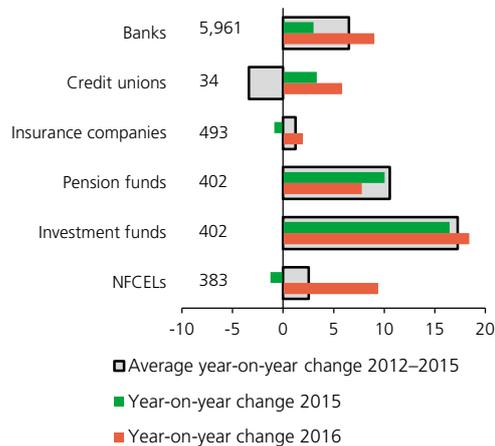


CHART III.1

**Rates of growth of segments of the financial sector (%)**


Source: CNB

Note: NFCLEs = non-bank financial corporations engaged in lending. The figure next to the segment name denotes total assets as of the end of 2016 in CZK billions.

TABLE III.1

**Capital surpluses against various capital requirements as of the end of 2016**

(CZK billions; pp in parenthesis)

	Banks, total (excl. CEB + CMGDB)	Systemically important banks	Banks that are not systemically important	CEB + CMGDB
Pillar 1 requirements	241.6 (10.3)	169.1 (9.8)	72.5 (11.4)	8.1 (24.2)
Pillar 1 + 2 requirements	203.3 (8.6)	138.2 (8.0)	65.2 (10.3)	8.1 (24.2)
Pillar 1 + 2 + Systemic risk buffer	164.9 (7.0)	99.7 (5.8)	65.2 (10.3)	8.1 (24.2)
Pillar 1 + 2 requirements + systemic risk buffer + capital conservation buffer	106.0 (4.5)	56.7 (3.3)	49.3 (7.8)	7.2 (21.7)
Number of banks	20	5	15	2

Source: CNB

Note: Institutions that had a systemic risk buffer set as of 1 January 2017 are deemed systemically important banks. The Czech Export Bank and the Czech-Moravian Guarantee and Development Bank were excluded from the set of banks that are not systemically important.

### 3 THE FINANCIAL SECTOR

#### 3.1 DEVELOPMENTS IN THE FINANCIAL SECTOR

The favourable trends seen in the Czech financial sector in past years continued into 2016. The banking sector maintains high capitalisation, profitability and liquidity, and has further increased its credit portfolio quality. The insurance sector returned to growth and strengthened its profitability. The dynamic expansion of the investment and pension fund segments is being driven by growth in real incomes and rising household savings.

The main risk scenario for the financial sector is still a contraction in economic activity accompanied by growth in credit and market risk. Decreasing risk weights for mortgage loans set using internal models may in the future amplify the risks associated with the current trend in the markets for residential property and property financing loans, which are becoming the dominant component of banks' credit portfolios. The environment of exceptionally low interest rates still poses a risk to profitability of all financial market segments. 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 assumed shocks.<sup>1</sup>

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

All segments of the financial market saw year-on-year growth in total assets at the end of 2016 (see Chart III.1). The banking sector, which accounts for almost 80% of the financial sector's assets, recorded the largest year-on-year growth in absolute terms (9.0%, or CZK 492.9 billion), due mainly to year-on-year growth in exposures to the CNB (of 46.2%) and client loans (of 7.1%). As in the last three years, investment funds recorded the fastest growth in total assets (18.4%, or CZK 62.4 billion). Non-bank financial corporations engaged in lending also recorded a significant increase (9.4%, or CZK 32.9 billion), as traditionally did pension funds (7.8%, or CZK 29.1 billion). Insurance companies also showed growth (2.0%, or CZK 9.4 billion). The total assets of the minority segment of credit unions were higher at the end of 2016 (by 5.8%, or CZK 1.9 billion). However, they have fallen significantly since January 2017 due to the conversion of the largest credit union into a bank.

#### 3.2 THE BANKING SECTOR AND CREDIT UNIONS

##### Banks' capitalisation was flat in 2016...

The total regulatory capital in the Czech banking sector rose by CZK 19.3 billion in 2016, reaching CZK 430 billion at the year-end.<sup>2</sup>

<sup>1</sup> The assumed shocks are described in sections 2.1 and 4.1.

<sup>2</sup> The Czech Export Bank and the Czech-Moravian Guarantee and Development Bank were excluded from the analysis of capital and credit risk of the banking sector as a whole. This is because these banks are wholly owned by the Czech state (providing implicit state

However, the overall capital ratio decreased slightly, by 0.07 pp to 18.3% (see Chart III.2) and the Tier 1 capital ratio fell by 0.16 pp to 17.7%. The drop was due mainly to strong credit growth (-1.69 pp; see sections 2.3 and 2.4). It was offset by a rise in capital from profit<sup>3</sup> (+0.84 pp) and a drop in aggregate risk weights (+0.78 pp). For the Czech banking sector, Tier 1 is almost identical to Common Equity Tier 1, i.e. the highest-quality component of capital.

#### ...but 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%),<sup>4</sup> a requirement based on the supervisory review and evaluation process in Pillar 2<sup>5</sup> (an average of 1.7% on aggregate) and capital buffers (see section 5.2). Most banks meet the overall capital requirement by a sufficient margin. The capital surplus of systemically important banks amounts to CZK 57 billion (3.3 pp) and that of other banks to CZK 49 billion (7.8 pp; see Table III.1). Together with the profitability achieved, it creates good conditions for lending to the real economy. The capital surplus of two banks was lower than 2 pp at the end of 2016 (see Chart III.3).

#### ...although this space may decrease...

Under the conservative assumption of a constant level of capital, risk weights and the Pillar 2 requirements, together with banks' plans for future loan amounts<sup>6</sup> (average credit growth of 7% a year), the capital surplus would decline from CZK 106 billion (4.5 pp) at the end of 2016 to around CZK 67 billion (2.7 pp) at the end of 2017 (see Chart III.2). Systemically important banks would record a drop from CZK 57 billion (3.3 pp) to CZK 34 billion (1.9 pp) and other banks from CZK 49 billion (7.8 pp) to CZK 33 billion (5.0 pp). Even 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. It will also be impacted by the implementation of IFRS 9, which may, according to a CNB survey, lower the capital ratio of domestic banks by up to 50 bp (see section 5.4.2). The intensity of the impact will be influenced by the EC's decision on the approach to its pass-through to capital over time.<sup>7</sup>

#### ...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 capital ratio does

guarantees for their liabilities) and have different business models and volatile credit portfolios. ERB bank was excluded from the entire section 3.1 due to insolvency.

3 Of the overall 2015 after-tax profit of CZK 66.5 billion, CZK 13.7 billion was transferred to retained earnings and CZK 52.8 billion was paid out as dividends.

4 The main component of the Pillar 1 capital requirement is the requirement for credit risk (6.9%).

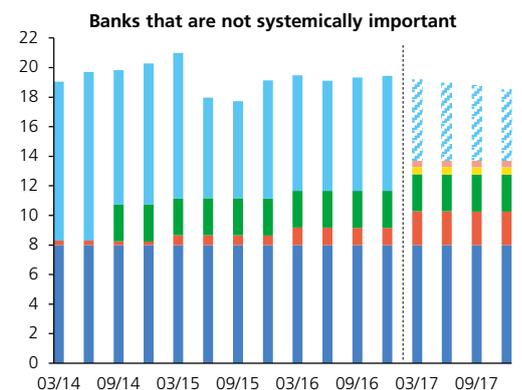
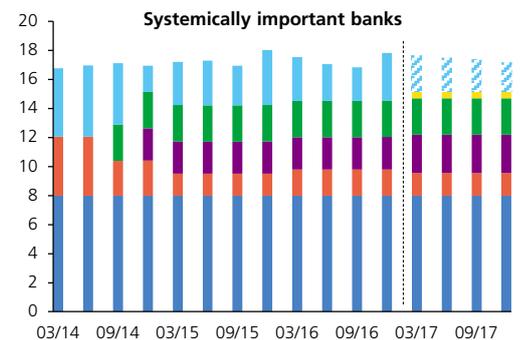
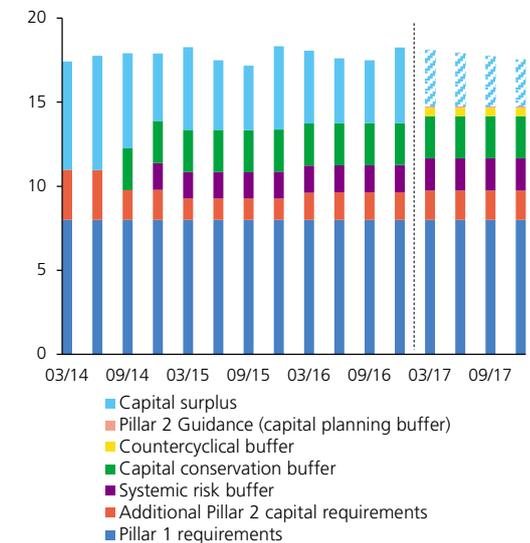
5 They cover other risks that Pillar 1 does not fully take into account for the given bank. The number of banks with additional Pillar 2 capital requirements will increase from 7 to 17 as of 2017.

