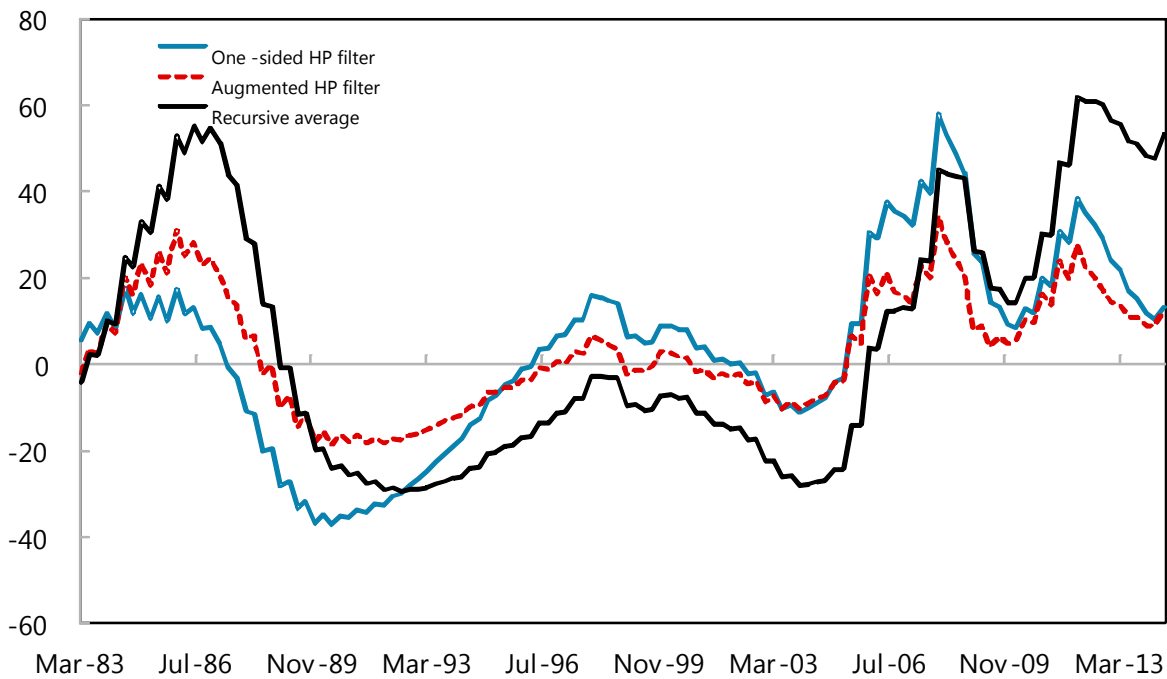
Figure 8. Real Commercial Property Price Growth
(In percent; y/y change)



Source: Norges Bank.

Figure 9. Commercial Property Price Gap

(Real commercial property prices as deviation from estimated trends; in percent)



Sources: Dagens Naeringsliv; OPAK; Statistics Norway; and Norges Bank.

B. Structural

Banking sector

10. Financial intermediation in Norway is bank-dominated. More than 80 percent of total domestic credit to Norwegian households and corporates is provided by banks and their covered bond mortgage companies. So, the largest vulnerabilities within the financial sector are likely to arise from within the banking sector, although there are also concerns related to life insurance undertakings in the current low interest rate environment.

11. The banking sector is smaller than in many other European countries, at around 200 percent of GDP. However, unlike banking sectors in the rest of Europe that lend considerably across borders, Norwegian banks' assets are mostly concentrated on lending to domestic borrowers. The banking sector is therefore a significant source of systemic risk—in terms of both the potential impact of a real economy shock on the banking sector, and the potential impact of a banking sector shock on the real economy.

12. The structure of the banking sector is also a significant source of systemic risk. DNB Bank has a lending market share of more than 30 percent, while the Norwegian subsidiary of the Swedish bank Nordea has a lending market share of 13 percent, followed closely by branches of foreign banks, principally Handelsbanken from Sweden and Danske Bank from Denmark. The FSA argued in its advice to the Ministry of Finance on D-SIB designation that, although small as a proportion of the overall banking sector in Norway, some regional banks are also of systemic importance because of the lack of substitutability for their local borrowers, and the economic importance of the regions where the banks operate.

13. Interconnectedness and spillover effects could also pose systemic risk. Crossborder interconnectedness and interdependence (in both the financial sector and more widely through trade flows) mean that shocks in one country could be transmitted to other countries in the Nordic region. Trade and financial shocks originating in Sweden are likely to have the largest spillover effects on other Nordic countries, including Norway (see the accompanying FSAP note on interconnectedness and spillovers).

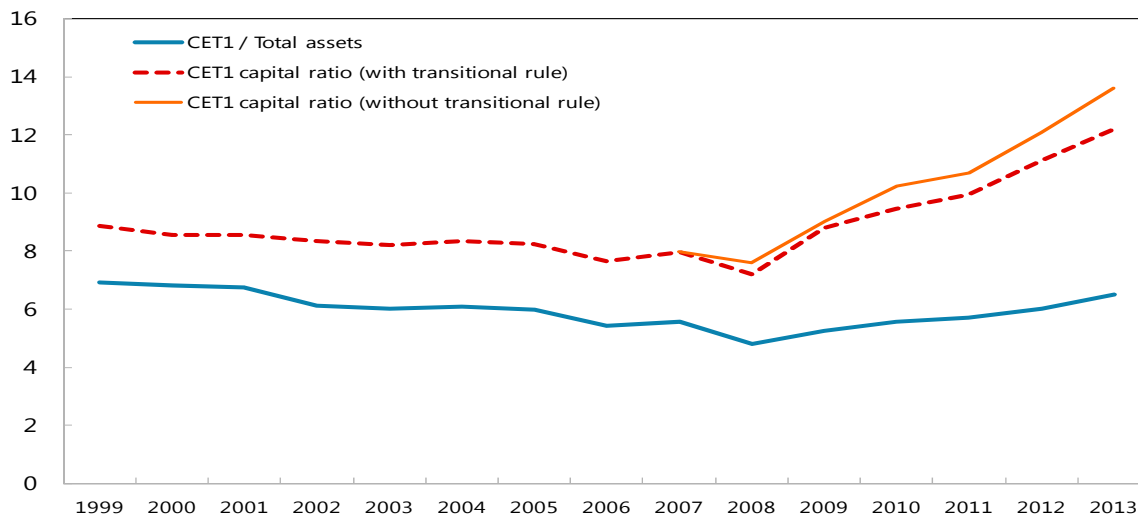
14. Bank lending is heavily concentrated in the residential mortgages, commercial real estate, and shipping sectors. 62 percent of bank lending goes to the financing of mortgages and other retail loans; 13 percent to commercial property; and 11 percent to shipping. As result, Norwegian banks' loan books are not diversified, and Norwegian banks are exposed to common external shocks, which makes the banking sector less robust.

Resilience of banks: capital, funding and liquidity

15. Banks have strengthened their capital ratios. The risk-weighted capital ratios of Norwegian banks have improved markedly since 2008. The average CET1 ratio for Norwegian banks stood at 12.2 percent at the end of 2013, and the total (Tier 1 and Tier 2) regulatory capital ratio at

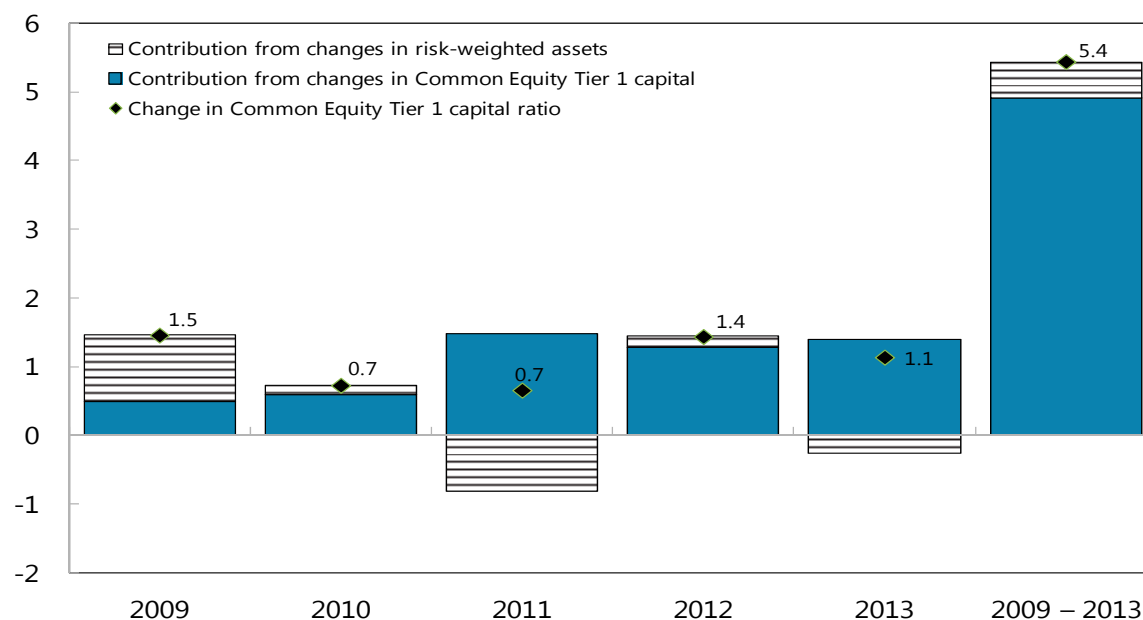
14.8 percent. The increase in the CET1 ratio—from around 8 percent in 2008—was due in part to the lower risk weights resulting from the implementation of Basel II (especially for residential mortgages, where Norwegian banks using the internal ratings-based approach were able to reduce their risk weights to 10–15 percent), and from increases in capital through retained earnings and share issues.

Figure 10. Banks' Solvency Ratios
(In percent)



Sources: FSA and Norges Bank.

Figure 11. High Profitability Allows Banks to Build More Capital
(Decomposition of improvement in CET1)



Sources: Banks' groups annual reports; and Norges Bank.

16. Higher requirements for risk-weighted capital have been introduced and phased in more rapidly in Norway than required under international standards. Legislation to transpose the CRR and CRD4 (EU legislation to implement the Basel III standards) into Norwegian law was passed by the Norwegian Parliament in June 2013, with entry into force in July 2013. The legislation contains provisions on new minimum capital ratios, a capital conservation buffer, a systemic risk buffer, a buffer for systemically important banks, a countercyclical capital buffer, a nonrisk-based Tier 1 leverage ratio, a liquidity reserve, and stable funding. By July 2016 Norwegian banks will be subject to the full implementation of the minimum CET1 requirement of 7 percent (including the capital conservation buffer), a 3 percent systemic risk buffer, a 2 percent capital surcharge on designated D-SIBs, and a 1 percent counter cyclical capital buffer. In addition, the FSA makes active use of Pillar 2 capital requirements.

17. While banks' leverage ratios are above proposed Basel III requirements, they have improved less rapidly than risk-weighted capital ratios. This leverage ratio had declined between 1996 and 2008, but has since risen modestly. At the end of 2013, Norwegian banks' CET1 capital stood at 6.5 percent of total assets, a significantly higher ratio than the minimum leverage ratio of 3 percent (using a total Tier 1 measure of capital) currently proposed in Basel III.

