3.1 DEVELOPMENTS IN THE FINANCIAL SECTOR

The favourable trends seen in the domestic financial sector in previous years continued into 2017. The banking sector is showing its highest-ever levels of capital, profitability and liquidity. The sector is also moving close to the lowest recorded level of non-performing loan ratio. The insurance sector continued to grow and maintained good profitability. Persisting dynamic growth in pension and investment funds is being supported by growth in real incomes.

The main risk scenario for the financial sector is still a contraction in economic activity accompanied by growth in credit and market risk. The expected gradual increase in monetary policy interest rates will reduce the risks associated with the environment of exceptionally low interest rates. However, it will require high-quality management of market risks by financial institutions in all segments of the financial sector. A continued downward trend in the risk weights set by banks using internal models for loans secured by residential property may amplify the risks associated with current developments in the residential property market in the future. However, stress test results demonstrate that the current capitalisation, liquidity and profitability levels of the most important segments of the financial sector guarantee a high degree of resilience to the shocks assumed.

The financial sector’s assets continue to rise, with investment funds recording the fastest growth

All segments of the financial sector except credit unions saw year-on-year growth in total assets in 2017 Q4 (see Chart III.1). The total assets of the financial sector grew by 15.7% year on year to CZK 8.9 billion, equivalent to 176.2% of GDP. The banking sector, which accounts for almost 80% of the financial sector’s assets, recorded the largest growth in total assets in absolute terms as well as a very high rate of growth (of CZK 1,048 billion, or 17.6%). This was due mainly to a rise in non-residents’ koruna deposits with domestic banks in 2017 Q1 related to the expected exit from the exchange rate commitment. However, the banking sector’s total assets increased at a high rate even when adjusted for exposures to the CNB (by CZK 545 billion, or 13.0%). Investment funds recorded the fastest growth in total assets (of CZK 78 billion, or 19.3%) for the fifth consecutive year. This meant they exceeded the asset size of pension funds, whose assets also rose at a high rate (of CZK 43 billion, or 10.8%). The total assets of credit unions declined significantly year on year (by CZK 11 billion, or 32.5%), due mainly to the conversion of the largest credit union into a bank.
3.2 THE BANKING SECTOR AND CREDIT UNIONS

3.2.1 Capital

Banks’ capitalisation increased in 2017…

The total regulatory capital in the domestic banking sector rose by CZK 30.7 billion in 2017, reaching CZK 460.6 billion.¹ The overall capital ratio increased by 0.8 pp to 19% (see Chart III.2) and the Tier 1 capital ratio rose by 0.8 pp to 18.5%. Strong credit growth reducing the capital ratio (-2.9 pp) was offset by a rise in capital from profit² (+1.3 pp) and a renewed drop in aggregate risk weights (+2.4 pp). For the domestic banking sector, Tier 1 has long been almost identical to Common Equity Tier 1, i.e. the highest-quality component of capital.

…and its level still allows banks’ balance sheets to grow…

The overall capital requirement consists of the minimum level of regulatory capital in Pillar 1 (8%), a requirement based on the supervisory review and evaluation process in Pillar 2 (an average of 1.7% on aggregate) and capital buffers. The capital of most banks sufficiently exceeds the overall capital requirement. The capital surplus of systemically important banks amounts to CZK 55.4 billion (3.2 pp) and that of other banks to CZK 45.8 billion (6.8 pp; see Table III.1). Together with the profitability achieved, it creates good conditions for lending to the real economy.

…although this space may decrease…

Under the conservative assumptions of a constant level of risk weights and the Pillar 2 requirements, and taking into account the already known decisions on the countercyclical buffer rate, the capital surplus would decline from CZK 101.1 billion (4.2 pp) at the end of 2017 to around CZK 92.7 billion (3.4 pp) at the end of 2018 according to banks’ plans for future capital and loan amounts³ (average credit growth of 6.4% a year; see Chart III.2). Systemically important banks would record a drop of CZK 7.6 billion to CZK 47.8 billion (2.4 pp) and other banks the decrease of CZK 0.8 billion to CZK 45 billion (5.9 pp). In this model situation, banks should have sufficient space overall for any increase in the countercyclical buffer (see section 5.2.2) and credit growth, assuming reasonable dividend policies. However, this space would decrease if profitability were to fall.

…and may not be sufficient for some banks in an adverse phase of the financial cycle

The overall impact of the Adverse Scenario of the CNB’s stress tests (see section 4.1) on the banking sector reveals that the total capital ratio does

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¹ The Czech Export Bank and the Czech-Moravian Guarantee and Development Bank are excluded from the analysis of the capital of the banking sector as a whole in the entire section 3.2.1. This is because these banks are wholly owned by the Czech state (providing implicit state guarantees for their liabilities) and have different business models and volatile credit portfolios.

² After-tax profit amounted to CZK 75.9 billion in 2017, of which CZK 46.4 billion would be paid in dividends if last year’s payout ratio was maintained.

³ The data are from the statement “Bank financing plans” (FPSIFE10).
not fall below the Pillar 1 and Pillar 2 capital requirements. In individual cases, however, it implies that some banks might not be able to satisfy the requirement in the scenario. A total of 14 banks would fall below its threshold. The CNB takes stress test results into account in the assessment of capital adequacy in the SREP.

The CNB’s approach to introducing some capital buffers was historically affected by an international comparison of the capital ratio at the total capital level
The CNB introduced the capital conservation buffer and the systemic risk buffer in full in 2014 (see section 5.2.1) without using the phase-in option. Domestic banks reported sufficient capital surpluses above the Pillar 1 and Pillar 2 capital requirements and the economy moved into a favourable phase of the financial cycle. Given the weaker capital position after the crisis, the macroprudential and supervisory authorities of some EU Member State applied transitional provisions enabling them to phase in these capital buffers. 4 In recent years, the overall capital requirement in the domestic banking sector has increased only in response to the current evolution of systemic risk, particularly its cyclical component (increases in the CCyB rate), and Pillar 2 risks. The use of capital surpluses to cover Pillar 1 capital requirements related to higher lending activity in the Czech Republic then led to only a slight increase in the capital ratio in the Czech Republic compared to other countries. The Tier 1 capital ratio of domestic banks remains moderately above the EU average, while the total capital ratio is below it (see Chart III.3).

The leverage ratio deteriorated slightly
The leverage ratio of the banking sector, defined as the ratio of Tier 1 capital to total exposures, dropped by 0.5 pp year on year to 6.6% in 2017 (see Chart III.6.6). The favourable effect of capital growth (+0.5 pp) was offset by growth in total exposures (-1.0 pp), mostly to the CNB. Except for one institution, whose lower ratio reflects a specific business model, the leverage ratios of all banks are above 3% (see Chart III.4).

All banks are compliant with the limit of 3.75% for the leverage ratio adjusted for exposures to the central bank
The information value of the leverage ratio may have been affected by the banking sector’s high exposures to the central bank resulting from the use of monetary policy instruments such as quantitative easing and the exchange rate commitment to pursue the price stability objective. The size of these exposures in some banks in some countries could lead to non-compliance with the minimum leverage ratio requirement. Proposals presented by the Basel Committee (BCBS; the Basel III reform package; see section 5.4.2) at the end of 2017 therefore contain a national discretion allowing banks’ reserves at the central bank to be temporarily excluded from the denominator of the leverage ratio calculation and the minimum required leverage ratio to be simultaneously recalibrated.

