DET SYSTEMISKE RISIKORÅD

# Increase of countercyclical capital buffer

14 December 2021

The Systemic Risk Council (the Council) recommends to the Minister for Industry, Business and Financial Affairs that the countercyclical capital buffer be increased to a rate of 2.0 per cent from 31 December 2022. The Council assesses that risks are still building up in the financial sector, and that the buffer should therefore be increased.

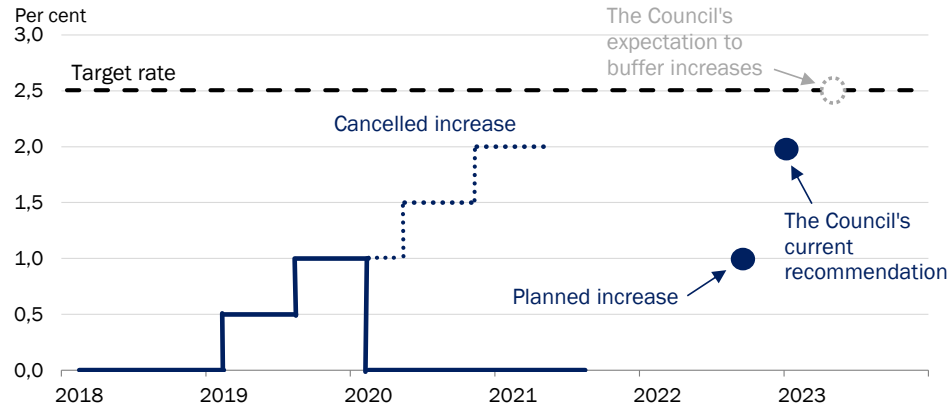
At its meeting in March 2022, the Council expects to recommend a further increase of the buffer to 2.5 per cent, unless the Council sees signs of a slowdown in risk build-up. The Council's intention is that the buffer is to be built up gradually, but quickly, to 2.5 per cent, so that capital is built up which can be released if stress arises in the financial system. Phased buffer increases are in line with the Council's strategy of gradually increasing the buffer rate to a level of 2.5 per cent.

## The buffer needs to be built up early so that capital can be released in the event of stress in the financial sector

The buffer should be built up before financial imbalances become excessive and the financial sector becomes vulnerable to negative shocks. When the buffer is increased, additional capital will be built up. This capital can be released when a need arises at some point in the future. Therefore, the Council's position is that the buffer must be built up quickly and gradually to 2.5 per cent.

In June 2021, the Minister for Industry, Business and Financial Affairs chose to comply with the Council's recommendation for reactivation of the countercyclical capital buffer. A buffer rate of 1.0 per cent will therefore apply from 30 September 2022. If the Minister for Industry, Business and Financial Affairs complies with the present recommendation, the credit institutions will have to comply with a buffer rate of 2.0 per cent from the end of 2022, see chart 1.

**The Council wants the countercyclical capital buffer to be increased** Chart 1




Note: The buffer rate shown is the current rate to be complied with by the credit institutions. The point at the end of 2022 shows when the credit institutions must comply with a buffer rate of 2.0 per cent if the Minister for Industry, Business and Financial Affairs complies with the Council's recommendation.

Source: Danmarks Nationalbank.

Every quarter, the Council assesses what is a suitable countercyclical capital buffer level. If the Council finds that the rate should be changed, it will publish a recommendation addressed to the Minister for Industry, Business and Financial Affairs. The Minister is required, within a period of three months, to either comply with the recommendation or present a statement explaining why the recommendation will not be complied with.

The Council sets the buffer rate based on an overall assessment of the development in the financial system.[1] In addition to a number of indicators of financial system development, the Council also includes other relevant information, such as other policy measures, as well as current and future requirements to be met by the institutions.

The Council's website contains a number of frequently asked questions and answers with more information on how the countercyclical capital buffer is set in Denmark.[2]

The Council is ready to recommend a reduction of the buffer rate with immediate effect if stress occurs in the financial system and there is a risk of severe tightening of credit granting to households and companies.

## Risk build-up in the financial system

The Council finds that risks are currently being built up in the financial system. Concurrently, the Danish economy and the financial sector are doing well, which makes it a good time to build up the countercyclical capital buffer.

Low interest rates and very accommodative financial conditions, combined with economic growth, provide a basis for continued risk build-up. Risk perception is low and at pre-covid-19 crisis levels. There are also signs of high risk appetite and risk-taking in the financial markets. Market participants expect a continued accommodative monetary policy for a lengthy period. Equity prices and house prices have soared in the past year.

During covid-19, credit growth has been subdued as a consequence of the government relief packages for the corporate sector. Credit growth is currently moderate, but increasing, one reason being the phasing out of the relief packages and high housing market activity. However, despite the overall moderate credit growth, some segments are experiencing high credit growth. Demand for loans has increased in 2021, and lending to households has risen in step with increasing housing market activity. Lending growth is particularly high in areas with high increases in house prices. Even if total credit growth remains moderate, the risks are exacerbated by lending already being at a high level.

