

4 MACROPRUDENTIAL POLICY

The aim of this section is to describe the main risks to financial stability and to provide information about risk mitigation tools. To this end, the text evaluates the risks stemming from the external environment, the current position of the Czech economy in the financial cycle, the resilience of the Czech financial sector to the risks identified, and the tasks and recommendations arising from the analyses for macroprudential policy, microprudential supervision and other areas of economic policy. The first part explains the main tasks of macroprudential policy, reflecting key risk sources. The second part describes the settings of the capital buffers used to enhance the resilience of the Czech banking sector and mitigate sources of risks to financial stability. The third part provides detailed information about risks relating to property exposures and describes current and potentially applicable tools for mitigating those risks. The final, fourth part describes macroprudential policy developments in the EU and developments in the national and international regulatory environment.

4.1 SOURCES OF SYSTEMIC RISKS AND MACROPRUDENTIAL POLICY TOOLS

The macroprudential dashboard indicates a partial increase in potential risks to financial stability

An overview of systemic risk sources and the resilience of individual sectors of the financial system is provided in graphical form by the macroprudential dashboard (see Table IV.1; Box 5). The potential sources of risks to the financial sector remain concentrated in increased credit growth, in an environment of sustained low interest rates and continued growth in property prices. Gradual growth in household indebtedness coupled with loan interest rates staying at very low levels could increase households' sensitivity to potential income and interest rate shocks. Such shocks could have significant negative impacts on their financial situation and consumption and, in turn, on overall economic growth (see section 2.4). If this credit growth is concentrated in loans for financing property purchase and construction, it could foster the creation of a spiral between property prices and property purchase loans (see section 4.3.1). A partial increase in risks is also arising as a result of the rising share of non-residents in government debt given the limited market liquidity of government bonds.

The low interest rates are squeezing the profitability of financial institutions and increasing their willingness to take on higher credit risk

The falling interest rates and returns on financial assets are directly affecting the income and profitability of financial institutions. In the case of banks, this is occurring primarily via declining interest margins.¹ The

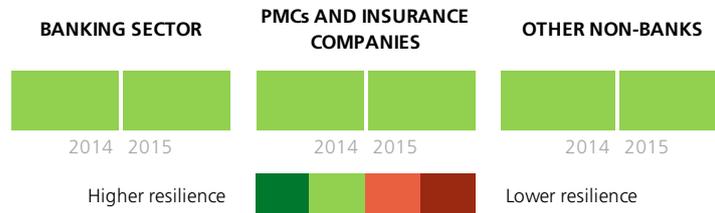
¹ Interest margins on bank loans to non-financial corporations were falling sharply until 2013, when average margins on the stock of loans and on new loans reached a similar level. Both types of margin nevertheless continued to decline, albeit only very modestly. Margins on new bank loans to households were decreasing until the middle of last year. Given the prevailing longer fixation periods of loans for house purchase, the average margin has continued to decline only gradually. A further significant decrease in margins on new loans, with the exception of consumer credit, is unlikely.

financial condition of banks, insurance companies and pension funds may also be negatively affected by the very low to negative yields on government bonds and other safe assets (see section 2.1). Besides that, the low interest rates are creating an incentive for banks and other types of financial institutions to invest in riskier assets in order to maintain or increase their current profitability. Likewise, the willingness of financial institutions' clients to accept higher risk may increase, leading to excessive growth in loans provided with insufficiently prudent standards (see section 4.2.2).

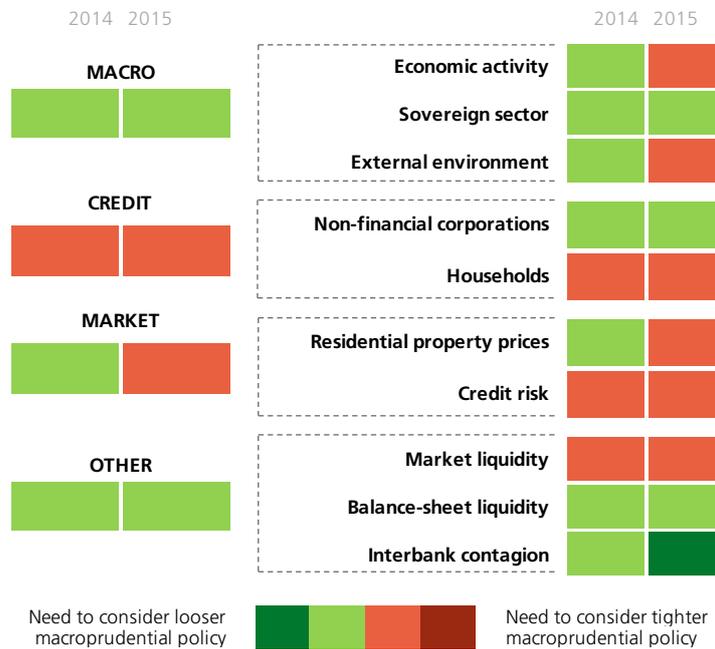
TABLE IV.1

Macroprudential dashboard

RESILIENCE OF THE FINANCIAL SECTOR



RISK SOURCES



Source: CNB, CZSO

Note: The macroprudential dashboard is divided into two main areas describing sources of risks to financial stability and the resilience of the financial sector. The first area is forward-looking and thus assesses the strength of potential sources of risks to financial stability in the future. The second area is backward-looking, as the change in the current resilience of the financial sector is due to actual developments. The indicators included in each category are given in an appendix to this Report.

BOX 5: MONITORING FINANCIAL STABILITY – EXPANSION AND MODIFICATION OF THE MACROPRUDENTIAL DASHBOARD

For several years now, the CNB has been publishing in the Report a simplified tool providing a quick view of current developments in the economy and the financial system from the perspective of systemic risk and macroprudential policy. The main purpose of this “macroprudential dashboard” is to facilitate communication of the CNB’s macroprudential policy and to identify weak spots in the financial system. The use of the dashboard should not be viewed as an attempt to forecast the probability or extent of materialisation of systemic risks.² For many reasons, the CNB’s decisions on the configuration of macroprudential policy are not based mechanically on the dashboard alone, but are based on a far more sophisticated and detailed analysis.³

The dashboard has been partially modified compared to the version used in previous years.⁴ The set of indicators has been expanded, new risk categories have been defined and weights for subsequent aggregation have been calculated. The dashboard has been divided into two main parts tracking sources of risks to the financial system and the resilience of individual sectors. This division is based on the fact that the impact of the materialisation of various sorts of risks can be exacerbated by low resilience of the financial system and conversely mitigated by high resilience of the financial system. Sources of risks are subdivided into several subcategories, each based on a number of significant forward-looking indicators (see the *Selected financial stability indicators* at the end of this Report). The specific indicators were chosen with regard to the specificities of the Czech financial system and to data availability. The current indicator levels are determined on the basis of a “z-score”,⁵ which allows them to be standardised. Each risk source category then represents a weighted sum of selected indicators, where the weights reflect their different contributions to the overall score and are based on a series of statistical tests.

- 2 Another reason for interpreting the dashboard with caution is that relatively short time series are available for some indicators.
- 3 For each the indicators it is necessary to perform an expert assessment of whether its current level reflects potential future risks or the materialisation of past risks, whether it relates to a short-term or medium-term risk, and so on. The risks and resilience of individual sectors of the financial system are evaluated in more detail in other sections of this Report.
- 4 The expansion and modification of the dashboard was inspired by the methodology presented and used by the Office of Financial Research (Annual Report 2014).
- 5 The z-score expresses the distance of the indicator in a given year from its historical mean expressed in terms of the number of standard deviations. This allows its relative position in relation to historical data to be assessed. As the number is based on the assumption of a normal distribution, a distance of two or more standard deviations from the mean is considered to be very high or unusual.

The individual indicators were tested with regard to their ability to signal potential growth in risks in advance and to predict the occurrence of periods of elevated financial stress.⁶ Higher weights were assigned to indicators that performed better in the tests and whose information value is therefore higher. The final dashboard is then adjusted to take account of expert knowledge of the issue in each area. In this form the dashboard should provide implications for the desired direction of possible adjustments to the overall configuration of macroprudential policy. Red indicates a need to consider tightening this policy and green indicates that there is no need to consider tightening it or that loosening it can be considered.

The basis of financial stability in the Czech Republic is a high loss absorption capacity of banks

The fragility of the economic recovery abroad is increasing the probability of adverse shocks to economic activity and financial market stability. The robust capital adequacy, favourable aggregate capital ratio, prudential liquidity management and stable income base and profitability of banks form the basis for absorbing such shocks and maintaining high confidence in the stability of the Czech banking sector. The banking sector is in good shape. This is confirmed by the solvency and liquidity stress test results (see sections 3.2 and 3.3). In the present situation, however, banks, like other types of financial institutions, must maintain and, where appropriate, further enhance their capitalisation to cover credit, market and macroeconomic risks (see sections 4.2.2 and 4.3.2). Maintaining robust capital buffers is of particular importance for banks that are systemically important by dint of their position and character (see 4.2.3). Table IV.2 presents a summary of the available capital and other instruments by risk source.

The CNB is focusing on differences in risk management across institutions

Significant differences in capitalisation, profitability and approaches to credit risk and liquidity management persist across institutions. Small banks are vulnerable because of their low profitability. Changes in the regulation of credit unions have significantly reduced the room for them to engage in risky behaviour. However, this segment will continue to need increased supervisory attention given the low quality of its credit portfolios. On a general level, it is essential for banks and credit unions to

⁶ The financial cycle indicator (FCI) was used as a proxy for periods of elevated financial stress. The ability to signal potential growth in risks in advance was tested on the basis of the Granger causality test, where the number of lags of the dependent variable was determined by means of information criteria (AIC, BIC). The ability to predict the occurrence of periods of elevated financial stress was then tested with the aid of logistic regression, where a period of increased stress was defined as the upper quartile of the FCI. The resulting weight is determined on the basis of the statistical significance and predictive power of the model.

remain prudent in measuring the risks linked with their claims and in classifying their loans, to assess collateral quality conservatively, to set aside sufficient loan loss provisions and to manage their NPL portfolios effectively. The environment of unusually low yields and the potential upward adjustment of interest spreads and asset prices is increasing the need for high-quality management of interest rate risk. Pension management companies should prudently assess the size of the impact of the potential rise in interest rates and the ensuing decline in the prices of their debt securities holdings.

TABLE IV.2

Summary of macroprudential instruments

Systemic risk	Key instruments	Specific risk	Existence of specific risk in CZ	Y-o-y change in intensity of specific risk	Applied in CZ	Detailed information
Excessive credit growth and leverage	Countercyclical capital buffer	Strong credit recovery accompanied by easing of credit standards	Yes		Yes, since 2014, 0.5% since 2017	section 4.2.2
	Leverage ratio	Rising leverage, low aggregate risk weights, rising off-balance-sheet risk	Potential		Expected as from 2018	section 3.1
	Capital requirements by sector (in particular real estate exposure)	Elevated growth of loans and risks in specific sector	Potential		No increases as yet	section 4.3
	Systemic risk buffer	Build-up of risks e.g. in area of type-specific exposures	Potential		Yes, but to address another source of systemic risk(see misaligned incentives)	section 4.2.3
	LTV/LTI caps	Risk of spiral between property prices and property financing loans	Yes		Yes, as from 2015	section 4.3.1
Excessive maturity mismatch and market illiquidity	Stable funding restrictions (e.g. NSFR, LTD)	Long-term liquidity risk	Potential		Expected in future	section 3.3
	Liquidity coverage ratio (LCR)	Short-term liquidity risk	No	-	Yes, as from 2015; implementation of Article 460 of CRR	section 3.3
	Additional requirements and administrative measures for addressing disparities in liquidity risk management	Specific liquidity risk	No	-	Not as yet	-
Exposure concentration	Large exposure restrictions and capital requirements (by counterparty, sector, geographic)	Sovereign exposure concentration	Yes		Yes, option of additional capital requirements, as from 2015	section 3.4
Misaligned incentives	SIFI capital surcharges (G-SII and O-SII buffer)	Potential impacts of problems in SIFIs on financial market stability and real economy	Yes		No, O-SIIs identified, different instrument used	-
	Systemic risk buffer	Ditto	Yes		Yes, for four banks since 2014	section 4.2.3

Source: CNB

Note: The classification of risks and tools is based on the Flagship Report on Macro-prudential Policy in the Banking Sector (ESRB, 2014). The colour and slope of the arrows in the table illustrate the year-on-year change in the intensity of the specific risk. A higher slope means higher year-on-year growth in the specific risk. Black indicates that the risks are stable, orange indicates moderate growth in the specific risk and red indicates significant growth. The risk assessment is forward-looking.

Despite having improved, credit risk requires close monitoring

The economic growth recorded in 2015 was reflected in a reduction of credit risk in non-financial corporations and households. Credit risk is currently being suppressed by the relatively low debt levels of these sectors (see Chart IV.1 and Chart II.46) and by low interest rates on loans.⁷ The favourable trend is also evidenced by growth in NPLs and loan loss provisions in the banking sector as a whole (see Chart IV.2). Exposures to non-financial corporations in some sectors (energy and construction) and some categories of clients (particularly small enterprises) are continuing to show an increased level of risk. Weakening growth in some emerging economies and escalating geopolitical risks are manifesting themselves in elevated riskiness of loans to non-residents and non-financial corporations with strong international links. Overall, despite having improved somewhat, credit risk continues to require increased monitoring.

The countercyclical capital buffer rate must react to the shift of the economy in the financial cycle

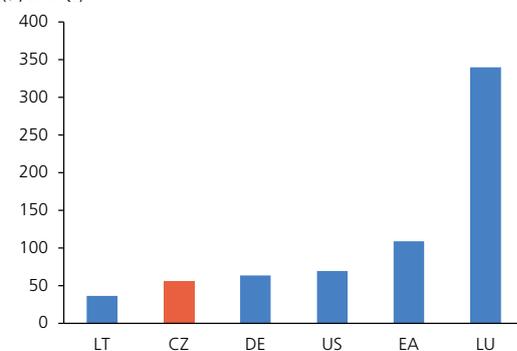
The environment of very low interest rates and the increasing expectations that this environment will persist for a long time are becoming a key source of systemic risks. The very low interest rates are fuelling demand for new loans and increasing the incentives for banks to offer more loans under “softer” conditions. The CNB reacted to the shift of the domestic financial cycle into a phase of stronger recovery in December 2015 by setting the countercyclical capital buffer rate at 0.5% of domestic exposures with effect from January 2017. When setting the countercyclical buffer rate in future quarters, the CNB will assess credit growth and other indicators of the financial cycle so as to ensure that the capital buffers are consistent with the level of systemic risk (see section 4.2.2).

The environment of very low interest rates calls for the observance of prudent credit standards

The CNB has been conducting a quarterly bank lending survey since 2012 and six-monthly monitoring of credit institutions’ lending policies for loans secured by residential property since 2015. The overall credit conditions have been relaxed significantly during the last two years, but credit standards remain predominantly conservative, at least by international comparison. The same goes for loans for house purchase. In this case, however, the approaches are diverse across institutions, and efforts to provide loans with riskier profiles can be seen in some institutions. In an environment characterised by more optimistic expectations among households and firms, low interest rates and rising property prices, observance of standards and policies for property exposures is crucial. Given the continuing shift of the economy into a more expansionary phase of the financial cycle, the CNB will also carefully

CHART IV.1

Ratio of debt of non-financial corporations to GDP
(%; 2015 Q2)

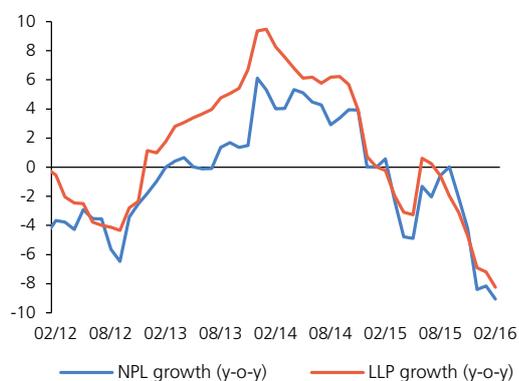


Source: ECB, White Book

Note: LT and LU are the countries with the lowest and highest figures in the EU.

CHART IV.2

Growth of NPLs and loan loss provisions
(year-on-year change in %)



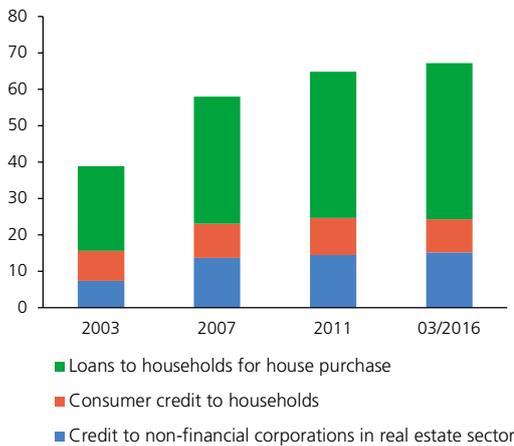
Source: CNB

Note: Exposures of Česká exportní banka and Českomoravská zaruční a rozvojová banka are excluded.

