

3 ASSET MARKETS

3.1 THE FINANCIAL MARKETS

Global financial markets have been strongly affected by supportive central bank policies combining very low monetary policy rates with various unconventional measures. If these policies are maintained in the long term, however, they may create sources of systemic risk and foster uncertainty on financial markets. The adverse economic trend is giving rise to concerns about the financial stability of the euro area banking sector and, coupled with high public debt levels in many countries, leading to persisting uncertainty about risk transmission between the banking and government sectors. Excess demand for safe assets is pushing yields down, sometimes even into negative figures. The low yields, combined with ample liquidity, are in turn causing investors to search for yield. This is giving rise to sharp growth in stock indices and generating interest in high-quality government and corporate bonds. The demand for safe assets and the search for higher yields are also affecting the Czech government bond market and government bond yields.

Monetary policy rates at all-time lows...

The key financial markets remain under the influence of G4 central bank policies in the first half of 2013.¹ The persisting liquidity trap and the segmentation of some financial markets made these central banks further reduce their monetary policy interest rates, which are now at historical lows close to zero.² Monetary policy rates reached zero amid repeated episodes of stress in the debt markets of advanced countries with high government debt and amid persisting high unemployment related to the protracted recession. This gradually necessitated the introduction of unconventional monetary measures. These measures, taking the form of either longer-term liquidity provision or quantitative or targeted easing (see section 2.1), had a highly positive effect on the short-term risks to financial stability. The situation on key markets calmed and overall risk aversion decreased (see Chart III.1). The CNB's monetary policy rates are also at all-time lows in response to weak domestic demand, adverse economic developments and fiscal consolidation (see section 2). The 2W repo rate has been at the "technical zero" level of 0.05% since November 2012 (see Chart III.2).

... are leading to a further decline in money market activity...

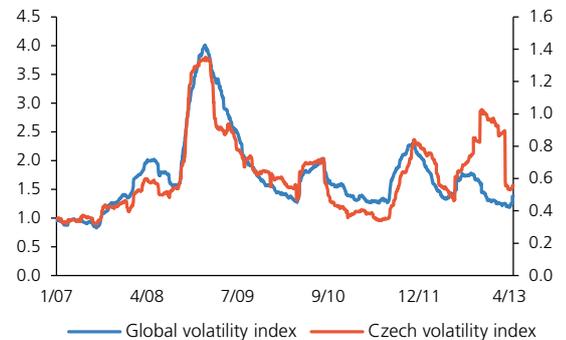
The provision of cheap, long-term liquidity in the form of a full allotment, fixed-rate tender was introduced in response to the freezing-up of interbank money markets. The liquidity crisis led to a rise in counterparty risk and a surge in the credit premium on world markets, causing market activity to fall. Central banks had to extend their liquidity

1 The G4 comprises the Bank of England (BoE), the Bank of Japan (BoJ), the European Central Bank (ECB) and the Federal Reserve System (Fed).
2 The Fed has kept its monetary policy rate in a range of 0–0.25% since January 2009 and the BoE has maintained its rate at 0.50% since March 2009. The BoJ has long held its key rate at 0–0.10%, while the ECB lowered its to 0.50% in May 2013.

CHART III.1

Volatility on domestic and foreign financial markets

(historical volatility over last 90 days)



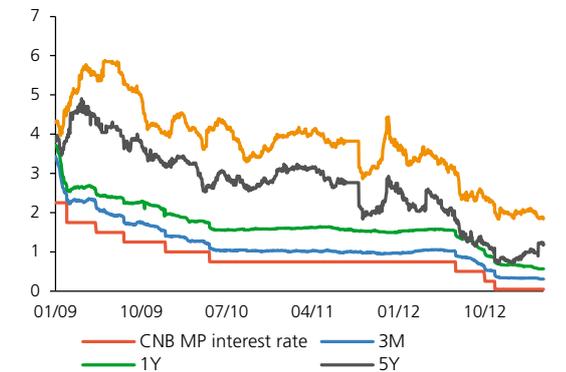
Source: Thomson Reuters, CNB calculation

Note: The Czech volatility index is the sum of the historical volatility of the PX, the CZK/EUR rate, the 10Y government bond yield and the 3M PRIBOR. The global volatility index is the sum of the historical volatility of the S&P500, the DJ Stoxx50, the USD/EUR and JPY/USD rates, and 10Y DE and US government bond yields. The rise in the Czech index at the end of 2012 was caused by a decline in the 3M PRIBOR after the CNB changed its monetary policy rates.