As a consequence of the government relief packages, central government debt has risen sharply in both the United States and Europe. This reduces the likelihood of states being able to mitigate the negative effects of a future crisis. Likewise, central banks' leeway is limited by low interest rates and historically large buy-back programmes. This highlights the importance of the credit institutions being resilient and having the necessary capital to support their lending in a future crisis situation.

The Danish economy is still growing. Economic activity is now above the level before the lockdowns, and the Danish economic boom has regained momentum. Rising equity and house prices and the disbursement of frozen holiday pay have contributed to rising wealth and boosted private consumption. Heavy demand for goods in combination with breaks in supply chains and rising freight rates and commodity prices have led to increasing inflationary pressure. However, the underlying price pressure in Denmark remains subdued. There is a widespread shortage of labour in the labour market. Employment is significantly higher than before the pandemic, while the number of unemployed persons is now lower.

Like the Danish economy, the international economy is recovering. Danish exports have been supported by a global industrial upswing as a result of the shift in consumption

1 See the Council's method paper on setting the buffer rate (link).
2 See 'Frequently asked questions and answers' (link).

towards goods. The negative economic effects of new lockdowns in 2021 have also been less severe than the negative impacts of the lockdowns at the beginning of the pandemic. Nor did the lockdowns result in the incurrence of widespread losses in Danish credit institutions. Although infection rates are rising again in several countries, including in Denmark, where the corona passport has been reintroduced, this is not expected to slow down the activity level or result in major losses being incurred by the credit institutions.

The above assessment forms the basis of the Council's recommendation that the Minister for Industry, Business and Financial Affairs increase the countercyclical capital buffer. The Council also notes that both Sweden and Norway are in the process of building up the buffer again.

The indicators in the Council's information set have been elaborated on in Appendix A. There is no mechanical correlation between the indicators and the buffer rate, given the uncertainty of measuring the development in systemic risks, including that historical indicators are not necessarily adequate markers of the future development. The Council's buffer rate assessment is therefore based on an overall assessment of the indicators in a more long-term perspective as well as other relevant information, such as interaction with other requirements.

## The institutions have the capital required to meet a countercyclical capital buffer requirement of 2 per cent.

Virtually all credit institutions are currently able to meet a requirement for a countercyclical capital buffer rate of 2.0 per cent.[3] This applies both to the institutions' capital adequacy requirement and their MREL requirement, see the section *Other capital requirements*. The higher countercyclical capital buffer requirement will enter into force 12 months after the Minister has announced an increase, which means that the requirement will have to be complied with from the end of 2022 at the earliest. The institutions thus have time to adjust.

A buffer rate increase from 1.0 to 2.0 per cent raises the total regulatory requirement for Danish institutions' equity by approximately kr. 15 billion. By comparison, the total earnings of the sector were approximately kr. 31.7 billion after tax in the period from the 2nd half of 2020 to the 1st half of 2021. The excess capital adequacy was approximately kr. 138 billion at the end of 2020[4].

The requirement that the institutions maintain a countercyclical capital buffer is not a hard requirement. This means that the institutions will not lose their banking licence if they fail to meet the requirement. Instead, the institutions will be required to submit a capital conservation plan to the Danish Financial Supervisory Authority, and bonus and dividend payments etc. will also be restricted if they fail to meet the total capital buffer requirement.[5]

## The purpose of the buffer is to increase the institutions' resilience and ensure credit granting during periods of financial stress

The countercyclical capital buffer is an instrument used to make the institutions more resilient by increasing the requirement for their capitalisation during periods in which risks build up in the financial system. If financial stress occurs with a risk of a severe tightening of credit granting, the buffer can be reduced with immediate effect, thus releasing capital to the institutions.

To the extent that the institutions do not use the released capital to absorb losses, they may use it for new lending or to secure their excess capital adequacy. This improves the

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3 The institutions must meet the countercyclical capital buffer requirement with Common Equity Tier 1 capital.

4 This figure covers excess capital adequacy relative to the institutions' solvency requirements and combined buffer requirements.

5 In addition to the countercyclical capital buffer, the total capital buffer requirement in Denmark consists of the so-called capital conservation buffer for all institutions and a SIFI buffer for the systemically important institutions, the so-called SIFIs.

possibility for credit institutions to maintain an adequate level of credit granting during periods of stress in the financial system. The buffer thus contributes to limiting negative effects on the real economy in the event of financial stress.

The Council's strategy is that the buffer should be introduced gradually. This makes it easier for the institutions to adapt to the new, higher capital requirements, for example by retaining earnings. The institutions will also be able to adapt more easily to higher buffer requirements in periods like the current one when the economy is doing well and the institutions have low losses. The Council therefore expects that any negative effect on the institutions' credit granting in Denmark will be limited.[6] The Council also assesses that the Danish institutions will not significantly change their credit granting abroad as a result of an increase in the countercyclical capital buffer in Denmark. The Council's assessment is based on a number of factors, including the fact that the largest foreign exposures are primarily in Sweden and Norway. The buffer is also being built up in both these countries, see appendix B.