⁷ The sharp decline in loan interest rates has been reflected in a decreasing amount of interest paid to non-financial corporations and households since 2012. For households in particular, this has been counteracted in the last two years by growth in credit commitments.

CHART IV.3

Shares of selected credit categories in total credit to the private non-financial sector
(%)



Source: CNB

Note: In the banking statistics, the OKEČ sector classification of economic activity was replaced by the CZ-NACE classification on 31 January 2009. As a result of this change, a proportion of loans (amounting to around CZK 19 billion) in the real estate category (NACE L) were moved into the construction category (NACE F).

assess the evolution of credit standards applying to loans to non-financial corporations.

The CNB will apply preventive tools to counteract growth in risks in the area of financing of residential property purchases

The CNB does not currently assess the risk of emergence of a spiral between property prices and property purchase loans as acute. However, it regards the potential for the emergence of this risk as rising. Given the increasing significance of loans provided to households for house purchase and loans to non-financial corporations active in the real estate sector (see Chart IV.3), the CNB regards it as essential to set the preventive tools used in this area conservatively. In light of the increase in the estimated overvaluation of residential property and the rapid growth in genuinely new mortgage loans, it is appropriate to consider tightening the LTV parameter in the recommendations on management of risks associated with providing loans secured by residential property (see section 4.4). It is also essential to evaluate the potential application of the other instruments set out in CRD IV/CRR for preventing sources of systemic risk (see Table IV.2).

The CNB will pay a high degree of attention to changes in EU financial regulation and the banking union project

Within the European supervisory authorities, the CNB is actively involved in the preparation and implementation of the regulatory tools and measures required by the CRD IV framework; within the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (BCBS) it participates in discussions on the development of standards for the banking sector; and within the ESRB it is involved in designing macroprudential policies. The CNB's general priorities for the regulatory area in future years are stabilisation of the EU regulatory framework and enhancement of national authorities' powers to respond to sources of systemic risk in a timely and adequate manner. The CNB's activities in the regulatory area stem from the fact that proposals for new regulations in the EU do not always take account of the features of the financial sectors of non-euro area countries and do not always suit the comparatively small and conservative Czech financial sector. One example is the Bank Recovery and Resolution Directive (BRRD), especially the minimum requirement for own funds and eligible liabilities (MREL). The CNB has therefore been actively involved in the debate on the parameters of this tool (see section 4.4.3). Another important area where the needs of the euro area could generate risks for non-euro area countries is regulation of sovereign exposures (see section 4.4.4).

4.2 MACROPRUDENTIAL CAPITAL BUFFERS

4.2.1 OVERVIEW OF CAPITAL BUFFERS

The new bank regulatory framework defined in CRD IV/CRR contains capital buffers, which are “stacked” on top of the required 8% minimum and the Pillar 2 requirements (see section 4.2.4). The CNB currently applies three of these capital buffers (see Table IV.3) to increase the resilience of individual banks and the banking sector as a whole to any adverse developments. The buffer rates⁸ reflect the cyclical and structural characteristics of the Czech banking sector.

The capital conservation buffer is used to absorb losses in adverse phases of the cycle. It has applied to all banks in the Czech Republic since 2014 at a rate of 2.5%.⁹ This rate will not change over time. The countercyclical capital buffer is intended to reduce the risks associated with excessive credit growth and leverage. Information on the countercyclical capital buffer rate, along with an analysis of cyclical risks, is given in section 4.2.2. The systemic risk buffer can be used to suppress various sources of risks to banking sector stability. The CNB uses this buffer to mitigate the structural risks associated with the existence of systemically important banks. This buffer was set for four banks as from the end of 2014. Within two years of its introduction, the CNB is required to review whether there are grounds for changing the buffer rate applying to individual banks or whether this buffer should be imposed on other institutions. Information on the systemic risk buffer rate is given in section 4.2.3. The legislation also allows the CNB to apply a buffer for other systemically important institutions (O-SIIs). At the end of 2015, the CNB published a list of institutions on a consolidated basis which, under EBA guidelines,¹⁰ must be identified as O-SIIs. However, it has not so far required banks that are members of those institutions on a consolidated basis to hold a capital buffer for O-SIIs. Information on O-SIIs is also given in section 4.2.3.

4.2.2 THE COUNTERCYCLICAL CAPITAL BUFFER

The countercyclical capital buffer (CCyB¹¹) is a pure macroprudential tool.¹² It is designed to increase the resilience of the financial system to risks associated with the behaviour of the banking sector over the financial cycle, and especially with large fluctuations in lending, which amplify cyclical swings in economic activity. If a delegated

8 More detailed information about buffer rates and other macroprudential policy tools in the Czech Republic can be found on the CNB website: http://www.cnb.cz/en/financial_stability/macroprudential_policy/index.html.

9 The buffer rate is expressed as the ratio of best-quality capital (Common Equity Tier 1) to the total risk exposure.

10 EBA (2014): *Guidelines on criteria to assess other systemically important institutions (O-SIIs)*.

11 In previous Reports, the countercyclical capital buffer was abbreviated as “CCB”. This has been replaced by “CCyB” due to the international community’s preference for the latter abbreviation to avoid confusion with the capital conservation buffer.

12 FAQs (in Czech only) on the countercyclical capital buffer can be found on the CNB website: https://www.cnb.cz/cs/faq/protickylicka_kapitalova_rezerva.html.

TABLE IV.3

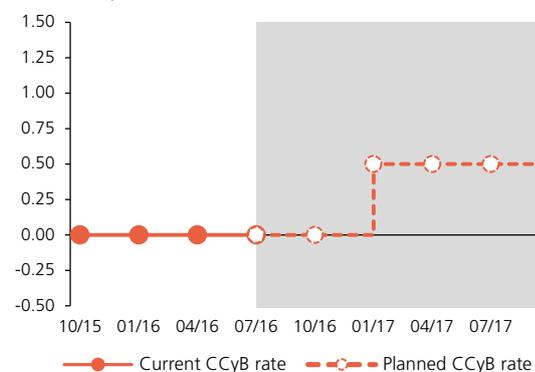
Summary of capital buffers in the Czech Republic (%)

Capital buffer	Rate	Year of effect
Capital conservation buffer	2.5	2014
Countercyclical capital buffer	0.5	2017
Systemic risk buffer	1–3	2014
Buffer for other systemically important institutions	-	-

Source: CNB

CHART IV.4

Current and announced CCyB rate in the Czech Republic (% of total risk exposure)

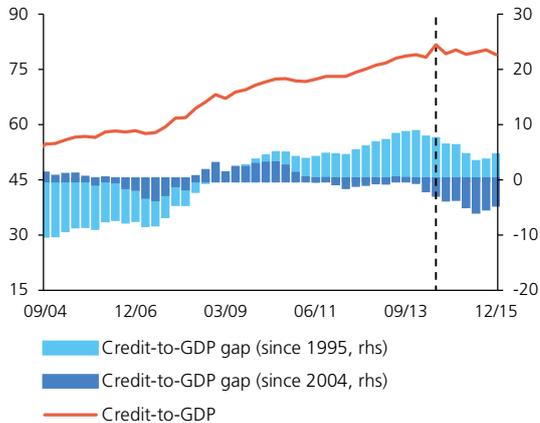


Source: CNB

CHART IV.5

Growth in loans to the private non-financial sector

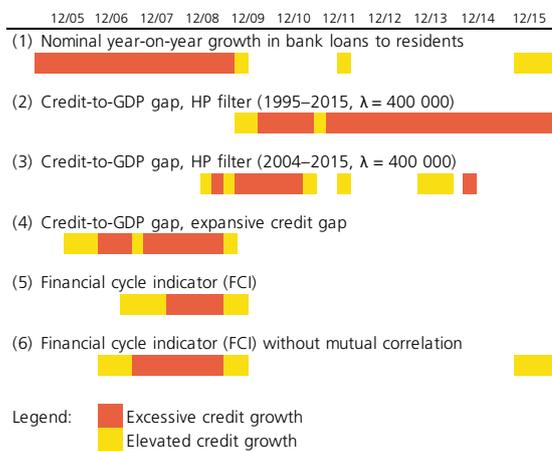
(left-hand scale: ratio in %; right-hand scale: gap in pp)



Source: CNB

Note: The dashed line denotes when the CCyB rate was set for the first time in the Czech Republic. To the left of the dashed line is an assessment of the gap ex post and to the right is an assessment in real time. The long-term trend is determined on the basis of the HP filter with a smoothing parameter of 400,000. The standard and additional gap correspond to indicators 2 and 3 in Table IV.1, respectively.

TABLE IV.4

Identification of excessive borrowing and accumulation of risks according to various indicators

For indicator 1: y-o-y growth > 5 pp for elevated growth, > 10 pp for excessive growth. **For indicators 2–3:** credit-to-GDP gap > 2 pp for excessive growth, > 0.7 pp for elevated growth. **For indicator 4:** expansionary credit gap > 2 pp for elevated growth, > 3 pp for excessive growth. **For indicator 5:** excessive growth for FCI > 0.4, elevated growth for FCI > 0.2. **For indicator 6:** excessive growth for sum of FCI components > 0.5, elevated growth for sum of FCI components > 0.3.

Source: CNB

Note: The current bounds of indicator 1 reflect statistical base effects from past years and changes in the inflation rate during various periods.

macroprudential policy authority concludes that the cyclical part of systemic risk is increasing, it should ensure that capital accumulates in the banking sector through the creation of buffers that increase its resilience. Conversely, in a period of cyclical decline accompanied by elevated financial stress and rising credit losses, the capital buffer should be released and used to cover losses. The CCyB can help curb rapid growth in loans, especially those with a riskier profile reflected in higher capital requirements. However, this is only a possible side-effect, not the primary purpose of the CCyB. The CNB sets the CCyB rate on a quarterly basis. It was announced for the first time on 1 October 2014. The CCyB rate becomes legally binding on the institutions concerned upon the issuance of a provision of a general nature.¹³

The CNB set the buffer rate at 0.5% in December 2015

The CNB set a higher-than-zero CCyB rate for the first time at the end of last year. With effect from the start of 2017, it set the buffer rate for exposures located in the Czech Republic at 0.5% (see Chart IV.4). Its main reason for setting a non-zero rate was a strengthening of sources of systemic risk as a result of a shift of the Czech economy within the financial cycle to a phase of stronger credit recovery accompanied by an easing of credit standards. In March 2016, the CNB confirmed the buffer rate at this level with effect from April 2017.

The deviation of the credit-to-GDP ratio from the HP trend is not a reliable guide for the Czech Republic

According to an ESRB recommendation, the deviation of the ratio of total credit provided to the private sector to GDP from its long-term trend – the credit-to-GDP gap – should serve as a starting point for determining the CCyB rate.¹⁴ The CNB publishes this gap on a quarterly basis together with the corresponding CCyB reference rate. In 2015 Q4, the ratio of credit to GDP stood at 79.0% and the gap was 4.3 pp (see Chart IV.5 and Table IV.4, line 2). This gap would imply a CCyB reference rate of 0.75%. As the calculation of the gap is based on a time series that includes the late 1990s, when bad loans were removed from banks' balance sheets, the CNB considers the information value of this indicator for the Czech Republic to be limited. In line with the ESRB recommendation, the CNB therefore also regularly calculates an "additional" credit-to-GDP gap based on a shorter time series starting in 2004. The additional gap was -4.4 pp in 2015 Q4, implying a zero CCyB

¹³ Their texts are available on the CNB website:

http://www.cnb.cz/en/financial_stability/macprudential_policy/countercyclical_capital_buffer/index.html.

¹⁴ According to an ESRB recommendation (*Recommendation (ESRB/2014/1) on guidance to EU Member States for setting countercyclical capital buffer rates*) and BCBS documents, this deviation is a good overall indicator of the build-up of cyclical financial risks in the economy. In line with the ESRB recommendation, the CNB calculates total credit as total loans (i.e. not only bank loans) to the private sector (i.e. households, non-financial corporations and non-profit institutions serving households) plus debt securities issued. The CNB has not yet incorporated changes associated with the switch to new standards and the new BPM6 balance of payments manual into the total credit time series (hence it does not reflect the switch in the reporting of cross-border intercompany loans from a net basis to a gross basis, which increases the original stock of total credit by more than CZK 500 billion).

reference rate (see Chart IV.5 and Table IV.4, line 3). The two gaps have given rise to conflicting recommendations for the CCyB rate ever since the tool was introduced in 2014 (see Chart IV.5). The CNB has long maintained that the approach based on calculating the aforementioned gap does not provide a sufficiently reliable guide for decisions on the CCyB rate in the case of the Czech Republic. In accordance with the legislation in force and the ESRB recommendation, the CNB therefore takes into account the overall evolution of the financial cycle, credit growth in the Czech Republic and other indicators of systemic risk when setting the CCyB rate.

The deviation of the credit-to-GDP ratio from a differently calculated trend signals rising credit activity

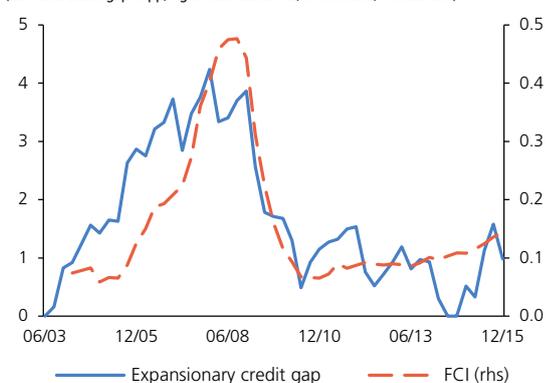
For numerous reasons,¹⁵ the long-term trend in the ratio of total credit to GDP calculated using the HP filter may not be a suitable basis for obtaining robust information. However, the credit-to-GDP ratio itself may contain useful information. Analysis of local extremes in the time series offers a simple way of extracting this information.¹⁶ The difference between the current ratio and the minimum ratio attained in past quarters can be used to reveal extremes indicating credit expansion. This calculation method among other things eliminates the problem of the removal of old loans from banks' balance sheets after the late-1990s crisis and, unlike the HP filter, is not subject to revision as new observations arrive (with the exception of retrospective revision of underlying data). The gap calculated in this way, which can be labelled as the expansionary credit gap, indicates a noticeable credit cycle recovery (see Chart IV.6 and Table IV.4, line 4) and is also consistent with the conclusions based on the assessment of the aggregate financial cycle indicator presented below.

The aggregate financial cycle indicator points to gradual growth in risks, with faster dynamics in some components

The CNB uses an aggregate financial cycle indicator (FCI) to assess the current position of the Czech economy in the financial cycle. The FCI combines signals of cyclical risks from various segments of the economy. These signals cover both supply and demand factors.¹⁷ The aggregate FCI is rising gradually from its 2010 trough and was fluctuating in 2015 Q4 at levels comparable with the first half of 2006 (see Chart IV.7 and Table IV.4, line 5). However, a closer look at the components of the FCI reveals that some segments are seeing significant growth in cyclical risks. The contribution of new loans to households to the total FCI is currently close to a historical high (see Chart IV.7). The speed of household borrowing relative to income has been increasing continuously since the

CHART IV.6

Alternative credit-to-GDP gap (expansionary credit gap)
(left-hand scale: gap in pp; right-hand scale: FCI, 0 minimum, 1 maximum)

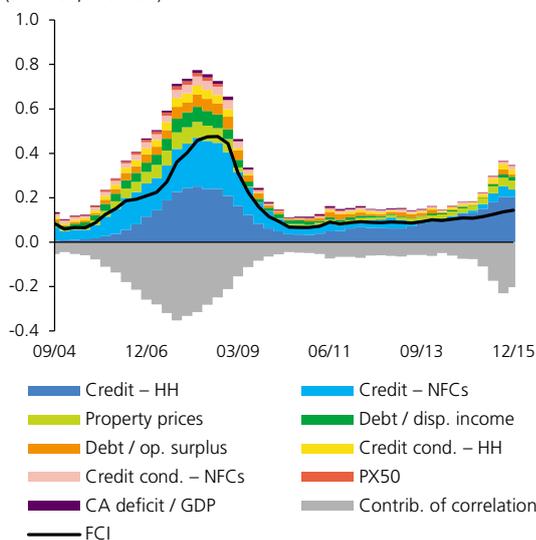


Source: CNB, CZSO

Note: Only bank loans are considered in the credit-to-GDP ratio. The expansionary credit gap is calculated as the difference between the present credit-to-GDP ratio and the minimum ratio in the last four quarters.