6 The data are from the statement "Bank financing plans" (FPSIFE10).

7 The EC is discussing a proposal to spread the impact on the capital ratio over four to five years.

CHART III.2

#### Structure of capital requirements in the Czech banking sector (%)



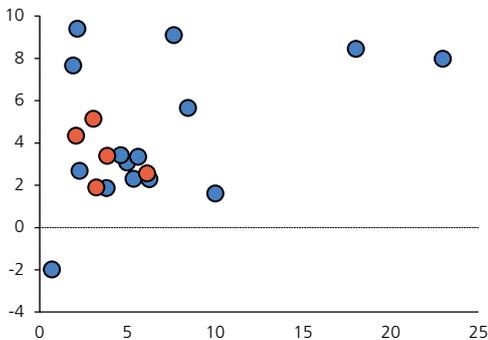
Source: CNB

Note: Due to partial overlap of the capital conservation buffer requirements with the Pillar 2 requirement, the Pillar 2 requirements have since July 2014 been adjusted for the requirements arising from the stress tests conducted for supervisory purposes. The capital surplus prediction (patterned fill) assumes constant capital and risk weights. Risky exposures are calculated on the basis of banks' assumptions about future loans, which banks report in the statement "Bank financing plans" (FPSIFE10).

CHART III.3

### Deviations from the minimum capital and leverage ratios

(x-axis: deviation of total capital ratio in pp; y-axis: deviation of leverage ratio in pp)



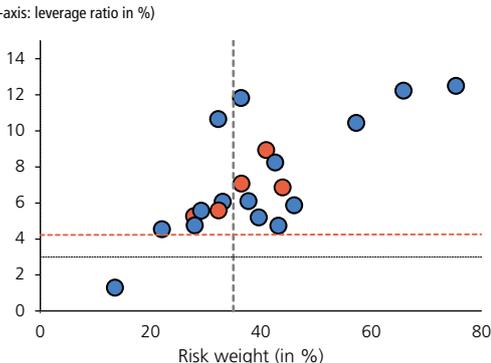
Source: CNB

Note: Systemically important banks are marked in red. Institutions that had a systemic risk buffer set as of 1 January 2017 are deemed systemically important banks. The minimum capital ratio is given by the sum of the Pillar 1, Pillar 2 and capital buffer requirements applicable to the bank as of the end of 2016 Q4. A limit of 3% is assumed for the minimum leverage ratio.

CHART III.4

### Leverage ratios and risk weights for domestic banks as of the end of 2016

(y-axis: leverage ratio in %)



Source: CNB

Note: The black horizontal line depicts the minimum leverage ratio of 3%. The red horizontal line depicts the macroprudential leverage ratio linked to the maximum systemic risk buffer applying to systemically important banks (red dots) as of the end of 2016. The vertical line depicts the critical risk weight, which determines the interconnectedness of the capital buffers and the macroprudential leverage ratio.

not fall below the Pillar 1 and Pillar 2 capital requirements (the total capital requirement). In individual cases, however, it implies that some banks might not be able to satisfy the total capital requirement in the scenario. A total of 12 banks would fall below its threshold, three of which are systemically important. The CNB takes stress test results into account in the assessment of capital adequacy in the SREP.

### Bank capital regulation will be complemented by a leverage ratio requirement in 2018...

The leverage ratio sets a minimum ratio of capital to total exposures, regardless of their risk level. It thus reduces the model-based risks of the IRB approach to setting the capital requirement for credit risks and leverage. The relationship between the capital and leverage ratios is complementary. The capital requirement will be determined by either the capital ratio requirement or the leverage ratio requirement depending on which is higher in absolute terms. The proposed minimum limit for the leverage ratio as from 2018 is 3% of Tier 1 capital.<sup>8</sup> Institutions have already started to calculate, report and publish the leverage ratio. All but one were compliant with the limit at the end of 2016, although there was significant heterogeneity among them (see Chart III.3). Following a moderate increase in 2014 and 2015, the sector's leverage ratio fell by 0.5 pp to 7.1% in 2016 (see Chart III.5). The decline was due to growth in total exposures (-0.8 pp), while growth in the sector's capital had a favourable effect (+0.3 pp).

### ...to which a macroprudential component can be added

According to the ESRB handbook, the minimum leverage ratio requirement, which is analogous to the Pillar 1 capital requirement, can be complemented by a macroprudential component<sup>9</sup> and thus also take capital buffers into account (see Chart III.4). Within the EU, however, this is only applied in the UK.<sup>10</sup> The use of a macroprudential component of the leverage ratio ensures that the role of the leverage ratio as a complementary tool to risk-weighted capital requirements is not weakened when capital buffers are applied.<sup>11</sup>

### The aggregate risk weights for exposures under the IRB approach fell, due in part to changes in the composition of bank assets

The aggregate risk weights<sup>12</sup> set by means of internal models (IRB) for CZK 4.1 trillion worth of exposures<sup>13</sup> (i.e. 73% of the sector) fell by

8 According to the EBA proposal (2016): *EBA Report on the Leverage Ratio Requirements under Article 511 of the CRR*.

9 For details see ESRB (2015): *The ESRB Handbook on Operationalising Macro-prudential Policy in the Banking Sector*.

10 For details see BoE (2014) *The Financial Policy Committee's review of the leverage ratio*, [http://www.bankofengland.co.uk/financialstability/Documents/fpc/fs\\_1rr.pdf](http://www.bankofengland.co.uk/financialstability/Documents/fpc/fs_1rr.pdf). Outside the EU, a form of the macroprudential leverage ratio is used in the USA and Switzerland.

11 For details about the role of the leverage ratio, its macroprudential component and its relationship to the capital ratio, see Pfeifer et al. (2016): *The Role of the Leverage Ratio in Capital Regulation of the Banking Sector*, Financial Stability Report 2015/2016.

12 The analysis of risk weights uses data on implicit risk weights. These are calculated as the weighted value of the exposure divided by the initial value of the exposure according to the COREP single European reporting framework.

13 Including CZK 0.8 trillion worth of exposures to the CNB.

1.4 pp to 34.7% in 2016 (see Chart III.5).<sup>14</sup> Roughly one-half of this fall was due to a change in the ratios of the individual exposure categories in banks' assets. In terms of exposure categories, a year-on-year decline in average risk weights was observed for retail exposures (non-SME) secured by property<sup>15</sup> (of 1.5 pp), other non-SME retail exposures (of 0.5 pp) and exposures to institutions (of 3.7 pp) (see Chart III.6). By contrast, the average risk weights for corporate exposures and exposures to central governments and central banks rose slightly (by 0.2 pp in both cases).

### In good times, the IRB approach may not capture the level of exposure risk accurately

For exposures under the IRB approach, a long-term favourable economic development may make banks' internal models insufficiently robust due to a low default frequency. It may thus lead to underestimation of banks' actual exposure risk.<sup>16</sup> This effect may currently be occurring in some domestic banks, particularly in the case of retail exposures secured by property. The average and median risks weights for this category of exposures dropped between 2014 Q1 and 2016 Q4 and the difference between the individual banks simultaneously increased (see Chart III.7). Heterogeneity across banks is significant mainly with regard to the fact that the risk level in mortgage portfolios under the IRB approach should be similar.<sup>17</sup> Potentially insufficient creation of capital for mortgage loans may amplify the risks associated with the current developments in the residential property market (see sections 2.2 and 5.3).

### The STA approach implies constant risk weights for the individual exposure categories

The aggregate risk weights for exposures worth CZK 1.5 trillion<sup>18</sup> (27% of the sector's exposures) under the standardised approach to setting risk weights (STA) dropped by 4.1 pp to 36.9% in 2016 (see Chart III.5). The risk weights of the individual exposure categories are laid down in a regulation and show hardly any changes.<sup>19</sup> The long-term decline in aggregate risk weights is thus due to growth in the share of exposures to central governments and central banks, whose risk weights are close to zero, and exposures secured by property, whose risk weights are relatively low. The share of corporate and retail exposures, whose risk weights are higher, is conversely falling.

### The NPL ratio dropped further and NPL quality improved in 2016

The ratio of non-performing loans (NPLs) to total loans, expressing the quality of banks' loan portfolios, went down by another 0.7 pp in 2016,

<sup>14</sup> In the long term, however, the aggregate risk weights for exposures under the IRB approach remains relatively stable. They have been between 33% and 36% since 2013.

<sup>15</sup> These consist almost exclusively of mortgage loans.

<sup>16</sup> The risk weights for exposures under the IRB approach should be set so as to reflect the actual level of credit portfolio risk. The aforementioned underestimation of risk is thus reflected in an insufficient risk weight level.

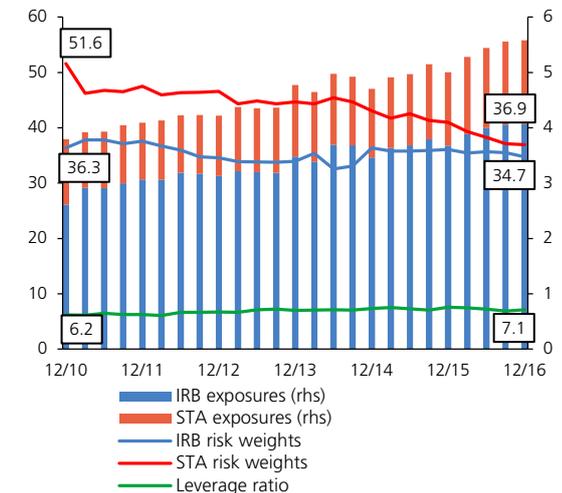
<sup>17</sup> The banks and building societies using the IRB approach to set risk weights for retail exposures secured by property are all large and universal mortgage loan providers operating at the national level.

