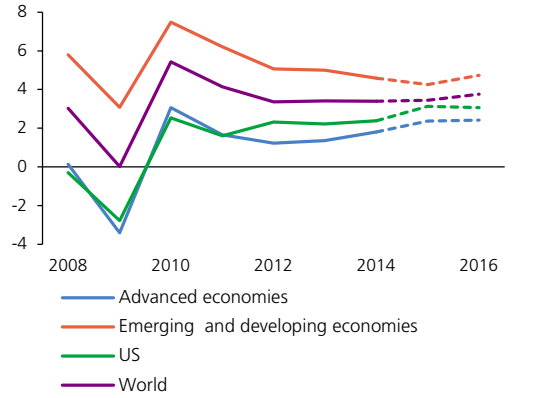
CHART II.1

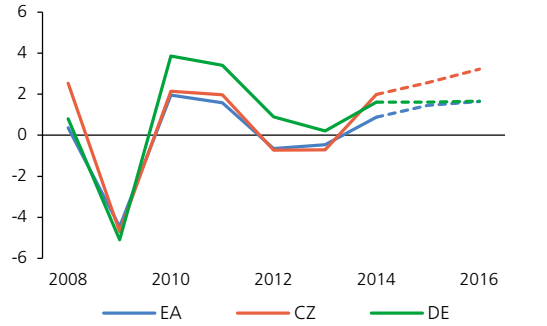
Economic growth in selected groups of countries and the USA
(year-on-year growth in %)



Source: IMF
Note: The dashed lines indicate the IMF's April 2015 forecasts.

CHART II.2

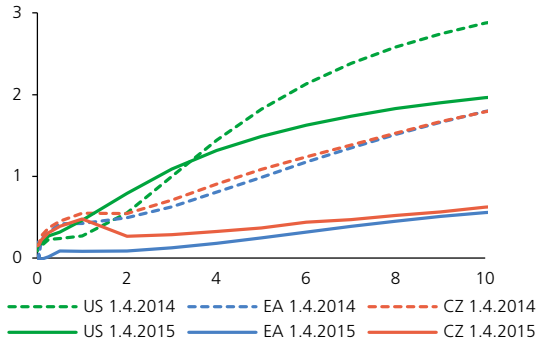
Economic growth in selected economies and the euro area
(year-on-year growth in %)



Source: CNB, IMF
Note: The dashed lines indicate the CNB's May 2015 forecast and the IMF's April 2015 forecasts.

CHART II.3

Movement of yield curves in selected economies
(x-axis: maturity in years; y-axis: %)



Source: Bloomberg L.P.
Note: The yield curves are derived from interbank rates with maturities of up to one year and swap rates over one year denominated in the currency of the relevant region.

2 THE REAL ECONOMY AND FINANCIAL MARKETS

2.1 THE MACROECONOMIC AND FINANCIAL ENVIRONMENT

The advanced economies, including the euro area, experienced a gradual recovery in 2014 and early 2015. This recovery is still quite fragile, however. Faced with deflationary pressures, central banks in Europe further eased the monetary conditions significantly. This was reflected in a rise in prices of high-quality assets. A sharp correction of those prices could have a major effect on the financial sector, whose response would lead to an increase in overall financial market volatility. The uncertainties surrounding the geopolitical situation and the timing of the change in the monetary policy stance of key central banks could exacerbate this volatility. The very easy monetary conditions are also giving rise to a decline in yields on Czech government bonds, which, given their low liquidity, could become a source of vulnerability for the domestic financial sector. However, a potential return to recession and financial market instability in the euro area remain the primary risks to the Czech economy.

Economic activity is very mixed across world regions

The global economy continued to record uneven growth in 2014, as characterised by slow growth in the euro area, a sizeable recovery of the US economy and fast growth in some emerging economies. The economic growth outlooks for this year and the next indicate strengthening economic activity, and the euro area should also see a further recovery (see Charts II.1 and II.2). Last year, some emerging economies recorded slowing growth and a revision of their outlooks for 2015 and 2016 owing to an unexpectedly sharp fall in energy commodity prices. From the euro area perspective, this fall is a favourable supply shock which, together with a weak euro-dollar rate, supported a gradual economic recovery. Despite a temporary strengthening of deflationary pressures, the overall effect of the fall in oil prices on demand in European economies should be positive.

The monetary policies of European central banks remain very easy…

The uneven economic developments are being reflected in different central bank monetary policies. The US Federal Reserve decided to discontinue its quantitative easing (QE) programme last year and is expected to raise monetary policy rates in the second half of this year. By contrast, the ECB continued to ease the monetary conditions. Strengthening deflationary pressures forced it first to lower its monetary policy rates (the deposit facility rate even turned negative[1]) and then to start a QE programme. In September 2014 the ECB launched outright purchases of covered bonds and asset-backed securities. In March 2015 it expanded its activities to include purchases of government bonds of euro

1 The aim was to support bank lending to non-financial corporations in the euro area by increasing the effectiveness of targeted longer-term refinancing operations (TLTROs).

area countries.[2] The Swiss,[3] Danish and Swedish central banks also took radical action, cutting some of their monetary policy rates to negative values.

… giving rise to significant changes in long-term yields and encouraging search for yield

The changes in the settings of the monetary conditions were reflected in a renewed decline and flattening-out of yield curves (see Chart II.3). Long-term government bond yields in some European countries even turned negative (see Chart II.4). However, the situation is different for Greek government bonds, amid concerns about the government's ability to meet its commitments to creditors in the months ahead. In this context, Greece had its rating downgraded, which resulted in an increase in government bond yields. The trend seen in Europe also affected US yields, which likewise dropped at longer maturities (see Chart II.5). In response to this decline, many investors are trying to rebalance their portfolios towards higher-yield assets. This is exerting upward pressure on prices in riskier asset markets (see Chart II.6), where issuers' risk premia are simultaneously being squeezed.[4] In addition to speculative investors, the incentive to search for yield may be rising among financial institutions offering products with guaranteed yields, as such yields are currently hard to achieve with conservative strategies. This applies especially to insurance companies offering traditional life insurance products and to pension management companies.[5] However, the low-yield environment can also be expected to negatively affect the profitability of other financial institutions (see Box 3 in section 3.1).

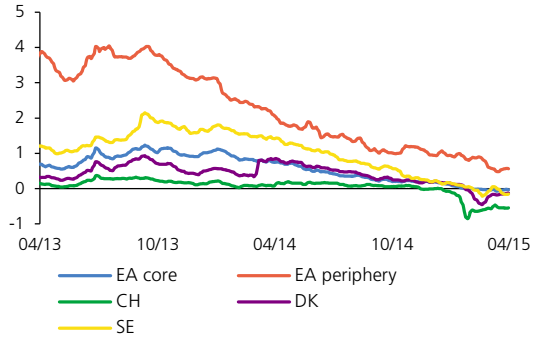
The sustained low nominal yields are increasing the vulnerability of the financial sector…

The growth in asset prices across markets and regions is generally improving many of the financial soundness indicators of the holders of such assets, but it is simultaneously increasing the vulnerability of the financial system as a whole. A sudden downward correction of asset prices could lead to a sharp fall in market liquidity on global markets.[6] This could lead to a further decline in these asset prices, reflected in sizeable market losses. Given the high correlation of yields on different types of assets, contagion to other markets might occur. The evolution of US stock indices, which are now at all-time highs, suggests that a price correction is becoming increasingly likely.

2 The ECB intends to purchase assets of EUR 60 billion per month under these three programmes.
3 In January, the Swiss National Bank abandoned its exchange rate commitment of CHF 1.20 per euro and let the franc appreciate beyond this level.
4 The QE transmission mechanism has two channels on the general level. The reduction in risk-free interest rates caused by government bond purchases is reflected in lower financing costs across sectors. In addition, investors switch from government bonds to riskier private sector assets. This causes the prices of those assets to rise and the yield spreads on credit markets to fall.
5 Pension management companies operating defined benefit pension plans face a risk of insufficient yields. This form does not occur in the Czech Republic.
6 IMF (2015): *Global Financial Stability Report*, April 2015, Chapter 1.

CHART II.4

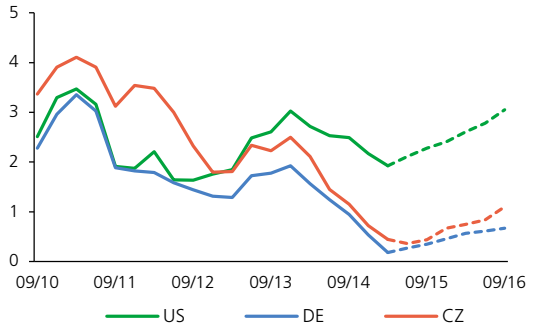
5Y government bond yields in selected European countries
(%)



Source: Thomson Reuters
Note: EA core comprises DE, BE, AT and NL. EA periphery consists of ES, IE, IT and PT. The figures for groups of countries are the simple means of the yields. The series are smoothed by the 5-day moving average.

CHART II.5

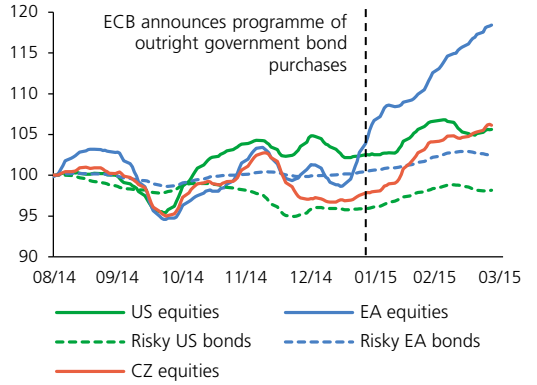
Actual and expected 10Y government bond yields of selected countries
(%)



Source: Bloomberg L.P.
Note: Quarter-end figures. The dashed lines indicate figures based on analysts' consensus forecasts as of 21 April 2015.

CHART II.6

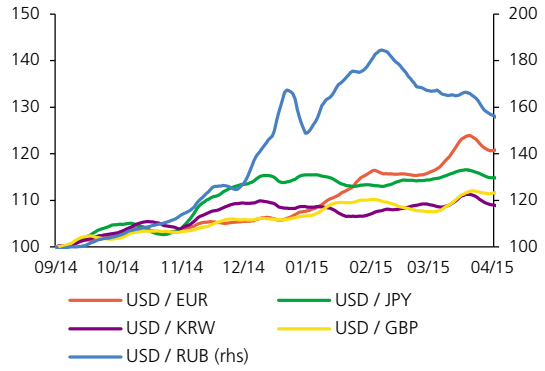
Stock indices and risky corporate bonds
(1 September 2014 = 100)



Source: Bloomberg L.P.
Note: Stock indeces – SP500 (USA), Euro STOXX 50 (EA) and PX (CZ). Risky bonds – rated BB+ or lower, denominated in USD or EUR. Indices include dividends and coupons as well as prices and thus represent the investor's total return. Index is smoothed by the 10-day moving average.

CHART II.7

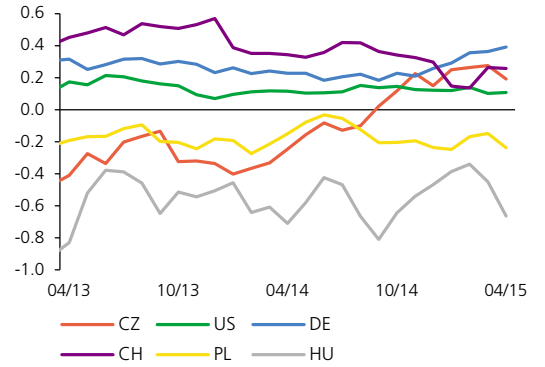
Nominal exchange rate indices
(1 September 2014 = 100)



Source: Thomson Reuters
Note: Indices are smoothed by the 10-day moving average. Growth in the index indicates currency appreciation.