4 Including the buffer for other systemically important institutions (O-SIs).
upwards under exceptional macroeconomic circumstances.\(^5\) Such discretion is relevant to the Czech Republic given the use of the exchange rate commitment policy in 2013–2017. The exchange rate commitment policy was reflected – through interventions in the foreign exchange market – in a significant increase in the CNB’s international reserves. Their counterpart is sizeable growth in banks’ exposures to the CNB, which currently account for almost one-third of banks’ assets. In line with the conclusions of the discussion in the BCBS, the CNB temporarily regards a leverage ratio excluding exposures to the CNB from the denominator of the formula for calculating the leverage ratio as a more relevant leverage indicator. At the same time, it temporarily considers as relevant a minimum required leverage ratio of 3.75%. The CNB will regularly assess whether the reasons for this change persist and inform institutions about this in its publications. The leverage ratio excluding exposures to the central bank rose by 0.8 pp year on year to 10.0% (see Chart III.7). In this case, the increase in the leverage ratio was due to a decrease in adjusted total exposures (+0.2 pp) coupled with growth in the sector’s capital (+0.6 pp). All banks are well above the 3.75% limit (see Chart III.5).

### The aggregate risk weights for exposures under both the IRB and STA approaches fell, due in part to forex interventions before the exit from the CNB’s exchange rate commitment

The aggregate risk weights\(^6\) for exposures under the standardised approach to setting risk weights (STA; CZK 2.0 trillion) dropped by 7.9 pp to 29.1% in 2017. The aggregate risk weights of exposures whose risk weights are set using internal models (IRB; CZK 4.8 trillion) fell by 5.4 pp to 29.4% in the same period (see Chart III.6). Roughly one-half of the drop for exposures under the IRB approach and almost the entire fall for exposures under the STA approach was due to a change in the ratios of the individual exposure categories in banks’ assets. In both cases, the most significant change in structure was growth in exposures to the CNB, which amounted to almost CZK 1 trillion for the banking sector as a whole in 2017. This growth was due mainly to specific market conditions in the period around the exit from the CNB’s exchange rate commitment\(^7\) and subsequently also the increase in the CNB’s two-week repo rate. The reasons why risks under the STA and IRB approaches cannot be compared directly are discussed in Box 3.1.

### The average risk weights for IRB banks fell in all the main exposure categories

A drop in average risk weights was observed across all the major exposure categories. Exposures to institutions fell by 4.3 pp to 16.8%, exposures to central governments and central banks by 1.0 pp to 2.4%,

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\(^5\) For these reasons, the UK excluded selected exposures to the central bank from the calculation of the leverage ratio last year. It simultaneously increased the minimum leverage ratio from 3% to 3.25% to offset this change. See PRA. 2017. Policy Statement 21/17: Consultations by the FPC and PRA on changes to the UK leverage ratio framework relating to the treatment of claims on central banks.

\(^6\) The analysis of risk weights uses data on implicit risk weights. These are calculated as the weighted value of the exposure divided by the weighted value of the exposure under the COREP systemically important banks. Implicit risk weights are shown on the x-axis.

\(^7\) Exposures to the CNB rose by CZK 915 billion in 2017 Q1. For comparison, the CNB’s international reserves grew by CZK 1,125 billion in the same period.
other retail exposures (non-SME)\(^8\) by 5.1 pp to 48.6%, retail exposures secured by real estate property (non-SME)\(^9\) by 2.3 pp to 22.9% and corporate exposures by 4.5 pp to 60.0% (see Chart III.7). Despite continued growth in property prices and house purchase loan volume,\(^10\) their risk weights declined further. Concentration of property market-related loan exposures remains high at 58% of total loans to the private non-financial sector. The fall in the risk weights of IRB banks is linked with the long-running favourable economic situation. This is associated with a low default frequency, as values from the post-crisis period are starting to dominate the input data of banks’ internal models.\(^11\) This could lead to a lower capital requirement and increase the banking sector’s vulnerability to certain extent if risks were to materialise during an economic downturn.\(^12\) To limit this risk, a minimum risk weight level for mortgage loans has been set in some countries. Box 3.2 presents a short analysis of the potential impacts on capital if this approach was applied in the Czech Republic.

**Box 3.1 Differences in the Capital Intensity of the STA and IRB Approaches Not Reflected in the Level of Risk Weights**

The aggregate risk weights calculated implicitly as the ratio of risk-weighted exposures to total exposures show substantial heterogeneity across the sector. They range between 10% and 80% for individual STA banks and 15% and 45% for individual IRB banks. The risk weights calculated in this way are often compared in practice by analysts and by banks themselves. The purpose of the first section of this box is to explain why such a direct comparison is actually impossible and why the risk weight ratio under the STA and IRB approaches may not correspond directly to the ratio of capital intensity to the otherwise identical original gross carrying amount of a credit exposure (original exposure value). The second section proposes an alternative capital intensity indicator aimed at eliminating as many as possible of the differences stemming from the STA and IRB approaches not captured in the risk weight level.

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\(^8\) This category of exposures consists mainly of consumer credit.

\(^9\) This category of exposures consists mainly of mortgage loans.

\(^10\) The risks associated with the property market and housing loans are described in detail in sections 2 and 5.3.

\(^11\) The IRB approach assumes that banks use through-the-cycle (TTC) parameter values, i.e. take the entire business cycle into account. Regulatory authorities (the Basel Committee and the EBA) responded to the above-mentioned prolongation of the favourable phase of the business cycle. In the future (from 2020), they will require adequate representation of data from a period of economic contraction in the data sets used for calibrating IRB parameters; see https://www.eba.europa.eu/regulation-and-policy/model-validation/guidelines-on-pd-lgd-estimation-and-treatment-of-defaulted-assets.

\(^12\) The expected credit losses should in reality be covered primarily by provisions. The sum of the capital requirement and the provisions intended to cover both expected and unexpected credit losses is what matters from the perspective of prudential regulation (see the alternative capital intensity indicator in Box 3.1).
THE PROCESS OF SETTING CAPITAL REQUIREMENTS AND THE ROLE OF RISK WEIGHTS

Aggregate risk weights cannot be compared directly across banks (regardless of the approach applied) due to the different risk profiles and resulting different structures of banks' credit portfolios. Comparison of risk weights at the level of individual credit exposure categories is limited by the different definitions of these categories under the two approaches. In addition to these obstacles, there are other technical differences between the STA and IRB approaches which are not directly captured in the level of risk weights despite affecting the level of capital required for the original exposure value (see Chart III.1 Box).

The process of setting the capital requirement for the original exposure value (under the STA or IRB rules) consists of several steps, only some of which are reflected in the level of risk weights (see Chart III.1 Box, marked with a green arrow). Nonetheless, the other steps in this process also have their own specifics under the STA and IRB approaches. The actual capital intensity relative to the original exposure value derived from the approach used to set risk weights is thus determined not only by the risk weights applied and the corresponding capital requirement (as a percentage of risk-weighted exposures), but also by other adjustments, including those for provisions and reserves, credit risk mitigation techniques (CRMTs) and conversion factors for off-balance sheet exposures.

Under the STA approach, the original exposure value is first reduced by provisions for balance sheet credit exposures and reserves for off-balance credit exposures. Moreover, the part of the total original exposure value in excess of the regulatory LTV limit is subtracted from this value and then transferred to the relevant category of unsecured exposures (see Chart III.1 Box, step 1). The IRB approach applies none of these adjustments.

