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Banks should keep their powder dry

Relief packages have contributed to a more stable development this year than feared

During the economic downturn, the authorities have injected extra liquidity and provided financial help to corporations. So far, this has supported both financial markets and bank customers.

More losses on corona-vulnerable customers may emerge in the coming period

In line with the government relief packages being phased out, the credit institutions' losses may increase and the credit quality of their lending may deteriorate. It is important that the credit institutions continuously ensure that they have made sufficient provisions to handle the deteriorated situation.

Credit institutions should remain cautious about dividend payments

So far, the credit institutions have come through the crisis relatively unscathed. However, the situation remains highly uncertain, and the credit institutions should be cautious when planning dividend payments.

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Slump in economic activity worldwide
Global economic activity has declined significantly this year, and the economic downturn has hit countries in all parts of the world. Economic activity has partially recovered in the second half of the year, and international organisations expect a further gradual recovery in the coming years. If the coronavirus pandemic spreads further or if the prospects for better treatment and a vaccine disappoint, this may impact economic development and financial markets. Conversely, the possibility of a rapid roll-out of one or more effective vaccines may improve the prospects.

Extensive monetary policy measures have supported financial markets
Central banks have launched a number of new measures, including asset purchases and extraordinary lending facilities, to ensure continued liquid markets and credit access. The new asset purchase programmes and low interest rates support economic activity, and this may lead to a perception among market participants that credit and liquidity risks on the financial markets are currently low. However, the current risk appetite on financial markets can quickly change if the economic situation deteriorates.

CREDIT

Deferred taxes have temporarily provided a cushion under bank customers
The government measures with deferred payment deadlines for taxes and VAT have temporarily injected liquidity into most of the Danish corporate sector. In some cases, the deferrals will also have contributed to keeping some already not viable corporations going. The credit institutions are well equipped to offer credit to healthy corporations when the relief packages expire. Additional credit should only be granted to viable corporations.

More losses expected when relief packages are phased out
With a number of relief packages, the central government has provided a cushion under the Danish corporate sector. However, credit institutions must prepare for the end of the relief packages. In line with the government relief packages being phased out and payments falling due, the credit institutions will have to expect higher losses and a deterioration in the credit quality of their lending. It is important that the credit institutions continuously ensure that they have made sufficient provisions to handle the prospects of a deteriorated situation.

Deteriorated credit quality on lending to the most coronavirus-vulnerable customers
The credit quality of the part of the banks' lending which is made to the most vulnerable corporations has deteriorated significantly. The probability of default has thus increased on the part of the lending which is made to corporations having received funds under central government compensation schemes. The deteriorated credit quality and expectations of a further deterioration in the future have made banks increase their impairment charges on parts of their lending.

Challenges involving the most vulnerable customers may also impact other customers
There is a risk that the challenges faced by the most vulnerable corporations may impact other customer groups which have so far been less affected. They may, for example, be affected through decreasing asset prices on the underlying lending collateral. For example, property landlords that own buildings used for hotel operations have significantly greater debt to credit institutions than all the corporations in the hotel industry together. However, these landlords are generally regarded as being resilient in the event of non-payments from hotel properties.

Mink industry poses limited risk to credit institutions
The mink production shutdown does not present a challenge to the credit institutions as a whole. However, there are large differences across individual credit institutions and some institutions have large exposures to the mink industry. How credit institutions are affected by the mink production shutdown will depend on the specific compensation model and whether production can ever be reestablished.

House prices have risen rapidly since reopening
Housing market activity increased rapidly following the reopening of the Danish society during the summer, and prices of single-family houses and owner-occupied flats have increased significantly. Several factors currently support the housing market, where long-term mortgage rates have seen a further slight decrease to a historically low level, and household incomes have been cushioned by compensation

schemes. If house prices continue to rise at the current rates of increase, this could enhance the risk of subsequent price falls on the housing market, which has been seen in the past after periods with marked increases. In general, home owners have a robust outset. In recent years, homeowners have increasingly opted for more secure loan types. Concurrently, decreases in the level of interest rates have resulted in lower interest costs and increasing amortisation on household mortgage debt.

LIQUIDITY AND FUNDING

Banks have increased their liquidity reserves

The systemic banks still have a high level of liquidity reserves, which is reflected in a significant margin for the liquidity coverage ratio (LCR). The central government's liquidity support measures for the corporate sector have increased liquidity in Danish kroner, and this liquidity will generally find its way to the banks' balance sheets and increase their customer funding surplus.

Banks' liquidity can handle payments of deferred tax and VAT

Bank deposits have increased significantly in 2020, but they may quickly disappear again once the deferred tax and VAT payments fall due. However, robustness tests of both the credit institutions' survival horizon and their ability to comply with the LCR requirement show that, on the face of it, the banks will be able to handle a situation in which deposits fall back to pre-coronavirus outbreak levels.

Attractive prices again on credit institutions' funding markets

Mortgage bond liquidity is now back to a more normal level after having been under brief pressure in spring, and the mortgage bond market has not seen any significant liquidity fluctuations in recent months. The market for non-preferred senior debt has also normalised, and the surcharge relative to ordinary senior debt is back at 2019 levels.

EARNINGS

Declining bank earnings

There have been large fluctuations in the credit institutions' earnings this year, and the systemic credit institutions' projections for their earnings for the year are generally at a lower level than in recent years. The prospects of lower earnings this year follow declines in profits since 2017. Current earnings still constitute reasonable initial protection against losses. However, further decreases may weaken credit institutions' resilience in the long term.

Costs have increased in the largest credit institutions

Since 2018, rising operating expenses have been the primary reason for the decrease in profit before impairment charges in the systemic credit institutions. Operating expenses in the largest credit institutions have also increased more than in other major Nordic and European banks. While costs have increased, there has generally been a downward trend in the credit institutions' net interest income. The reasons for the decrease include, among other things, lower interest margins due to competition on lending and sluggishness in the reduction of deposit rates.

Several acquired banks have had low earnings

The number of Danish banks has been significantly reduced since the early 1990s, and 2020 has also seen several examples of consolidation in the banking sector. The trend with a declining number of banks is expected to continue in the coming years. Since 2015, the credit institutions that have subsequently been acquired or merged with major banks have been characterised by lower earnings than the rest of the sector.

CAPITAL

Credit institutions should remain cautious about dividend payments

So far, the credit institutions have come through the crisis relatively unscathed. But there is a lot of future uncertainty. The credit institutions should thus be cautious when planning dividend payments in the coming period.

The release of the countercyclical capital buffer earlier this year was intended to give the credit institutions extra leeway in expanding their lending capacity during the coronavirus crisis. Therefore, the release is not targeted at the distribution of dividends or buy-backs of own shares.

Some systemic credit institutions show non-compliance with buffer requirements in stress tests

Danmarks Nationalbank's latest stress test shows that a few systemic credit institutions exceed the requirements for their capital buffers in connection with a severe and early recession. None of the systemic credit institutions fail to comply with their minimum capital adequacy requirements.

Low excess capital adequacy relative to MREL requirement weakens banks' resilience

Before the systemic credit institutions come into conflict with their capital adequacy requirements, they will be in non-compliance with their Minimum Requirement for Eligible Liabilities (MREL). If the credit institutions, in a stress scenario, are unable to issue new MREL instruments for an extended period, they will face major challenges in complying with the requirement.

Accommodative monetary policy cushions financial markets

Slump in economic activity worldwide

Global economic activity has declined significantly this year, and the economic downturn has hit countries throughout the world. After very large drops in activity level in the first half of the year, economic recovery began during the second half of the year. The international organisations expect further gradual recovery in economic activity in the coming years.

The OECD expects global GDP to increase by 4.2 per cent in 2021 and by 3.7 per cent in 2022, following a historical plunge of 4.2 per cent in 2020. In the euro area, activity will remain at a lower level by the end of 2022 relative to 2019, see chart 1.

The coronavirus outbreak and the period with a lockdown of the Danish society have resulted in a major downturn in the Danish economy. However, the decline in GDP has been relatively smaller than in a number of other countries.

Increasing spread of infection has resulted in new restrictions

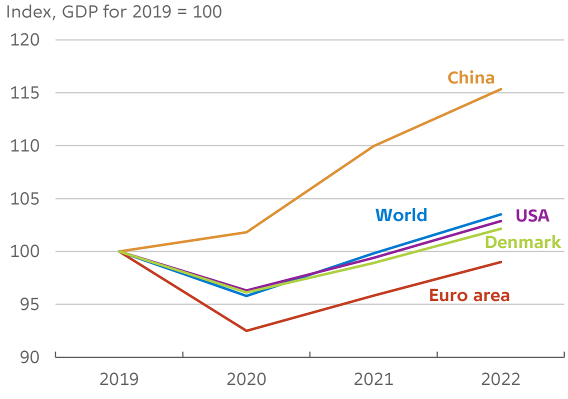
Coronavirus infection rates have increased in many parts of the world during autumn, including Europe and the United States. As a consequence of an increasing number of infected and hospitalised persons with coronavirus, see chart 2, many European countries have introduced new restrictions on both occupational and social activities, and have encouraged people to work from home to the greatest possible extent. Most restrictions have so far been less rigorous than those seen in spring, and economic activity has been less affected. Several restrictions have also been reintroduced in Denmark, and in some parts of the country restrictions have been tightened even further.

Further spread of infection and disappointing prospects of one or more effective vaccines may continue to impact the economic development and financial markets. Conversely, the possibility of a rapid roll-out of one or more vaccines may improve the prospects. There is still uncertainty about future EU/UK post-Brexit trade relations.

Extensive monetary policy measures have supported financial markets

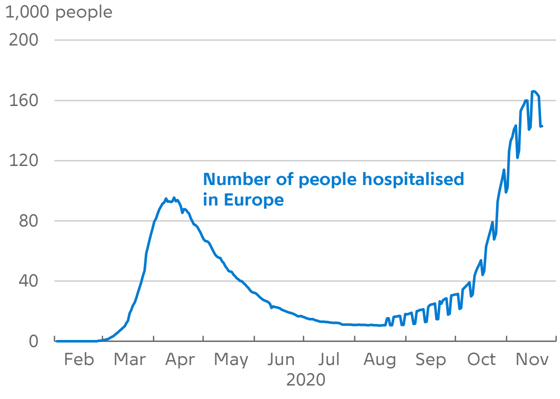
In the wake of the coronavirus outbreak, the central banks have launched new measures in the form

Expectation of partial economic recovery in 2021 Chart 1



Source: OECD, Danmarks Nationalbank and own calculations.

Increasing number of new coronavirus inpatients in Europe Chart 2



Note: Number of inpatients infected with coronavirus in Europe. The most recent observations are from 22 November 2020.
Source: European Centre for Disease Prevention and Control.

of, for example, asset purchases and extraordinary lending facilities, to ensure continued liquid markets and credit access. The measures have significantly increased the central banks' balance sheets and have supported the financial markets, see chart 3.

In March, the Federal Reserve cut its key interest rate to 0-0.25 per cent, and, in virtually all advanced economies, monetary policy interest rates are now close to zero. Market participants continue to expect very low interest rates in the coming years.

Many central banks have also introduced extraordinary measures, such as the injection of liquidity into the markets and increasing purchases of government and corporate bonds. The large-scale asset purchase programmes and low interest rates support economic activity and may, in continuation thereof, lead to a perception among the market participants that credit and liquidity risks in financial markets are currently low.

Risk appetite is back on financial markets

Internationally, corporate costs for new debt issuance have decreased and are now generally only slightly above the level at the start of the year. For example, the credit spread for risky corporate bonds is again close to 2019 levels, see chart 4, and share prices have risen significantly, see below.

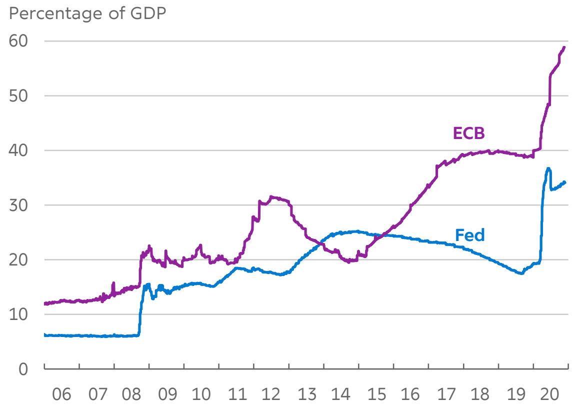
The increasing risk appetite on the financial markets may quickly reverse. If the economic situation deteriorates again, this could create financial market uncertainty, triggering sudden price falls on financial assets.

Prices have soared to new heights on several equity markets

A number of equity markets quickly recovered from the big price drops seen in March. Thus, the equity markets have generally recovered more quickly than in connection with previous crises.

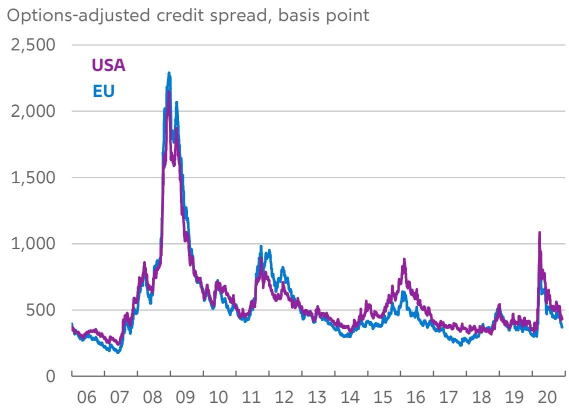
After the IT bubble and the terrorist attack in 2001, and following the 2008-09 financial crisis, the world's equity markets took several years to recover the lost ground. After the coronavirus outbreak, the equity markets took five months to return to pre-coronavirus levels and have generally continued to rise to higher levels since then, see chart 5. A major reason for the rapid recovery is that the coronavirus crisis arose from a pandemic and not as a result of the build-up of economic or financial imbalances in the run-up to the outbreak.