CHART II.8

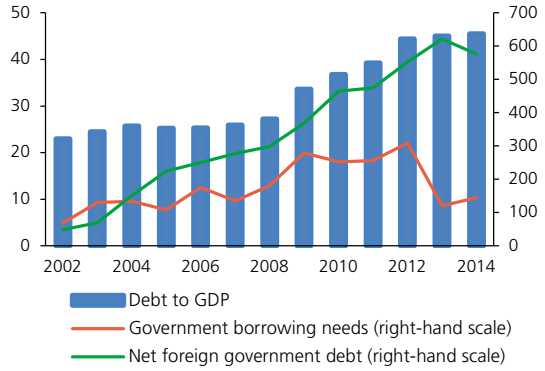
Difference between long-term money market rates and long-term government bond yields
(pp)



Source: Bloomberg L.P.
Note: Government bonds and interest rate swaps denominated in the currency of the relevant country with ten-year maturity; monthly averages.

CHART II.9

Government debt indicators
(% on left-hand scale; CZK billions on right-hand scale)



Source: CZSO, CNB, MF CR
Note: Borrowing needs are gross of repayments of T-bills.

… and contributing to increased exchange rate volatility

The first quarter of 2015 saw a sharp depreciation of the euro against major world currencies, due in part to rising uncertainty about political developments in Greece. In addition, a revision of expected yields by cross-border investors could lead to a reversal of cross-border capital flows and to other large exchange rate swings (see Chart II.7). Holders of foreign currency assets would be exposed to losses due to a fall in the value of their assets. In addition, debtors with foreign currency issues could face significant exchange rate risk. Sudden exchange rate fluctuations could also have an adverse effect on exporters' and importers' performance.

Central banks' announcements could have significant effects

Bond yield and exchange rate volatility could arise as a result of central bank communications about the start of monetary policy normalisation. So far, only the Fed has announced its intention to tighten monetary policy.[7] This announcement was one of the factors behind the marked appreciation of the dollar, which – combined with a higher level of dollar yields compared to yields on European currencies (see Chart II.3) – made US government bonds more attractive. The evolution of the dollar yield curve at its longer end suggests that market participants do not foresee any radical changes in US monetary policy given the fragile economic growth and low inflationary pressures. No sudden turnaround is expected for the ECB either, mainly because of persisting deflationary pressures in the euro area.

A sharp decline in yields is also apparent for Czech government bonds…

The ECB's purchases of high-quality assets of euro area countries and investors' access to cheap euro liquidity have also led to greater interest in Czech government bonds. Their yields fell to new lows in the first few months of this year (see Chart II.5), reaching the levels of those on German, Swiss and US government bonds, which investors regard as safe havens. This is also illustrated by the fact that the yield on the long-term koruna bond dropped below the long-term koruna money market rate (see Chart II.8). The relatively low level of Czech government debt and slower debt growth are playing an important role in this (see Chart II.9). Portfolio investors' interest may also have been fostered by favourable trends in the Czech Republic's total external debt indicators, such as a fall in the external debt / external assets ratio (see line MP.6 in the *Table of Indicators*).

… which are potentially exposed to increased volatility

The exceptionally low yields on domestic government bonds are also becoming a source of vulnerability for the Czech financial sector, given the low market liquidity of such bonds. Changes in global or domestic monetary conditions or fluctuations in foreign markets may give rise to higher volatility in the prices of Czech bonds. This would have a negative

7 CNB (2014): *Global Economic Outlook*, November 2014.

effect on domestic financial institutions, which hold most of these bonds. However, the intensity of the impact on financial institutions' balance sheets depends to a large extent on the size of the revalued portfolio, the volume and price of sales, the amount of bonds used as collateral in repo operations in the event of realisation of collateral, and the level of hedging against interest rate risk (see section 3.1). The CNB therefore conducts stress tests of the sensitivity of domestic financial institutions to liquidity and market risk (see sections 3.2 and 3.1).

The appropriate response is to extend the maturity of government debt

Increased price volatility on government bond markets, amplified by the low market liquidity of such instruments, could have an adverse effect on the refinancing of government debt. This risk applies primarily to debt with shorter maturity.[8] In managing their rising government debt, some countries are therefore taking advantage of the overall easy monetary and financial conditions to extend the average maturity of their debt (see Chart II.10). In so doing, they are preventively reducing their future annual gross borrowing needs and thereby dampening market volatility. Given the favourable market conditions and the high share of non-residents in domestic government debt[9] relative to domestic absorption capacity, extending the average maturity would also help mitigate systemic risks.

The deflationary pressures in the euro area are being amplified by subdued lending

The ECB's very accommodative monetary policy started to be reflected in a gradual recovery in euro area lending during 2014. A long period of tightening of credit standards was followed by a gradual easing via a decline in interest margins. Growth in non-financial corporations' and households' demand was renewed and is expected to rise further. The availability of loans in some euro area periphery countries remains poor, which is undermining activity and investment, especially in small and medium-sized enterprises. The stock of loans in the private sector is continuing to shrink in these countries (see Chart II.11) despite a significant drop in interest rates on new loans. So, the desirable process of deleveraging (a fall in the debt-to-income ratio) is gaining momentum. However, it is simultaneously exacerbating the disinflationary or deflationary pressures.[10] Given the high indebtedness of the private sector in euro area countries, no major increase in lending is likely for the time being.

8 The risk to future refinancing perceived by present investors increases in direct proportion to the amount of debt to be refinanced in the given year. This may give rise to a decrease in investors' current interest in participating in refinancing.

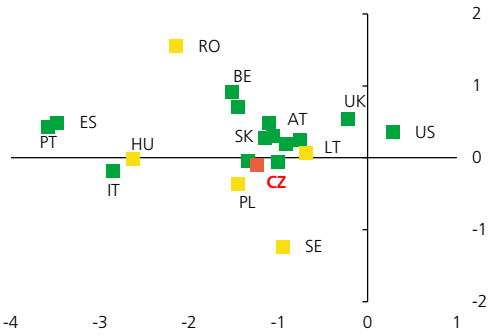
9 The share of non-residents in the total Czech public debt was approximately 22% (CZK 406 billion) at the end of 2014. The average monthly market turnover of government bonds was CZK 74 billion last year.

10 Growth in loans is the main component of money supply growth, which is the driving factor of inflation in the long run.

CHART II.10

Public debt versus financing costs

(x-axis: change in yields in pp; y-axis: change in maturity in years)

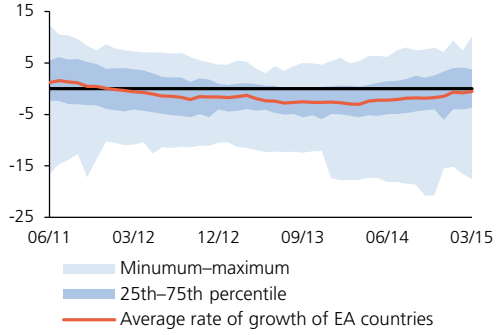


Source: ECB, Bloomberg L.P.
Note: Changes in 10Y yields and average maturities between 3/2013 and 12/2014. To make the Chart easier to read, the legends for DE, DK, FI, FR, GR and NL have been left out. Yellow colour indicates shorter average maturity and green colour longer average maturity than in CZ.

CHART II.11

Rate of growth in loans to the private sector in euro area countries

(year-on-year change in %)

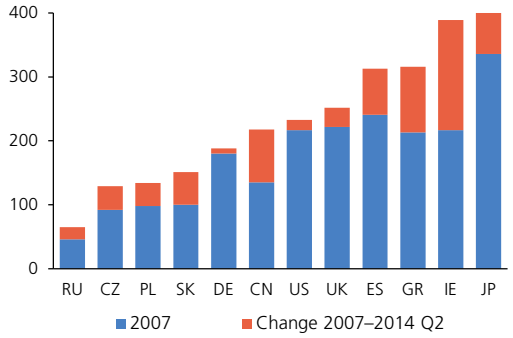


Source: ECB
Note: Private sector comprises households and non-financial corporations.

CHART II.12

Ratio of private and government sector debt to GDP in international comparison

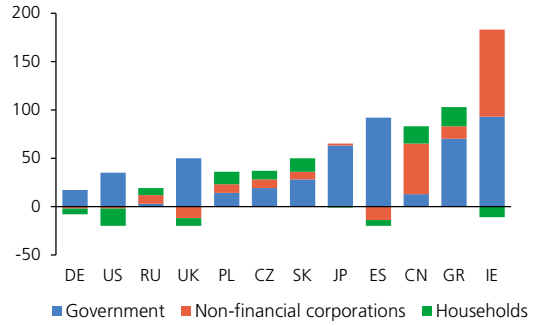
(% of GDP)



Source: CNB, McKinsey Global Institute
Note: Private sector debt is the sum of household debt and non-financial corporations' debt.

CHART II.13

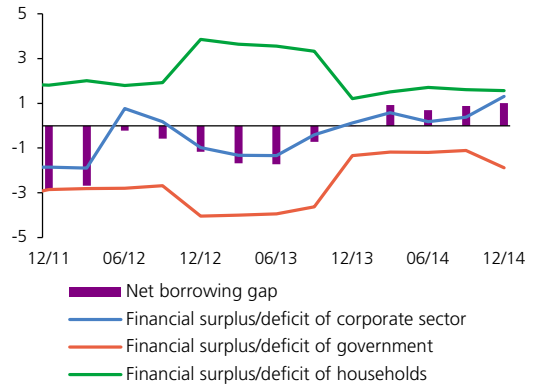
Change in the debt of selected economies between 2007 and 2014
(% of GDP)



Source: CNB, McKinsey Global Institute
Note: Data for 2014 Q2.

CHART II.14

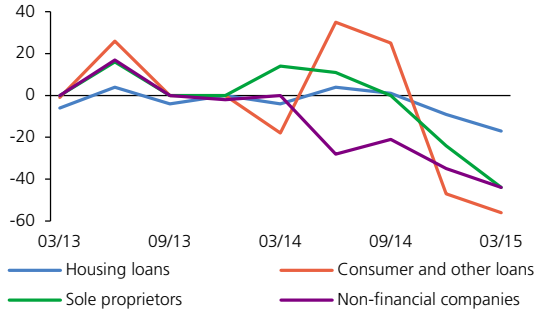
Financial surpluses/deficits by sector and the net borrowing gap
(annual moving totals as a ratio to GDP; %)



Source: CZSO, CNB
Note: The gap is calculated as the difference between the surpluses of the private sector (the corporate and household sectors) and the deficit of general government. The corporate sector comprises financial institutions and non-financial corporations. The household sector also includes non-profit institutions serving households.

CHART II.15

General lending standards in the Czech Republic
(difference in market share of banks in pp)



Source: Bank lending survey, CNB
Note: The data represent the difference between the market share of banks that reported a tightening of the credit standards and banks that reported an easing of the credit standards in the past three months. More information on the indicator methodology can be found on the CNB website.

High indebtedness is undermining the effectiveness of monetary policy and hindering a more robust economic recovery

The total level of private and public sector debt in many countries has increased by more than half since the start of the financial crisis (see Chart II.12). Partial deleveraging of the private sector has occurred in some countries, thanks either to economic recovery (the USA and partly also the UK) or banking sector restructuring (Ireland and Spain). Even in these countries, however, the level of public debt has increased (see Chart II.13). The high indebtedness of the private and public sector in the euro area could undermine the effectiveness of the ECB's accommodative monetary policy. Quantitative easing may not be sufficient to deliver a robust economic recovery and eliminate deflation expectations.[11] Highly indebted corporations and households may prefer to repay their debts and reduce their debt servicing burden despite the low interest rates. This could have an adverse effect on private demand and create pressures for an opposite reaction in public expenditure and monetary policy. Governments and central banks will thus be forced to seek a compromise between deleveraging on the one hand and economic activity and employment on the other.

The domestic economic recovery faces heightened risks stemming from the external environment

Besides a modest pick-up in economic growth in the Czech Republic's main trading partner countries, the domestic economic recovery was aided by a weaker koruna, which, together with interest rate cuts, led to a substantial easing of the real monetary conditions.[12] The pass-through of the weakened exchange rate of the koruna to inflation via import prices is fading, but the easy monetary conditions are still contributing to continued growth in economic activity and a recovery in the labour market. The fragility of the recovery in the euro area and in other advanced countries, weakening growth in many emerging economies and adverse developments in Russia and Ukraine remain risks to Czech economic growth.

Some signs of a balance-sheet recession in the domestic economy persist

In 2014, a positive net borrowing gap[13] started to form in the Czech economy, indicating an increase in the risk of a balance-sheet recession (see Chart II.14). The private sector creates financial surpluses, which are not necessarily "spent" in full via a government sector deficit. A persistent presence of "free" funds in the private sector is usually associated with pessimistic expectations regarding future revenues and expenditures. However, the risk of a balance-sheet recession can currently be assessed as modest given the domestic economic recovery, the decline in the household saving rate and the expected evolution of Czech public finance.