CHART IV.7

The FCI and its decomposition
(0 minimum, 1 maximum)



Source: CNB and CZSO data

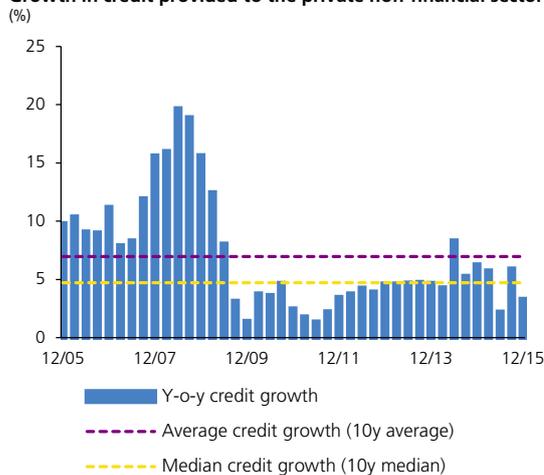
Note: The negative contribution of the cross-correlation structure to the FCI value (the loss due to imperfect correlation of the subindicators) is due to the difference between the current FCI value and the (potential) upper bound which assumes perfect correlation between all indicators. Highly negative contributions indicate a generally weak correlation between the subindicators.

15 These reasons were described in the last two Financial Stability Reports.

16 This type of analysis is based on the definition of the cycle proposed in Burns and Mitchell (1946): *Measuring Business Cycles*, NBER Books (1946).

17 These factors include credit growth, property prices, the speed of private sector borrowing and interest rate spreads. The FCI methodology is described in detail in the thematic article *An Indicator of the Financial Cycle in the Czech Economy* published in FSR 2013/2014.

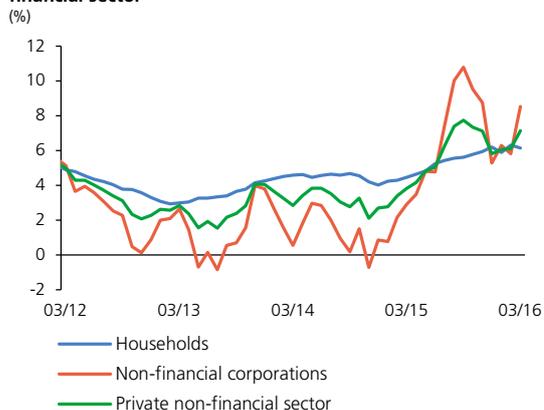
CHART IV.8

Growth in credit provided to the private non-financial sector

Source: CNB

Note: Under the BCBS methodology, total credit to the private non-financial sector contains loans to the private non-financial sector and debt securities issued. The private non-financial sector consists of non-financial corporations, households and non-profit institutions serving households.

CHART IV.9

Year-on-year growth in bank loans to the private non-financial sector

Source: CNB

Note: Households include data for non-profit institutions serving households.

end of 2014 and was only just below the ten-year average in 2015 Q4.¹⁸ The intensifying growth in cyclical risks is also being fostered by residential property prices, whose growth rate exceeded the ten-year average in the second half of last year (4.5%). Credit standards are also having a significant procyclical effect. They have been easing since the start of 2014, although the latest Bank Lending Survey indicates a slowdown in this trend (see Chart II.11 in section 2.1). The faster growth in the aforementioned components in aggregate terms has so far manifested itself to only a limited extent because of the low correlation between the components of the indicator in 2015 (see Chart IV.7). If, however, a sharper upswing becomes apparent in the remaining components, the correlation will increase and the aggregate indicator will also rise as a result. Abstracting from the correlation between segments, the FCI indicates stronger growth from the second half of 2015 onwards (see Table IV.4).

Total credit growth remains subdued, but growth in bank loans is elevated

Given the limited information value of the credit-to-GDP gap, the CNB regards credit growth as the starting point in guiding decisions on the CCyB rate. Total credit provided to the private sector rose by 3.3% in 2015. This can be labelled as a relatively subdued rate of growth in historical terms (see Chart IV.8). A halt in growth in bond issuance by non-financial corporations in 2015 H2 contributed significantly to suppressing the rate of growth of total credit (see section 2.3). By contrast, year-on-year growth in the main component of total credit – bank loans – picked up to 5.8% in 2015. In 2016 Q1 it reached 7.1% (see Chart IV.9). Underlying this trend is increased credit activity in both the household sector and the non-financial corporations sector. Total bank loans provided to households went up by 6.2% in 2015, the highest rate of growth since 2012 Q1. The pace of growth in 2016 Q1 was almost unchanged at 6.1%. The stock of bank loans provided to non-financial corporations increased by 5.3% in 2015. After slowing slightly in 2015 Q4 (see Chart IV.9) the rate of growth increased further to 8.5% in 2016 Q1, well above the ten-year average of 6.3%. The rate of growth in loans to households and non-financial corporations in the Czech Republic ranks among the four highest in the whole of Europe.¹⁹

New bank loans to households are rising very rapidly

The rate of growth of the stock of loans yields valuable information about the evolution of overall leverage. To assess whether credit growth is excessive it is also important to analyse newly provided loans (see Box 6). The year-on-year rate of growth in new bank loans to

¹⁸ Non-financial corporations also saw a slight upswing in the speed of borrowing in 2015 Q3, but this did not continue into Q4.

¹⁹ Based on the year-on-year rates of credit growth in January 2016. Only Sweden and Slovakia (in the case of households) and Poland (in the case of non-financial corporations) have higher rates of growth. For more details, see the *ESRB Risk Dashboard*, March 2016 (p. 14).

households (as measured by the three-month moving average²⁰) reached 9.6% in 2016 Q1 and is thus well above the ten-year average of 6.1%. After recording sharp increases in early 2015, new bank loans to non-financial corporations started to decline in 2015 Q3. The year-on-year rate of growth of new loans to non-financial corporations (as measured by the three-month moving average) stood at -21.6% in 2016 Q1 (see Chart IV.10) and was thus far below the ten-year average of 6.1%. The evolution of *genuinely* new loans was in line with that of new loans in both segments.²¹ In the case of households the amount of genuinely new loans has been growing by more than 20% on average since January 2015, whereas in the case of non-financial corporations it started to decrease in September 2015 (see Chart IV.11). The high rates of growth of genuinely new loans to households are due mainly to growth in loans for house purchase (17.0% in 2016 Q1), although growth in consumer credit also began to go up at the start of 2016 (26.5% in 2016 Q1). The negative growth in new loans to non-financial corporations was due primarily to a decline in short-term financial loans (-39.7% in 2016 Q1), while longer-term investment loans continued to show buoyant growth (29.7% in 2016 Q1).

The Czech economy is in an upward phase of the financial cycle...

Overall, the CNB's assessment of the indicators is that the Czech economy is continuing in an upward phase of the financial cycle. This is characterised by rapid growth in loans in a number of credit segments. The strong growth in new loans to households is increasing the vulnerability of the entire sector to sudden economic swings and is simultaneously fostering growth in residential property prices, which the CNB currently assesses as being slightly overvalued. The combination of economic recovery and very low lending interest rates, which is being reflected in a rise in investor optimism, is also affecting the commercial property segment. The aforementioned assessment implies a need to create a countercyclical capital buffer for exposures located in the Czech Republic.

...which does not yet require an increase in the countercyclical capital buffer

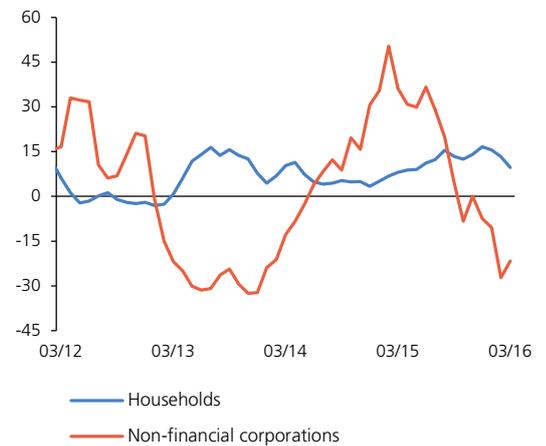
As there has been no significant change in cyclical risks indicating growth in systemic risk since the last CCyB rate decision was made in March 2016, it is possible to keep the buffer rate at the current level of 0.5 % for the time being. However, if credit growth remains high, credit standards ease further and investor optimism continues to grow, the CNB will stand ready to increase this buffer rate further.

²⁰ The three-month moving average is used due to high month-on-month volatility in the rate of growth of new loans.

²¹ Despite the term "new loans" used in the published statistics, such loans are not always genuinely new. A loan is reported as new in cases where the existing loan conditions are changed under a new agreement signed by the contracting parties, even though in reality it is the same (previously provided) loan. It is therefore necessary to monitor genuinely new loans, which consist solely of newly concluded loan agreements and agreements to increase existing loans.

CHART IV.10

Year-on-year growth in new koruna loans to the private non-financial sector (%)

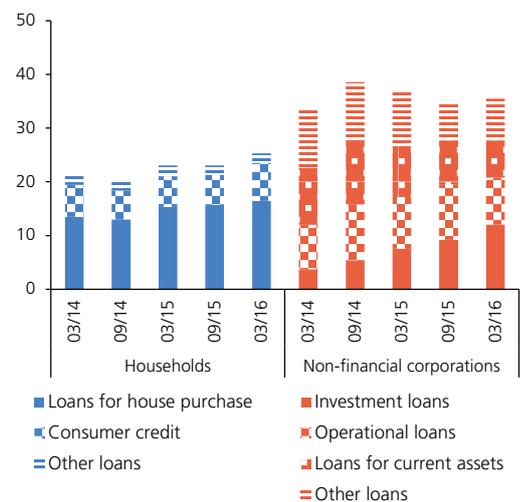


Source: CNB

Note: The data for households also include data for non-profit institutions serving households. Loans to households consist of loans for house purchase, consumer credit and refixed and refinanced loans. Year-on-year rates of growth are smoothed by the 3-month moving average.

CHART IV.11

Amounts of genuinely new loans to the private non-financial sector (CZK billions)



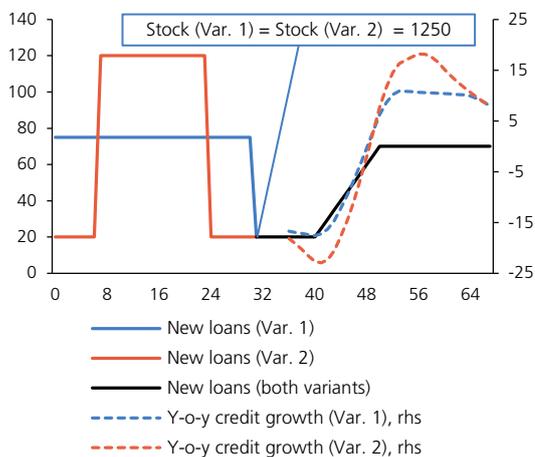
Source: CNB

Note: Genuinely new loans also include increases in existing loans.

CHART IV.1 BOX

Impact of different new loan histories on credit growth

(x-axis: quarters; left-hand y-axis: rate of growth in %; right-hand y-axis: flow of new loans)



Source: CNB

Note: A constant interest rate of 4% and a constant credit repayment period of 8 years over the entire period shown is assumed. Total credit is identical in the two economies (Variant 1 and Variant 2) at the time of the joint decline in new loans to 20.

BOX 6: IS THE RATE OF GROWTH OF THE STOCK OF CREDIT THE RIGHT INDICATOR FOR ASSESSING CREDIT GROWTH AND ASSOCIATED RISKS?

Greater attention has started to be paid after the crisis to the impacts of excessive credit growth on financial stability. One of the main indicators that macroprudential authorities take into account in their assessments of cyclical sources of systemic risk is (year-on-year) credit growth. The aim of this Box is to draw attention to the limited information value of this indicator when used in isolation to evaluate excessive credit growth.

Change in the stock of credit – credit growth – depends on two main factors: the amount of newly provided loans and the rate of repayment of existing debt. The influence of the latter is often underestimated in the assessment of credit growth. It is useful to realise what determines the debt repayment rate. At the aggregate level, the total amount of repayments is derived from the history of newly provided loans, which tends to be longer than the period over which the rate of growth is measured. Credit growth is thus affected not only by current developments, but also by (cyclical) developments in the relatively distant past.²² The growth figures themselves therefore cannot be assessed correctly without taking account of the history of newly provided loans. Two economies²³ can show very different credit growth despite having the same current total credit stock and the same future trajectory of newly provided loans. If, for example, one economy experienced a credit boom in the past, implying significantly higher current repayments, its credit growth rate can differ by tens of per cent in some periods compared with an economy that did not experience such a boom. Chart IV.1 Box illustrates the effects of a different past for newly provided loans on credit growth. The opposite implication also applies, i.e. two economies with identical total credit growth may, from the perspective of the rate of credit creation, show completely different risk characteristics and be in a different phase of the credit cycle. For this reason, total credit growth is just one indicator for assessing excessive credit growth. Greater attention should be paid to newly provided loans and their level of risk.

Another potentially problematic area is the comparison of credit growth with economic growth (GDP growth). In the financial stability context, the relationship between credit and GDP is used to complete the picture on excessiveness of credit growth,²⁴ but it

²² The extent to which the distant past affects the credit growth rate depends on the (average) loan maturity.

²³ Or a single economy in different time periods.

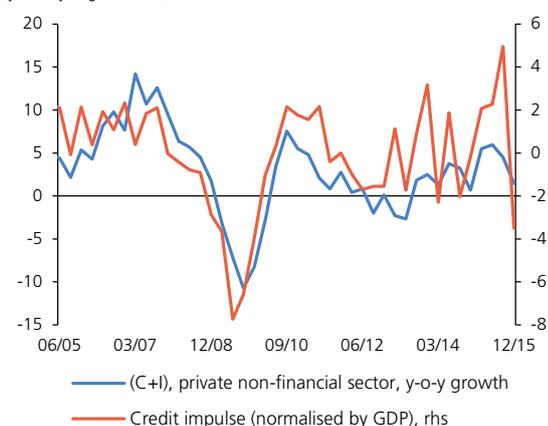
²⁴ Where the rate of growth of the stock of credit is lower than the rate of growth of GDP, credit growth is often regarded as subdued and therefore implicitly low-risk.

also influences the outlook for banking sector profitability and its sustainability. From the macroprudential policy perspective, it can gain in importance when a need arises to reduce shortages on the credit supply side and boost lending to the real economy.

However, mechanical comparison of the credit growth (a stock variable) and GDP growth (a flow variable) can give rise to erroneous or debatable conclusions, for example that the relationship between economic activity and credit is very weak, that the economic and credit cycles are of different lengths, or that creditless recoveries have occurred after crises. Attention was first drawn explicitly to this fact in a series of articles written by German economists (see, for example Biggs, Mayer and Pick, 2010, and Biggs and Mayer, 2013²⁵). These authors demonstrate that GDP growth is not linked primarily with total credit growth (i.e. with the increase in debt, the first difference of the stock of credit) but with the rate of growth of new credit (i.e. with the acceleration in debt, the second difference of the stock of credit, which the authors call the credit impulse).²⁶ A credit-driven economic recovery can therefore occur even if the credit stock is declining constantly – the only thing that is needed for an economic recovery in reality is for the decline to slow (a positive second difference, i.e. a positive credit impulse). If this fact is not taken into account, the relationship between GDP and credit can be significantly distorted. This distortion manifests itself most strongly in assessments of developments after crises. Chart IV.2 Box and Chart IV.3 Box illustrate this situation for the Czech economy.²⁷ These charts reveal that while credit growth remained low in the post-crisis period, the credit impulse corresponded with economic activity as expected. This information is again intended to demonstrate that year-on-year credit growth should be used with great caution in the assessment of credit dynamics.

CHART IV.2 BOX

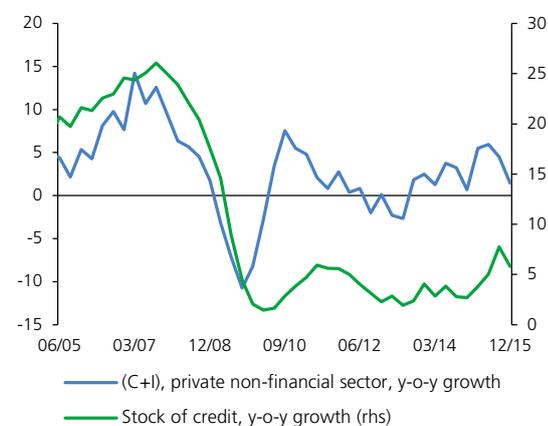
Comparison of economic growth and the credit impulse of the private non-financial sector (second differences in stocks)
(year-on-year growth in %)



Source: CNB, CZSO
Note: C = Consumption, I = Investment.