Monetary policy measures have significantly increased the central banks' balance sheets Chart 3



Note: The ECB's balance sheet as a percentage of GDP in the euro area and the Fed's balance sheet as a percentage of US GDP. The most recent observations are from 29 November 2020.
Source: Macrobond.

Risk appetite is back on debt markets Chart 4

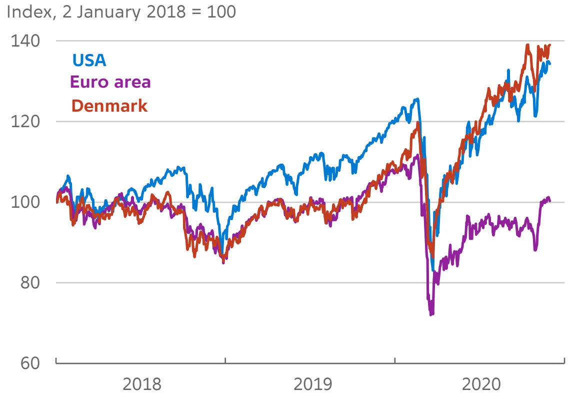


Note: High yield corporate bonds. The most recent observations are from 27 November 2020.
Source: Eikon Refinitiv.

Equity markets have quickly bounced back to pre-coronavirus levels Chart 5

Note: The lines denote the time period after each crisis until the index reaches the pre-crisis level. The most recent observations are from 30 November 2020.
Source: Eikon Refinitiv.

Difference in development across indices Chart 6



Note: 'USA' is the S&P500 index, 'The euro area' is the Euro Stoxx 600 index and 'Denmark' is the C25 index. The most recent observations are from 30 November 2020.
Source: Eikon Refinitiv.

There have been major differences in developments across equity markets. For example, the US and Danish stock indices have risen to higher levels than before the coronavirus outbreak, while, for example, the euro area index remains below the January level, see chart 6. Part of the explanation for the large variation in stock indices is the different composition of sectors in the indices. For example, technology, pharma and health shares have generally performed well, while bank shares and shares in companies in the travel industry have generally performed poorly.

Large fluctuations in future earnings expectations

The equity analysts' expectations for the earnings of Danish corporations in the C25 index have fluctuated significantly during the year. Earnings expectations for 2020 fell sharply towards May, but have since bounced back, see chart 7. The large fluctuations in earnings expectations may have contributed to the development in Danish share prices.

Equity analysts' earnings expectations for 2021 have shown less fluctuations than expectations for this year. If corporate earnings are expected to get back on track quickly, decreases in earnings reductions should have a relatively modest impact on share prices.

Large fluctuations in equity analysts' earnings expectations Chart 7

Note: Earnings expectations for corporations in the C25 index during 2020. The most recent observations are from 30 November 2020.
Source: Bloomberg and Eikon Refinitiv.

Deferred taxes have temporarily provided a cushion under bank customers

Over the next six months, Danish corporations will have to pay previously deferred tax and VAT to the tax authorities. The corporations must also pay tax and VAT for the current periods, which means that there will be double payments in several of the coming months. In spring 2020, deferral of a number of payments of VAT, employees' income tax and labour market contributions constituted some of the main measures of the relief packages launched at the time, see box 1.[1]

Deferred payment deadlines have provided a large, but temporary, liquidity boost

Box 1

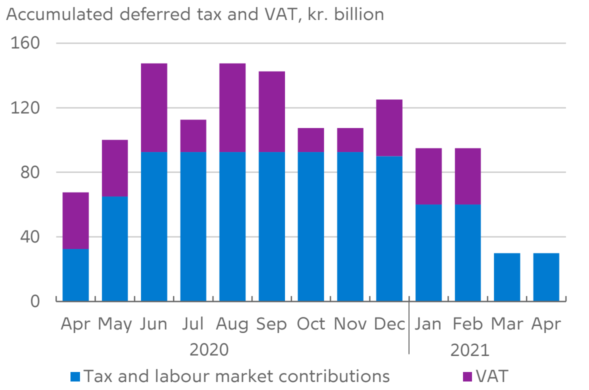
According to the Danish Ministry of Taxation, the deferral of a number of payments of employees' income tax and labour market contributions has resulted in deferred payments of up to approximately kr. 90 billion, see the chart below.[1] In addition, a number of VAT payment deadlines have been postponed. The deferred VAT amount varied considerably from month to month, as corporations settle VAT on a monthly, quarterly and half-year basis, depending on their size. Overall, these deferrals may have added liquidity to corporations amounting to more than kr. 125 billion in December 2020.

Some corporations may have chosen to make advance payments to the tax authorities. The cap on payments into the corporations' tax account has been temporarily suspended as part of the relief packages to the corporate sector. Tax account deposits carries interest at 0 per cent, which, in most cases, is higher than the negative interest rate most often charged on bank deposit accounts for corporations. Hence, the overall liquidity effect may be lower than the total deferred payments. Also, the overall effect also depends on fluctuations in the actual activity level and employment in the corporations during the months in which the payment deadlines were deferred.

Credit institutions' deposits and lending are affected by government relief packages
In connection with the relief packages, the central government has either transferred funds directly to corporations, for example compensation for overheads, and to households, for example frozen holiday pay, or has deferred otherwise expected payments from these groups.

The deferred payment deadlines initially mean that corporations leave the funds that they had expected to have to pay in tax and VAT in a deposit account with their bank. In this case, the funds will contribute to increasing total bank deposits. Alternatively, the corporations can use the funds either to limit their borrowing or to pay current expenses. If the funds are used to limit borrowing, they will contribute to lower lending. If the funds are used to pay expenses, they will be transferred to employees or subcontractors. The funds are thus transferred to another deposit account with a bank, where, again, they can either remain, be used to limit borrowing or be used for payments.

Deferred tax and VAT may significantly boost liquidity



Note: Amount for total volume of deferred payments of withholding tax (A-tax), tax not collected at source (B-tax), labour market contributions and VAT. The actual amount will depend on the level of activity and employment.
Source: Danish Ministry of Taxation and own calculations.

1. See Finansministeriet, Skatteministeriet, *Faktaark*, marts 2020 (Danish Ministry of Finance, Danish Ministry of Taxation, *Fact sheet*, March 2020) (*link*) – in Danish only..

1 In addition, small and medium-sized enterprises also have the possibility to raise interest-free loans for VAT already paid and payroll tax in March and April 2020, respectively.

The deferred payment deadlines have temporarily injected liquidity into large parts of the Danish corporate sector. In some cases, the deferrals will also have contributed to keeping some already not viable corporations going, which should not be offered further credit. More liquidations can thus be expected, and the credit institutions[2] must expect greater credit losses than have been the case this year.

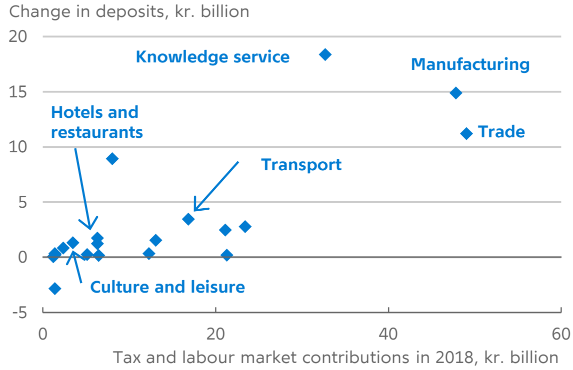
The credit institutions are well equipped to offer credit to healthy corporations when the relief packages expire. Additional credit should, however, only be granted to healthy and viable corporations.

Corporate deposits may decline partially when deferred payments fall due

During 2020, Danish corporations have increased their deposits significantly. Since March, deposits have thus increased by kr. 67 billion, equal to 22 per cent. Just as when the industries have increased their deposits in continuation of the deferred payments, corporate deposits may decrease again when the deferred deadlines fall due.

The deposits have increased the most for those industries for which the liquidity injection from deferred payments is estimated to have been highest, see chart 8. For example, corporations in the trade industry deposited nearly kr. 50 billion in withholding tax and labour market contributions, according to the latest available figures from 2018. Against this background, this sector is also estimated to have received a significant part of the temporary liquidity boost this year. By comparison, the transport sector deposited approximately kr. 17 billion in 2018 and is therefore estimated to have received a relatively small share of the liquidity. It can thus also be seen that corporations in the trade industry have increased their bank deposits by around kr. 11 billion since March, while corporations in the transport sector has increased deposits by around kr. 3.5 billion.

Deposits have risen the most in industries with the highest level of deferred tax payments Chart 8



Note: The y-axis shows the change in deposits in kr. billion since the end of March 2020 for Danish non-financial corporations. The x-axis shows paid withholding tax and labour market contributions in 2018 in kr. billion for employees, students and self-employed persons in private corporations, broken down by industry for primary employment.
Source: Danmarks Nationalbank, Statistics Denmark and own calculations.

Corporations have increased their credit facilities, but have not yet made use of them

While deposits have increased this year, the demand for credit has been moderate. Shortly after the coronavirus outbreak and lockdown of the Danish society, the banks expected that their corporate customers would need additional borrowing, see chart 9. But this need did not subsequently materialise, and demand even decreased further from the 2nd to the 3rd quarter.[3] For the 4th quarter, the credit institutions again expected moderately increasing demand. The banks' credit managers have reported largely unchanged credit standards in 2020.

Figures for banks' credit commitments to corporations show that the banks have been expanding their credit limits overall since the end of March. Shortly after the coronavirus outbreak, the corporations

2 The analysis applies the term 'banks' when referring specifically to entities engaged in banking activities. The analysis applies the term 'credit institutions' more generally when referring to the activities of both banks and mortgage credit institutions in the financial sector. See appendix for more information about the analysis data basis.

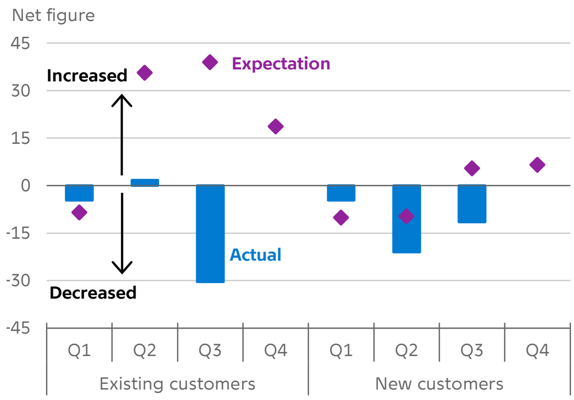
3 See Danmarks Nationalbank, Decreasing demand and increasing impairments, *Danmarks Nationalbank Statistics*, October 2020 (*link*).

secured access to additional liquid funds, but they have not subsequently drawn on these new credit facilities to any significant extent. On this basis, corporate customers' unused credit facilities have increased by approximately kr. 22 billion from the end of March, see chart 10.

The limited draw on credit facilities is in line with developments in bank lending, which has decreased by kr. 24 billion since March. By contrast, mortgage lending has continued the increases seen in recent years, rising to kr. 25 billion since March. The increase has been steady throughout the year, with an annual growth rate of 5 per cent or more in all months of the year. Overall, lending to non-financial corporations has increased by 2.4 per cent year-on-year at the end of October.

The subdued demand for bank credit by corporations must be seen in the light of the extra liquidity injection from deferred tax payments available to corporations this year. Investment restraint may also have contributed to the development.

Large drop in corporate customers' loan demand Chart 9



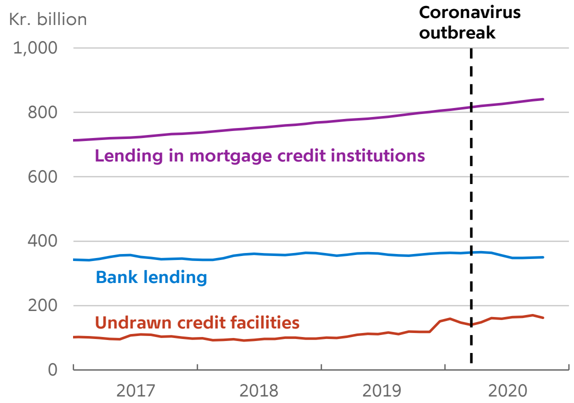
Note: In Danmarks Nationalbank's lending survey, corporate customers cover 'Private non-financial corporations' and 'Sole proprietorships'. The net figure is the banks' response weighted by their respective market shares. 'Expectation' is the banks' previously reported responses from the quarter before the present quarter. Observations are for quarters in 2020.
Source: Danmarks Nationalbank.

More losses expected when relief packages are phased out

With a number of relief packages, the central government has provided a cushion under the Danish corporate sector. While deferred payment deadlines increased the available liquidity, particularly vulnerable corporations have been given the opportunity to apply for compensation for parts of their operating costs. The measures have contributed to a lower number of liquidations this year than in previous years. However, credit institutions must prepare for the end of the relief packages. In line with government relief packages being phased out, the number of liquidations is expected to increase. The credit institutions must then also expect higher losses and a deterioration in the credit quality of their lending.

With the latest IFRS 9 accounting standard, credit institutions must make impairment charges on their lending in relation to both incurred losses and losses expected subsequently to incur. It is important that the credit institutions continuously ensure that they have made sufficient provisions to handle the deteriorated prospects.