11 IMF (2015): *Global Financial Stability Report*, April 2015, Chapter 1.
12 CNB (2015): *Inflation Report II/2015*, Box 3.
13 The net borrowing gap is the difference between the surpluses of the private sector and the general government deficit.

Economic growth is accompanied by a gradual recovery in lending in the Czech economy

The rate of growth of bank loans to the private sector is starting to recover gradually. Growth in corporate loans increased (see section 2.2) amid stable growth in loans to households (see section 2.3). According to the bank lending survey[14] the pick-up in lending in 2015 may have been fostered by an easing of credit standards and an increase in demand for loans in all market segments (see Chart II.15). Banks have sufficient funds thanks also to steady growth in deposits (see Chart II.16). Credit market developments will thus support domestic demand and will be one of the factors behind a further pick-up in GDP growth.

Alternative economic scenarios

Alternative economic scenarios were defined on the basis of potential alternative future macroeconomic trends along with the risks identified. These scenarios are used mainly in section 3.2 to test the resilience of the Czech financial sector. The paths of key variables in each scenario are shown in Charts II.17A–17D.[15] The evolution of other variables relevant to the stress tests in relation to the evolution of the macroeconomic environment (credit growth, the default rate, the NPL ratio[16] and property prices) is presented in the following sections.

The ***Baseline Scenario*** is based on the CNB's official May macroeconomic forecast published in Inflation Report II/2015 and assumes an increase in economic activity of 2.6% this year due to growth in both domestic and external demand and to the overall environment of easy monetary conditions. In 2016 the economy is expected to return to relatively robust growth of 3.2%. The general unemployment rate falls below 5% as economic activity gathers pace. Headline inflation will increase from its low levels this year and reach the inflation target of 2% in early 2017. Consistent with the forecast is stability of market interest rates, followed by a gradual rise in rates as from the start of 2017. The koruna exchange rate will continue to be used as an instrument for easing the monetary conditions during 2015 and 2016.

The ***Adverse Scenario*** assumes an end to the brief recovery in the euro area and a marked drop in economic activity in Europe. This may be caused, for example, by problems in reaching agreement on economic and monetary policy measures in the euro area, negative expectations about developments in the global economy and a renewed increase in investors' risk aversion with regard to the EU and emerging economies. The Czech economy falls back into recession owing to a decrease in external demand. This will lead to a return of the private sector's

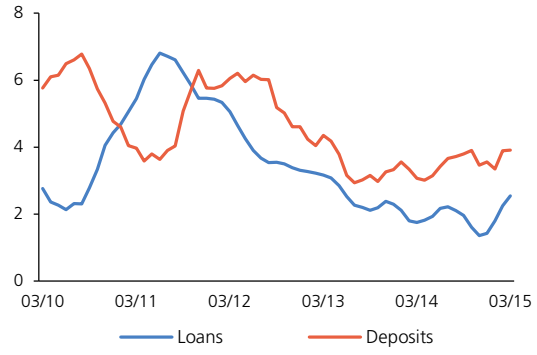
14 CNB (2015): *Bank Lending Survey*, April 2015.

15 The path for the *Baseline Scenario* in the first two years is based on the CNB's official prediction of May 2015. Beyond this horizon it is extrapolated towards the expected long-term equilibrium values. The *Adverse Scenario* assumes a larger cumulative contraction in economic activity at the test horizon than the stress scenario in last year's FSR 2013/2014.

16 The default rate and the NPL ratio relate to an identical event, i.e. a breakdown in a debtor's payment discipline. Whereas the default rate is a (usually forward-looking) flow indicator focused on a particular time interval (see the *Glossary*), the NPL ratio is a stock indicator describing the level of NPLs at a given point in time.

CHART II.16

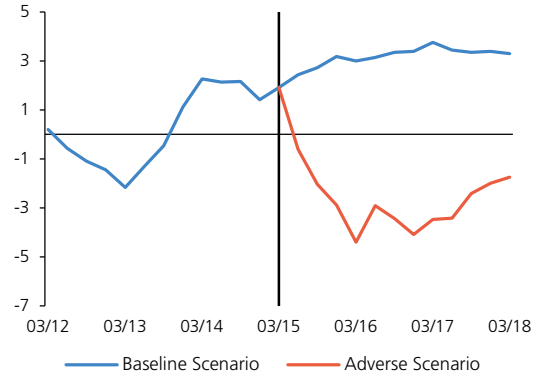
Rate of growth of bank loans and private sector deposits
(year-on-year change in %)



Source: CNB
Note: Annual rates of growth are smoothed by the 3-month moving average. The private sector comprises households, non-profit institutions serving households and non-financial corporations.

CHART II.17A

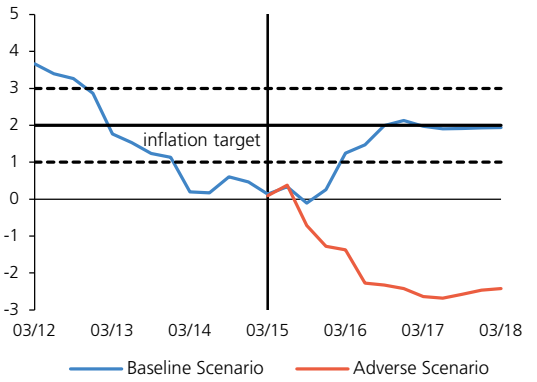
Alternative scenarios: real GDP growth
(year-on-year change in %)



Source: CNB

CHART II.17B

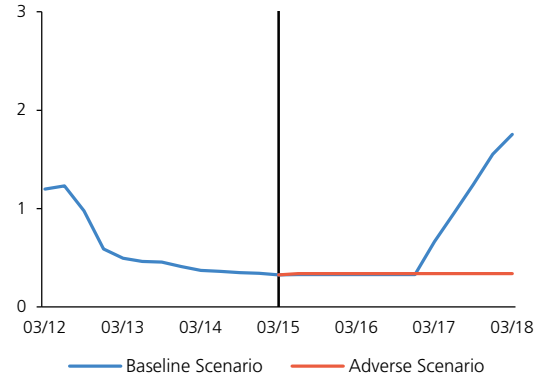
Alternative scenarios: inflation
(%)



Source: CNB

CHART II.17C

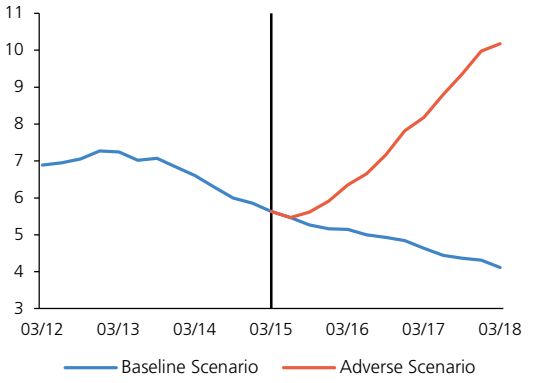
Alternative scenarios: 3M PRIBOR
(%)



Source: CNB

CHART II.17D

Alternative scenarios: unemployment
(%)



Source: CNB

pessimistic expectations about future economic developments and to renewed deferral of household consumption and corporate investment. The combination of a downturn in external demand and then also in domestic demand will cause a sizeable decline in economic activity in the Czech Republic over the entire three-year horizon and result in an "L-shaped" recession. In addition, the debt deflation scenario will materialise, with price deflation leading to an increase in private sector debt in real terms as a result of declining economic activity, rising unemployment and falling wages. The adverse economic situation will cause the funds of households and non-financial corporations gradually to become exhausted. Coupled with a rise in real debt, this causes a significant deterioration in their ability to repay. The problems in the real sector later also affect the financial sector, which records considerable credit losses and a marked decline in operating profits. Monetary policy remains easy, the three-month PRIBOR stays very low over the entire test horizon and the exchange rate weakens. However, long-term bond yields surge as global risk aversion increases and the safety of some assets is re-assessed. At the same time, banks revise 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, due also to an increase in long-term interest rates. The related rise in debt service together with other impacts of the recession will increase the default rate on loans to households and loans to non-financial corporations.

2.2 NON-FINANCIAL CORPORATIONS

The non-financial corporations sector as a whole recorded a substantial rise in performance and profitability thanks to the economic recovery. However, the financial situation across the sector shows sizeable differences in terms both of industry and company size. The conditions remain unfavourable for small corporations in particular. As regards industries, the energy segment recorded a further deterioration. Credit risk decreased overall, but remains elevated in the segments that were hit hardest by the recent recession. A decline in credit risk is generally being fostered by the low interest rate environment and higher profit generation, which is making it possible to create funds to service debts more easily. The sector's total debt remained flat despite the existence of cheap financing. In particular, growth in bank loans remains low. The main risk scenario for the non-financial corporations sector involves unfavourable developments in the Czech Republic's trading partner countries and a loss of confidence in the domestic economy leading to a fall in domestic demand.

The economic recovery is passing through to the sector's financial results

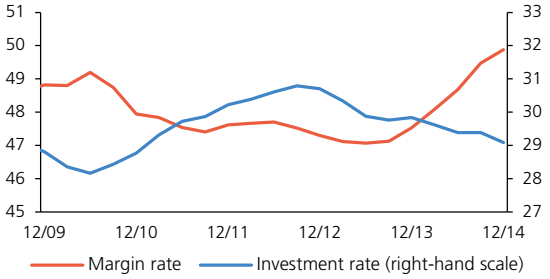
The economic recovery, which started in 2013 Q4, changed the financial situation of most non-financial corporations in 2014. The sector's margin rate rose appreciably in 2014 (see Chart II.18) and a fall in financial stress is also evidenced by a sizeable decline in the number of loss-making corporations (see Chart II.19). The sector's improving results were accompanied by renewed investment activity, although investment still grew at a rather slower pace than the sector's gross value added (see Chart II.18). Despite the positive developments seen in 2014, adverse tendencies persist in part of the sector. The available granular data indicate that the improvement so far pertains mainly to large companies and firms that were already posting relatively good results in previous years. Despite recording some improvement, the small enterprises segment is failing to achieve satisfactory results and is still exposed to elevated financial stress (see Chart II.19). Small enterprises will therefore probably be able to generate enough profit only if economic growth remains robust in the longer run and continues to be underpinned by growth in domestic demand.

The nature of the main risks faced by the sector remains unchanged

A renewed decline in aggregate demand, an increase in deflationary pressures and a return of the economy to recession remains the main risk scenario for the non-financial corporations sector. Given that the growth in economic activity over the last few quarters has been driven largely by export-oriented industries, adverse developments in the Czech Republic's key trading partner countries can be seen as the main potential source of risk. Its potential materialisation would probably be reflected in considerable shortfalls in external demand. The likelihood of this scenario is reduced to some extent by the QE measures recently adopted by the ECB. The observed improvement in domestic consumer and investment sentiment, which is mitigating the risks, is also an important positive aggregate demand factor. By contrast, increasing geopolitical risks

CHART II.18

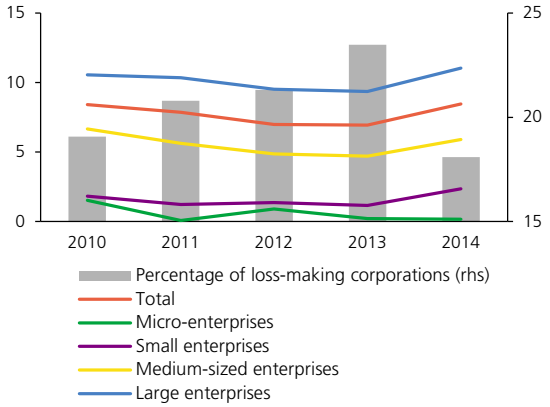
Margin rate and investment rate
(as % of gross value added of sector; calculated from annual moving totals)



Source: CZSO, quarterly national accounts
Note: Margin rate = gross operating surplus/gross value added of sector. Investment rate = gross fixed capital formation/gross value added of sector.