<sup>18</sup> Including CZK 0.3 trillion worth of exposures to the CNB.

<sup>19</sup> A change may be brought in this area in the future by the introduction of a BIS proposal (*Revisions to the Standardised Approach for credit risk – second consultative document*, December 2015), which should lead to some variability of risk weights in one exposure category under this approach as well.

CHART III.5

Aggregate risk weights, the leverage ratio and the size of banks' credit exposures  
(%; right-hand scale: CZK trillions)

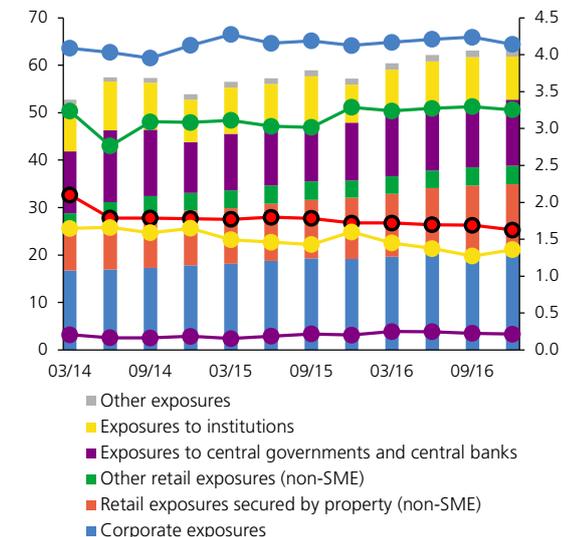


Source: CNB

Note: Data are not available for the Basel III leverage ratio until the start of 2014. Until 2013 (inclusive), the leverage ratio is proxied by a simplified leverage ratio calculated as Tier 1 capital/total assets. In contrast to the Basel III leverage ratio, the simplified leverage ratio does not take into account off-balance-sheet items.

CHART III.6

Average risk weights and the size of the main categories of exposures under the IRB approach  
(%; right-hand scale: CZK trillions)

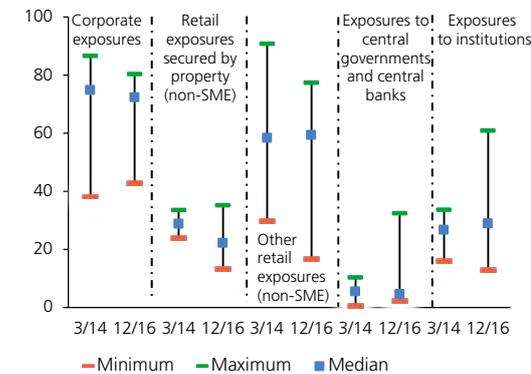


Source: CNB

Note: The points connected by lines denote the size of the risk weights for individual categories of exposures (left-hand scale). The height of the columns denotes the size of the exposure (right-hand scale). The colour coding of the points corresponds to the colour coding of the columns.

CHART III.7

### Risk weights by exposure category for banks applying the IRB approach (%)

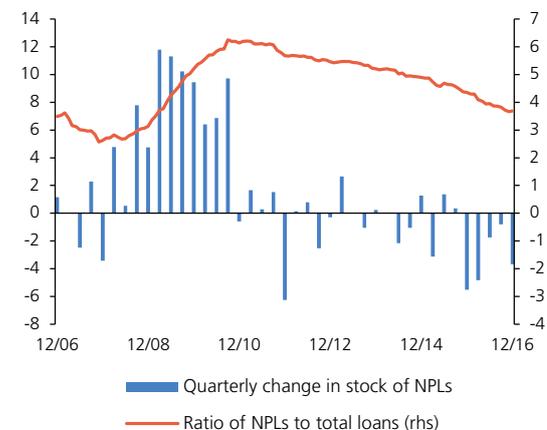


Source: CNB

Note: Nine banks and building societies applying the IRB approach to set risk weights for at least part of their credit portfolios were included in the analysis. Banks that have exposures of less than CZK 1 billion in the given category were excluded.

CHART III.8

### NPLs in the Czech banking sector (client loans, CZK billions; right-hand scale: %)



Source: CNB

TABLE III.2  
Structure of NPLs (%)

	NPLs by categorisation		
	Non-standard	Doubtful	Loss
2006	38.0	17.0	45.1
2007	30.6	16.9	52.5
2008	30.9	14.5	54.6
2009	38.5	20.0	41.5
2010	38.0	13.2	48.8
2011	32.3	13.9	53.8
2012	29.4	12.2	58.5
2013	27.5	12.1	60.3
2014	29.0	10.5	60.5
2015	32.9	9.3	57.8
2016	34.6	9.1	56.3

Source: CNB

reaching 3.7% at the year-end (see Chart III.8).<sup>20</sup> Thanks to a positive trend lasting since 2010, the NPL ratio neared the historical low recorded in 2007. The decrease in the ratio was again achieved through a combination of growth in total loans and an absolute decline in NPLs.<sup>21</sup> In the case of resident loans, the NPL ratio dropped by 0.9 pp to 3.2% for households and by 0.5 pp to 4.9% for non-financial corporations. As regards non-resident loans, the NPL ratio decreased by 0.4 pp to 5.5%. The NPL structure also improved again. The ratio of loans in the non-standard category rose at the expense of the ratios in the two worse categories (see Table III.2).

### NPL coverage by provisions increased and currently seems sufficient

The overall coverage of NPLs by provisions stood at 56.5% at the end of 2016, up by 1.7 pp year on year (see Chart III.9). As part of a prudent approach to credit risk management, banks should set aside sufficient NPL provisions to cover future total losses on current NPLs. From the financial stability perspective, the amount of provisions should also be sufficient in the event of a substantial worsening of the economic situation. For this reason, a sectoral analysis was conducted to compare the NPL coverage ratio with the current NPL loss rate<sup>22</sup> and the NPL losses expected in the *Adverse Scenario* of the macroprudential stress tests (LGD, see section 4.1). The average NPL coverage ratio was 53% for loans to non-financial corporations and 64% for loans to households at the end of 2016. In both cases, the ratio is sufficient for the current NPL loss rate, which is 28% for loans to non-financial corporations and 38% for loans to households. If the *Adverse Scenario* of the macroprudential stress tests were to materialise, the coverage ratio for loans to households would be sufficient, with the average NPL loss rate rising to 58%. It would only narrowly fail to cover losses on loans to non-financial corporations, where the average NPL loss rate would reach 56%. The switch to the new IFRS 9 standard will probably lead to a one-off increase in provisions (of up to 20% compared to the current situation according to the CNB survey; see section 5.4.2), which may also positively affect the NPL coverage ratio.<sup>23</sup>

### The risk of concentration of credit exposures associated with the property market is rising

Loans provided to households for house purchase and loans provided to non-financial corporations engaged in real estate activities<sup>24</sup> rose by CZK 116 billion to CZK 1,344 billion in 2016 (see Chart III.10). Their share

<sup>20</sup> The figure includes both resident and non-resident loans.

<sup>21</sup> The drop in NPLs in 2016 was also partly due to write-offs of such loans from banks' balance sheets. However, the supply of new NPLs in 2016, calculated by adjusting for the write-off effect, was lower than in 2015 and 2013 and only slightly higher than in 2014.

<sup>22</sup> 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).

<sup>23</sup> Depending on how the one-off increase is distributed between provisions for performing and non-performing loans.

<sup>24</sup> This category also includes developers, but excludes the construction industry.

in total loans to the private non-financial sector has increased by 13.4 pp to 58% since the end of 2008. The banking sector's vulnerability given adverse developments in the property market has thus long been rising.<sup>25</sup> The risks associated with the property market and house purchase loans are described in detail in sections 2.2, 2.4, and 5.3.

### The profitability of the banking sector remains high

The banking sector turned in a profit of CZK 74.7 billion in 2016, a rise of 12.4% on a year earlier. It was significantly affected by a one-off profit from the sale of a stake in VISA Europe. Adjusted for this transaction<sup>26</sup> the growth amounted to 4.0%.<sup>27</sup> The Czech banking sector has long been profitable and its profitability exceeds the euro area average.<sup>28</sup> RoA was 1.3%, up by 0.1 pp on a year earlier. Despite the broadly positive profitability trend, large differences persist across the groups of banks<sup>29</sup> (see Chart III.11). The profitability of large banks and foreign bank branches was flat. The largest growth in profitability was re-reported by medium-sized banks (of 0.3 pp to 1.7%), followed by small banks (of 0.2 pp to 0.4%). Building societies recorded an increase in RoA, the first in seven years, although this was partly due to an absolute drop in their total assets of 3.2%. The current situation in the building societies sector and its potential risks to financial stability are analysed in Box 1.