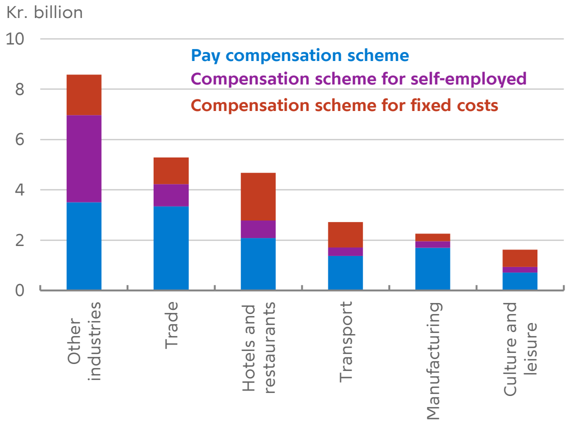
Bank lending to corporate customers has decreased, and unused credit facilities have increased Chart 10



Note: Lending to Danish non-financial corporations from banks and mortgage credit institutions, three-month moving average. 'Undrawn credit facilities' are the undrawn part of confirmed credit and liquidity facilities in Danish kroner to non-financial corporations. The most recent observations are from October 2020.
Source: Danmarks Nationalbank and own calculations.

A few vulnerable industries are the main recipients of government compensation

Chart 11



Note: Government compensation broken down by compensation schemes as at 23 November.
Source: Danish Business Authority and own calculations.

Compensation schemes and particularly vulnerable corporations – how we proceeded

Box 2

The cost-covering measures initiated by the central government comprise a number of schemes to cover, for instance, some corporate payroll costs and overheads. Under this scheme, corporations have received kr. 12.7 billion in pay compensation, kr. 5.9 billion from the scheme for self-employed persons and kr. 5.5 billion in compensation for overheads. In addition, kr. 265 million has been paid in compensation to, for example, freelancers and for cancelled events.

Several of the previous compensation schemes have been extended, and some schemes have been expanded due to increasing spread of infection in the autumn with the resulting reintroduction of some restrictions. The new schemes currently run until 28 February 2021.

The requirements for receiving compensation identify the particularly vulnerable corporations
The schemes have been targeted at the corporations that were or expected to be particularly severely affected by restrictions and behavioural changes.
To receive pay compensation, at least 30 per cent or more than 50 of the corporation's employees had to be furloughed without working from home. The overheads scheme required an expected decrease in revenue of at least 35 per cent. The self-employed persons scheme required an expected revenue or income loss of at least 30 per cent. The corporations which have received compensation have experienced a significant decrease in activity and are generally regarded as having been particularly vulnerable. Some of the requirements for receiving compensation have been adjusted in connection with the new restrictions introduced in autumn.

Whether a corporation has received compensation is used in this analysis as an indicator for whether the corporation has been particularly exposed. Microdata received from the Danish Business Authority on the compensation received by individual corporations for payroll costs and overheads is combined with information in the Danish credit register on all corporations' loans from credit institutions in Denmark.

1. A number of the new schemes are awaiting approcal by the European Commission under the State aid rules.

Many corporations in vulnerable industries have received compensation

Since March, payments from compensation schemes have injected funds of around kr. 25 billion into non-financial corporations. Corporations in the trade, hotel and restaurant, and transport industries have received the largest share of the funds, see chart 11.

Corporations that have been able to document that they meet certain requirements for, for example, loss of revenue have been offered compensation for several of their expense items. The corporations that have received compensation are thus still, or have previously been, particularly vulnerable during the current coronavirus crisis, see box 2.

The banks have most lending to customers which have received compensation in the trade, manufacturing and transport industries, see chart 12. In total, corporations constituting 15 per cent of corporate lending have received compensation.

For some particularly vulnerable industries, the lending to corporations that have received compensation constitutes a large proportion of the total lending. For the hotel and restaurant industry and the culture and leisure industry, 81 per cent and 67 per cent, respectively, of the total lending have been made to corporations receiving compensation.

Credit quality has deteriorated on lending to the corporate customers which have received compensation

Although the relief packages have supported corporate resilience, the credit quality has deteriorated on the part of the banks' lending made to corporations that have received compensation.

Most large banks calculate a so-called probability of default for each customer as part of their risk and capital management. The probability of default is a quantitative assessment of the risk of non-payment from and/or loss on a given customer within the next 12 months.

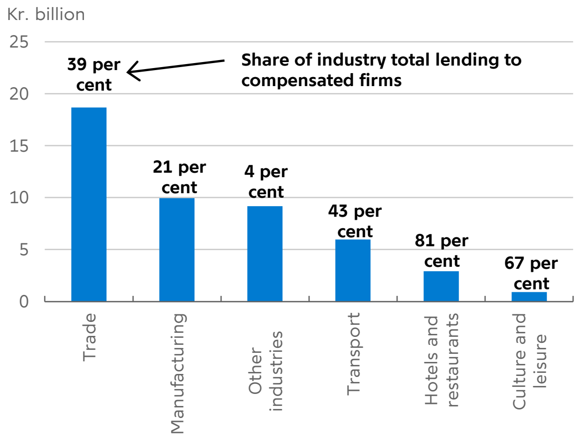
On the part of the lending to the banks' customers that have received compensation, the probability of default has increased significantly. At the end of the 3rd quarter of 2020, the banks thus assessed that 10 per cent of the lending to these customers has a probability of more than 20 per cent of the loan defaulting over the next 12 months, see chart 13. Conversely, the proportion with a probability of default above 20 per cent has actually decreased from the end of 2019 to the end of the 3rd quarter of 2020 for customers who have not received compensation.

Deteriorated credit quality and expectations of a further weakening in the future have made the banks increase their impairment charges on parts of their lending. The large banks thus report that an increased proportion of their lending have a significant increase in credit risk (impairment stage 2) or have already seen a credit risk deterioration (impairment stage 3), see chart 14. This development is seen in connection with lending to corporations that have received compensation, whereas it has overall not been the case for the banks' other lending.

In line with the lending having moved towards impairment stages with deteriorated credit quality, the banks have increased their provisions for impairment charges on these loans. Most of the impairment charges were booked in the financial statements for the 1st quarter of 2020 at a time when there was great uncertainty about the economic development. Some of the impairment charges thus reflect a deterioration in the macroeconomic scenarios used in the models underlying the so-called expected credit losses. At the same time, several credit institutions have booked impairment charges based on management estimates that reflected the uncertainties connected with the possible impact of the coronavirus outbreak on credit quality.

Customers in the trade, manufacturing and transport industries are the main recipients of compensation

Chart 12

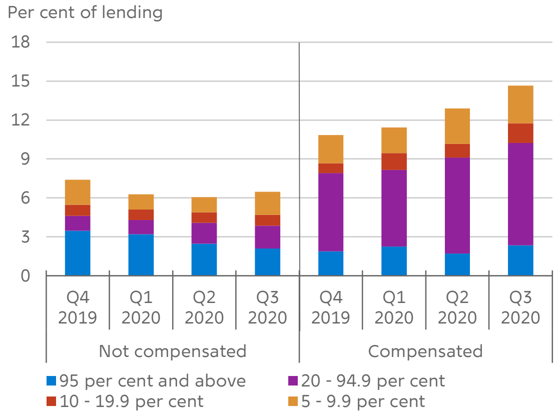


Note: Lending by large and medium-sized banks to Danish non-financial corporations. The blue bar denotes lending to corporate customers which have received pay compensation or compensation for overheads. Data as at the end of the 3rd quarter 2020.

Source: Danmarks Nationalbank, Danish Business Authority and own calculations.

Increasing proportion of lending to compensated corporations has high probability of default

Chart 13

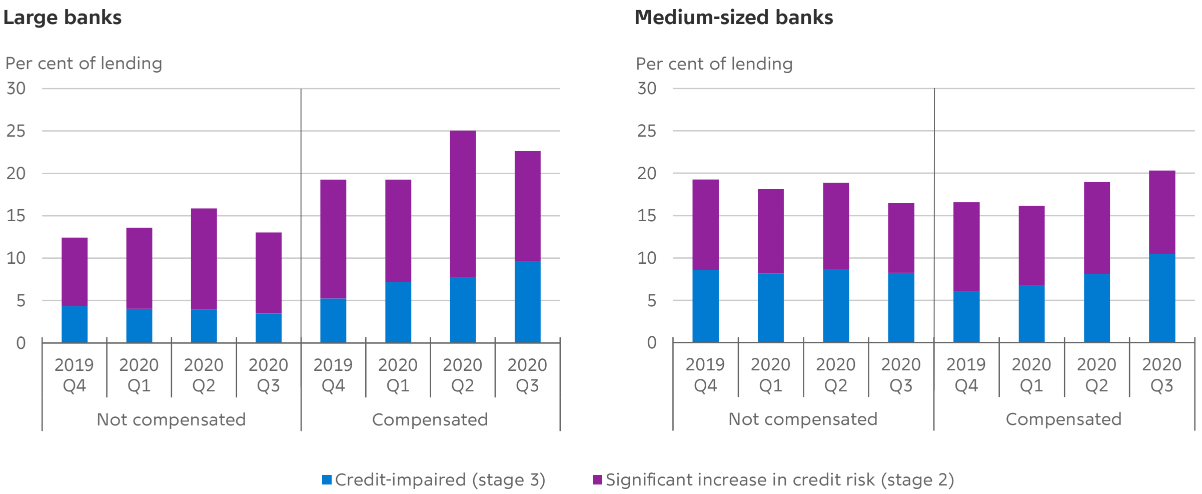


Note: Lending broken down by ranges for probability of default for large and medium-sized banks authorised to use internal models (IRB models) to calculate their capital adequacy requirements. The remaining lending has a low probability of default of up to 4.9 per cent.

Source: Danmarks Nationalbank, Danish Business Authority and own calculations.

Deteriorated credit quality of compensated customers

Chart 14



Note: Lending broken down by impairment stages. The remaining lending is in impairment stage 1 without any significant increase in credit risk.
Source: Danmarks Nationalbank, Danish Business Authority and own calculations.

Even before the coronavirus outbreak, the major banks assessed that there was both a higher credit risk and a higher probability of default on the part of the lending granted to the corporations that have subsequently received compensation. This should be seen in the context of the financial statements of the compensated corporations showing signs of weakness before the coronavirus outbreak. Across the banks, the compensated customers thus had less liquid funds available than was the case for the banks' other customers. The banks' lower credit quality assessment is reflected in a higher average interest rate on loans to the compensated corporations – both before and after the coronavirus outbreak.

In general, medium-sized banks have poorer credit quality than large banks on the part of the lending made to customers who have not received compensation. Regarding lending to compensated corporations, the share of credit-impaired loans is roughly the same in both large and medium-sized banks, while the share of loans with significant increase in credit risk is highest in the large banks.

Challenges involving the most vulnerable customers may also impact other customers

Until now, the coronavirus crisis has particularly challenged the credit quality of customers directly affected by it. But the problems among the most vulnerable customers may also impact other customer groups which have until now been less affected. An example is if the asset prices of the collateral behind the lending decrease.

In corporations in several of the most vulnerable industries, such as hotels, restaurants and airlines, services are provided based on large physical assets, for example properties and aircraft. However, in some cases, these assets are not owned by the corporations themselves, but by, for example, pension funds or corporations engaged in corporate leasing, which instead lease the assets to the corporations in the industries in question. The assets may decrease in value in line with the assets no longer securing the same rental income that they previously did. The owners may consequently encounter problems servicing their loans. At the same time, the value of the collateral behind the loans decreases. There are just over 200 property landlords owning one or more buildings used fully or partly for hotel operations. These property landlords overall have significantly more debt to credit institutions than all the corporations in the hotel industry combined, see chart 15. However, a review of the financial statements of the largest of these landlords shows that hotels only make up a minor part of their property portfolios. These landlords are therefore generally regarded as being resilient in the event of non-payments from hotel properties.

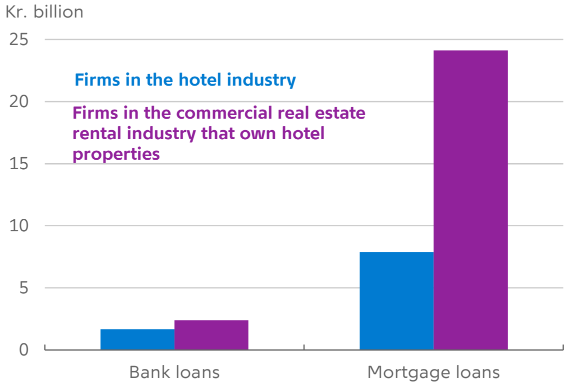
Mink industry poses limited risk to credit institutions
The mink production shutdown does not present a challenge to the credit institutions as a whole. However, there are large differences across individual credit institutions and some institutions have large exposures to the mink industry.

Lending related to mink farming etc. can be stated at approximately kr. 820 million for banks and kr. 4.4 billion for mortgage credit institutions, see chart 16, and only constitutes a limited part of the lending to corporations and sole proprietorships. Around kr. 4 billion of the mink-related lending concerns self-employed persons, and these customers are therefore personally liable for the debt.

Even before the mink production shutdown, the banks estimated that more than half the lending was credit-impaired, while only 11 per cent of mortgage lending is assessed as credit-impaired. How credit institutions are affected by the mink industry shutdown will depend on the specific compensation model and whether production can ever be reestablished.