CHART II.19

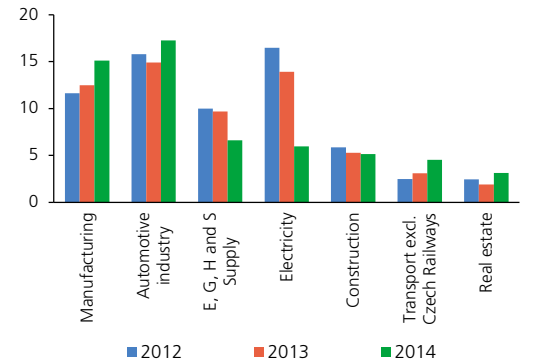
After-tax RoE by enterprise size and percentage of loss-making corporations
(%)



Source: CZSO, CNB calculation
Note: The results are based on a sample of corporations. The sample contains around 1,800 corporations together accounting for more than 50% of the sector's gross value added.

CHART II.20

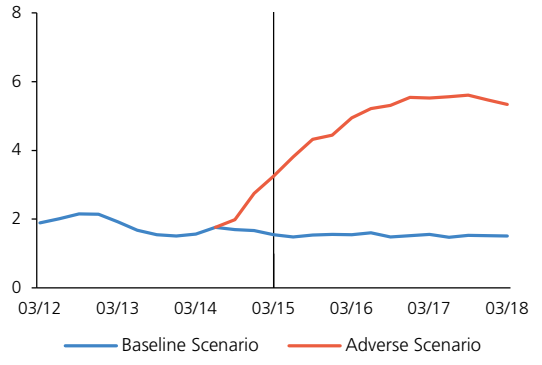
After-tax RoE in selected branches of activity
(%)



Source: CZSO, CNB
Note: E, G, H and S are electricity, gas, heat and sewerage. The sample contains around 1,800 corporations together accounting for more than 50% of the sector's gross value added. The automotive industry contains companies in NACE 29.

CHART II.21

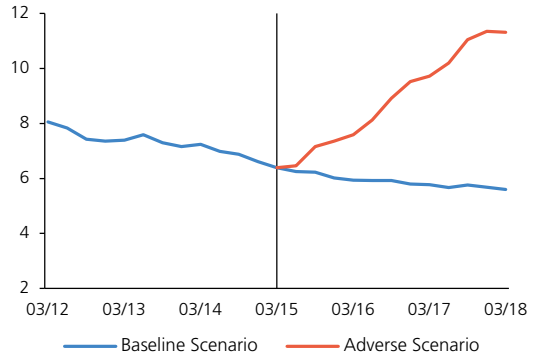
12-month default rate on bank loans to non-financial corporations
(%)



Source: CNB

CHART II.22

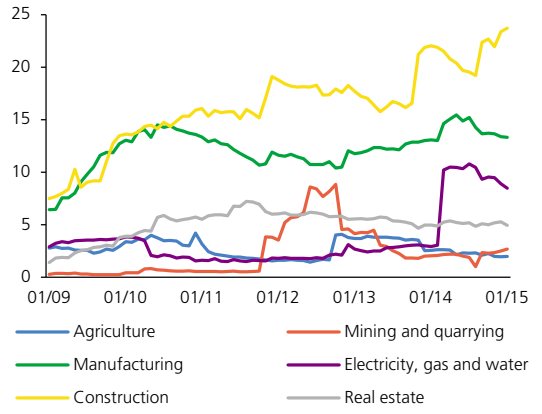
NPL ratio for bank loans in the non-financial corporations sector
(%)



Source: CNB

CHART II.23

NPL ratios for bank loans in selected branches of activity
(as % of given category)



Source: CNB

associated with the Russia-Ukraine conflict are acting in the opposite direction. Although the share of direct exports to these countries is relatively low, some firms have large exposures to these markets. Moreover, the conflict may have an even bigger impact on the domestic economy via a decline in exports from other EU countries to Russia if, as a result, trading partners reduce their imports from the Czech Republic.[17]

There were positive signals even from the hardest-hit industries in 2014

The sector's overall performance was driven by the manufacture of transport equipment. The recovery in demand in this industry spread gradually (not only via subcontracting channels) to other manufacturing industries in 2014. The rise in demand was reflected in an increase in margins on sales and subsequently in higher profitability of manufacturing as a whole (see Chart II.20). A major turnabout was also recorded by industries previously hit hardest by the recession, i.e. construction and services (especially transport and storage). Following a long period of decline, construction recorded annual growth in production of 4.3% in 2014. The rebound was due mainly to a rise in civil engineering output, driven by renewed construction of large infrastructure projects. New construction was launched thanks mainly to the resumption of public contracts.[18]

Despite the positive developments in most industries, the situation in energy, electricity supply and coal mining remains unfavourable. This is linked with the insufficiently effective European energy strategy and with low energy prices, whose level is generating competitiveness problems for this industry on the global scale. The situation is being exacerbated by geopolitical risks. Mild winters are hampering profitability as well. The materialisation of these (usually supra-national) risks is increasingly affecting Czech firms, and the decline in this industry's profitability may thus be long-term in nature.

Credit risk decreased overall…

Credit risk, as measured by the 12-month default rate, recorded a slight decrease as expected in 2014 (see Chart II.21). The share of non-performing loans (NPLs) in total loans showed a similar trend, falling by 1 pp from 7.4% in 2013 to 6.4% (see Chart II.22).[19] A decrease in credit risk is also suggested by other supplementary indicators, such as a decline in the number of petitions for insolvency proceedings and a fall in the number of bankruptcies. If the present recovery proved to be only temporary and the *Adverse Scenario* were to materialise, credit risk would rise sharply. The 12-month default rate would rise significantly at the four-year horizon (see Chart II.21). It would start falling again at the start of 2018, but the risk would remain elevated. A sharp increase in the

17 CNB (2014): Inflation Report IV/2014, Box 3.
18 However, the positive news from the construction industry must be evaluated with caution. The end-2014 CZSO data show that the approximate value of building notifications fell year on year in 2014 Q4.
19 Credit risk in the non-financial corporations sector is also analysed in the thematic article Use of the Czech Central Credit Register for Financial Stability Purposes published in this Report.

credit risk of non-financial corporations would also be reflected significantly in the NPL ratio (see Chart II.22), which would almost double from 6.4% to 11.3% over the three-year test horizon.

… but remains elevated in some industries…

The credit risk situation remains mixed across industries. Despite an improvement, construction shows an elevated level of credit risk, and exposures to manufacturing also remain quite risky (see Chart II.23). This can be partly explained by the structural nature of the two industries. Both construction and manufacturing are historically strongly procyclical industries in which credit risk rises more sharply during recessions than it does in other sectors (see Chart II.24). Moreover, the reaction of credit risk to the business cycle is not symmetrical in these industries – the risk falls more slowly during expansions than it rises during contractions. Sustained growth in economic activity is a prerequisite for a further decline in credit risk in these industries.

By contrast, a sharp rise in credit risk in the energy sector (see Chart II.23) points to growing problems in this segment and to the materialisation of risks that are evidently not cyclical in nature. The difference between average NPL ratios at times of expansion and recession is historically very low in the energy sector (see Chart II.24). This confirms concerns of a mismatch between the evolution of the cycle and the source of the current problems in the sector.

… and the situation in small enterprises is similarly unfavourable

Although a gradual decline in credit risk was observed for firms of all sizes in 2014, the credit risk of the smallest companies remains well above the level of the rest of the sector due to their worse financial situation (see Chart II.25). Large enterprises have been able to withstand the adverse situation in the long run and their credit risk has been falling since 2010 on average, whereas the smallest (micro) enterprises, along with sole proprietors, have been exposed to much greater financial stress. The difference in credit risk between large and small companies thus persists. The more pronounced recovery in domestic demand, which is having a major effect on the situation of local small firms, might change this negative trend.

The growth rate of bank loans is increasing only slowly despite the low interest rates and easier credit standards…

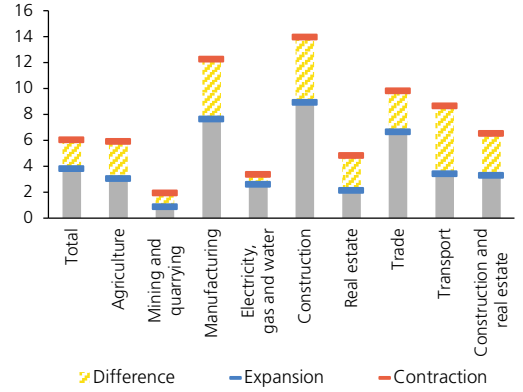
Bank loans to non-financial corporations are still recording low growth rates despite the fairly robust economic recovery. The current growth rate of bank loans is being affected mainly by factors on the credit demand side,[20] as there are signals of good credit availability on the supply side. This is evidenced by the fact that banks have significantly relaxed their credit standards for the corporate sector due to strong competition and the generally good liquidity situation (see Chart II.15).[21] According to the

20 Demand for bank loans may also be partly dampened by the rising amount of newly issued bonds (see below).

21 Good credit availability is also indicated by quarterly data from the business survey conducted by the CNB.

CHART II.24

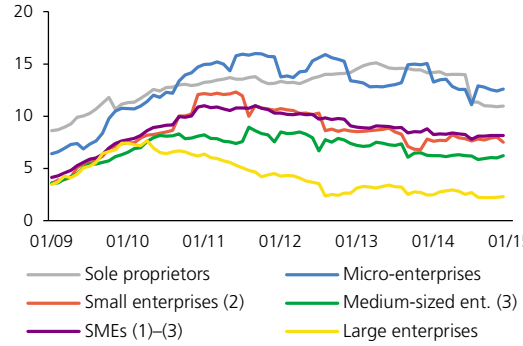
Average NPLs during economic expansions and contractions
(as % of total stock of bank loans in given category)



Source: CNB
Note: Expansion (contraction) is defined as an output gap higher (lower) than 1% (-1%). The HP filter was used to obtain the output gap over the period 2002–2014.

CHART II.25

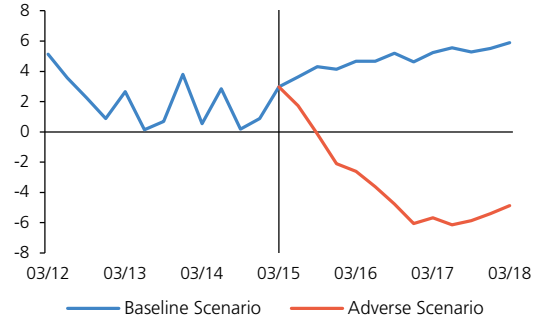
NPL ratios for bank loans by non-financial corporation size
(as % of given category)



Source: CNB
Note: The breakdown available in the CCR database does not allow entirely exact categorisation of corporations in accordance with the valid definitions. The categories are therefore approximated using the following criteria. Micro-enterprises: 1–9 employees + turnover < CZK 60 million; small enterprises: 10–49 employees + turnover < CZK 300 million; medium-sized enterprises: 50–249 employees + turnover < CZK 1 billion; large enterprises: the rest. Where only one of the two criteria is satisfied, the company belongs in the higher category.

CHART II.26

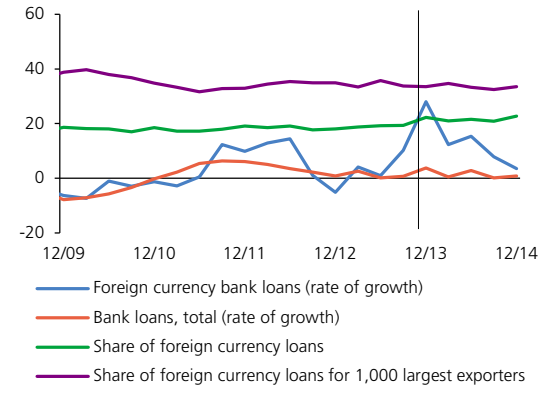
Year-on-year growth in bank loans to non-financial corporations
(%)



Source: CNB

CHART II.27

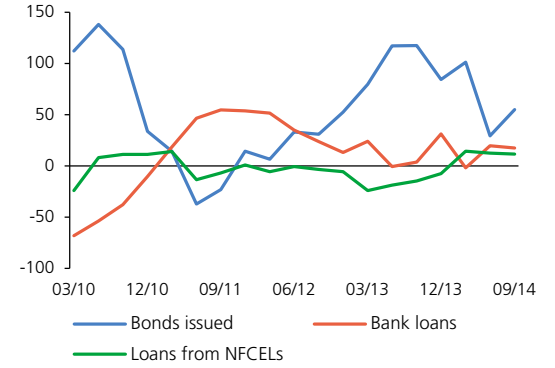
Year-on-year growth in foreign currency loans and their share in total bank loans
(%)



Source: CNB
Note: The pre- and post-intervention periods are separated by the vertical line. The set of 1,000 largest exporters pertains to 2014.