In the next step, the exposure value is adjusted for CRMTs (see Chart III.1 Box, step 2). They are divided into CRMTs with substitution effects, CRMTs affecting the exposure value and CRMTs in LGD estimates. CRMTs with substitution effects are

---

13 Under the IRB approach, the category of corporate exposures, for example, contains all exposures to firms, while under the STA approach, exposures secured by property are excluded from these exposures and reported in a separate category. Another example is the category of exposures in default, which under the IRB approach are reported together with non-default exposures in the given category, while under the STA approach they are again reported in a separate category.

14 The LTV for exposures secured by residential property is 80% and that for exposures secured by commercial property is 50% or 60%.
applied in both approaches and serve to transfer parts of credit exposures between individual exposure categories so that the final risk corresponds to the correct category. CRMTs affecting the exposure value are applied only in the STA approach and CRMTs in LGD estimates only in the IRB approach.

Conversion factors are then applied to off-balance sheet exposures under both approaches. They should reflect the probability of an off-balance sheet exposure being transferred to the balance sheet (see Chart III.1 Box, step 3). This probability is approximated by fixed regulatory coefficients in the STA and FIRB approaches, whereas in the AIRB approach banks’ internal models are used to estimate it.

After the adjustments described above have been made, the exposure value (see Chart III.1 Box, marked *) is assigned either the regulatory risk weight corresponding to the relevant category under the STA approach or a risk weight based on PD estimates and LGD estimates or regulatory levels, entered in the regulatory formula derived from the ASRF model, under the IRB approach. In addition, a supporting factor of 0.7619 is applied to exposures to small and medium-sized enterprises (SMEs; see Chart III.1 Box, step 4). The size of the risk weights thus captures only this part of the process of setting the capital requirement for the credit exposure.

The resulting absolute capital requirement for the credit exposure is set by applying the bank’s relevant percentage capital requirement to the risk-weighted value of the exposure after adjustment by the SME-supporting factor. Under the IRB approach, the total amount of provisions is additionally compared with the total expected credit loss. If the resulting difference between the provisions and the expected credit loss is positive, it is added to the bank’s Tier 2 capital up to 0.6% of the bank’s risk-weighted exposures. If the difference is negative, it is deducted from the bank’s CET 1 capital (see Chart III.1 Box, step 5).

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15 If part of an exposure is secured by, for example, a personal guarantee, the bank can apply the risk weight corresponding to the guarantor under the STA approach or the risk parameters corresponding to the guarantor under the IRB approach to this part of the exposure.

16 The AIRB and FIRB approaches differ mainly in the estimation of LGD and conversion factors. Under the FIRB approach, regulatory LGD levels and conversion factors are used (for banks that do not have credible estimates of their own). Under the AIRB approach, LGD parameters and partially also conversion factors are estimated using internal models.

17 LGD captures the relevant CRMTs.


19 In the case of the STA approach, part of the provisions created (general credit risk adjustments) up to 1.25% of the bank’s risk-weighted exposures can be included in Tier 2.
The described adjustments not captured in the level of risk weights can lead to a different ratio of required capital to the original exposure value than that indicated by the risk weights. The ratio of risk weights under the STA approach and under the IRB approach may thus not correspond to the capital intensity ratios of the two approaches.

AN ALTERNATIVE INDICATOR ALLOWS FOR BETTER COMPARISON OF THE CAPITAL INTENSITY OF THE STA AND IRB APPROACHES FOR EXPOSURES SECURED BY REAL ESTATE PROPERTY.

The purpose of the indicator presented below is to eliminate as many as possible of the differences described above for the STA category of “exposures secured by mortgages on immovable residential property” and the IRB category of “retail exposures secured by real estate property (non-SME)”20. Only non-default exposures, i.e. exposures whose potential default risk has not materialised yet, were chosen for the purposes of comparison. For the categories to be comparable, the STA exposures first had to be adjusted for non-retail exposures and then for retail exposures to SMEs. The IRB exposures had to be adjusted for exposures in default. An Alternative Capital Intensity Indicator (ACII) was then designed along the lines of Arroyo et al., 2012.20 Its aim is to provide a more accurate comparison of the ratio of required capital to the credit exposure between the STA and IRB approaches. Changes arising from CRMTs with substitution effects were also removed from the exposure value (see Chart III.1 Box, marked *) in both approaches. In the case of the STA approach, changes arising from CRMTs affecting the exposure value were removed from the exposure value. Provisions and reserves (adjusted for conversion factors) were added back to the exposure value. The comparable exposure value (CEV) calculated in this way was compared with the sum of the risk-weighted exposure value (RWEV, see Chart III.1 Box, marked **) and the relevant provisions created for non-default exposures (P) multiplied by the coefficient 1/ percentage capital requirement of bank (PCRB). This coefficient expresses the amount by which the impact of provisioning on capital exceeds the impact of the risk-weighted value of the exposure for each bank. The ACII21 is thus defined for each bank as:

\[
\text{ACII} = \frac{\text{CEV} - \text{RWEV} - \sum P}{\text{PCRB}}
\]

capital. However, these general adjustments for credit risk were practically abolished by an EBA opinion upon the introduction of the new IFRS 9 accounting standard on 1 January 2018 – see https://www.eba.europa.eu/-/eba-publishes-opinion-on-transitional-arrangements-and-credit-risk-adjustments-due-to-the-introduction-of-ifrs-9.


21 Even the proposed ACII does not erase all the difference between the STA and IRB approach not captured in the risk weight level. The differences stemming from the
The comparison of the time series of the aggregate ACII for the category of exposures defined above in the STA and IRB approaches reveals that under the IRB approach, capital intensity (like risk weights themselves) has long been decreasing, whereas under the STA approach it has been stable at a significantly higher level (see Chart III.2 Box). The difference between the two approaches is thus increasing in the long term. In reality, the ratio of capital intensity between the two approaches is even less favourable for the STA approach, because under the STA approach the part of the exposure in excess of the regulatory LTV limit is assigned risks weights corresponding to an unsecured loan (75% in the case of retail exposures). These factors could play a role in the setting of the output floor, i.e. the lower limit for risk weights under the IRB approach, which has been extensively discussed in the Basel Committee in previous years (see Box 5.3 in section 5.4.2).

**BOX 3.2: ANALYSIS OF THE IMPACT OF SETTING REGULATORY RISK WEIGHTS FOR MORTGAGES**

The purpose of this analysis is to estimate the impact that setting minimum risk weights for mortgages at 25% would have on the capital surpluses of IRB banks. Under the current rules for the STA approach, and from the perspective of mortgages only, this level would be roughly in line with the proposed lower limit for risk weights under the IRB approach, i.e. the "output floor" contained in the Basel III reform package presented at the end of 2017. The Basel III reforms propose to set this lower limit for total risk-
weighted exposures (minimum risk weights) for exposures under the IRB approach at 72.5% of the limit set for the STA approach. Among the EU countries, limits on the risk weight for mortgages were set in Sweden in 2014 (25%) and in Finland in 2017 (15%).

Of the seven banks using the IRB approach to determine risk weights for mortgages, a limit of 25% would be a constraint for four institutions, whose share of the mortgage market exceeds 45% (see Chart III.3 Box). Alternative minimum risk weights were examined in a sensitivity analysis. A limit of 15% would not be a constraint for any bank and a limit of 20% would be a constraint for two with a combined market share of less than 15%.

