

DANMARKS NATIONALBANK

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FINANCIAL STABILITY – 2ND HALF 2017

Risks are building up in the financial sector

- There is a sentiment of optimism in the financial sector and considerable lending capacity has been built up. This increases credit institutions' risk appetite, which is reflected in easing of credit standards.
- Several credit institutions are increasing lending to cyclical industries and to vulnerable households with high debt ratios. At the same time, rising house prices mean that credit growth may take off suddenly.
- The conditions for activating the countercyclical capital buffer are in place.



Record-high profits

despite diving
net interest income

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Highest growth in lending

to industries that have
previously defaulted on
their loans

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Credible resolution plans

with attached MREL
are key to a robust
economy

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Summary and assessment

Substantial risk appetite in the financial markets

The global economy is improving, and the financial markets are characterised by low interest rates and a low level of stress. Risk perception is generally low in the markets and liquidity is ample. That provides a basis for increased risk-taking among market participants in their search for yield. An indication of a large risk appetite is an increase in demand for advanced products with complex risk profiles in the international markets. Investments in similar products led to considerable losses during the most recent financial crisis. A reversal of the risk perception may lead to substantial falls in asset prices, resulting in major losses. The effects may become self-reinforcing if many market actors need to reduce their risks at the same time.

Rising asset prices in Denmark

Economic and financial developments in Denmark are also characterised by a general sentiment of optimism. The economy is in a solid upswing and asset prices are rising. Prices in the Danish stock market have soared since the end of 2016. Despite a certain deceleration of prices since the beginning of November 2017, the level is still high. At the same time, house prices have risen in recent years, not least in the large cities.

High profits in the financial sector

The positive trend in the economy is also reflected in rising financial sector profits. In the 1st half of 2017, the largest Danish credit institutions posted record-high profits. The improvement since the 1st half of 2016 is attributable to extraordinarily high value adjustments, combined with very low loan impairment charges in recent years. Disregarding these temporary factors, core earnings have tended to decline since 2015, primarily driven by lower net interest income.

Credit standards are being eased

In general, the credit institutions have built up considerable capacity to expand lending. Overall, this may increase the institutions' risk appetite and intensify competition for customers. This development may be the driver of the mounting pressure on credit standards. Several credit institutions, mainly among the medium-sized banks, state that they are easing credit standards.

Indications of higher risk in bank lending

Lending by banks to vulnerable customers is rising. As regards lending to the corporate sector, lending to cyclically sensitive industries is increasing, especially for the medium-sized banks. An indication of higher credit risk in the housing market is the larger share of lending to households with high loan-to-income, LTI, ratios. The banks expect lending to households to increase in the coming years. Higher house prices have boosted the home equity of owners. Strong credit growth may occur if households increasingly begin to raise new loans against home equity as collateral. That was the case prior to the most recent financial crisis.

Inadequate limitation of deferred amortisation increases the vulnerability of households

The new proposal to amend the Executive Order on Good Business Practice for Mortgage Lending contributes to limiting the supply of loans to homeowners with high LTI ratios and loan-to-value, LTV, ratios. The nationwide scope of the proposal is positive, as this ensures uniform credit assessment. In contrast, it is inappropriate that high-LTI households can still finance home purchases without amortising the loan. Limiting access to deferred amortisation could reduce the vulnerability of homeowners in case of negative shocks to the economy, e.g. falling house prices and unemployment.

Interaction between the real economy and the financial system amplifies cyclical fluctuations

The banking sector's lending mirrors the business cycle. Hence, the credit institutions' tendency to ease credit standards and increase their lending exposures is a natural phenomenon in a period of economic recovery. Conversely, credit standards are tightened in cyclical downturns. All else equal, this contributes to reinforcing cyclical fluctuations. Such procyclicality may become particularly strong if credit standards are eased excessively. There are indications that this was the case in Denmark prior to the previous financial crisis. When the crisis hit, the credit institutions were compelled to tighten credit standards extraordinarily, which contributed to a stronger economic downturn.

The conditions for activating the countercyclical capital buffer are in place

The purpose of the countercyclical buffer is to reduce the real economic downturn that would be seen if households' and firms' access to credit were tightened disproportionately in periods of stress in the financial system. When the buffer is released, the institutions will have capital for maintaining their lending capacity. To increase the probability that the buffer has been built up before a period of financial stress occurs, it must be built up in times like the present.

The own funds of the credit institutions are crucial to the robustness of the sector

The largest credit institutions have generally increased their Common Equity Tier 1 ratios in recent years, partly driven by a decline in risk-weighted exposures. The build-up of Common Equity Tier 1 capital is lessening, and instead a large share of earnings is distributed to shareholders in the form of dividend and share buy-backs. The relatively high level of distribution should be seen in the light of the credit institutions' compliance with their own capital targets.

Both the EU and the Basel Committee are currently negotiating a number of amendments to the existing capital requirements. Continued uncertainty as to the future capital requirements to be met by the credit institutions underscores the importance of having adequate excess capital adequacy relative to the existing capital requirements.

Credible resolution plans comprising MREL are key to a robust economy

The preparation of credible and practicable resolution plans is essential if failing credit institutions are to be resolved without the use of government funds. For SIFIs, a robust resolution plan entails that the group overall has sufficient own funds and other eligible liabilities for both loss absorption and recapitalisation. This is a precondition for restructuring the group and continuation of its critical functions. Accordingly, a credible resolution plan is key to ensuring financial stability and a robust Danish economy.

Danmarks Nationalbank has recommended that the resolution authorities apply a single point of entry,

SPE, resolution strategy to Danish SIFIs where the strategy includes mortgage banks.¹ Moreover, it has recommended that resolution authorities support this strategy by setting a consolidated MREL for the group and an internal MREL for the individual institutions, including the mortgage banks. Finally, legislators must ensure that Danish legislation on restructuring and resolution of financial institutions gives the resolution authorities access to using the bail-in tool and setting MREL for mortgage banks.

The resolution authorities' resolution strategy for non-SIFIs with balance sheet totals of less than 3 billion euro is a controlled liquidation of the institution rather than continuation. Liquidation will take place according to an arrangement which has been approved by the European Commission under the rules on state aid and which assumes full bail-in of creditors. Unsecured creditors and deposits exceeding the depositor guarantee should expect considerable losses if a private sector solution cannot be found in the recovery phase.

For Spar Nord Bank the SIFI resolution strategy and MREL will be applied, while the resolution strategies for the other non-SIFIs with balance sheet totals of more than 3 billion euro are awaiting publication.

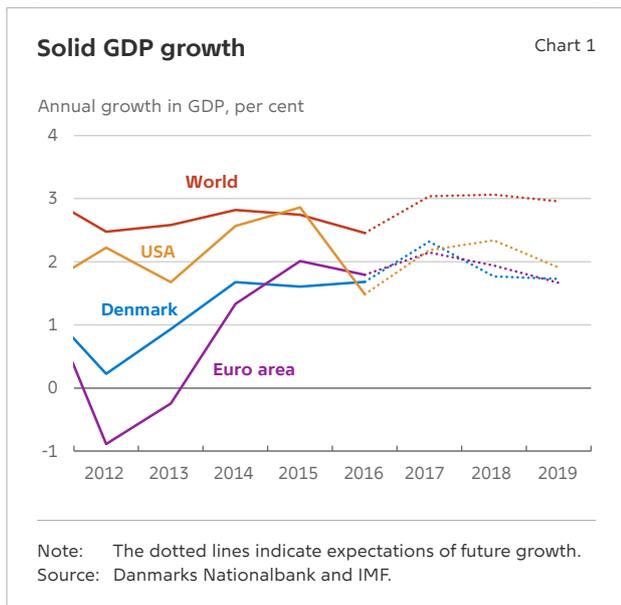
Low volatility and continued low interest rates

The global economy is recovering

The upswing in the global economy continues, broadly based in both advanced and emerging economies. Global economic growth is expected to be 3.0 per cent in 2017 and 3.1 per cent in 2018, cf. Chart 1. Growth sustainability is subject to more uncertainty from 2018-19. International organisations point to risks associated with economic policy uncertainty, growing debt, financial instability, protectionist measures, low inflation and geopolitical tensions.

The Danish economy is in a solid upswing, and the gross domestic product, GDP, is forecast to grow

¹ Cf. Danmarks Nationalbank, Recommendation for handling failing SIFI groups, *Danmarks Nationalbank Recommendation*, No. 1, 2017 ([link](#)).



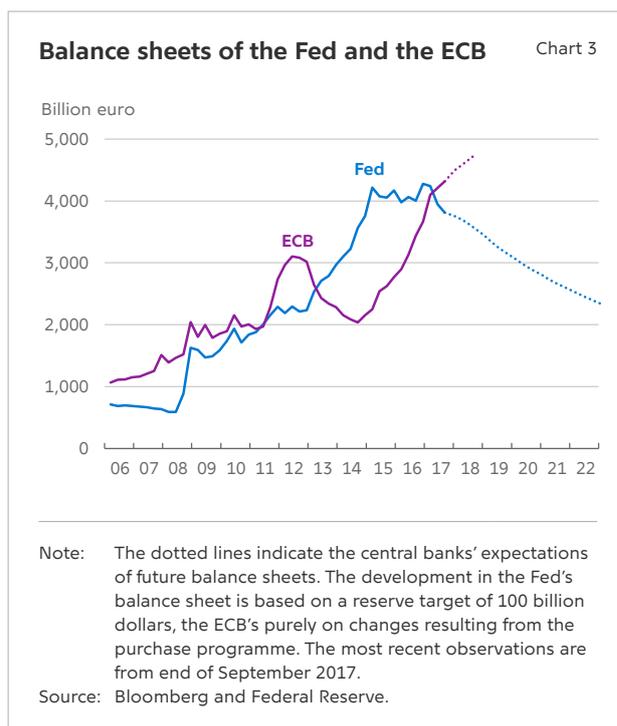
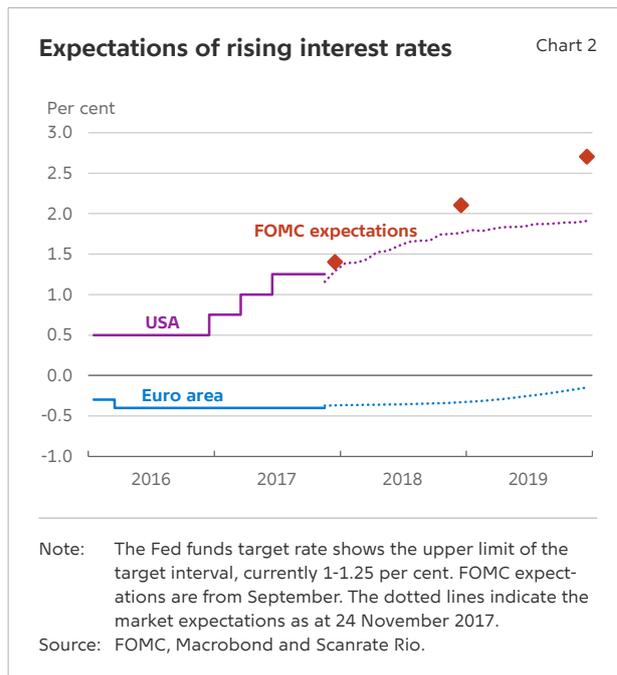
by 2.3, 1.8 and 1.7 per cent in 2017, 2018 and 2019, respectively. Hence, the Danish economy will be in a boom with greater pressure on output capacity and labour resources. The labour market is under increased pressure, especially in the construction sector.

US monetary policy is expected to be tightened

The global economic upswing may lead to higher inflation, which is one of the factors behind the central banks' monetary policy interest rate decisions. The Federal Reserve, the Fed, has raised its federal funds target rate on four occasions since the financial crisis, to 1-1.25 per cent at present. The Federal Open Market Committee, FOMC, is expecting a further increase in December 2017 and gradual increases over the next few years, cf. Chart 2. Market expectations of interest rate increases in the coming years are more moderate, due to lower realised inflation than the Fed had expected. If the FOMC's interest rate expectations materialise, the market must adjust, which will affect the prices of numerous assets.

The FOMC has decided gradually to reduce the Fed's bond portfolio from October 2017, cf. Chart 3. This means that in the coming years the Fed will not re-invest payments from maturing bonds.

Quantitative easing has had positive effects and helped to fuel the economy, e.g. by reducing interest rates, increasing equity prices and narrowing credit rate spreads. The unwinding of quantitative easing



will result in lower demand for US Treasury and mortgage bonds, and the Fed expects a rise in longer bond yields. This may, inter alia, affect market liquidity. The Fed's purchase programme has made it easy for bond owners to sell, which has been reflected in lower liquidity premia. This opportunity will be reduced as purchases decline. Conversely, the roll-back may lead to more current trading in the bond series, as the Fed's purchases have been buy-and-hold.

The European Central Bank, ECB, is expected to keep its monetary policy interest rates at -0.4 per cent at least until after the bond purchase programme has been discontinued. The programme comprises net purchases of bonds for 60 billion euro a month until the end of 2017 and then 30 billion euro a month until the end of September 2018. This means that the ECB's balance sheet is still being increased, but at a slower pace, cf. Chart 3. The ECB's announcements have led to expectations that interest rate will remain in negative territory until the end of 2019. In Denmark, Danmarks Nationalbank's rate of interest on certificates of deposit remains lower than the ECB's deposit rate.

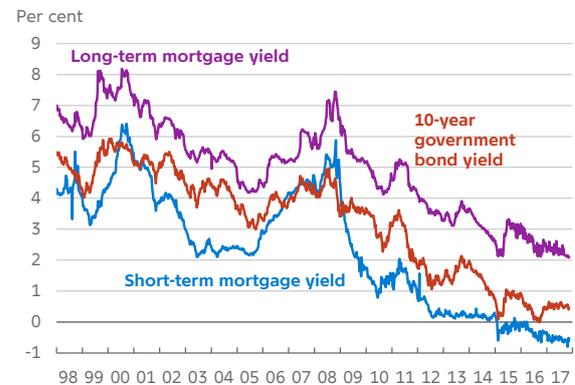
Low bond yields and high foreign demand for mortgage bonds

Yields in Denmark remain very low. The yield on 10-year government bonds has been stable at around 0.5 per cent in 2017, while mortgage yields have fallen marginally, cf. Chart 4. Generally, the developments in short-term mortgage yields reflect the development in monetary policy interest rates in Denmark. However, in the last two years, during which the rate of interest on certificates of deposit has been unchanged, developments in short-term mortgage yields reflect factors such as a lower supply of short-term adjustable rate loans in Denmark.²

Long-term mortgage yields have fallen, partly due to increased demand for callable long-term mortgage bonds among foreign investors, cf. Chart 5. Dollar-based investors can obtain an extra return by buying currency-hedged Danish bonds. This is because the investors receive a premium when hedging their exchange rate risk on Danish kroner via currency swaps.