CHART II.28

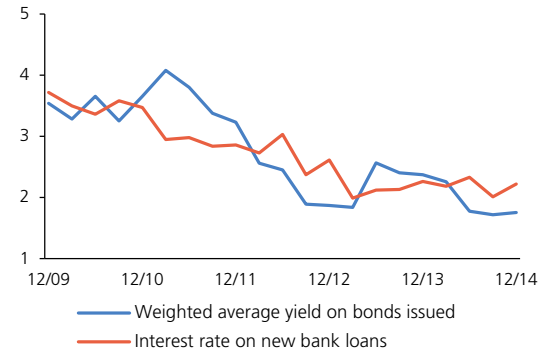
Dynamics of selected sources of financing of non-financial corporations
(year-on-year changes in CZK billions)



Source: CNB

CHART II.29

Interest rates and bond yields
(%)



Source: CNB, Bloomberg L.P.
Note: The bond yield represents the market rate on the secondary market.

Baseline Scenario, credit growth will rise gradually, although over the next few years it will not reach the pre-crisis levels and will still be modest compared to those levels (see Chart II.43). By contrast, should the *Adverse Scenario* materialise, the credit growth rate would only be positive in the middle of the first year. A substantial fall would be recorded at the three-year horizon and the credit cycle would return to its trough.

… and growth in foreign currency bank loans is continuing to fall

Given the use of the exchange rate commitment as an additional monetary policy instrument, it is desirable to monitor whether this measure is being translated into higher foreign currency financing among non-financial corporations. Such a tendency might signal, among other things, speculation by part of the sector on future appreciation of the Czech koruna. The available data indicate that the temporarily high growth rates of foreign currency bank loans observed to some extent before the CNB started intervening are gradually returning to their usual levels. Moreover, excluding price factors (the fixing of the exchange rate at its early November 2013 level) they are almost comparable with the growth rates of total corporate loans (see Chart II.27). The observed values thus do not indicate any major changes in the foreign currency financing behaviour of non-financial corporations and, except for the revaluation effect, no direct link can be identified between the foreign exchange interventions and subsequent developments.

Bond financing is outpacing bank lending…

Bond issuance remained elevated, especially in 2014 Q1. Its share in the financing of the sector has been rising in recent years (see Chart II.28). The issuance activity still pertains to quite a small set of large non-financial corporations, for which this source of financing is a cheap alternative to bank loans (see Chart II.29) and gives them access to larger amounts than individual Czech banks would be able to offer on their own. The Czech corporate bond market remains highly concentrated in terms of issuers, even though the number of bond issuers is increasing over time (see Chart II.30). The ten largest issuers account for around 90% of the total value of bonds issued by the sector.

… with primarily non-residents being exposed to bond credit risk

The credit risk associated with the issuance activity of Czech non-financial corporations affects the Czech financial sector only marginally and is borne mainly by non-residents, which hold around 75% of the total issuance.[22] Domestic financial institutions' holdings of Czech corporate bonds have long been below CZK 40 billion, which represents around 8% of the total issued. The high concentration of issuers in the energy sector, which has been showing declining performance in recent years and whose long-term outlook is currently not overly optimistic, may pose some risks (see above).

22 Although non-residents can be identified in more detail for only a small proportion of bond holdings, it can be concluded from the available sample that non-residents' holdings are divided among foreign banks and other financial intermediaries and, to a small extent, also include non-resident non-financial corporations.

The sector's total debt is flat and debt servicing is easier

Total debt was flat in 2014. Increased issuance activity and slight growth in bank loans was offset by a decline in inter-company loans and muted growth in other accounts payable (trade receivables, tax arrears, etc.). The risk of an excessive debt service burden decreased in 2014, mainly because of the sector's improved financial results creating new funds for repayments and also because of the continuously low financing costs (see Chart II.29). Total repayments of bank loans declined, amid a flat level of interest paid (see Chart II.31).

The sector's dependence on external developments is not decreasing

Despite the recovery in domestic demand, the share of exports in GDP rose to more than 84% at the end of 2014. On the one hand, exporters' good results – supported by the weaker exchange rate – are helping to reduce credit risk, which is well below the level of the sector as a whole (see Chart II.32), but on the other hand this is leading to a further increase in the sector's dependence on external economic growth. Given the geographical structure of exports, there is an ever-closer link to risks to economic growth in EU countries. As a result of the continuing crisis, exports to Russia and Ukraine also remain risky. This is further increased by the fact that exports of Czech goods to Russia started to fall by around 19% year on year on average[23] after the EU introduced a third round of sanctions against Russia in September 2014.[24] The sanctions might also put current investment projects at significant risk and lead to asset freezing and default on current trade receivables. The materialisation of related risks would have serious consequences for companies strongly oriented towards this region.

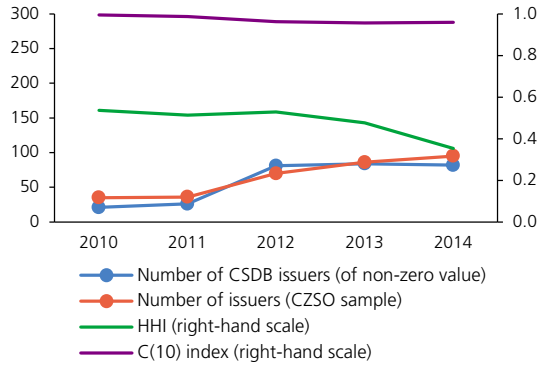
23 The third round of sanctions against Russia adopted by the EU in September 2014 includes restrictions on arms trade, exports of dual-use goods and technology and exports of technology for the oil industry and related sectors (this applies only to new contracts, not to existing ones).

24 This figure is significantly affected by a 40% year-on-year decrease in goods exports in January. However, the decrease can be attributed to the general economic situation in Russia and not solely to "Western" countries' economic sanctions. In addition, demand in Russia was hit by a sharp depreciation of the rouble at the end of 2014.

CHART II.30

Number of bond-issuing non-financial corporations and bond concentration

(number of legal entities; right-hand scale: index, minimum = 0, maximum = 1)

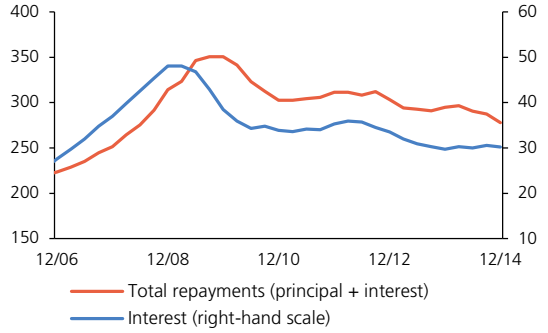


Source: ECB CSDB, CZSO
Note: The number of issuers based on CZSO sample data also contains companies that have issued bills of exchange. The C(10) index shows the share of the ten largest issuers in total bonds issued. The input data for HHI are the squares of the shares of individual issuers in total bonds issued. An index greater than 0.25 is generally regarded as a sign of very high concentration.

CHART II.31

Repayments of principal and interest on bank loans

(CZK billions; annual moving totals)

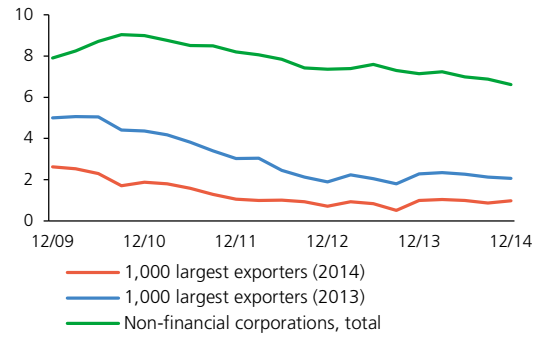


Source: CNB
Note: Total repayments are calculated on the basis of CCR data.

CHART II.32

Non-performing bank loans ratio for the 1,000 largest exporters

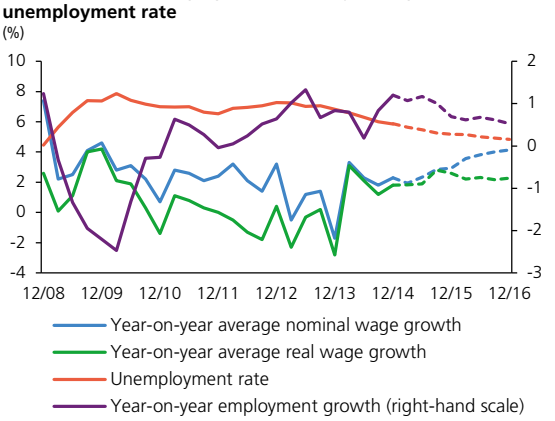
(%)



Source: CNB
Note: The structure of the 1,000 largest exporters changes over time, so for each series we give the year indicating the set of exporters to which the time series pertains.

CHART II.33

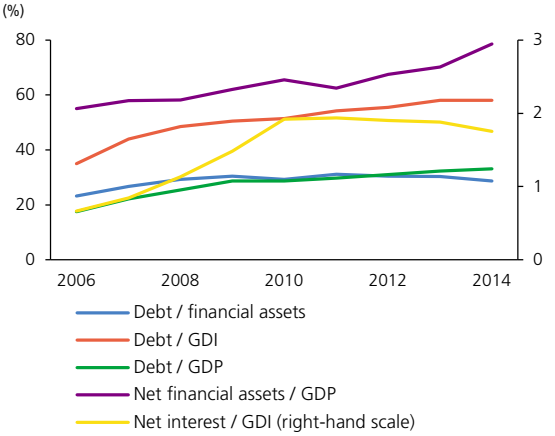
Nominal and real wage growth, employment growth and the unemployment rate



Source: CNB
Note: The unemployment rate is seasonally adjusted. Dashed lines indicate the CNB's May 2015 predictions.

CHART II.34

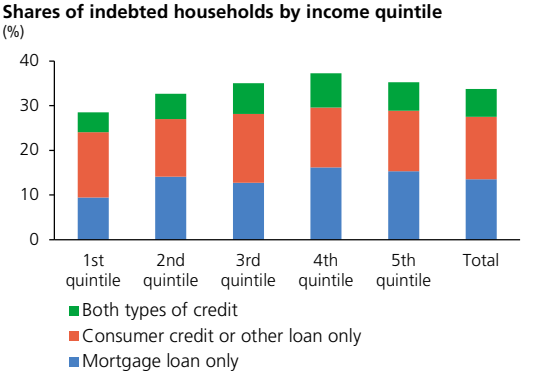
Household debt ratios



Source: CZSO, CNB
Note: The net interest payments data do not cover non-bank institutions.

CHART II.35

Shares of indebted households by income quintile



Source: 2013 Household Budget Statistics, CNB calculation
Note: The income quintiles are based on income per consumption unit for the full sample of households.

2.3 HOUSEHOLDS

The domestic economic recovery had a favourable effect on the labour market in 2014. Household income returned to growth and the unemployment rate declined. Gradual income growth accompanied by a slowdown in the year-on-year dynamics of the financial liabilities of households helped stabilise households' total debt. The interest burden on households fell to its lowest level in four years thanks to a fall in interest rates on mortgage loans and consumer credit. The sector's overall credit risk remained at a similar level as a year earlier, but the consumer credit segment is still considerably riskier than the segment of loans for house purchase. A sudden rise in interest rates on loans unaccompanied by a similar increase in income is still the main risk to the household sector. However, this risk is being dampened in part by an increasing average interest rate fixation period for new mortgage loans.

The income situation of households is gradually improving…

The economic recovery had a positive effect on the labour market in 2014. The general unemployment rate[25] fell by 0.8 pp year on year to 6.2% and the number of job vacancies more than doubled. However, wage dynamics remained subdued. The average nominal and real wage picked up by 2.4% and 2% respectively, making up for the real fall in wages recorded in 2013 (see Chart II.33). The outlooks for the next two years assume continuing growth in nominal and real wages and a further decline in the unemployment rate. The better income conditions were positively reflected in year-on-year growth in the gross nominal disposable income of households of 2.4%. This, together with renewed consumer confidence, led to an increase in households' nominal consumption expenditure of 2.0%.