The analysis of the impact of setting regulatory risk weights for mortgages at 25% assumes that even the internal models of IRB banks whose risk weights are currently above 25% could lead to lower risk weights in a continued favourable economic situation. Hence, even risk weights of these banks can reach the considered level. The impact of such regulatory risk weights on the capital of the domestic banking sector would be limited (see Chart III.4 Box). At the aggregate level, the capital surplus of the banking sector would drop by CZK 2.9 billion (i.e. 0.6% of the banking sector’s total capital) due to higher capital requirements. The capital surpluses held by banks at the end of 2017 in excess of their overall capital requirements would be sufficient to cover this change.

### 3.2.2 Credit Risk

The NPL ratio has dropped further and the NPL structure has improved since the end of 2016

The ratio of non-performing loans (NPLs) to total loans went down by another 0.6 pp in 2017, reaching 3.1% in December (see Chart III.8). The NPL ratio thus again neared the historical low recorded in 2007

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26 The Basel III reform package also presents a proposal for changes in the determination of risk weights under the STA approach. According to this proposal, which is described in more detail in Box 5.3, the new risk weights for mortgage loans under the STA approach will be set depending mainly on an LTV.

27 The original Swedish measure was a Pillar 2 instrument: http://www.fi.se/en/published/news/2014/capital-requirements-for-swedish-banks/. With effect from 31 December 2018, the original measure will be replaced by a new one applying Article 458 of CRR: https://www.fi.se/contentassets/11fa1b82c138409b8a0d6c66e954b17c/remisspromemoria-artikel458-hela-eng2.pdf.


29 If the risk weights for banks exceeding this limit did not decrease to 25% and only the risks weights of the four banks not compliant with this limit increased, the aggregate impact on the sector’s capital requirement would be CZK 3.2 billion.

30 The figure includes both resident and non-resident loans. The Czech Export Bank and the Czech-Moravian Guarantee and Development Bank are excluded from the analysis of credit risk in the entire section 3.2.2.
Loan structure by categorisation

<table>
<thead>
<tr>
<th>Year</th>
<th>Standard (%)</th>
<th>Watch (%)</th>
<th>Substandard (%)</th>
<th>Doubtful (%)</th>
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</thead>
<tbody>
<tr>
<td>2007</td>
<td>50</td>
<td>2.5</td>
<td>1.4%</td>
<td>1.4%</td>
</tr>
<tr>
<td>2008</td>
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<td>1.4%</td>
<td>1.4%</td>
</tr>
<tr>
<td>2009</td>
<td>50</td>
<td>2.5</td>
<td>1.4%</td>
<td>1.4%</td>
</tr>
<tr>
<td>2010</td>
<td>50</td>
<td>2.5</td>
<td>1.4%</td>
<td>1.4%</td>
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<tr>
<td>2011</td>
<td>50</td>
<td>2.5</td>
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<tr>
<td>2012</td>
<td>50</td>
<td>2.5</td>
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<tr>
<td>2013</td>
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<tr>
<td>2014</td>
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<tr>
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</tr>
<tr>
<td>2017</td>
<td>50</td>
<td>2.5</td>
<td>1.4%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Source: CNB

Note: Standard loans are bank receivables in respect of which there is no doubt that they will be repaid (loans usually no more than 30 days past due). Watch loans are bank receivables in respect of which repayment is highly probable (loans usually 30-90 days past due). Substandard loans are receivables in respect of which repayment in full is uncertain (loans usually 91-180 days past due). Doubtful loans are receivables in respect of which repayment is very improbable (loans usually more than 180 days past due). The Stage 1, Stage 2 and Stage 3 categories correspond to the IFRS 9 exposure classification.

**Chart III.9**

### Changes in loan exposure classification and the corresponding provisions due to the introduction of IFRS 9 (%)

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</thead>
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<tr>
<td>L&amp;Rs</td>
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<td>85.0</td>
<td>85.0</td>
<td>85.0</td>
<td>85.0</td>
<td>85.0</td>
<td>85.0</td>
<td>85.0</td>
<td>85.0</td>
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<td>85.0</td>
<td>85.0</td>
</tr>
<tr>
<td>LLPs</td>
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<tr>
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<td>94.0</td>
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<td>94.0</td>
</tr>
</tbody>
</table>

Source: CNB

Note: L&Rs = loans and receivables; LLPs = loan loss provisions. Changes between 12/2017 and 1/2018 under IFRS 9. Excluding branches of foreign banks. Figures in text fields express the aggregate L&Ps and LLP volumes of domestic banks in each category as of 1/2018. The changes may have been partly due to changes in banks’ loan portfolios unrelated to IFRS 9. Outliers stemming from the fact that some banks had no LLPs under IAS 39 for their standard and/or watch loan portfolios as of 12/2017 are excluded from the results.

### BOX 3.3: THE ONE-OFF EFFECT OF THE INTRODUCTION OF IFRS 9 ON PROVISIONING

IFRS 9 is a new international accounting standard, effective from 1 January 2018, governing the recognition, derecognition, classification and valuation of financial assets and hedge accounting. Compared to the previously used IAS 39 accounting standard, it introduces significant changes in the area of impairment of financial assets and loan loss provisions. Its introduction meant a shift from the concept of incurred losses to the concept of expected losses. This should prevent a recurrence of the situation recorded during the financial crisis where credit losses were reported too little, too late. The new concept of expected credit losses divides financial assets into three stages according to the level of credit risk. To classify a financial asset to one of these stages, banks should evaluate all relevant indicators. Assets whose credit risk has recorded no significant increase since their initial recognition should be assigned to Stage 1, assets whose risk has increased significantly should be categorised in Stage 2, and credit-impaired assets should be classed in Stage 3.

The introduction of the expected loss concept was associated with expectations of a one-off increase in provisions. Changes between 12/2017 and 1/2018 under IFRS 9. Excluding branches of foreign banks. Figures in text fields express the aggregate L&Ps and LLP volumes of domestic banks in each category as of 1/2018. The changes may have been partly due to changes in banks’ loan portfolios unrelated to IFRS 9. Outliers stemming from the fact that some banks had no LLPs under IAS 39 for their standard and/or watch loan portfolios as of 12/2017 are excluded from the results.

31 NPLs comprise substandard, doubtful and loss loans.

32 See Box 3.3 for more information about the IFRS 9 standard and the links between the previous loan classification and the new one.
participated. According to the survey results, institutions were expecting to assign default exposures to Stage 3, to use a range of indicators (most often the transfer of an exposure to the “watch” category – more than 30 days past due) to assign exposures to Stage 2 and to class their remaining exposures in Stage 1. The respondents also reckoned that the introduction of IFRS 9 would have an impact on total provisions of between -0.6% and +49.6%, or 13.7% on average. This was due mainly to expectations that they would have to create additional provisions for loans newly classified in Stage 2.

The data actually reported for January 2018 confirmed the survey results. Since the introduction of IFRS 9, the provisions of domestic banks had changed by between -3.0% and 45.0%, or 12.9% (CZK 0.3 billion) on average (see Chart III.5). The data also reveal that provisions for loans newly classified in Stage 3 had changed only marginally compared to provisions for NPLs as of the end of 2017. As expected, the main reason for the changes is additional provisioning for non-default loans, specifically loans in Stage 2. These loans are also the most heterogeneous across institutions in terms of both the size of the change in the loan amount now included in this stage compared to the initial category of watch loans and the size of the change in the corresponding provisions (see Chart III.5 Box).