Historically low Danish bond yields

Chart 4

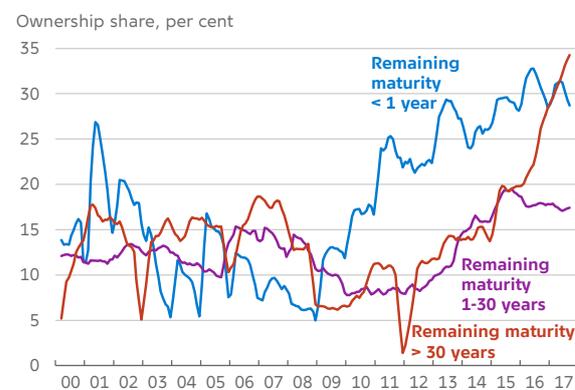


Note: The short-term mortgage yield is the average of 1- and 2-year fixed bullets, while the long-term mortgage yield is the average of 30-year callable bonds. The 10-year government bond yield is a 10-year par yield. The most recent observations are from 15 November 2017.

Source: Finance Denmark and Nordea Analytics.

Increasing foreign ownership of Danish mortgage bonds

Chart 5



Note: The series are 3-month moving averages of the foreign-resident ownership shares of Danish mortgage bonds. The most recent observations are from end of September 2017.

Source: Danmarks Nationalbank.

² See Danmarks Nationalbank, Stable krone and limited intervention, *Danmarks Nationalbank Report (Monetary and financial trends)*, No. 2, 2017. ([link](#))

Up until the most recent financial crisis, foreign investors reduced their portfolios of Danish mortgage bonds. This shows that the increased foreign ownership of Danish mortgage bonds entails a higher risk that an exogenous domestic or external shock, e.g. in the form of higher inflation, may trigger large-scale divestment of Danish bonds, with a resultant hike in mortgage yields.

Low volatility in the financial markets and considerable political uncertainty

Volatility in the financial markets is very low. Expectations of future volatility in the US stock market, measured by the VIX index, are historically low and stable. Furthermore, market participants expect the central banks to support the markets when there are signs of market turmoil. Trade in VIX derivatives also indicates that future volatility is expected to be low.

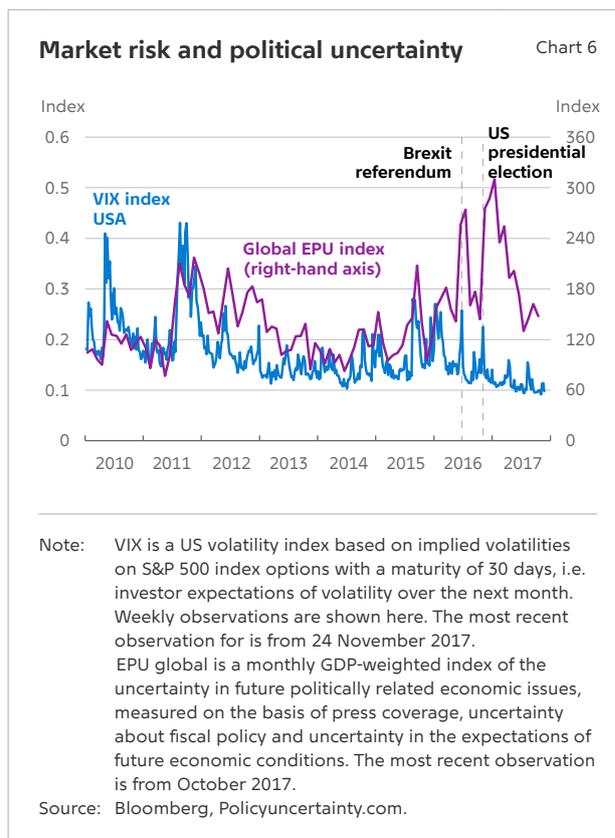
While market volatility is low, the low interest rates lead to increased global risk-taking. Equity markets are at record-high levels and corporate and mortgage yield spreads have narrowed.

Historically, financial uncertainty and economic policy uncertainty have been closely correlated, but in recent years expectations of future volatility, measured by the VIX index, have been considerably lower than the global Economic Policy Uncertainty index, EPU, cf. Chart 6.

Global political uncertainty was high in connection with e.g. the Brexit referendum in the UK and the US presidential election. Subsequently, political uncertainty has declined but nevertheless remains above the VIX. There is a risk that unforeseen changes, e.g. in the form of rising interest rates, could lead to an overreaction and create turbulence and falling prices in the financial markets. If volatility and the risk on assets increase, it may be necessary for some market actors to reduce their aggregate risk in order to comply with their own risk targets. This can be done by selling assets to reduce the balance sheet, which may cause further price falls.

Higher volumes in advanced products

At the current low level of interest rates, the search for yield may stimulate activity in advanced invest-



ment products that yield higher returns. One example is collateralised loan obligations, CLOs. A CLO is a structured product in which the underlying dynamic portfolio consists of leveraged loans, typically large corporate loans. CLOs are sold in tranches with different risks.

CLOs are a subgroup of collateralised debt obligations, CDOs, for which the underlying portfolio comprises of loans. The market for advanced products grew substantially in the period leading up to the most recent financial crisis, and the complexity and opaqueness of these products has subsequently been mentioned as one of the reasons why credit losses in the US housing market could spread and become a global financial crisis.³ CLO issuance rose in the pre-crisis period and subsequently almost disappeared. CLO issuance began to rise again from 2012 and is now at an even higher level, cf. Chart 7. This is just one of several markets that have seen sizeable

³ Cf. Ministry of Business and Growth, The financial crisis in Denmark – causes, consequences and lessons (the “Rangvid report”), 2013.

growth in recent years. The strong growth should be viewed in the light of CLOs and other advanced products offering investors a different risk profile and return than simpler products. So growth in these segments should be seen in the context of the very low level of interest rates.

Record-high profits, but declining core earnings

Record-high earnings driven by positive value adjustments

The favourable development in the profits of the systemic credit institutions continued in the 1st half of 2017. Relative to the 1st half of 2016, total profits rose by kr. 7 billion to kr. 25 billion, corresponding to an increase of 40 per cent, cf. Chart 8. The result is boosted by an extraordinarily large contribution of kr. 7 billion from value adjustments, which is well above the historical average.

Recent years' rise in profits should be seen in the light of very low loan impairment charges. New loan impairment charges have declined and in addition the institutions have been able to reverse previous charges. In the 1st half of 2017, reversal of previous loan impairment charges exceeded new loan impairment charges among the largest banking groups so that the total was negative.

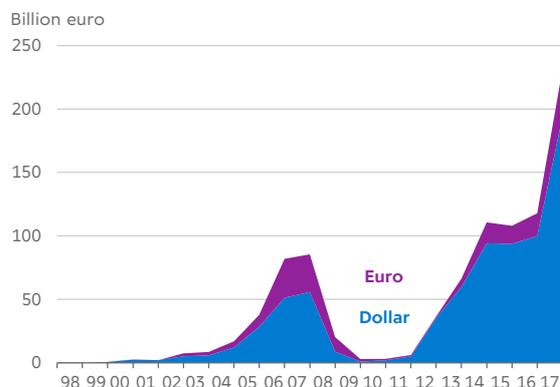
This is because debtors have found it easier to meet their obligations due to the low level of interest rates and the improved cyclical position with rising employment and incomes. So the loan impairment charges accumulated after the last crisis have been reduced, but are still above the pre-crisis level, cf. Chart 9. In 2018, International Financial Reporting Standard 9, IFRS 9, enters into force, which means that the rules on loan impairment charges will be amended, cf. Box 1. The transition to the new rules will entail an increase in accumulated loan impairment charges.

Falling net interest income and rising fee income

Core earnings, i.e. earnings before tax less value adjustment, loan impairment charges and costs, have been falling in recent years, cf. Chart 10.

The development is primarily attributable to strongly falling net interest income, cf. Chart 11. In recent

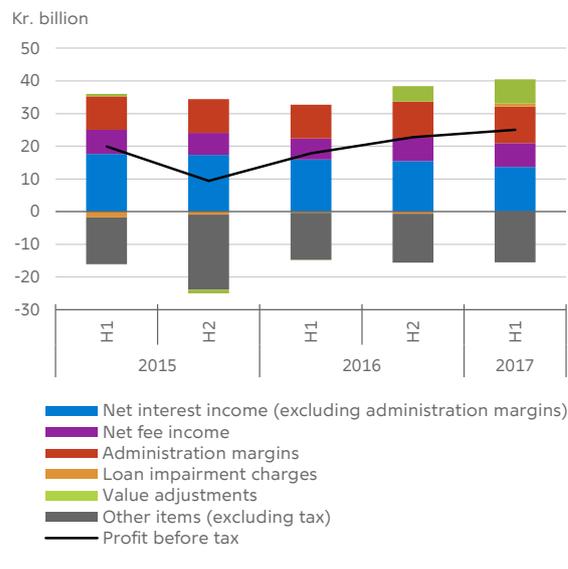
Issuance of CLOs is back at a high level Chart 7



Note: Issuance of CLOs in dollars and euro registered by Bloomberg. The most recent observations are from 27 November 2017.

Source: Bloomberg.

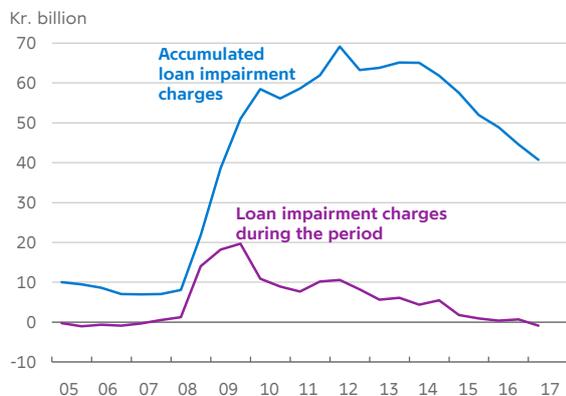
Value adjustments are driving profits Chart 8



Note: Financial statements of systemic credit institutions.
Source: Danish Financial Supervisory Authority and own calculations.

Accumulated loan impairment charges are declining

Chart 9



Note: Financial statements of systemic credit institutions. Accumulated loan impairment charges are constantly being affected by new loan impairment charges (increases) and by realised losses on loans (reductions). The most recent observations are from the 1st half of 2017.

Source: Danish Financial Supervisory Authority and own calculations.

New rules on loan impairment charges from 2018

Box 1

In 2018, a new international standard for the accounting treatment of financial instruments, International Financial Reporting Standard 9, IFRS, 9, enters into force. A new impairment model is a key element of the standard.

During the most recent financial crisis, financial reporting standards were criticised for resulting in loan impairment charges that could be described as “too little too late”. The purpose of the new impairment model is to recognise impairment at an earlier stage. The model is based on *expected loss*, implying a more forward-looking approach.

The model operates with three stages for the degree of credit deterioration and two different ways of calculating losses:

- At the time when the loan is granted, provisions must be made for 12 months’ expected credit losses, stage 1.
- If the probability that the borrower cannot meet its obligations rises substantially, provisions must be made for the expected credit losses over the remaining maturity, stages 2 and 3.

Continues

Continued

Box 1

The difference between stage 2 (underperforming loan) and stage 3 (non-performing loan) lies in the way income from the loan is to be recognised. At stage 2, the interest accrual on the whole loan is to be recognised, while for stage 3 loans, only interest on the part of the loan that has not been impaired is to be recognised.

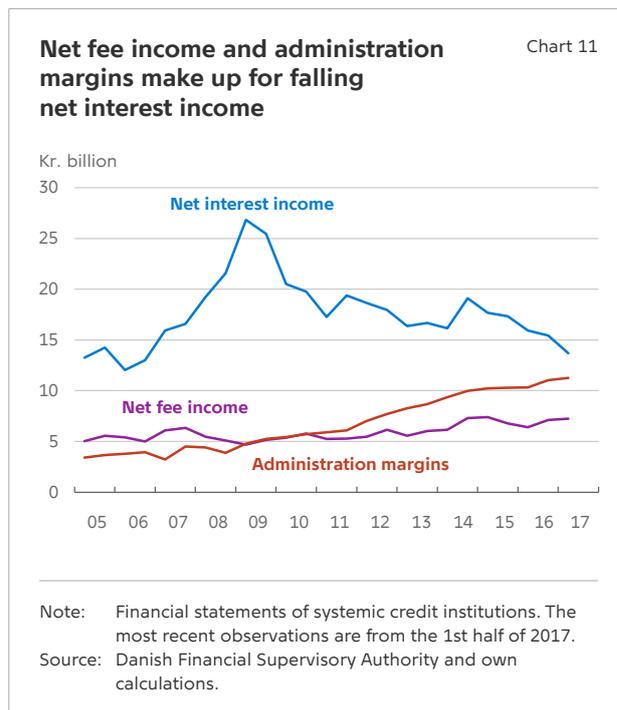
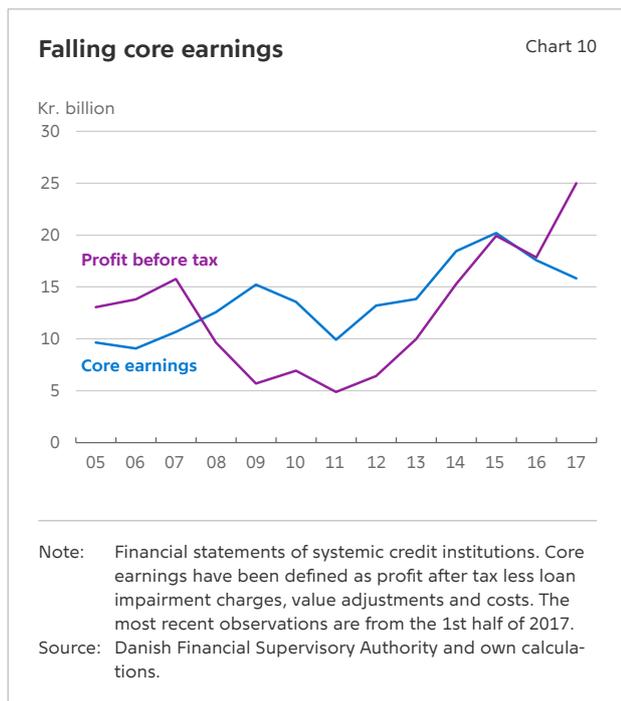
The new impairment rules mean higher accumulated loss impairment charges. They will not have any impact on operations, but will be recognised directly on the balance sheet, where the increase in accumulated loan impairment charges will be offset by an equivalent after-tax reduction in equity. In order to limit the immediate effect on the institutions’ capital base, a phasing-in period will apply in the EU, phasing in the effect on Common Equity Tier 1 capital until 2023.