CHART III.2

Monetary policy rate and market rates in the Czech Republic

(%)



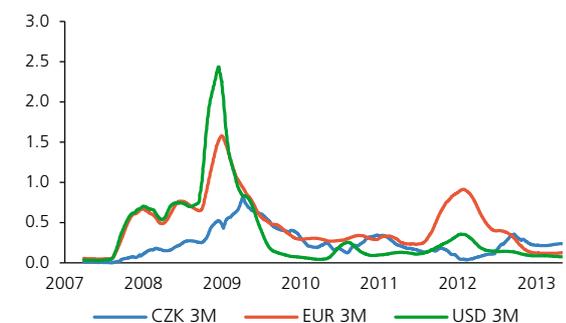
Source: Thomson Reuters

Note: 3M and 1Y = 3-month and 1-year PRIBOR; 5Y and 10Y = 5-year and 10-year generic government bond yield.

CHART III.3

Credit premia on the interbank market

(%)



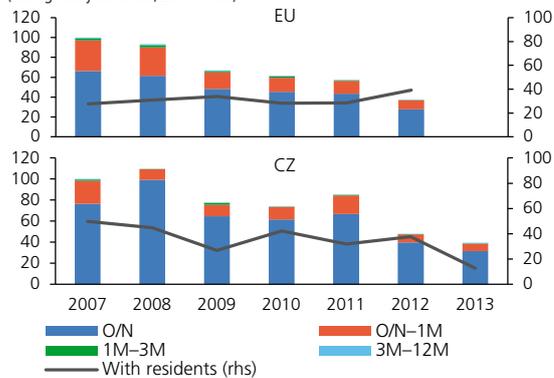
Source: Thomson Reuters, CNB calculation

Note: Difference between the 3M rate and the 3M OIS of the relevant currency. The current low activity on the interbank market is reflected in lower liquidity.

CHART III.4

Transactions on the unsecured interbank market

(average daily turnovers; 2007 = 100)



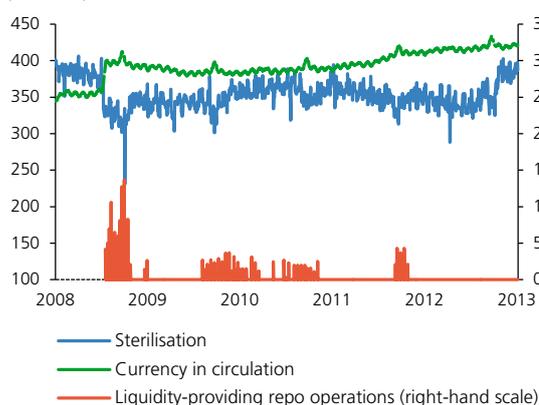
Source: CNB, ECB, CNB calculation

Note: Data from surveys of average daily turnovers on the relevant money market. O/N = overnight, 1M = 1-month, 3M = 3-month, 12M = 12-month. The information relates to September of the given year for the EU and to October (or January in the case of 2013) for the Czech Republic.

CHART III.5

Open market operations and currency in circulation

(CZK billions)



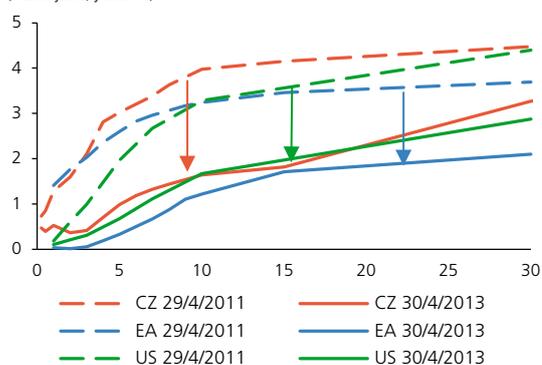
Source: CNB

Note: Sterilisation comprises liquidity-absorbing repo operations and the CNB deposit facility.

CHART III.6

Movement of government yield curves in selected economies

(x-axis: years; y-axis: %)



Source: Thomson Reuters, Bloomberg LP

provision arrangements to stabilise the money markets. This extraordinary liquidity is partially substituting for the role of the money market, so central banks are now playing a far more important role in the redistribution of banks' funds than before. The ECB eased the tensions in the euro area interbank market quite significantly by introducing three-year repo operations with full allotment (LTROs) (see Chart III.3).³ However, the combination of a high aggregate surplus of euro liquidity and a very low market interest rate has not reduced the fragmentation on the euro money market. Given the duration of the measures introduced, the euro money market saw rather a fall in activity (see Chart III.4).⁴ The persisting dependence of some banks on this extraordinary liquidity thus suggests that additional counterparty risk is probably still high. Moreover, the flat yield curve is reducing market opportunities (see Chart III.6). The lower activity and increased preference for secured transactions over unsecured ones may also be a response to the tighter regulatory requirements, which will probably lead to a reduction in the supply of unsecured interbank lending.