There are also slight differences in the changes in provisions across exposure types due to IFRS 9. At the level of the domestic banking sector, provisions for non-default loans increased by 38% to CZK 6.9 billion in the case of exposures to non-financial corporations and by 79% to CZK 7.0 billion in the case of exposures to households. The coverage of non-default loans by provisions thus increased from 0.42% to 0.58% in the case of exposures to non-financial corporations and from 0.25% to 0.45% in the case of exposures to households (see Chart III.6 Box). While provisions for non-default loans in Stage 1 slightly predominate among exposures to non-financial corporations (53% of total provisions for non-default loans), provisions for non-default loans in Stage 2 are dominant in the case of households (59% of total provisions for non-default loans). This might be due to the generally longer maturity of exposures to households. In the case of Stage 2, where credit losses are recognised to maturity, this implies higher provisions.

**NPL coverage by provisions seems sufficient**

The overall coverage of NPLs by provisions stood at 55.0% in December 2017, down by 2.2 pp from the end of 2016. (See Chart III.10). The ratio of provisions to total loans fell by 0.5 pp to 2.0% in the same period (see Chart III.11). A sectoral analysis revealed that the average NPL coverage ratio was 53.3% for loans to non-financial corporations, 38.1% for mortgage loans and 70.0% for consumer credit as of 31 December 2017. In all cases, the ratio seems sufficient for the current NPL loss.
rate, which is 25.9% for loans to non-financial corporations, 21.4% for mortgage loans and 54.0% for consumer credit. If the Adverse Scenario of the macroprudential stress tests – where the loss given default (see section 4.1) reaches 58% for non-financial corporations, 55% for mortgages and 67% for consumer credit – were to materialise, the coverage ratio would only be sufficient for consumer credit.

The introduction of IFRS 9 led to moderate growth in coverage at the end of January 2018

NPL coverage by provisions increased by 0.6 pp to 55.6% and the ratio of provisions to total loans rose by 0.2 pp to 2.2% in January 2018 following the switch to the new IFRS 9 accounting standard. The absolute growth in provisions in the sector was CZK 5.2 billion. This relatively low growth could indicate that at certain stages of the financial and business cycle IFRS 9 may not lead to significantly higher provisioning compared to the previously used approaches. Some of the expectations regarding the countercyclical effect of IFRS 9 (timely and sufficient provisioning) may thus not fully materialise in time. On the contrary, some studies point to a potential risk of IFRS 9 being procyclical. The main aspect of this risk consists in potential restriction of lending activity by banks connected with the need to create large amounts of provisions after they receive unexpected information indicating a weakening of the aggregate economic conditions (the "cliff effect"). This would result in an even greater deterioration of the economic situation. The above thus increases the importance of timely application of the countercyclical buffer to make the banking sector resilient to adverse economic developments well before the expected loss models used under IFRS 9 lead to higher provisioning.

3.2.3 Profitability

The profitability of the banking sector remains high...

The banking sector turned in a profit of CZK 75.9 billion at the end of 2017, a rise of 2.7% on a year earlier. Return on assets fell by 0.2 pp to 1.1% but rose further when adjusted for the significant increase in exposures to the CNB. Large differences persist across the groups of banks (see Chart III.12). Large banks have long been showing the highest return on assets.

33 The NPL loss rate is calculated from the results of a recovery rate survey conducted among the nine systemically most important banks and building societies in March 2017. In this survey, banks state their actual and expected NPL recovery rates broken down into several categories of loans to corporations and households. For the purposes of the sectoral analysis of NPL coverage by provisions, the NPL loss level is calculated as (1 - the recovery rate).

34 Box 3.3 presents a more detailed analysis of the effect of the switch to IFRS 9 on selected categories of exposures. Section 4.1 describes the effect of IFRS 9 in the event of adverse economic developments.

... main component has long been interest profit, which is starting to grow...

Interest profit remains the main source of profitability (see Chart III.13). Interest income recorded year-on-year growth (of 2.8%) after a two-year fall. It was favourably affected by client loans, which rose by 5.7% year on year. Growth in interest costs (of 5.2%), due mainly to growth in client deposits (of 9.2%), had the opposite effect. Interest profit went up by 2.0% year on year (see Chart III.14). Profit from fees and commissions fell for the sixth consecutive year in year-on-year terms, reflecting persisting competitive pressure in the domestic banking market. Profit from foreign currency operations (year-on-year growth of 44.6%), where business opportunities in the area of hedging against non-financial corporations’ currency risk of opening up for banks after the exit from the exchange rate commitment, may be a longer-term contributor to growth in profitability (the hatched area in Chart III.13, profit from financial revaluation, see Box 3.4 for details).

due in part to a rising interest margin on new loans

The margin on new loans rose by 0.08 pp to 3.1 pp at the end of 2017, interrupting an eight-year downward trend (see Chart III.15). In 2017, only new consumer credit recorded a drop in interest margins – of 1.36 pp year on year. Margins on new mortgage loans rose by 0.24 pp year on year and margins on new loans to non-financial corporations by 0.33 pp. Any further increase in monetary policy rates may foster growth in interest margins. Given the ample liquidity in the banking system, the reaction of the growth in margins will be conditional mainly on how the growth in monetary policy rates is reflected in client deposit and loan rates. The growth in monetary policy rates is also increasing interest income on exposures to the central bank. They may make up at least partly for the still low interest income on government bond holdings (see Chart III.16).

**BOX 3.4: PROFIT FROM FOREIGN CURRENCY OPERATIONS (FX PROFIT) OF BANKS**

The share of FX profit in total profit from financial and operating activities before tax was usually between 5% and 7% in 2007–2016 (see Chart III.7 Box). FX profit thus accounted for a relatively stable proportion of the total pre-tax profit of most banks, the only exceptions being a few medium-sized and small banks. Given the low exchange rate risk and low FX profit volatility when the exchange rate commitment was in place (see Chart III.8 Box), it can be assumed that most of it came from client operations (profit from different buying and selling prices) and only a minority came from trades on banks’ own accounts.

36 As signalled by the relatively low capital requirement for exchange rate risk of CZK 0.5 billion as of 31 December 2017.
THE SHARE OF FX PROFIT INCREASED IN CONNECTION WITH THE EXIT FROM THE EXCHANGE RATE COMMITMENT

FX profit has been above the historical average of recent years since the start of 2017. This trend continued for the rest of the year after the exit from the exchange rate commitment (see Chart III.7 Box). The highest month-on-month growth was recorded in April, when some large banks posted monthly FX profits three to five times above the monthly average for the period of the exchange rate commitment (2014–2016). In the months that followed, the levels returned to the averages observed in 2017 Q1. Nevertheless, they remained above the average recorded during the exchange rate commitment. The continuation of this trend for the rest of the year meant that the sector’s pre-tax FX profit went up by CZK 5.7 billion year on year to CZK 18.6 billion and the share of FX profit in total pre-tax profit rose by 3.3 pp to 10.4 pp. FX profit thus contributed significantly to the improvement in the banking sector’s profitability, as stated in section 3.2.3. Large and medium-sized banks recorded a positive FX profit trend (year-on-year growth of 61% and 35% respectively), whereas small banks saw their FX profit fall 43% year on year.