#### BOX 1: THE CURRENT SITUATION IN THE BUILDING SOCIETY SECTOR AND POTENTIAL RISKS TO FINANCIAL STABILITY

In the current market conditions, building societies are becoming less competitive than banks and their market share is shrinking (see Chart III.1 Box). In an environment of very low interest rates, they are unable to respond flexibly to market developments, mainly because of legal restrictions.<sup>30</sup> Low bank mortgage rates

25 In addition, the default rate of non-financial corporations engaged in real estate activities is highly sensitive to the financial cycle (for details see the article *Credit Portfolio Sector Concentration and its Implications for Capital Requirements* in FSR 2014/2015).

26 We expect the gains on realised financial assets to be at the 2015 level.

27 Domestic banks' profit also includes dividends paid by subsidiaries. They totalled CZK 7.7 billion in 2015 and rose markedly to CZK 11.9 billion in 2016. If we also excluded dividend profit from the calculation in addition to the sale of the stake in VISA Europe, the banking sector's profitability would be flat in year-on-year terms.

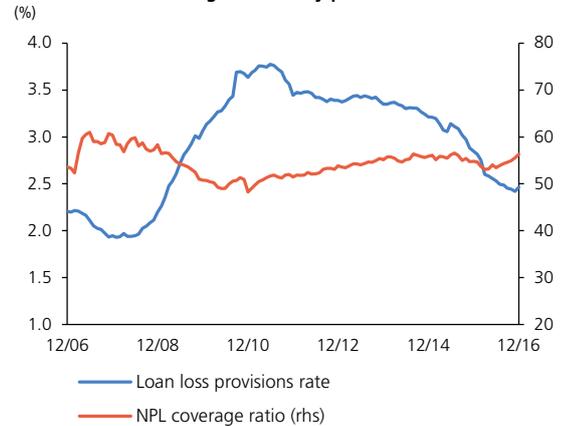
28 See CNB (2016): *Analyses of the Czech Republic's Current Economic Alignment with the Euro Area*, p. 100.

29 According to the current CNB methodology, banks having total assets of over 10% of the banking sector's total assets are regarded as large banks, banks having total assets of 2%–10% of the banking sector's total assets are regarded as medium-sized banks and banks having total assets of less than 2% of the banking sector's total assets are regarded as small banks.

30 These include a guaranteed deposit rate for six years, a guaranteed interest rate on any future regular loan at the time the building savings contract is signed, and a requirement to invest free (unlent) funds only in mortgage bonds, government bonds, bonds guaranteed by the state and bonds issued by OECD financial institutions or to deposit them at banks.

CHART III.9

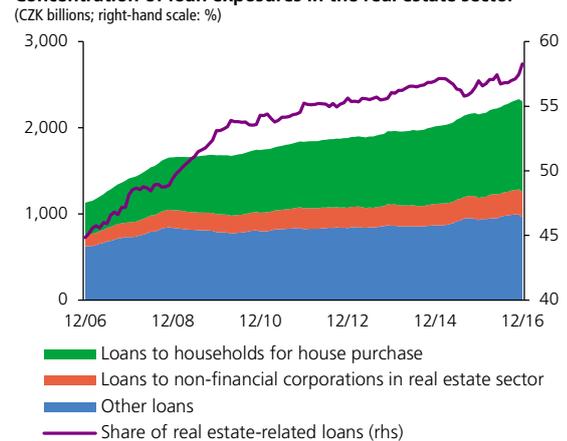
#### Provisions and coverage of NPLs by provisions



Source: CNB

CHART III.10

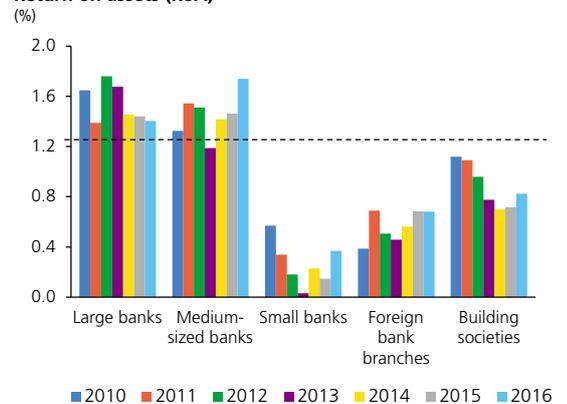
#### Concentration of loan exposures in the real estate sector



Source: CNB

CHART III.11

#### Return on assets (RoA)

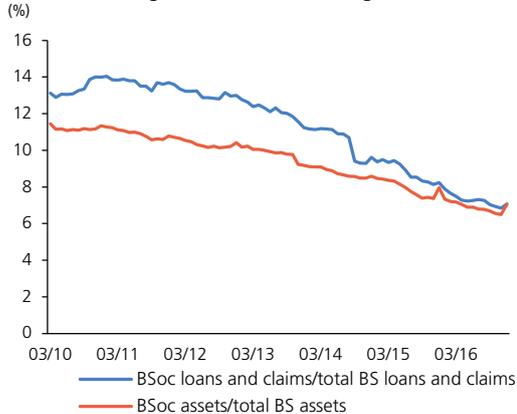


Source: CNB

Note: The classification of banks by asset size relates to the year for which the RoA value is reported. The horizontal line depicts the RoA value for the banking sector as a whole for 2016.

CHART III.1 Box

## Share of building societies in the banking sector

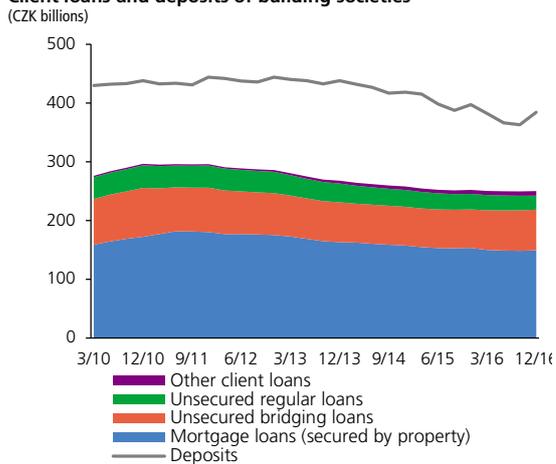


Source: CNB

Note: BSoc = building societies, BS = banking sector.

CHART III.2 Box

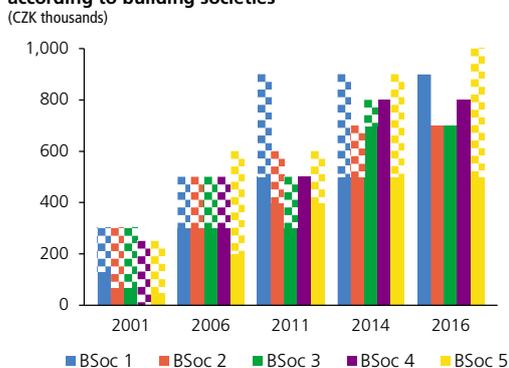
## Client loans and deposits of building societies



Source: CNB

CHART III.3 Box

## Maximum bridging loan provided without property security according to building societies



Source: Building societies, public sources

Note: BSoc = building society. The solid part depicts the maximum loan amount without a guarantor and property security. The patterned part depicts the maximum loan amount with 1-2 guarantors without property security.

are fostering a drop in demand for regular building society loans and loans secured by property (see Chart III.2 Box). High deposit rates<sup>31</sup> are limiting building societies' ability to compete with banks in rates on secured loans and also reducing their profitability (see Chart III.11).

Building societies are responding to the current market conditions by changing their business strategy towards the provision of loans not secured by property (unsecured loans). These are a credit product with potential for higher interest rate profit but at the same time higher credit risk. The maximum individual unsecured loan amount set in building societies' internal rules has been gradually rising (see Chart III.3 Box). At the same time, the requirements applying to the provision of security by guarantors have been relaxed compared to the past. The predominant form of credit provided is a bridging loan, for which clients are not obliged to prove their ability to save a corresponding amount in the long term before the loan is provided.<sup>32</sup> The risks pertaining to unsecured or bridging loans are not acute. However, this clearly represents a shift towards taking on greater risks.

The rising unsecured loans limits are a potential risk to financial stability. The use of these loans to finance part of the property purchase price in cases where banks do not provide a loan for the entire purchase price due to LTV limits is a source of additional risk. The CNB will therefore closely watch practices in this area and expects building societies' internal credit risk management systems to take sufficient account of the shift towards unsecured loans.

## Interest profit and fee and commission profit continue to fall...

Interest profit remains the main component of profit (see Chart III.13). It declined by 0.8% year on year, with interest income falling more than interest costs in absolute terms (see Chart III.12). The ratio of interest profit to total assets is at its lowest level since 2007 (see Chart III.14) despite the positive effect of growth in new loans. The downward trend in fee and commission profit (of 6.5%) is also continuing, reflecting persisting competitive pressure in the loan, deposit and other banking services markets.

## ...but this fall is being offset by a drop in costs

Banks are maintaining their profit levels with relative cuts in operating costs, aided by low asset impairment expenses. Administrative expenses are increasing over time, but relative to total assets they are at their lowest level since 2007 (see Chart III.14). The cost-to-income ratio

31 The average deposit rate of building societies was 1.53% in December 2016, while that of banks was 0.13%.

32 Long-term saving is one of the characteristic features of the concept of building savings.

dropped by 0.8 pp year on year to 43.5%. The declining asset impairment losses are linked with the favourable phase of the business cycle and a falling NPL ratio (see Chart III.8). At the end of 2009, when they peaked, impairment losses plus provisions accounted for 0.7% of assets, whereas in the same period of 2016 they represented only 0.2% of assets (see Chart III.14).