CHART IV.3 BOX

Comparison of economic growth and growth in total credit provided to the private non-financial sector
(year-on-year growth in %)



Source: CNB, CZSO
Note: C = Consumption, I = Investment.

25 *Credit and Economic Recovery: Demystifying Phoenix Miracles*, 2010, and *Bring Credit Back into the Monetary Policy Framework*, 2013, respectively.

26 The credit impulse is normalised by GDP. To study the relationship between credit and economic activity in more depth, the authors derived a simple model that implies the following equation for GDP growth: $a \cdot \text{credit impulse} + b \cdot \text{credit stock growth}$, where $a \gg b$ in normal economies. For ease of interpretation, the model contains a number of simplifying assumptions, but its main conclusions still apply for more complex models.

27 The charts illustrate the relationship between credit and GDP on data for the Czech economy, but similar conclusions have been demonstrated for a whole range of other economies, including those of the USA and the euro area.

4.2.3 CAPITAL BUFFERS OF SYSTEMICALLY IMPORTANT INSTITUTIONS

The systemic risk buffer

CRD IV gives EU Member States the option of applying a systemic risk buffer (SRB) as a relatively flexible tool primarily for preventing non-cyclical risks.²⁸ The CNB uses the SRB to prevent systemic risk arising from the potential destabilisation of systemically important banks. The destabilisation of any of these banks could undermine confidence in the banking sector's ability to provide its services effectively, which, in turn, could have serious repercussions for the financial system and the entire Czech economy. According to ESRB data, another ten EU Member States currently apply an approach similar to that of the CNB.

The CNB's decisions on which banks will be required to maintain an SRB, and at what rate, are based on an estimate of the systemic importance of each bank. This estimate draws on a range of indicators describing four key parameters of the bank: size, complexity, substitutability for the economy and interconnectedness with other financial institutions.²⁹ The CNB set SRB rates for the first time in 2014, specifically for the four systemically most important banks: 3% of risk-weighted exposures for Česká spořitelna and ČSOB, 2.5% for Komerční banka and 1% for UniCredit Bank.

The CNB is required by law to review its reasons for setting the SRB once every two years. The CNB has therefore assessed the systemic importance of domestic banks according to the end-2015 data. Based on the results of this assessment, it will inform the relevant banks and authorities during the course of this year about whether it will be confirming or changing the existing SRB rates or introducing new ones for banks that have not previously been required to create an SRB.

The capital buffer for other systemically important institutions

As from 2015, the CNB is required by law to identify other systemically important institutions (O-SIIs). To do so, it must use the harmonised methodology set out in the relevant guidelines of the European Banking Authority (EBA).³⁰ The CNB follows those guidelines to the full when setting the criteria for identifying O-SIIs. It calculates scores governing the designation of entities as O-SIIs for all relevant institutions at the highest consolidation level. As a result, only regulated consolidated groups, not directly banks that are members of such groups, may be designated as

²⁸ Article 133 of Directive 2013/36/EU states that Member States should have the option of requiring certain institutions to maintain, in addition to the capital conservation buffer and the countercyclical capital buffer, a systemic risk buffer in order to prevent and mitigate long-term non-cyclical systemic or macroprudential risks in the meaning of a risk of disruption in the financial system with the potential to have serious negative consequences to the financial system and the real economy in a specific Member State.

²⁹ See the thematic article *An Additional Capital Requirement Based on the Domestic Systemic Importance of a Bank* in FSR 2012/2013.

³⁰ Guidelines on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (O-SIIs).

O-SIIs.³¹ This consolidation may cover banks and selected non-banks, including subsidiaries in other countries. The EBA guidelines also allow investment firms to be exempted from the calculation. The CNB makes use of this option because the investment firms segment does not play a sufficiently significant role in the Czech financial system.

The following regulated consolidated groups were identified as O-SIIs at the end of last year in the first O-SII identification process based on mid-2015 data: Československá obchodní banka, Komerční banka, Česká spořitelna, UniCredit Bank Czech Republic and Slovakia, Jakabovič & Tkáč (relevant entity of the regulated consolidated group: J&T banka), PPF FH B.V. (relevant entity of the regulated consolidated group: PPF banka) and Raiffeisenbank.

The CNB will update the list of O-SIIs each year on 1 December at the latest. It will therefore publish an updated list of O-SIIs by 1 December 2016.

Under the Act on Banks, an additional capital requirement can be imposed on a bank that is a member of a regulated consolidated group designated as an O-SII. However, the CNB does not regard this as necessary at the moment. Since 1 October 2014, banks with a high level of domestic systemic importance have been required to maintain a systemic risk buffer. Depending on developments in European legislation, however, this buffer may in the future be converted into a buffer for O-SIIs.

O-SII identification has been compulsory for all EU countries since 2015. A total of 173 institutions have been designated as O-SIIs. With seven O-SIIs, the Czech Republic is close to the average in the EU, where the number of O-SIIs in individual Member States ranges from 2 to 16.³² Besides the CNB, the authorities in several other EU countries have decided not to set a capital buffer for O-SIIs in their jurisdiction (at least for the time being).

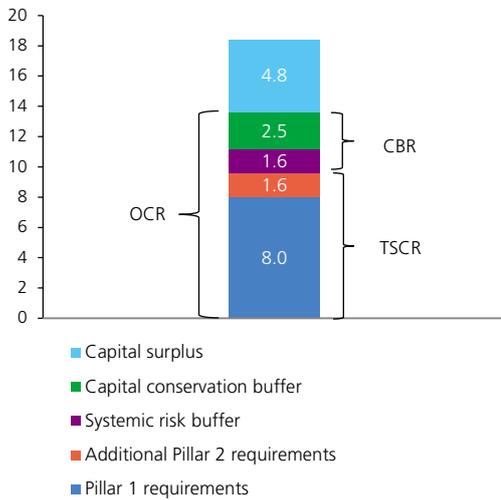
4.2.4 THE INTERACTION OF THE PILLAR 1, PILLAR 2 AND BUFFER REQUIREMENTS AND STRESS TEST RESULTS IN THE DETERMINATION OF BANK CAPITAL REQUIREMENTS

The CRD IV/CRR regulatory framework defines rules for determining Pillar 1 capital requirements and capital buffers. It also lays down supervisory powers for determining additional capital requirements under Pillar 2. They are elaborated in the *Guidelines on common procedures and methodologies for the supervisory review and evaluation process*

³¹ In this respect, the methodology for identifying O-SIIs differs fundamentally from the methodology the CNB uses to identify the set of institutions (banks, not regulated consolidated groups) which the CNB requires to fulfil the systemic risk buffer.

³² The European Banking Authority published a list of the O-SIIs in each country on its website (<http://www.eba.europa.eu>) on 25 April 2016.

CHART IV.12

Structure of bank capital requirements in the Czech Republic
 (weighted average for sector as of end of 2015)


Source: CNB

TABLE IV.5

Rules for determining distributions (MDA)

CET1 capital on top of total Pillar 1 + Pillar 2 capital requirement (%)	Maximum distributable amount (MDA)
75–100	60
50–75	40
25–50	20
0–25	0

Source: CRD IV

(SREP),³³ which include an approach to accounting for the effect of the economic cycle. The text below discusses the interaction of the aforementioned components in the determination of the minimum capital ratio that banks are required to observe.

The total and overall capital requirements

In addition to the Pillar 1 requirements, the CNB may determine an additional Pillar 2 capital requirement as a result of a supervisory review and evaluation process (SREP). This requirement covers risks that are not covered by Pillar 1 or the other capital requirement components (such as capital buffers). The sum of the Pillar 1 requirements and the additional Pillar 2 capital requirements is called the total SREP capital requirement (TSCR). Banks should meet the TSCR at all times, including in an adverse phase of the economic cycle.

On top of the TSCR, banks must meet a combined buffer requirement (CBR). This consists of the requirements for the capital conservation buffer, the systemic risk buffer, the capital buffer for other systemically important institutions and the countercyclical capital buffer. The designated (macroprudential) authority must coordinate with the competent (supervisory) authority to determine how to address them in the SREP when evaluating the impact of the cycle. The sum of the Pillar 1 requirements, the additional Pillar 2 requirements and the combined buffer requirement forms the overall capital requirement (OCR; see Chart IV.12).

Capital conservation measures and restrictions on distributions

Where a bank is unable to cover its combined buffer requirement³⁴ with CET1 capital, it is subject to restrictions on the distribution of profits and the payment of dividends (distributions).³⁵ In such case, the bank is obliged to prepare a capital restoration plan (pursuant to Article 12m(4) of the Act on Banks) in the structure set out in Article 70 of Decree 163/2014 and submit it to the CNB. The maximum distributable amount (MDA) is derived from the capital coverage of the combined buffer requirements (see Table IV.5).

The effect of stress test results on capital requirements

Banks must meet the total capital requirement (TSCR) given by the sum of the Pillar 1 requirements and the additional Pillar 2 requirements at all times. If the supervisory authority decides that a bank cannot use one of the capital buffers to absorb a stress test shock, its total requirement is increased by the amount of that buffer. In this form it is referred to as the other relevant capital requirement. The CNB considers it appropriate to define the other relevant capital requirement as the sum of the TSCR and

³³ EBA/GL/2014/13 *Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP)*.

³⁴ *Opinion of the European Banking Authority on the interaction of Pillar 1, Pillar 2 and combined buffer requirements and restrictions on distributions* specifies that the combined capital buffer is determined as the amount of capital that is not used to meet the Pillar 1 and Pillar 2 requirements.

³⁵ Generally the distributions set out in Article 141 of the CRD.

the systemic risk buffer. This is because the purpose of the systemic risk buffer is to prevent long-term non-cyclical systemic risks, not to absorb the losses of individual banks in adverse phases of the economic cycle.

Supervisory stress testing is used to evaluate whether a bank has sufficient capital to meet the total requirements. Whether or not the total capital requirement will be breached is determined by the impact of the adverse scenario of the stress test. If the relevant capital requirement will be breached, the bank must submit a capital plan³⁶ containing a capital planning buffer. This is meant to ensure that the amount of capital following the absorption of the shock in the adverse scenario of the supervisory stress test does not fall below the relevant level.

Chart IV.13 illustrates the hypothetical situation in which the capital surplus and capital conservation buffer of the bank are sufficient to cover the decrease in capital caused by the impact of the adverse stress scenario. In this situation, the relevant capital requirement is not breached.

Chart IV.14 depicts the hypothetical situation where the capital surplus and capital conservation buffer of the bank are not sufficient to fully absorb the decrease in capital caused by the impact of the adverse stress scenario. In this case, a capital planning buffer equal to the amount by which the decrease in capital in the adverse scenario breaches the relevant capital requirement is required.

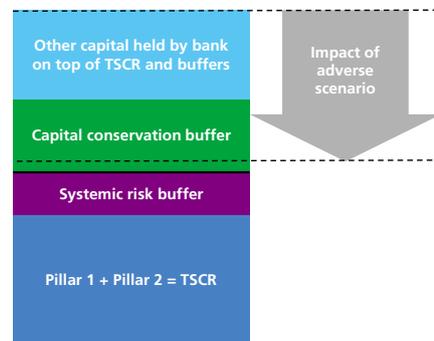
Chart IV.15 shows how fulfilment of the relevant capital requirement would look if the impact of the *Adverse Scenario* of the macro-stress test described in section 3.2 on the banking sector as a whole were to be factored in. The capital surplus and the capital conservation buffer would together be sufficient to cover the decrease in capital in the *Adverse Scenario*.

When determining the minimum capital requirements for banks in the supervisory review and evaluation process (SREP), the CNB will take account of both the interaction of the Pillar 1 requirements, the additional Pillar 2 capital requirements and the combined buffer requirements and the effect of the economic cycle.

36 This capital plan differs from the capital conservation plan that a bank must prepare if it fails to meet the combined buffer requirement. Unlike the capital conservation plan, the capital plan is determined on the basis of the impact of the hypothetical adverse scenario of the supervisory stress tests and is intended to determine the adequacy of the bank's capital to cover volatility over the economic cycle (see section 7.7 of EBA/GL/2014/13 *Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP)*).

CHART IV.13

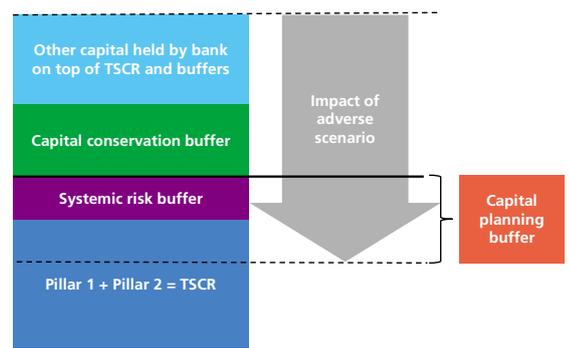
Impact of test is fully absorbed by capital surplus and capital conservation buffer: capital planning buffer = 0



Source: CNB
Note: The illustration assumes a zero countercyclical buffer.

CHART IV.14

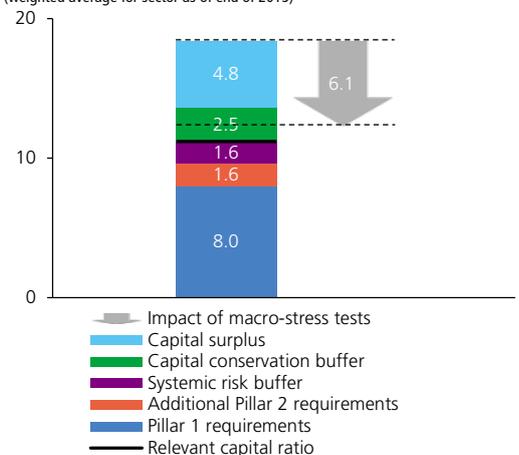
Impact of test is not fully absorbed by capital surplus and capital conservation buffer: capital planning buffer > 0



Source: CNB
Note: The illustration assumes a zero countercyclical buffer.

CHART IV.15

Impact of macro-stress tests
(weighted average for sector as of end of 2015)



Source: CNB
Note: The illustration assumes a zero countercyclical buffer.

4.3 RISKS ASSOCIATED WITH THE RESIDENTIAL AND COMMERCIAL PROPERTY MARKETS

Experience from advanced countries shows that periods of rapid credit growth accompanied by rising property prices can be followed by sharp shocks to the property market and, in turn, to the banking sector. The systemic problems of the banking sector then often cannot be resolved by applying resolution tools at the individual bank level (using the funds of shareholders and creditors) and it may also be necessary to deploy public funds, i.e. taxpayers' money, at least temporarily. If a crisis is preceded by strong growth in household debt, adverse shocks often have large negative impacts on households' financial situation and consumption and, in turn, on overall economic growth. The potential for the emergence of a price spiral between property prices and housing loans also exists in the Czech Republic. The CNB is therefore paying increased attention to house purchase loans in its analyses of systemic risks. Given that the environment of very low interest rates fostering growth in house purchase loans and property prices in Europe may persist for a long time, this is a priority area for the CNB at present. This section describes developments in the area of loans secured by property and assesses the risks associated with this kind of loan. It evaluates in detail the evolution of credit standards applied to new loans secured by residential property. In light of the risks identified, some standards are starting to appear insufficiently strict. The CNB therefore deems it necessary to recommend that institutions reduce their maximum LTV values.

4.3.1 ASSESSMENT OF COMPLIANCE WITH THE CNB'S RECOMMENDATION ON THE MANAGEMENT OF RISKS ASSOCIATED WITH NEW LOANS SECURED BY RESIDENTIAL PROPERTY

In previous years, when monitoring credit institutions' lending policies for loans secured by residential property, the CNB identified growing diversity between banks' approaches and increasing provision of riskier loans for house purchase. In June 2015, the CNB therefore issued a *Recommendation on the management of risks associated with the provision of retail loans secured by residential property* (the "Recommendation") directed against potential growth in risks in the area of new loans secured by residential property ("loans"). The Recommendation set quantitative LTV limits and qualitative criteria, observance of which should ensure that credit standards comply with the criteria of sufficient tightness and prudence.

The CNB assessed compliance with the Recommendation in the second half of last year

In last year's Report, the CNB stated that it would regularly assess compliance with the Recommendation and would stand ready to tighten the parameters of individual recommendations if increased risks were identified. To evaluate the amount and riskiness of new loans, the CNB conducts surveys of the credit characteristics of new loans secured by residential property. More detailed data for the second half of 2015

enabled it to perform its first check of compliance with the quantitative and qualitative criteria contained in the Recommendation and to monitor the credit characteristics of the loans identified in it.

Not all banks are fully compliant with the LTV limits...