A FREE EXCHANGE RATE REGIME NATURALLY CREATES OPPORTUNITIES, BUT ALSO INCREASES THE RISKS TO BANKS’ PROFITABILITY AND CAPITALISATION

For both the banking sector and non-financial corporations, the exit from the exchange rate commitment means a return to the earlier risk levels associated with greater exchange rate volatility. It simultaneously increases the importance of FX operations for banks’ profitability. This raises questions about the quality of banks’ exchange rate risk management and the sustainability of the higher FX profits. The available data on capital requirements for exchange rate risk (a proxy for the size of the risk) on an aggregate basis are comparable with historical ones. They did not fundamentally change when the exchange rate commitment was activated, when it was in place or after it ended. This means that the exchange rate commitment and the exit from it have not yet led to any major change in banks’ perceptions and acceptance of the size of exchange rate risk. The higher profits are in line with the increased activity on financial markets. Given the large koruna positions built by foreign capital during the exchange rate commitment, banks’ FX profits can be expected to remain at the elevated levels observed in 2017 in the near future.

37 The exchange rate commitment was discontinued on 6 April 2017.
A change in the phase of the business and financial cycle poses a risk…
Banks’ profitability is also being favourably affected by a continued decline in impairment losses (see Chart III.18), which is linked with the phase of the business cycle and the falling share of NPLs (see Chart III.8) and provisions (see Chart III.17). Asset impairment losses are thus currently at very low levels (see Chart III.18), which may not correspond to the real long-term risks. A turn in the business and financial cycle would lead to growth in asset impairment losses, although not necessarily on the same scale as in 2008. The CNB is responding to the risks associated with the upward phase of the business and financial cycle by gradually raising the countercyclical capital buffer rate (see section 5.2.2 for details).

…which would lead to growth in impairment losses and a drop in profitability
Impairment losses represented just 0.1% of the banking sector’s assets at the end of 2017. In the same period of 2009, this item had stood at 0.7% of assets. If the ratio of impairment losses to assets was the same as in 2009 Q4, return on assets would drop from the current 1.1% to 0.3% (see Chart III.13). The evolution of impairment losses over the cycle will also be affected by the new IFRS 9 accounting standard. As expected, its introduction led to a one-off increase in provisions (see Box 3.3 for more details). However, the current level of credit risk and the results of the incorporation of IFRS 9 into the bank solvency macro-stress tests (see section 4.1 for more details) indicate that provisions can be expected to grow much faster than in the previous accounting frameworks in the event of adverse economic developments. This “cliff effect” (see section 3.2.2) is thus a new factor to be considered when setting the countercyclical buffer rate (see section 5.2.2).

3.2.4 Liquidity
The liquidity position of banks has improved further
The ratio of quick assets to total assets rose by 7.2 pp year on year to 41.6% at the end of 2017 (see Chart III.19), due mainly to growth in exposures to the CNB. Domestic banks deposited non-residents’ koruna deposits at the CNB and exposures to the central bank thus increased substantially. This situation may last for some time. A shift away from government bonds due to their negative yields last year and growth in exposures to the central bank has significantly changed the structure of the banking sector’s quick assets. The share of government bonds in quick assets was 33% at the end of 2016 but had dropped to just 19% a year later. By contrast, the share of exposures to the CNB in quick assets grew from 62% to 81% in the same period. The ratio of client deposits to loans went up by 7.4 pp year on year to 135.1% (see Chart III.16). The good liquidity position is also illustrated by the liquidity coverage ratio

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38 After adjustment of total assets for exposures to the CNB, the ratio of impairment losses to assets is 0.2%.
The LCR fell by 6.5 pp year on year to 182.8% at the end of 2017, but remains well above the regulatory requirement of 100% (see section 4.2 for details).

### 3.2.5 Credit Unions

**Conditions in the credit union segment have stabilised and its importance continues to wane**

Total assets dropped significantly, by about one-third, to CZK 23.1 billion at the end of 2017 (see Table III.2.2). This was due to the conversion of the largest credit union CREDITAS into a bank. The assets of the remaining credit unions increased modestly year on year (by CZK 0.7 billion). The NPL ratio declined by 5.1 pp, while the ratio of liquid assets to total assets and Tier 1 capital adequacy both increased (by 2.6 pp and 1.2 pp respectively). NPL coverage by provisions decreased (by 1.9 pp). As in 2016, the credit union segment recorded a loss. Return on assets (RoA) was flat year on year at -0.4%. Despite some improvement, the credit union segment lags behind banks in all the indicators monitored. The segment will undergo further changes due to the entry into effect of Act No. 333/2014 Coll., which limits a credit union’s assets to CZK 5 billion, among other things. The largest institution, accounting for around 44% (CZK 10.2 billion) of the segment’s total assets, will have to convert into a bank or reduce its assets below CZK 5 billion. This, however, further reduces the importance of the segment, which in its current form cannot be a source of systemic risk.

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**Table III.2**

<table>
<thead>
<tr>
<th>Selected indicators of credit unions compared to banks (%)</th>
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<tbody>
<tr>
<td>2016 Q4</td>
</tr>
<tr>
<td>Credit Unions</td>
</tr>
<tr>
<td>incl. CREDITAS</td>
</tr>
<tr>
<td>Assets (CZK billions)</td>
</tr>
<tr>
<td>Client NPL ratio</td>
</tr>
<tr>
<td>Highly liquid assets/total assets</td>
</tr>
<tr>
<td>Coverage of NPLs by provisions</td>
</tr>
<tr>
<td>Tier 1 capital ratio</td>
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<tr>
<td>RoE</td>
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</tbody>
</table>

Source: CNB
Note: The accounting period is not unified across the credit union segment, so the relevant data were annualised for some institutions. Any inconsistency with figures in other parts of this section is linked with different approaches to the inclusion of the figures for CEB and CMGDB.
3.3 THE NON-BANK FINANCIAL SECTOR

The importance of non-bank investment products is growing...

Interest in both domestic and foreign non-bank financial products increased in 2017. The importance of non-bank segments of the domestic financial sector grew as a result (see Chart III.1). The total value of households’ investment fund units exceeded CZK 400 billion. Investment fund units thus became the third most important category of financial assets in Czech households’ balance sheets behind bank deposits and directly held financial instruments. The importance of investment fund units in Czech households’ assets has been increasing since 2012 (see Chart III.20). This in part reflects growth in households’ wealth and, since 2014, a drop in the value of insurance products held by households. Insurance-based investment products are thus being gradually replaced by collective investment products. Funds deposited in pension funds also continued to record steady growth in 2017.

…which may lead to emergence of new channels for spreading systemic risk

The increased interest in investment products mostly with no guaranteed returns entails a shift in investment risk from financial institutions to households. Households may respond to any correction on the financial markets and growth in risk aversion by exiting investment and pension funds, terminating insurance-based investment products or selling off direct investments. In the event of growth in withdrawals, funds and insurance companies may not be able to satisfy clients’ claims from their existing liquidity reserves (cash and bank deposits) and may therefore be forced to sell investment assets. Depending on market liquidity, this would exacerbate the initial drop in asset prices and lead to a spiral between withdrawals and asset price falls with a potentially systemic dimension. Similar risks have been accumulating in a number of EU countries. The ESRB has therefore been working intensively on macroprudential instruments in this area (see section 5.4.5).