In the financial statements for the 3rd quarter, the large Danish banking groups taken as one expect an increase of 12-18 per cent in the accumulated loan impairment charges as a result of the implementation of IFRS 9 and a reduction of 0.20-0.34 percentage point in the Common Equity Tier 1 ratio. This is in line with the study performed by the European Banking Authority, EBA, of the effect of IFRS 9 with the participation of 54 European banks that were representative of the sector. The study based on the banks’ estimates at end-2016 showed that for IRB institutions such as the large Danish banking groups the effect of IFRS 9 was an increase of 16 per cent in accumulated loan impairment charges and a reduction of 0.32 percentage point in Common Equity Tier 1.

For institutions calculating their capital requirements by means of the standardised approach, which applies to most small and medium-sized Danish banks, the EBA study showed an increase of 6 per cent in accumulated loan impairment charges and a reduction of 0.77 percentage point in Common Equity Tier 1.

The implementation of IFRS 9 has required considerable model development in the financial sector. There will be a fundamental shift in the calculation of loan impairment charges, which will require substantial data, estimation of a number of parameters and registration of much information. For IRB institutions, it will be an advantage that several of the components of the impairment calculations are also known from the credit models.

See Danmarks Nationalbank, *Financial Stability*, 2nd Half, 2014, for a detailed description of IFRS 9.



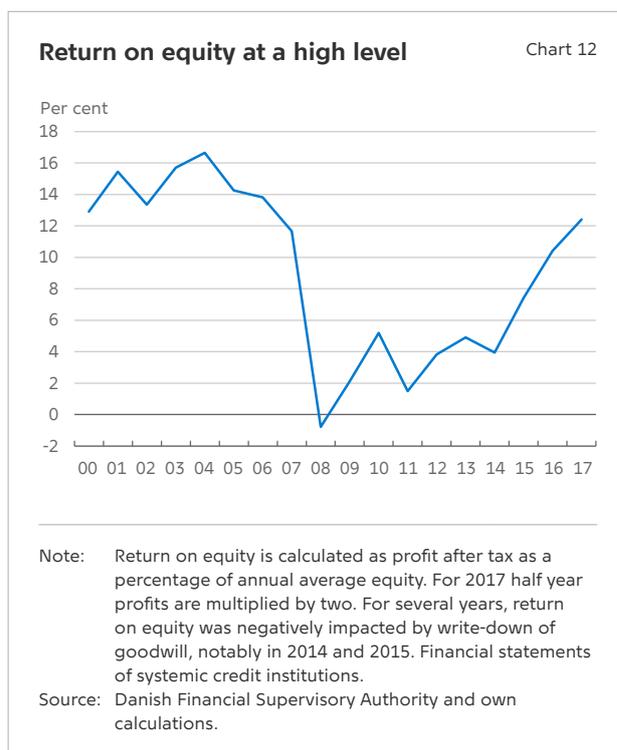
years, the banks' interest margins have decreased due to the low level of interest rates.

Lending rates have mirrored the falling monetary policy interest rates, while deposit rates are adjusted with a certain lag as the banks have chosen not to charge interest on deposits from personal customers and small businesses. The banks have made up for a significant share of the fall in net interest income by raising fees and administration margins.

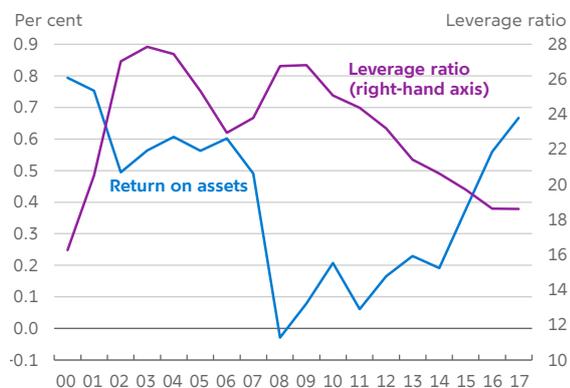
Rising return on equity

The systemic credit institutions' return on equity has increased in recent years and is now around 12 per cent, cf. Chart 12. By comparison, the pre-crisis level was 12-16 per cent.

A higher return on equity can reflect either a higher return on the institution's assets or a higher leverage ratio, measured as assets relative to equity. Since the most recent financial crisis, the institutions' leverage ratio has fallen by 30 per cent, cf. Chart 13. This is primarily a result of higher capital requirements. Consequently, the return on equity has been driven by higher returns on assets.



Higher return on equity attributable to higher returns on assets Chart 13



Note: The leverage ratio is defined as total assets relative to equity, while the return on assets is defined as profits after tax relative to total assets. In 2017, profits for the 1st half year are multiplied by a factor of 2. Financial statements of systemic credit institutions.
Source: Danish Financial Supervisory Authority and own calculations.

Adjustment to new liquidity requirements

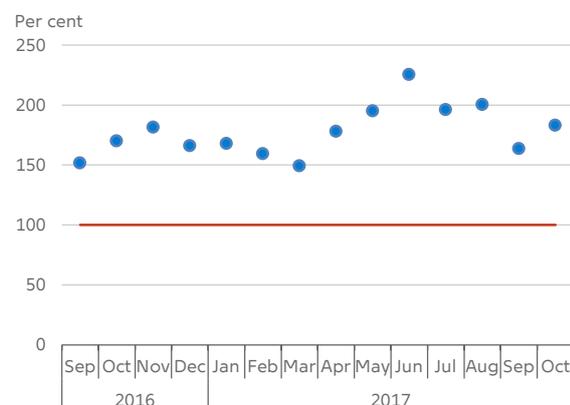
Short-term liquidity requirements observed with a wide margin

The short-term Liquidity Coverage Ratio, LCR, of all the credit institutions is above the minimum requirement, cf. Chart 14. The purpose of the LCR, which was introduced in 2015, is to ensure that the institutions always have adequate high-quality liquid assets to cover the net outflow of liquidity in a 30-day intensive stress scenario. The medium-sized non-systemic banks generally have higher LCRs than the systemic banks, which, inter alia, may be attributable to their different business models. For example, the medium-sized banks finance a relatively large share of their balance sheets with deposits, while the systemic banks tend to rely more on market funding, which makes more demands on their liquidity reserves.

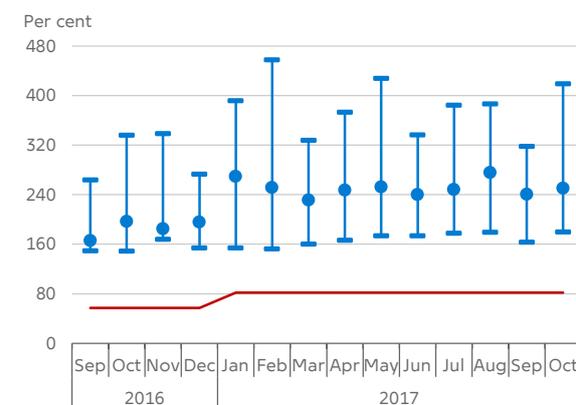
In 2016, the Danish Financial Supervisory Authority introduced additional requirements for the systemic credit institutions, which must also meet LCR requirements in the foreign currencies that are significant for each institution. Another currency than

Liquidity Coverage Ratio, LCR, observed with a wide margin Chart 14

Systemic banking groups



Non-systemic banks



— 10th percentile ● Median

— 90th percentile — Minimum requirement

Note: The LCR requirement is 100 per cent for the systemic banking groups, while the non-systemic banks must observe an LCR of 80 per cent in 2017, rising to 100 per cent in 2018. The banks switched to new LCR reporting forms in September 2016, which is why the time series begins then. The most recent observations are from October 2017.

Source: Danish Financial Supervisory Authority and own calculations.

the Danish krone is significant for an institution if its total commitments in that currency constitute at least 5 per cent of the institution's total liabilities. The institutions must meet this 100 per cent requirement from October 2017. While Swedish kronor and Norwegian kroner are not comprised by the Danish LCR requirement for foreign currencies, the institutions must still, under EU legislation, ensure a sufficient currency match between the portfolio of liquid assets and the net outflow of liquidity.

Long-term requirement for stable funding not in place

As part of an overall revision of the Capital Requirements Regulation, CRR, and the Capital Requirements Directive, CRD, the European Commission in November 2016 presented a proposal for a long-term stable funding requirement, the Net Stable Funding Ratio, NSFR, which implements the Basel Committee's NSFR standard.⁴ This proposal is still being negotiated. The NSFR would require institutions to have sufficient stable funding of their activities in the medium and long term, thereby imposing restrictions on the institutions' maturity transformation.

In 2017, Danske Bank has established a new subsidiary in Sweden, Danske Hypotek AB, in which connection it moved part of its Swedish lending to the new institution and funded this lending by issuing Swedish covered bonds. Such issuance ensures Danske Bank an additional funding source in Swedish kronor, contributing to enhancing the currency match between assets and liabilities in Swedish kronor

New limit value in the supervisory diamond

From 30 June 2018, the Danish Financial Supervisory Authority's liquidity management limit value in the supervisory diamond will change from being based on the previous section 152 liquidity requirement to being based on the LCR requirement. With the new limit value, the Danish Financial Supervisory Authority is also setting a minimum level of the

banks' liquidity requirement, based on a 3-month stress scenario.⁵

Indications of higher risk in bank lending

Increased lending to the corporate sector

Lending to the corporate sector is increasing, cf. Chart 15. While growth in mortgage lending to the corporate sector has been increasing steadily for a long period, lending by banks to the corporate sector began to rise in 2014. In Danmarks Nationalbank's lending survey, the banks generally report increased demand for corporate loans, especially from new customers. There is a large spread in lending growth across the sector, and some medium-sized banks are increasing their lending markedly.

Particularly lending to cyclical industries, such as property trading and letting as well as construction, is driving growth in corporate lending by medium-sized banks, cf. Chart 16. The finances of corporate customers are being underpinned by the economic upswing and the low level of interest rates.

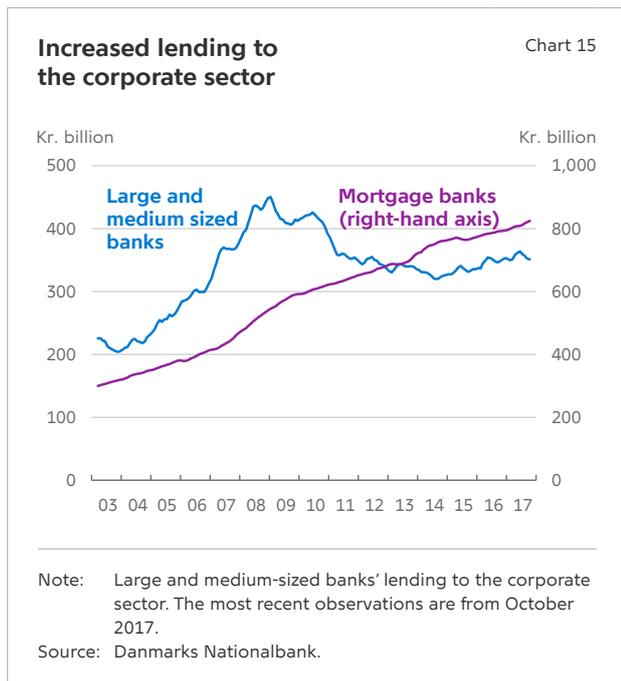
The banks' lending mirrors the business cycle. Thus, increased lending to cyclical industries is a natural element of a recovery, but loan impairment charges and losses on these industries cannot be expected to remain at the present low level when the economy reverses.

Credit standards are being eased

In the current favourable situation, many banks have the capacity to increase lending. This intensifies competition for customers as well as the pressure on the banks' credit standards. According to Danmarks Nationalbank's lending survey, the medium-sized banks have tended to ease credit standards for the

4 The NSFR proposal is included in the European Commission's proposal for a revised CRR presented in November 2016 as part of a substantial package of proposals, cf. Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 and amending Regulation (EU) No 648/2012, COM(2016) 850.

5 Cf. Danish Financial Supervisory Authority, New benchmark for liquidity in the Supervisory Diamond for banks (in Danish only), August 2017. ([link](#))

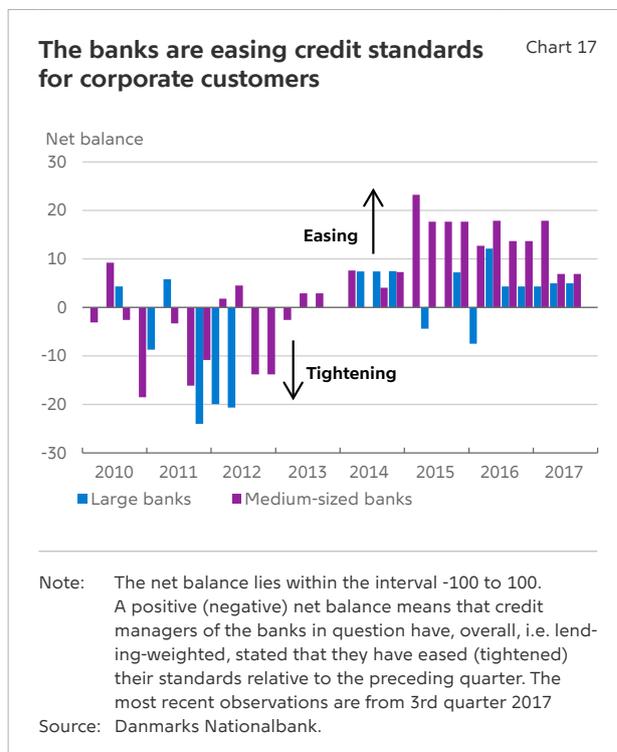
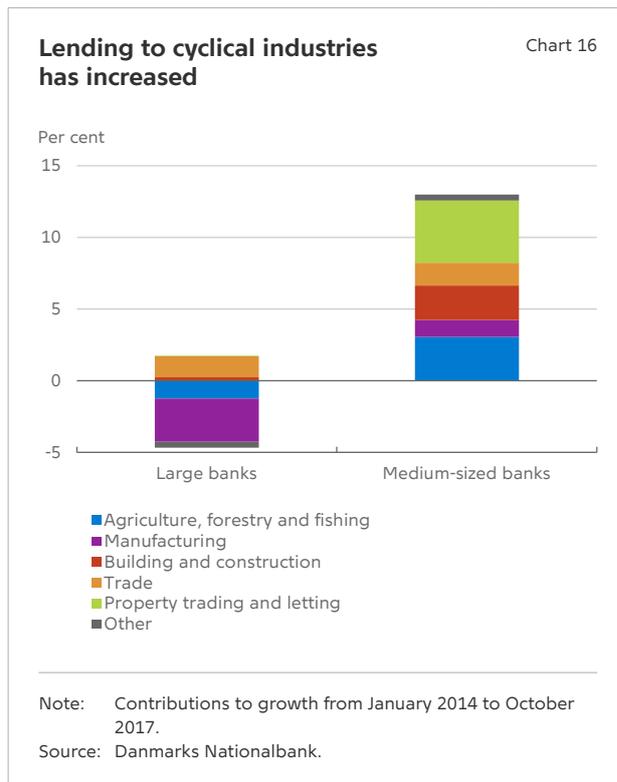


corporate sector since around 2014, cf. Chart 17. The large banks have to a greater extent stated that they have kept their credit standards unchanged, but within the last few years they have also begun to ease theirs. Both groups of banks state that increased competitive pressure is the main reason for adjusting credit standards.