#### Risks to profitability are linked with a drop in interest margins...

Interest profit is being adversely affected by a decline in interest margins on new loans observed since 2009 (see Chart III.15). The margin on new loans to households for house purchase was 2.2 pp at the end of 2017 Q1, having risen by 0.1 pp in the first three months of 2017. The margin on new loans to non-financial corporations has stabilised in recent years and stood at 2.2 pp at the end of 2017 Q1. Interest income can be expected to be adversely affected for some time to come by gradual refixation and refinancing of mortgage loans, which will cause the average interest margin on the stock of such loans to move closer to that on new loans, which is significantly lower. The intensity of this effect will depend on the future path of interest rates.<sup>33</sup>

#### ...particularly on consumer credit...

The ratio of interest income from consumer credit to total client interest income rose from 25.1% to 35.7% between 2008 and 2016 (see Chart III.16). This was due to a high margin (10.0 pp) compared to other types of credit and a stable share in the total client loans of slightly above 10% (see Chart III.16). The continuing downward trend in interest margin on consumer credit, which started in 2014 (see Chart III.15), may have an adverse effect on interest income, particularly if it were accompanied by stagnation or only a slight rise in consumer loans.

#### ...and a change in the phase of the business and financial cycle

Risks to profitability are also linked with the business and financial cycle. Any drop in growth of new loans and deterioration in asset quality, coupled with growth in impairment losses in a downward phase of the cycle, could lead to a decrease in profitability and simultaneously in the capital ratio.<sup>34</sup> For this reason, it is appropriate to use the current period of favourable developments associated with high profitability to raise banks' capitalisation.

#### The liquidity position of banks remains good, but maturity mismatch is widening

The banking sector has long had a good liquidity position. The ratio of quick assets to total assets rose by 2.4 pp year on year to 34.4% at the end of 2016. The ratio of client deposits and loans also remains high, having risen by 1.1 pp to 127.7% year on year. Client deposits and loans continue to be denominated mostly in Czech koruna (88.6% and 80.4% respectively), but the slight upward trend in the share of foreign currency loans continues (0.9 pp year on year, see section 2.3). The Czech banking

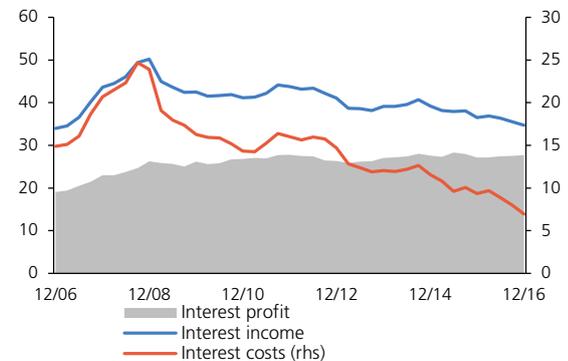
<sup>33</sup> The average refixation period for mortgage rates was five years at the end of 2016 (see Chart II.45). The difference in the average margin on house purchase loans between mid-2012 and the end of 2016 was 1.3 pp.

<sup>34</sup> Due to an increase in the risk weights for NPLs of IRB banks.

CHART III.12

#### Decomposition of interest profit

(quarterly contributions in CZK billions)

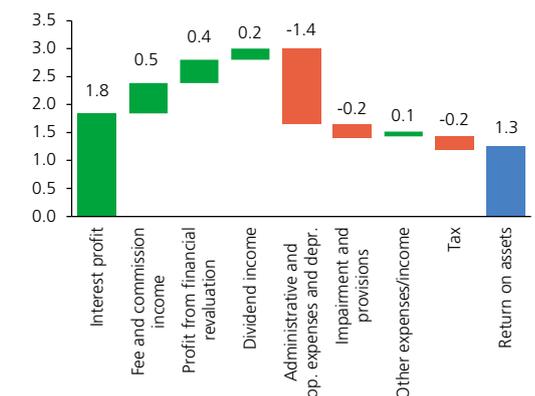


Source: CNB

CHART III.13

#### Decomposition of return on assets

(%)



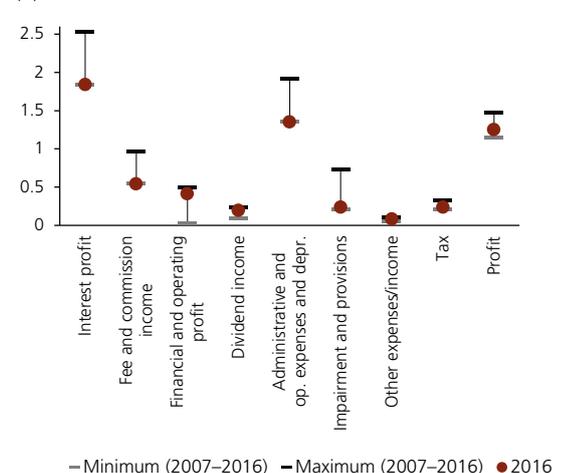
Source: CNB

Note: The given value represents the ratio of the given type of income/expense to the level of assets.

CHART III.14

#### Volatility of ratios of income and expense items to assets

(%)

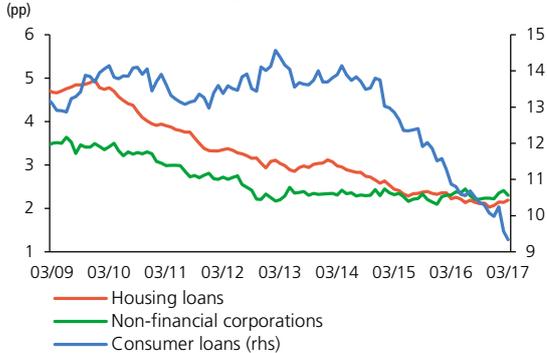


Source: CNB

Note: The given value represents the ratio of the given type of income/expense to the level of assets.

CHART III.15

## Czech banks' interest margins on new loans

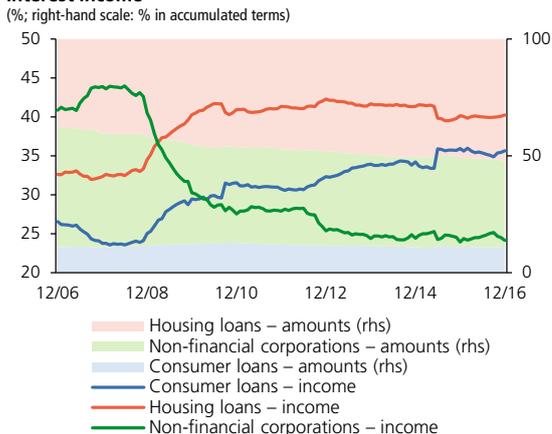


Source: CNB

Note: The margin is calculated as the difference between the average client loan rate for the sector and the average client deposit rate. The non-financial corporations item excludes revolving loans and credit cards.

CHART III.16

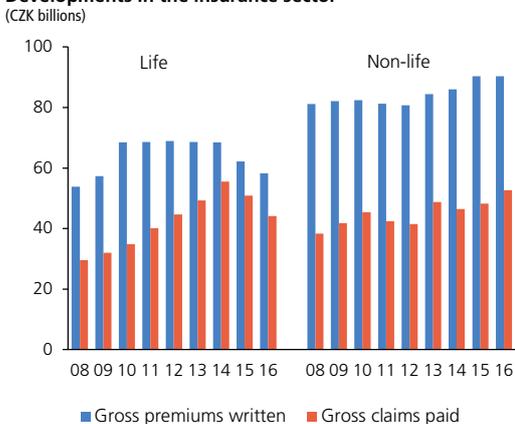
## Shares of individual loan types in total amounts and total interest income



Source: CNB

CHART III.17

## Developments in the insurance sector



Source: CNB

sector also has a high liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) – see section 4.2. The high ratio of quick assets to total assets is increasing both these indicators. The NSFR is being favourably affected by a high share of retail deposits in liabilities, which are regarded as a stable funding source. Despite the good liquidity position of the domestic banking sector, the ratio of liabilities payable on demand to total liabilities kept rising (by 3.1 pp to 78.6%), as did the ratio of long-term loans with maturity of over five years to total loans (by 0.5 pp year on year to 74.9%).

### Tighter prudential rules are leading to changes in the credit union segment.

Act No. 333/2014 Coll. restricts the activities of credit unions with total assets exceeding CZK 5 billion from 1 January 2018. Structural changes are occurring as the date of effect of the relevant section of the law approaches. Creditas, the largest credit union, with total assets representing one-third of the segment, was converted into a bank on 1 January 2017. The rest of the segment is showing significantly riskier credit characteristics (see Table III.3). The CNB has therefore been paying increased attention to credit unions, the risks pertaining to them, and the conversion process.

