CZECH BANKING SECTOR STRESS TESTS
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Financial Stability Department

ČNB ČESKÁ NÁRODNÍ BANKA

SUMMARY

The results of stress tests of the Czech banking sector performed using data available as of the end of 2017 Q3 confirm that the banking sector is sufficiently resilient to potential adverse shocks. The capitalisation of the sector as a whole would remain well above the regulatory minimum of 8% even in a stress scenario assuming a sizeable decline in economic activity in the Czech Republic and abroad. The sector's resilience is based mainly on its high capital ratio, which stood at 18.4% at the end of September 2017, and on its current profitability.

1. INTRODUCTION

The Czech National Bank regularly conducts stress tests to assess the impacts of highly adverse future economic scenarios on the domestic banking sector. This document presents the results of the November stress tests, which were conducted on the data as of 30 September 2017 and focus on the coming three years. In the assessment of resilience, the impact of future economic developments – represented by one baseline scenario and one stress scenario – on selected indicators of the banking sector's soundness was tested.

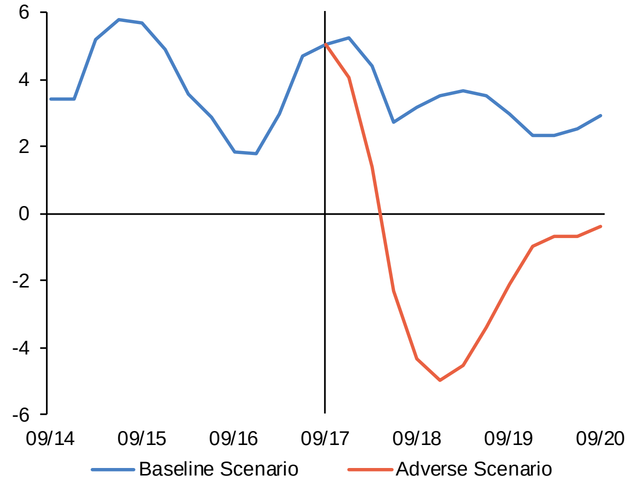
2. MACROECONOMIC SCENARIOS

The ***Baseline Scenario*** is based on the CNB's November macroeconomic forecast published in Inflation Report IV/2017 and assumes economic growth of 4.5% this year. In the next two years, GDP growth will remain around 3%. Increasing investment and continued economic growth will be accompanied by rising wages and only a marginal decline in the general unemployment rate from the current low levels at the scenario horizon. Headline inflation will be slightly above the 2% inflation target. Consistent with the forecast is a rise in market interest rates.

The ***Adverse Scenario*** assumes a marked drop in economic activity in Europe. As a result of a decrease in external demand, the export-oriented Czech economy falls into recession, causing pessimistic expectations about future economic developments, a downturn in household consumption and deferral of corporate investment. The combination of a downturn in external demand and then also in domestic demand will cause a sizeable and sustained decline in economic activity in the Czech Republic and result in a V-shaped recession. The recession will last ten quarters and lead to a drop in annual real GDP growth from the current 5% to -5%. At the same time, a debt deflation scenario will materialise, with price deflation leading to real growth in private sector debt as a result of declining economic activity, rising unemployment and falling wages. In this adverse economic situation, the funds of households and non-financial corporations gradually become exhausted. Coupled with the rise in real debt, this causes a significant deterioration in their ability to repay their obligations. The problems in the real economy also affect the financial sector, which records considerable credit losses and a marked decline in profits. Monetary policy remains easy, the three-month PRIBOR stays very low over the entire test horizon and the exchange rate weakens sharply. However, long-term bond yields surge as global risk aversion increases and the quality of some assets is re-assessed. At the same time, banks tighten their view of credit risk and increase their risk mark-ups on interest rates on new loans, which will shift to a much higher level also due to an increase in long-term interest rates. The rise in debt service together with the other impacts of the recession will increase the default rate on loans to households and loans to non-financial corporations.