In the 1st half of 2017, the Danish Financial Supervisory Authority conducted a survey of new commitments to corporate customers in a number of banks. It showed that the sector is willing to take greater risks when lending and that the banks increasingly make commitments with heightened risk.

According to Danmarks Nationalbank's lending survey, the banks' easing of credit standards in recent years has primarily taken place by easing requirements for fees and administration margins and to some extent also by easing collateral requirements, cf. Chart 18. Conversely, the requirements for credit limits and the maturity of loans are more or less unchanged.

The more relaxed margin requirements for lending may help to explain the fall in the banks' average interest margin, cf. Chart 19. The interest margin is calculated as the difference between the banks' average interest rate on corporate lending and the tomorrow/next rate.



All else equal, the banks' tendency to ease credit conditions and increase their lending exposures in a period of economic recovery contributes to amplifying cyclical fluctuations. Such procyclicality may become particularly strong if credit standards are eased excessively in an overheated economy, as seems to have been the case in Denmark prior to the previous financial crisis. As a result, there was a need for extra severe tightening of credit standards during the crisis, which contributed to reinforcing the economic downturn.

Focus on reducing NPL ratio in good times

The considerable easing of credit standards up to the previous financial crisis led to a general increase in non-performing loans, NPLs. A loan is classified as non-performing if the borrower has not paid interest, fees or instalments for more than 90 days, or if it is assessed to be unlikely that the borrower will fully meet its payment obligations without any collateral being realised. Individually impaired exposures also count as NPL.

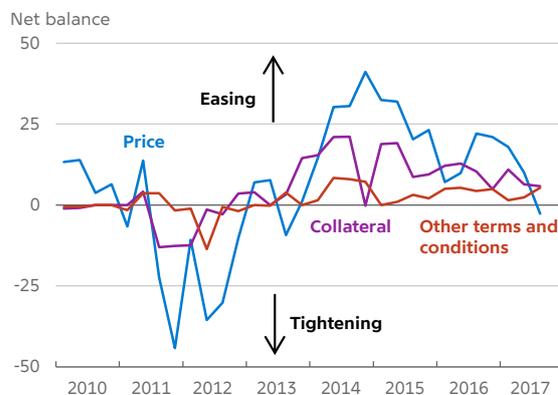
The banks have reduced NPLs as the economy has improved. NPLs as a ratio of total lending fell to 3.8 per cent for the large banks in the 1st half of 2017.⁶ An exception is the NPL ratio for lending to the agricultural sector, which remains high. The banks have made large impairment charges for these loans, reflecting the deterioration in the value of the underlying collateral. However, the banks may suffer further losses if the value of the collateral decreases even more. From society's perspective, it may impede productivity developments if labour and capital are bound on farms that are not viable.

Considerable variation in NPLs between the large and medium-sized banks

NPLs account for a smaller share of lending in the large than in the medium-sized banks. In the large banks, NPLs made up 3.5 per cent of total corporate lending in the 1st half of 2017, while it was just over 16 per cent for the medium-sized banks. It is difficult directly to compare NPL ratios for large and medium-sized banks as they typically operate with very different business models, cf. Chart 20. For example,

The banks have eased their margin and fee requirements

Chart 18

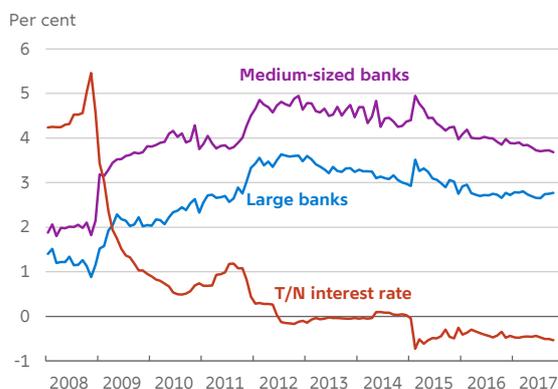


Note: The net balance lies within the interval -100 to 100. A positive (negative) net balance means that credit managers of the banks in question have, overall, i.e. lending-weighted, stated that they have eased (tightened) their lending conditions relative to the preceding quarter. Responses are from the large and medium-sized banks. The most recent observations are from 3rd quarter 2017.

Source: Danmarks Nationalbank.

Shrinking interest margins

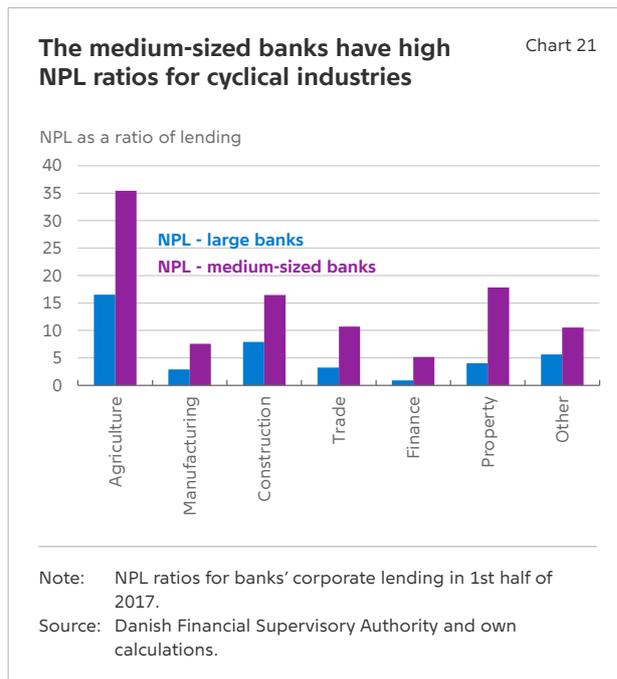
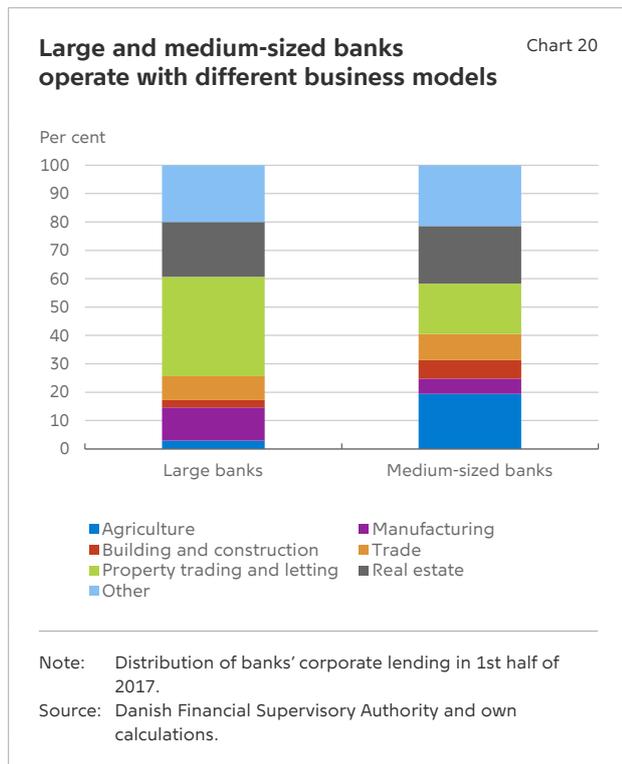
Chart 19



Note: The lending margin is calculated as the difference between the average lending rate and the T/N interest rate. The most recent observations are from end of October 2017.

Source: Danmarks Nationalbank and Nordea Analytics.

⁶ This section and the following section on the NPLs of Danish banks do not comprise branches of foreign banks (i.e. Nordea Bank Danmark, Handelsbanken and Santander Consumer Bank), as data is not reported.



the large banks tend to lend more to financial corporations for which the NPL ratio is very low, cf. Chart 21. In addition, they tend to fund large, established firms, which as a main rule leads to a lower NPL ratio.

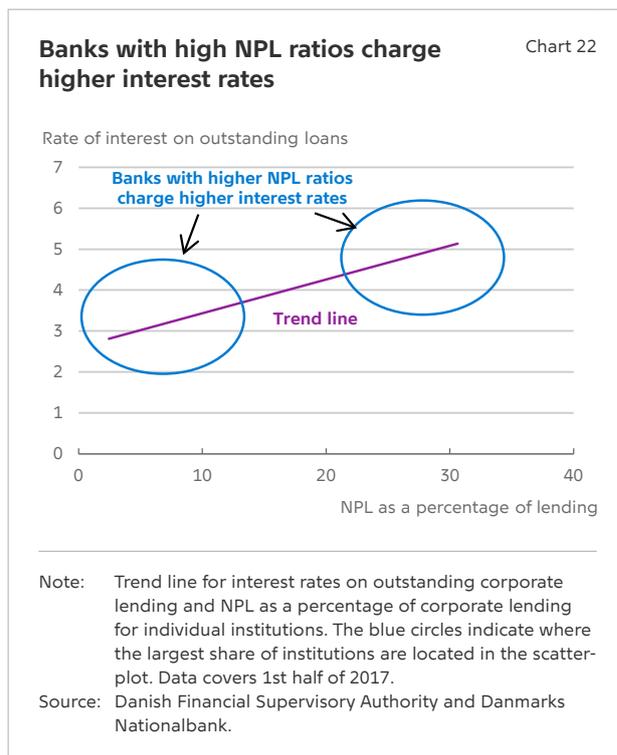
Conversely, NPL ratios are high for some of the industries to which the medium-sized banks have considerable exposures. This applies to lending to agriculture and to cyclical industries such as the property sector.

A comparison of banks' NPL ratios and average lending rates for the corporate sector shows that the banks with the highest NPL ratios also charge the highest interest rates, cf. Chart 22. This correlation indicates that the banks compensate for the lower credit quality by charging higher interest rates.

It is important for the banks to keep the present distribution of NPL ratios across industries in mind when granting loans in the current upswing as the cyclical industries are once again driving lending growth.

Increased home equity provides homeowners with an opportunity to borrow more

Total lending to homeowners has risen slightly in recent years. This moderate lending growth should be viewed in the light of the very high loan-to-income, LTI, ratios among Danish homeowners, also in an



international perspective. Lending by mortgage banks has increased since 2016, while lending by banks for housing purposes has fallen over the same period. This is attributable to the gradual substitution in favour of mortgage loans, including the widespread use of mortgage-like bank loans, which are to some extent transferred from the banks' to the mortgage banks' balance sheets, cf. Box 2.

House prices have risen in recent years, cf. Chart 23. Especially the large cities have seen high rates of increase. House price developments have resulted in higher home equity for Danish homeowners.

Credit growth may take off rapidly

The years prior to the most recent financial crisis were characterised by rising house prices and considerable credit growth. House prices accelerated in 2004 and the following years. At the same time, credit growth for both new existing borrowers increased, cf. Chart 24, due to, inter alia, more extensive use of home equity as collateral for loans.

Total credit growth for households has been moderate in recent years. That is explained by increasing debt for both new and existing homeowners being offset by a fall in the debt of borrowers, who have repaid on their debt. However, pre-crisis developments show that credit growth may take off rapidly if households increasingly begin to raise new loans against home equity as collateral.

Mortgage-like bank loans

Box 2

As an alternative to traditional mortgage loans, banks offer mortgage-like loans for financing owner-occupied dwellings and summer cottages. There is no clear definition of such loans.

Mortgage-like loans are typically loans for financing up to 80 per cent of the value of the home, but some institutions offer up to 95 per cent. Often, the loan functions as an overdraft facility and is attached to a deposit account. The borrower is then free to withdraw money from and deposit money in the account, only paying interest on the amount by which the account is actually overdrawn. The rate of interest on such loans is variable and reflects a reference rate. These loans are often used in combination with ordinary mortgage loans as the overdraft facility makes mortgage-like bank loans more flexible.

Continues

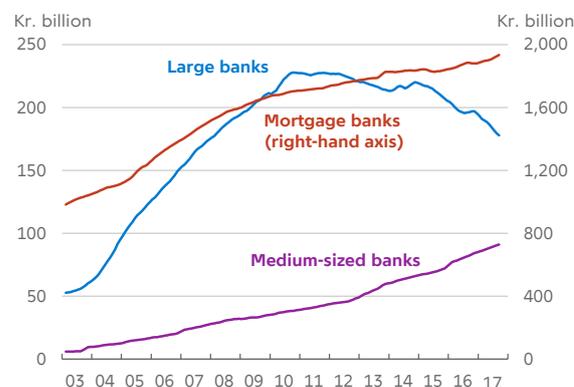
Continued

Box 2

Unlike mortgage loans, mortgage-like bank loans are not initially financed by way of mortgage bonds. When a loan is granted, it is originally financed via the bank's balance sheet like any other loan, e.g. via deposits. Thus, initially such loans have a larger financing risk than traditional mortgage loans. Subsequently, the bank may make use of shared funding and finance the loan via bonds issued by a mortgage bank. This means that the loan is transferred from the bank's to the mortgage bank's balance sheet. But in some cases, the mortgage-like loan may be rejected, e.g. if it does not meet the mortgage bank's credit standards.