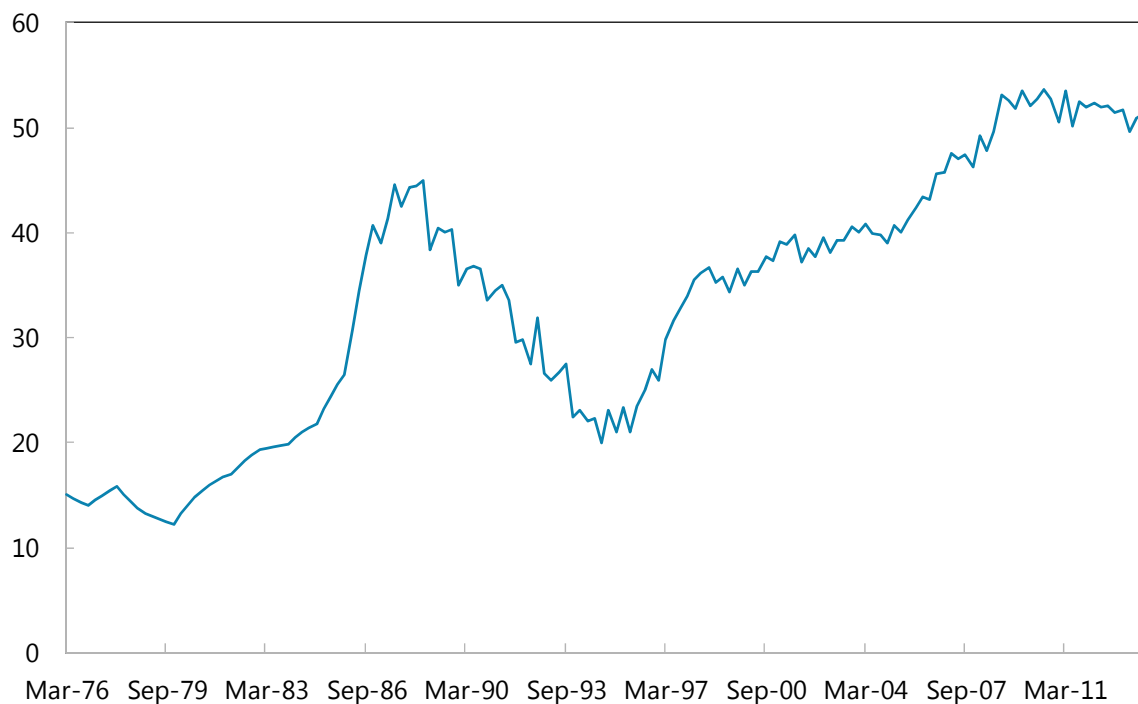
18. Banks' deposit-to-loan ratios are low and declining. At the end of 2013 the deposit-to-loan ratio at parent banks had risen to almost 100 percent, from 65 percent in 2008, but this was the result of the transfer of mortgages to residential mortgage companies. Taking these companies into account, the deposit-to-loan ratio has fallen gradually from 70 percent in 1997 to 58 percent at the

end of 2013, partly due to the increasing share of total credit in the economy provided by banks and mortgage companies.

19. Norwegian banks are heavily reliant on wholesale funding. This partly reflects structural issues. Households borrow from banks, but their financial savings tend to be predominantly through pension and mutual funds rather than through bank deposits (or paying off mortgages). Savings are then channeled to the banks through institutional investors and covered bond issuance, creating a self-reinforcing cycle between credit growth and increasing wholesale funding. There is also an important foreign element here, because savings and government funds are in large part invested overseas, providing diversification beyond a small domestic market, while the banking sector funds itself significantly through capital inflows. Some banks benefited from government liquidity support in 2008 when wholesale funding was difficult to raise.

20. Norwegian banks' dependence on wholesale funding has increased considerably in recent years, while banks' deposits may have become less stable. Banks' (excluding branches and subsidiaries of foreign banks) wholesale funding increased from 20 percent of total assets in 1995 to above 50 percent by 2008, and has remained at around that level since. Customer deposits were around 40 percent of total funding at end-June 2014, with retail deposits of around 20 percent of total funding, other Norwegian customers around 15 percent, and foreign customers 5 percent. Larger banks are more dependent on market funding than smaller banks. Meanwhile, resident customer deposits may have become less stable than before the financial crisis, because of increased competition for these deposits among banks.

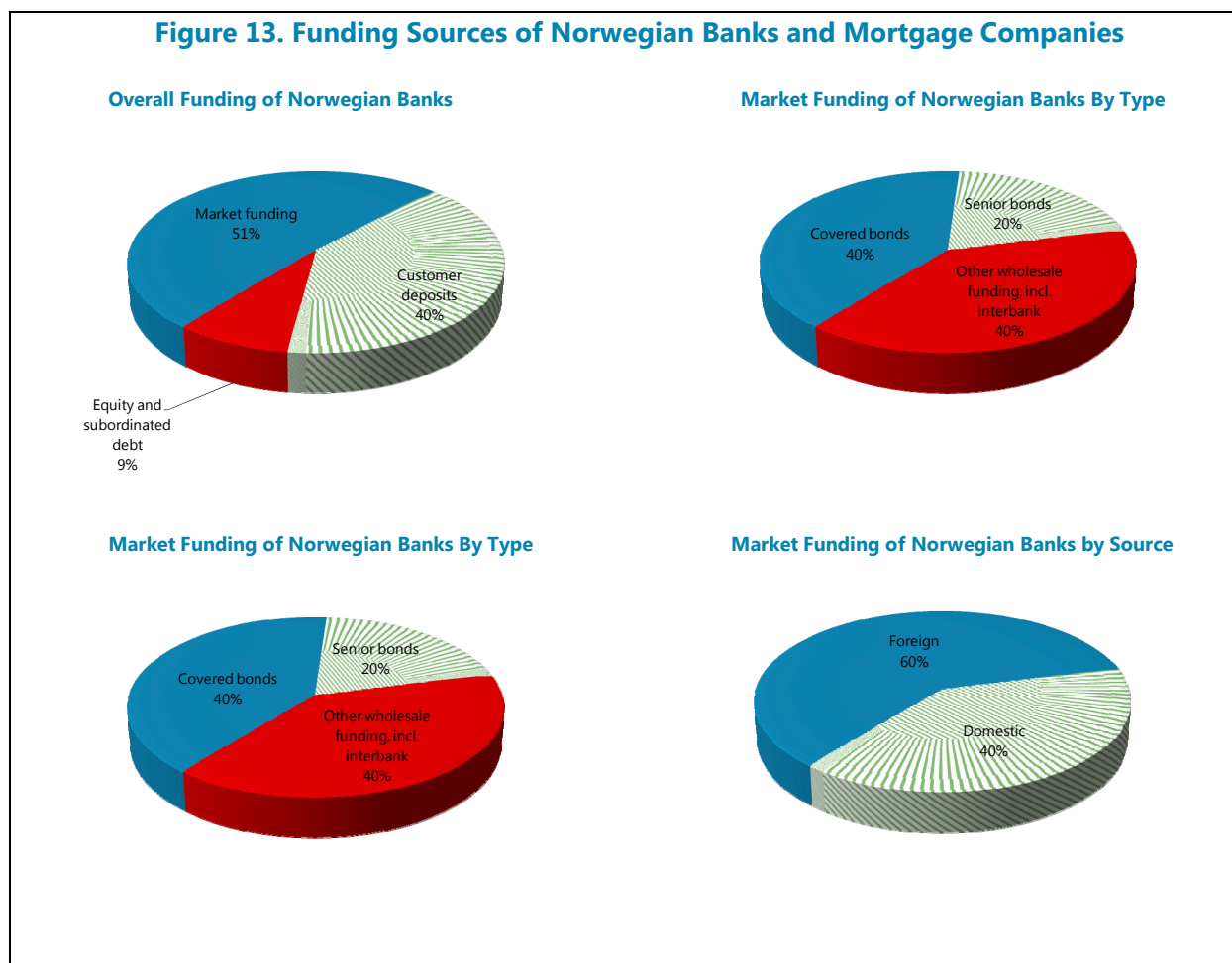
Figure 12. Banks' Wholesale Funding 1/
(As a percentage of total assets)



Sources: Norges Bank

1/ All banks and covered mortgage companies in Norway excluding branches and subsidiaries of foreign banks in Norway.

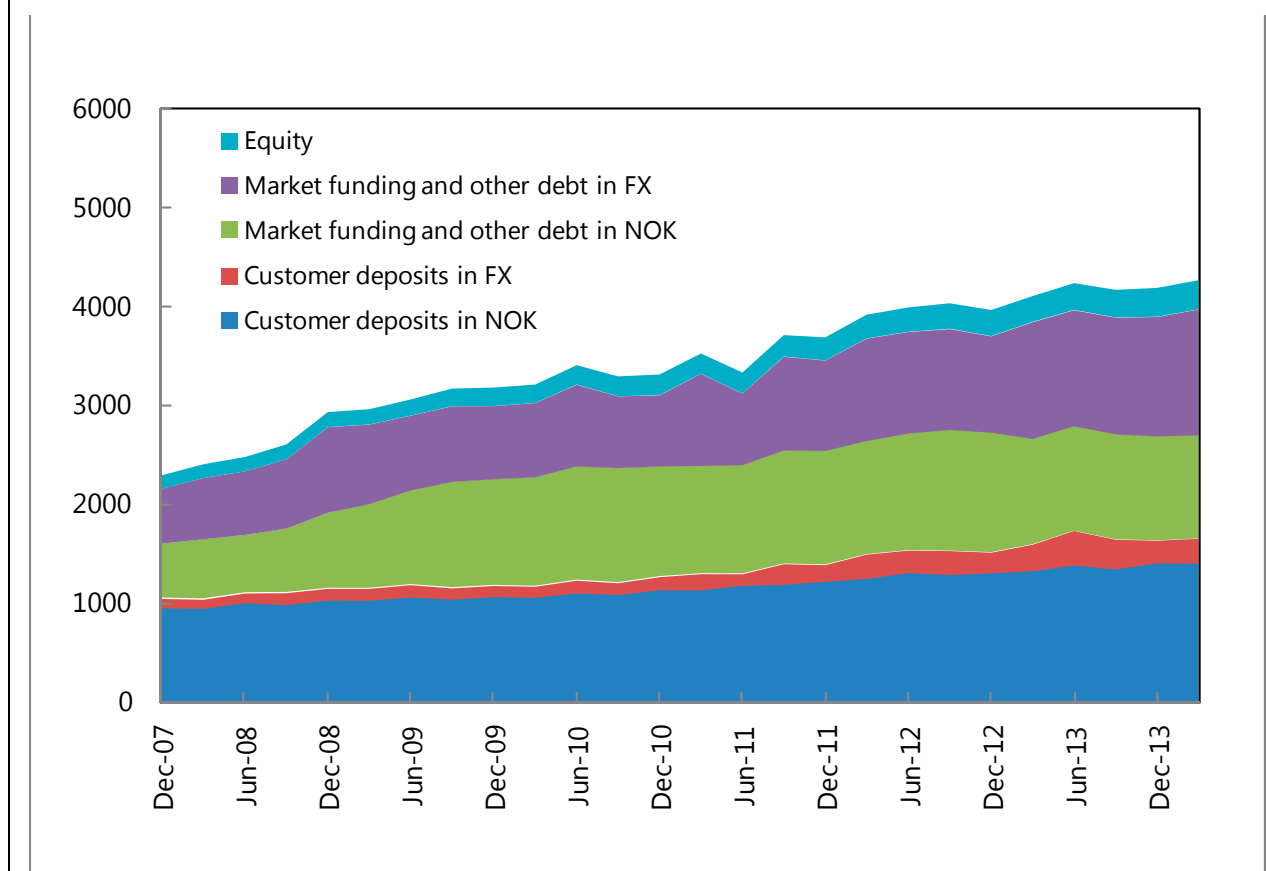
21. Issuance of covered bonds has been strong. The mortgage companies of Norwegian banks have issued a substantial amount of covered bonds since this became possible in 2007. Covered bonds represented around 20 percent of banks' total funding at the end of June 2014, while the proportion of senior bonds has declined from 14 percent to below 10 percent. Covered bond issuance has lengthened the average maturity of wholesale funding, with the proportion of market funding with a maturity of over one year increasing to 66 percent at the end of 2013 (of the remaining 34 percent, 75 percent fell due within 3 months). Short term (up to 3 months) wholesale/interbank funding has fallen since 2007 from 26 percent to below 20 percent (of market funding). Covered bonds provide a stable source of medium to long term funding, which reduced the vulnerability of banks to wholesale funding pressures during the financial crisis. In addition, 9 percent of bank funding is from equity and subordinated debt capital.