There is no major tension on the Czech interbank market, as evidenced by zero take-up of the extraordinary liquidity-providing repo facility (see Chart III.5). Moreover, the importance of the Czech money market has long been affected by the broad deposit base of Czech banks (see section 4). This, combined with their relatively conservative business models, makes them less dependent on market financing. Unlike most European markets, where an increasing preference for secured transactions and domestic counterparties can be seen, the Czech interbank market is still dominated by unsecured transactions, while transactions with non-residents are gradually prevailing as trading on the domestic market declines (see Chart III.4). The maturity profile reveals that O/N transactions and transactions of up to one week dominate on the unsecured market, while transactions maturing within one month dominate on the secured market.⁵ Given the lowering of the 2W repo rate to the level of the discount rate, Czech banks started to make greater use of the deposit facility for depositing excess liquidity.⁶ A slight upward trend in currency in circulation is also continuing. This trend is comparable to the period before the financial crisis and reflects the effect of interest rates on demand for money (see Chart III.5).

From the money market perspective, the short-term risks to financial stability have been significantly reduced by the introduction of unconventional liquidity-providing measures. However, medium-term risks persist. The unconventional liquidity-providing activities of central banks may currently be concealing some dysfunction in the money market and distorting the real level of liquidity or counterparty risk.

3 Banks were offered the option of early repayment in the first half of 2013 and repaid part of these loans on two dates.

4 Euro Money Market Survey, ECB, September 2012.

5 More information is available at http://www.cnb.cz/cs/financni_trhy/penezni_trh.

6 The ECB has a similar experience with its deposit facility (FSR, December 2012).

If these measures remain in place for an extended period, financial institutions may become dependent on them.

... and, together with unconventional instruments, to a flattening-out of yield curves...

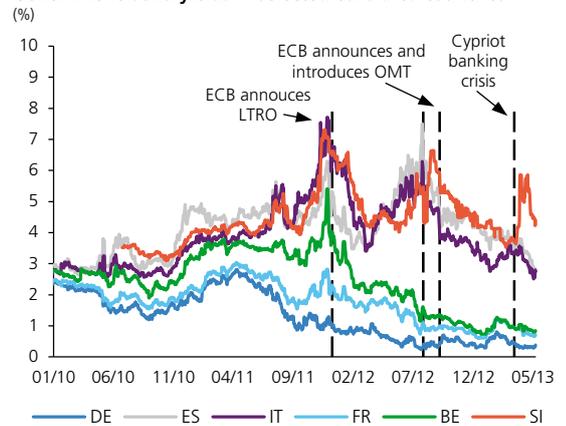
The decline in long-term interest rates due to realised or intended government bond purchases by some central banks (the G4), along with the flight to quality and the expected persistence of monetary policy interest rates at very low levels, was reflected in a decline in the level and slope of government yield curves in some countries (see Chart III.6). A flatter yield curve is also apparent for Czech government bonds even though the CNB is not making targeted purchases of government bonds on the secondary market. This is due mainly to expectations of very low interest rates in future as well as to strong investor demand for Czech government bonds. The sustained low rates are having a positive effect, as they are reducing the costs of government debt financing and thus also the credit risk of banks' loan portfolios. At the same time, the constantly rising prices of government bonds are being reflected in higher profitability of government creditors, which are repricing the bonds in their portfolios. Nevertheless, a relatively long period of a low, flat yield curve entails additional risks. In this environment, the life insurance sector is exposed to an imbalance between the assets and liabilities sides of its balance sheet, as while investment income is continuously falling, guaranteed rates of return are changing only very slowly. The low interest rate environment may thus foster higher leverage or investment in more risky assets (see section 4).