… which is having a positive effect on their debt sustainability…

Total household debt relative to both gross disposable income (GDI) and real GDP stabilised in 2014 (see Chart II.34). As usual, higher-income households still have higher debt, but the difference is relatively small when households are divided according to income per consumption unit[26] (see Chart II.35). Low-income households mainly hold consumer credit, while mortgage loans prevail among high-income households. The two types of credit are held simultaneously mostly by households in higher income quintiles. This is a positive factor as regards debt sustainability. The debt of Czech households has long been substantially lower compared to the euro area, but the difference is gradually decreasing over time (see Chart II.36). Net interest payments on bank loans (net of interest received on deposits) fell for the third consecutive year. This was due to a drop in mortgage and consumer credit rates.

25 In the 15–64 age category. Measured by the ILO methodology according to the LFS.
26 Dividing households according to income per consumption unit allows households of different sizes and structures to be compared. A consumption unit is defined according to the OECD. A whole consumption unit is assigned only to the head of the household, while children aged up to 13 years have a weight of 0.5 and other persons a weight of 0.7.

… and is contributing to a stronger overall financial position of the average household

The relative wealth of households (expressed as the ratio of net financial assets to GDP) rose by 6.3% year on year owing to renewed income growth and slower growth in debt (see Chart II.34). The aggregated household balance sheet has also strengthened markedly since the onset of the crisis. Net worth, which currently makes up about 85% of all household liabilities, rose by 20% (see Chart II.37). More than one-half of financial assets are held in the form of cash or bank deposits, so households have a relatively high liquid "financial buffer" on average. In this respect, however, the situation is probably very heterogeneous across income groups. According to stress tests, the share of financially distressed households[27] is higher among low-income households. These households do not have a sufficient financial surplus and get into arrears.

Growth in loans to households was driven by bank loans for house purchase

The total amount of loans provided to households rose by around 4.5% year on year in 2014. This rise was driven by bank loans for house purchase, which went up by about 6%. By contrast, the amount of consumer credit provided by banks fell by almost 1%. The growth rate of loans to households provided by non-bank intermediaries was 2%. As a result of a gradual renewal of consumer confidence and a further drop in client interest rates, growth in loans to households can be expected to pick up pace in the next two years (see Chart II.38), as households are expected to show stronger interest in both loans for house purchase and consumer credit. Bank loans account for about 95% of total loans to households. The remaining 5% is provided by non-bank financial corporations engaged in lending, whose share in lending to households has long been falling (see Chart II.39).

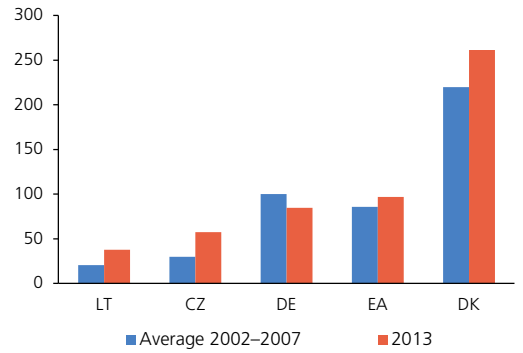
Banks started easing credit standards

Credit standards applied to loans to households started to be eased in late 2014 (see Chart II.15). Relaxed credit standards for loans for house purchase coupled with historically low interest rates and rising residential property prices could be a potential source of systemic risk. This is because households that do not have stable and sufficiently high income may decide to buy property on credit (influenced by optimistic information from the media and entities having a vested interest in selling, intermediating or financing). These households may be sensitive to a rise in interest rates unaccompanied by a similar increase in income. A sudden interest rate rise could lead to an increase in household distress, with a stronger impact on lower-income households, as indicated by simulations performed in household stress tests (see Chart II.40). An increase in financial distress due to default on mortgage loans would occur in about one-half of cases.

27 A household is considered to be financially distressed if it is unable to service its debts after covering the essential costs of living (see CNB Working Paper 2/2014 for details).

CHART II.36

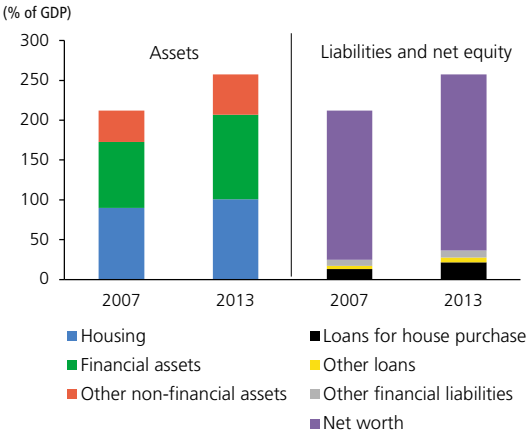
Debt-to-income ratio of households
(%)



Source: Eurostat
Note: LT has the lowest ratio in the euro area and DK the highest.

CHART II.37

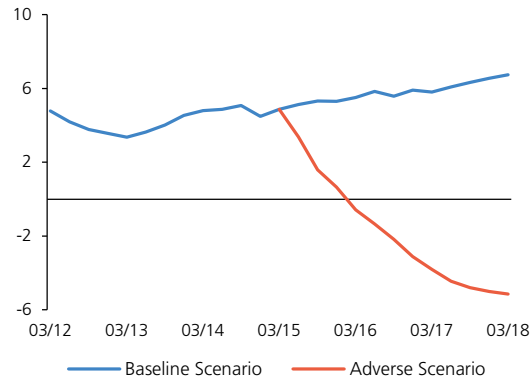
Balance sheet of households
(% of GDP)



Source CZSO, CNB

CHART II.38

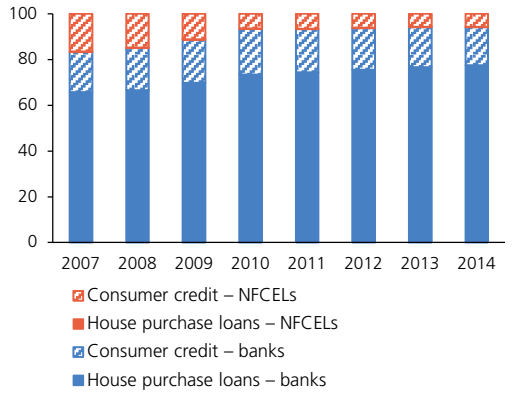
Year-on-year growth in bank loans to households
(%)



Source: CNB

CHART II.39

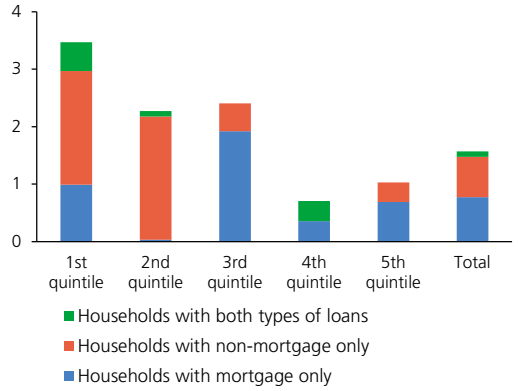
Loans to households
(shares in %)



Source: CNB

CHART II.40

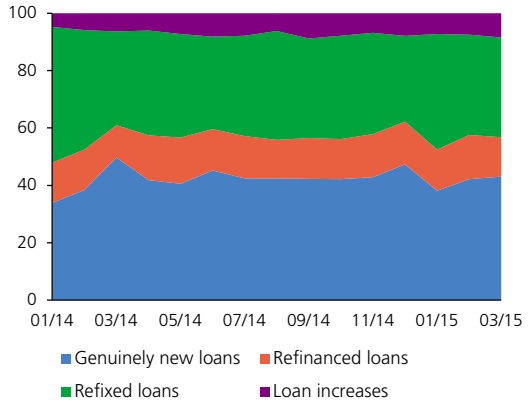
Simulation of growth in the percentage of financially distressed households in response to a 3 pp increase in interest rates
(pp)



Source: CNB

CHART II.1 BOX

New mortgage loans for residential property
(shares in %)



Source: CNB

BOX 1: HOW NEW ARE NEW MORTGAGE LOANS?

Mortgage loans fall within the broader category of loans for house purchase. Most loans for house purchase (around 70%) are genuinely mortgage loans for residential property secured by that property. However, they also include building society loans, consumer credit for property and loans for residential property for entrepreneurial purposes.

Monthly data on the amount of mortgage loans provided are one of the most closely observed indicators of mortgage lending. Since last year, new statistics allow the total amount of new mortgage loans to be adjusted for refixed and refinanced loans. With these types of loans, a new interest rate is negotiated only for the outstanding part of the loan, either with the debtor's original bank (refixation) or with another bank (refinancing). Therefore, they are not actually new loans representing a real increase in the banking sector's claims on households. Such an increase only occurs where the refixation or refinancing of a mortgage loan is associated with an increase in the amount of the loan.

Last year the share of refixed mortgage loans was just over 35%, the share of refinanced loans was almost 15% and the share of increases was around 7%. Therefore, only around 40% were genuinely new mortgages (see Chart II.1 Box). This confirms that the information value of earlier publicly cited data on the amounts of genuinely new mortgage loans not adjusted for refixed and refinanced loans was limited.

The dynamics and structure of new mortgage loans differ across bank types. In 2015 Q1, small banks increased the total amount of new mortgage loans (including refixed and refinanced loans) by more than 80%, large and medium-sized banks by less than 20% and building societies by 30%. In the case of small banks, refinanced loans were the biggest contributor to this increase, accounting for more than 50% of new mortgage loans (see Chart II.2 Box). In addition, small banks are pushing down the interest rate more than other types of banks (see Chart II.3 Box). This suggests that they are capable of using very favourable interest rates to persuade clients of other banks to refinance their mortgage loans with them.

Longer average interest rate fixation periods for new mortgage loans are making households less sensitive to interest rate movements

The average interest rate fixation period for new mortgage loans is gradually increasing (see Chart II.41). This is mainly due to rising demand from households, supported by banks, for loans with an interest rate fixation of over five years and up to ten years, which more than doubled

year on year.[28] Loans with this fixation also recorded the largest decrease in interest rates (see Chart II.42). A long-term decline in mortgage rates could foster higher household credit risk if accompanied by a disproportionate decrease in margins. On the other hand, longer rate fixation periods could reduce household credit risk. In the event of a sharp rise in rates, households with mortgage loans with longer fixations might thus not face an immediate shock.

Household credit risk is set to decline gradually in the years ahead

According to the 12-month default rate, household credit risk remained at a similar level as a year earlier in 2014 (see Chart II.43) for both loans for house purchase and consumer credit. The NPL ratio for bank loans was also little changed in 2014 (see Chart II.44). However, the values of the two indicators differ significantly across segments. The NPL ratio for loans for house purchase was around 3% in 2015 Q1, whereas that for consumer credit exceeded 12%.[29] Similar differences are also visible for the 12-month default rate. Outlooks expect a gradual decline in household credit risk over the next few years (see Charts II.43 and II.44).

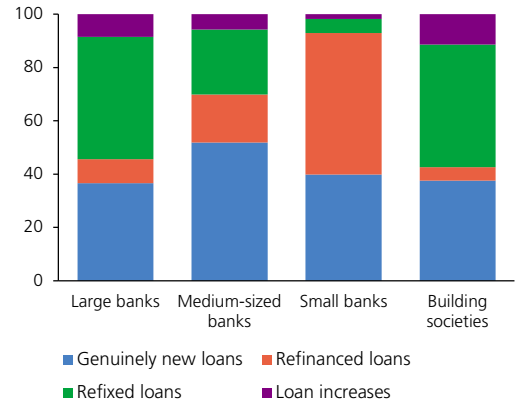
Low-income households would be hit hardest by a return to recession

A weakening of economic activity, growth in unemployment and a drop in real wages would result in the 12-month default rate rising to 7.4% at the four-year horizon (see Chart II.43). In this scenario, the NPL ratio would also be significantly higher than in the *Baseline Scenario* (see Chart II.44). Low-income households, which have also long been considerably more financially distressed than the rest of the population, would react most sensitively to this. Were the risks of the stress scenario to materialise, the rate of distress among low-income households would exceed 17% (see Chart II.45). However, the impact of the stress scenario would be limited, as the share of low-income households in total bank loans is low.