Interest in insurance-based non-investment products continues to rise

Gross premiums written for non-life insurance products continued to grow in 2017, rising by CZK 5.4 billion year on year to CZK 95.3 billion (see Chart III.21). In the case of life insurance, by contrast, gross premiums written fell further (by CZK 2.2 billion to CZK 56.1 billion). This reflected the persistently low attractiveness of life insurance products with an investment component (both products with a guaranteed return and unit-linked products) to both clients and insurance companies. Nevertheless, interest in the risk component of life insurance rose slightly in 2017.

The systemic risk of fire sales by insurance companies is being affected by contrary factors

From the systemic risk perspective, insurance companies can contribute to spreading and exacerbating financial asset sell-offs (fire sales) in the event of growth in uncertainty on the financial markets (see section 5.4.5). In the case of the domestic financial sector, this risk is...
associated mainly with Czech government bonds (see section 3.4). However, their volume in insurance companies’ balance sheets has dropped (by CZK 12 billion year on year to CZK 151.7 billion in 2017; see Chart II.18 in section 2.1.2). The systemic risk connected with such fire sales has thus decreased. By contrast, the upward trend in corporate bond holdings continued in 2017 (year-on-year growth of CZK 20.4 billion to CZK 147.1 billion). However, the impact on insurance companies of a potential increase in corporate bond yields would not be significant for now given their relatively short average maturity (see section 2.1.2).

The ability of the domestic insurance sector to provide critical insurance products is not at risk

The systemic risk of the insurance sector is also linked with critical insurance functions (see section 5.4.5.). The domestic insurance sector continues to be able to provide critical insurance functions and is sufficiently resilient to potential adverse factors. It maintained good profitability in 2017 (see Chart III.22). The unfavourable trend in the technical account for non-life insurance is due to competition in motor vehicle third party liability insurance, which entails a risk of insufficient premiums. Nevertheless, this risk does not have a systemic dimension at present. The insurance sector as a whole was sufficiently capitalised in 2017, as most entities maintained eligible own funds sufficiently high above the solvency capital requirement (see Chart III.23).

Stress tests confirmed the resilience of the domestic insurance sector

A joint stress test was conducted by the CNB and insurance companies in the Czech Republic in 2017. The results confirmed that the domestic insurance sector remained sufficiently capitalised even after the impact of relatively significant shocks. A joint stress test will also be conducted in 2018. The CNB will publish its results in a separate report in the second half of 2018. Some domestic insurance companies will also take part in the stress test organised by the European Insurance and Occupational Pensions Authority (EIOPA) through their financial groups in 2018.

Investment funds continue to grow apace

The assets managed by domestic investment funds rose by 19.3% to CZK 479.5 billion in 2017. Of this total, CZK 314 billion were assets in collective investment funds (year-on-year growth of 22%) and CZK 166 billion were assets in funds for qualified investors (year-on-year growth of 13%). As in previous years, investment funds were thus the fastest growing segment of the domestic financial sector (see Chart III.1). By international comparison, domestic investment funds are still a less

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39 The presented values of insurance companies’ investment portfolios pertain only to domestic entities, i.e. they do not cover branches of foreign insurance companies.
significant segment of financial intermediation, so there is potential for growth in future years (see Chart III.24). Investment funds’ aggregate portfolio has long consisted mainly of equity, investment fund units and corporate bonds, which together accounted for 70% of the portfolio at the end of 2017 (see Chart II.18 in section 2.1.2). A significant overvaluation of prices of these instruments is considered in a sensitivity analysis (see section 2.1.2), so the potential impact of a correction on the financial markets on investment funds and their investors could therefore be relatively substantial.

Their contribution to systemic risks remains low

A correction on financial markets could cause an exit of investors from open-end investment funds, exhaustion of liquidity reserves and subsequent fire sales. Domestic investment funds hold mostly foreign assets (64% of assets as of 31 December 2017; see Chart II.18 in section 2.1.2), the prices of which are rather insensitive to potential fire sales by domestic investment funds due to the high liquidity and the depth of foreign markets. The multiplication rate of an adverse market shock through fire sales of domestic investment funds’ assets is thus low at the aggregate level. Investment funds’ liquidity buffer dropped further year on year (by 3 pp to 27%) and their credit financing ratio increased to 5.3% as of 31 December 2017 (see Chart III.25). A continuation of these trends would increase the systemic risk of investment funds. The CNB has therefore been actively addressing the nature of investment funds’ systemic risk and the options for managing it (see section 5.4.5).

The assets of pension funds continue to rise despite a falling number of participants

The total assets administered by pension management companies (PMCs) grew by 10.8% year on year to CZK 445 billion, despite a year-on-year drop in the number of participants of 1.5% to 4.5 million. The growth in asset value was also due to higher inflows into funds than sums paid out (the difference is CZK 29 billion). The use of cross-currency repos to hedge against funds’ exchange rate risk has increased the funds’ total assets by a further CZK 19 billion since March 2017. The value of fund assets adjusted for these two effects would be 1% lower. Market developments – growth in bond yields – was therefore unfavourable for transformed funds (TFs) and obligatory conservative funds, which hold most of their portfolios in Czech government bonds, in the given period. The departure from the environment of exceptionally low yields on safe koruna assets and the option of achieving positive yields on government bonds should positively affect pension funds’ financial results going forward.

42 Open-end investment funds (including funds in the SICAV legal form) managed 88% of the segment’s assets as of the end of 2017. Open-end investment funds are obliged to pay out to the investor an amount equal to the current value of his share on request.
The changes in monetary policy are beginning to be reflected in a slight rebalancing of portfolios towards safer assets. TFs naturally focus on bonds with low credit and exchange rate risk. The amount of koruna government bonds in their portfolios was 1.9% lower than at the end of 2016 despite purchases made in 2017 Q4. At the end of 2017, the amount stood at CZK 273.5 billion, or 66.1% of total assets. The average duration of the bonds lengthened from 4.6 to 4.9 years. TFs, which invested part of their assets in bank deposits in an environment of low yields before the exit from the exchange rate commitment, are taking advantage of a drop in prices to buy longer-term bonds again. Holdings of equity instruments and corporate bonds in TFs’ portfolios fell to 12.8% of total assets. Their average rating did not deteriorate. The share of foreign currency securities dropped to 14.5% of total assets. The amount and share of Czech government bonds in participation funds’ balance sheets are considerably lower and their duration is markedly shorter (1.2 years for obligatory conservative participation funds and 3.4 years for other participation funds). Other participation funds are traditionally more exposed to exchange rate risk, as they already hold more than 23% of their assets in foreign units and shares.

The capital ratio of pension management companies went up after the second pension pillar was discontinued...

The discontinuation of the second pillar led to an overall decline of CZK 1.25 billion in PMCs’ capital requirement. The requirement for the capital of PMCs participating in the second pillar was set CZK 250 million higher than that for the other PMCs. The total capital requirement thus dropped by 13.5% at the end of the year despite a 7.7% increase in TFs’ risk-weighted assets. This was the main reason why PMCs’ capital ratio (the ratio of capital to capital requirements) increased from 119.9% to 139.7% at the end of 2017 (see Chart III.26).