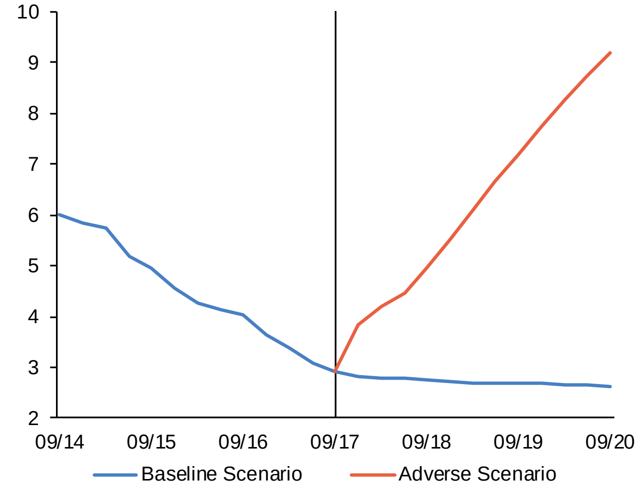
Charts 1–4 illustrate the evolution of the key macroeconomic variables of the *Baseline* and *Adverse scenarios*.

Chart 1
Alternative scenarios: real GDP growth
(year on year in %)



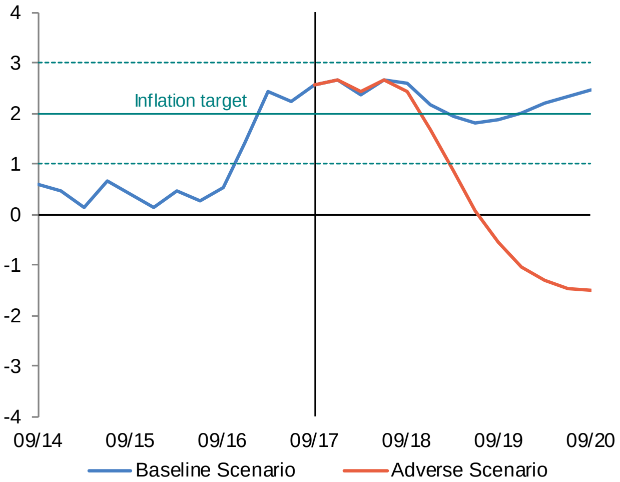
Source: CNB

Chart 2
Alternative scenarios: unemployment
(%)



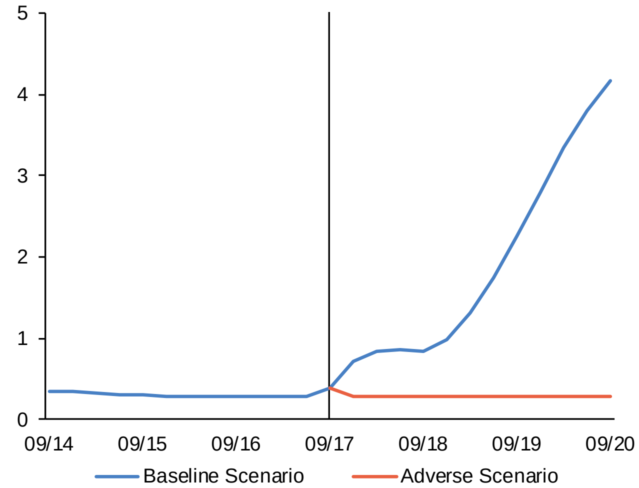
Source: CNB

Chart 3
Alternative scenarios: headline inflation
(year on year in %)



Source: CNB

Chart 4
Alternative scenarios: 3M PRIBOR
(%)



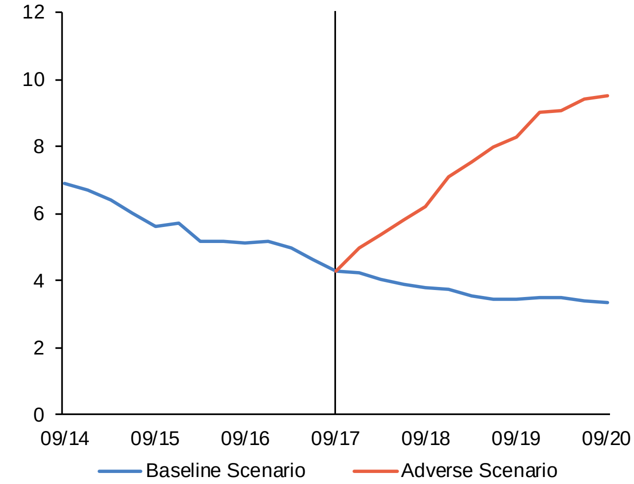
Source: CNB

3. THE IMPACT OF THE MACROECONOMIC SCENARIOS ON THE BANKING SECTOR

Credit risk is the most significant risk in the Czech banking sector. It can be quantified using the ratio of non-performing loans (NPLs) to total loans. In the *Baseline Scenario*, this ratio increases modestly in 2018–2020 for households, owing mainly to an expected rise in the default rate on consumer credit, while continuing to decline gradually for non-financial corporations (see Charts 5 and 6).