The buffer is first and foremost an instrument for making the credit institutions more resilient. It cannot be used as an instrument to control financial cycles, neither in an upswing nor in a downturn. The buffer must be released in situations where there is a risk of a severe tightening of credit granting to households and companies, and therefore not necessarily in connection with a cyclical slowdown.

## Other capital adequacy requirements

The Council also takes account of other policy measures in its reflections on the countercyclical capital buffer rate. Account is taken of other current requirements and the phasing-in of future requirements for the institutions.

### *MREL requirement*

The MREL requirement is a minimum requirement for the institutions' eligible liabilities (MREL). The MREL requirement has been fully phased in for the systemic institutions except Spar Nord and Arbejdernes Landsbank. The MREL requirement will be gradually phased in for these institutions towards 2024. The MREL requirement concerns eligible liabilities that can absorb losses and recapitalise an institution in connection with resolution. The MREL requirement differs significantly from the countercyclical capital buffer. The purpose of the MREL requirement is to ensure that the institutions can be restructured or wound up without the use of government funds, and without such resolution having any substantial negative impact on financial stability. For the systemic institutions, the MREL requirement consists of a loss absorption amount corresponding to the institution's solvency requirement (the minimum requirement) and a recapitalisation amount corresponding to the institution's solvency requirement plus a market confidence buffer. The market confidence buffer is calculated as the institution's combined buffer requirement less the countercyclical capital buffer. The MREL requirement can be met with several types of capital and debt instruments. The institutions must have sufficient capital and debt instruments to comply with the MREL requirement, and they must also have separate capital to comply with the combined buffer requirement, including the countercyclical capital buffer. Therefore, capital used to meet the combined capital buffer requirement, including the countercyclical capital buffer requirement, cannot concurrently be used to meet the MREL requirement. The combined capital buffer requirement can only be met with Common Equity Tier 1 capital.

The Danish Financial Supervisory Authority's overall assessment is that the phasing in of the individual MREL requirements towards 2024 will not have a major impact on the non-systemic banks' ability to meet a countercyclical capital buffer of 2.0 per cent. During 2021, several small institutions have issued MREL debt to meet their MREL requirement. The Danish Financial Supervisory Authority expects that the small banks will, to a large extent, be able to meet the future increases in the MREL requirement via their existing MREL funds and through retained earnings. The systemic institutions meet their MREL requirements

[6] Experience from Denmark shows that the increased capital requirements introduced as part of the international regulation after the financial crisis have not resulted in a decline in lending, see Brian Liltoft Andreasen and Pia Mølgaard, Capital requirements for banks – myths and facts, *Danmarks Nationalbank Analysis*, No. 8, June 2018.

with their current capital and debt instruments and may, if necessary, increase their excess capital adequacy relative to MREL requirement by issuing MREL instruments or by retaining earnings.

### *Minimum requirements for eligible liabilities for groups engaged in mortgage lending*

From June 2022, groups engaged in mortgage lending must meet a new minimum requirement, as eligible liabilities must represent at least 8 per cent of the groups' liabilities. In practice, this means that if a group's total capital, buffer and MREL requirements (including debt buffer for mortgage lending activities) constitute less than 8 per cent of its total liabilities, the debt buffer for the mortgage lending activities will increase until the total group requirements represent 8 per cent of the group's liabilities. Some groups engaged in mortgage lending will therefore experience an increase in their MREL requirement. Groups engaged in mortgage lending to a large extent use capital to meet their MREL requirement and debt buffer requirement, but they have an opportunity to issue additional non-preferred senior debt in their efforts to comply with the MREL requirement.

### *Leverage ratio*

Since July 2021, the institutions have been subject to a minimum leverage ratio requirement. While the buffer is calculated in relation to risk-weighted exposures, the leverage ratio is calculated in relation to non-risk-weighted exposures. For groups with a large share of assets with very low risk weight, such as mortgage loans, the leverage ratio requirement entails a higher capital requirement than the risk-based capital requirement. The leverage ratio requirement and the risk-based capital requirement are two parallel capital requirements that are independent of each other. Therefore, an increase of the countercyclical capital buffer does not affect the leverage ratio requirement.

### *Output floor*

The Basel Committee's output floor is scheduled to be implemented gradually in the EU from 2025 to 2029. According to the Basel Committee, the purpose is to ensure a more uniform calculation of risk-weighted exposures across countries. The output floor requirement limits how low the risk weights can be in the banks' risk assessment of exposures when they use internal models to calculate the capital requirement. For institutions using internal models, this may result in an increase of their risk-weighted exposures and thus also an increase of their risk-based capital requirements. The output floor will be of a permanent nature, whereas the countercyclical capital buffer requirement can be reduced when risks materialise. The output floor must first be adopted by the EU before being introduced for the Danish institutions.