To the extent that the banks pass on the loans to the mortgage credit sector, the banks' lending declines. This is part of the explanation of the overall fall in lending for residential purposes by large banks and the increase in mortgage lending, cf. the chart. In addition, the trend towards a larger share of mortgage lending should be viewed in the context of a relatively sharper decline in the rates of interest on mortgage loans than on bank loans after the financial crisis.

Mortgage lending is increasing while the large banks are reducing lending for residential purposes

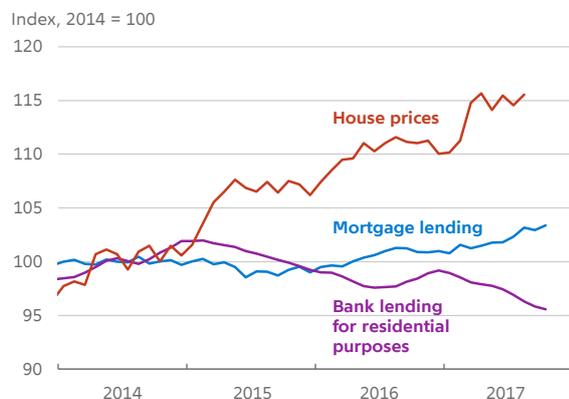


Note: Bank lending for residential purposes is shown as a 3-month moving average. The most recent observations are from October 2017.

Source: Danmarks Nationalbank.

Higher house prices boost home equity

Chart 23



Note: Lending to Danish households. Bank lending for residential purposes has been calculated as a 3-month moving average in order to eliminate fluctuations. House prices are prices of single-family houses. The most recent observation for mortgage- and bank lending are October 2017 and is August 2017 for house prices.

Source: Statistics Denmark, Danmarks Nationalbank and own calculations.

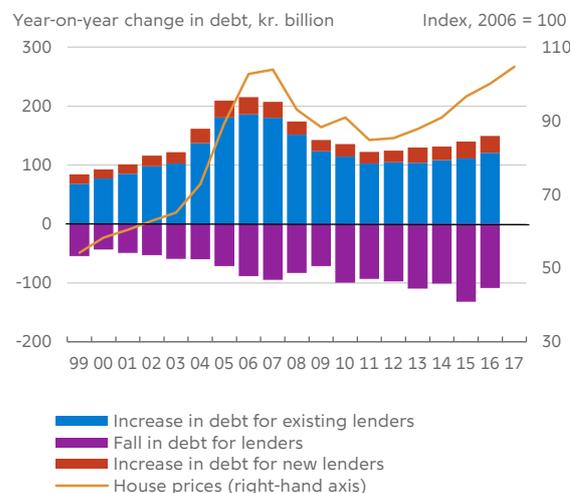
The share of borrowers with high LTI ratios is increasing

There are indications of an increase in credit to a group of vulnerable homeowners in recent years. This applies to homeowners with high LTI ratios. The share of homeowners with an LTI ratio greater than four has risen since 2013, cf. Chart 25. This applies particularly in areas with strong increases in house prices, such as Copenhagen. The same pattern was seen in the pre-crisis period.

In October 2017, the Danish Financial Supervisory Authority issued a consultation on a proposal to amend the Executive Order on Good Business Practice for Mortgage Lending.⁷ The proposed amendment of the Executive Order should be viewed in the light of the Systemic Risk Council's recommendation of March 2017 on limitation of risky loan types for highly indebted borrowers.⁸ This amendment is intended to limit the product supply when rais-

Credit growth may take off suddenly

Chart 24

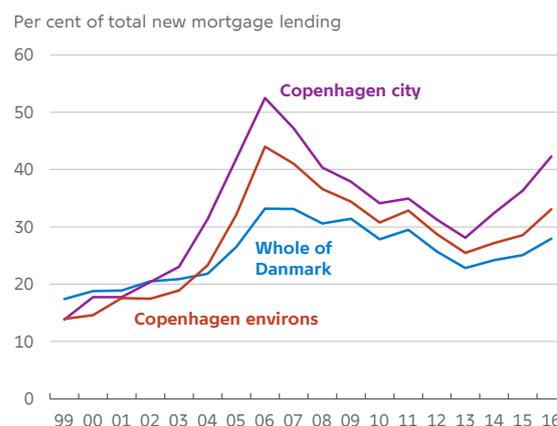


Note: The pillars show the increase (fall) in total debt of homeowners, who take on more (pay back) debt in the current year. Existing borrowers are defined as lenders with debt in the preceding year. House prices are prices of single-family houses. The most recent observations of debt are from 2016, while house prices are from 1st half of 2017.

Source: Statistics Denmark and own calculations.

Larger share of households with LTI greater than four

Chart 25



Note: Share of new mortgages lent by households with total debt above four times their income. Data from 2010 is based on reporting by mortgage banks at loan level, while data for previous periods is based on information from SKAT.

Source: Statistics Denmark, Danish mortgage banks and own calculations.

7 Draft Executive Order on amendment of the Executive Order on Good Business Practice for Mortgage Lending (in Danish only), Danish Financial Supervisory Authority, October 2017.

8 Cf. recommendation from the Systemic Risk Council, March 2017. ([link](#))

ing loans for homeowners with an LTI greater than four and a loan-to-value, LTV, ratio of more than 60 per cent. It is positive that the rules apply to all high-LTI homeowners regardless of municipality of residence.⁹ This ensures uniform credit assessment and reduces the risk of artificial spreading to areas that are not covered by the rules.

In contrast, it is inappropriate that high-LTI households can still finance home purchases without amortising the loan. The use of deferred amortisation loan types contributes to funding of high LTI ratios. Loan types with deferred amortisation, irrespective of the interest fixation period, entail considerably lower instalments in the first years of the mortgage loan, which enables high indebtedness, especially given the current level of interest rates. New lending by mortgage banks to homeowners with LTI ratios greater than four, LTV ratios of more than 60 per cent and with deferred amortisation is increasing, especially in the large cities. Limitation of the access to deferred amortisation could reduce the vulnerability of homeowners in case of negative shocks to the economy, e.g. falling house prices and unemployment. Moreover, higher repayments could reduce the risk of speed blindness caused by low interest rates.

The measure to limit the access to borrow for high-LTI borrowers is the most recent among several measures implemented since 2014 in order to reduce the risks associated with credit in the housing market, cf. Box 3. These measures contribute to enhancing the robustness of both borrowers and credit institutions against fluctuations in house prices and interest rates. However, it is difficult to assess the effects of the individual measures and whether they are adequate in combination.

Growth in foreign exposures

Foreign lending by the banks has risen strongly in recent years, cf. Chart 26. The Nordic countries, notably Norway and Sweden, account for the largest share of such lending. Foreign lending increases the diversification of banks' exposures. Danske Bank has growth in Norway and Sweden as a strategic goal and has increased lending to both households and

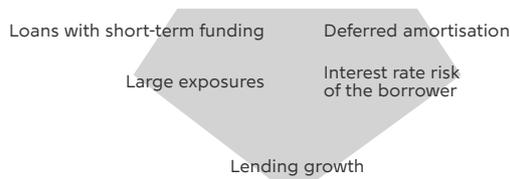
Recent measures in the housing market

Box 3

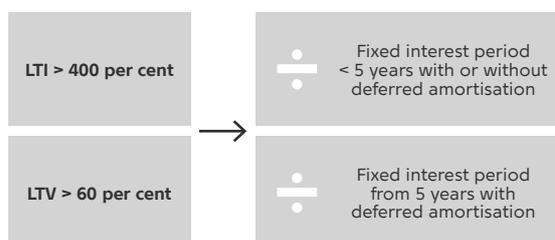
Several measures have been implemented in recent years, aiming at increasing the resilience of borrowers and hence credit institutions to negative shocks to the economy. These measures seek to limit risky borrowing by Danish households, i.e. loans with a high LTV ratio, variable rate and/or deferred amortisation. Other measures address risks in areas with strong increases in house prices.

The following four measures have been implemented since 2014:

- **Supervisory diamond for mortgage banks, 2014:** Sets limit values for mortgage banks' lending in several areas:



- **5 per cent down payment requirement, 2015:** Borrowers must make a down payment of 5 per cent when buying a home. This requirement enhances borrower resilience to falling house prices.
- **Guidance on mortgaging of homes in growth areas, 2016:** This provides guidance on prudent credit assessment in growth areas, addressing the risks of financially sensitive customers, e.g. with negative wealth or a high LTI ratio.
- **Guidelines for housing loans to households with high debt, 2017:** Limit the access to borrow for borrowers with high LTV and LTI ratios (debt of 4 times income). As a result, credit institutions may not grant loans with fixed interest periods of less than 5 years and deferred amortisation loans with interest rate adjustment every 5 years or less frequently.



⁹ Danmarks Nationalbank, Consultation response regarding the Danish Financial Supervisory Authority's draft amendment to the Executive Order on Good Business Practice for Mortgage Lending, November 2017. ([link](#))

the corporate sector in these two countries in recent years. Given the considerable house price increases in Norway and Sweden over a number of years, the International Monetary Fund, IMF, finds that the two countries' housing markets are overvalued. A price adjustment may entail that housing loans to these countries become vulnerable, but derived effects on the rest of the economy may also result in losses on other loans. House prices in Norway have fallen in 2017, but are still at a high level.

The own funds of the credit institutions are crucial to the robustness of the sector

The systemic credit institutions are meeting their own capital targets

In general, the systemic credit institutions have increased their Common Equity Tier 1 ratios in recent years, cf. Chart 27. This is partly driven by a fall in risk-weighted exposures. Several of the institutions are reducing their build-up of Common Equity Tier 1 capital, instead distributing a large share of earnings to shareholders in the form of dividend or share buy-backs.

The relatively high level of distribution should be seen in the light of the institutions' compliance with their own capital targets already, cf. Chart 28. Among the systemic groups, only DLR Kredit's capital ratio is below the institution's capital target for 2019.

The credit institutions' own capital targets are currently 3-5 percentage points higher than the fully phased-in capital requirements under CRD IV/CRR. A certain excess capital adequacy relative to the total capital requirement, cf. Box 4, is a prerequisite for being able to operate in the financial markets. The excess capital adequacy is to enable credit institutions to weather negative cyclical fluctuations without breaching the capital requirements. For the large institutions, the size of the excess capital adequacy may be determined by the conditions for maintaining a given credit rating.

For several of the non-systemic banks, risk-weighted exposures have increased as a result of relatively high lending growth. Most of the non-systemic banks

Foreign exposures are increasing

Chart 26

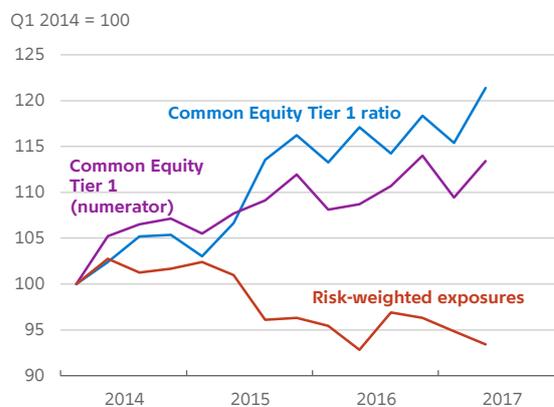


Note: Lending to households and non-financial corporations by the banks' foreign branches and subsidiaries. The most recent observation is from October 2017.

Source: Danmarks Nationalbank.

Systemic banking groups have increased the level of Common Equity Tier 1 capital

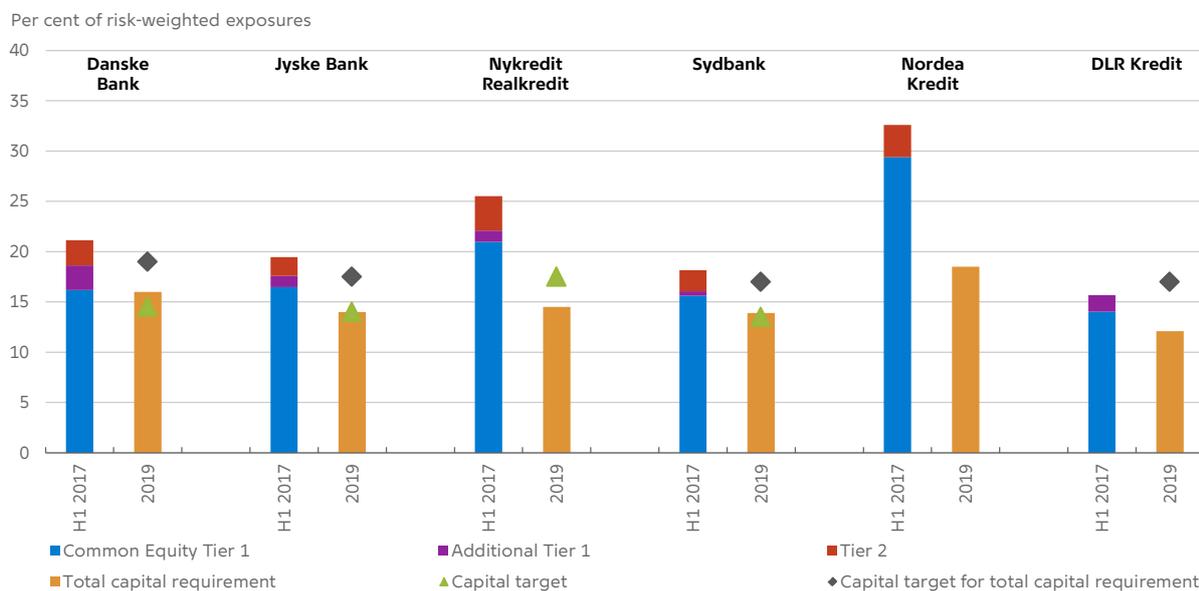
Chart 27



Note: The most recent observations are from 1st half of 2017.
Source: Danish Financial Supervisory Authority.

The largest banking groups are meeting their own capital targets

Chart 28



Note: The overall capital requirement is calculated as the sum of the minimum capital requirement (8 per cent), the Pillar 2 add-on, the capital conservation buffer (2.5 per cent), the SIFI buffer requirement (1-3 per cent) and the countercyclical capital buffer when CRD IV/CRR have been fully phased-in. The Pillar 2 add-on and the countercyclical capital buffer are assumed to be unchanged relative to 30 June 2017.