Figure 13. Funding Sources of Norwegian Banks and Mortgage Companies

22. Large Norwegian banks are heavily reliant on funding from overseas and foreign currency funding. Slightly over 60 percent of market funding (including interbank funding) was from foreign sources at end-June 2014, almost all of which was in foreign currency. Of this foreign funding, more than 50 percent has maturity above one year (whereas 80 percent of domestic wholesale funding has maturity of above one year). Market funding from abroad is therefore both larger than domestic market funding and has a shorter average maturity. DNB accounts for 65 percent of this foreign market funding. Total foreign currency borrowing was around 35 percent of total funding at end-June 2014, compared with 25 percent of total bank assets in foreign currency. In effect, around one-third of the foreign currency funding is funding domestic currency assets, equivalent to around 10 percent of banks' total assets.

23. Borrowing from abroad makes large Norwegian banks vulnerable to turbulence in foreign financial markets. Funding from abroad could be particularly vulnerable to actual or perceived problems at individual Norwegian banks, to a lack of confidence in the Norwegian banking sector more generally, or to a worsening of Norwegian economic conditions. The international financial crisis demonstrated in many countries the vulnerability of wholesale funding, in particular where this funding was short-term, rose from abroad, and rose in foreign currency.

Figure 14. Norwegian Banks and Mortgage Companies' Funding
(In billions of NOK)



24. Large Norwegian banks rely heavily on foreign currency swaps. Longer maturity foreign currency borrowing by Norwegian banks mostly funds lending in Norwegian kroner, so the banks are vulnerable to foreign exchange market turmoil and to contractions in currency swap markets. Currency swaps are mostly shorter maturity than the foreign currency borrowing, other than for covered bonds where the maturities are matched—this reduces counterparty risk but increases rollover risk. The largest Norwegian banks hold substantial liquid assets in foreign currencies—short-term foreign currency funding by DNB is mostly matched by liquid assets held in same currency, primarily deposits with the Federal Reserve and the ECB.

Box 1. Vulnerabilities Relating to Covered Bonds

The encumbered assets arising from covered bonds can generate new vulnerabilities. Unsecured (and uninsured) deposits may become more expensive and less stable, because such depositors would have claims on a more restricted asset base in liquidation. These costs and potential instability may become particularly pronounced in the event of concerns arising about the continuing viability of a bank, because such depositors would be subject to bail-in once the resources from shareholders and junior debt holders had been exhausted. In addition, increasing collateral use exacerbates the pro-cyclicality that can arise from haircuts, margin requirements, and collateral eligibility. There is also the possibility that there could be an adverse shock to the operation of the covered bond market, just as securitizations of many types of high quality asset suffered during the financial crisis.

Banks in Norway also have substantial holdings of other banks' covered bonds, in part to enable them to hold sufficient high quality liquid assets to meet the forthcoming LCR requirements.

Norwegian banks hold 30–40 percent of the covered bonds issued by other Norwegian banks in domestic currency. At end-June 2014 domestic and foreign covered bonds accounted for nearly 30 percent of banks' total high quality liquid assets. This interconnectedness means that attempts by banks to sell each other's covered bonds to meet liquidity needs in a crisis would make covered bonds less liquid and make it difficult for banks to issue new covered bonds, thereby constraining an important source of new longer-term funding at a time when it is most valuable. In addition, the haircuts on covered bonds may prove to be inadequate if there is a high concentration of covered bonds in banks' high quality liquid asset buffers.

The authorities have publicly acknowledged these risks from covered bond issuance. The authorities have considered several measures to constrain the reliance on covered bonds, including a general limitation on the ability of banks to issue covered bonds. But they have concluded that, on balance, this would not be the best approach to optimizing the trade-off between the advantages and potential vulnerabilities of covered bond issues. The FSA has suggested that the issue of encumbered assets should be a part of the FSA's regular supervisory review of each individual bank, taking into account the bank's size, ownership, financing and portfolio structures, and wider macro developments. The Norges Bank and the FSA also favor increased transparency about asset encumbrance.

International policy developments on TLAC (at the FSB level) and MREL (at the EU level) are also relevant here. If banks are required to hold long term unsecured debt that can be bailed-in in a resolution after equity and subordinated debt but ahead of other liabilities, then this reduces to some extent the concern that the issuance of covered bond will disadvantage other (more senior) unsecured creditors.

25. Some Norwegian banks will need to adjust to meet the new LCR and NSFR liquidity ratios being introduced as part of Basel III. Norwegian banks as a whole have an average LCR (aggregated across all currencies) of 125 percent using the revised version of the LCR issued by the Basel Committee in January 2013. But 52 banks had an LCR of less than 100 percent at the end of 2013, of which 3 are large banks, 11 medium sized and 38 small banks. And some banks may not have as strong a liquidity position as suggested by the LCR—for example DNB Bank has funded large deposits in foreign central banks with more than 30 day maturity debt instruments.

26. The low stock of high quality liquid assets denominated in domestic currency makes it difficult for the banks to meet the LCR in local currency. The average LCR in domestic currency across Norwegian banks is below 60 percent using the Basel 2013 definition, but around 70 percent under a recent European Commission Regulation, which allows a more generous treatment of holdings of other banks' covered bonds (which comprised 28 percent of the high quality liquid assets of Norwegian banks at end-June 2014).⁴

27. The authorities are beginning to focus on how banks are going to meet the LCR. The FSA is to present a proposal to the Ministry of Finance by May 2015 on how the LCR is to be implemented in Norway. The proposal will include a timetable for the implementation of possible currency requirements and consider particular liquidity rules for systemically important institutions. Meanwhile, the Norges Bank proposed (in its October 2014 Financial Stability Report) that the LCR requirement in Norway should be set at 60 percent in domestic currency, on the basis that there are insufficient highly liquid assets in domestic currency, and that banks could only meet a higher domestic currency LCR by holding even more covered bonds issued by other banks. The Norges Bank is reluctant to provide a routine central bank facility (for fees) to create the equivalent of high quality liquid assets. The Norges Bank also proposed that the total "all currency" LCR requirement (including domestic currency) and the requirement for each significant foreign currency should be set at 100 percent, as in Basel III and the CRR, and that banks should publish more information on their liquidity positions.

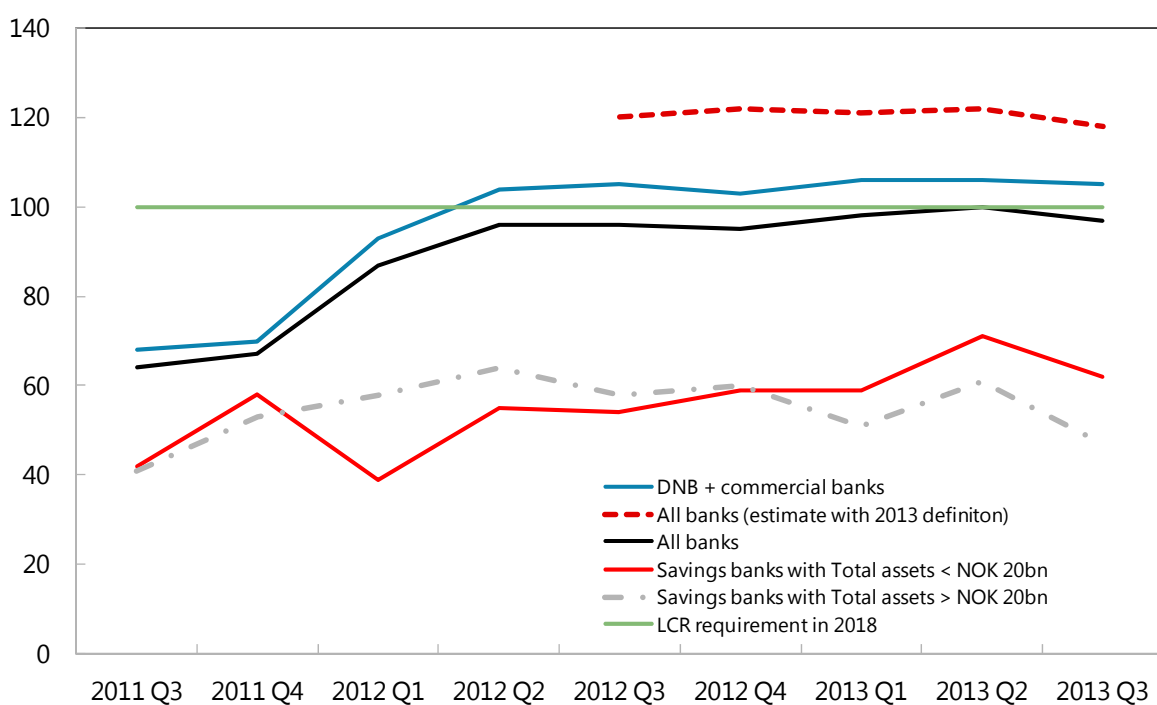
28. The 17 largest banks averaged (on a weighted basis) an NSFR of 93 percent at the end of 2013, but this had fallen back to below 90 percent at end-June 2014. This suggests a significant gap between the longer-term lending undertaken by these banks and their stable (longer- term and retail) funding.

29. The LCR and NSFR may not be sufficient to address fully the structural vulnerabilities in banks' funding positions. First, even if a bank's short-term (less than 30 days) wholesale funding is matched by its high quality liquid assets, a higher proportion of short-term wholesale funding will

⁴ The European Commission's Delegated Regulation of October 2014 allows covered bonds with an issue size of at least €500 million to count as level 1 high quality liquid assets, subject to asset coverage and rating requirements, a 7 percent haircut, and a requirement that other level 1 assets comprise at least 30 percent of total high quality liquid assets. According to the same Delegated Regulation there is no LCR requirement by currency; however this may be imposed by the competent authorities.

make it increasingly difficult for the bank to adjust—for example, by increasing other types of funding—if its short-term wholesale funding is withdrawn. Second, the Norges Bank has expressed a concern that the LCR and NSFR may encourage banks to raise deposits at maturities that are only marginally above the cut-off points used in the two ratios—so, just above 30 days for the LCR and just above a year for the NSFR. Third, the NSFR does not distinguish between domestic and foreign sources of wholesale funding, with experience in many countries during the financial crisis showing that funding from abroad may be the most vulnerable to shocks, and for a sustained period of time. Fourth, a maturity mismatch between currency swaps and underlying positions leaves banks exposed to a refinancing risk on their hedging activities.

Figure 15. Banks' Liquidity Coverage Ratio



Sources: Finanstilsynet and Norges Bank.

Stress testing

30. The FSA and the Norges Bank both report macro stress tests in their financial stability reports. These stress tests use a range of models, and often require the merging together of results from multiple models, including a macro financial model, separate models to derive losses for the household and corporate sectors, and a bank balance sheet model to evaluate impact of losses on banks' projected balance sheets. There has so far been no formal connection between these stress tests and the advice given by the Norges Bank on the counter cyclical capital buffer.

31. The stress tests published by the FSA and the Norges Bank show that banks are robust.

The Norges Bank and FSA stress tests focus primarily on shocks to the real economy and suggest that these shocks would have the greatest impact on NPLs and losses in bank lending to the corporate sector. Despite the household sector vulnerabilities noted above, households are seen as having strong margins, relatively high affordability measures, and as being likely to prioritize the servicing of their mortgage borrowing. Lenders have full recourse to the borrower, and historically there have been low default rates and low loss given default rates on residential mortgage lending. The stress tests do not generate significant losses on residential mortgage lending. The share of problem loans to households increases to only 4 percent by the end of the stress period in the latest published Norges Bank stress test (compared with 12 percent during the Norway banking crisis), although in the event of a sharp increase in mortgage lending rates and falls in house prices there could be an indirect impact on financial stability through reduced household consumption expenditures on goods and services, with an impact on losses on loans to the corporate sector. The FSA stress tests also show losses emerging in those parts of the retail portfolio (largely consumer credit rather than residential mortgages) where initial NPLs are high. In the latest Norges Bank stress test, the average CET1 capital ratio across the sample of banks falls from 12.9 percent in 2014 to 9.1 percent in 2017 in the central case adverse scenario. This 2017 figure would reduce to below 6 percent if the scenario imposed a 12 percent share of problem loans to households.