The European Commission proposed the implementation of the output floors in October. The Commission's proposal also contains provisions on the compliance with the other risk-based requirements in case of a binding output floor. Here, the authorities must reassess and potentially adjust the size of both the institutions' individual capital adequacy requirements under Pillar II as well as the systemic risk buffer rate, if applicable. This must be done to avoid that the institutions' total capital adequacy requirements become too high in relation to the underlying risk. At the same time, the SIFI buffer for the individual institutions must be re-assessed and possibly recalibrated to ensure an adequate level. However, there is no requirement for a reassessment of the countercyclical buffer rate.

The Council's recommendation is in compliance with current legislation.

*Lars Rohde, Chairman of the Systemic Risk Council*

## Statements from the representatives of the ministries on the Council

*"Legislation regarding the Systemic Risk Council stipulates that recommendations addressed to the government must include a statement from the representatives of the ministries on the Council. Neither the representatives of the ministries nor the Danish Financial Supervisory Authority have the right to vote on recommendations addressed to the government.*

*The Government will increase the countercyclical capital buffer rate to 2.0 per cent, applicable from December 2022, in line with the Systemic Risk Council's recommendation."*

# Appendix A – Indicators

The Council includes a number of selected key indicators in its assessment of the buffer rate to capture the build-up of systemic risk at various stages in the financial development. Supplementary indicators and other relevant information are also taken into account in the assessment to provide a more detailed picture than that shown by the key indicators.

The early stage of an economic upswing is often characterised by increasing risk appetite among investors.[7] This is reflected in higher asset prices, including prices of residential and commercial properties, and eased credit standards for households and companies. At a later stage in the financial development, households and companies may increase their debt in the expectation that property prices will continue to rise. This means that some indicators, such as property prices, signal the build-up of systemic risk ahead of other indicators, for example lending to households and companies.

The indicators included by the Council in the information basis are outlined below. The indicators are divided into relevant categories.[8]

## Risk perception

The financial stress indicator is at a low level and has been so for a number of years. Although the covid-19 pandemic initially led to a sharp increase in the stress indicator, it quickly dropped back to the pre-pandemic level.

Risk perception in the financial markets has been very low for a number of years, again only temporarily interrupted for a short period in the early stages of the covid-19 pandemic. At the same time, interest rate levels and expected returns on conventional investment products have been very low. To compensate for the low expected returns, several pension companies have undertaken increased risks in the form of more risky investments in alternatives. Likewise, households have undertaken increased risks by increasing the proportion of their wealth that is invested in high-risk equities or investment funds. Based on the market participants' expectations of a continued accommodative monetary policy, this development can be expected to continue, which increases the risk of the build-up of asset bubbles and systemic risk.

## Property market

There are signs of risk build-up in the housing market, where a high activity level and large price increases have been seen in 2021. Total credit growth remains moderate, but it covers geographical differences, as there are areas in which the credit growth rate has increased significantly. These are especially the areas that have also seen high price growth, such as Copenhagen. At the same time, mortgage loans with deferred amortisation remain very widespread, also among highly indebted homeowners. The very low financing costs in combination with deferred amortisation enable homeowners to incur much debt at a very low debt service. This contributes to increased risk build-up in the housing market in the form of heavy fluctuations in house prices and higher indebtedness.

## Credit standards and credit development

Total lending by credit institutions to households and companies is at a high level and has increased moderately since 2015. Lending growth has generally been higher for corporate lending than for lending to households in recent years, although corporate lending growth declined in 2020 as a result of government relief packages and loan schemes. Likewise, household credit growth has picked up in connection with the high housing market activity level. Even though the overall credit growth remains moderate, it may mask the build-up of

[7] See also the Council's method paper on the countercyclical capital buffer(link).

[8] The categories are described in the Council's method paper on the countercyclical capital buffer, see www.risikoraad.dk.

risks, for example if credit quality requirements are eased and new loans are granted to riskier companies.[9]

Every quarter, all EU member states must calculate and publish a so-called 'credit-to-GDP gap' and an accompanying benchmark buffer guide based on the credit-to-GDP gap. The background is that, in retrospective analyses, the credit-to-GDP gap has been a good indicator for predicting systemic bank crises across a number of countries.[10] However, using the credit-to-GDP gap as an indicator of the current credit development poses challenges. One of the weaknesses of the indicator is that it relies on a statistically calculated trend that is boosted by the very high lending growth and the resulting high level of lending in the years leading up to the financial crisis. The credit-to-GDP gap is therefore negative in Denmark.[11] Several other countries had a positive countercyclical capital buffer rate prior to covid-19, even though their credit-to-GDP gap was negative.[12] Due to the challenges associated with using the credit-to-GDP gap as an indicator of the current credit development, the Council includes various credit development indicators in its assessment.