## 3.3 INSURANCE COMPANIES

### The business structure of the domestic insurance sector was broadly unchanged

The developments seen in 2016 were in line with the trends observed in previous years. Premiums written and claim settlement costs in life insurance declined year on year (by CZK 3.9 billion and CZK 6.8 billion respectively). Gross premiums written in non-life insurance were unchanged from a year earlier, while claim settlement costs rose by CZK 4.5 billion year on year (see Chart III.17). The profitability of the insurance sector went up in year-on-year terms, mainly as a result of an improvement in the technical account for non-life insurance.<sup>35</sup> Life insurance is still insurance companies' main source of profit (see Chart III.18). The structure of insurance companies' investments remains conservative, although the share of Czech government bonds declined in 2016 due to their negative yields.<sup>36</sup> A continuing low-yield environment is leading to a fall in clients' interest in life insurance products with an investment component. Products with guaranteed returns are currently only offered in a variant guaranteeing non-negative returns. Interest in unit-linked life insurance is also falling, albeit at a slower pace than in the case of guaranteed products. Its share in technical provisions for life insurance is thus increasing (see Chart III.18, right-hand scale). By contrast, clients' interest in term life insurance without an investment component is rising.

<sup>35</sup> The improvement in the technical account for non-life insurance, achieved despite flat gross premiums written, was due to the difference between written and earned premiums as well as other factors, such as a decline in the loss ratio (there were no major catastrophic events in 2016), a drop in administrative expenses in non-life insurance and a change in the amount of partial reserves.

<sup>36</sup> At the end of 2016, Czech government bond yields were negative for maturities of up to six years (see section 2.1).

### The insurance sector remains stable, as confirmed by stress test results

The contribution of the domestic insurance sector to systemic risk is not significant at present.<sup>37</sup> The main sources of risk in non-life insurance include the risk of insufficient premiums due to increased competition (particularly in motor vehicle third party liability insurance) and the risk of growth in damage (as a result of natural disasters, for example). In life insurance, risks associated with the asset side of the balance sheet predominate: the risk of an adverse shock in the form of a fall in investment value and the risk of sustained low investment yields, which would not cover liabilities arising from life insurance. The CNB evaluates domestic insurers' resilience to all these risks in regular stress tests. A joint stress test was conducted by EIOPA, the CNB and the largest domestic insurance companies in 2016. The results<sup>38</sup> showed that the domestic insurance sector has sufficient capital in aggregate terms. Its solvency ratio remained sufficiently high above the 100% regulatory minimum even after the application of shocks in all the stress scenarios considered in the test (see Chart III.19). In 2017, the CNB in partnership with domestic insurance companies is conducting its own stress test based on the *Adverse Scenario* (see section 2.1). The aggregate results will be published on the CNB website in 2017 H2.

### 3.4 THE NON-BANK FINANCIAL SECTOR EXCLUDING INSURANCE COMPANIES

#### The importance of institutional investors in households' balance sheets is increasing

The relative share of investment and pension funds in Czech households' balance sheets increased in 2016 (see Chart III.20). On the one hand, this reflects structural changes (general growth in the wealth of Czech households). At the same time, it is due in part to households' efforts to achieve higher returns than those on bank deposits. The aggregate return on investment in collective investment funds was 2.4% in 2016 and the average remuneration of time deposits at banks was 1.2%. However, the above trend is simultaneously associated with increased sensitivity of the value of households' financial assets to financial market developments. Households' investments in domestic investment funds rose by 18.2% year on year to CZK 239 billion and those in foreign investment funds by 4.5% to CZK 136 billion. Households' investments in pension funds also recorded significant growth of CZK 29.7 billion (8.5%) to CZK 381 billion. Households' deposits in the domestic banking sector rose by 8.4%, or CZK 172 billion in absolute terms, to CZK 2,200 billion. Their bank deposits abroad fell by CZK 0.8 billion year on year to CZK 151.7 billion and may have been partly affected by the expected appreciation of the Czech koruna after the exit from the exchange rate commitment. Investments in insurance products returned to absolute growth (of 2.2% to CZK 322 billion) following two years of decline.

37 See the article Dvořák, Hausenblas, Gronychová and Komárková (2016): *Could the Czech Insurance Sector Be a Source of Systemic Risk?* in FSR 2015/2016.

38 Detailed results are published on the CNB website: [http://www.cnb.cz/en/financial\\_stability/stress\\_testing/stress\\_testing\\_insurance\\_sector.html](http://www.cnb.cz/en/financial_stability/stress_testing/stress_testing_insurance_sector.html)

TABLE III.3

Selected structural indicators of the credit union segment  
(%; credit unions active as of 31 December 2016)

	4Q 2015		4Q 2016			Banks
	CU	Banks	CUs with assets < CZK 5 billion	CUs with assets > CZK 5 billion	Converted CUs as of 1 Jan. 2017	
Assets (CZK billions)	32.3	5,461	11.8	10.6	11.7	5,961
Client NPL ratio	27.5	5.9	30.2	30.6	12.3	4.9
Quick assets/total assets	16.9	29.3	21.9	6.0	16.0	25.8
Coverage of NPLs by provisions i	18.2	46.3	15.4	14.2	28.3	49.5
Tier 1 capital ratio	15.1	17.9	21.4	14.9	13.3	17.9
RoE	-0.4	16.2	-2.5	1.6	-1.2	17.5

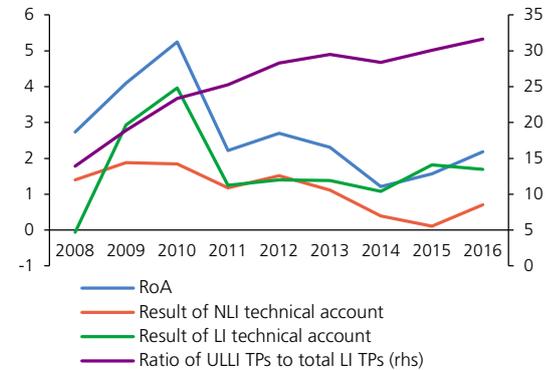
Source: CNB

Note: The accounting period is not unified across the credit union segment, so the relevant data were annualised for some institutions. Liquid assets are assets pursuant to Article 416. Any inconsistency with figures in other parts of this section is linked with different approaches to the inclusion of the figures for Czech Export Bank and the Czech-Moravian Guarantee and Development Bank.

CHART III.18

#### Profitability of insurance companies

(% of assets; right-hand scale: % of total LI TPs)



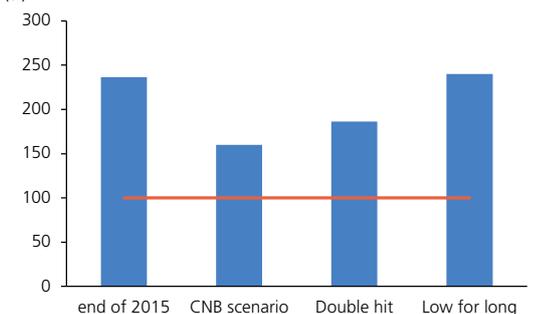
Source: CNB

Note: LI = life insurance, NLI = non-life insurance, ULLI = unit-linked life insurance, TPs = technical provisions.

CHART III.19

#### Solvency ratio for the adverse development scenarios

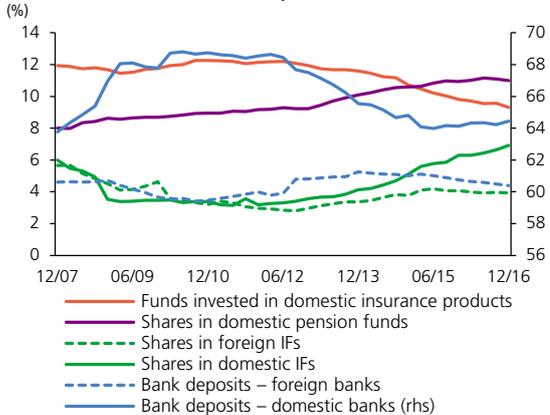
(%)



Source: CNB

Note: The 100% value represents regulatory minimum.

CHART III.20

**Structure of the main financial products in households' assets (%)**

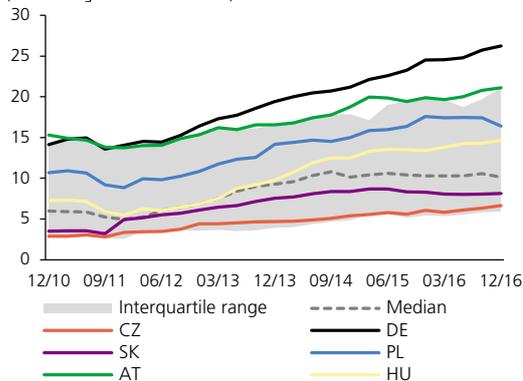
Source: CNB

Note: Holdings of financial products of foreign insurance companies and pension funds were negligible and are therefore not depicted. The main financial products comprise bank deposits, shares in investment and pension funds and life and non-life insurance claims on insurance companies.

CHART III.21

**Comparison of the ratio of investment fund financial assets to bank financial assets**

(% of banking sector financial assets)



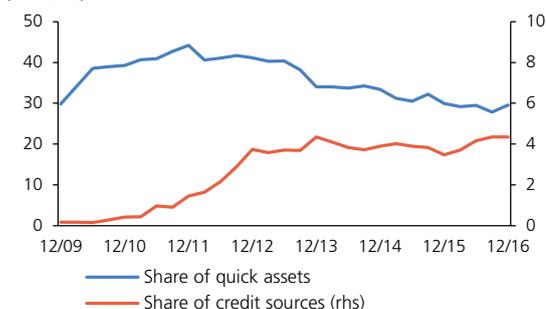
Source: ECB, CNB calculation

Note: The grey area represents the interquartile range from a sample of 23 EU countries; EU, BG, DK, HR, SE and UK are excluded due to data unavailability.