Corporations that do not run hotels themselves may also be impacted by the hotel industry crisis

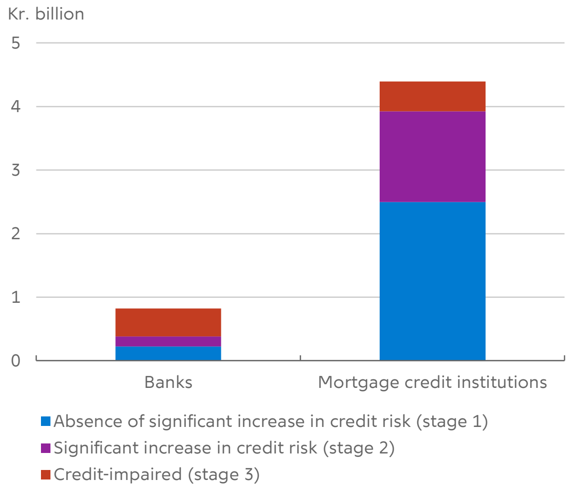
Chart 15



Note: 'Firms in the hotel industry' denotes total lending to the 'Hotel' industry. 'Firms in the commercial real estate rental industry that own hotel properties' denotes total lending to the corporations in the 'Commercial rental property' industry that are registered as owners of one or more buildings used wholly or partially for hotel operations. Data as at the end of 3rd quarter 2020.
Source: Danmarks Nationalbank, Land Registry (*Tingbogen*), Bisnode and own calculations.

Half of mink-related bank lending is credit-impaired

Chart 16



Note: Lending as at the end of the 3rd quarter of 2020, broken down by stages of impairment on corporations in the 'Fur farming etc.' industry as well as lending to corporations that have provided security in the property category 'Fur and deer farms'.
Source: Danmarks Nationalbank, Bisnode and own calculations.

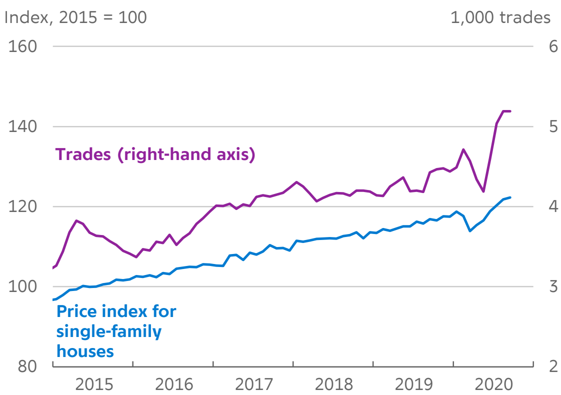
More home buyers opt for less risky loans

High housing market activity and rising mortgage lending
Housing market activity has increased rapidly since spring, see chart 17. Prices of single-family houses have also increased significantly and are now higher than before the lockdown. A similar trend is seen for owner-occupied flats. Several factors currently support the housing market, where long-term mortgage rates have seen a further slight decrease to a historically low level, and household incomes have been supported by compensation schemes. If house prices continue to rise at the current rates of increase, this could enhance the risk of subsequent price falls on the housing market, which has been seen in the past after periods with marked increases.

Rising house prices have led to a decrease in homeowners' total debt in relation to the value of the houses, see chart 18. However, homeowners' mortgage debt has also increased over the period, but at a more moderate pace.

Housing market activity has rebounded

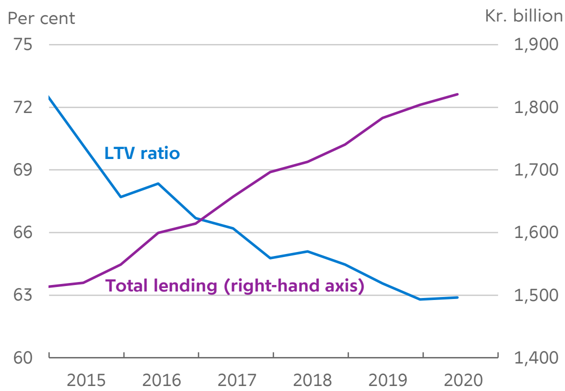
Chart 17



Note: Seasonally adjusted. Trades are three-month moving averages. The most recent observations are from September.
Source: Statistics Denmark and own calculations.

Lower loan-to-value ratios of mortgage loans to homeowners

Chart 18



Note: Average exposure-weighted loan-to-value ratio on mortgage lending to homeowners and total outstanding mortgage lending with mortgage on owner-occupied dwellings. The most recent observations are from end of the 1st half of 2020.
Source: The Danish Financial Supervisory Authority and own calculations.

Total mortgage lending to employees, pensioners etc. had increased by 4 per cent year-on-year at the end of October, but with a declining growth rate since the coronavirus outbreak. Conversely, their bank lending continues to decline, with negative growth of 3.6 per cent year-on-year at the end of October.

Risky loan types represent a declining proportion of total mortgage lending

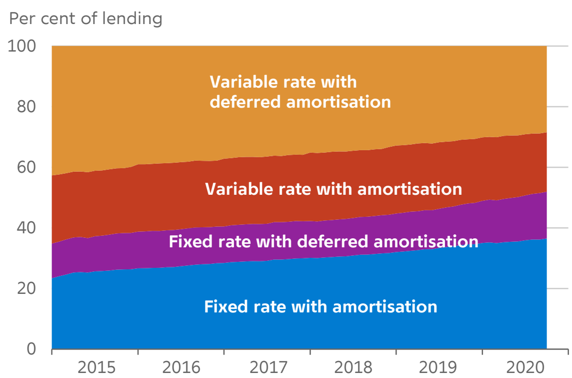
The resilience of homeowners is supported by the trend towards both a smaller share of risky loan types among new mortgage loans and higher instalments.

Fixed rate loans now account for more than half of homeowners' mortgages, and mortgage lending growth is driven solely by these. The proportion of interest-only loans has remained fairly constant in the past year, after having previously decreased, see chart 19. Along with very low mortgage rates, the development has pushed repayment rates for homeowners' mortgage debt upwards for both fixed rate and variable rate loans.[4]

The credit institutions must ensure that home buyers also have sufficient income to cope with periods of unemployment. In line with the relief packages being

More and more homeowners are opting for fixed rate mortgage loans

Chart 19



Note: Mortgage lending to households with mortgages on owner-occupied homes and holiday homes. The most recent observations are from October 2020.
Source: Danmarks Nationalbank.

4 See Danmarks Nationalbank, Danes repay more on their mortgage loans, *Danmarks Nationalbank Statistics*, October 2020 (*link*).

phased out and deferred VAT and tax payments falling due for payment, more corporate liquidations can be expected. In this connection, some households risk being affected by periods of unemployment.

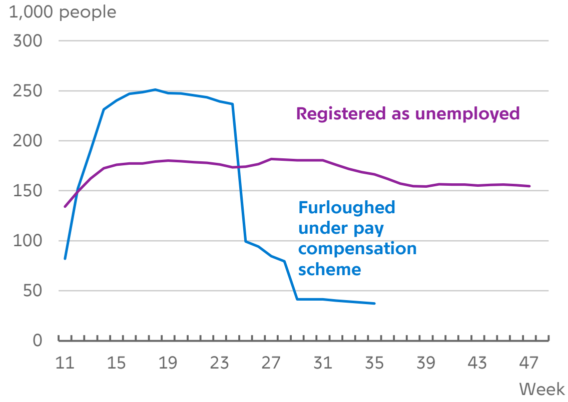
Limited proportion of lending to persons covered by pay compensation

In particular, those employed in industries which are still affected, or have been affected, by restrictions and declines in activity may be at risk of unemployment. If this turns into long-term unemployment, it could result in the credit institutions incurring losses on lending to household customers.

The number of registered unemployed persons has so far stabilised at a level of around 155,000 persons after peaking with 181,000 persons in July, see chart 20. During the lockdown, a further 250,000 persons were covered by the pay compensation scheme, which was subsequently phased out in August. The pay compensation scheme covered the largest number of persons in the trade, hotel and restaurant, and manufacturing industries. Towards the end of November, just over 7,000 persons were covered by the new short-time working scheme, which is expected to apply until the end of February 2021.

Unemployment has stabilised and the pay compensation scheme has been phased out

Chart 20



Note: The X-axis shows weeks in 2020. 'Furloughed under pay compensation scheme' denotes the number of unique persons furloughed in a particular week with an approved application. Registered as unemployed is a seven-day moving average. The most recent observations are from calendar week 47.

Source: Danish Business Authority, Danish Agency for Labour Market and Recruitment and own calculations.

The credit institutions' lending to persons who have been covered by pay compensation for a short or long period represents a minor proportion of the total lending to employees. The debt to persons on pay compensation constitutes 10 per cent and 6 per cent of households' debt to banks and mortgage credit institutions, respectively, and employees in the trade, manufacturing and transport industries account for the largest share of the debt. This is shown by microdata on these persons and their debt to the credit institutions, see box 3.

Household customers and the coronavirus crisis – how we proceeded

Box 3

Under the general pay compensation scheme, corporations could apply for compensation for payroll costs for employees who were furloughed for the whole or parts of the period from 9 March to 29 August. The furloughed employees had to constitute minimum 30 per cent of the total number of employees or more than 50 employees. Under the original scheme, corporations could apply for compensation for 75 per cent of the salaries of furloughed salaried employees and 90 per cent of the wages of other furloughed employees, however, for no more than kr. 30,000 per month for salaried employees and hourly workers.[1]

Whether a person has been covered by pay compensation in the period from 9 March to 29 August is used in the analysis as an indicator for whether the person and his/her job have been particularly vulnerable during the coronavirus crisis. The analysis uses microdata from Statistics Denmark on payments from the pay compensation scheme to individuals combined with information about the persons' main employment as well as their debt and income situation at the end of 2018.

Corporations which were directly covered by the mandatory closure until 30 October could also apply for pay compensation after 29 August. The new short-time working scheme is expected to be in use at least until end of February 2021.

1. See Regeringen, *Trepartsaftale om midlertidig lønkompensation indgået 14. marts,* marts 2020 (The Government, Tripartite agreement on temporary pay compensation concluded 14 March, March 2020) (*link*) – in Danish only. The original agreement was subsequently extended to 29 August.

The debt ratio of a typical person having been covered by pay compensation is at a low level: 32 per cent of the pre-tax income. A quarter of all persons covered by pay compensation have little or no debt. Salaried employees account for the main part of the debt and have slightly higher debt ratios, but they constitute less than half the persons who were furloughed on pay compensation.

Banks have increased their liquidity reserves

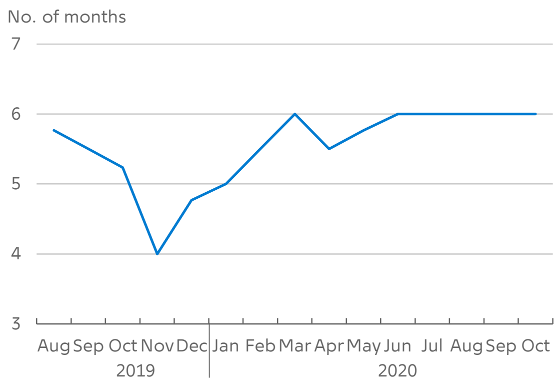
High liquidity in society gives high liquidity ratios in banks
The systemic banks continue to hold large liquidity reserves. Danmarks Nationalbank's sensitivity analysis thus shows that banks can handle severe liquidity stress for at least six months, see chart 21. Danmarks Nationalbank continuously assesses the sensitivity of the banks' liquidity position based on three scenarios: A market-specific scenario, an institution-specific scenario and a hard combined scenario.[5]

The banks' liquidity buffers were already relatively large before the coronavirus outbreak in March, and government liquidity support measures to the corporate sector have contributed to increasing the buffers. Increased liquidity in Danish kroner will generally find its way into the banks' balance sheets and lead to increased customer funding surplus, see box 1. However, there was a small dip in the survival horizon in the months following the lockdown of the Danish society in spring.

Danmarks Nationalbank's sensitivity analysis functions as a supplement to the statutory liquidity coverage ratio (LCR) requirement and the coming Net Stable Funding Ratio (NSFR) requirement. The extra deposit liquidity is also reflected in the LCR, where the systemic banks are well above the minimum requirement, see chart 22.

The non-systemic banks have generally also reported high LCRs in 2020. It is worth noting that even the medium-sized banks with the lowest LCRs have a value above 200 per cent, where the requirement is minimum 100 per cent.

Systemic banks can survive six months of liquidity stress Chart 21



Note: Number of months systemic banks can overall withstand severe combined liquidity stress, according to Danmarks Nationalbank's sensitivity analysis. In the sensitivity analysis, six months is the maximum survival horizon.
Source: Danmarks Nationalbank.