## Risk build-up in credit institutions

Favourable developments in the financial sector in recent years – together with large customer funding surpluses in several institutions – have contributed to the build-up of significant capacity among the institutions to increase their lending in general. The customer funding surplus has continued to rise during the covid-19 pandemic as a result of government relief packages and the disbursement of frozen holiday pay. Household loan demand has been increasing since the 2nd half of 2020, and competition for customers has sharpened. Together with optimism and a stronger risk appetite, this could lead to lower credit quality and the easing of credit standards. If credit standards are eased, this could result in losses when the financial cycle reverses.

The institutions have come well through the covid-19 crisis, and their earnings are back to pre-covid-19 levels. The financial statements for the first three quarters of 2021 show solid earnings buoyed by low impairment charges. During the 2nd half of 2021, several institutions have further raised their profit guidance for the year.[13] The primary reasons mentioned are positive value adjustments due to the development in the financial markets, high customer activity, low impairment charges and business growth. The institutions also continue to increase the volume of deposits that are subject to negative interest rates. This may contribute further to rising earnings in the future.

## Model-based indicators

Estimates of the financial cycle show that the financial development is either on an upward trajectory or at a high level. Analyses of the financial cycle in Denmark show that the cycle is driven primarily by fluctuations in house prices and lending and that house prices have a tendency to move ahead of lending.[14] The estimates should be interpreted with caution as they do not provide an accurate picture of the current financial cycle. Therefore, the Council uses two different estimates to take model uncertainty into account. In addition, the end of the data period is associated with some uncertainty, the so-called end-point problems. However, the method applied reduces this uncertainty.[15]

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9 See notification from the Danish Financial Supervisory Authority, *Banker mere risikovillige ved lån til virksomhedskøb* (Banks' risk appetite is higher for lending for company acquisitions), 22 November 2018.

10 In principle, the buffer guide must function as a common basis for when the buffer is to be activated and for the level of the buffer rate. To avoid 'inaction bias', the credit-to-GDP gap and the buffer guide came to play a central role in international recommendations and legislation on the countercyclical capital buffer. It also follows from the recommendations and legislation that decisions on the buffer rate are not only to be based on the buffer guide, but that other quantitative and qualitative information should be included and published. See the source references to recommendations and legislation in the Council's method paper on the countercyclical capital buffer at www.risikoraad.dk.

11 The buffer guide is currently 0 per cent. According to the mechanical calculation, it will only turn positive when the credit-to-GDP gap is higher than two percentage points. The credit-to-GDP gap is shown in the chart pack in Chart A4 (right).

12 See, for example, European Systemic Risk Board, A Review of Macroprudential Policy in the EU in 2017, April 2018.

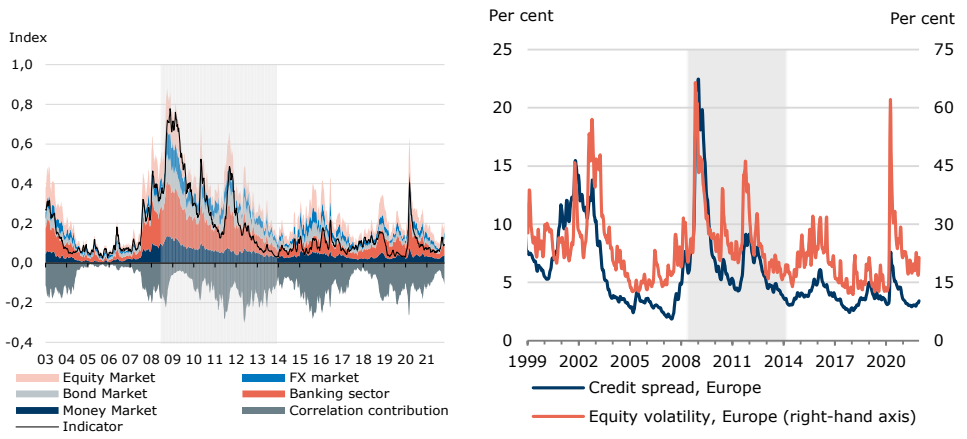
13 Including Nykredit, Jyske Bank, Sydbank and Spar Nord.

14 See Oliver Juhler Grinderslev, Paul Lassenius Kramp, Anders Kronborg and Jesper Pedersen, Financial Cycles: What are they and what do they look like in Denmark?, *Danmarks Nationalbank Working Paper*, No. 115, June 2017.

15 See the addendum on page 54 in Grinderslev et al., Financial Cycles: What are they and what do they look like in Denmark?, *Danmarks Nationalbank Working Paper*, No. 115, June 2017.