32. DNB Bank Group performed robustly under the EBA stress test run in 2014.

DNB Bank was the only Norwegian bank included in the EBA's 2014 stress test. DNB Bank's CET1 ratio increased from 11.3 percent at end-2013 to 14.4 percent at end-2016 under the baseline scenario, and remained unchanged at 11.3 percent at end-2016 under the adverse stress scenario. The Norwegian authorities recognize that the Norwegian economy could face more severe macroeconomic stress than posited in the EBA's 2014 stress test, due, for example, to a steep, lasting fall in the oil price or a stronger fall in property prices.

33. The Norges Bank and FSA stress tests do not include very significant funding stresses,

either as an initial shock or as a second-round effect (bank-specific or system-wide) in response to falling capital ratios at banks. The latest Norges Bank stress tests assume that the money market rate (NIBOR) is 1.5 percentage points above the key policy rate. In addition, the average credit spread for covered bonds and senior bonds is 1 percentage point (on top of NIBOR); but that banks will continue to have access to wholesale funding and will be able to pass higher costs of funding on in the rates at which they lend to their customers. The Norges Bank and FSA stress tests also do not include significant stresses relating to interconnectedness and spillovers, which is a problem given the high level of domestic and crossborder financial and economic interlinkages.

Other

34. The banking sector is not the only source of potential financial instability. Central clearing counterparties (CCPs) are regarded in most countries as being of systemic importance, now that the regulatory reforms relating to OTC derivatives has resulted in a much higher proportion of derivatives transactions being cleared through them. The largest CCP in Norway, Oslo Clearing, has only a small number of direct participants as clearing members, which may increase its systemic risk.

Oslo Clearing is in the process of becoming a part of SIX x-clear. Norwegian banks typically have their largest positions in LCH Clearnet (interest rate derivatives).

35. Norwegian life insurers have issued a significant number of policies which contain guaranteed interest rates, mostly set when interest rates were higher. Low interest rates and increased life expectancy (longevity) pose financial challenges for Norwegian life insurers with significant portfolios of guaranteed insurance liabilities, and in particular paid-up policies. In order to meet the capital requirements of the Solvency 2 regime, which is to be implemented from January 1, 2016, many Norwegian life insurers have been compelled to reduce risk and/or raise capital levels.

USE OF MACROPRUDENTIAL TOOLS

36. Norway has already activated—or announced the future activation of—a larger number of macroprudential tools than most other countries. The experience from the banking crisis in the early 1990s led the Norwegian authorities to strengthen their macroprudential surveillance, and focus on monitoring and addressing systemic risk in the financial system. Since the global financial crisis in 2008, the authorities have deployed a range of measures to safeguard the financial system in Norway, and Norway adopted the Basel III capital adequacy requirements ahead of the EU time schedule for the implementation of the CRR and CRD4. Norway was among the first countries to establish an analytical framework for the counter cyclical capital buffer.

37. These macroprudential tools have been concentrated on banks' capital requirements. The Norwegian authorities have—in light of the lessons from the recent financial crisis and the opportunities provided by a relatively benign economic situation—focused on the early implementation of stricter capital (buffer) requirements. Higher permanent capital requirements (such as the systemic risk buffer and the capital surcharge on systemically important banks) have been introduced to increase the long-term resilience of banks, while more cyclical developments are addressed through the implementation of a counter cyclical capital buffer, as well as through Pillar 2 capital requirements.

38. Higher capital buffers will increase the solvency resilience of banks, but do not tackle financial stability vulnerabilities at source. In line with the Basel Committee approach to the counter cyclical buffer⁵, the Norwegian authorities focus primarily on capital buffers as a means for banks to absorb potential losses should an adverse shock occur. Higher capital buffers may also have desirable effects in terms of dampening financial cycles—by constraining the build-up of debt in the upturn, and enabling banks to continue lending in stressed conditions, thereby reducing the probability of a credit-driven downturn.

39. Norway moved early to implement the CRR and CRD4 in national law and regulations, including the provisions in the CRR and CRD4 relating to macroprudential tools. Norway is not a member of the European Union, but is a member of the EEA. As such, Norway would not have to implement the CRR and CRD4 until they are adopted as part of the EEA Agreement, which is expected in 2015 for the CRR and CRD4. In practice, however, Norway moved early to implement the capital and buffer requirements of the CRR and CRD4 through amendments to the Act on Financing Activity and Financial Institutions (Financial Institutions Act), effective from July 1, 2013, ahead of the 1 January 2014 date for the implementation of the CRR and CRD4 in the EU. In August 2014, the Ministry of Finance adopted a series of amendments to national regulations to implement other elements of the CRR/CRD IV framework. These amendments entered into force on September 30, 2014.

⁵ Guidance for national authorities operating the counter cyclical capital buffer, Basel Committee on Banking Supervision, December 2010.

Systemic risk buffer (SRB)

40. An SRB of 3 percentage points was imposed as part of the implementation of the 2013 amendments to the Financial Institutions Act. The legislation included not just a provision for setting a systemic risk buffer, but determined its level at an initial rate of an additional 2 percentage points on the CET1 risk-weighted minimum capital ratio from July 1, 2013, increasing to 3 percentage points from July 1, 2014. The FSA and the Norges Bank were not involved in the setting of this buffer, and did not provide any advice to the Ministry of Finance. Under Article 133 of CRD4 the competent or designated authority should review the SRB at least every two years.

41. The SRB applies to all Norwegian banks, including the subsidiaries of foreign banks, and to both local and foreign lending. Under the reciprocity provisions of Article 134 of CRD4, EU member states may recognize the SRB rate set by Norway and apply that buffer rate to domestically authorized institutions with respect to their exposures to borrowers and other counterparties in Norway. However, such reciprocity is unlikely to apply before an EEA Agreement on adoption of the CRD4.

42. The SRB should address primarily structural risks. Article 133 of CRD4 provides discretion for member states to impose an SRB in order to prevent and mitigate long-term noncyclical systemic risks not already covered by the minimum capital requirements, where there is a risk of disruption in the financial system with the potential to have serious negative consequences for the financial system and the real economy in a specific member state. In Norway, the authorities intend the SRB to reduce the risk that imbalances in asset prices and indebtedness could be further amplified by contagion effects arising from financial institutions having common exposures and growing volumes of claims between financial institutions. The SRB add-on is appropriate given the high degree of interconnectedness and the vulnerability of the economy and the financial system to volatile commodity prices⁶.

43. The public communication of the rationale for setting the SRB at 3 percentage points was unclear. The initial SRB of 2 percentage points on top of the 7 percent minimum CET1 capital ratio was justified by the Ministry of Finance as being equivalent to the EBA's 9 percent CET1 capital target ratio for the largest banks in the EEA area, which the FSA stated that all Norwegian credit institutions should also fulfill. However, this EBA recommendation, issued in December 2011, was for the largest banks to hold exceptional and temporary capital buffers to restore market confidence at a time of exceptional pressures on some euro area sovereigns, and was not intended to be a permanent buffer requirement. The additional 1 percentage point SRB, taking the minimum CET1 capital ratio up to 10 percent, was justified by the authorities as being appropriate in light of particular circumstances in Norway.

⁶ As discussed in "Staff guidance note on macroprudential policy", IMF Policy Paper, December 2014.

D-SIB buffer

- 44. The Ministry of Finance designates SIFIs.** The Ministry of Finance is empowered by legislation to determine criteria for the identification of systemically important financial institutions and to impose special requirements for such institutions. In May 2014, the Ministry adopted a regulation, whereby the Ministry shall designate systemically important financial institutions every year, based on certain criteria and advice from the FSA. This decision should normally enter into force no earlier than 12 months after the decision has been made, except in special circumstances.
- 45. The FSA proposed a list of SIFIs in November 2013.** This comprised eight banks—the two largest banks in Norway (DNB Bank and Nordea Bank Norway) and six smaller regional banks which the FSA had assessed as being of systemic importance because of the large (greater than 10 percent) market share of their corporate lending in their respective regions. The FSA argued that a high share of lending in a region with economic importance for the Norwegian economy can indicate that a bank is systemically important at a national level, while the Norges Bank advised against the inclusion of the regional banks. At the end, the Ministry of Finance decided not to include a regional criterion in the adopted regulation, emphasizing instead national systemic importance.
- 46. Three banks are designated as D-SIBs in Norway: DNB Bank, Nordea Bank Norway and Kommunalbanken AS.** The regulation on the procedure and criteria for identifying and designating SIFIs in Norway, adopted by the Ministry of Finance in May 2014, sets out a general approach under which an institution shall be designated as systemically important if it has total assets corresponding to at least 10 percent of GDP, or a share of the Norwegian lending market of at least 5 percent. Institutions may also be designated as systemically important on the basis of, among other things, their size and scope of operations in Norway and other countries, complexity, role in the financial infrastructure, and interconnectedness with the rest of the financial system. The Ministry of Finance included Kommunalbanken as a D-SIB because it met both quantitative criteria. In its press release, the Ministry also pointed out that Kommunalbanken raises most of its funding in international capital markets.
- 47. These three banks will be subject to an additional capital buffer requirement.** Under the Financial Institutions Act, SIFIs are required to hold a separate capital buffer requirement of an additional 1 percent above the minimum CET1 capital ratio from July 1, 2015, rising to 2 percent from July 1, 2016. This is in addition to the SRB, on the basis that the capital surcharge on D-SIBs is intended to increase the loss-absorbing capacity of these institutions.
- 48. D-SIBs are also likely to be subject to other requirements.** The FSA proposed that D-SIBs should be subject to requirements on liquidity coverage, stable funding and recovery plans earlier than other institutions, but the Ministry of Finance decided to wait until international standards in these areas are finalized. The FSA also proposed to require the management boards of D-SIBs to implement a more formal annual self-assessment related to competence and experience.

Counter cyclical capital buffer

49. A counter cyclical capital buffer will be applied on the CET1 capital ratio from

July 2015. The Ministry of Finance announced in December 2013 that banks shall hold a counter cyclical capital buffer (in the form of CET1 capital) of 1 percent from June 30, 2015. Recent Swedish and Danish legislation implies that this buffer will apply to Swedish and Danish banks' exposures in Norway, although reciprocity arrangements covering all EEA banks will be subject to the incorporation of the CRR and CRD4 into the EEA Agreement.

50. The purpose of the counter cyclical capital buffer is to strengthen the financial

soundness of banks. In its announcement, the Ministry of Finance stated that purpose of this buffer is to make banks more resilient to loan losses. Holding a buffer of capital protects banks against future potential losses stemming from system-wide risks associated with excess aggregate credit growth. In the event of an economic downturn and large bank losses, the buffer may be reduced, in order to mitigate the risk that banks will amplify a downturn by reducing their lending. In addition, the authorities recognize that applying this buffer could also dampen credit growth—higher capital requirements may in practice have contributed to banks increasing their lending margins (although more recently they have been narrowing again) and to corporate borrowers turning to bond financing.

51. Powers for the Ministry of Finance to set a counter cyclical capital buffer were introduced under the amendments to the Financial Institutions Act adopted by the Norwegian

Parliament in June 2013. The level of this buffer is set by the Ministry of Finance each quarter, depending on a decision basis and advice from the Norges Bank. In drawing up its advice, the Norges Bank exchanges relevant information and assessments with the FSA. The advice from the Norges Bank, and a summary of the background to the advice, are submitted to the Ministry of Finance together with the Norges Bank's quarterly Monetary Policy Report. The advice is exempt from public disclosure until the Ministry of Finance announces its decision, but thereafter it is published. To date, the gap between the Ministry of Finance receiving advice from Norges Bank and taking its decisions has been no more than ten days. The Ministry of Finance will typically explain its decision, but there is no formal "comply or explain" mechanism in the legal framework.

Box 2. The Decision Basis for the Countercyclical Capital Buffer

In formulating its advice on the counter cyclical capital buffer, the Norges Bank uses three criteria and four indicators of financial imbalances. The three criteria are that (i) banks should become more resilient during an upturn; (ii) the size of the buffer rate should be viewed in the light of other requirements applying to banks; and (iii) stress in the financial system should be alleviated.

The four indicators of financial imbalances are (a) the ratio of total credit (including households and mainland nonfinancial enterprises) to mainland GDP; (b) the ratio of house prices to household disposable income; (c) real commercial property prices; and (d) the wholesale funding ratio of Norwegian credit institutions.