Recommendation A states that institutions should not provide loans with an LTV (loan-to-value, i.e. the ratio of the loan amount to the value of collateral) exceeding 100%. However, loans with an LTV of over 100% accounted for 4% of all new loans provided in 2015 Q3 and Q4 (see Chart IV.16).³⁷ In 2015 Q4, ten institutions were not fully compliant with the Recommendation. Three of those institutions accounted for 95% of the loans in excess of the limit. Recommendation A also stipulates that the share of new loans with an LTV of 90%–100% should not exceed 10% of the amount of new loans in any given quarter. The share of loans with an LTV of 90%–100% dropped year on year in 2015 Q3 and Q4, accounting for 9% of all new loans. However, some institutions exceeded the 10% limit and the loans provided by them in excess of the limit made up 3% of all new loans in each quarter. In 2015 Q4, eight institutions were not compliant with the limit, and three of them accounted for 82% of loans in excess of the limit.

...but the provision of unsecured consumer credit does not suggest that these limits are being circumvented by institutions concurrently providing that secured credit

Recommendation A also states that institutions should not circumvent the LTV limits by concurrently providing unsecured consumer credit. According to information from banks, the amount of such loans provided since the Recommendation took effect to clients with secured loans with LTVs of 80%–90% and 90%–100% from the same institution was negligible. The risk of circumvention of LTV limits by concurrent financing thus seems low. However, the possibility of a borrower taking out other unsecured loans from other financial institutions to part-finance a mortgage loan remains a risk factor.

The collateral valuation level may increase the risks associated with loans with higher LTVs

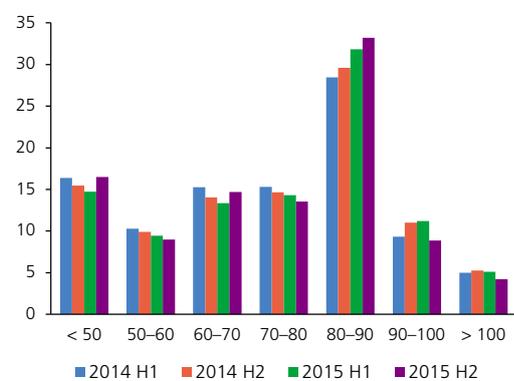
Recommendation A also specifies that institutions should proceed with caution when determining collateral value for the purposes of calculating LTV. Among other things, they should take into account the cyclical position of the economy and any overvaluation of property prices. When assessing compliance with the Recommendation, the CNB examines whether collateral value solely reflects property prices or whether it also takes account of the behaviour of bank clients or banks themselves. For this purpose, quarterly data on average loan size and collateral value were compared. Collateral value rose more slowly than loan size but

³⁷ The Recommendation states that, to calculate the LTV ratio, a client's deposit with the same institution may be subtracted from the client's debt provided that the deposit is part of the collateral for the loan. For the purposes of assessing compliance with the Recommendation, the value of the collateral was therefore defined as the sum of the value of the residential property pledged as collateral and the value of any other types of collateral eligible for the calculation of capital adequacy.

Recommendation A: LTV limits for new loans

CHART IV.16

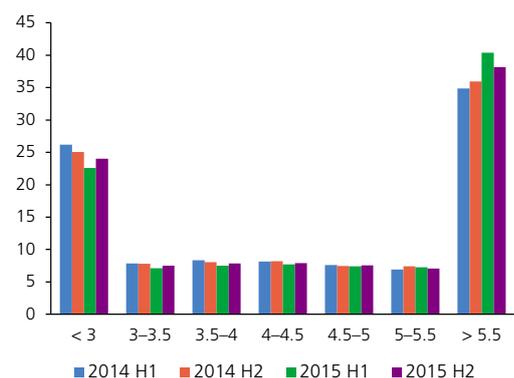
LTV distribution of new loans
(x-axis: LTV in %; y-axis: share of loans in %)



Source: CNB

CHART IV.17

LTI distribution of new loans
(x-axis: LTI; y-axis: share of loans in %)



Source: CNB

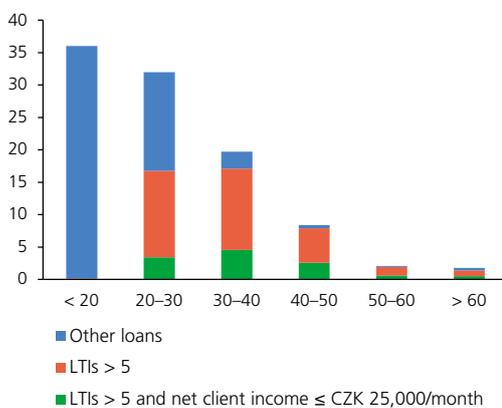
faster than property prices in 2015 Q3 and Q4.³⁸ In the 80%–90% and 90%–100% LTV categories, where there is an incentive to influence collateral value, the average collateral value rose by about 10% year on year and the average loan size by 13%. The results can thus be seen as an indication that collateral value may in some cases be estimated deliberately with the purpose of achieving lower LTV.

Recommendation B: Assessment of clients' ability to service loans from their own resources

CHART IV.18

DSTI distribution of new loans

(x-axis: DSTI in %; y-axis: share of loans in %)

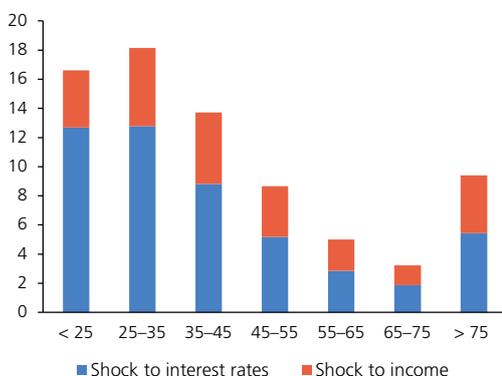


Source: CNB

CHART IV.19

Share of new loans with property-related costs exceeding 40% of income in the stress broken down by income category

(x-axis: net monthly income in CZK thousands; y-axis: share of loans in %)



Source: CNB

Note: The stress assumes a rise in interest rates of 3 pp and a fall in income of 30%. The costs associated with the underlying property comprise principal and interest payments plus 1% of the loan amount as the property maintenance cost per year.

Lower incomes pose a risk for loans with high LTIs and DSTIs...

Recommendation B states that institutions should, when providing loans, prudently assess indicators of clients' ability to service loans from their own resources and set internal limits for such indicators. They can do so by, for example, using LTI (loan-to-income, i.e. the ratio of a client's debt to net annual income) or DSTI (debt service-to-income, i.e. the ratio of the monthly loan instalment to net monthly income). Data on loans provided in the past reveal that the NPL ratio rises in line with the LTI ratio. Loans with LTIs of higher than 5 ("high LTIs") can be considered risky.³⁹ As for DSTI, the risky values are those higher than 40% ("high DSTIs").⁴⁰ Data on loans provided in the past also indicate that the highest NPL ratio pertains to the category of clients with net monthly income of less than or equal to CZK 25,000 ("low net income"). Data on new loans show that the proportion of loans with high LTIs increased modestly year on year in the second half of 2015, reaching 45% (see Chart IV.17). The share of new loans with both high LTIs and high DSTIs reached 11% (see Chart IV.18). A total of 33% of loans with these characteristics were granted to clients with income of less than CZK 25,000 (see Chart IV.22). The high concentration of such loans among clients with low income implies an increased risk of default on those loans in the event of an adverse shock, because the lower absolute amount of money left after property-related costs are deducted may not be enough for such clients to cover other essential expenditure, which is to some extent fixed.

...which is increased by the chance of adverse economic developments...

Recommendation B also states that institutions should, when providing new loans, assess clients' ability to service their loans under adverse conditions. Besides the current costs of living typical of the client's household and the expenditure arising from all its financial obligations, they should also take into account growth in interest rates and a potential drop in income. An example of such an adverse scenario would be, for example, a rise in interest rates of 3 pp and a fall in income of 30% (for example because one of two clients applying jointly for a loan loses his or her income or because the client takes up a job with a

38 However, if property prices rise faster than incomes, the average loan size usually increases faster than prices.

39 The average DSTI for loans with an LTI of higher than 5 granted in the second half of 2015 was 37%. The average size of new loans with an LTI of higher than 5 was more than CZK 2.6 million. The average net monthly income of clients applying for such loans was slightly less than CZK 44,000. Such loans were provided with an average maturity of 28 years and at an interest rate of 2.2%.

40 A DSTI of 40% corresponds to a loan with an LTI of 5 assuming an interest rate of 5% and a maturity of 20 years.

substantially lower wage). Assuming linear repayment of loans, and after adding 1% of the loan amount as the property maintenance cost per year, the costs associated with the underlying property would exceed 40% of net income for half of new loans in the event of the said rise in interest rates (see Chart IV.19). If income simultaneously dropped by 30%, the figure would rise to three quarters. Increased riskiness of new loans is also indicated by an alternative stress simulation using CZSO data on the average essential costs of living of households with a mortgage loan broken down by income group. After loan instalments are deducted from income, the proportion of new loans in respect of which clients' funds would fall below the level needed to cover essential costs would be 11% after the shock to interest rates and 52% given the simultaneous drop in income (see Chart IV.20). For clients with low net income, such risky loans would account for 37% and 93% respectively of the loans provided to them. The shares of such loans in loans with DSTIs of higher than 40% would be 63% and 96% respectively (see Chart IV.21). The stress used in the aforementioned simulations is highly implausible and abstracts from the possibility that the client's household has several sources of income. The vulnerability of both credit institutions and households is also partly reduced by the predominant longer interest rate periods (77% of new loans were provided with fixation periods of five years or more in the second half of 2015; see section 2.4).

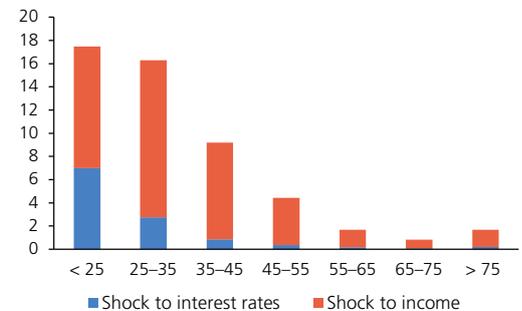
...and more frequent occurrence in the case of loans with higher LTV ratios

Another risk factor is the fact that the highest share of loans with both high LTIs and high DSTIs in the second half of 2015 was recorded for loans in the 80%–90% LTV category (30% of new loans with these characteristics; see Chart IV.22). This LTV category also contains by far the highest share of loans to clients who also have low income (28% of new loans with these characteristics). With the LTV ratio increasing, the probability/rate of coverage of outstanding principal by the sale of collateral in the event of default decreases.

CHART IV.20

Share of potentially impaired new loans in the stress broken down by income category

(x-axis: net monthly income in CZK thousands; y-axis: share of loans in %)



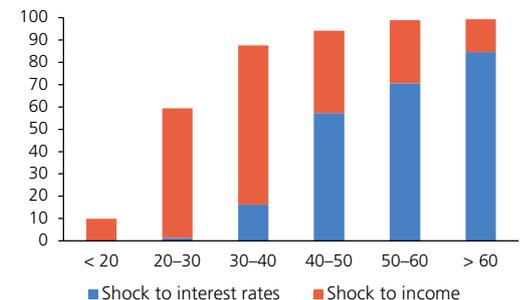
Source: CZSO, CNB, CNB calculation

Note: The stress assumes a rise in interest rates of 3 pp and a fall in income of 30%. Potentially unrepaid loans comprise those which for funds would fall below the level needed to cover essential costs after loan instalments are deducted from income. For these assumed the CZSO data on average essential costs for households with a mortgage broken down by income category.

CHART IV.21

Share of potentially impaired new loans in the stress broken down by DSTI category

(x-axis: DSTI in %; y-axis: share of loans in %)



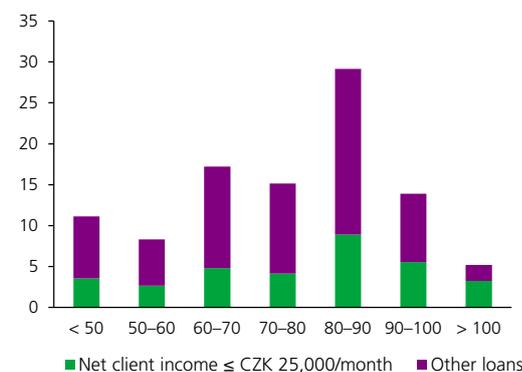
Source: CZSO, CNB, CNB calculation

Note: The stress assumes a rise in interest rates of 3 pp and a fall in income of 30%. Potentially unrepaid loans comprise those which for funds would fall below the level needed to cover essential costs after loan instalments are deducted from income. For essential costs, the CZSO data on average essential costs for households with a mortgage broken down by income category were used.

CHART IV.22

LTV distribution of new loans with both high LTIs and high DSTIs

(x-axis: LTV in %; y-axis: share of loans in %)



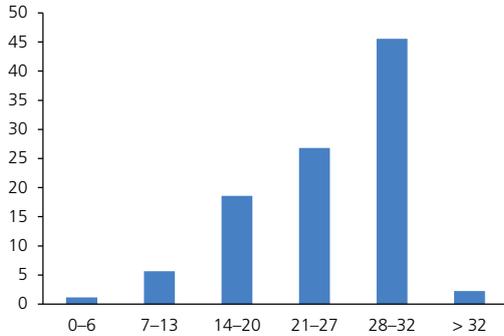
Source: CNB

Note: LTIs of higher than 5 and DSTIs of higher than 40% are considered high values.

CHART IV.23

Distribution of new loans by number of years between provision and repayment

(x-axis: number of years; y-axis: share of loans in %)

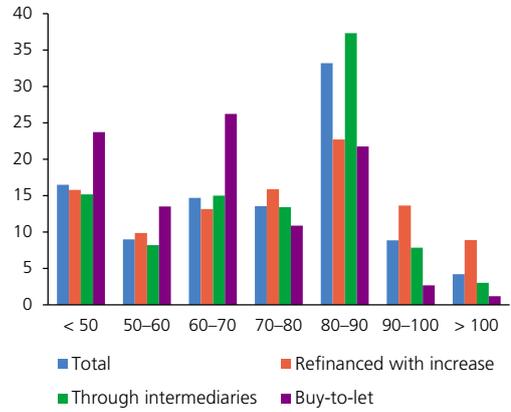


Source: CNB

CHART IV.24

LTV distribution of new loans from various perspectives

(x-axis: LTV in %; y-axis: share of loans in %)

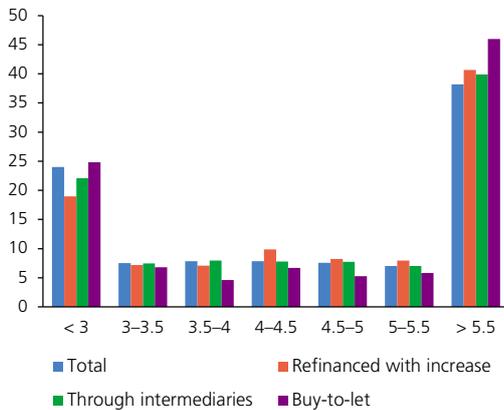


Source: CNB

CHART IV.25

LTI distribution of new loans from various perspectives

(x-axis: LTI; y-axis: share of loans in %)

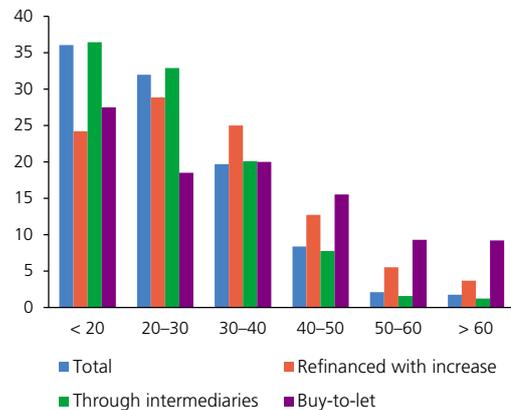


Source: CNB

CHART IV.26

DSTI distribution of new loans from various perspectives

(x-axis: DSTI in %; y-axis: share of loans in %)



Source: CNB

A long average repayment period favourably affects the DSTI ratio

Recommendation C states that the term of a loan should not exceed the expected remaining period of economic activity of the client or the lifetime of the property. As a rule, it should not exceed 30 years. The average repayment period of new loans provided in the second half of 2015 was 24 years and thus overlapped with most of the whole period of economic activity of the client. The majority of new loans are to be repaid by the end of the 32nd year after they were provided (see Chart IV.23).⁴¹ However, there are institutions in respect of which a significant proportion of new loans have been provided for more than 30 years.⁴² Long loan repayment periods reduce households' annual debt service costs. However, many loans are provided with high DSTIs despite having long maturity (11% of loans with maturity of around 30 years or more were provided with a DSTI of higher than 40%). Such loans are particularly subject to the risk of default in the event of a rise in interest rates or a fall in income.