# Chart pack: Indicators

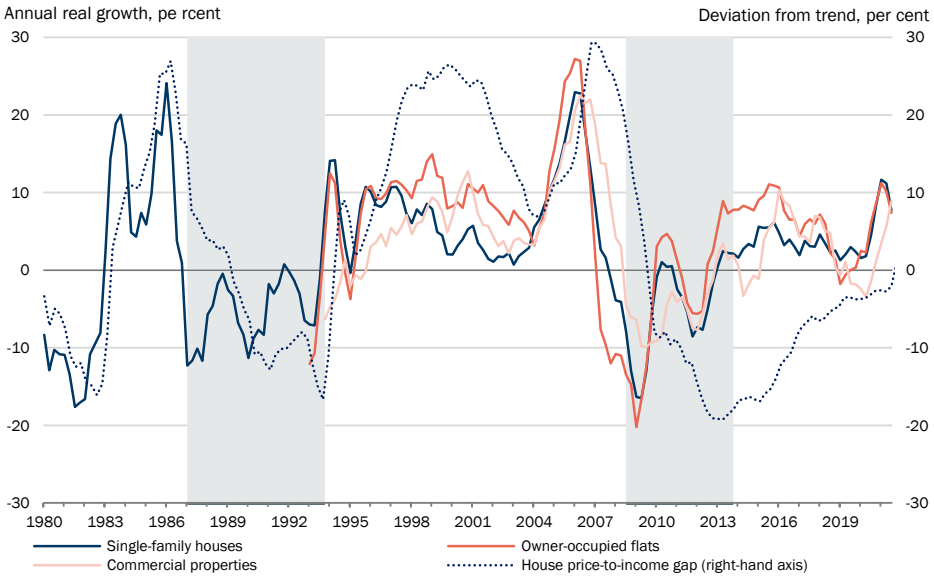
**Risk perception** Chart A.1




Note: Grey markings indicate financial crises. 4-week moving averages. The financial stress indicator aggregates the level of stress in five key submarkets/sectors, taking into account that simultaneous stress in several submarkets is a greater challenge to the financial system. A value of 0 indicates very low volatility and strong confidence in the financial system, while a value of 1 indicates that the five submarkets are extremely dysfunctional and that the market participants are nervous. Further details can be seen in the Council's method paper on the countercyclical capital buffer at www.risikoraad.dk. The most recent observations are from 28 November 2021 for the financial stress indicator and 5 December for credit spread and equity volatility.

Source: Bloomberg, Nordea Analytics, Thomson Reuters and Danmarks Nationalbank.

**Property prices** Chart A.2

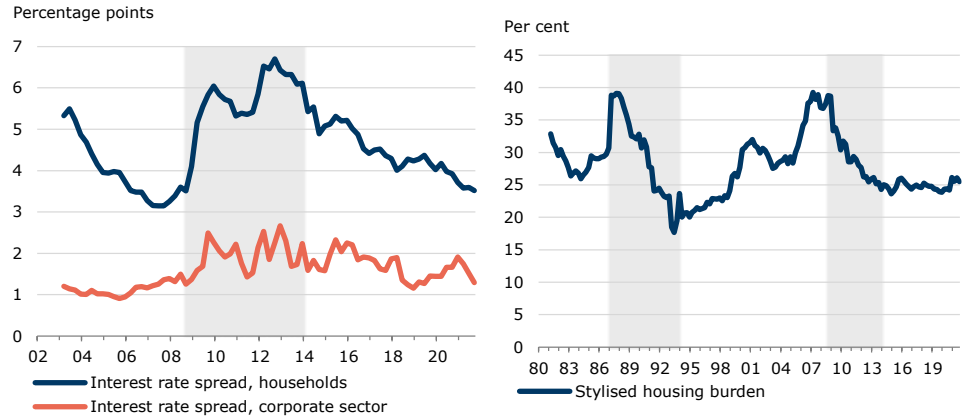



Note: Grey markings indicate financial crises. The house price gap is defined as deviations between house price/disposable income relative to a long-term trend (estimated by a recursive HP filter, lambda = 400,000), where the house price is the cash price of single-family homes. Further details can be seen in the Council's method paper on the countercyclical capital buffer at www.risikoraad.dk. The most recent observations are from the 1st quarter of 2021 for house price gap and single-family houses, respectively. The most recent observations for owner-occupied flats and commercial properties are from the 3rd quarter of 2021.

Source: Statistics Denmark, MONA's databank and own calculations.