CHART III.22

**Liquidity mismatch and share of credit sources of investment funds**

(% of assets)



Source: CNB

Note: Quick assets comprise cash, claims (including bank deposits) payable on demand and government bonds. The share of quick assets relates to collective investment funds while the share of credit sources relates to all investment funds

However, their relative importance in households' balance sheets continues to decrease (see Chart III.20).

**Assets managed by domestic investment funds are increasing**

The assets of domestic investment funds rose by 18.4% in 2016, to CZK 401.7 billion. This is in line with the growth rate recorded in the previous years (16.5% in 2015 and 18.8% in 2014). Investment funds were thus the fastest growing segment of the domestic financial sector in 2016 (see Chart III.1). Despite the strong growth, however, domestic investment funds remain a less significant segment compared to other countries (see Chart III.21). New purchases of investment fund units (particularly by households and non-residents) accounted for 92% of the year-on-year growth in assets, and growth in the value of the existing units for about 8%. As regards the structure of assets, the relative share of domestic and foreign shares, equity and other investment fund shares increased (see Chart II.17). Some change in trend was observed in the first two months of 2017, when bank deposits in investment funds' assets rose by CZK 17.5 billion, while foreign currency investments dropped by CZK 6 billion. This partially reflected the expected appreciation of the Czech koruna after the exit from the exchange rate commitment.

**Investment funds are not increasing liquidity mismatch or the share of external resources**

Investment funds are exposed to liquidity mismatch, whereby less liquid assets are financed by highly liquid investor shares.<sup>39</sup> In the event of growth in requests by investors to exit funds, this generates a risk of sell-offs of less liquid assets and a drop in their prices, which would potentially have systemic consequences. Fund exit risk is not material for financial stability in the Czech Republic at present. However, the share of quick assets of investment funds is falling steadily and in 2016 dropped below 30% for the first time since 2008. This is due mainly to efforts to achieve higher returns on assets in a low yield environment even at the cost of lower asset liquidity. The possible liquidity mismatch risks may be exacerbated by credit financing of investment funds (and thus growth in funds' leverage). However, the share of these resources does not exceed 5% of assets in the Czech Republic (see Chart III.22).

**The importance of pension funds continues to grow**

The total assets administered by pension management companies (PMCs) continue to grow (see Chart III.23) despite a year-on-year drop in the number of planholders of 2.3% to 4.5 million. The upward trend in the share of clients with employer contributions continued. This share stood at 28.8% at the end of 2016, compared to 22.8% in March 2013. Average contributions from planholders and employers also increased (see Chart III.24). However, they are still relatively low given the ratio of the pension from the first pillar to the net average wage (64% in 2014). The upward trend in deposits and assets in the sector is therefore likely to continue.

<sup>39</sup> Investors' shares are liquid in open-end investment funds, where the fund is obliged to pay the investor an amount equal to the current value of his share on request. Assets in open-end investment funds account for more than 80% of the segment's assets in the Czech Republic.

The market risks for PMCs are increasing as savings in transformed funds<sup>40</sup> guaranteeing non-negative returns rise. Any adverse market developments may give rise to a need to cover larger losses amount.

### The sensitivity of pension companies to Czech government bond yields is increasing

Transformed funds naturally focus on bonds with low credit and exchange rate risk. The concentration of koruna government bonds in their portfolios rose further in 2016 (to CZK 278.7 billion at the year-end, which represents 72.6% of total assets) and their average duration also lengthened (from 4.3 to 4.7 years). In the event of a jump in yields, revaluation of this portfolio could lead to substantial market losses and require a top-up of PMCs' capital. The impact and the probability of materialisation of this scenario increased year on year (see the stress tests in section 4.1). The scenario of a sharp decline in the prices of Czech government bonds could materialise in the event of a mass outflow of non-residents from the koruna asset market (see section 2.1). The amount and share of Czech government bonds in participation funds' balance sheets are considerably lower and their duration is markedly shorter (1.8 years for obligatory conservative participation funds and 2.0 years for other participation funds). Other participation funds are more exposed to exchange rate risk, as they already hold more than 24% of their assets in non-resident foreign-currency units and shares.

### In addition to higher risk of asset revaluation, the year-on-year drop in resilience of PMCs is due to relatively lower capitalisation

While PMCs' capital grew by 1.2% year on year in 2016 (from CZK 8.8 billion to CZK 8.9 billion), the value of the assets in their transformed funds rose by 6.8%. The growing amount of assets and slightly riskier asset structure in terms of capital were reflected in an 8.1% rise in PMCs' capital requirement. PMCs' capital surplus thus declined year on year given the amount of assets in transformed funds, for which the companies guarantee non-zero returns. This is reducing PMCs' resilience to adverse financial market developments, as reflected by higher capital injections in this year's round of stress tests.

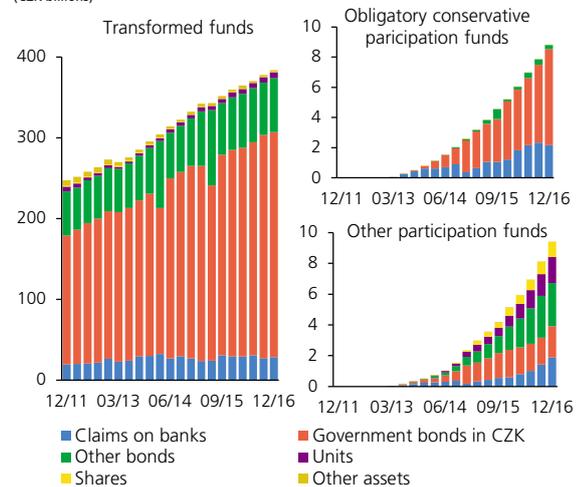
### Growth in yields is favourable from the long-term perspective

In the event of highly adverse market developments, the obligation to top up transformed funds' resources represents a substantial burden on PMCs and their owners. When the value of the transformed funds' assets rises again, the PMC may withdraw the injected funds. In the longer run, growth in yields would benefit both fund clients and PMCs, as it would enable them to achieve higher returns on new investments.

<sup>40</sup> Transformed funds account for 95.5% of the total assets of funds administered by PMCs. Participation funds, which account for the remaining 4.5% of the sector, do not offer a statutory guarantee of non-negative returns, but a number of companies provide such a guarantee at their own initiative if certain conditions are met.

CHART III.23

#### Placement of pension fund assets (CZK billions)

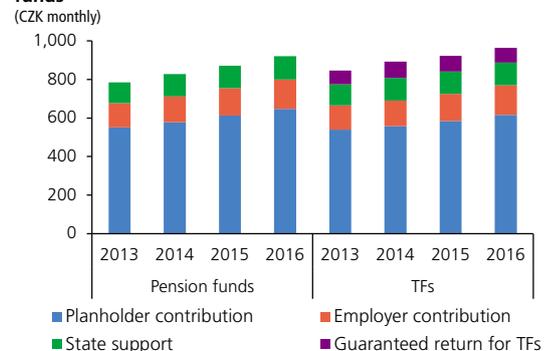


Source: CNB

Note: 3.98 million (4.26 million) transformed fund participants, 0.22 million (0.15 million) obligatory conservative participation fund participants and 0.32 million (0.22 million) other participation fund participants were registered as of the end of 2016 (2015).

CHART III.24

#### Average contributions and rates of return on assets in pension funds (CZK monthly)

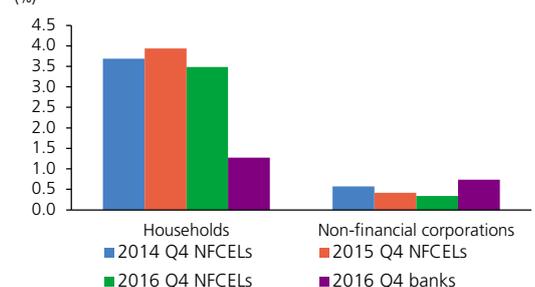


Source: CNB

Note: Guaranteed return is the amount credited to transformed funds planholders. The actual rate of return may be higher. The figure for the entire sector does not contain this item, because participation funds do not provide guarantees by law.

CHART III.25

#### 3M default rate on loans provided by credit institutions (%)



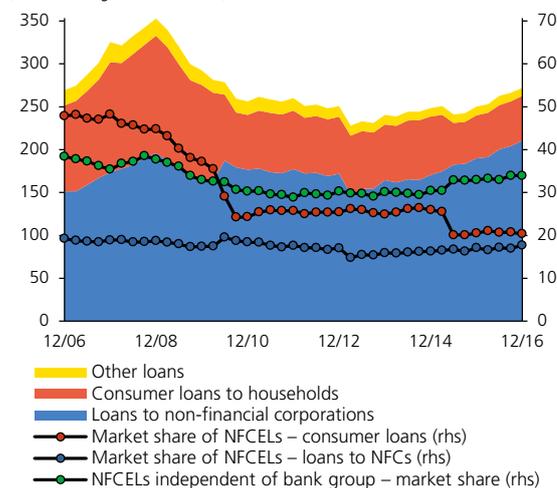
Source: CBCB, CNCB, SOLUS, CNB

Note: The default rate on loans provided to households by NFCEs is calculated as the average of the data from the NRCI and SOLUS. Only the NRCI is used for loans to non-financial corporations. Loans for consumption in the case of households.