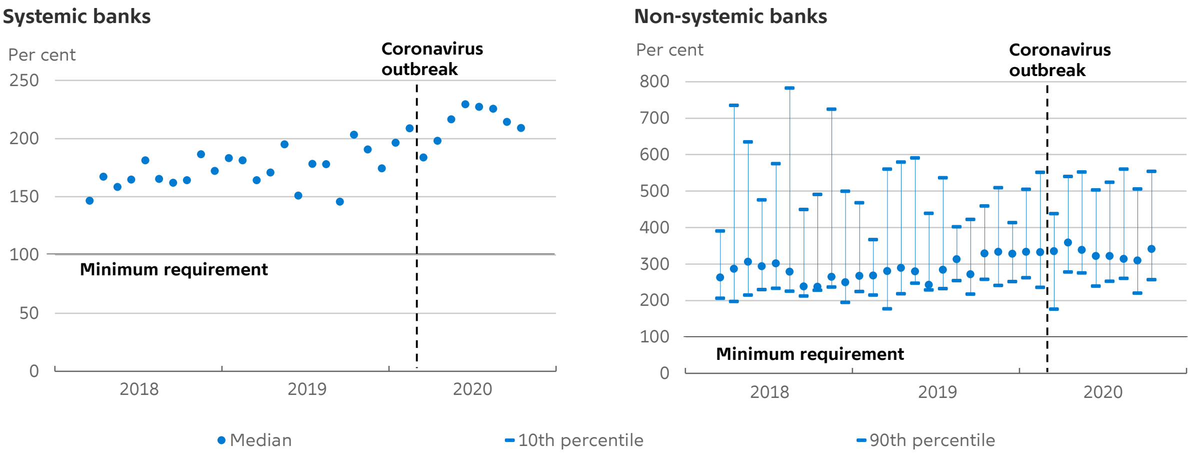
Banks' liquidity can handle payment of deferred tax and VAT
Bank deposits have increased significantly in 2020, but they may quickly disappear again. The increase in deposits is likely to be temporary and to decline significantly as government liquidity support schemes are being phased out in the 1st half of 2021.

Robustness analyses of both the financial institutions' survival horizon and their ability to comply with the regulatory LCR show that, on the face of it, the banks will be able to handle a situation in which deposits fall back to the level seen in the end of March 2020. In the robustness analyses, it is assumed that the observed increase in deposits quickly disappears again and that corporations draw on the increased credit facilities, see box 4. Even with such a considerable draw on liquidity, institutions continue to maintain a survival horizon above four months, see chart 23.

5 For a method description, see page 26 of Danmarks Nationalbank, Lower excess capital adequacy for the banks, *Danmarks Nationalbank Analysis (Financial stability)*, no. 25, November 2019 (*link*).

Banks comply with the short-term LCR requirement with a significant margin

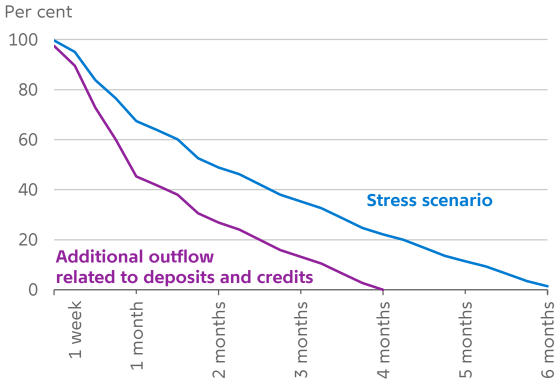
Chart 22



Note: The LCR, which must be higher than 100 per cent, is calculated as the bank's liquid assets divided by net cash outflows over a 30-day stress period. The most recent observations are from the end of October 2020.
Source: Danmarks Nationalbank.

Continued high survival horizon in scenario of further outflow of deposits and credit facilities

Chart 23



Note: Number of months systemic banks can overall withstand severe liquidity stress as well as an extra credit draw and corporate deposit withdrawal (see box 4), according to Danmarks Nationalbank's sensitivity analysis. The most recent observations are from October 2020.
Source: Danmarks Nationalbank.

Increased credit draw and deposit withdrawal when government liquidity support ends

Box 4

The liquidity position of banks will be affected if corporations withdraw their deposits and draw on their new credit facilities in order to pay their deferred tax and VAT next year. The calculations described in this box are used to assess whether banks can maintain a robust survival horizon and comply with the regulatory LCR.

It is assumed that the banks are simultaneously affected by the following two events:

- Additional withdrawals of corporate deposits, which are estimated to be occasioned by the deferral of tax and VAT payments. The effect on deposits from the injection and subsequent reversal of liquidity is assumed to be proportional to the distribution of the increase in deposits in the individual banks since late March.
- An additional draw on unused credit facilities, which has generally increased since the coronavirus outbreak. The credit draw is calculated as the rise in credit facilities in Danish kroner since late March. It is assumed that the entire increase is drawn.

Similarly, a drop in bank deposits as a result of the payment of deferred payments would result in only a limited fall in the systemic banks' excess liquid assets relative to LCR, see chart 24. However, differences exist among the banks. For several banks, the analysis shows that their excess liquidity decreases by up to 40 per cent in case of a simultaneous credit draw and fall in deposit estimated to be occasioned by the deferred tax and VAT payments.

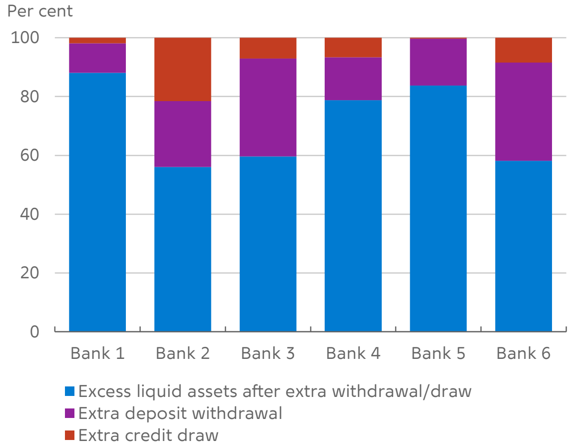
Liquidity premiums in the mortgage bond market are back to normal
Mortgage bond interest rates rose sharply for a brief period from mid-March when there was considerable uncertainty about the development of the coronavirus outbreak and its economic impact. The sharp rise in interest rates was mainly due to brief pressure on mortgage bond liquidity, resulting in higher liquidity premiums, see chart 25.[6] Liquidity premiums remained at a higher than normal level until June. The increase in liquidity premiums were especially pronounced for long-term callable bonds, but short-term bonds were also affected, albeit to a lesser extent. Despite the rising liquidity premiums, mortgage credit institutions were able to continue to issue the necessary mortgage bonds to the market to prevent an impact on lending.

The liquidity premium reflects the portion of, for example, a bond's price which can be attributed to liquidity risk, i.e. the uncertainty associated with how quickly the bond can be sold and what the transaction costs of doing so will be. Liquidity premiums have now returned to more normal levels, and in recent months there have been no large variations in mortgage bond market liquidity.

Again attractive prices on banks' funding markets
In the wake of the market turmoil in March and April, several countries took steps to make it easier for banks to comply with MREL requirements, among other things. Denmark also took steps, with the Danish Financial Supervisory Authority relaxing MREL requirements, citing difficult market conditions and high costs related to the issuance of non-preferred senior debt. Non-preferred senior debt is a type of debt that

LCR compliance not affected by additional credit draw and deposit withdrawal

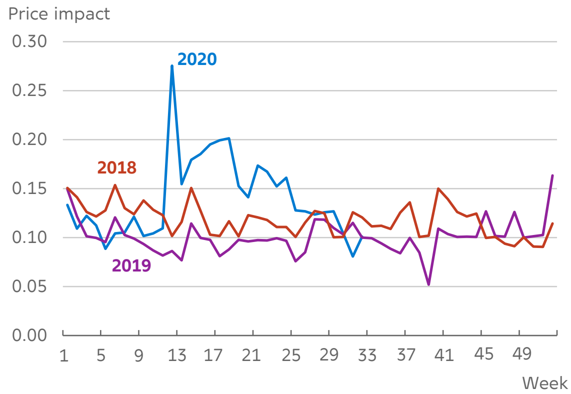
Chart 24



Note: Share of banks' excess liquid assets relative to LCR, which will be obsolete if an additional credit draw and corporate deposit withdrawal is assumed (see box 4). The blue bar denotes how much of the banks' excess liquid assets will remain. As long as the blue bar is above 0, the bank will continue to comply with the regulatory LCR. The most recent observations are from October 2020.
Source: Danmarks Nationalbank.

Liquidity costs were higher than normal from March to June

Chart 25



Note: Liquidity premium for long mortgage bonds calculated weekly in 2018, 2019 and 2020, respectively. Long callable bonds are defined as bonds with more than 20 years to maturity. The most recent observations for 2020 are from calendar week 33.
Source: MiFID II reports and own calculations.

6 See Danmarks Nationalbank, Danish mortgage bond liquidity briefly impacted by covid-19, *Danmarks Nationalbank Analysis*, no. 22, November 2020 (*link*).

absorbs losses before unsecured claims in connection with the resolution and liquidation of an institution.

Subsequently, the prices of non-preferred senior debt once again returned to their normal level compared to ordinary senior debt, and the spread between the prices of the two types of debt has now returned to the 2019 level, see chart 26.

Price of non-preferred senior debt has returned to 2019 level

Chart 26

Note: Difference between Z spread for non-preferred senior euro debt and senior euro debt for systemically important European banks. Data is updated up until 30 November 2020.
Source: Bloomberg and own calculations.

Declining earnings in the credit institutions

Earnings outlook is slightly lower this year
Bank earnings have fluctuated heavily since the coronavirus outbreak in March, see chart 27. In Q1, systemic credit institutions were affected by the downturn in the financial markets, while also making considerable provisions for expected loan losses. In Q2 and Q3, profits were back to their pre-outbreak levels, and institutions thus emerged from the quarters in better shape than feared.

The improvement in profits from the 1st to the 2nd quarter is due to the fact that the majority of the corona-related impairment charges were recorded in the 1st quarter and that the markets recovered from large price falls in March. In fact, the systemic credit institutions' positive value adjustments in the 2nd quarter were larger than the negative value adjustments in the 1st quarter.

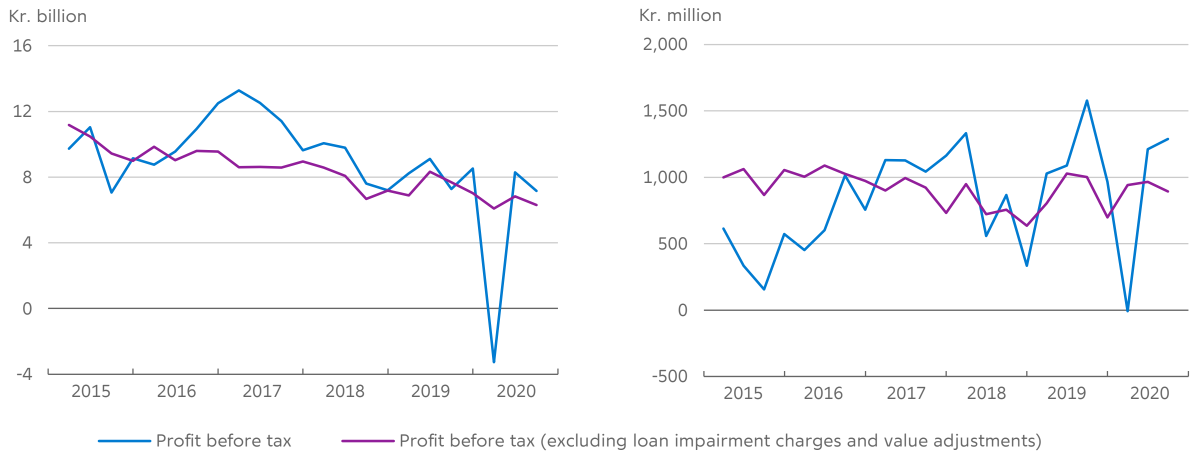
In light of the improved profits, several systemic credit institutions raised their 2020 earnings outlook during the 2nd half of 2020. However, this year the

Large variations in credit institution earnings in 2020

Chart 27

Systemic credit institutions

Non-systemic banks



Note: Quarterly data for systemic credit institutions and non-systemic banks. Profit before tax of systemic credit institutions has been adjusted for goodwill impairment charges. The most recent observations are from the 3rd quarter of 2020.
Source: The Danish Financial Supervisory Authority and own calculations.

earnings outlook is generally lower than the annual profits realised in recent years.

In the 1st half of 2020, non-systemic banks also recorded impairment charges on loans based on management judgement. Relative to total lending and guarantees, non-systemic banks have made larger provisions than systemic credit institutions. The difference may reflect the fact that systemic credit institutions have a considerable number of mortgage loans on their balance sheets and bank loans with a better credit quality.

Earnings may cover fewer loan losses than in the past

The prospects of lower earnings this year follow declines in profits since 2017. However, earnings fell from a high level and present earnings continue to remain a reasonable initial protection against losses. However, further declines may weaken credit institutions' resilience in the long term.

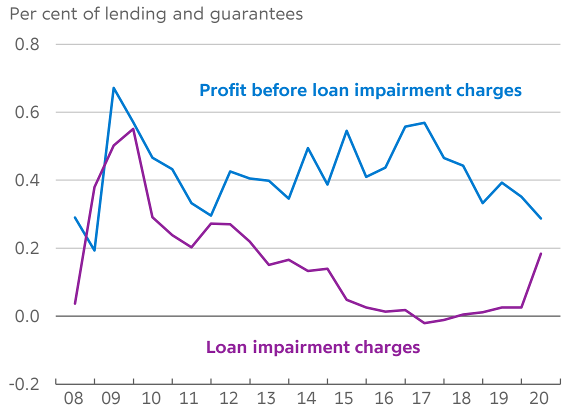
The credit institutions' ongoing earnings must be sufficient to cover both the expected operating losses and returns to the owners. In addition, the capitalisation of the institutions must comply with the capital adequacy requirements imposed by the authorities to ensure that the institutions can also absorb unexpected losses during periods of economic downturn and uncertainty.