Refinanced loans have riskier characteristics

Recommendation D states that institutions should separately monitor credit risk on new refinanced loans with an increase in outstanding principal of more than 10% or CZK 200,000 and compare that risk with that on other loans. Refinanced loans with the said increase in outstanding principal accounted for about 6% of new loans in the second half of 2015 and were granted much more frequently with an LTV of more than 90% and also with high DSTIs (see Charts IV.24 and IV.26). This suggests that such loans are potentially more risky.

Intermediaries are a dominant source of new loans

Recommendation E states that institutions should also separately monitor credit risk on new loans negotiated by intermediaries and compare it with that on other loans. Loans provided by intermediaries accounted for 60% of new loans in the second half of 2015. The LTV, LTI and DSTI distributions of these loans are similar to those of loans provided directly by banks (see Charts IV.24, IV.25 and IV.26).

Buy-to-let loans are not significant yet

According to Recommendation F, institutions should separately monitor the characteristics of owner-occupied and buy-to-let loan portfolios. Loans of the latter type accounted for just 4% of new loans according to data provided by banks. Such loans much more often had an LTV of less than 80% (see Chart IV.24) and high LTIs and DSTIs (see Charts IV.25 and IV.26). Loans with very high DSTIs (of higher than 60%) are concentrated in the categories of monthly income of more than CZK 80,000 (78% of such loans) and LTVs of less than 70% (90% of such loans).

Recommendation C: Loan term and repayment schedule**Recommendation D: Approach to increasing loans when refinancing****Recommendation E: Lending through intermediaries****Recommendation F: Financing buy-to-let purchases of property**

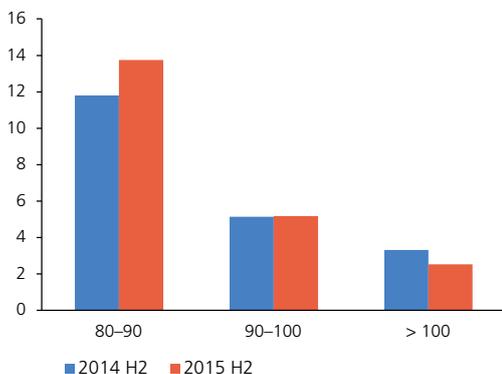
41 Repayment may start some time after the loan was provided due to delayed drawdown.

42 For the reason given in the previous footnote it is impossible for some loans to determine exactly from the data whether their maturity exceeds 30 years.

CHART IV.27

Risk-weighted amount of new loans with the highest LTV values

(x-axis: LTV in %; y-axis: risk-weighted amount of loans in CZK billions)



Source: CNB

Note: The risk-weighted amount of new loans was obtained by multiplying (LTV + price overvaluation as estimated by the CNB) by the share of loans with an LTI of more than 5 and by the amount of new loans in the given LTV categories.

The assessment of compliance with the Recommendation reveals growing risks on loans with an LTV of 80%–90%

An indicator of the risk-weighted amount of new loans secured by residential property has been compiled for the purposes of performing an overall assessment of the risks associated with new loans secured by residential property.⁴³ The risk-weighted amount of new loans increased substantially in the second half of 2015 in the case of loans with an LTV of 80%–90% (see Chart IV.27). Loans with high LTIs and DSTIs, which are often granted to clients with low income, are also concentrated in this LTV category. It is also the most frequently represented category among newly provided loans (33% of loans provided in the second half of 2015) in which the average collateral value recorded the highest growth. The CNB therefore deems it necessary to modify the Recommendation by lowering the maximum LTV levels.

Potentially growing risks must be taken into account in the tightening and expanding of the Recommendation

The CNB does not assess the aforementioned risks as an acute market overheating giving rise to a direct risk to financial stability. However, the assessment of compliance with the Recommendation indicates that credit standards are highly relaxed and that some institutions may be taking on significantly increased risks. The CNB also observes that the environment of very low interest rates is starting to be reflected in growth in the indebtedness of households, including those with lower and less stable income. The CNB also draws attention to the fact that the perceived profitability of buying residential property on credit may partly be an illusion. This is the case when low interest rates and softer credit standards are fostering growth in property prices, which is then reflected in the size of the loans needed to finance property purchases. At the same time, the growth in residential property prices may not be fully grounded in fundamentals. The ultimate result may be excessive growth in debt relative to income and vulnerability of households to income and interest rate shocks.

Recommendation A is being tightened

In light of the aforementioned assessment of compliance with the Recommendation and the risk of growth in the overvaluation of apartment prices, the upper LTV limit of 100% recommended up to now will be reduced to 95% as from 1 October 2016 and to 90% as from 1 April 2017. This transition period will enable banks to adjust their internal business and risk management processes. The current recommended limit of 10% of new loans with an LTV of 90%–100% will change to a limit of 10% of new loans with an LTV of 85%–95% as

⁴³ The indicator of the risk-weighted amount of new loans secured by residential property was obtained by multiplying the share of loans with an LTI of more than 5 by (LTV + price overvaluation as estimated by the CNB) and by the amount of new loans in the given LTV categories. It thus combines information about risk characteristics indicating an increased risk of loan default, collateral with regard to the current overvaluation of residential property prices as estimated by the CNB (the percentage margin, or insufficient collateral to cover the existing principal in the event of a drop in property prices to their equilibrium level and the sale of collateral; see section 2.2) and the amount of such loans.

from 1 October 2016. The limit will be set at 15% of new loans with an LTV of 80%–90% as from 1 April 2017. At the same time, the CNB will assess collateral valuation procedures in individual institutions from the perspective of both internal methodologies and practices.

Recommendation F on the provision of buy-to-let loans is being extended

The amount of buy-to-let loans reported by institutions is low, but indications from the market suggest that the true volume of such transactions is considerably higher.⁴⁴ Certain risk characteristics of such loans, together with the evolution of market prices, have led the CNB to extend Recommendation F by including a recommendation to improve the quality of risk management in this area as regards correctly identifying the purpose of a loan. Institutions should use all available information to determine whether a loan is being used to finance owner-occupied housing or as an investment. If an investment loan shows a combination of characteristics with a higher risk level, they should apply an LTV of 60% at most.

The economic nature of the lending activities of building societies is crucial for assessing compliance with the Recommendation

Bridging loans from building societies accounted for 54% and 42% of loans in excess of the limit with an LTV of 90%–100% and more than 100% respectively.⁴⁵ However, the average term of these loans is comparable to that of mortgage loans – ranging from 14 to 29 years across building societies. According to survey data, bridging loans also differ little from mortgage loans in terms of interest rate level (the average bridging loan and mortgage loan interest rate was 2.2% and 2.8% respectively in the second half of 2015). In addition, bridging loans show riskier characteristics than mortgage loans (more frequent concurrence of loans with high LTVs and DSTIs and low net income). The CNB will therefore analyse loans provided by building societies in detail from the point of view of their economic nature, although some differences in their business model may arise from a legal framework for building savings schemes.

The CNB sees increased risks to the debt servicing ability of clients with low income

In view of the high share of new loans provided to clients with low income, the CNB will prepare for the introduction of quantitative LTI and DSTI recommendations in 2018 at the latest. This plan is in accordance with the consumer credit law that is currently in the legislative process, specifically with the part relating to the assessment of the creditworthiness of loan applicants. Binding LTV, LTI and DSTI limits are applied in a number of EU countries. According to ESRB data, LTV limits were being applied in 16 EU countries and LTI/DSTI limits in nine Member States at the end of 2015 by means of regulations with various degrees

⁴⁴ Some commercial sources say that the actual figure is as high as 15% of loans.

⁴⁵ Building societies only reported bridging loans and building savings loans as new secured loans.

of legally binding effect and in various forms. Regulation of these limits was enacted in the law on loans for house purchase in Slovakia at the end of 2015.

Enactment of the quantitative part of the Recommendation is the CNB's priority

In accordance with ESRB recommendations,⁴⁶ the CNB will seek enactment of the power to set LTV, LTI and DSTI limits and, where appropriate, other risk parameters for house purchase loans.⁴⁷ The consumer credit law appears to be the most suitable statute for this purpose. It would enable the CNB to apply unified rules to the entire market for house purchase loans and thus avoid the risk of loans spilling over to non-bank providers. The CNB's powers in this area would be preventive in nature. They should enable the CNB to respond effectively to emerging risks to financial institutions and consumers which might arise from excessive softening of credit standards. The alternative would be strong measures in the area of institutions' capital, which could be more costly from the perspective of the national economy.

The CNB stands ready to use other instruments as well

If credit growth accelerates and systemic risks increase, it may be necessary to use other instruments in the area of capital requirements. These include an increase in the countercyclical buffer rate (see section 4.2.2) and the potential application of additional Pillar 2 or systemic risk buffer requirements.

4.3.2 RISK WEIGHTS OF HOUSE PURCHASE LOANS SECURED BY RESIDENTIAL PROPERTY AND THEIR POTENTIAL INCREASE UNDER THE CRR

The long-running growth in house purchase loans secured by residential property, along with its accelerating growth rate and its significant share in total loans, represents a source of systemic risk for the Czech banking sector. In such a situation, it is essential to evaluate whether this gives rise to a need to apply regulatory instruments targeting the risk weights (RWs) on property exposures.

⁴⁶ The ESRB recommends Member States to assess, in cooperation with the macroprudential authorities, whether the macroprudential instruments, currently under the direct control or recommendation powers of the latter, are sufficient to effectively and efficiently pursue the ultimate objective of macroprudential policy, and if the assessment indicates that the available instruments are not sufficient, to consider, in cooperation with the national macroprudential authorities, additional macroprudential instruments that should come under the direct control or recommendation powers of the latter (*ESRB recommendation on intermediate objectives and instruments of macroprudential policy of 4 April 2013* (ESRB/2013/1)). This recommendation is elaborated in the recitals of Directive 2014/17/EU on credit agreements for consumers relating to residential immovable property (MCD), particularly recitals 55 and 56. Recital 55 of the MCD states among other things that "Member States should be able to issue additional guidance on those or additional criteria and on methods to assess a consumer's creditworthiness, for example by setting limits on loan-to-value or loan-to-income ratios". Such discretion has not been applied in the Czech Republic as yet.

⁴⁷ This recommendation is also included in article 11 of the concluding statement of the 2016 IMF mission. For details see *Czech Republic: Concluding Statement of the 2016 Article IV Mission* available at www.imf.org.

In addition to microprudential instruments, three macroprudential instruments are available...

The options for regulating RWs can basically be divided into two groups. The first group comprises macroprudential instruments that can be applied to individual banks. They include assessment of the adequacy of credit risk capture by internal approaches (Article 101 of the CRD) and the option of applying supervisory measures to banks with similar risk profiles (Article 103 of the CRD). The second group contains macroprudential instruments that can be applied universally to all banks. They are defined in Articles 124 and 164 of the CRR and their application lies in the power of the supervisory authority. They pertain to RWs and loss given default (LGD) on property exposures. The macroprudential authority may also apply Article 458 of the CRR in the event of growth in macroprudential or systemic risk.⁴⁸

Article 124 allows competent authorities to adjust the minimum RW for banks using the standardised approach to measuring credit risk (STA) if the RW of 35% on loans for house purchase is not appropriately based on the loss experience, forward-looking property market developments or any other risks in the financial stability area. This measure has been applied in various ways in Luxembourg, Ireland and the UK.

Article 164 enables competent authorities to modify the minimum LGD value for banks using internal models for measuring credit risk (IRBs) after assessing the loss experience and demonstrating that the LGD value is not sufficient to guarantee financial stability in the future. Article 164 has been applied by Norway, which raised the RW for mortgage loans by setting a minimum LGD of 20%.

The effects of the measures under Articles 124 and 164 differ for the two groups of banks. Article 124 directly regulates the minimum RW in the same way for all STA banks. Article 164 sets a minimum LGD value for IRB banks, which will affect the final RWs differently depending on the probability of default (PD). RWs will be higher for banks with riskier credit portfolio profiles, but may also be affected by a more conservatively configured PD.

Article 458 enables authorities to respond to emerging macroprudential or systemic risk using various measures. These include setting minimum RWs for STA and IRB banks. However, the macroprudential authority must prove the existence of systemic risk and also the fact that microprudential instruments (Articles 101 and 103 of the CRD), macroprudential instruments (Articles 124 and 164 of the CRR) and

⁴⁸ The conditions for the application of Article 124 and Article 164 are stipulated for the time being in a consultation paper published on the EBA website on 6 July 2015. However, this is not the final version, so the conditions may change. Moreover, the conditions for applying these instruments can be expected to serve only as non-binding recommendations. The conditions for the application of Article 458 are set forth in the CRR regulation.

TABLE IV.6

Selected indicators relating to the property market

(%)

	BE	SE	LU	UK	IE	SK	CZ	AT	IT	FI	FR	DE	NL	EE	PT	ES
Mortgage loans (2010=100)	171	161	147	128	70	207	137	133	128	128	124	113	109	104	89	84
Property prices (2010=100)	109	138	126	125	99	104	105	132	86	107	101	118	90	156	94	75
Price-to-income (2010=100)	105	114	112	107	93	93	98	117	87	96	96	116	83	117	95	74
Price to rent (2010=100)	101	120	116	106	87	102	93	108	82	98	93	121	76	82	85	74
Household debt-to-GDP	59	84	57	86	74	30	31	51	43	67	57	54	111	17	78	69

Source: ECB, OECD, Eurostat, BIS

Note: The position on the colour scale for the given country denotes the level of risks associated with the relevant indicator (green lower, red higher) relative to its values in the other countries. The data on mortgage loans are as of the end of 2015, property prices and household debt-to-GDP as of 2015 Q3 (as of the end of 2014 for household debt in Estonia and Slovakia) and price-to-income and price-to-rent as of 2015 Q2 (as of the end of 2014 in Belgium and as of 2015 Q1 in Germany).

capital buffers (Articles 133 and 136 of the CRD)⁴⁹ are not sufficient to mitigate these risks. The application of the measures set out in Article 458 is materially and administratively very demanding and requires discussion in a number of EU bodies. This measure is currently applied only by Belgium, which has maintained 5 pp higher risk weights on residential property for IRB banks since 2014.⁵⁰

...the conditions for their application are difficult to meet in the Czech Republic at present

Table IV.6 shows selected indicators relating to the property market in the Czech Republic and EU countries. The first part focuses on the five countries which have adopted direct measures to increase RWs. The second part shows the countries which have not adopted such measures yet.

With the exception of Ireland, where the property market bubble burst in late 2007 and early 2008, all countries in the first group have experienced growth in mortgage loans and some increase in property prices since 2010 amid relatively high household debt levels. The Czech Republic has also recorded relatively high growth in mortgage loans since 2010. The other indicators that can be used to assess the option of applying the aforementioned articles of the CRR do not indicate elevated risks:

1. The loss expectation for house purchase loans⁵¹ secured by residential property with an RW of 35% should be below or equal to 1.5% for STA banks. The loss expectation for all STA banks, IRB banks and building societies in the Czech Republic is well below this level.

49 Articles 133 (the systemic risk buffer, SRB) and 136 (the countercyclical capital buffer, CCyB) of the CRD are not addressed in this analysis as they are instruments that regulate capital buffers, not risk weights.

50 The RWs on the mortgage loans of Belgian banks are at around 15%, including a 5% add-on pursuant to Article 458. Such low RWs may be due to the fact that Belgium has not experienced a property market crisis for quite some time. Models may therefore not reflect the true PD and LGD.

51 The loss expectation is the percentage ratio of expected losses on loans that have gone into default in the past six months to total exposures secured by property in the Czech Republic. The limit is set for the time being in a consultation paper published on the EBA website on 6 July 2015.

2. RWs are generally lower for IRB banks than for STA banks (see section 3.1). RWs on mortgage loans of domestic IRB banks are among the highest in Europe, but their absolute level cannot be described as high. They stayed at around 28% over the past two years and fell by 0.9 pp year on year to 26.7% at the end of 2015.⁵² For IRB banks the PD level, and hence also the RW level, is most affected by the LTV level (see Chart IV.28). The LTI ratio has only a limited impact. This is because a certain minimum income level is a general measure of a client's creditworthiness, but the PD level is not significantly affected by LTI.
3. Domestic IRB banks show an LGD of around 25%.⁵³ The CNB's April 2015 survey of NPL recovery rates indicates that this LGD level has been sufficient so far. However, the *Adverse Scenario* of the macro-stress tests (see section 3.2) assumes an LGD of 40%. The current LGD level would not be sufficient if that scenario materialised.