**Credit standards** Chart A.3

The banks' interest rate spread | Stylised housing burden

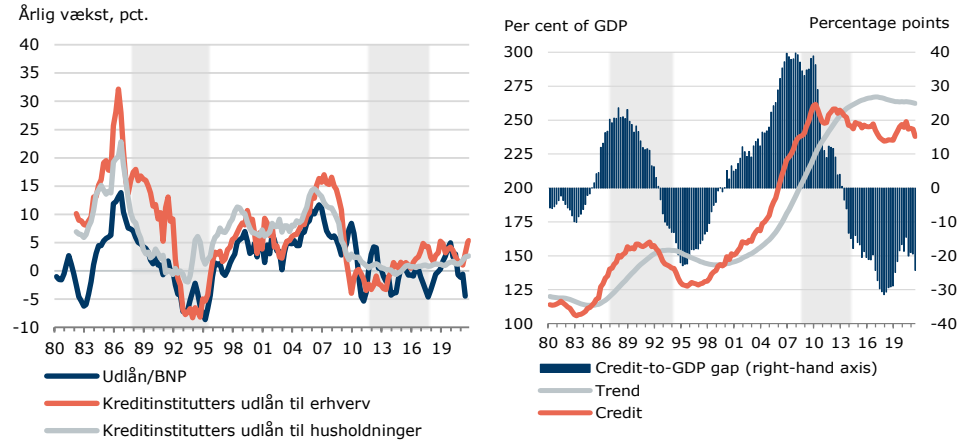



Note: Grey markings indicate financial crises. *Left-hand chart*: 3-month moving averages. The interest rate spread is defined as the banks' lending rate on new lending, excluding overdrafts, relative to Danmarks Nationalbank's rate of interest on certificates of deposit (Danmarks Nationalbank's lending rate before 2009). The most recent observations are from 31 October 2021. *Right-hand chart*: The housing burden is a stylised calculation of the financing costs of buying a single-family house as a share of average disposable household income. The time series is affected by the one-off effect of the disbursement of frozen holiday pay in the 4th quarter of 2020. Further details can be seen in the Council's method paper on the countercyclical capital buffer at www.risikoraad.dk. The most recent observations are from the 3rd quarter of 2021.

Source: Statistics Denmark, the Association of Danish Mortgage Banks, Realkredit Danmark, SKAT (Danish Customs and Tax Administration), Danmarks Nationalbank and own calculations.

**Credit development** Chart A.4

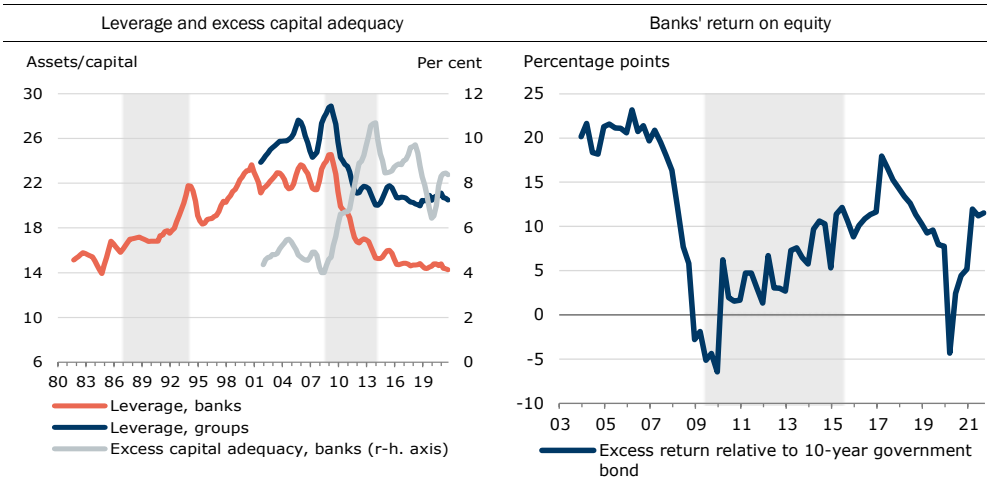
Credit growth | Credit-to-GDP gap




Note: Grey markings indicate financial crises. *Left-hand chart*: In 'credit/GDP', lending is based on a broad definition of credit, while the other two lending series are based on a narrow definition.
*Right-hand chart*: Lending is based on a broad definition of credit, and the credit-to-GDP gap is defined as deviations between credit/GDP and a long-term trend (estimated by means of a recursive HP filter, lambda = 400,000). Further details and source references can be found in the Council's method paper on the countercyclical capital buffer at www.risikoraad.dk. The most recent observations are from Oktober 31 2021 for lending by credit institutions to households and the corporate sector and the 2nd quarter of 2021 for credit/GDP and the credit-to-GDP gap.