The four indicators for informing the Norges Bank's advice on the counter cyclical capital buffer indicators were chosen both for theoretical and empirical reasons. The Norges Bank believes that they capture the main elements in the assessment of the build-up of systemic risk over time, with banks and their customers becoming increasingly vulnerable to adverse shocks. Severe financial crises generally occur following a period of mutually reinforcing increases in credit, property prices (with real estate as both an asset and acting as collateral against lending) and aggregate demand, culminating in a bursting bubble. Meanwhile, banks' access to wholesale funding has an impact on lending growth. In periods where banks' lending growth exceeds deposit growth, banks must raise a larger share of their funding directly in the financial market. A high and rising share of wholesale funding may reinforce an increase in debt and asset prices.

The four indicators are seen as providing early warning signals of vulnerabilities. Historically, they have risen ahead of periods of financial instability in both Norway and other countries. This was clear in the run-up to the banking crisis in Norway around 1990. Household and corporate debt has tended to rise rapidly ahead of financial crises. All four indicators are expressed as "gaps" from estimated trends, using three different trend calculations.

The Norges Bank considers both the levels of these indicators and a comparison of the current situation with historical trends. There is no mechanical relationship between the indicators and the Norges Bank's advice on the countercyclical capital buffer. The Norges Bank's advice also builds on any relevant recommendations from the ESRB. The advice is based on the Bank's professional judgment, which also takes other factors into account.

These four indicators stood at historically high levels at the end of 2013. In addition, some of them stood at above their estimated long-term trends. The Norges Bank concluded in its letter of advice dated December 4, 2013 that a counter cyclical capital buffer should be imposed at a rate of 1 percent from January 1, 2015. The FSA concurred with this advice. The rationale for this was that the indicators showed that financial imbalances had built up; and that a buffer was justified in addition to other required increases in banks' capital requirements. Although the Basel III methodology for calculating the credit-to-GDP gap did not imply the imposition of a counter cyclical capital buffer, an alternative measure used by the Norges Bank implied a buffer of around 0.75 percent. The Ministry of Finance agreed that the buffer should be set at 1 percent, but decided to give the banks an additional six months to meet the new requirement.

There are no other designated indicators. However, the decision basis published in the monetary policy report contains several additional indicators.

The Norges Bank recognizes that these indicators may not be well suited to signaling whether the buffer rate should be reduced. Other indicators should play a more prominent role.

Constraints on the calculation of risk weighted assets

52. Banks using the internal ratings-based model approach to calculating capital requirements are subject to constraints on the model parameters. On advice from the FSA, the Ministry of Finance announced in October 2013 that the minimum EAD-weighted average LGD in IRB calculations for retail exposures secured by residential real estate in Norway would be increased from 10 percent to 20 percent from January 1, 2014. This was consistent with the provisions in Article 164(5) of the CRR, and the supervisory authorities in Sweden and Denmark have announced that they will apply this tightening to Swedish and Danish banks' operations in Norway. This was expected to increase the average risk weight on residential mortgages from 10–15 percent to around 20 percent.

53. The FSA has also tightened other requirements on banks' internal-ratings based models used to estimate residential mortgage risk. The FSA consulted in February 2014 on a minimum requirement on average PDs for IRB calculations on residential mortgages (under which banks would have to assume a minimum number of crisis years, and that in these years the PD averages 3.5 percent); and on a tightening of risk classification and the estimation of LGD (based on an FSA reference model linking LGDs to LTVs). The FSA announced on July 1, 2014 that these additional constraints would be applied, and that banks would have to adapt their internal models accordingly by the end of 2014. The FSA estimates that, combined with the increase in the LGD to 20 percent, these measures could increase average risk weights on residential mortgages to 20–25 percent, compared with previous levels of 10–15 percent. The FSA has made it clear that this tightening primarily reflects a correction to model data history over a benign period, making calculation of capital requirements and resilience more in line with actual risk. However, to the extent that this measure contributes to curb household sector credit growth, the tightening may also have beneficial effects in reducing systemic risk.

54. These requirements will also be applied to the Norwegian branches of Swedish and Danish banks. The Swedish FSA (Finansinspektionen) has informed the FSA that it will instruct branches of Swedish banks operating in Norway to take the stricter requirements into account under Pillar 2, while the Danish FSA (Finanstilsynet) has stated that it will instruct branches of Danish banks operating in Norway to follow these stricter requirements under Pillar 1 capital requirements.

55. The Ministry of Finance also announced in October 2013 that the Basel floor rule on capital requirements would continue to be applied in Norway. The "Basel I floor rule" ensures that the RWAs of banks using internal ratings-based models for capital requirements purposes are not lower than 80 percent of the Basel I RWAs. This constrains the ability of banks to lower risk weights through the use of internal models.

Pillar 2 capital

56. FSA Pillar 2 requirements on individual banks include a systemic risk element, having taken into account all the Pillar 1 buffers. The FSA expects banks to operate above the legal requirements, including Pillar-2 requirements (for individual banks).

Maximum loan to value ratio

57. Banks in Norway are subject to a recommended upper limit of an 85 percent LTV ratio on residential mortgage lending. The FSA guidelines state that a residential mortgage loan should normally not exceed 85 per cent of property value. Banks may deviate from the guidelines' standards if the borrower posts additional collateral or if the bank has carried out a specific assessment and concluded that it is prudent to deviate from the standards. FSA guidelines for prudent residential mortgage lending practices had earlier set a 90 percent recommended limit on LTVs for residential mortgage lending in March 2010. This was tightened to 85 percent in revised guidelines issued in December 2011, in response to the growth in house prices and in household debt. The FSA also reduced in December 2011 the recommended upper LTV limit from 75 percent to 70 percent on interest only mortgages and home equity loans.

58. These recommended limits apply at an individual borrower level, and only to new lending. The guidelines apply both to Norwegian banks and foreign banks' branches in Norway. The proportion of new mortgages above an 85 percent LTV fell from 30 percent in 2011 (before the guidelines were tightened) to around 15 percent in 2012 and 2013, with around 10 percent at 85–100 percent LTVs, and 5 percent at LTVs of above 100 percent. The FSA monitors banks' lending practices for compliance with the guidelines. At current levels, the recommended LTV limits have not generated a switch of mortgage lending to nonbank mortgage lenders.

59. These limits are viewed by the FSA as being part of both micro- and macroprudential regulation. They should increase the resilience of individual credit institutions, enhance consumer protection, dampen asset price inflation and sector-specific credit growth, and reduce the potential future impact on both lenders and borrowers of a negative shock to house prices.

60. The use of a mix of instruments to address risks in the residential mortgage sector could be powerful. House price inflation and household credit growth slowed down temporarily for a period in Norway following the introduction of stricter mortgage lending standards, but it is difficult to isolate any effects of the guidelines from the impact of other factors. Some cross-country research finds that LTV and DTI measures, especially when taken in combination, can be powerful in dampening residential house price inflation and credit growth, as well as in improving the resilience of both lenders and borrowers.⁷ But this effect may wear off in dynamic markets, so limits may need to be tightened successively (as happened in China, Hong Kong and Singapore), and more underlying structural measures may be needed to adjust demand and supply in the housing market.

⁷ C. Lim et al "Macroprudential policy: what instruments and when to use them?" IMF Working Paper, WP/11/238, October 2011; and V Constancio, "The ECB and macroprudential policy—from research to implementation," speech at the Third Conference of the Macroprudential Research Network, Frankfurt, June 2014. However, other research finds the main impact of LTV and DTI limits to be on reducing mortgage lending growth and improving the debt servicing position of borrowers, but not on curbing house price growth. See L. Jacome and S. Mitra "Experiences with LTV and DTI limits—lessons through a magnifying glass", IMF Working Paper, forthcoming.

Affordability

61. Mortgage lenders in Norway are required to conduct an affordability check that household net cash flow will remain positive after an increase in interest rates. The FSA guidelines on prudent residential mortgage lending practices also include a requirement that banks undertake an affordability check when borrowers take out a mortgage. The December 2011 guidelines increased the stress test to be used here to a 5 percentage point increase in mortgage interest rates (from 3 percentage points in the March 2010 guidelines). This test is based on external research institute data on living expenses at a granular level, which the FSA argues is better than applying less granular DSR, DTI or LTI ratio limits.

Monetary policy

62. The Norges Bank recognizes that low interest rates may increase the risk that financial imbalances build up. Although the primary objective of monetary policy in Norway is low and stable inflation, the Norges Bank operates a flexible inflation targeting regime, so that weight is given to both variability in inflation and variability in output and employment. The Norges Bank has defined three criteria for an appropriate interest path, one of which is that the interest rate should be set so that monetary policy mitigates the risk of a buildup of financial imbalances, and that acceptable developments in inflation and output are also likely under alternative assumptions about the functioning of the economy. In recent years, the Norges Bank has chosen to keep the key policy rate at a level that has consistently been a little higher than implied by medium-term inflation and output considerations. Financial stability considerations have played a role, without asset prices or debt having an independent role as target variables. The goal has been to achieve an improved path for inflation, output and employment over time. The Norges Bank's published forecasts of inflation suggest a small undershooting of the inflation target at the current 1.5 percent policy interest rate, and that the policy rate would be slightly lower if financial stability considerations were not taken into account. The Norges Bank recognizes that in a world of uncertainty there may be value in using a combination of instruments to achieve greater financial stability. Some research studies also show that macroprudential instruments tend to be more effective when used in conjunction with mutually reinforcing monetary or fiscal policy tools.⁸

63. The Norges Bank also recognizes that the use of macroprudential tools, such as the counter cyclical capital buffer, may affect the conduct of monetary policy, as both this buffer and interest rates will affect the real economy through banks' responses. More restrained lending growth will dampen economic activity. This will, in turn, contribute to lower inflation.

64. There is no formal mechanism for the coordination of monetary policy and the use of macroprudential tools. However, the Norges Bank decisions on monetary policy and its advice on

⁸ See, for example, the simulation exercise in C. Lim et al, "Macroprudential policy: what instruments and when to use them?" IMF Working Paper, WP/11/238, October 2011.

the counter cyclical capital buffer rate are based on the same view of the state of the economy, since the decision processes are synchronized in time.

Other tools

65. Articles 458 and 459 of the CRR specify additional macroprudential tools that have not yet been used in Norway. These include large exposure limits, public disclosure requirements on credit institutions, liquidity requirements, and sector-specific risk weights to target asset bubbles in the residential and commercial property sectors, and limits on intra-financial sector exposures. These provisions are included within the 2013 amendments to the Financial Institutions Act.

66. Macroprudential buffers could also be applied to the minimum leverage ratio, in proportion to the buffers on CET1 minimum capital ratios. The UK has announced that it will take such an approach, by increasing the minimum leverage ratio in line with the use of risk-sensitive capital buffers. However, in Norway banks stand well above the Basel III prospective Tier 1 leverage ratio of 3 percent. Although not a pure non-risk adjusted leverage ratio, in practice the Basel I RWA floor applied in Norway acts as a backstop to the use of IRB models, while the recent introduction of limits on mortgage lending RWAs tackles model risk in this sector closer to source.

67. Fiscal, and specifically tax, policy could also be used for financial stability purposes, including the adjustment of any tax incentives to purchase property rather than to rent, and the imposition of time-varying taxes on property transactions. Previous tax commissions in Norway have suggested reform in the taxation of housing; however suggested measures have not been implemented. The tax authorities have recently taken steps to improve the value assessment of housing, but there are currently no proposals for any other major changes in this part of the tax code. On the supply side, the Ministry of Local Government and Modernization is working on various measures to simplify regulations on planning and building matters, with a goal to help keep construction costs down and to increase the pace of planning processes.

Potential crossborder leakages

68. The structure of the Norwegian financial system means that there is scope for leakages and arbitrage when applying macroprudential tools. Foreign banks have a large market share of lending in Norway. Banks from Sweden and Denmark are the most important foreign players in the Norwegian financial system. The largest bank subsidiary in Norway (Nordea Bank Norge) and the largest branch (Handelsbanken) have Swedish parents, while the second largest branch (Danske Bank) has a Danish parent. The second largest subsidiary in Norway (Santander Consumer Bank) has a Spanish parent.