In the 1st half of 2020, present earnings could cover impairment charges corresponding to just under 0.3 per cent of lending and guarantees, see chart 28. This reflects a variation of 0.2-0.9 per cent of lending and guarantees among the individual systemic credit institutions. By comparison, total recorded loan impairment charges were just under 0.2 per cent of lending and guarantees. The large impairment charges in the 1st half of 2020 reflect the sizeable loan loss provisions in the 1st quarter, and the level of impairment charges was significantly lower in both the 2nd and 3rd quarters.

In 2021-22, equity analysts generally expect only a partial recovery of the earnings of the largest listed credit institutions measured by return on equity (ROE). However, the low ROE expectations are hardly the only reason why major listed bank shares have traded at low price-to-book ratios this year, see box 5. The price-to-book ratio of a company is the market value of equity relative to the book value of equity.

Earnings can absorb fewer impairment charges and losses than in the past

Chart 28



Note: Half-yearly profit before impairment charges and loan impairment charges as a percentage of total lending and guarantees of systemic credit institutions. Profit before impairment charges has been adjusted for goodwill impairment charges. The most recent observations are from the 1st half of 2020.

Source: The Danish Financial Supervisory Authority and own calculations.

The price-to-book ratio of the credit institutions depends on earnings expectations and rate of return required by shareholders

Box 5

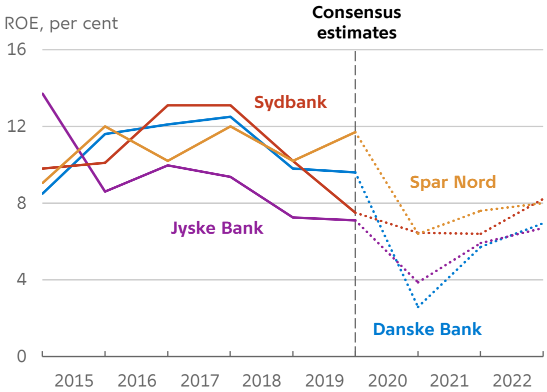
The ROE of the largest listed credit institutions has generally been declining in recent years, see the left-hand chart below. Equity analysts' estimate of the banks' ROE in 2020 is significantly lower than the ROE realised in 2019, and the outlook for 2021-22 shows that analysts generally do not expect a return to the levels of recent years. Consequently, equity analysts expect banks to achieve an ROE in the range of 6-8 per cent between 2021 and 2022. At the same time, the market value of the equity of large listed banks has for several years been trading at levels below the book value of equity in the accounts, see the right-hand chart below.

Simple discounting models show that a corporation's price-to-book ratio depends on the expected ROE and rate of return required by investors, among other things. The current low price/book values of the large listed credit institutions indicate that the rates of return required by investors exceed the expected ROE of the institutions. Thus, the rates of return required on the largest Danish bank shares must also exceed the latest assessment by the Council for Return Expectations, which expects a market-based return of just below 6 per cent on the 'Global shares (developed countries)' asset class over the next 1-5 years.[1]

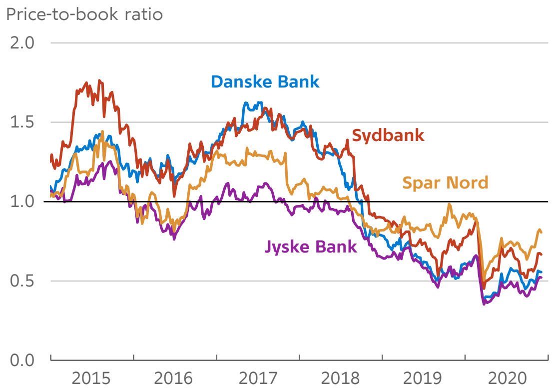
It does not seem sustainable in the long term when one krone of book equity in Danish credit institutions has a market value of as little as kr. 0.50. Higher ROE expectations may help to pull share prices upwards again. As can a lower required rate of return.

Both the ROE and price-to-book ratio of large listed credit institutions have generally been declining

ROE is generally expected to be only partially restored in the coming years



The price-to-book ratio of the largest credit institutions has generally declined in recent years



Note: Left-hand chart: Annual ROE of the largest listed banks and equity analysts' consensus estimate of ROE for 2020-22. Right-hand chart: Weekly price-to-book ratio calculated as the price per share relative to the book value of equity per share for the largest listed banks. The most recent observations are from 30 November 2020.
Source: S&P Global Market Intelligence.

1. See the Council for Return Expectations, *The common return expectations for 1st half 2021*, October 2020 (*link*) – in Danish only.

Costs have increased in the largest banks

Since 2018, higher operating expenses have been the primary driver of the decrease in profits before impairment charges in systemic credit institutions, and compared to other major Nordic and European banks operating expenses have increased the most in the largest Danish institutions, see chart 29. Much of the increase in the operating expenses of systemic credit institutions can be attributed to Danske Bank.

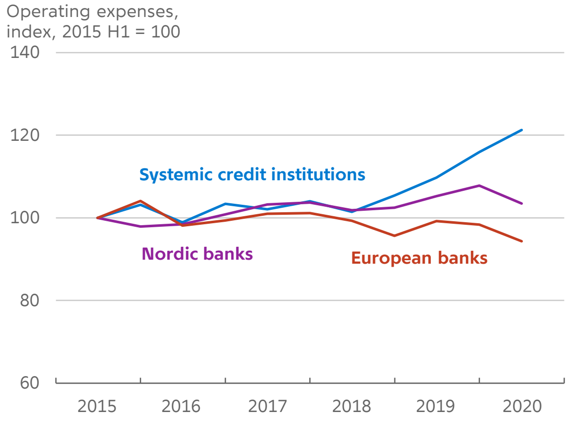
Approximately 80 per cent of the total costs of systemic credit institutions can be attributed to either staff or administration, see chart 30. Higher staff and administrative expenses should be seen in the context of an increase in the number of employees in recent years, among other things. Furthermore, in the period 2013-18, the largest credit institutions saw a rise in the number of compliance and risk management staff. A general focus on compliance and risk management is needed, as the banks must ensure that the functions can live up to their responsibilities. Inadequate management of these areas may potentially cost the institutions and the sector as a whole dearly through, for example, reputational damage and financial losses.

Part of the increase in costs can also be attributed to factors such as general price and wage adjustments in society, IT investments and asset depreciation.

Several institutions have initiated cost-efficiency measures, including staff cuts.

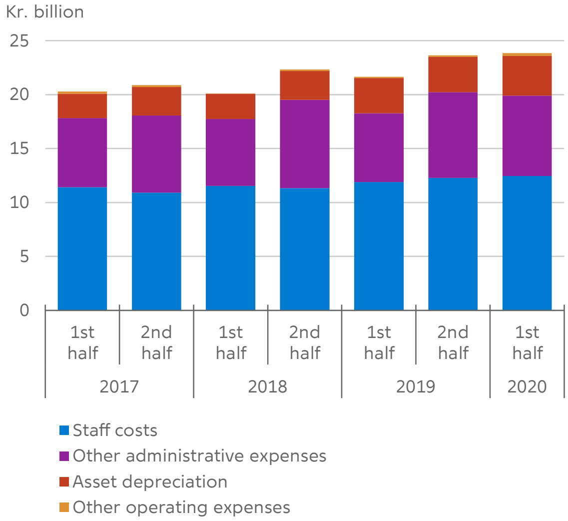
The financial sector is also facing additional taxation.[7] Generally, banks can adapt to the new tax in three ways: They can reduce shareholder dividends, cut costs or raise their prices. The adjustment will be institution-specific and will depend on the competitive situation and their business model. The nature and scale of the proposed tax will not challenge financial stability. But it is essential that the burden on the banking sector is not used or accepted as a reason for relaxing, for example, capital adequacy

The operating expenses of systemic credit institutions have risen more than those of Nordic and European banks Chart 29



Note: Half-yearly total operating expenses from banking, insurance and asset management. European banks comprise 16 out of 22 banks in the Euro Stoxx Banks index (SX7E), compiled as at 30 November 2020. Nordic banks comprise Nordea Bank, DNB, Skandinaviska Enskilda Banken, Svenska Handelsbanken and Swedbank. For the Nordic banks, the costs have been converted into Danish kroner at fixed exchange rates as at the end of the 1st half of 2020. The most recent observations are from the 1st half of 2020.
Source: S&P Global Market Intelligence and own calculations.

Credit institution costs have increased in recent years Chart 30



Note: Six-month data for systemic credit institutions. Asset depreciation has been adjusted for goodwill impairment charges.
Source: The Danish Financial Supervisory Authority and own calculations.

7 On 10 October 2020, the government (the Social Democratic Party), the Danish People's Party, the Socialist People's Party and the Red-Green Alliance agreed on a new early retirement scheme (*link*). The agreement is the result of consolidated act *L104 amending the Danish Social Pension Act and various other acts (Introduction of the Right to Early Retirement)* and is proposed to enter into force on 1 January 2021.

requirements, the minimum requirement for own funds and eligible liabilities (MREL) or anti-money laundering efforts.

Earnings from traditional banking have fallen
Since 2015, there has been a general decline in the net interest income of systemic credit institutions, see chart 31. The decline in net interest income should be seen in light of lower interest margins, i.e. the difference between their lending and deposit rates due to, for example, competition for lending customers. At the same time, banks have been reluctant to cut deposit rates for households. This means that, on average, the largest banks pay deposit rates close to zero for households, while placing excess liquidity in the market at negative interest rates. However, the deposit margins of the largest banks have risen since the end of 2019 for both households and corporations, but they remain negative. The deposit margin is the difference between the average deposit rate and the interest rate at which the bank can place the deposit with Danmarks Nationalbank, i.e. the certificate of deposit rate.

Since the 2nd half of 2019, all systemic banks have introduced negative interest rates on deposits from household customers over a certain limit, and the limit has been lowered several times. The measures have helped to mitigate the decline in banks' net interest income, which has remained roughly unchanged over the past year. The prevalence of negative deposit rates to residential customers still differs among the largest banks, but the difference is narrowing.

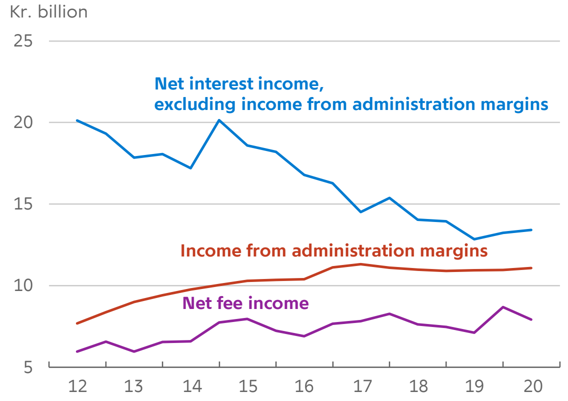
For non-systemic banks, net interest income has also declined in recent years, but earnings from traditional banking operations have been sustained by growing net fee income, partly supported by securities trading income and loan fees related to the high conversion activity in 2019.

More secure loans naturally reduce mortgage credit institution earnings
Earnings from administration margins on mortgage loans has remained broadly unchanged since 2017, despite rising mortgage lending to households and corporations.

The flattening of earnings from administration margins on mortgage loans should be seen in the context of a decrease in average administration margins, see chart 32. The fall in average administration

Net interest income of systemic credit institutions has declined since 2015

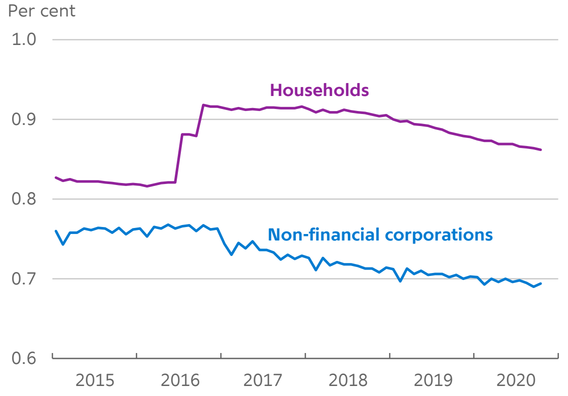
Chart 31



Note: Six-month data for systemic credit institutions. The most recent observations are from the 1st half of 2020.
Source: The Danish Financial Supervisory Authority and own calculations.

Average administration margins have fallen

Chart 32



Note: Average administration margins of outstanding domestic mortgage lending in Danish kroner. The most recent observations are from October 2020.
Source: Danmarks Nationalbank.

margins reflects the fact that private homeowners continue to opt for more secure types of loans when financing their home. It is only natural for earnings per loan to fall as credit risk declines.

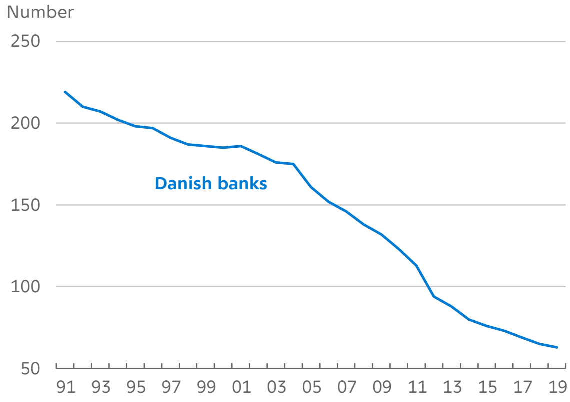
Several acquired banks have had low earnings
Since the early 1990s, the number of Danish banks has fallen from 219 to 63, see chart 33. The development reflects a long-term trend, with the reduction taking place in all years from 2001-2019, but especially in the first years following the 2008-09 financial crisis. In view of the increasing level of complexity, among other things, there are probably economies of scale to be had from operating a credit institution on a larger scale than in the past, and therefore the consolidation in the banking sector is likely to continue in the coming years.