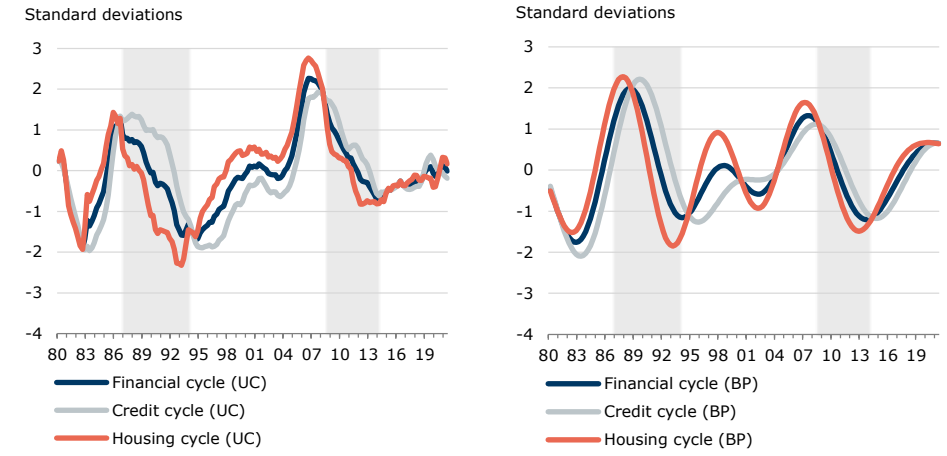
Source: Kim Abildgren, Financial Liberalisation and Credit Dynamics in Denmark in the post-World War II Period, *Danmarks Nationalbank Working Paper,* No. 47, October 2007, Statistics Denmark, Danmarks Nationalbank, MONA's databank and own calculations.

**Risk build-up in credit institutions** Chart A.5




Note: Grey markings indicate financial crises.
*Left-hand chart*: 4-quarter moving averages. Part of the increase in the excess capital adequacy from 2016 to 2017 is due to the fact that Nordea Bank Danmark is not included in the data from the 1st quarter of 2017.
*Right-hand chart*: Annualised quarterly data for the banks' return on equity. Further details can be seen in the Council's method paper on the countercyclical capital buffer at www.risikoraad.dk. The most recent observations for all series are from the 3rd quarter of 2021.
Source: The Danish Financial Supervisory Authority, Bloomberg and own calculations.

**Model-based indicators** Chart A.6




Note: Grey markings indicate financial crises. Deviations from trend. The financial cycle is a simple average of the house-price cycle and the credit cycle. UC indicates that the cycle has been estimated based on an 'unobserved components' model. BP indicates that the cycle has been estimated based on a 'band-pass' filter. See more information in Oliver Juhler Grinderslev, Paul Lassenius Kramp, Anders Kronborg and Jesper Pedersen, Financial Cycles: What are they and what do they look like in Denmark?, *Danmarks Nationalbank Working Paper,* No. 115, June 2017. The UC model estimate includes a provisional projection of GDP from the 3rd quarter 2021 to the 4th quarter 2025. The most recent observations are from the 2nd quarter of 2021.
Source: Danmarks Nationalbank, Statistics Denmark and own calculations.

# Appendix B: Effect on other countries

## Foreign institutions must also meet a Danish buffer

Foreign institutions with credit exposures in Denmark must also comply with a Danish countercyclical capital buffer requirement. Countercyclical capital buffer rate reciprocation is mandatory for the EU member states up to 2.5 per cent.[16] Reciprocity means that relevant authorities across countries recognise each other's measures, so that identical requirements are imposed on the institutions.

## No negative effects in other countries of a higher buffer in Denmark

According to the European Systemic Risk Board, macroprudential authorities must assess possible cross-border effects of macroprudential measures. The Council's approach to assessing the effects is described in the memo *Reciprocation of macroprudential measures* posted on the Council's website.

The Council assesses that Danish institutions will not significantly change their lending abroad as a result of an increase in the countercyclical capital buffer rate to 2.0 per cent in Denmark. The relevant institutions' strategy appears unaffected by previous changes in the Danish buffer rate. The Council's assessment is based on a number of factors, including the fact that the largest cross-border exposures are primarily in Sweden and Norway, where the buffer is also being rebuilt. Norway's current countercyclical capital buffer rate is 1.0 per cent, and it was 2.5 per cent before covid-19. In Norway, the buffer will be increased to 1.5 per cent in July 2022, and Norges Bank expects to increase the buffer to 2.0 per cent with effect from the end of 2022[17]. Sweden's buffer rate is currently 0.0 per cent, but it was 2.5 per cent before covid-19. In Sweden, the buffer rate will be increased to 1.0 per cent from September 2022. The Swedish Financial Supervisory Authority expects to increase the buffer further to 2.0 per cent in 2022.[18]

A macroprudential measure is generally expected to have positive consequential effects on other countries. A lower risk of systemic risks materialising in Denmark also reduces the risk of rub-off on other countries exposed to the development in Denmark. However, there may also be negative impacts. For example, a stricter requirement in Denmark may result in Danish banks increasing their risk-taking in other countries if they want to pursue a higher risk profile than what is permitted by the stricter requirement in Denmark. This may contribute to reducing credit standards and result in the build-up of risks in other countries if those countries are in an expansion phase.

16 The same applies to countries with which the EU has entered into agreements in the financial area.

17 https://www.norges-bank.no/en/news-events/news-publications/Press-releases/2021/2021-09-23-ccb/

18 https://www.fi.se/en/published/press-releases/2021/fi-raises-the-countercyclical-buffer-rate-to-1-per-cent/