Table IV.7 summarises the conditions for the application of macroprudential measures and the fulfilment thereof. The RW level is currently relatively high in the EU context, while the PD and LGD settings are mostly prudent and the current loss experience is low. The risks on the property market are growing but still cannot be described as excessive. Application of the aforementioned macroprudential instruments is not therefore justifiable in the current situation. However, it should be noted that the analysis based on the presented indicators is only partial and does not allow for sufficient capture of all potential systemic risks.

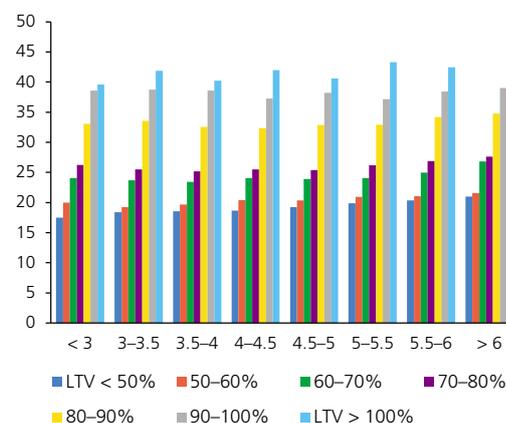
4.3.3 RISKS ASSOCIATED WITH THE PROVISION OF LOANS SECURED BY COMMERCIAL PROPERTY

Activity on commercial property markets is increasing...

High demand from Czech and foreign investors for commercial property in the Czech Republic is creating potential for price overvaluation in some market segments (see section 2.2). Although part of this demand is financed from abroad and from non-bank sources, the risk associated with exposures to these segments may increase for banks in the Czech Republic. Given the signs of increased activity on the commercial property market, the fast-growing volume of loans to finance purchases of such property and the lack of granular data from standard reports, the CNB started to conduct surveys on new loans secured by commercial property⁵⁴ provided in the second half of 2014 and in 2015. The surveys

CHART IV.28

Risk weights on loans for house purchase broken down by LTV and LTI level as of 31 December 2015
(x-axis: LTI in %; y-axis: risk weights in %)



Source: CNB

Note: Average risk weights on retail loans secured by property (non-SMEs) at selected banks participating in joint CNB stress tests.

TABLE IV.7

Criteria for the application of macroprudential measures and fulfilment thereof

	Article 124	Article 164	Article 458
Loss experience	No evidence of risk	No evidence of risk	-
Stability of property market	Moderate evidence of risk	Moderate evidence of risk	Moderate evidence of risk
RW	-	No evidence of risk	No evidence of risk
LGD	-	Low evidence of risk	-
Assessment of applicability of other measures	-	-	No evidence of risk
Activation recommendation	No	Conditional	No

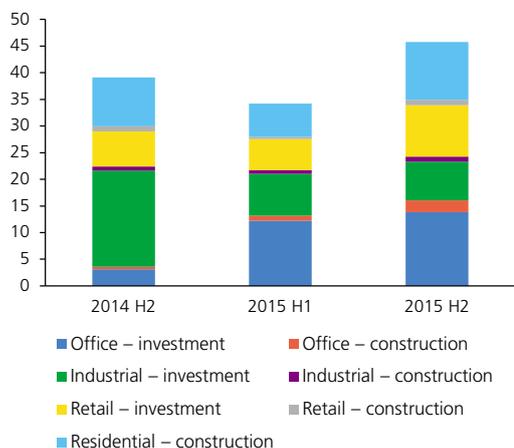
Source: CNB

⁵² This is a weighted average for the banking sector as a whole, where the weights are the total amounts of retail exposures secured by residential property.

⁵³ However, two banks have LGDs of less than 15%.

⁵⁴ The survey concerned eight banks covering about 70% of the market as of 30 June 2015.

CHART IV.29

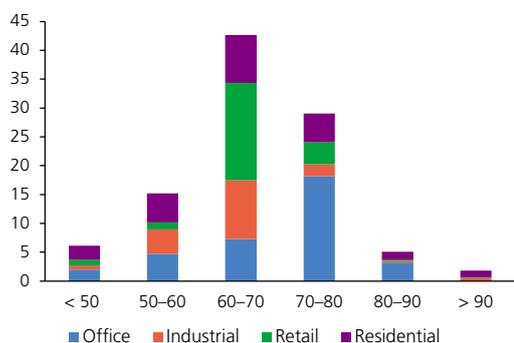
Amount of new loans secured by commercial property
(CZK billions)

Source: CNB

CHART IV.30

LTV distribution of new loans broken down by collateral segment

(x-axis: LTV in %; y-axis: share of loans in %)

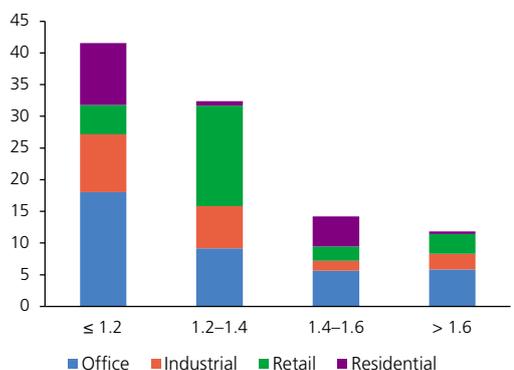


Source: CNB

CHART IV.31

DSCR distribution of new loans broken down by collateral segment

(x-axis: DSCR in %; y-axis: share of loans in %)



Source: CNB

cover new loans for investment in existing and new commercial property.⁵⁵

...demand for loans to finance commercial property purchases is rising...

According to data from the survey, the amount of new loans secured by commercial property rose by 17% year on year in the second half of 2015 (see Chart IV.29). The largest amount of loans was provided for investment in office and retail property and construction of residential property. The largest year-on-year growth was recorded for loans for investment in office property and the biggest year-on-year decline for loans for investment in industrial property.

...and credit standards may be relaxing

More than 35% of loans covered by the survey were provided with an LTV of higher than 70% (see Chart IV.30). The share of such loans for office property exceeded 60%. More than 40% of loans from the survey were provided with a debt service coverage ratio⁵⁶ (DSCR) of less than or equal to 1.2, which can be considered low (see Chart IV.31). The highest share of such loans (again more than 60%) was for the construction of residential property. The higher riskiness of loans granted with a higher LTV is not often offset by a higher DSCR. Loans covered by the survey with an LTV of more than 70% and a DSCR of less than or equal to 1.2 accounted for 24% of the production of the banks surveyed. In the case of office property and residential development projects, the figures were 35% and 27% of new loans respectively (see Chart IV.32). The concurrence of these two characteristics increases the risk associated with such loans, as the property used as collateral also tends to be the only source of income for debt repayment. A drop in property prices accompanied by a fall in incomes in individual segments could thus easily give rise to a higher default rate and simultaneously a lower recovery rate in the case of subsequent sale of collateral in those segments.

Loans for financing office property and residential development projects were identified as having the highest risks

A *riskiness indicator* was used to comprehensively assess the risk characteristics of new loans secured by commercial property. The indicator was created using data on LTV and DSCR values in individual categories, weighted by the share of loans in those categories.⁵⁷ A comparison of this indicator across commercial property segments reveals that loans for financing office property are potentially the most risky (see Chart IV.33). New loans for financing industrial property and residential development projects may be similarly risky from this point of

⁵⁵ Residential development projects were also treated as commercial property.

⁵⁶ The debt service coverage ratio is defined as the ratio of income on the property used as collateral to the client's annual debt service associated with the loan.

⁵⁷ The *indicator of the riskiness of new loans secured by commercial property* is a weighted average across the joint distribution of LTV ratios and the inverse values of the DSCR. Higher values of this indicator signify higher loan riskiness. Conversely, higher DSCR values mean lower loan riskiness. For this reason, inverse values of the DSCR were used to construct the indicator.

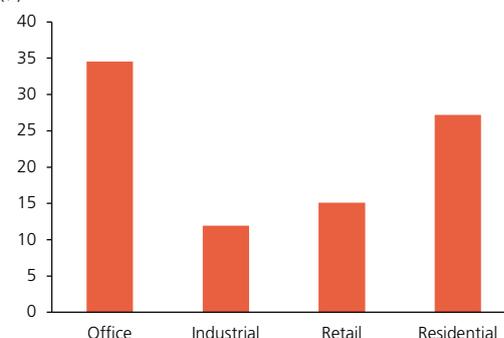
view. The riskiness of loans secured by office property and residential development projects may be further increased by the high office vacancy rate and potential overvaluation of asking prices of apartments in Prague (see section 2.2). By contrast, a low and further decreasing vacancy rate is reducing the riskiness of loans secured by industrial property. However, it is difficult to perform an exact assessment of the risks associated with the commercial property market due to the substantial influence of demand from abroad, not enough data on which is available.

The loss expectation for banks' current portfolio of loans secured by commercial property is low

For loans secured by commercial property (like for exposures secured by residential property; see section 4.3.2), Articles 124 and 164 of the CRR specify the option of applying, respectively, preferential risk weights of 50% for STA banks and a minimum LGD value of 15% for IRB banks. According to regulatory technical standards, a condition for the application of preferential risk weights by STA banks⁵⁸ is a loss expectation⁵⁹ of less than 2% for such loans. The Czech banking sector's aggregate loss expectation for loans secured by commercial property stood at 0.4% for STA and IRB banks together as of 30 December 2015 and was thus well below this level. The CNB therefore cannot increase the preferential risk weights for STA banks and the minimum LGD value for IRB banks.

CHART IV.32

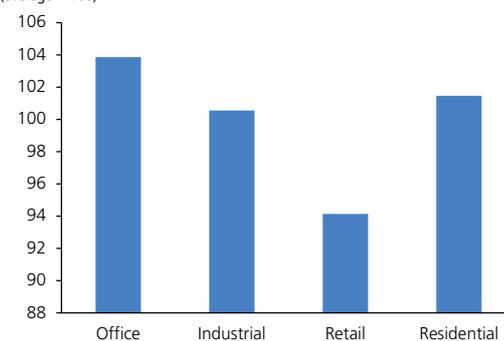
Share of loans with an LTV of more than 70% and a DSCR of less than or equal to 1.2 broken down by collateral segment (%)



Source: CNB

CHART IV.33

Indicator of the riskiness of new loans secured by commercial property broken down by collateral segment (average = 100)



Source: CNB

Note: The indicator of the riskiness of new loans secured by commercial property was created using data on LTV and DSCR values in individual categories, weighted by the share of loans in those categories.

⁵⁸ Article 164 of the CRR states that the appropriateness of application of the minimum LGD value by IRB banks should be assessed on the basis of the loss experience and loss expectation for loans secured by commercial property and also on the basis of financial stability considerations.

⁵⁹ The loss expectation is the percentage ratio of losses to total exposures. The limit is set for the time being in a consultation paper published on the EBA website on 6 July 2015.

4.4 MACROPRUDENTIAL POLICY AND THE REGULATORY ENVIRONMENT IN THE EU

4.4.1 MACROPRUDENTIAL POLICY IN THE EU

Macroprudential authorities in EU countries at present mostly use instruments designed to ensure fulfilment of intermediate objectives aimed at preventing misaligned incentives and curbing excessive credit growth. Non-euro-area countries are more active in applying macroprudential instruments.⁶⁰ Table IV.8 summarises the application of such instruments in the European countries under review (the EU plus Norway) as of January 2016.⁶¹

Misaligned incentives are prevented mainly by means of the systemic risk buffer (SRB). As in the Czech Republic, it is used in most cases to mitigate risks associated with domestic systemically important banks. The SRB rate is no more than 3% in the countries under review. Although some Member States have identified global systemically important institutions (G-SIIs), none has introduced a non-zero G-SII buffer in advance. The identified G-SIIs will start to fill up the buffer this year and the buffer should reach full capacity corresponding to their systemic importance by 2019. Member States were obliged to identify other systemically important institutions (O-SIIs) by the end of 2015. The CNB has met this requirement (see section 4.2.3). Only a few national authorities have set an O-SII buffer.

Most Member States, including the Czech Republic, have introduced the capital conservation buffer at the maximum rate. The rest will make it up by the end of 2018. Given the credit market situation, some countries are applying the countercyclical buffer (CCyB). Member States have been obliged to set this buffer since the start of 2016. Of the European countries under review, non-zero CCyB rates have been introduced in Sweden, Norway and the UK as well as the Czech Republic (see section 4.2.2). The regulations introduce automatic recognition of CCyB rates among EU Member States up to a level of 2.5% (see section 4.4.2).

Further measures to curb excessive credit growth are currently focused on the property market. They are applied mainly to exposures to residential property. They can be divided into measures to increase the resilience of banking institutions (by regulating risk weights) and measures to strengthen the resilience of debtors (by setting limits on the risk characteristics of exposures – LTV, LTI or DSTI) (see section 4.3). The most frequently used measure is an upper limit on the LTV ratio. It is supplemented by LTI or DSTI limits in some cases. Other frequently used instruments relating to the property market include a maximum maturity for house purchase loans, usually 30 years, and a requirement to repay loan principal.

⁶⁰ See, for example, *Macroprudential Bulletin*, Issue 1/2016, published on the ECB website, or *Review of Macroprudential Policy in the EU in 2015*, March 2016, published on the ESRB website.

⁶¹ ESRB (2016): *National measures in the EU/EEA notified to the ESRB, or of which the ESRB is aware, and that are of macro-prudential interest (January 2016)*, <https://www.esrb.europa.eu/mppa/html/index.en.html>

TABLE IV.8

List of active macroprudential instruments in the EU and Norway
(as of 31. 1. 2016)

Risk Measure	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HR	HU	IE	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK	Total
Capital conservation buffer																														19
Countercyclical capital buffer (CCyB)																														29
Leverage ratio																														1
Loan-to-value (LTV)																														15
Debt-service-to-income (DSTI)																														7
Loan-to-income (LTI)																														2
Loss-given-default (LGD)																														2
Risk weights																														9
Systemic risk buffer (SRB)																														10
Global systemically important institution buffer (G-SII buffer)																														7
Other systemically important institution buffer (O-SII buffer)																														26
Liquidity																														4
Loan-to-deposit (LTD)																														1
Pillar II																														7
Loan amortisation																														3
Loan maturity																														5
Stress test																														8
Other measures																														5
Total	2	4	3	7	6	3	7	7	3	3	3	2	5	5	7	4	9	5	4	5	7	9	7	3	8	10	4	10	8	160

Source: ESRB, adapted by CNB

Note: The table is derived from the overview of macroprudential measures published on the ESRB website. It is a simplified list of measures.
(1) O-SIIs identified, no reserve set.

The CNB monitors the activities, risk assessment approaches and measures of foreign macroprudential authorities. It also analyses their possible cross-border effects in connection with the framework for mutual recognition of macroprudential measures (see section 4.4.2).

The current levels of buffers, overall capital requirements and other instruments in the Czech Republic are set depending on the evolution of cyclical and structural parameters of the domestic credit market. In some European countries, buffers reflecting the systemic importance of banks are set at a higher level than in the Czech Republic, but only for banks that are much bigger relative to the country's GDP than those in the Czech Republic. Unlike the Czech Republic, some countries have implemented measures aimed at increasing risk weights on mortgage loans. However, even after the application of those measures, the risk weights in those countries remain lower than in the Czech Republic. The CCyB is currently only at a non-zero level in countries experiencing rapidly rising residential property prices and high household debt (Norway, Sweden, Switzerland and the UK). However, introduction of the CCyB is being considered in other countries that are only experiencing rising credit growth, similarly as in the Czech Republic.

4.4.2 RECIPROCITY OF MACROPRUDENTIAL MEASURES

In the single EU financial market, national authorities cannot pursue macroprudential policy in isolation. Macroprudential policy measures are automatically applied to institutions established under national law. However, they may not apply, for example, to foreign bank branches in the relevant country and to foreign banks providing services directly in the Member State concerned. Such measures may also influence the activities of domestic institutions in other Member States, usually via their foreign branches. This may result in the application of different macroprudential requirements to the same type of exposure in the same Member State depending on the legal form and registered address of the financial services provider. This may reduce the effectiveness of national authorities' macroprudential policy and lead to circumvention of their measures through cross-border leakages and regulatory arbitrage. An example would be a situation where a national authority introduces limits on the provision of a certain type of loan and, in response, foreign bank branches start providing this type of loan under the original terms and conditions to an increased extent.

A partial solution to this risk is mutual cross-border recognition of national macroprudential measures (reciprocity). Reciprocity is binding to various degrees under current European law. It is binding for some measures and voluntary for others. For some measures, however, it is not regulated at all (see Table IV.9).