In 2020, there have been several examples of further consolidation. The continuing institution's motivation for a merger has often been to take over assets in order to streamline and increase its earnings capacity through, for example, synergies.

Since 2015, institutions that have subsequently been acquired or merged with major banks have generally had lower earnings measured by ROE than the rest of the sector, see chart 34. For banks with a non-viable business model, it may be sensible to be part of acquisitions or mergers with a major bank.

The number of Danish banks has declined significantly

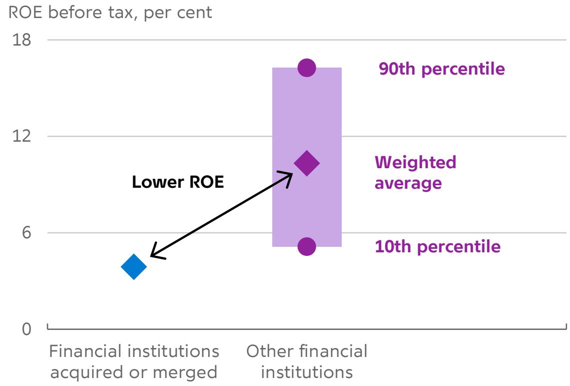
Chart 33



Source: Finance Denmark.

Lower ROE in banks that have subsequently been acquired or merged

Chart 34



Note: ROE before tax for financial institutions in the period end of 2014 to end of the 1st half of 2020. 'Financial institutions acquired or merged' are institutions which during the period have been acquired or merged with one of the financial institutions in the analysis, see appendix on analysis data. 'Other financial institutions' are the other financial institutions in the analysis.
Source: The Danish Financial Supervisory Authority and own calculations.

Relaxed capital adequacy requirements have boosted banks' excess capital adequacy

Credit institutions should remain cautious about dividend payments
So far, the credit institutions have come through the crisis relatively unscathed. But there is still a lot of future uncertainty. The expiry of relief packages in the 1st half of 2021 could lead to higher credit losses next year compared to this year, and the economic outlook could deteriorate further. The credit institutions should thus be cautious when planning dividend payments in the coming period.

The excess capital adequacy relative to the credit institutions' capital adequacy requirements has largely increased as a result of the relaxed capital adequacy requirements implemented by the authorities since the coronavirus outbreak, see chart 35. Some of these relaxations are likely to be temporary and reversed when the economy returns to normal following the containment of the coronavirus.

Earlier this year, the Minister for Industry, Business and Financial Affairs released the countercyclical capital buffer and cancelled increases that were already scheduled to come into force later. The release of the buffer was to give institutions additional leeway to expand their lending capacity during the corona crisis. Therefore, the release is not targeted at the distribution of dividends or buy-backs of own shares.

In September, the Systemic Risk Council pointed out that it is important to start rebuilding the buffer as economy activity expects to return to normal in the coming years. The Council also announced that it may recommend an increase in the buffer during 2021. As a general rule, it takes 12 months from a decision is made to raise the buffer until an increase takes effect.

Following the coronavirus outbreak, the European Parliament relaxed the requirements imposed on banks, including advancing a planned increase in the discount granted to banks for the capital they have tied up in loans to small and medium-sized enterprises (SMEs). The discount is extended to cover, for example, all loans to SMEs as described in the section below.

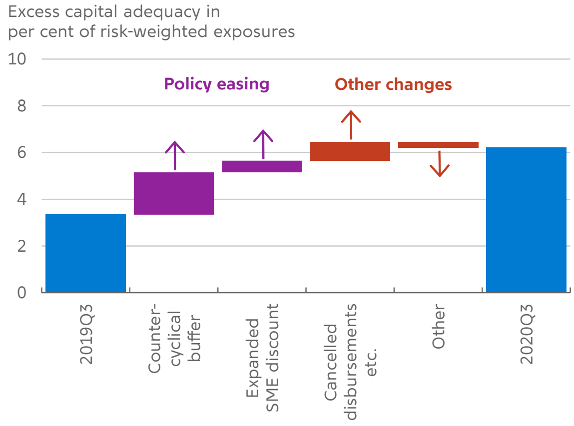
In the spring, Danske Bank, Nykredit, Jyske Bank, Sydbank and Spar Nord decided to cancel the dividend payments recommended at their annual general meetings earlier this year along with the planned and existing share buy-back programmes. This has allowed the institutions to build up additional loss-absorbing capital, which has also contributed to the higher excess capital adequacy in the banking sector compared to last year. Taking a longer-term view, banks are generally better capitalised today than, say, in the run-up to the 2008-09 financial crisis.

Excess capital adequacy still varies considerably across the individual institutions, see chart 36. Danske Bank and DLR Kredit have a more limited excess capital adequacy than the other banks.

Some systemic institutions show non-compliance with buffer requirements in stress tests
Danmarks Nationalbank's latest stress test shows that individual systemic credit institutions exceed the

Excess capital adequacy relative to risk-based capital adequacy requirement has increased

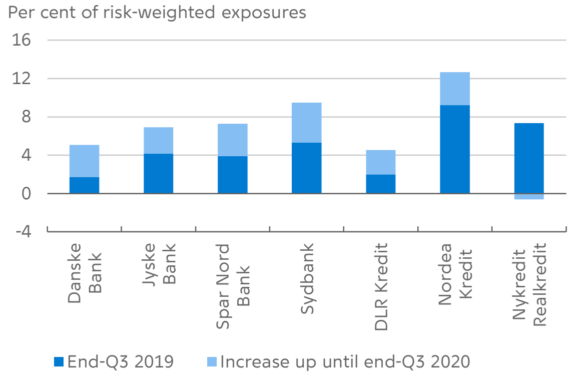
Chart 35



Note: Change in the total excess capital adequacy of systemic credit institutions for fully phased-in requirements. 'Countercyclical buffer' reflects, among other things, the release of the implemented buffer rate and increases in the buffer that were announced but which had not yet come into force. 'Expanded SME discount' indicates the effect on excess capital adequacy reported in Danske Bank's interim report 2020.
Source: Danmarks Nationalbank and own calculations.

Major variations in excess capital adequacy across systemic institutions

Chart 36

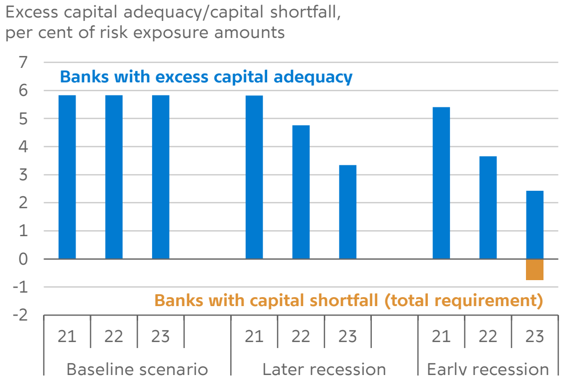


Note: Excess capital adequacy calculated at the capital level (Common Equity Tier 1 capital, Tier 1 capital or total own funds) with the shortest distance to the risk-based capital adequacy requirements for the institution. The risk-based capital adequacy requirements comprise the minimum capital adequacy requirement, the Pillar II add-on, the SIFI buffer, the capital conservation buffer and the countercyclical capital buffer.
Source: Danmarks Nationalbank and own calculations.

requirements for their capital buffers in a severe and early recession, see chart 37.[8] None of the systemic credit institutions fail to comply with their minimum capital adequacy requirements.

In most credit institutions, capitalisation has been strengthened in the past year, both as a result of retained earnings and relaxed requirements. Institutions are thus better equipped to withstand stress. Conversely, the fact that the institutions' earnings have fallen and the first line of defence against losses is weaker than in the past affects the stress test negatively. As a result, some banks have less capital to cushion the effects of a downturn.

Some systemic credit institutions show non-compliance with buffer requirements in stress tests Chart 37



Note: The excess capital adequacy or capital shortfall of systemic credit institutions that either have excess capital adequacy or a capital shortfall as a percentage of their total risk exposure amounts.
Source: The Danish Financial Supervisory Authority and own calculations.

Low excess capital adequacy relative to MREL requirement weakens banks' resilience

Before the institutions in the stress test come into conflict with their capital buffer requirement, they risk being in non-compliance with their MREL requirement. Therefore, the institutions should either increase their level of capital or issue appropriate debt instruments to ensure a more robust excess capital adequacy relative to the requirement. Institutions should keep in mind that issuance can be difficult and expensive during periods of financial market turmoil. Access to the market was weakened for a while earlier this year, and the cost of issuances in the market was at an elevated level.

Credit institutions are subject to a number of different requirements for their capitalisation and composition of liabilities. The institutions must meet a risk-based capital adequacy requirement consisting of a minimum requirement and a buffer requirement. From 1 July 2021, they must also meet a minimum leverage ratio requirement, which measures an institution's capital as a share of its total assets. Banks must also meet an MREL requirement, while mortgage bank institutions must meet a debt buffer requirement. Groups with both a bank and a mortgage bank institution must meet a combined MREL and debt buffer requirement as described below.

Overall, systemic credit institutions will be in non-compliance with the combined MREL and debt buffer requirement already after a decrease in the total own funds of around 4 per cent of their risk exposure amounts, see chart 38. By comparison, systemic credit institutions are in non-compliance with their risk-weighted buffer requirements only after a decrease of around 6 per cent of their risk exposure amounts, while non-compliance with the minimum requirement occurs only after a decrease in their own funds of around 13 per cent.[9]

Non-compliance with MREL or debt buffer requirements is regarded as a severe violation of the Danish Financial Business Act. The Danish Financial

8 See Danmarks Nationalbank, A few banks fall short of capital requirements in stress test, *Danmarks Nationalbank Analysis (Stress test)*, no. 27, December 2020 (*link*).

9 Overall, systemic credit institutions also have less excess capital adequacy relative to the future minimum leverage ratio requirement than to the risk-based capital adequacy requirement. Altogether, the buffers to be complied with on top of the risk-based minimum capital adequacy requirement do not fully constitute actual buffers, see Danmarks Nationalbank, Can capital buffers actually help banks in times of crisis?, *Danmarks Nationalbank Analysis,* no. 25, November 2020 (*link*). According to the upcoming leverage ratio requirement, credit institutions must have sufficient Tier 1 capital to cover 3 per cent of the institution's unweighted exposures.

Supervisory Authority will typically demand that the institution comply with the requirement within a specified deadline. The Danish Financial Supervisory Authority may also impose a number of restrictions on the institution, for example in relation to dividend payments. As a last resort, the Danish Financial Supervisory may transfer control of the institution to Finansiel Stabilitet, if it finds an institution to be failing or likely to fail.

The MREL requirement is to ensure that the institutions' activities are funded to enable recovery and resolution of the institutions, irrespective of their size. The framework for recovery and resolution complies with the rules established by the EU Bank Recovery and Resolution Directive, BRRD, implemented in 2014. These rules were introduced after the financial crisis in 2008-09 when several countries had been forced to use government funds to bail out institutions in crisis. The European Commission has adopted a number of amendments to, among other things, the MREL requirement, see box 6. The Danish authorities have chosen to exempt mortgage credit institutions from the MREL requirement; instead they have to comply with the so-called debt buffer requirement.[10]

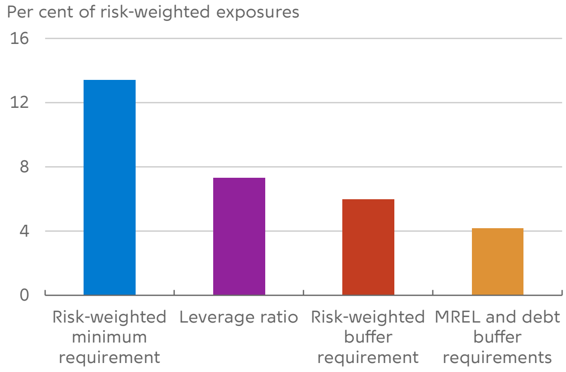
Danish credit institutions have collectively issued non-preferred senior debt of approximately kr. 185 billion since 2018, see chart 39. The MREL requirement has been in force for systemic banks since 1 July 2019, and in 2020 the volume of new issuances has gone down significantly.[11] This should be seen in the context of a period of difficult market conditions following the coronavirus outbreak and the resulting relaxation of the MREL requirements by the Danish Financial Supervisory Authority.

Many countries have temporarily relaxed bank capital requirements

This year, many countries have taken steps to relax bank capital requirements, either in the form of a less strict assessment of risk in the banks or a lower

Systemic credit institutions have lower excess capital adequacy relative to the MREL requirement than to the other capital adequacy requirements

Chart 38

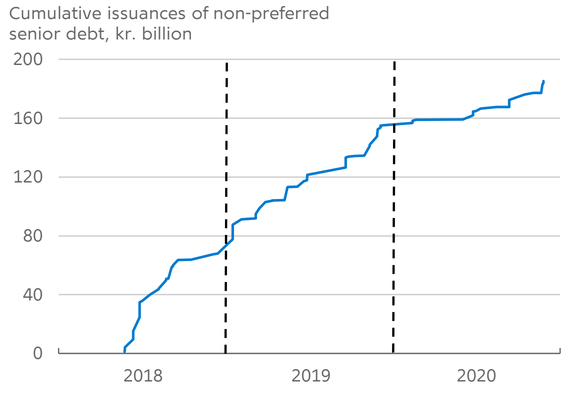


Note: Systemic credit institutions' total excess capital adequacy relative to buffer and minimum capital requirements, the leverage ratio requirement and the combined MREL and debt buffer requirement as a percentage of their total risk exposure amounts, respectively. For the risk-based capital adequacy requirement, the excess capital adequacy is calculated at the capital level (Common Equity Tier 1 capital, Tier 1 capital or total own funds) with the shortest distance to the requirements for the individual group. The leverage ratio becomes a binding minimum requirement from 1 June 2021. Data are for the 1st half of 2020.