Source: Danish Financial Supervisory Authority, annual reports and interim financial statements.

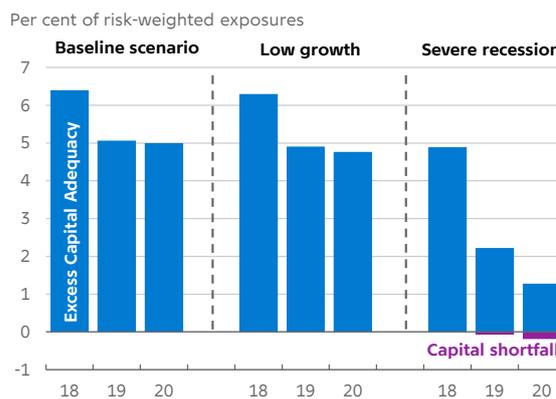
have been able to maintain or increase their capital ratios by consolidating equity wholly or partly by means of increasing earnings.

A few systemic banks come close to the buffer requirement in severe stress scenario

Danmarks Nationalbank's accounts-based stress test assesses the banks' excess capital adequacy over the next three years under the assumption of three macroeconomic scenarios.¹⁰ The stress test shows that all of the systemic institutions are still able to meet the minimum capital requirements in a severe recession, but a few will have a limited capital shortfall relative to the total capital requirement including capital buffers, cf. Chart 29. In the event of non-compliance with the buffer requirements,

A few systemic banks are close to the buffer requirement

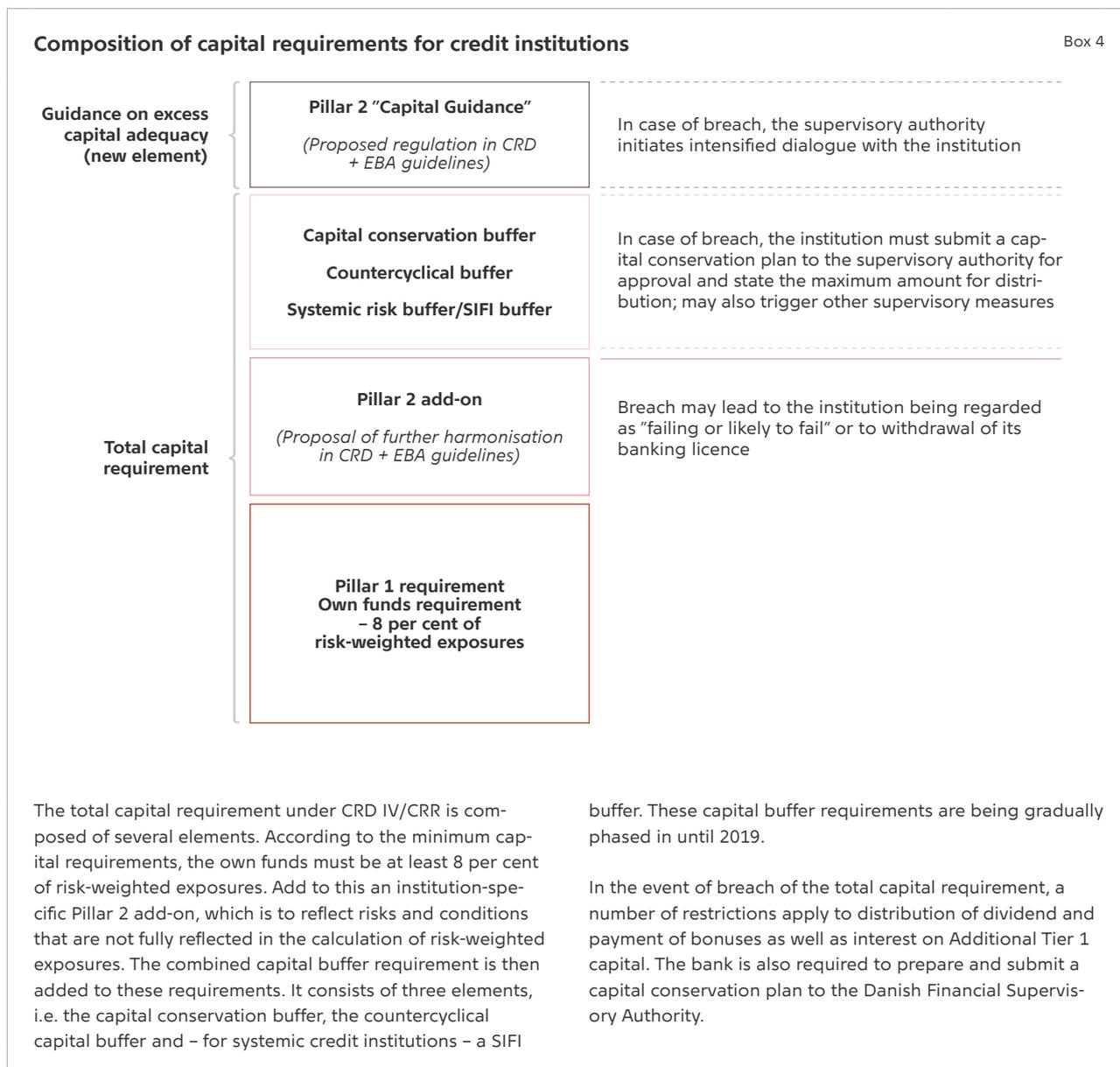
Chart 29



Note: Systemic banks' total excess capital adequacy and capital shortfall in per cent of risk-weighted exposures in three scenarios. Excess capital adequacy and capital shortfalls have been calculated relative to the total capital requirement including buffers.

Source: Danish Financial Supervisory Authority and own calculations.

¹⁰ The stress test covers only the banking activities of a group – not any other business areas such as affiliated mortgage banks. The three scenarios and the results of the stress test are described in more detail in Danmarks Nationalbank, In a severe recession scenario a few banks have capital shortfall, *Danmarks Nationalbank Analysis (Stress test)*, No. 22, 2017 ([link](#)). The analysis also contains a description of a new model for market risk stress.



the banks become subject to a number of restrictions, e.g. limitation of dividend payments. Moreover, the banks should expect that their access to external funding in the financial markets may be challenged.

The phasing-in of the capital buffer requirements will reduce the institutions' excess capital adequacy from 2017 to 2018, which also entails a decline in the institutions' excess capital adequacy in the baseline scenario.

Several of the non-systemic banks are seriously challenged in the severe recession stress test scenario, and a few will be unable to comply with the

minimum capital requirement. In that case they will be resolved by the authorities. Before it comes to that, breach of the buffer requirements will enable the Danish Financial Supervisory Authority to intervene. Since the authorities have sufficient tools to address this situation, it is not assessed to constitute a risk to financial stability. However, the owners and creditors of the institutions affected may suffer losses if the institutions are to be recovered or resolved.

New requirements and increased harmonisation in the pipeline

The future capital requirements to be met by credit institutions are still uncertain. The package

of proposals to amend CRR and CRD, which the European Commission presented in November 2016, includes a proposal to harmonise the Pillar 2 framework, cf. below.¹¹ In addition, the proposal to revise CRR also includes implementation of the Basel Committee's standard, Fundamental Review of the Trading Book, which sets new rules for calculation of risk-weighted exposures with market risk.

Concurrently, there are negotiations in the Basel Committee on completing a major reform which can be expected to include, inter alia, a so called output floor for institutions using Internal Ratings Based, IRB, approaches to calculation of risk-weighted exposures. The output floor will entail that risk-weighted exposures cannot be less than a certain percentage of risk-weighted exposures calculated using the standardised approach. The introduction of an output floor may give the institutions inappropriate incentives. IRB approaches are more risk-sensitive than standardised approaches, encouraging the institutions to optimise their risk management and portfolio allocation. This contributes to ensuring appropriate capital allocation to the benefit of the economy. Once the Basel Committee has adopted the new reform, the EU member states will have to consider how to implement it. The uncertainty about the exact design of the output floor will thus persist for some time to come.

EU harmonisation of the Pillar 2 framework

Given the current substantial variation in the level of and approach to applying the Pillar 2 add-on across the EU member states, credit institutions in different countries may be subject to different capital requirements.¹² This may be a considerable impediment to a level playing field in the single market for financial services. The Commission's

package seeks to counter this by including proposals to harmonise the framework for supervisory authorities' Pillar 2 approach. This constitutes an adjustment of the EU legal basis for setting the Pillar 2 add-on.¹³

The Commission's package of proposals also introduces a new statutory element in the form of regulation of supervisory authorities' assessment of a guidance level for each institution's excess capital adequacy relative to the total capital requirement, cf. Box 4. This supplementary, non-binding capital requirement element is known as the "Pillar 2 Guidance". While the purpose of the Pillar 2 add-on is to cover identifiable risks that are not covered by the Pillar 1 requirement, the purpose of the Pillar 2 Guidance is to address risks based on possible events, i.e. the capital shortfall in a severe stress scenario and over an entire business cycle.

If an institution's capitalisation falls below the Pillar 2 Guidance, this will not entail restrictions on distribution or impose other transaction restrictions. Instead, the supervisory authority can be expected to initiate an intensified dialogue with the institution about possible measures to restore the given level of capitalisation.

In addition, the package specifies the "stacking order" of the individual capital elements, cf. Box 4. This will prevent substantial variation in the timing of restrictions imposed on institutions regarding the distribution of profits.

At the same time, in October 2017 the European Banking Authority, EBA, submitted draft guidelines on the revised procedures and methodology for the supervisory review and evaluation process, SREP, for consultation.¹⁴ These guidelines implement the general principles of the CRD and the Bank Recovery

11 Cf. Proposal for a Directive of the European Parliament and of the Council amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures, COM(2016) 854.

12 Cf. EBA, Report on the Convergence of Supervisory Practices, EBA-Op-2016-11, 2016.

13 The framework for financial regulation in the EU, laid down in Regulations and Directives and adopted under the EU legislation procedure, is also called level 1 regulation. The framework is implemented in detailed rules laid down in binding technical standards adopted by the Commission, i.e. level 2 regulation, and non-binding guidelines adopted by the EBA, i.e. level 3 regulation.

14 Cf. EBA, Consultation Paper on the Draft Guidelines on the revised common procedures and methodologies for the supervisory review and evaluation process (SREP) and supervisory stress testing, EBA/CP/2017/18, 2017. The revised guidelines are expected to take effect on 1 January 2019.

and Resolution Directive, BRRD¹⁵, inter alia in the form of a more detailed description of the elements to be included in the evaluation of the Pillar 2 add-on.¹⁶ The guidelines aim to harmonise supervision of credit institutions across all EU member states – and to enhance the uniformity of supervisory responses. At the same time, the guidelines support the coupling of the ongoing supervision and the evaluation of whether an institution is to be subject to recovery or resolution.

A common framework for setting the Pillar 2 Guidance has already been incorporated in the revised SREP guidelines. Another key element in the SREP process will be to assess whether an institution is sufficiently addressing the Pillar 2 Guidance in its risk management and recovery plan.

It will make a positive contribution to a level playing field across the EU member states if future EU regulation entails a more harmonised approach to setting the Pillar 2 add-on as well as guidance on the level of own funds that can ensure suitable excess capital adequacy relative to the total capital requirement. It is important to take this into account in a Danish context to ensure cross-border comparability between institutions and an improved basis for joint decision-making in the supervisory colleges for cross-border groups. In this connection, it should be expected that the ECB's choice of methodology and practice in supervision of large institutions in the banking union will increasingly serve as the benchmark for credit rating agencies, analysts and investors.

New method for assessment of the countercyclical capital buffer

The purpose of the countercyclical buffer is to prevent credit institutions from excessively tightening credit standards for households and corporate customers in periods of stress in the financial system. The buffer is to be built up during periods of increasing systemic risk. The buffer is to be released when risks materialise, e.g. when the financial system is hit by a negative shock. In so far as the released capital

is not used for loss-absorbing purposes, the institution may use it for capital adequacy in relation to new lending or as a contribution to its excess capital adequacy.

In Denmark, the countercyclical buffer rate has been 0 per cent so far. On 17 November 2017, the Systemic Risk Council, the Risk Council, published a revised method for evaluating the buffer rate, which is to contribute to build-up of the buffer early in a financial upswing, cf. Box 5.

The Risk Council has stated that the discussion of the countercyclical buffer rate at its December meeting will take the revised method as its point of departure. If it finds that the rate is to be changed, it will publish a recommendation to the Minister for Industry, Business and Financial Affairs, who is responsible for setting the buffer rate in Denmark. As a main rule, an increase of the countercyclical buffer rate will take effect 12 months after the Minister for Industry, Business and Financial Affairs has decided to increase it.

Danmarks Nationalbank supports the Risk Council's revised methodology for assessment of the countercyclical buffer rate. The revision will increase the probability of the buffer being built up before the financial system is hit by a negative shock requiring to release it. Early, gradual phasing-in of the buffer will give the institutions more time to build up the buffer.

A number of indicators point to risks building up in the financial system, including rising house prices and easing of credit standards, cf. above. In addition, credit growth may take off suddenly. Against this background, Danmarks Nationalbank assesses that the conditions for activating the buffer exist.

SIFI buffer requirements are lower in Denmark than in other Nordic countries

The political agreement on Bank Rescue Package 6 in 2013 included regulation on identification of Danish

15 Cf. Directive 2014/59/EU of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms.

16 Besides the option of setting an add-on to the capital requirement, the supervisory authorities may also set a liquidity requirement or impose other supervisory measures under Pillar 2.

The Systemic Risk Council's approach to assessing the countercyclical buffer rate

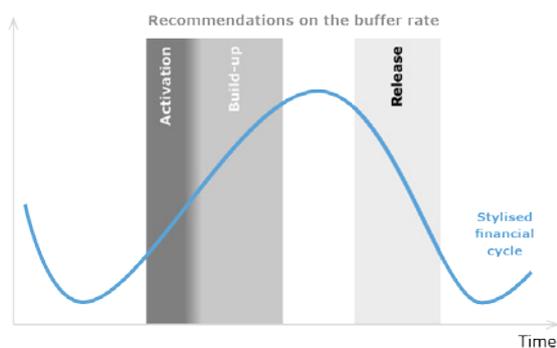
Box 5

On 17 November 2017, the Systemic Risk Council published a revised method for assessment of the countercyclical capital buffer. The method aims at early phasing-in of the buffer. This means that the building up of the buffer is commenced *before* financial imbalances emerge, cf. the chart.¹ The buffer rate is increased gradually as risks and imbalances become more pronounced.