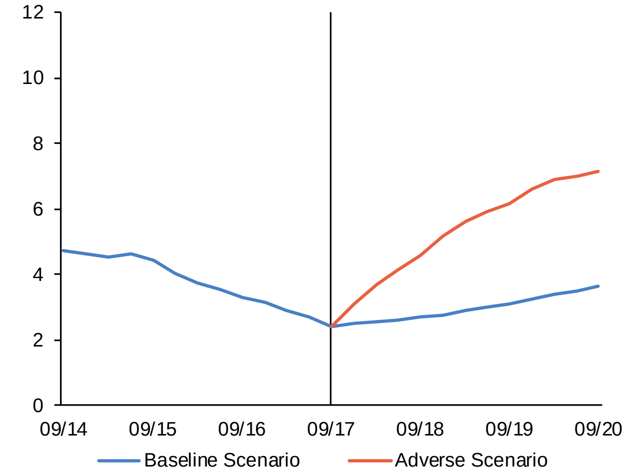
In the *Adverse Scenario*, non-performing loans would rise substantially for both households and non-financial corporations, not only in terms of the NPL ratio, but also in absolute terms. Banks would have to create an appropriate level of provisions with a further adverse effect on their profitability.

Chart 5
NPL ratio: non-financial corporations
(%)



Source: CNB

Chart 6
NPL ratio: households
(%)

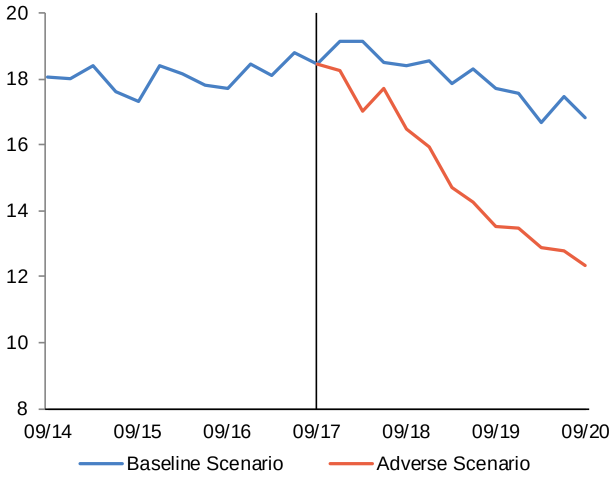


Source: CNB

Banks' operating profit is an important assumption of the stress tests, as it is the first buffer for covering potential banking sector losses. The *Baseline Scenario* assumes only a slight increase in operating profit. In the *Adverse Scenario*, operating profits drop sharply, recording a fall of roughly 51% compared to 2016 over the test horizon.

Although it is weakened by lower profits and in the *Adverse Scenario* hit by high credit losses, the banking sector as a whole remains stable in both scenarios and its aggregate capital ratio always stays above the regulatory minimum of 8% by a sufficient margin (see Chart 7). This result is achieved despite the conservative settings of many of the stress test assumptions. The sector's resilience is based mainly on its capital ratio, which stood at 18.4% at the end of September 2017, and on its current robust profitability.

Chart 7
Total capital ratio
(%)



Source: CNB, CNB calculation

Despite the high resilience of the sector as a whole, one bank would get into a situation of an insufficient capital ratio in the *Baseline Scenario*, implying an adjustment of its business model[1] or a need to top up its capital by about CZK 0.1 billion in the future.

In the *Adverse Scenario*, the sector as a whole records a loss which substantially reduces its regulatory capital and its aggregate capital ratio falls below 13%. A total of nine banks (representing about 11.9% of the sector's assets) would get into a situation of an insufficient capital ratio in this scenario. To make up their capital adequacy to the regulatory minimum of 8%, banks having their registered offices in the Czech Republic (i.e. excluding foreign bank branches) would together have to increase their capital by around CZK 10.3 billion (roughly 0.2% of GDP) as at the end of the test period. Relative to the size of the banking sector, this figure is not significant enough to markedly jeopardise its stability.

[1] A bank may also get into a situation of an insufficient capital ratio because the stress test methodology assesses its business model as unsustainable in the longer run. This is because the methodology is based on a universal bank model and may not be entirely accurate for specialised banking institutions. The CNB therefore takes into account institutions' specific characteristics when assessing the test results.