69. The key concerns for domestic banks are long-standing differences in capital requirements across Nordic countries. Norway's application of the Basel I floor on RWAs is much stricter than requirements in other Nordic countries. In addition, banks are also concerned about differences across countries in the use of Pillar 1 and Pillar 2 capital requirements, which impact banks' published capital ratios. There is little sign of distortionary impacts on the domestic banking

market, in terms of pricing and market shares. The largest impact on Norwegian banks may be a lack of competitiveness in foreign markets.

70. In practice, leakages and arbitrage should be restricted through the application of reciprocity agreements. Norway has made strong efforts to put reciprocity agreements in place, in particular with Sweden and Denmark, so that lending to Norwegian borrowers by branches from these countries is subject to the same capital and other requirements as lending by domestic banks (including the subsidiaries of foreign banks). Where macroprudential policy tools are used under the powers provided by the CRR and the CRD4 there should (once the CRR and CRD4 are adopted under the EEA Agreement) be legislative provisions in place across the EEA to ensure that foreign banks from other EEA countries apply the same tools to their lending to borrowers in Norway. For adjustments to mortgage RWAs in IRB models, reciprocity depends mostly on bilateral agreements with supervisory authorities in other countries. This has already worked effectively with the authorities in Sweden and Denmark. The FSA's Guidelines on mortgage lending standards apply directly to both subsidiaries and branches of foreign banks. Any issues with the effectiveness of reciprocity agreements would be accentuated if Nordea Bank Group was to fulfill its long-standing intention to change its foreign subsidiaries into branches.

71. Even with reciprocity, there may be implications from the nonequivalence in minimum capital ratios across the Nordic countries, once each country has implemented the SRB, D-SIB and any counter cyclical capital buffers. Different sets of macroprudential tools are being utilized across the Nordic region, with different levels of calibration. At, least in part, this reflects differences in the economic and financial cycles across these countries. For example, house prices are furthest overvalued in Norway and Sweden, only marginally overvalued (if at all) in Finland, while there has been a significant downward correction in house prices in Denmark since 2006 to levels that are no longer believed to be overvalued.

Table 1. Use of Macroprudential Policy Instruments in Norway, Sweden, Denmark and Finland

Instrument	Norway	Sweden	Denmark	Finland
Systemic risk buffer	3 percent for all banks, from July 2014	3 percent for four major banks, from January 2015	Available under EU legislation but not used	Available under EU legislation but not used
D-SIB capital surcharge	1 percent from July 2015 2 percent from July 2016	2 percent from January 2015 (Pillar 2 additional SRB for four major banks)	1–3 percent, phased in between 2015 and 2019	Available under EU legislation but not used
Counter cyclical capital buffer	1 percent from July 2015	1 percent from September 2015	Available on phased in basis, from 0.5 percent in 2015 to 2.5 percent from 2019	Available under EU legislation but not used
Maximum LTV ratio	Recommended upper limit of 85 percent from December 2011	85 percent from 2010. Proposals in November 2014 for stricter amortization of loans with LTVs above 70%	80 percent (only on first mortgages from mortgage banks)	90 percent (from July 2016), based on all assets pledged as collateral; and 95 percent for first time buyers
Maximum loan to income ratio	No, but 5 percent interest rate movement in affordability tests	No	No	No
Adjustments to sector-specific risk weights	LGD floor in IRB calculations for retail exposures secured by residential real estate increased to 20 percent. Average risk weight on residential mortgages	Risk weight floor on residential mortgage lending increased from 15 percent to 25 percent, from September 2014	No	No

	<p>increased from 10–15 to around 20 percent from January 2014. In addition, various PD and LGD restrictions on IRB models for residential mortgage lending, applicable from end-2014. Expected to result in minimum 20–25 percent risk weighting</p>			
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LEGAL FRAMEWORK AND INSTITUTIONAL STRUCTURE

Overall structure

72. The institutional structure in Norway reflects a long tradition, dating back to reforms introduced following the Norwegian banking crisis in the early 1990s. The events in the 1990s led to greater emphasis on some elements of what has now become generally known as macroprudential policy, including a focus on the risk of bubbles in the credit and property markets, and moves to increase the resilience of banks through higher minimum capital ratios. Norway therefore has a history of combining the supervision of individual institutions with elements of macroprudential policy. This was reflected in the distribution of institutional responsibilities following the Norwegian banking crisis. The FSA is responsible for the supervision of financial institutions and markets (including payment systems) and assesses financial stability. The Norges Bank analyses risk factors and assesses the financial stability outlook, as well as overseeing payment and settlement systems, and the Ministry of Finance prepares legislative proposals and adopts ministerial regulations.

73. While the ultimate responsibility for financial stability resides with the Ministry of Finance, key powers and responsibilities are allocated to the Norges Bank and the FSA. The institutional structure for macroprudential policy—and in particular for decision-making on the counter cyclical capital buffer originally proposed in the Basel III capital accord—was reviewed in 2011 and early 2012. This resulted in a broadly unchanged structure, with the Ministry of Finance taking responsibility for the counter cyclical capital buffer and the other macroprudential capital requirements set out in the CRR and CRD4. The Ministry of Finance, the Norges Bank and the FSA each have specific responsibilities relating to macroprudential policy, and they cooperate closely with each other.

74. The Ministry of Finance plays the central role in macroprudential policy, and there is no committee or council that takes, recommends or oversees macroprudential policy decisions. This institutional structure has some similarities to Denmark in terms of the strong role of the Ministry of Finance, although in Denmark there is also a formal coordinating committee.

75. There is no external membership of any macroprudential decision-making body. However, the majority of members of the boards of the Norges Bank and the FSA are external; the FSA's Macroeconomic Surveillance unit is developing and financing a model for macroeconomic analysis in collaboration with the University of Oslo and the Norwegian University of Science and Technology; the Norges Bank supports a number of doctoral courses; the Norges Bank and the FSA participate in external committees and bodies with macroprudential responsibilities (including various committees and working groups of the ESRB and the three ESAs, the ECB's financial stability research and its macroprudential research network, and Nordic-Baltic cooperation bodies); and the Norges Bank and the FSA follow relevant external research and analysis from other institutions such

as Statistics Norway, Norwegian universities and business schools, and the IMF. The authorities also regularly hire external experts to work on specific projects.

76. The implementation of macroprudential policies in other countries is followed closely, for example, recent measures introduced in Belgium, New Zealand, South Korea, Sweden, Switzerland, and the United Kingdom relating to residential and commercial property markets.

Ministry of Finance

77. Most powers for the setting of macroprudential policy rest with the Ministry of Finance. The Minister of Finance has the constitutional responsibility for economic, budgetary and fiscal policy; financial stability; financial markets regulation (including macroprudential policy); and the management of the government Pension Fund. In addition to its central role in setting the SRB, the counter cyclical capital buffer and the capital surcharge on SIFIs, the Ministry of Finance may lay down further requirements in regulations under the Financial Institutions Act with regard to financial institutions in the interest of promoting financial stability. This provision gives the Ministry of Finance wide powers to impose macroprudential measures.

78. The powers of the Ministry of Finance relating to macroprudential policy are exercised on the basis of recommendations and advice from the Norges Bank or the FSA. Some powers are delegated to the FSA and to the Norges Bank. The Ministry of Finance would consider further delegation, once greater experience has been gained on the use of macroprudential instruments: the Ministry of Finance stated in a white paper to the Storting in 2012 that authority to set the counter cyclical capital buffer requirement will lie with the Ministry of Finance until some experience with this new tool is gained.

79. The Ministry of Finance has shown a willingness and ability to take a long term view when formulating economic policy. This has been most evident in decisions on the long-term investment of oil related revenues through the government Pension Fund and other funds. A similarly long term view—combined with experience of the Norwegian banking crisis—underlies the decisions of the Ministry of Finance on building up the capital buffer requirements on banks.

80. There has been some political debate of macroprudential policy. The FSA's guidelines on mortgage lending standards—and in particular the impact of the recommended upper limit on LTVs on first time buyers—became the subject of political debate during the election campaign in 2013, and the Ministry of Finance raised the issue in a letter to the FSA in February 2014. This made little difference to the guidelines themselves, and the Ministry of Finance also referred to the importance of the FSA assessing the design and implementation of the guidelines; to the need for further regulation of banks' lending practices, in light of economic developments; and that flexible use of the guidelines would require responsible criteria for the specific assessments that banks must carry out before deviating from the guidelines' standards. The Ministry of Finance also asked the FSA to ensure that banks do not use different interpretations of the guidelines as a tool to enhance their competitive position in the market. The Ministry of Finance also took a different view to the advice it

received from the Norges Bank on the timing of the introduction of the counter cyclical buffer (a six month delay in implementation), and from the FSA on the designation of D-SIFIs.

81. Financial stability is defined in the Financial Institutions Act as “Financial stability entails that the financial system is sufficiently robust to receive deposits and other repayable funds from the public, channel funding, execute payments and redistribute risk in a satisfactory manner.” The Ministry of Finance discussed the concept of systemic risk in the Financial Markets Report submitted to the Parliament in 2012, and offered as a definition: “Systemic risk may be defined as the risk of disturbances in the supply of financial services due to problems in all or part of the financial system, which may have serious negative repercussions for production and employment.” The Ministry of Finance also discussed in this report both the time (financial cycle) and structural dimensions of systemic risk.

82. The relevant legislation does not address the potential trade-offs between financial stability and other objectives, such as monetary stability and economic growth. However, policies are, in general designed with close attention to the complex relationship and interdependencies between the financial sector and the real economy. Experience from the Norwegian banking crisis of the early 1990s of the impact of financial instability led the Norwegian authorities to emphasize the importance of maintaining financial stability and a robust financial sector, and to recognize the importance of financial stability as a precondition for growth and stability in the real economy.

83. The Ministry of Finance is accountable to the Parliament. The policy goals and objectives within the Minister’s area of responsibility are presented to the Parliament in the National Budget white papers, the annual Financial Markets Report, and other white papers and bills. The Ministry of Finance follows developments in the financial sector closely, based on a wide range of information from many different sources, both internationally and in Norway. The Norges Bank and the FSA provide information and assessments of relevant developments in the financial markets, banks, and other financial institutions. The Ministry of Finance’s assessments are published in national budget documents every six months and the annual Financial Markets Report on the financial industry, financial stability outlook, and regulatory developments.

84. The Ministry of Finance assesses and reports to the Parliament on the activities of the Norges Bank and the FSA. These reports are included in the annual Financial Markets Report.

85. The Financial Markets Department in the Ministry of Finance has a staff of approximately 25 persons. However, this department has a wide range of responsibilities in addition to financial stability issues, and only a small part of the resources are devoted specifically to financial stability issues. The Financial Market Department’s resources devoted to financial stability issues are allocated more or less equally between banking matters (including payment systems and other financial market infrastructure matters), insurance/pensions, and securities markets and financial reporting. Resources may, however, be allocated as needed according to the situation. There is flexibility to divert resources from other tasks should extra attention be needed in a certain area, or to manage a particular situation. Moreover, a staff of approximately 10 persons is devoted

to business cycle analysis and monetary policy matters in the Ministry's economic policy department. Taken together, these two units have roughly a fifty-fifty distribution of economists and legal professionals.

Norges Bank

86. In accordance with the regulation on the counter cyclical capital buffer, the Norges Bank draws up a basis for the decision on the level of this buffer, and provides advice to the Ministry of Finance regarding the decision on the level of the counter cyclical capital buffer.

The regulation also requires the Norges Bank and the FSA to exchange relevant information for this purpose. In accordance with the Central Bank Act, the Norges Bank also informs the Ministry of Finance when, in the opinion of the Bank, there is a need for measures to be taken by others than the Norges Bank in relation to monetary, credit, or foreign exchange policy.

87. The Norges Bank publishes analysis and research on a range of macroprudential issues.

This has included cyclical aspects of financial stability (bank lending, bank performance in downturns, household debt and affordability, and house prices); networks and interconnectedness within the financial sector; the performance of economic variables as leading indicators of future financial crises; and the transmission mechanisms by which tools might have an impact on the financial sector and the wider economy (where the Norges Bank has extended the macroeconomic model it uses for monetary policy analysis and forecasting to include a banking sector and several financial frictions). The Norges Bank undertakes a substantial amount of detailed micro-economic analysis of households, and more generally is developing a "heat map" to track changes in various cyclical and structural measures of systemic risk vulnerabilities.