The Risk Council's previous method entailed a risk that the buffer would not be built up in time before another negative shock would hit the financial system. Hence, the revised method incorporates a broader set of indicators detecting risk build-up at an earlier stage.²

Early activation of the countercyclical capital buffer provides for more gradual build-up of the buffer. This gives the institutions more time to make the necessary adjustments, e.g. by retaining profits.³ At the same time, the costs of early activation of the buffer are assumed to be relatively limited compared with the costs, to both the economy and the individual institution, of having a capital shortfall in periods of crisis.⁴

The Systemic Risk Council's approach to assessing the buffer rate



1. The development in systemic risks is illustrated in the chart by a stylised financial cycle. Financial cycles have greater fluctuations and longer duration than business cycles. The duration of a traditional business cycle is approximately 8 years, while it is 15-20 years for a financial cycle, cf. BIS, *84th Annual Report*, 2014, Chapter 4: Debt and the Financial cycle.
2. Read more about the information basis in the Systemic Risk Council's method paper. ([link](#))
3. See e.g. Bank of England, The Financial Policy Committee's approach to setting the countercyclical capital buffer, *A Policy Statement*, 2016.
4. See inter alia BCBS, *An assessment of the long-term economic impact of stronger capital and liquidity requirements*, 2010, and Kasper Kragh-Sørensen, *Optimal capital adequacy ratios for Norwegian banks*, *Norges Bank Staff Memo*, No. 29, 2012.

systemically important financial institutions, SIFIs¹⁷, and setting the buffer requirements for Danish SIFIs. The requirement may be between 1 and 3 per cent of risk-weighted exposures, depending on the systemic importance of the SIFI.

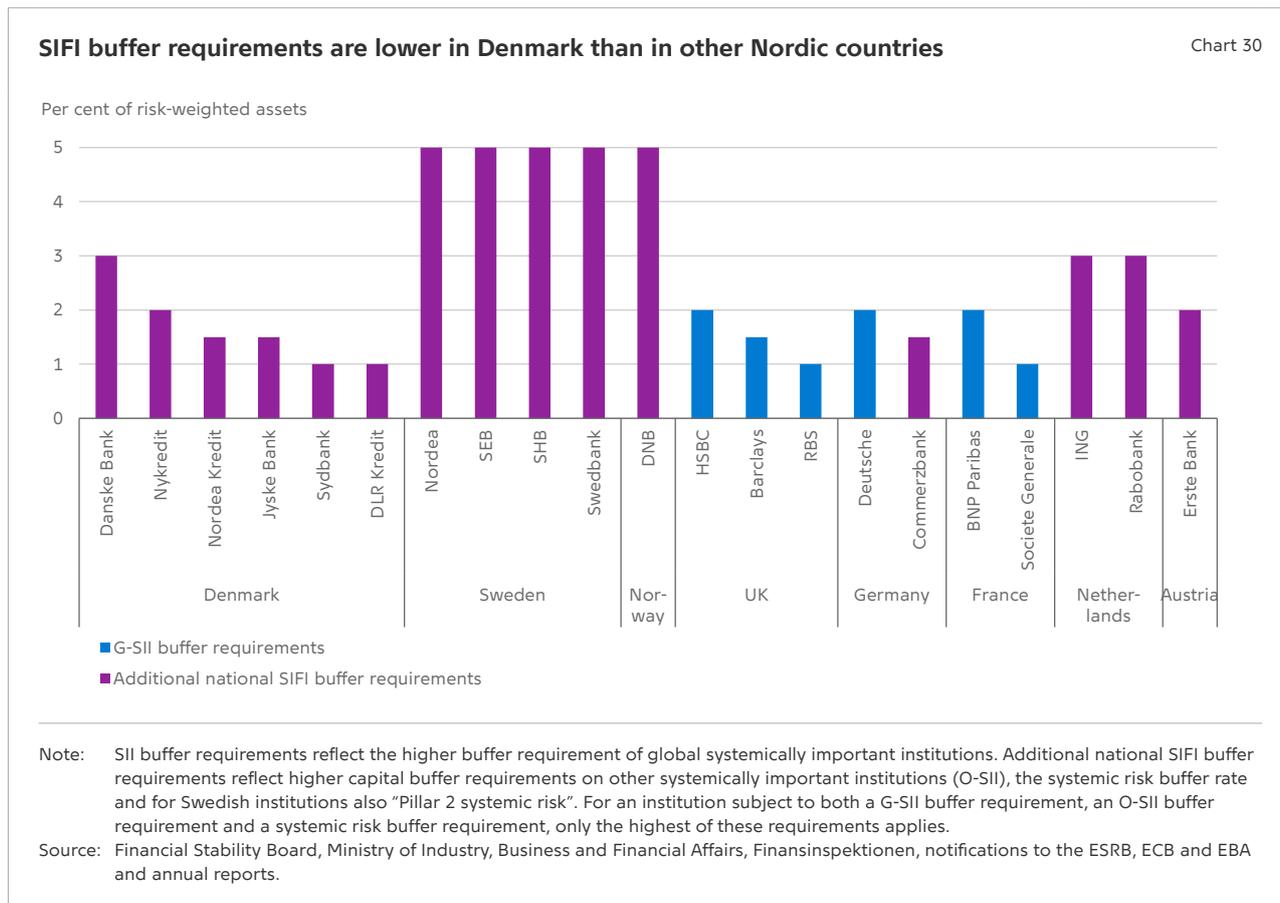
The SIFI buffer requirement is part of the combined capital buffer requirement, which also includes the capital conservation buffer and the countercyclical capital buffer. The latter differs from the other capital requirements introduced after the crisis, in that it can be eased in times of financial stress, whereas the other requirements apply in both good and bad times.

According to the wording of the agreement, the Danish SIFI capital requirements are intended to be in line with the requirements of comparable European countries. It also appears that follow-up regarding the final level of the Danish SIFI capital requirements will take place in 2017 at the latest, and any requirements that are not in line with the requirements in comparable European countries will be adjusted.

A comparison of the final level of the Danish SIFI buffer requirements with the final level of equivalent requirements for the largest institutions in several comparable countries shows considerable divergence, cf. Chart 30. The Danish SIFI buffer requirements are lower than corresponding requirements in both Norway and Sweden. In contrast, they are at the same level or higher than corresponding requirements in, inter alia, the UK, Germany and France. The higher requirements of Nordic SIFIs should be regarded in the light of the large and highly concentrated banking sectors in the Nordic countries.

In view of the current uncertainty about the future capital requirements, it would be beneficial for the issue of possible adjustment of the Danish SIFI buffer requirements to await completion of the revision of the CRR/CRD and clarification as regards the possible introduction of an output floor in the EU. Both initiatives may potentially have a major impact on the size of the future capital requirements to be imposed on Danish SIFIs.

17 Systemically important institutions are characterised by their existence affecting the whole economy, see more concerning identification of SIFIs in Financial Business Act §§ 308 and 310.



Resolution plans and proposed amendments to the minimum requirements for eligible liabilities, MREL

Credible resolution plans comprising MREL are key to a robust economy

The preparation of credible and practicable resolution plans is essential if failing credit institutions are to be resolved without the use of government funds. For SIFIs, a robust resolution plan entails that the group overall has sufficient own funds and other eligible liabilities for both loss absorption and recapitalisation. This is a precondition for restructuring the group and continuation of its critical functions. Accordingly, a credible resolution plan is key to ensuring financial stability and a robust Danish economy.

Danmarks Nationalbank has recommended that the resolution authorities apply a single point of entry, SPE, resolution strategy to Danish SIFIs where

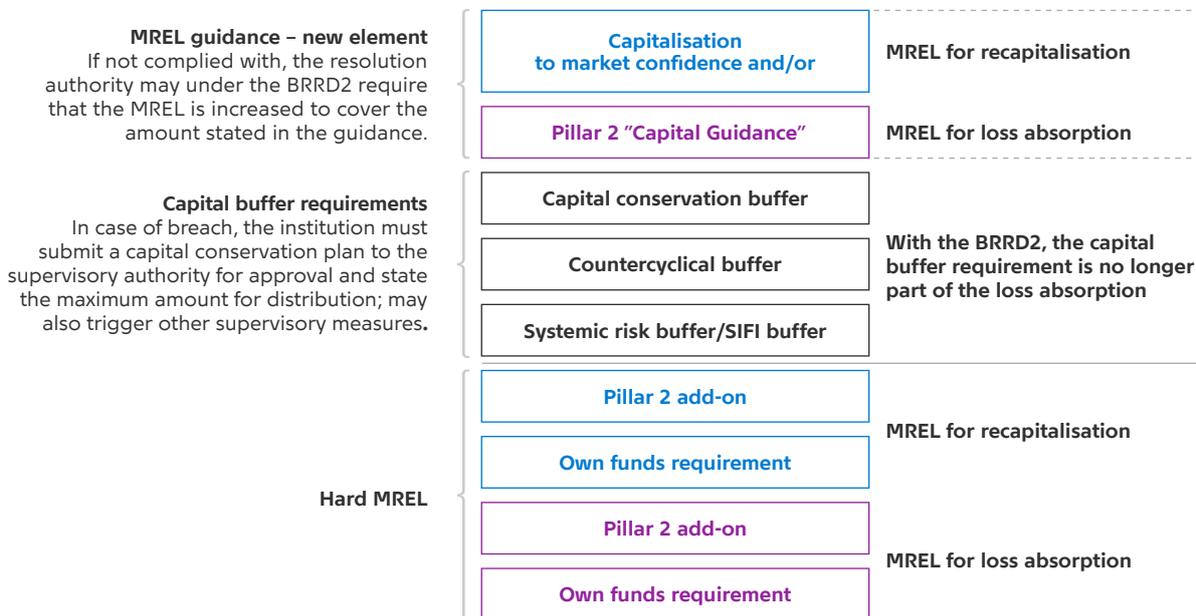
the strategy includes mortgage banks.¹⁸ Moreover, it has recommended that resolution authorities support this strategy by setting a consolidated MREL for the group and an internal MREL for the individual institutions, including the mortgage banks¹⁹. Finally, legislators must ensure that Danish legislation on restructuring and resolution of financial institutions gives the resolution authorities access to using the bail-in tool and setting MREL for mortgage banks.

18 Cf. Danmarks Nationalbank, Recommendation for handling failing SIFI groups, *Danmarks Nationalbank Recommendation*, No. 1, 2017. ([link](#))

19 In Danish legislation, mortgage banks are exempt from the MREL at the individual level because the bail-in tool cannot be applied to resolution of mortgage banks. For a more detailed review of the consequences of this exemption, see Danmarks Nationalbank, *Financial Stability*, 2nd Half, 2015. Here it is assessed to be essential that mortgage banks can be ordered to issue eligible liabilities, cf. Danmarks Nationalbank, Resolution strategy for SIFI groups, *Danmarks Nationalbank Analysis*, No. 21, 2017 (to be published). As regards the costs of abolishing the special regulations for mortgage banks, see Asbjørn Klein and Jacob Malte Svanborg, Too-big-to-fail can be solved inexpensively, *Danmarks Nationalbank Analysis*, No. 1, 2017. ([link](#))

The Commission’s proposal regarding structure of MREL for SIFIs

Box 6



As part of the Commission’s package of proposals to amend BRRD, an alignment of the EU’s MREL rules with the global standard for eligible liabilities applying to G-SIBs, Total Loss Absorbing Capacity, TLAC, is proposed.¹ Among other things, this will mean that in relation to groups the resolution authority must identify the “resolution entity”, i.e. the legal entity to which the resolution tools are to be applied. Furthermore, the proposal entails that when determining the part of the MREL that constitutes the “loss absorption amount” the size of the capital buffer requirement will no longer be included. In addition, the proposal includes a new

element on top of the MREL, “MREL guidance”, which will be the guidance of the resolution authority (in Denmark the Danish Financial Supervisory Authority) on sufficient excess capital adequacy relative to the MREL. Finally, the proposal entails a certain degree of tightening of the requirements regarding the liabilities that may in future qualify as eligible, including requirements that early redemption of the capital instruments in question must be approved by the relevant authority and the that terms and conditions may not include incentives for early redemption.

¹ Cf. Proposal for a Directive of the European Parliament and of the Council amending Directive 2014/59/EU on loss-absorbing and recapitalisation capacity of credit institutions and investment firms and amending Directive 98/26/EC, Directive 2002/47/EC, Directive 2012/30/EU, Directive 2011/35/EU, Directive 2005/56/EC, Directive 2004/25/EC and Directive 2007/36/EC, COM(2016) 852.

The resolution authorities’ resolution strategy for non-SIFIs with balance sheet totals of less than 3 billion euro is a controlled liquidation of the institution rather than continuation. Liquidation will take place according to an arrangement which has been approved by the European Commission under the rules on state aid and which assumes full bail-in of creditors. Unsecured creditors and deposits exceeding the depositor guarantee should expect considerable

losses if a private sector solution cannot be found in the recovery phase.

For Spar Nord Bank the SIFI resolution strategy and MREL will be applied²⁰, while the resolution strategies for the other non-SIFIs with balance sheet totals of more than 3 billion euro are awaiting publication.

²⁰ Cf. the Danish Financial Supervisory Authority’s press release, Resolution strategy and MREL for small and medium-sized banks, October 2017. ([link](#))

In the EU, agreement has been reached on allowing institutions to issue a new, special kind of unsecured debt to meet the MREL. The ranking of such debt in connection with the default/resolution of the credit institution is laid down by law – a new creditor class. On 8 November 2017, the Danish Financial Supervisory Authority submitted for consultation a draft bill to amend the Financial Business Act to implement the proposal for a new creditor class. The

proposal creates greater transparency for investors, which is important.

In addition, the Commission has proposed new rules about an MREL guidance. If adopted, this proposal will add a new element on top of the MREL, i.e. an MREL guidance, which will be the Danish Financial Supervisory Authority’s guidance on sufficient excess capital adequacy relative to the MREL, cf. Box 7.

Proposal to amend the creditor hierarchy for resolution of credit institutions

Box 7

Following negotiations on the European Commission’s proposal to revise the BRRD (part of the Commission’s package of proposals) agreement was reached in October 2017 on an amendment which means that credit institutions will be able to issue a new, special type of unsecured debt. The ranking of this debt in connection with the default/resolution of the credit institution has been laid down by law, cf. the chart.¹ This is primarily to ensure a uniform creditor hierarchy across EU member states when using the BRRD bail-in tool, thereby creating greater transparency for investors and facilitating the use of the bail-in tool for cross-border groups. It is proposed to implement these rules via section 21 of the draft bill to amend the Financial Business Act, which the Danish Financial Supervisory Authority submitted for consultation on 8 November 2017.