Source: Danmarks Nationalbank and own calculations.

Fewer MREL debt issuances in 2020

Chart 39



Note: Cumulative issuances of non-preferred senior debt by Danish credit institutions. The most recent issuance is from 25 November 2020.

Source: Bloomberg and own calculations.

10 The debt buffer requirement represents 2 per cent of the institution's total lending. From 1 January 2022, groups which include a mortgage credit institution are subject to a combined minimum requirement, according to which the sum of capital adequacy, MREL and debt buffer requirements must make up at least 8 per cent of the group's balance sheet.

11 Spar Nord Bank must comply with the institution's fully phased-in capital adequacy requirement from 1 July 2022 onwards.

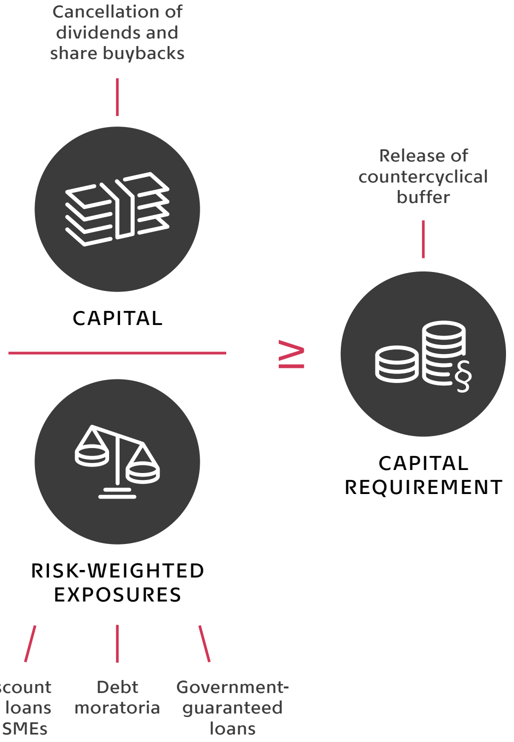
capital requirement, see chart 40.[12] In addition, the authorities in a number of countries recommended that banks withhold their proposed dividends for the financial year 2019 and cancelled share buy-back programmes.

Following the coronavirus outbreak, many European countries released or reduced the countercyclical capital buffer. For example, the Swedish Financial Supervisory Authority released the buffer, while the Norwegian Minister of Finance lowered the buffer from 2.5 per cent to 1 per cent.

In June, the European Parliament adopted a number of temporary relaxations and clarifications of the provisions of the EU Capital Requirements Regulation, CRR.[13] The relaxations include the advance of a planned increase in the discount granted to banks for the capital they have tied up in loans to SMEs.[14] According to the interim reports of Danske Bank, Nykredit, Sydbank and Spar Nord, the higher capital discount for these loans has, in isolation, increased their capital ratios by 0.5-0.8 percentage points.

Following the coronavirus outbreak, a number of European countries have introduced debt moratoria, which means that borrowers who meet certain criteria can defer their loan payments for, for example, 3-6 months.[15] The package also gave banks wider scope for exempting loans comprised by a debt moratorium from their distressed loans. At the same time, the package widened the scope for lowering the capital requirement for government-backed loans.

Many measures taken to increase banks' excess capital adequacy Chart 40



Note: The capital ratio comprises capital as a percentage of risk-weighted exposures and must be greater than or equal to the capital adequacy requirement. The measures are presented in relation to whether the measure affects capital, risk-weighted exposures or the capital adequacy requirement, respectively. Broadly speaking, debt moratoria are defined as agreements to defer payment obligations on existing debt.

The European IFRS 9 transitional arrangement was also postponed for a further two years for impairment charges recorded after 1 January 2020. This means that the standard will not be fully implemented until 2025. Danske Bank, Sydbank and Spar Nord apply the transitional arrangement, while Jyske Bank and Nykredit have already phased in IFRS 9 in full.

12 See, for example, chapter 4 'Covid-19 challenges and policy responses' in IMF, *Global Financial Stability Report*, October 2020 (*link*).

13 See Regulation (EU) 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic.

14 The capital discount also applies to financing for certain infrastructure projects. The advance was part of a comprehensive package of relaxations called 'CRR quick fix'. Among other things, the package also included more favourable treatment of some software assets.

15 Se European Banking Authority, First evidence on the use of moratoria and public guarantees in the EU banking sector, *Thematic Note*, no. 31, November 2020 (*link*).

Upcoming changes to MREL requirement with BRRD2

Box 6

In May 2019, the European Parliament and the Council of the European Union adopted a number of amendments to the Bank Recovery and Resolution Directive (BRRD2). The amendments especially concern the MREL requirement and must ensure conformity with the requirements laid down for global systemically important banks. Some parts of the revised BRRD2 have already been implemented in Denmark, while the rest of the amendments are expected to come into force on 1 January 2021.

Two MREL requirements
In future, the MREL requirement must be determined both as a percentage of risk-weighted exposures (the risk-weighted MREL requirement) and as a percentage of total exposures (the non-risk-weighted MREL requirement), see the chart below. The MREL requirement is currently determined only as a percentage of risk-weighted exposures. It is expected that the risk-weighted MREL requirement will be the strictest of the two requirements imposed on the Danish banks and that it will therefore remain a binding requirement for the institutions.

The MREL requirement continues to comprise a loss absorption amount and a recapitalisation amount to reflect the resolution strategy of each institution. The loss absorption amount is the minimum loss that the institution must be able to withstand. The recapitalisation amount must ensure that the institution's capital can be restored to a level where the institution is once again in compliance with the capital adequacy requirements and can maintain sufficient market confidence so that, after recovery and resolution, the institution can continue as a viable operation if that is the resolution strategy of the institution. Resolution authorities may implement loss absorption and recapitalisation by writing down and converting the institution's capital instruments and liabilities, also known as a bail-in.

For the risk-weighted MREL requirement, the assumption is that the loss absorption amount corresponds to the solvency need, while the recapitalisation amount corresponds to the solvency need plus a market confidence buffer. The market confidence buffer is calculated as the combined buffer requirement less the countercyclical capital buffer.

For the non-risk-weighted MREL requirement, the assumption is that both the loss absorption amount and the recapitalisation amount must correspond to the upcoming leverage ratio requirement. The leverage ratio requirement is 3 per cent of the unweighted exposures.

Combined buffer requirement must be met separately
With BRRD2, the overall buffer requirement will no longer be included in the loss absorption amount of the MREL requirement. Instead, it must be met as a separate requirement. The instruments used to meet the combined buffer requirement may not be used concurrently to meet the MREL requirement. The overall requirement imposed on the institutions is therefore unchanged.

Introduction of subordination requirement
Danish institutions are currently subject to the requirement that the entire MREL requirement must be met through liabilities that are subordinated, i.e. liabilities that absorb losses before unsecured creditors[1]. BRRD2 introduces both minimum and maximum limits for the subordination requirement. BRRD2 divides the institutions into four size categories, and the subordination requirement depends on the category of the institution.

For Danish systemic credit institutions, the subordination requirement would normally have to represent 8 per cent of their total liabilities. The subordination requirement can then be adjusted up to a maximum limit or down to a minimum limit if a number of conditions are met. The maximum limit is twice the solvency need plus the combined buffer requirement. The maximum subordination requirement relates both to compliance with the MREL requirement and to compliance with the combined capital buffer requirement. The combined capital buffer requirement must be met through subordinated funds, and therefore subordination can only be required for a share of the MREL requirement. Consequently, subordination cannot be required for an amount equal to the capital conservation buffer and the SIFI buffer. According to the implementation of BRRD2, the Danish Financial Supervisory Authority is expected to adjust the subordination requirement up to the maximum limit for all systemic credit institutions.

Other Danish banks are generally not subject to any subordination requirement. However, a subordination requirement may be introduced for other institutions corresponding to the subordination requirement for systemic credit institutions if it is considered necessary to avoid that creditors covered by a bail-in will be worse off in the event of a resolution than in the event of liquidation.

Continues

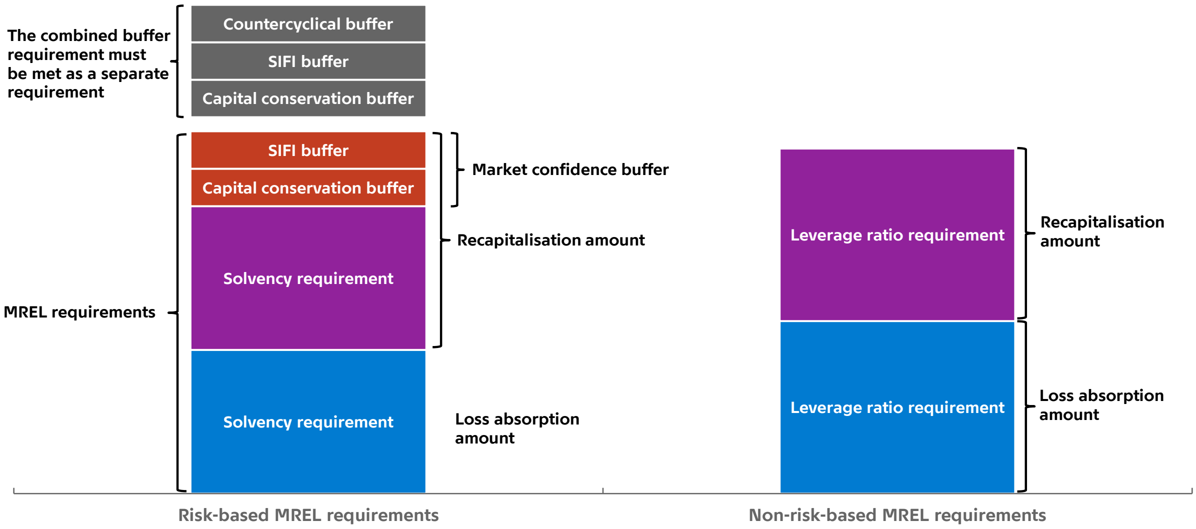
1. Unsecured creditors comprise, for example, senior debt and deposits from large corporations.

Upcoming changes to MREL requirement with BRRD2

continued

Box 6

MREL requirement in BRRD2



Appendix: Analysis data

The analysis applies the term 'credit institutions' when referring to the activities of both banks and mortgage credit institutions. The term 'bank' refers specifically to entities carrying out banking activities.

The analysis of Danish credit institutions' earnings, liquidity and own funds comprises seven systemic credit institutions selected by the Danish Financial Supervisory Authority, most recently in 2020. These institutions are listed in table 1. The analysis also includes the non-systemic financial institutions which make up the institutions in group 2 of the Danish Financial Supervisory Authority's most recent size group for 2020. Unlike in the Danish Financial Supervisory Authority's group 2, Saxo Bank has been omitted from the population due to its business model. The grouping applies backward 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. Group 1 of the Danish Financial Supervisory Authority consists of large banks and Nordea Danmark, while group 2 of the Danish Financial Supervisory Authority consists of medium-sized banks plus Handelsbanken and Santander Consumer Bank.

Institutions in the analysis by total assets as at 30 June 2020. Kr. million

Table 1

Systemic credit institutions	Amount
Danske Bank	4,061,603
Nykredit Realkredit	1,597,903
Jyske Bank	642,117
Nordea Kredit	455,346
DLR Kredit	173,243
Sydbank	150,402
Spar Nord	95,242
Total systemic groups	7,175,855

Systemic banks	
Danske Bank	2,541,764
Jyske Bank	302,634
Nykredit Bank	194,231
Sydbank	152,577
Spar Nord	95,311
Total systemic banks	3,286,517

Non-systemic banks	
Arbejdernes Landsbank	61,458
Ringkjøbing Landbobank	53,984
Sparekassen Kronjylland	31,189
Sparekassen Sjælland-Fyn A/S	26,427
Sparekassen Vendsyssel	26,412
Lån & Spar Bank	26,045
Vestjysk Bank	21,871
Jutlander Bank	20,060
Den Jyske Sparekasse	16,109
Middelfart Sparekasse	13,799
Alm. Brand Bank	13,147
Total non-systemic banks	310,502

Mortgage credit institutions	
Nykredit Realkredit	1,480,313
Realkredit Danmark	862,396
Nordea Kredit	455,346
Jyske Realkredit	366,986
DLR Kredit	173,243
Total mortgage credit institutions	3,338,284

Note: The balance sheet total for the systemic credit institutions is stated at group level. The credit institutions have thus been stated inclusive of assets in their subsidiaries in the form of, for example, mortgage credit institutions. The balance sheet total for systemic banks, non-systemic banks and mortgage credit institutions is stated at institution level. The assets in the financial statements of the mortgage credit institution Nykredit Realkredit also reflect the Nykredit Group's funding of the subsidiary Totalkredit as well as funding of the most recent lending in the subsidiary LR Realkredit.
Source: Danmarks Nationalbank.

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The analysis consists of a Danish and an English version. In case of doubt regarding the correctness of the translation the Danish version is considered to be binding.

DANMARKS NATIONALBANK
LANGELINIE ALLÉ 47
DK-2100 COPENHAGEN Ø
WWW.NATIONALBANKEN.DK

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