TABLE IV.9

Regulation of reciprocity in European law

Macroprudential measure	Legal basis for measure	Reciprocity under EU law
Regulation of risk weights for STA banks	124 of CRR	Mandatory
Regulation of risk weights for IRB banks	164 of CRR	Mandatory
Countercyclical buffer	130, 135-140 of CRD IV	Mandatory up to 2.5%
Systemic risk buffer	133-134 of CRD IV	Voluntary
National macroprudential measures	458 of CRR	Voluntary
Other systemically important institution buffer	131 of CRD IV	Not regulated
Pillar II measures	103 of CRD IV	Not regulated

Source: CNB

Note: STA Banks use the standardised approach to credit risk management and thus determine the risk weight for each exposure according to values laid down by law. IRB banks use internal models to determine risk weights.

Experience shows that national macroprudential measures are rarely reciprocated voluntarily.⁶² The ESRB has therefore prepared a draft framework for voluntary reciprocity. This framework is designed to ensure that macroprudential measures for which reciprocity is not mandatory by law are effective. In this respect, macroprudential measures can be divided into two main categories according to their importance for reciprocity. The first involves measures that respond to cyclical or structural risks arising in the national economy. In this case, the expectation of reciprocity is strong. The other contains measures that respond to risks relating to one or more banks in the national banking system. In this case, the need for reciprocity must be carefully assessed. The systemic approach to reciprocity based on the nature of the macroprudential instrument is summarised in Chart IV.34.

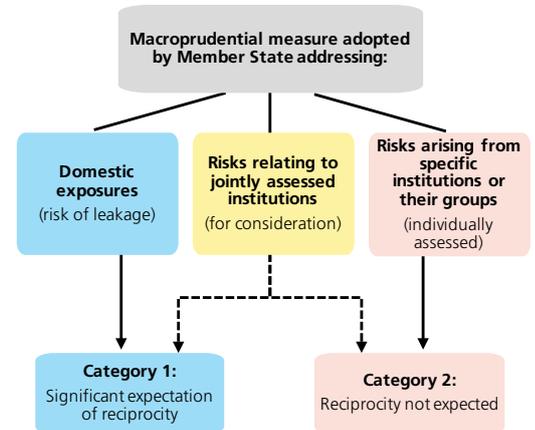
The ESRB has a central position in the reciprocity framework (see Chart IV.35). National macroprudential authorities notify it of new measures. Such notifications include a request for reciprocation together with an explanation of why it is needed. The ESRB assesses the notification and issues a final recommendation. This is communicated to EU macroprudential authorities, which make the recommendation legally binding either automatically or after assessing the suitability of the request (depending on national law in this area).⁶³ Given the voluntary nature of reciprocity, Member States are entitled to refuse the recommendation but are required to explain the refusal (the “comply or explain” principle). If the recommendation is applied, the national authority is responsible for communication to financial institutions in the country concerned.

To ensure awareness at national level, the CNB has since June 2016 been publishing information about measures that are binding on financial institutions in the Czech Republic under reciprocity in the relevant section of the CNB website.⁶⁴ The information covers both obligatory reciprocity and measures recognised by the CNB under voluntary reciprocity. Voluntary recognition will not be automatic as suggested by the ESRB document. The CNB will assess the significance and relevance of recommended measures for financial institutions and the financial market in the Czech Republic. This approach may be revised in the future as a result of the possible adoption of an extended EU legislative framework in a revision of the CRD, as recommended by the ESRB.

62 For details see the ESRB website at https://www.esrb.europa.eu/national_policy/html/index.en.html.
 63 The ESRB recommends that national law be amended to allow automatic reciprocity of ESRB recommendations. This would enhance the effectiveness of the framework and reduce the administrative workload at national level. Reciprocity is to be supported by standardisation of macroprudential measures and extension of the current CRD/CRR legislative framework.
 64 For details see the financial stability – macroprudential policy section of the CNB website.

CHART IV.34

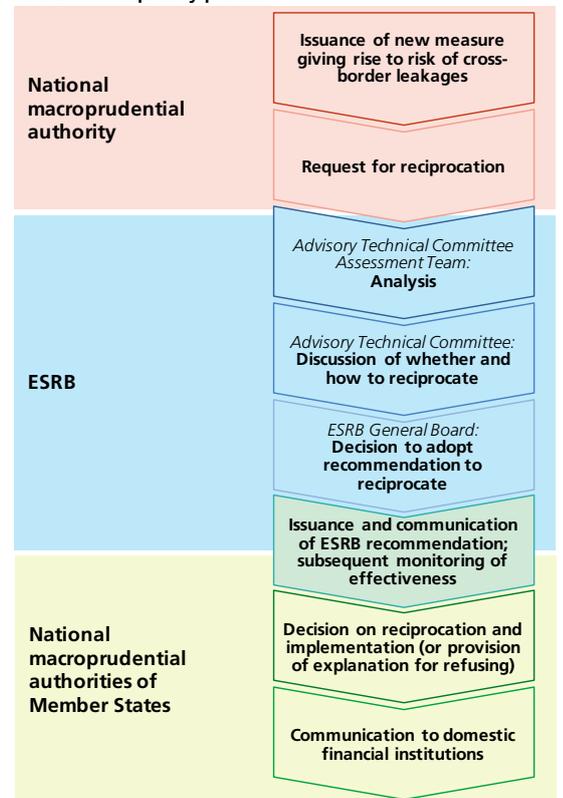
Macroprudential instruments broken down by importance for reciprocity



Source: ESRB, adapted by CNB
 Note: The chart shows the breakdown of macroprudential policy instruments primarily in the context of voluntary reciprocity. Measures subject to mandatory reciprocity can be generally included in Category 1.

CHART IV.35

Scheme of reciprocity process



Source: ESRB, adapted by CNB

4.4.3 THE CNB'S RESOLUTION TASKS

Pursuant to the Recovery and Resolution Act, the CNB is the resolution authority in the Czech Republic. As from 1 January 2016, this law vested the CNB, among other things, with exclusive power to create plans for resolution of banks, credit unions and some investment firms. One of the main objectives of the new resolution framework is to provide for fast and effective resolution with minimum risk to financial stability while maintaining any systemically important functions of the institutions concerned.

This objective is served by both planning (the CNB draws up resolution plans for banks and other institutions) and the resolution financing arrangement. A Resolution Fund, to which all relevant institutions contribute, has been set up in connection with the new rules. It is one of a wide range of harmonised resolution instruments and processes available to the CNB.

The resolution processes and instruments are focused primarily on individual institutions, but they also have systemic impacts. Over the next few years, those impacts will relate mainly to the requirements for the creation of eligible liabilities and to a lesser extent to contributions to the Resolution Fund.

The requirements for the creation of eligible liabilities are based on one of the most important resolution instruments, the bail-in.⁶⁵ The aim of this new instrument is to transfer the costs and losses of resolution of an institution to its shareholders or creditors and thus minimise resolution expenditure from the public purse. However, for a bail-in to be viable, the institution must have enough liabilities, which the CNB will order the institution to convert or amortise in the event of a crisis.

The purpose of eligible liabilities is therefore to provide sufficient capacity for loss absorption and possible recapitalisation of a failing institution so that financial stability is not disrupted, systemically important functions are not discontinued and public funds are not used in the resolution process. The CNB sets a minimum requirement for eligible liabilities (MREL) for individual institutions taking into account their resolution strategy. The MREL level is not yet known, as the interpretation of legislation and standards has not yet been unified in the EU. It can be assumed that the MREL requirement for institutions of low systemic importance will be close to the current capital adequacy requirement and will be used primarily to absorb losses. Given the aspect of recapitalisation, the MREL requirement for systemically important institutions may be double the capital adequacy requirement. Banks will have until the end of 2019 to comply with this new obligation.

⁶⁵ For details see FSR 2014/2015, Box 7, pp. 100–104.

The systemic impact of the contribution to the Resolution Fund should not be all that important, because its introduction is being accompanied by a decrease in the contribution to the Deposit Insurance Fund (DIF). This is because the current amount of assets in the DIF exceeds the minimum laid down in the relevant directive and the Financial Market Guarantee System is continuing to collect only a “maintenance contribution” to the DIF. This of course applies if the DIF will not have to repay deposits.

To sum up, of the said impacts of the new resolution framework (contributions to resolution funds, resolution plans and eligible liabilities) it is the MREL which will have the biggest effect on banks’ behaviour and business models.

4.4.4 THE DEBATE ABOUT CHANGING THE REGULATORY APPROACH TO SOVEREIGN EXPOSURES

The CNB dealt in detail with the regulation of sovereign exposures in its previous two Financial Stability Reports. Given the importance of these exposures in domestic financial institutions’ balance sheets, this is one of the CNB’s priority topics. Following the publication of the ESRB report in spring 2015,⁶⁶ a working group on this issue was set up at the Economic and Financial Committee (EFC)⁶⁷ level. The aim of this working group, of which the Czech Republic is a member,⁶⁸ is to present proposals in 2016 for changes to the regulatory treatment of sovereign exposures in the EU financial sector, especially the banking sector. A similar working group has been established at the Basel Committee on Bank Supervision. Its report and proposals cannot be expected to be issued until 2017.

The prevailing view in the debate among EU countries so far is that government bonds cannot be treated unconditionally as risk-free assets. The main argument is that during financial crises, the close links between banks and governments through sovereign exposures may become a source of amplification. However, the Member States differ in their views of how the regulation of sovereign exposures should be changed. The debate is complicated by different impacts of the proposed changes across EU economies due to differences in fundamentals relating to the sovereign risk of each country (such as the level of government debt and the currencies in which government bond issues are denominated). There are also disagreements about the very definition of sovereign exposures and in particular about the extent of sovereign credit and liquidity risk sharing among euro area Member States.

There are several variants of the proposed changes in bank regulation (CRR/CRD IV). Under Pillar 1, the introduction of limits on holdings of sovereign exposures, non-zero risk weights or a combination is being

⁶⁶ ESRB report on the regulatory treatment of sovereign exposures, March 2015.

⁶⁷ The EFC is an advisory body to the EU Council. It was set up to promote policy coordination among the Member States for the functioning of the internal market.

⁶⁸ The Czech representative is an expert from the Czech Ministry of Finance. He is supported in the working group by CNB experts.

discussed. However, there is also a proposal to maintain the current Pillar 1 regulatory framework or strengthen Pillar 2 supervisory powers and Pillar 3 bank transparency.

Some euro area countries favour the introduction of unexceedable concentration limits on holdings of a specific government's bonds by individual banks. From their perspective, large exposures of banks to their own governments are a major source of systemic risk. Some of the countries advocating such limits therefore demanded at the start of the debate that a limit of 25% of capital be applied to sovereign exposures to a specific issuer, i.e. the same limit as that applied to exposures to private entities. This would make it possible to prevent systemic crises more effectively, or at least reduce their intensity, as at low exposure levels a bank's capital would be able to cover all the risks arising from sovereign exposures, or at least a large part of them.

However, this measure is hard to introduce even from the medium-term perspective given the large accumulation of sovereign exposures in banks' balance sheets across EU countries. Preliminary impact studies indicate that setting the limit at 25% of capital would mean that banks throughout the EU would have to "reallocate" holdings of government bonds exceeding 16% of total public debt (around EUR 2 trillion).⁶⁹ This reallocation might partly take the form of purchases by banks whose government bond holdings are currently below this limit. However, even given this very optimistic assumption,⁷⁰ part of the excess holdings would have to be reallocated to other types of EU financial institutions or outside the EU financial sector. It is likely that the very announcement of such a plan would result in significant financial market volatility, which could have a huge impact on economic activity in the EU. Another strong argument against hard limits at low levels is the role of high-quality government bonds in balance-sheet liquidity risk management by banks. The liquidity requirements in the current EU regulations imply that banks' liquidity buffer should consist of high-quality government bonds denominated in the currency in which their liabilities are mostly denominated (see section 3.3). Any change in the regulation of credit or concentration risks associated with sovereign exposures should not conflict with the regulation of liquidity. Following the quantification of the impacts of, and potential risks associated with, very low concentration limits, the original proponents have this year started to concede that limits might be set at levels above 25%.

In the discussions to date, the Czech Republic has always supported the view that maintaining the existing regulations makes it possible to treat government bonds as risk-free assets and ignore the evident risks associated with them. The CNB therefore supports proposals to mitigate

⁶⁹ The impact of this measure on the Czech Republic would be even larger in relative terms. The local banking sector would be forced to "reallocate" more than 29% of Czech public debt, representing 85% of their holdings and almost 11% of their total assets.

⁷⁰ Government bonds of different EU countries are not perfect substitutes in practice. For example, banks may not be willing to purchase government bonds of lower credit quality due to their risk management processes.

credit risk in Pillar 1, i.e. the introduction of non-zero risk weights for sovereign exposures. The CNB also agrees that the regulatory framework should take sovereign exposure concentration risk into account, for example by increasing the risk weight for exposures above certain thresholds. This approach is already part of the CNB's internal methodology for managing sovereign exposure concentration under Pillar 2.⁷¹ However, the CNB flatly rejects the introduction of concentration limits at any level. There are several reasons for this. The higher concentration of domestic government debt in Czech financial institutions' balance sheets is partly natural, as the Czech financial sector is small relative to the financial sectors of other EU countries.⁷² Moreover, high-quality government bonds issued in Czech koruna are almost exclusively government bonds of the Czech Republic. They are thus currently a vital liquidity risk management instrument for banks operating in the Czech Republic.

In the debate in the working group, the CNB will continue to support moderate proposals reflecting the specific position of government bonds in the financial market. It will also advocate that banks must have enough room to hold high-quality domestic currency government bonds for managing their liquidity, and it will reject proposals with disproportionately negative impacts on non-euro-area EU states. The CNB also cannot accept regulations that would disrupt government financing and adversely affect financial stability and economic growth.

4.4.5 REGULATORY CHANGES UNDER PREPARATION BY THE BASEL COMMITTEE

In 2015, the Basel Committee for Banking Supervision (BCBS) dealt, among other things, with proposals for changes in the international regulatory framework aimed at enhancing the consistency and comparability of the calculation of capital requirements. Of particular importance from the financial stability perspective are its proposals regarding revisions to the standardised (STA) and model-based (IRB) approach to credit risk management and the leverage ratio.

The BCBS published a second consultative document on revisions to the STA approach in December 2015.⁷³ The main aim is still to partly replace the use of external credit ratings for determining risk weights with risk assessments based on selected risk drivers (for details see FSR 2014/2015, p. 81). In contrast to the first consultative document issued in December 2014, the new document retains the use of external credit ratings for exposures to banks and corporates. The recommendation on the risk drivers that can be used for determining the risk weight on house purchase loans has been changed. A higher risk weight has also been

⁷¹ See FSR 2014/2015, Box 6, pp. 92–94.

⁷² The financial sector's assets stand at around 158% of GDP in the Czech Republic, compared to 240% in Italy and more than 300% in most other Western European countries (372% in France, 395% in Germany and 2010% in Ireland).

⁷³ Bank for International Settlements (2015): *Revisions to the Standardised Approach for credit risk – second consultative document*, December 2015.

proposed for loans where repayment is materially dependent on the cash flows generated by the property securing the exposure

A consultative document on changes to the IRB approach was published in March 2016.⁷⁴ It contains a proposal to remove the option to use the IRB approach for certain exposures – to banks and other financial institutions, large corporates, equities and specialised lending. Risk weights (or capital requirements) for such exposures would be determined on the basis of the STA approach, i.e. using generally applicable rules rather than internal models. This change is due to the difficulty of estimating statistically reliable PD and LGD values for these portfolios. The IRB approach would continue to be used for portfolios with a large number of individual exposures, as they allow for more reliable model-based determination of risk weights. However, PD and LGD floors would be set for certain exposures (selected corporate and retail exposures). For other types of exposures where no direct restrictions are prescribed, it is proposed to set variables that banks would use to estimate the model parameters entering the risk weight calculation.

The proposed revisions to the STA approach result in greater risk-sensitivity of risk weights, while the proposed changes to the IRB approach aim to end the use of internal models for certain portfolios and reduce variability in the model-based approach by setting binding rules. The recommendations thus lead to some convergence of the two approaches. The final form of the proposed changes to the approaches to credit risk management should be available by the end of 2016.

The BCBS has issued a consultative document on the leverage ratio containing changes to the methodology for determining total exposures and the minimum leverage requirement.⁷⁵ The proposed changes to total exposures concentrate mainly on revisions to the treatment of derivatives for the purposes of calculating the leverage ratio and revisions to the conversion factors determining the effect of the off-balance sheet on total exposures. In addition, it is now recommended that a higher minimum requirement should be set for the leverage ratio for G-SIs compared to other institutions. For details on the importance of the leverage ratio and its complementary relationship with the capital ratio, see the thematic article *The Role of the Leverage Ratio in Capital Regulation of the Banking Sector* in this Report.

⁷⁴ Bank for International Settlements (2016): *Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches – consultative document*, April 2016.

⁷⁵ Bank for International Settlements (2016): *Revisions to the Basel III leverage ratio framework – consultative document*, April 2016.