…but pension management companies’ resilience decreased year on year

When assessing PMCs’ resilience, it is necessary to monitor not only the capital ratio, but also the difference between TFs’ assets and liabilities (TFs’ “capital” in simple terms). TFs’ “capital” serves as the first line of defence of PMCs against TFs’ market losses. If TFs’ assets still exceed their liabilities after incurring market losses, PMCs’ capital does not show any decline while TFs’ “capital” does. It is therefore desirable to monitor PMCs’ combined capital surplus. The combined capital surplus consists of PMCs’ capital surplus (the difference between PMCs’ capital and capital requirements) and the capital administered by TFs (the difference between TFs’ total assets and liabilities). By measuring the combined capital surpluses with TFs’ assets, one obtains the relative drop in TFs’ assets which would lead to the exhaustion of both capital surpluses and a drop in PMCs’ capital adequacy below the minimum level. The evolution of the combined capital surpluses over time shows the drawdown of those surpluses and the accompanying decline in PMCs’ resilience (see Chart III.27).

43 PMCs’ capital surplus made up just 20.2% of the combined capital surplus at the end of 2017.
The upward trend in pension funds’ assets will continue
The upward trend in the share of clients with employer contributions continued. This share stood at 30.4% at the end of 2017, as against 22.8% in March 2013. Average contributions from planholders and employers also increased. However, they are still very low relative to wages. Inclusive of steak support, the contributions stood at 4.4% of the net average wage in 2017. This ratio was flat year on year. Contributions and the sector’s assets can both be expected to continue to rise apace owing to rising wage growth and the large difference between the average wage and the pension paid from the first pension pillar. The market share of transformed funds, which no new planholders may enter as of 2013, remains dominant (92%), so the risks to PMCs associated with TFs’ rising assets with guaranteed non-zero yields persist.

The market share and riskiness of loans from non-bank lenders is little changed
The total loans provided by non-bank financial corporations engaged in lending (NFCELs) increased by 7.2% to CZK 293 billion at the end of 2017 (see Chart III.28). Loans to non-financial corporations, which grew by CZK 20 billion (or 9.7%) year on year, were the main source of growth. NFCELs’ market share in loans provided to non-financial corporations rose by 0.7 pp to 18.4% thanks to this increase. By contrast, loans to households for consumption dropped by CZK 1.4 billion to CZK 52 billion. This led to a year-on-year decline in NFCELs’ market share of this segment of 1.1 pp to 19.7%. The riskiness of loans, as expressed by the three-month default rate, decreased by 15 bp to 3.21% for loans to households (see Chart III.29), but compared with banks remains significantly higher in the long run. The riskiness of loans to non-financial corporations is due to the fact that around 87% of them are secured leasing loans.

Non-bank consumer credit providers are to provide their services under a CNB licence
Article 169(1) of Act No. 257/2016 Coll., on Consumer Credit, imposed a duty on non-bank consumer credit providers to obtain non-bank consumer credit provider licences from the CNB. In this connection, the CNB had received 108 applications from previously active non-bank providers as of 30 April 2018.44 These applicants are authorised to provide consumer credit in the transition period before the licence is granted on the basis of their existing trade licences until the CNB decides on the application, or by 1 June 2018, whichever is the earliest. The CNB also assessed six applications from non-bank providers which had not previously provided consumer credit. The CNB assesses applicants’ compliance with statutory duties. The quality of applicants’ internal regulations, especially those regarding risk management, plays an important role in the assessment process. Shortcomings mostly concerned regulations on the assessment of creditworthiness, remuneration and rules of conduct towards consumers in default. The completion of the licensing process is a significant step towards establishing a transparent market environment for consumer credit and improving management of the related credit risks.

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44 A total of 37 licences had been issued for these applications as of 30 April 2018.
3.4 INTERCONNECTEDNESS OF THE FINANCIAL SECTOR

Direct balance-sheet interconnectedness remains stable

Domestic financial entities’ claims on domestic banks, including interbank relations, are the most important component of the balance-sheet interconnectedness\(^{45}\) of the domestic financial sector (see Chart III.30). These claims consist mostly of bank deposits and long-term debt securities. They amounted to CZK 673 billion at the end of 2017, of which 65% were claims on the interbank market. This is a natural element of interconnectedness corresponding to financial institutions’ transaction and liquidity needs. Banks also remain the largest counterparty for the real economy and vis-à-vis non-residents (see Chart III.31). In addition, they represent a major provider of debt and equity financing, especially within domestic bank groups. This interconnectedness is significant in relation to other financial intermediaries (OFIs, mostly NFCELs), on which domestic banks had claims in the form of loans and bonds worth CZK 164 billion at the end of 2017. Moreover, domestic banks held CZK 31.8 billion in shares and other equity in OFIs. Total exposures to domestic banks thus represented 47% of OFIs’ total liabilities. Banks have a smaller share in the financing of the other segments of the financial market (insurance companies, investment funds and pension funds). In total, it was below 5% of the total assets of these segments at the end of 2017. Given that aggregate balance-sheet interconnectedness is not rising, the structural component of systemic risk and the risk of the emergence and spread of financial distress across segments remains stable.

Indirect interconnectedness through joint exposures on the Czech government bond market has decreased

The risk of fire sales of financial assets by a large number of domestic entities and a subsequent drop in asset prices represents an indirect channel for the spread of systemic risk. Among domestic assets, Czech government bonds are the most important portfolio item. A sudden repricing of those bonds combined with an exodus of foreign bond holders and revaluation of risk premia could cause domestic financial institutions to incur losses (see section 2.1.2). Those institutions could respond to the losses and growth in clients’ withdrawals by selling off more Czech government bonds, which would amplify the initial price drop. However, the importance of Czech government bonds in the portfolios of domestic financial institutions declined in 2017 (see Chart II.18 in section 2.1.2). The systemic risk associated with indirect interconnectedness thus fell slightly.

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\(^{45}\) The analysis of interconnectedness covers banks, insurance companies, pension funds, pension management companies, investment funds, investment companies and other financial intermediaries (mainly NFCELs and non-bank security dealers). Other segments of the domestic financial sector (the central bank, captive financial institutions and financial auxiliaries) are not included, as by nature they are not entities through which a financial shock could be transmitted.
Banks are in a net creditor position in their ownership groups...

The trend seen in bank groups’ balance-sheet interconnectedness in previous years continued (see Chart III.32). Banks increased their net creditor position. Their net claim on controlled entities rose by CZK 39.4 billion to CZK 119.8 billion (up by 10.8% of total regulatory capital to 27.5%). The source was both growth in claims of CZK 14.2 billion and a drop in liabilities of CZK 25.1 billion. NFCEs were the largest debtor within bank groups (around 69.1% of all claims, down by 3.8 pp year on year). By contrast, liabilities consist mostly of liquidity from building societies (80%, down by 3 pp year on year). The overall creditor position of banks within their groups increased slightly, while the concentration of exposures to NFCEs declined modestly. However, given the nature of the transactions (mostly secured leasing and factoring transactions) the high concentration of claims on NFCEs does not give rise to increased risks.

…and the net debtor position of banks vis-à-vis non-residents strengthened further

The net debtor position of banks vis-à-vis foreign parent institutions grew by CZK 104 billion year on year to minus CZK 204 billion in 2017 (see Chart III.33). It thus contributed partially to a strengthening of the net debtor position of the banking sector vis-à-vis non-residents, which increased to minus CZK 1,082 billion. This was due a sizeable rise non-residents’ deposits in 2017 Q1 connected with the expected exit from the exchange rate commitment. Nevertheless, this situation does not give rise to increased risks to the banking sector or the real economy, as banks place the excess liquidity linked with non-residents’ deposits at the CNB (see Chart IV.13 in section 4.2).