28 Mortgages with fixations of over ten years are also becoming more popular, but they still account for a minority of total new mortgage loans.
29 These are preliminary estimates. The final values will become available in 2016 Q2.

CHART II.2 BOX

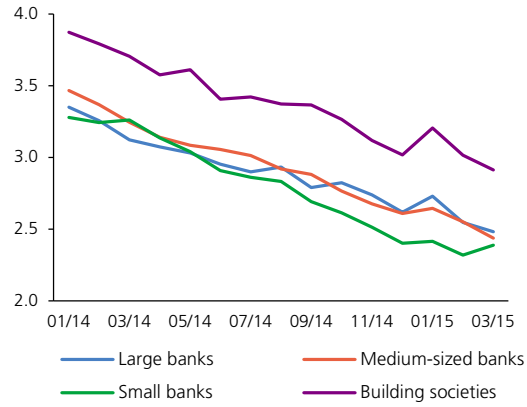
New mortgage loans by bank type
(shares in %)



Source: CNB

CHART II.3 BOX

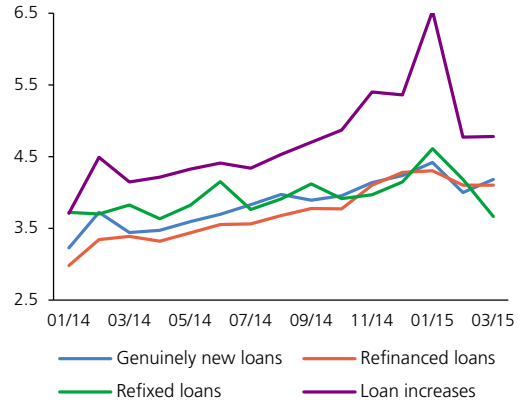
Interest rates on new mortgage loans by banks type
(%)



Source: CNB

CHART II.41

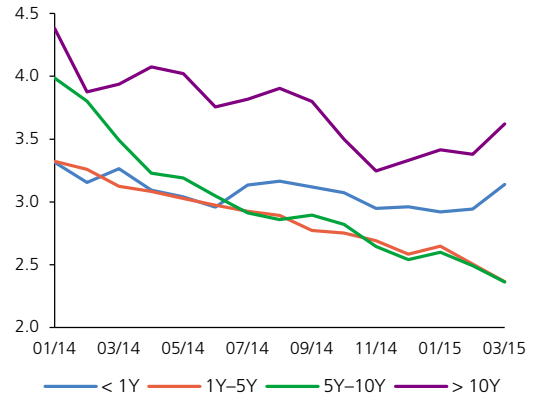
Average interest rate fixation periods for new mortgage loans
(years)



Source: CNB

CHART II.42

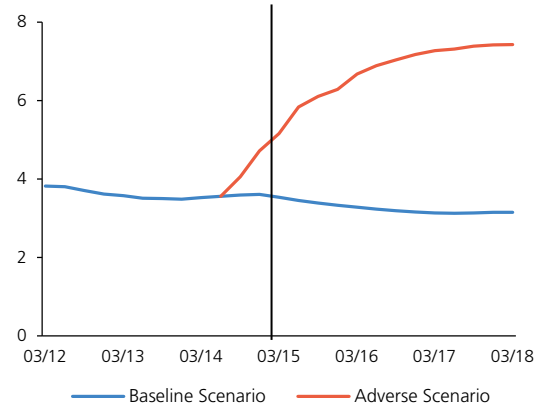
Interest rates on new mortgage loans for residential property
(%)



Source: CNB

CHART II.43

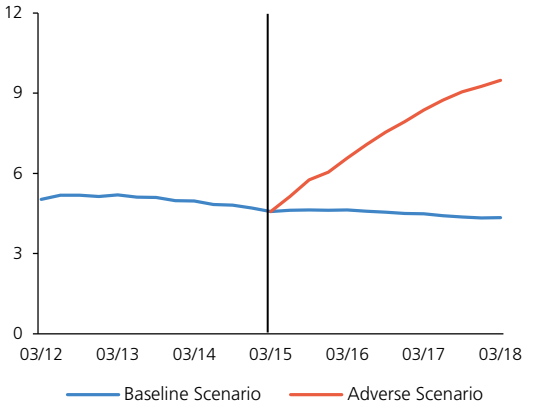
12-month default rate on bank loans to households
(%)



Source: BRCI, CNB calculation
Note: As the 12M default rate is calculated as a forward-looking indicator, the scenario values start to diverge in 2015 Q2.

CHART II.44

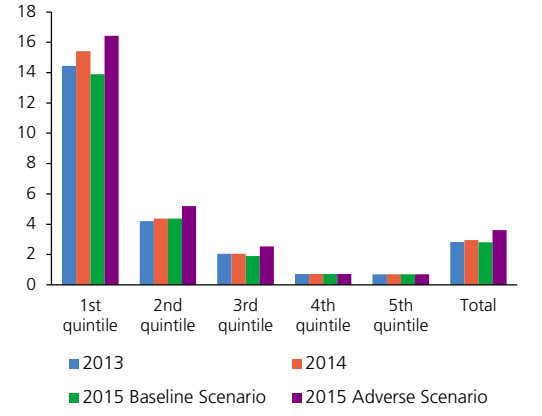
NPL ratio for bank loans in the household segment
(%)



Source: CNB

CHART II.45

Share of financially distressed households by income quintile
(%)



Source: Household Budget Statistics, CNB calculation
Note: The shares are given for households that have some sort of loan. However, the income quintiles are based on the full sample of households.

2.4 THE PROPERTY MARKET

Prices of residential property rose modestly in 2014, but the trends remain mixed across regions. Growth in residential property prices in Prague and the increasing profitability of buying apartments for investment purposes is generating potential for the emergence of a price spiral. Falling interest rates on loans for house purchase coupled with easier credit standards might contribute to this spiral. As regards commercial property, construction is on the rise and investment is also increasing, driven mainly by demand from abroad. New construction of office property is leading to a rise in the vacancy rate to relatively high levels. The NPL ratio among developers declined slightly and new loans to developers returned to growth. However, the volume of new loans is low, as the renewed development activity is being financed largely from developers' own funds or from abroad.

Residential property prices increased in 2014…

Transaction prices of residential property saw modest growth across the monitored categories in 2014 (see Chart II.46). Apartment prices in the Czech Republic as a whole were assessed as being slightly overvalued at the end of 2014 (for details, see section 4.2 and the thematic article *A Comprehensive Method for House Price Sustainability Assessment*).

… but trends differed across regions

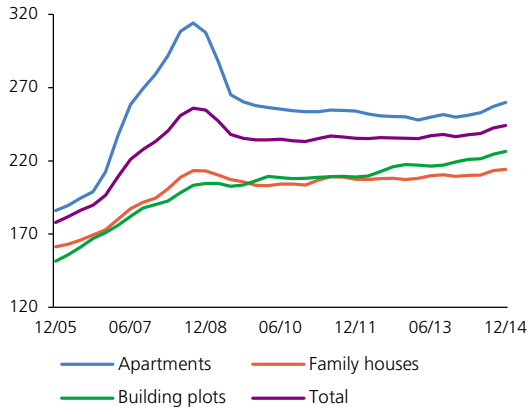
The available estimates of transaction prices in individual regions[30] show that their growth in the Czech Republic as a whole conceals significant regional differences. Prices are rising apace in some regions, but are still falling substantially in others. The largest divergence in 2014 was recorded for apartments (see Chart II.47). Asking prices in Prague continued to rise sharply for the third consecutive year. Furthermore, they accelerated again after having slowed in 2013. In the rest of the Czech Republic, by contrast, the signs of a recovery observed last year weakened and growth in asking prices outside Prague halted in 2014 Q4. According to estimates based on tax returns, transaction prices in Prague rose by 4.4% and 7.2% year on year respectively in 2014 Q1 and Q2.[31] Apartment prices in Prague were assessed as being overvalued by 4% at the end of 2014 (see section 4.2). According to estimates based on tax returns, however, transaction prices in the rest of the Czech Republic fell further in 2014 Q1 and Q2 (by 0.3% and 1.9% respectively).

Prices of family houses and building plots also increased

Transaction prices of family houses in Prague rose in 2014 H1 according to estimates based on tax returns. Like apartment prices, they were flat in the rest of the Czech Republic. Estimates of transaction prices, which are available only for the Czech Republic as a whole, indicate growth in prices of family houses of 1.8% year on year on average in 2014 H2. Estimates of transaction prices of building plots, also available only for

CHART II.46

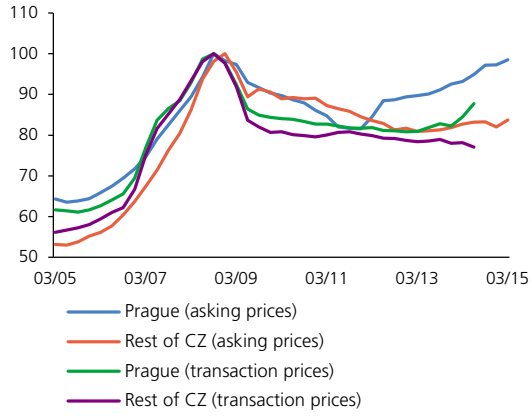
Property prices – transaction prices
(1999 Q1 = 100)



Source: CZSO, HB Index, CNB calculation
Note: The data for family houses and apartments for 2014 H1 are preliminary. The other data for 2014 are calculated from alternative sources of data on transaction prices (the HB index and transaction prices of apartments from a CZSO survey).

CHART II.47

Apartment prices – transaction prices and asking prices
(maximum = 100)



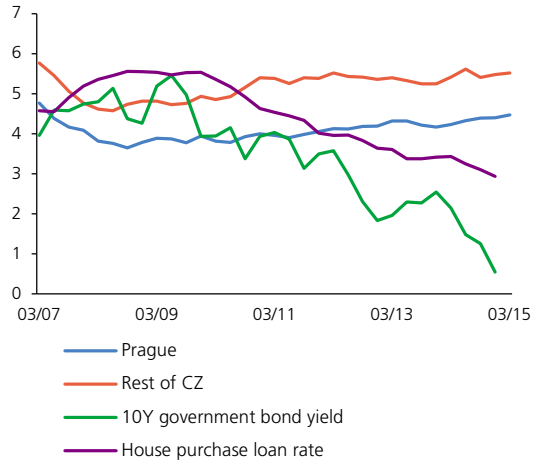
Source: CZSO

30 Estimates of transaction prices based on tax returns, which are also published broken down by region, are available up to 2014 Q2 for family houses and apartments and up to 2013 Q4 for land. The evolution of prices up to 2014 Q4 was calculated from price data obtained from a CZSO survey (apartments) and the HB index (family houses and apartments).

31 Transaction price estimates based on tax returns may be subject to significant revisions.

CHART II.48

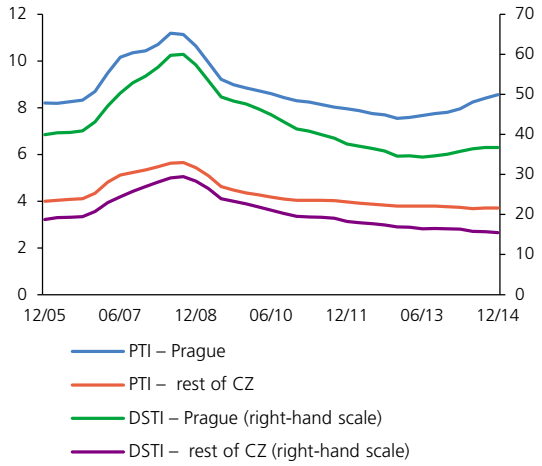
Apartment rental returns
(%)



Source: IRI, CNB
Note: Comparison with yields on a basket of government bonds with an average residual maturity of 10 years and rates on new house purchase loans.

CHART II.49

Housing affordability indicators
(% on right-hand scale)



Source: CZSO, CNB
Note: PTI (DSTI) is ratio of price of 68 m² apartment (monthly debt service) to moving sum of wage over last four quarters. PTI and DSTE are A mortgage with an LTV of 65% and a repayment period of 20 years was considered for the DSTI calculation. The data for 2014 are preliminary.

the Czech Republic as a whole for 2014, point to a rise of 2.7% year on year on average.