88. The Norges Bank also has responsibilities related to financial infrastructure, including promoting an efficient payment system in Norway and between Norway and other countries.

The Norges Bank supervises systems for the clearing and settlement of interbank payment transfers, and oversees the payment system and the securities settlement system in line with international principles. The Financial Infrastructure Report describes the Norges Bank's responsibilities for the supervision and oversight of financial market infrastructure, and the latest report included an evaluation of all Norwegian FMIs against CPSS-IOSCO principles.

89. The independence of the Norges Bank is safeguarded by the Central Bank Act. The Norges Bank is accountable to the Ministry of Finance for the decision basis and advice on the counter cyclical capital buffer. The Norges Bank publishes an annual Financial Stability Report (which may make recommendations to financial institutions collectively), and a quarterly financial stability assessment (which forms the basis for the Norges Bank's advice on the level of the counter cyclical capital buffer) as part of its quarterly report on monetary policy. The Norges Bank also publishes a quarterly survey of bank lending, an annual Financial Infrastructure Report, and an annual money market survey.

90. The Norges Bank has approximately 35 staff working on financial stability issues. The Financial Stability Department has three units: Macroprudential (15 staff), Banking Analysis (15 staff),

and Financial Infrastructure (9 staff). Most of these staff are economists with a Master Degree, and approximately 25 percent have a PhD. Closer links have been developed since the international financial crisis in 2008 between monetary policy and financial stability staff within the Norges Bank.

The FSA

91. The FSA makes recommendations to credit institutions on upper limits for LTV ratios and on affordability checks as part of its guidelines for prudent residential mortgage lending.

It also constrains some of the parameters under which credit institutions can calculate risk weighted assets using their own internal ratings-based models. To the extent that this has not already been captured by buffers and SIFI capital surcharges, the FSA can also take account of systemic risks (including risks generated by a single institution which can threaten the whole financial system, or cyclical or structural risks threatening a single bank or a sample of banks) in its setting of institution-specific Pillar 2 capital requirements. The FSA can also make recommendations or issue warnings to financial institutions, collectively or individually.

92. The operational independence of the FSA is safeguarded by the FSA Act. The FSA is an administrative agency, acting under the general responsibilities of the Ministry of Finance, managed by an independent board and a director appointed by the King in Council. The FSA is accountable to the Ministry of Finance for its macroprudential functions, through reporting to the Ministry of Finance. However, compared with the Basel Core Principles for banking supervisors, the independence of the FSA could be strengthened. In particular, the Ministry of Finance has powers to issue instructions to the FSA, set its own priorities for the FSA on an annual basis, and to decide the FSA's budget and limit the FSA's total resources.

93. The FSA has placed a much higher emphasis on financial stability issues following the Norwegian banking crisis in the early 1990s. As a result, the FSA has a higher level of competence in this area than most supervisory authorities in other countries, in particular where supervisory authorities are located outside the central bank. The FSA seeks actively to enhance its understanding of risks to financial stability by combining and utilizing information from its supervision of individual institutions with information from the assessment of macroeconomic developments. The FSA publishes an Annual Report on its supervisory and regulatory activities, an annual Risk Outlook report (which includes an assessment of the risks facing banks and other institutions in the Norwegian financial market and potential sources of future stability problems in the Norwegian financial system), and an annual report on risks and vulnerabilities arising from financial institutions' use of information and communication technology.

94. The FSA has 28 staff working specifically on financial stability issues. The Macroeconomic Surveillance unit and the Analysis and Reporting unit work specifically on financial stability issues. The total staff numbers in these two units are 28. The majority have a master degree. Some have experience from the financial sector and some have a research background and a PhD. There is also significant interaction with the staff doing on-site supervision and staff from the Solvency Regulation section.

Coordination and information sharing

95. The Ministry of Finance is responsible for the coordination of the activities of the three authorities in macroprudential policy and crisis management.

However, it is not clear how closely coordinated the macroprudential policy measures undertaken (or under consideration) by the three authorities are in practice. Tripartite meetings on financial stability between the Ministry of Finance, the Norges Bank and the FSA were established in 2006, and are generally held every six months, but more frequently when needed (for example during the international financial crisis in 2008–2009 and in subsequent periods of volatility of international financial markets). The meetings constitute an important channel for the exchange of information between the three authorities on economic developments and the state of financial markets, but do not constitute a comprehensive overview of the financial stability outlook or provide an effective mechanism for the coordination of the macroprudential policy measures taken by the three authorities. Regulatory issues are not discussed at the meetings. There are also regular (usually quarterly) bilateral meetings between the Ministry of Finance and the FSA, the Norges Bank and the FSA, and the Norges Bank and the Ministry of Finance.

96. The Norges Bank and the FSA have a general obligation to submit matters of special importance to the Ministry of Finance before decisions are made.

97. Information gathering powers include the powers in the FSA Act under which the FSA can require any information from financial institutions in Norway, and the powers in the Norges Bank Act under which the Ministry of Finance can order that financial institutions in Norway give the Norges Bank any information that is necessary for the Norges Bank to conduct its duties.

Collectively, the authorities therefore have access to a broad set of relevant and generally good quality data, including macroeconomic statistics, and detailed micro data on households (from tax returns), corporates (from annual balance sheets) and banks (monthly and quarterly reports on balance sheets). While the authorities do not see any gaps in their ability to collect data, more efforts are needed to collect necessary data to improve funding stress tests.

98. There are some areas where the authorities see scope to improve the quality and availability of data. Bank losses are mainly reported on an aggregate level, making it difficult to measure the actual credit risk in the corporate and households sector; detailed regulatory reporting on banks' balance sheets is at the level of the regulated firm, not group level; only limited information is available on the intra-bank exposures within banking groups; and data on the commercial property market is limited, especially outside Oslo. The new reporting standard for financial institutions (FINREP) will include reporting on the group level, while work is being undertaken to collect data on commercial property markets.

99. There are no serious legal obstacles to information sharing. Information sharing between the Norges Bank and the FSA is governed by the Norges Bank Act and the FSA Act, under which the FSA and the Norges Bank can share any information with each other.

Setting objectives and measuring the effectiveness of macroprudential policy

100. The effectiveness of actual and potential macroprudential policy tools remains uncertain, in Norway as elsewhere. Most countries have limited experience in the use of these tools and there are empirical challenges in identifying the effects of individual instruments⁹. One common problem that also applies in Norway is the absence of a clear statement of the objectives and the expected transmission mechanisms and impacts of macroprudential policy instruments, against which the outcomes could be assessed¹⁰.

101. Where tools such as the counter cyclical capital buffer and higher risk weights on residential mortgages are aimed primarily at increasing the resilience of financial institutions there is a reasonably direct impact on resilience. However, it is less clear to what extent this acts as a binding constraint if banks are holding surplus capital; reduces the probability of, and depth of, any future financial crisis; has an impact on the price and availability of bank lending; and leads to any circumvention through less regulated nonbanks or branches of foreign banks. The Norges Bank is at the early stages of a project to estimate the costs and benefits of the counter cyclical capital buffer to develop a modeling framework to calibrate the buffer rate appropriately (with a view to maximizing net benefits).

102. Where tools such as upper limits on LTV ratios are aimed in part at dampening the financial cycle (or where this is a secondary objective of imposing higher capital buffers) it is more difficult to identify the impact of such tools. The Norges Bank has estimated the effects of a higher equity ratio on banks' funding costs and lending, and more generally has made efforts to use its macroeconomic model to estimate the effects of macroprudential tools on household and non-financial corporate lending. The FSA has evaluated the effect of the guidelines for prudential mortgage lending, and concluded that the introduction of the guidelines has contributed to better residential mortgage lending practices, to mitigating the build-up of systemic risk in the Norwegian economy, and arguably to preventing debt problems among financially vulnerable borrowers.

103. In Norway, as in other countries, there are no clearly specified objectives of macroprudential policy relating to the longer-term path of financial stability indicators. The trends and absolute levels of key indicators such as credit growth, household debt, property prices and banks' wholesale funding are closely monitored and analyzed, but no specific policy objectives have been formulated for the desired long-term levels of these variables (either in absolute terms or relative to growth of national income and wealth).

⁹ Research on the effectiveness of LTV and DTI limits in six countries is surveyed in L. Jacome and S. Mitra "Experiences with LTV and DTI limits—lessons through a magnifying glass", IMF Working Paper, forthcoming.

¹⁰ This is discussed in "Staff guidance note on macroprudential policy", IMF Policy Paper, December 2014.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

104. The authorities are focusing on the major cyclical risks to financial stability. These include oil prices, low interest rates (and their impact on credit and asset price growth), the credit: GDP ratio, household debt, residential and commercial real estate prices, banks' reliance on wholesale funding, and regional issues.

105. The levels of most of the key indicators of systemic risk vulnerabilities are at historic highs, even if since 2012 they have fallen back toward their long-run estimated trends. However, as in other countries, it is difficult to judge the "optimal" levels of these variables for financial stability, the relative weight that should be placed on the absolute levels of these variables rather than deviations from long-run estimated trends, and the optimal path to reach any optimal levels.

106. The Norges Bank and the FSA undertake and publish high-quality analysis of risks to financial stability, although they use a limited range of analytical tools to monitor these risks. Little analysis is undertaken of interconnectedness within the financial system, and the stress tests undertaken by the Norges Bank and the FSA include only limited stresses of banks' funding and liquidity.

107. Given the dominance of the banking sector within the Norwegian financial system, it is understandable that most of the analysis of financial stability concentrates on banks. The Norges Bank and the FSA do also focus on clearing and settlement systems, banks' IT and outsourcing, and the insurance sector, including through regular published reports. The FSA includes assessments of the outlook for insurance companies in its financial stability analyses, due to the importance of financial conglomerates, the significant pension liabilities and savings managed by life insurers, and the role of insurance companies as institutional investors.

108. Norway has taken a large number and range of macroprudential policy actions. These include higher capital requirements, including both additional capital buffers and restrictions on mortgage lending RWAs; guidelines on banks' mortgage lending standards (recommended upper limits on LTVs and affordability tests); and a degree of "leaning against the wind" in the setting of the monetary policy instrument. However, it is not clear how effectively these policy actions have been coordinated across the three authorities.

109. The primary emphasis of macroprudential policy has been on the use of banking focused, and mostly capital ratio focused, tools. These have been designed primarily to strengthen the resilience of banks. There has been much less emphasis on two other potential objectives of macroprudential policy, namely containing systemic risks at source (avoiding excessive growth/slowdown in credit and asset prices), and on maintaining accumulated imbalances at tolerable levels. The Norwegian authorities are concerned that identifying financial cycles is difficult;

the effects of macroprudential policy are uncertain; attempting to fine-tune developments in credit and asset prices may not be beneficial or possible in practice; and the effectiveness of macroprudential policy can be affected by regulatory arbitrage and leakages to entities outside the scope of the policy.

110. It has not always been clear how the individual macroprudential policy tools have been chosen and calibrated. There is a detailed published analysis by the Norges Bank that forms the basis for the decision by the Ministry of Finance on the use of the counter cyclical capital buffer, but much less detailed explanations have been provided on the use of other macroprudential policy instruments, such as the SRB (where neither the FSA nor the Norges Bank offered advice to the Ministry of Finance), the capital surcharge on G-SIBs, and the recommended upper limits on LTV ratios and the loan affordability stress tests.

111. It is also not clear how the cumulative impact of various macroprudential policy tools has been determined. The combination of the SRB, D-SIB surcharge and counter cyclical capital buffer results in almost a doubling of the minimum CET1 capital ratio from 7 percent to 13 percent for banks subject to all three additional buffers. However, there is only limited analysis in official reports of what the “optimal” risk-weighted capital ratio might be.¹¹ The significant levels of resilience being built in to risk-weighted capital ratios are to be welcomed, in light of significant systemic risk vulnerabilities and the dependence of the economy on volatile commodity prices, but it is also important to assess both the benefits and the costs of higher capital requirements (and of other macroprudential policy instruments).¹²

112. There are no existing or proposed measures of the effectiveness of macroprudential instruments in meeting the objectives. Other countries have also made very limited progress here, but the principles of good public policy would suggest that the authorities should develop a clearer analytical framework setting out the objectives of macroprudential policy, the way in which the chosen instruments should contribute—individually and collectively—to meeting those objectives, and how the effectiveness of the instruments will be measured.