CHART III.26

### Loans provided by non-bank financial corporations engaged in lending

(CZK billions; right-hand scale in %)



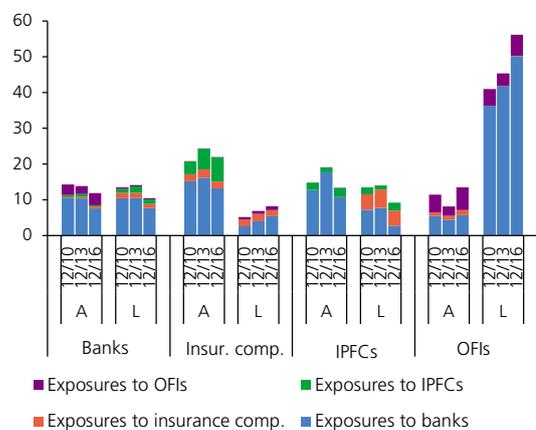
Source: CNB

Note: Market share of NFCELS in total loans provided to residents by banks and NFCELS combined. The market share of independent NFCELS relates solely to loans to residents provided by all NFCELS.

CHART III.27

### Share of exposures to domestic financial counterparties

(% financial assets and liabilities of segments)



Source: CNB

Note: A = assets, L = liabilities. IPFCs = investment and pension funds and companies. The segment of other financial intermediaries (OFIs) comprises NFCELS and non-bank security dealers. Year-end values.

### The market share of non-bank intermediaries is stable and non-bank credit to non-financial corporations continues to rise

The share of non-bank financial corporations engaged in lending (NFCELS) in the credit market has been relatively stable since 2010.<sup>41</sup> It was 17.7% for loans to non-financial corporations and around 20% for loans to households for consumption at the end of 2016 (see Chart III.26). The favourable economic developments in 2016 were reflected in year-on-year growth in loans provided to non-financial corporations of 10.8% (CZK 20.6 billion), which is above the growth rate of comparable bank loans (6% growth). Most of the non-bank loans to non-financial corporations were loans from leasing and factoring companies (87% and 8% of loans respectively). Loans to households for consumption amounted to CZK 52.2 billion (year-on-year growth of CZK 2 billion or 4.1%). Here too, leasing loans predominate (58%). NFCELS' credit risk for household loans remains similar as in previous years, but the default rate is higher at the aggregate level than in the case of banks (see Chart III.25). The default rate of loans to non-financial corporations is lower than in the case of banks, partly due to the secured nature of leasing contracts.

### 3.5 INTERCONNECTEDNESS OF THE FINANCIAL SECTOR

#### Common exposures of financial market segments could enhance the systemic impact of adverse shocks

The existence of common exposures is giving rise to a risk of potential adverse shocks having a simultaneous impact on multiple segments of the financial sector. This is resulting in growth of the systemic impacts of such shocks. Czech government bonds in the Czech Republic constitute a common exposure. Their interest rate risk is further increased by the significant share of Czech government bonds held by non-residents (see section 2.1). In the event of a sudden exodus of non-residents, a fall in government bond prices might have an adverse impact on the balance sheets of all domestic institutional investors, which could temporarily weaken the domestic financial system as a whole. In the medium term, however, growth in yields would positively affect institutional investors' profitability. Nevertheless, the relative importance of Czech government bonds in domestic financial institutions' balance sheets is decreasing (see Chart II.17).

#### The interconnectedness of domestic financial institutions' balance sheets is not increasing...

As regards balance-sheet interconnectedness, the segments of the financial sector<sup>42</sup> are interconnected through mutual exposures in the form of deposits, loans, ownership interests and other instruments. A strengthening of balance-sheet interconnectedness in the financial sector

41 The drop in the market share of loans to households for consumption in 2015 was due to the conversion of one provider into a foreign bank branch.

42 The analysis of interconnectedness covers banks, insurance companies, pension funds investment companies, investment funds, pension management 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.

could intensify the structural component of systemic risk and lead to an increased risk of the emergence and spread of financial distress across segments. However, the balance-sheet interconnectedness of the main segments of the domestic financial sector has not been increasing in recent years (see Chart III.27).

### ...with domestic banks being the main component of balance-sheet interconnectedness

Domestic banks are the main domestic financial counterparties for most segments of the Czech financial sector. From the asset perspective, this corresponds to the natural need of financial institutions to hold a certain amount of assets in liquid form. On the liability side, it reflects the position of domestic banks as an important source of both debt and equity financing of other financial entities within banking groups. Banks are an important source of financing for other financial intermediaries (OFIs, mostly NFCEs) mainly through long-term loans (32% of all OFIs' financial liabilities). However, the relative importance of these exposures to OFIs in banks' assets is small (only 2% of banks' financial assets). Besides interconnectedness through banks, insurance companies' holdings in domestic investment funds are important. However, with the exception of OFIs, the share of domestic financial counterparties in the total financial assets and liabilities of the individual segments does not exceed 25% (see Chart III.27). This reduces the risk of adverse shocks spreading across the financial sector.

### The interconnectedness of domestic banking groups was unchanged...

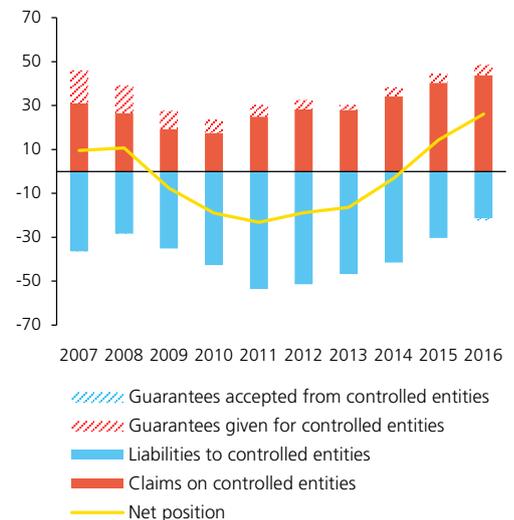
The structure of the interconnectedness of domestic banking groups continued to follow the same trend as in previous years. Banks strengthened their position of net creditor of their domestic groups (see Chart III.28). Claims on controlled entities rose by CZK 17 billion to CZK 135 billion at the end of 2016. Within their banking groups, the largest banks are in a creditor position vis-à-vis NFCEs in particular. Claims on NFCEs increased by about CZK 4 billion year on year, accounting for 72.9% of total claims on controlled entities. Liabilities, consisting mainly of excess liquidity from building society subsidiaries, dropped by CZK 22 billion to CZK 66 billion.

### ...and the net debtor position of the banking sector vis-à-vis non-residents strengthened further

The overall debtor position of the largest domestic banks vis-à-vis foreign parent companies grew by CZK 33 billion year on year to CZK 100 billion (see Chart III.29). It thus contributed to a strengthening of the net debtor position of the banking sector as a whole, which reached CZK 372 billion. However, this was due mostly to growth in deposits of non-residents outside banking groups in domestic banks connected with expectations of appreciation of the koruna after the exit from the exchange rate commitment (see section 2.1). Domestic banks placed these deposits (excess liquidity) with the CNB, so the observed developments do not give rise to systemic risks.

CHART III.28

#### Credit interconnectedness in domestic bank groups (% of regulatory capital of domestic parent banks)

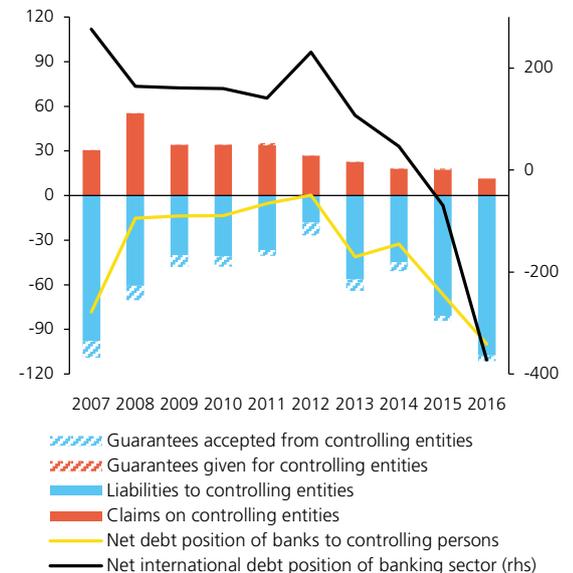


Source: Obligatory information to be disclosed pursuant to Decree No. 123/2007 and Decree No. 163/2014

Note: The chart depicts the aggregate credit interconnectedness of the largest domestic banks, i.e. Česká spořitelna, ČSOB, Komerční banka and Raiffeisenbank. UniCredit Bank is included only in the periods when it controlled entities.

CHART III.29

#### Credit interconnectedness vis-à-vis non-residents (CZK billions)



Source: Obligatory information to be disclosed pursuant to Decree No. 123/2007 and Decree No. 163/2014; banks' annual reports; CNB

Note: The chart depicts the aggregate credit interconnectedness of the five largest domestic banks vis-à-vis their parent companies. The net debt position of the banking sector represents the overall net position of all banks vis-à-vis all non-residents excluding shares and other equity.