The problem in relation to the existing rules is that under insolvency law some of the liabilities that can be used for MREL purposes rank alongside liabilities that must or can be exempted from bail-in in a resolution. This may be because they are completely exempted from bail-in or because they may be specifically exempted from bail-in to ensure continuation of critical functions or to prevent contagion. This means that the liabilities actually used in a bail-in must bear a larger relative share of the losses. Consequently, it could be difficult to ensure that no creditor incurs greater losses than would have been the case if the institution had been wound up under normal insolvency proceedings (the “no creditor worse off” principle).

The requirements for the new type of debt instrument are that they have a minimum original maturity of 1 year, that they do not have derivative-like characteristics, and that the contractual documentation refers directly to the relevant ranking provision in the draft bill.

According to the proposal, the amendments to the creditor hierarchy are to take effect on 1 July 2018 and apply to liabilities issued after 1 January 2018.

Bail-in hierarchy

Loss-absorbing liabilities¹
Order of losses

The institution itself



Note: The colours indicate the following: Blue) Equity and capital instruments, Purple) Senior unsecured debt, Green) Certain deposits.

¹ The bail-in tool is applied after the capital instruments have been fully written down and/or converted to Common Equity Tier 1 instruments. The order of losses is described in Danmarks Nationalbank, *Financial Stability*, 2nd Half, 2015.

² Debt instruments used for compliance with the MREL will be placed in a special senior debt class after the expected entry into force on 1 July 2018 of the draft bill to amend the Financial Business Act. Moreover, according to the proposal, the class may also include instruments with shorter maturities than the 1-year MREL, and mortgage banks, which are exempt from the bail-in rules, will also be able to issue commitments comprised by the proposed class.

¹ Cf. Proposal for a Directive of the European Parliament and of the Council on amending Directive 2014/59/EU of the European Parliament and of the Council as regards the ranking of unsecured debt instruments in insolvency hierarchy, COM(2016) 853.

MREL must support resolution plans

The EU's Bank Recovery and Resolution Directive, BRRD, gives the national resolution authorities a number of tools enabling them to restructure systemically important institutions without the use of government funds. This is ensured, inter alia, by writing down or converting capital instruments, and by ensuring that subordinated and unsecured liabilities are, to the necessary extent, written down or converted to shares and other equity in order to absorb losses in and/or recapitalise a failing financial institution, i.e. bail-in.²¹

For the resolution tools to be applied as intended in a specific situation, the resolution authorities must prepare a credible resolution plan for each institution or group. A key element of the individual resolution plan is to set a minimum requirement for eligible liabilities, MREL. In Denmark, the Danish Financial Supervisory Authority sets the MREL for the individual institutions or groups.²²

The MREL may be met using capital instruments and unsecured debt instruments with a remaining maturity of at least 1 year. When the resolution authorities take control of a failing institution, the MREL ensures that bail-in can take place to a sufficient extent to absorb the losses and to recapitalise if the institution is to return to the market. The MREL also supports the principle that primarily shareholders and subordinated and unsecured creditors (except depositors) bear the losses. Box 7 describes the position of the new kind of unsecured debt to meet the MREL in the hierarchy of loss-absorbing liabilities (bail-in order).

MREL for SIFI banks

The Danish Financial Supervisory Authority's resolution principle for SIFI banks is that it should be possible to restructure the banks and return them to the market with sufficient capitalisation to ensure market

confidence. To support this resolution strategy, the Danish Financial Supervisory Authority is expected to set the MREL for SIFI banks at twice the solvency need plus twice the capital buffer requirement²³.

According to the Commission Delegated Regulation²⁴, the MREL must comprise a *loss absorption amount* corresponding to the capital requirement including capital buffer requirements and a *recapitalisation amount*, at least corresponding to the capital requirement and any additional amounts necessary to ensure market confidence after application of resolution tools.

As regards setting the MREL for the individual institution, it is essential that the authorities adjust the quality and level of loss absorption and recapitalisation on the basis of its risk profile, size, interconnectedness and the resolution strategy chosen. Sufficient eligible liabilities will be required if it is to be possible and credible for the resolution authority to restructure a failing SIFI without the use of government funds.

Mortgage banks are exempt from MREL

The Danish implementation of the BRRD prevents the authorities from using the bail-in tool for mortgage banks, which are therefore exempt from having to meet an MREL. Instead, a special Danish supplementary capital requirement – the debt buffer requirement – applies to mortgage banks. For all mortgage banks, it is 2 per cent of the institution's total unweighted lending, irrespective of the institution's risks. Danish legislation assumes that a mortgage bank can always be resolved using the resolution tools, except for bail-in, combined with the special winding-up model for mortgage banks, and that the BRRD resolution objectives will be met in this way. Consequently, the Resolution Fund can not be the 'back stop' for resolution of mortgage banks, unlike for the other SIFIs.

21 A more detailed description of the EU's recovery and resolution regime, which has been implemented by Act No. 333 og 31 March 2015 and Act No. 334 og 31 March 2015, can be found in Danmarks Nationalbank, *Financial Stability, 2nd Half, 2015*.

22 The powers as resolution authority in Denmark are split between the Danish Financial Supervisory Authority, which has powers in relation to "going concern" institutions, and the Financial Stability Company, which has powers in relation to "gone concerns".

23 Cf. Danish Financial Supervisory Authority's press release, Preliminary principles for resolution plans and MREL for systemic banks, January 2017 ([link](#)) and the Danish Financial Supervisory Authority's memo on principles for resolution and MREL for small and medium-sized banks (only in Danish). ([link](#))

24 Cf. Articles 1 and 2 of Commission Delegated Regulation (EU) 2016/1450 of 23 May 2016 supplementing Directive 2014/59/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the criteria relating to the methodology for setting the minimum requirement for own funds and eligible liabilities.

It is assessed that full or partial use of the special winding-up model will entail a substantial risk that the total lending capacity cannot be maintained and that there will be a contagion effect on the rest of the financial system.²⁵ When the conditions are not always met, it is not possible to implement the BRRD exemption as an absolute exemption. It should be up to the resolution authorities to assess whether the individual institutions can be deemed to be comprised by the exemption, as it is under the Single Resolution Mechanism, SRM²⁶.

To ensure credible resolution planning, it must therefore be possible to set an MREL for mortgage banks so that use of the bail-in tool can be planned for. Otherwise there will be an increased risk that the Danish government will have to step in to rescue a failing institution.

Given that the resolution strategies should always be based on the groups' structures and business models, it is assessed that the preferred resolution strategy should be resolution of the group as a whole. However, this requires that a consolidated MREL can be set that includes the group's mortgage credit entity.²⁷

The Danish approach to resolution of non-SIFIs

Resolution strategy for banks with balance sheet totals of less than 3 billion euro

The Danish resolution authorities' resolution strategy for the smallest non-SIFIs to be supported by the MREL is a controlled "liquidation" of the institution rather than continuation. Liquidation will take place according to an arrangement which has been approved by the European Commission under the EU rules on state aid and which assumes full bail-in of creditors, cf. Box 8.

The Danish Financial Supervisory Authority is expected to set the MREL, which, besides the solvency need and capital buffers, will consist of an MREL add-on corresponding to a loss-absorbing add-on and a recapitalisation amount that will jointly be within the range 3.5-6 per cent of risk-weighted exposures.

The Danish Financial Supervisory Authority describes the solution with MREL add-on for non-SIFIs with balance sheet totals of less than 3 billion euro as a model that will improve the possibility of finding private sector solutions. This is different from the approach described previously where the MREL ensures sufficient funds for loss absorption and possibly recapitalisation in a resolution.

With an MREL add-on of this size, unsecured creditors and creditors having deposits exceeding the depositor guarantee should expect considerable

25 Cf. Danmarks Nationalbank, *Financial Stability*, 2nd Half, 2015, pp. 57-61 ([link](#)), which elaborates on the special conditions applying to the recovery and resolution of mortgage banks and the potential consequences of applying the special winding-up model. Asbjørn Klein and Jacob Malte Svanborg, Too-big-to-fail can be solved inexpensively, *Danmarks Nationalbank Analysis*, No. 1, 2017 ([link](#)) presents calculations showing that the price of setting an MREL for mortgage banks is low.

26 Cf. Article 12(5) of Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010.

27 See Danmarks Nationalbank, Resolution strategy for SIFI groups, *Danmarks Nationalbank Analysis*, No. 21, 2017 (to be published), for further details regarding the resolution strategy for mortgage banks.

losses if a private sector solution cannot be found in the recovery phase.

Denmark takes a different approach to setting MREs for small institutions than e.g. Sweden and the UK.²⁸ Those countries only set MREL corresponding to the total capital requirement, the strategy being simplified resolution that does not require recapitalisation.

Resolution strategy for banks with balance sheet totals of more than 3 billion euro

For institutions with balance sheet totals of more than 3 billion euro,²⁹ the Danish Financial Supervisory Authority expects to set MREL according to the same principles as for the smaller institutions, but with higher recapitalisation amounts.³⁰ However, the MREL for Spar Nord Bank will be set according to the principles for SIFIs since the resolution strategy is to continue the institution, as it is for the SIFIs. Therefore, it should be considered whether the institution is also to be regarded as a SIFI when it is a going concern.

The resolution strategy for other non-SIFIs with balance sheet totals of more than 3 billion euro has not yet been published. In its state aid approval, the Commission emphasises that the use of government funds for resolution of such institutions requires individual state aid approval. This means that planning can only take into account loss absorption and possibly recapitalisation in the form of write-down and conversion of creditor claims.

State aid approved Danish resolution scheme for banks with balance sheet totals of less than 3 billion euro

Box 8

In August 2017, Denmark received prior approval from the Commission under the state aid rules for a Danish resolution scheme for banks with balance sheet totals of less than 3 billion euro. The approval applies for 12 months with a possibility of extension. It is a “revival” of the resolution model introduced by Bank Package 3¹.

As part of the scheme, the Danish resolution authorities have made a commitment to fully apply the bail-in tool in combination with “sale of business” and the “bridge institution”. This primarily means that the institution’s creditors must absorb all the institution’s losses in accordance with the creditor hierarchy. After that, the Financial Stability Company may attempt to sell the institution within a period of six months. For a 6-month period, the Financial Stability Company may then try to sell the institution after capitalisation of a bridge institution using funds from the Resolution Fund. If it does not succeed in selling the institution, the Commission requires the Financial Stability Company to close the bridge institution. The bridge institution must be resolved within 2 years.

1. Act No. 721 of June 25, 2010, amendment to act on Financial Stability and the Commission’s Daily News of August 2, 2017.

28 Cf. Riksgälden, Decision memorandum – Application of the minimum requirement for own funds and eligible liabilities, February, 2017, ([link](#)) and Bank of England, Internal MREL – the Bank of England’s approach to setting a minimum requirement for own funds and eligible liabilities (MREL) within groups, and further issues, October, 2017. ([link](#))

29 As of end-2nd quarter 2017, this group consisted of Arbejdernes Landsbank, Saxo Bank, Ringkjøbing Landbobank, Sparekassen Kronjylland and Vestjysk Bank.

30 Depending on the bank size, the total MREL add-on will be up to 5 per cent of risk-weighted exposures higher than for banks with balance sheet totals of less than 3 billion euro.

Appendix to the Financial Stability analysis: data

The analysis of the earnings, liquidity and own funds of Danish credit institutions is based on the six credit institutions in 2017 classified by the Danish Financial Supervisory Authority as systemically important financial institutions, SIFIs, and the non-systemic banks grouped by the Danish Financial Supervisory Authority as group 2 in 2017, cf. Table 1. Nordea Bank Danmark is no longer a SIFI, as it was converted from a subsidiary into a branch from 1 January 2017. In that connection, Nordea Kredit was classified as a SIFI. Unlike in the Danish Financial Supervisory Authority's group 2, Saxo Bank has been omitted from the popu-

lation due to its business model. The grouping also applies back in time.

In the analysis and assessment of lending activity, focus is on the grouping of large and medium-sized banks in Danmarks Nationalbank's lending survey. Large banks are the Danish Financial Supervisory Authority's group 1 plus Nordea Bank Danmark, while medium-sized banks are the Danish Financial Supervisory Authority's group 2 plus Handelsbanken and Santander Consumer Bank. In the analysis of NPL banks from Danish Financial Supervision Authority's group 1 and 2 are included.

The analysis applies the term "credit institutions" when referring to both banking and mortgage banking activities.

Banks and mortgage banks in the analysis by total assets as at 30 June 2017, kr. million

Table 1

Systemic financial institutions	Amount	Non-systemic banks (continued)	Beløb
Danske Bank (including Realkredit Danmark)	3,241,379	Sparekassen Kronjylland	22,981
Nykredit Realkredit (including Nykredit Bank)	1,379,698	Vestjysk Bank	22,486
Jyske Bank (including BRFKredit)	579,856	Sparekassen Sjælland	20,748
Nordea Kredit	434,459	Nordjyske Bank	20,104
DLR Kredit	155,419	Lån & Spar Bank	18,442
Sydbank	140,071	Sparekassen Vendsyssel	17,206
Systemic financial institutions, total	5,930,881	Jutlander Bank	16,002
		Den Jyske Sparekasse	14,994
		Non-systemic banks, total	304,147
Systemic banks			
Danske Bank	2,236,750	Mortgage banks	
Jyske Bank	293,601	Nykredit Realkredit	1,322,924
Nykredit Bank	165,147	Realkredit Danmark	851,561
Sydbank	142,326	Totalkredit	707,160
Systemic banks, total	2,837,824	Nordea Kredit	434,459
		BRFKredit	318,078
Non-systemic banks		DLR Kredit	155,419
Spar Nord Bank	79,686	LR Realkredit	22,627
Arbejdernes Landsbank	46,025	Mortgage banks, total	3,812,229
Ringkjøbing Landbobank	25,474		

Note: The total assets of systemic banks, non-systemic banks and mortgage banks are stated at bank-specific level, while the total assets of the systemic groups are stated at group level.

Source: Danish Financial Supervisory Authority and annual accounts.

ABOUT ANALYSIS



As a consequence of Danmarks Nationalbank's role in society we conduct analyses of economic and financial conditions.

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