113. Norway has made considerable and commendable progress in establishing reciprocity arrangements for its use of macroprudential policy instruments, in particular within the Nordic region. This includes the reciprocity arrangements for counter cyclical capital buffer and the risk weights on residential mortgages where banks use IRB models. Further progress should be made—including on the SRB—once the CRD4 and CRR become part of the EEA Agreement.

¹¹ A Norges Bank staff memo estimated that the optimal level of the CET1 capital ratio (excluding the Basel 1 RWA floor) is between 13 and 23 percent for Norwegian banks. See K. Kragh-Sorensen “Optimal capital adequacy ratios for Norwegian banks,” Norges Bank, Staff Memo 29/2012, December 2012.

¹² As recommended in C. Lim et al “Macroprudential policy: what instruments and when to use them?” IMF Working Paper, WP/11/238, October 2011, and “Staff guidance note on macroprudential policy”, IMF Policy Paper, December 2014.

114. There is no single “best” institutional structure for macroprudential policy applicable to all countries and national characteristics. It is important to give due weight to the clarity of institutional mandates and responsibilities, accountabilities, the experience and expertise of institutions, operational independence (to shield macroprudential policy from political cycles), and the effectiveness of cooperation and coordination. An IMF Policy paper¹³ notes that three models for macroprudential policymaking are becoming increasingly prevalent for assigning the macroprudential mandate—to the central bank, to a committee within the central bank, or to a committee outside the central bank (in which the central bank participates).

115. There is clear evidence of a strong willingness to apply macroprudential policy tools in Norway. The institutional structure has contributed efficiently and effectively to the identification and swift implementation of appropriate measures, not least following the international financial crisis. Norway has been considerably more active in the use of macroprudential policy tools than most other countries, including those with different institutional structures.

116. The institutional structure in Norway brings together decisions on banking sector-wide capital requirements in one place, the Ministry of Finance. Other models tend to split this between the central bank and the micro-prudential regulatory authority. Meanwhile, the decision-making structure requires inputs from the Norges Bank and the FSA to the decisions taken by the Ministry of Finance, and the decision-making process for the counter cyclical capital buffer forces a decision to be taken each quarter.

117. Most countries assign a central role in macroprudential policy to the central bank. This harnesses the macroeconomic expertise of the central bank and promotes coordination with monetary policy in a manner that preserves the independence of the central bank in pursuing monetary policy.¹⁴ There is also some limited empirical evidence from cross-country studies that macroprudential policy responses are taken more rapidly in countries where the central bank plays a leading role in the macroprudential policy framework.¹⁵

118. In Norway, the Norges Bank plays an important—if not central—role in financial stability policy, through its decisions on monetary policy, its published advice on the setting of the counter cyclical capital buffer, its published identification of risks to financial stability, and its published research and analysis. The Norges Bank is also well placed to contribute to the coordination of monetary and macroprudential policies. However, the Norges Bank may have relatively little involvement in, and control over, macroprudential instruments such as recommended upper limits on LTV ratios (and similar instruments) that have a significant impact on the

¹³ “Key aspects of macroprudential policy”, IMF Policy Paper, June 2013.

¹⁴ As discussed in “Key aspects of macroprudential policy”, IMF Policy Paper, June 2013, and “Staff guidance note on macroprudential policy”, IMF Policy Paper, December 2014.

¹⁵ See, for example, C. Lim et al, “The macroprudential framework: policy responsiveness and institutional arrangements,” IMF Working Paper WP/13/166, July 2013.

transmission mechanism of monetary policy through bank lending and household borrowing decisions.

119. The central role of the Ministry of Finance in macroprudential policy means that macroprudential decisions cannot be shielded from political considerations. In the setting of capital buffers, as in fiscal policy, the Ministry of Finance has shown a willingness and ability to take a long term view. However, there was some political debate on banks' mortgage lending standards, and the Ministry of Finance took a different approach to the designation of D-SIFIs than the approach recommended by the FSA. There is a risk that macroprudential policy could undermine the independence of the Norges Bank in monetary policy and of the FSA in micro-prudential prudential regulation—because macroprudential tools operate through much the same transmission mechanism channels as monetary policy and overlap closely with micro-prudential tools. Political considerations could delay macroprudential actions, although this is mitigated to some extent by the formal procedures in place in some cases for the Ministry of Finance to receive and take account of published advice and recommendations from the Norges Bank and the FSA.

120. The authorities in Norway clearly work closely together, on financial stability and other issues, and there is no inaction bias. But there remain issues on the coordination of macroprudential policy decisions across multiple decision makers, especially in areas outside the use of the core capital buffers.

Recommendations

Recommendation 1: Objectives and Analytical Framework

121. The authorities should increase their efforts to produce a more comprehensive and coordinated framework for macroprudential policy in Norway. This should include a clear specification of the objectives of macroprudential policy; the intended objectives of macroprudential instruments, both individually and collectively; the expected benefits and costs of using these instruments; possible interactions with microprudential tools and with monetary policy; and post-implementation reviews of the effectiveness (including associated costs) of these instruments. This would be consistent with good public policymaking, and would place Norway considerably ahead of other countries. Such a framework would be challenging to develop, because both theory and evidence are scarce, and the usefulness of current macroeconomic models for financial stability purposes is limited. However, such frameworks have been developed in many countries for monetary policy and for the setting of microprudential policy, and the broad structure of a framework could usefully follow these examples.

122. Within this framework the authorities should consider the potential importance of objectives that extend beyond the resilience of the banks. More emphasis could be placed on using a range of macroprudential and other policy measures to contain risks at source; and on setting broadly defined medium to long term ranges for key financial stability ratios as a communication tool to explain the actions of the authorities. It is important to be clear about the

extent to which the macroprudential policy framework includes these additional objectives, while recognizing the challenges in specifying and operating such a framework.

Recommendation 2: Addressing Specific Vulnerabilities.

123. The authorities should take additional measures to constrain the growth of house prices and household indebtedness. These measures could include:

- Stricter LTV and amortization guidelines—reducing the recommended upper limits on LTVs to constrain lending and house price; taking a more explicit counter cyclical approach; taking a tougher approach to exceptions, for example by limiting the proportion of mortgages that can exceed the recommended upper level; providing more specific guidance on prudent amortization schedules; and considering whether it would be more effective to introduce rules rather than guidelines for LTV and amortization requirements.
- Adding loan to income or debt service ratio limits to supplement the affordability (interest rate stress test) guideline.
- Where lending standards are raised or lowered on a counter cyclical time-varying basis, the relevant authorities should follow a similar approach to that taken with determining the counter cyclical capital buffer by specifying clearly the primary indicators that will be used to set and calibrate these measures.

124. In addition, the authorities should consider fiscal and structural measures to reduce long-term demand and supply imbalances in the housing market. These could include:

- Tax policy—reducing or removing the tax deductibility of mortgage interest payments; reducing or removing the favorable treatment of real estate within the wealth tax, and by introducing a higher imputed rental income from property; and considering the use of transaction taxes as a counter cyclical instrument.
- Planning requirements—improving the speed and predictability of planning applications; releasing more land for housing development; and considering the impact of minimum space and energy efficiency requirements on the availability and price of housing.

125. The recommendation here is not necessarily to use all these instruments. There may be less need for stricter lending standards for financial stability purposes if more fundamental structural measures can dampen the growth of house prices and household indebtedness.

126. The authorities should also take additional measures to limit banks' wholesale funding. The forthcoming LCR and NSFR requirements may not be sufficient to address all significant funding risks, in particular the risks arising from (i) the proportion of short-term wholesale funding (where even if short-term funding is broadly matched by high quality liquid assets, a bank would still have limited time to adjust—beyond the sale or repoing of high quality liquid assets—to the withdrawal of wholesale funding by expanding other sources of funding); (ii) the potentially

greater propensity of foreign funding to be withdrawn; and (iii) the mismatch between the maturity of currency swaps (and other hedging techniques) and the maturity of the underlying exposures. The authorities should therefore consider whether more direct limits (either overall, or more bank-specific) should be placed on the proportion of short-term wholesale funding, in particular from abroad; and on the mismatch between the maturity of currency swaps (and other hedging techniques) and the maturity of the underlying exposures. Running more severe stress tests, with a greater emphasis on adverse funding and liquidity scenarios, could help the authorities to identify the most effective measures here, and to avoid imposing too many simultaneous restrictions on banks' funding and liquidity structures. Such limits could be permanent or time-varying in response to the financial cycle.

127. The authorities should also continue their close monitoring of banks' issuance of covered bonds, and consideration of the point at which such issuance should be limited. The issuance of covered bonds provides a good way for banks to extend the maturity of their wholesale funding, but the encumbrance of mortgage assets creates its own risks. Limits on covered bond issuance should therefore continue to be considered, either through a general regulation or on a bank-by-bank basis. In addition, there is scope to introduce some price-related constraints on covered bond issuance, by linking the proportion of a bank's funding through covered bonds to risk-sensitive deposit insurance premia (because covered bonds tend to reduce the quality of assets available to other creditors of a bank in liquidation or resolution) or to capital requirements.

Recommendation 3: Regional Issues and Reciprocity

128. The authorities should continue to make progress on establishing and implementing reciprocity agreements. In particular, reciprocity arrangements for the systemic risk buffer await EEA agreement on the adoption of EU capital requirements legislation. The authorities should also review the continued use of the Basel 1 RWA floor in light of the development of other international standards, including the leverage ratio and amendments to the basis on which banks can use internal-ratings based models to calculate their capital requirements; and monitor the banking market for any signs that differences across countries in micro- and macro-prudential regulation are distorting competition.

Recommendation 4: Institutional Structure

129. The authorities should improve the existing institutional structure. This should include:

- More standardized and transparent procedures for giving advice to the Ministry of Finance. This should include extending the general approach for the giving of advice (quarterly) on the countercyclical capital buffer to the D-SIB capital buffer, the systemic risk buffer (every two years), and risk weights under the IRB approach. This advice given to the Ministry of Finance by the Norges Bank and the FSA should be published in full at the time when the advice is given, not after the decision has been made.

- A more transparent “comply or explain” approach by decision-makers (including the Ministry of Finance) that have received published advice from other official bodies—this should include a fuller rationale for macroprudential decisions, and how the decision-making body has responded to the advice and recommendations it has received.
- An annual broader overview of the collective purpose, impact and effectiveness of the use of macroprudential instruments, and whether there is a need to employ other instruments.
- Enhancing the independence of the FSA.
- Greater delegation of decision-making powers over macro-prudential instruments in due course to the Norges Bank or the FSA, based on clear mandates, objectives and accountability and with formal advice-giving procedures between these two bodies.

130. Alternatively, some macroprudential policy functions could be exercised through a formal Committee. Such a committee would be based on a core membership of the Ministry of Finance, the Norges Bank and the FSA, and could also include some external members. The powers of the Committee would be (at least) to make recommendations to its core members, and possibly to employ (some) instruments directly. The advantages of a Committee would be to enhance coordination in the choice and use of macroprudential instruments; to achieve greater cohesion; and to provide an opportunity for all parties to contribute¹⁶. A Committee could also lead the design of an analytical framework for the objectives and instruments of macroprudential policy. However, it may be too early to introduce potentially disruptive change to an institutional structure that has worked reasonably well; and a Committee can create uncertainty over the division of responsibilities and the relationships between individual institutions and the committee. Either way, further consideration should be given to addressing the risks of excessive “group think” within a generally tight-knit grouping of institutions and individuals.

¹⁶ Some of the strengths and weaknesses of exercising macroprudential policy functions through a committee are discussed in E. Nier, et al “Institutional models for macroprudential policy”, IMF Staff Discussion Note, SDN 11/18, November 2011.