Rapid growth in asking prices of apartments in Prague…

The difference between asking prices and transaction prices of apartments in Prague persists. Transaction prices based on tax returns saw an increase of 8.9% in 2014 Q2 from their most recent trough, while asking prices were 16.4% higher in the same period.[32] The rapid growth in asking prices, followed by growth in transaction prices, may indicate the emergence of a price spiral driven by buyers' expectations of further price growth. In turn, developers may adjust their expectations to the dynamics of asking prices and accelerate the price spiral through increased construction. Were the increase in transaction prices to be out of line with economic fundamentals (e.g. wage growth), credit risk in the loans for house purchase sector would increase. On the other hand, if asking price developments were to prove overly optimistic and fail to be followed by transaction price growth, the level of risk would increase in the development sector.

… is increasing the incentive to buy apartments for both housing and investment purposes

As a result of growth in rents in Prague during 2014, the perceived attractiveness of buying an apartment as an investment, as measured by the ratio of annual rental income to the apartment price, rose further. Owing to a sharp decrease in government bond yields (of 2.0 pp on a basket of government bonds with an average residual maturity of 10 years), the profitability of buying to let relative to alternative investments also increased. The same trend was recorded in the rest of the Czech Republic (see Chart II.48). At the same time, apartment affordability, as expressed by the price-to-average wage ratio, declined by 9.6% in Prague in 2014 (see Chart II.49). This decline was due not only to growth in transaction prices, but also to sluggish wage growth. However, a further drop in interest rates on loans for house purchase of almost 0.5 pp occurred simultaneously. The affordability of credit-financed apartments in Prague, as measured by the debt service-to-average wage ratio, fell by just 5.0% and remains high owing to previous interest rate decreases.

Construction of new apartments is also rising in Prague

In 2014, the number of apartment starts in apartment blocks in Prague more than doubled from the low recorded in 2012, rising by 46.3% year on year (see Chart II.50). In the last two years, more apartments were started in Prague than in the rest of the Czech Republic as a whole for the first time since the onset of the previous price growth in 2005. This may be due in part to "lagged" property price movements in the rest of the Czech Republic, but to some extent it may also point to excessive apartment construction in Prague.

32 Part of this increase was probably due to a statistical anomaly in CZSO asking prices in Prague in 2012. In contrast to that episode, however, rapid growth in asking prices in Prague in 2014 was also indicated by an alternative data source (Institute for Regional Information).

Residential property prices will continue to trend up

The property market trend in the years ahead will depend mainly on macroeconomic developments. In line with the *Baseline Scenario*, relatively modest but accelerating growth in property prices can be expected in the future. Apartment prices may rise by 4% year on year in 2015, accelerating slightly to around 5% year on year in 2016 (see Chart II.51). However, easy monetary conditions worldwide and a related "search for yield" may pose a risk of significantly stronger property price growth than is consistent with the assumptions of the *Baseline Scenario*. On the other hand, the risks of significantly worse macroeconomic developments are illustrated as usual in the *Adverse Scenario*, which could lead to a decrease in apartment prices of as much as 20% in 2017.

New construction and investment activity is also rising on the commercial property market

Investment activity strengthened further in 2014, with total investment in commercial property rising by 47% year on year to EUR 2.04 billion.[33] This is the third-highest investment volume ever, standing 84% above the long-term average (see Chart II.52). The rise in investment activity was driven chiefly by demand from foreign investors, motivated by very low yields on alternative assets. Although yields on commercial property have fallen to 5.25%–7% since the end of 2013,[34] the yield on a basket of government bonds with an average residual maturity of 10 years was just 0.54% in the same period. Given the predicted course of ECB monetary policy (see section 2.1), increased investment in commercial property can be expected to continue. Further downward pressure on commercial property yields and upward pressure on commercial property prices may emerge. The stronger investment activity in the commercial property sector is also making the sector more sensitive to developments abroad, and especially to potential changes in foreign investor sentiment. The recovery in the investment segment of the market and the related recovery in new construction may not be in line with developments in the rental segment. The rental segment is more dependent on the domestic economy and may be adversely affected by the weaker exchange rate of the koruna (most contracts are in euro, while tenants' incomes are in koruna).

The market situation differs across types of commercial property

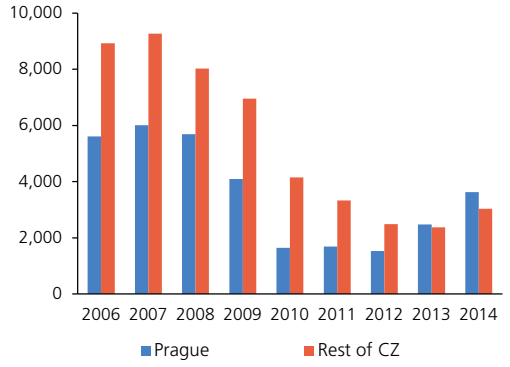
Developments in the rental segment differ substantially by type of commercial property. The situation is least favourable in the office property segment, where an increase in new construction (of 90% year on year) led to a rise in the vacancy rate of 2.2 pp year on year to 15.3% (see Chart II.53) despite a recovery in take-up (gross take-up increased by

33 Property investment covers both transactions in newly completed commercial property and transactions in property completed in the past. The investment segment of the market determines the price and prime yield on commercial property and thereby influences the new construction segment. The rental segment of the market determines rent and take-up. In combination with newly completed space, take-up determines the vacancy rate. For a more detailed description of the market see the thematic article *Office Property in Central European Countries* in FSR 2013/2014.

34 By comparison with the end of 2013, yields on commercial property fell by 1 pp to 5.25% in 2015 Q1, yields on industrial property dropped by 0.5 pp to 7% and yields on office property were flat at 6%. Government bond yields were only 0.3% in 2015 Q1.

CHART II.50

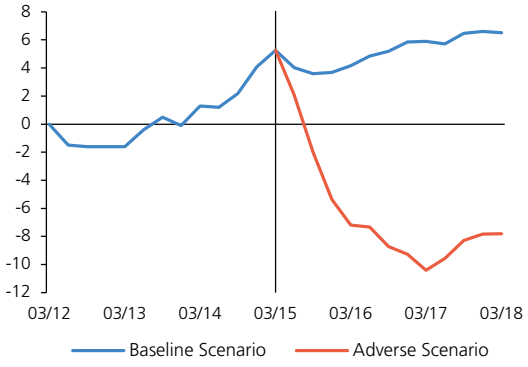
Numbers of apartment starts



Source: CNB, CZSO
Note: Numbers of apartment starts in apartment blocks only.

CHART II.51

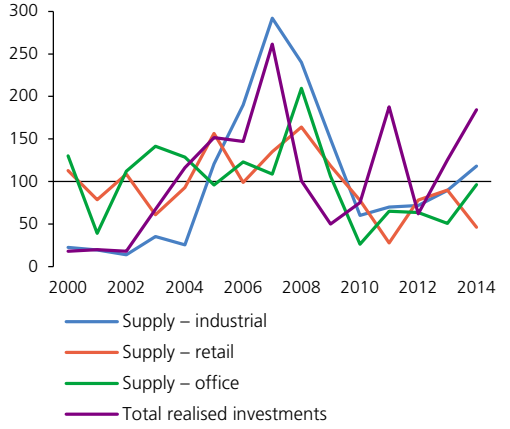
Year-on-year property price growth
(%)



Source: CZSO, CNB calculation

CHART II.52

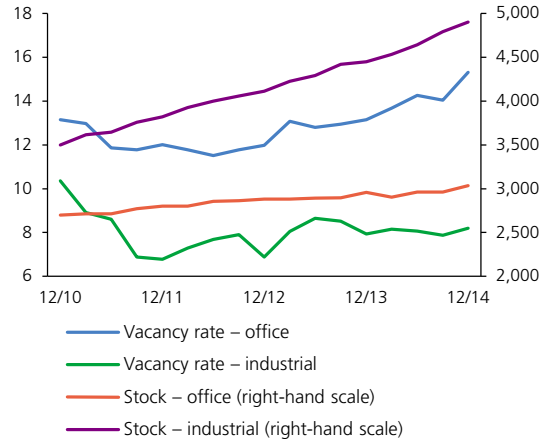
Planned supply and realised demand on the commercial property market
(2000–2013 average = 100)



Source: Jones Lang LaSalle
Note: Supply of industrial, retail and office property calculated from new supply in m²; realised investments from data in EUR.

CHART II.53

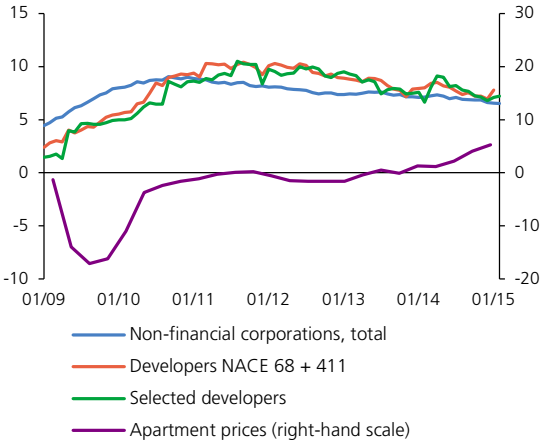
Total stock and vacancy rates
(vacancy rate in %; stock in thousands of m² on right-hand scale)



Source: Jones Lang LaSalle

CHART II.54

NPL ratios in the property development sector
(%; year-on-year growth for apartment prices on right-hand scale)



Source: CNB, CZSO

12% year on year).[35] Owing to an expected further rise of 22% in newly completed office space next year, the vacancy rate will continue to go up (to as much as 16.8% according to a forecast by Jones Lang LaSalle). In addition, higher new supply of office space in the prime office segment is crowding out take-up of older, lower-quality office projects, which are not covered by the official statistics. The owners of such projects are often being forced to react with rent cuts, which are negatively affecting their financial situation. Compared to office property, the situation in the industrial property segment is considerably better. Although new construction is also quite buoyant in this segment (completions were up by 31% year on year), supply is more flexible than for other types of commercial property and construction is now mostly based on pre-lease. The industrial property market therefore has a lower and more stable vacancy rate, which rose by only 0.26 pp to 8.2% in 2014 (see Chart II.53). The retail property situation is also relatively favourable, aided by renewed household consumption. Owing to relatively high penetration, new construction is falling (and is currently at less than half of the long-term average; see Chart II.52), whereas rental take-up is increasing. This is putting upward pressure on rents.

The NPL ratio in the property development sector decreased

The generally better conditions for residential and commercial development projects[36] were reflected in a further moderate decline in the NPL ratio among developers of 0.9 pp year on year (see Chart II.54). The NPL ratio is now similar to that for the non-financial corporations sector as a whole. At the same time, the recovery in activity on the property market was reflected in a rise in new loans to developers of 24% year on year, following five years of declines. However, the amount of new loans remains up to five times lower than before the onset of the financial crisis. A large part of the renewed development activity is therefore being financed from developers' own funds or from abroad. Another part of the construction activity is being financed by loans only shortly before completion. The risky tendencies in the development sector include a further rise in foreign currency loans (whose share in total loans was up from 37% at the end of 2013 to 45% at the end of 2014). Despite natural hedging of these loans (most transactions on this market are denominated in euro), developers are becoming more sensitive to exchange rate movements, as the situation of tenants, to whom the currency risk is transferred, depends primarily on the performance of the domestic economy. Rising long-term growth in the exposure and concentration of bank portfolios vis-à-vis the real estate sector also poses a risk.[37]

35 This is relatively high even by comparison with Central European capitals. At the end of the year the vacancy rate was 7.7% in Berlin, 11.2% in Bratislava and 13.3% in both Warsaw and Bucharest. Only Budapest had a higher vacancy rate than Prague (16.2%), but it fell by 1.1 pp year on year (all data from Jones Lang LaSalle).

36 The amounts of NPLs and new loans can only be assessed for developers active in residential and commercial property as a whole, as few corporations provide information on their activities in a detailed breakdown.

37 For details, see the thematic article *Credit Portfolio Sector Concentration and its Implications for Capital Requirements* in this Report.