... which, supported by other policy commitments, has made government financing cheaper

After the details of the Greek debt restructuring were finalised in March 2012, the markets shifted their attention to other European countries – both to those which had already reached higher levels of government debt (e.g. Belgium and Italy) and to those whose public finances had come under pressure due to a rise in contingent liabilities stemming from a weak banking sector (Ireland, Cyprus, Slovenia and Spain; see Chart III.7). The markets' concerns about debt sustainability were reflected in some countries' risk premiums. Credit premiums in the southern periphery of Europe reached very high levels. In July 2012, yield spreads against German government bonds reached a full 719 bp in Spain and 599 bp in Italy. The surge in sovereign debt risk premiums is reflected in higher debt service costs. If investors are concerned that a government sector has a higher default risk because its high government debt is already high, they demand higher risk premiums or higher returns. However, this further increases debt service costs and causes the government sector more financing difficulties, and so the feared risk of default also increases. Investors' concerns become self-fulfilling and the risk of multiple equilibria rises. Moreover, the increase in sovereign risk feeds back into the stability of financial institutions – directly through losses on government bond holdings and higher

CHART III.7

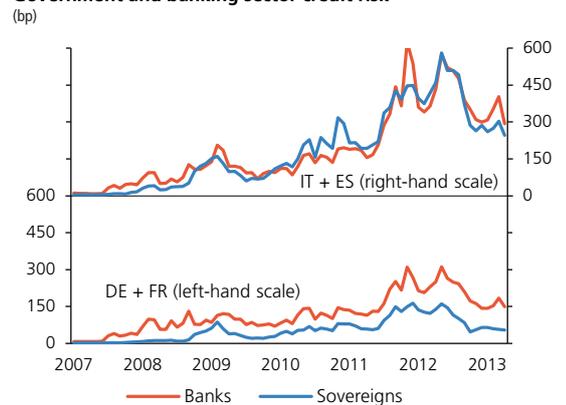
Government bond yields in selected euro area countries



Source: Bloomberg LP
Note: 5Y generic government bonds.

CHART III.8

Government and banking sector credit risk

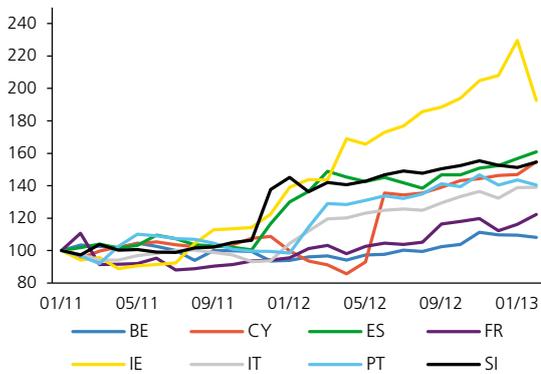


Source: Bloomberg LP, CNB calculation
Note: The chart shows the arithmetic means of CDS on the 5Y senior debt of sovereigns and the largest banks of the countries concerned.

CHART III.9

Domestic government bonds in MFI assets

(31 January 2011 = 100)

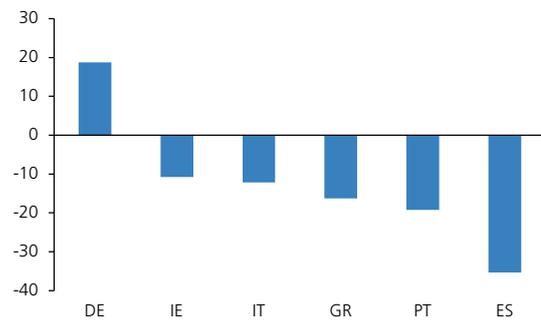


Source: ECB, CNB calculation

CHART III.10

Change in foreign deposits with banks in selected euro area countries

(%)



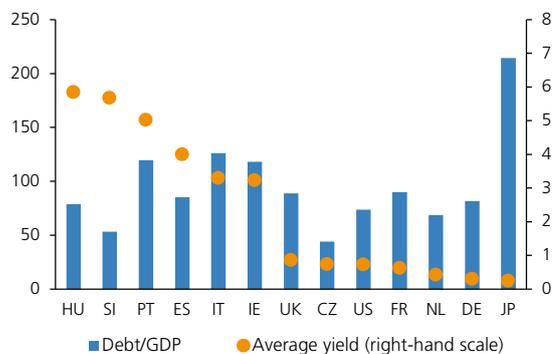
Source: Central banks of relevant countries, CNB calculation

Note: Year-on-year change as of September 2012 (or August 2012 in the case of Italy and June 2012 in the case of Spain).

CHART III.11

Comparison of government debts and their yields for selected economies in 2012

(%)



Source: Bloomberg LP, CNB calculation

Note: Debt is expressed as a percentage of GDP as of the year-end; average yields relate to 5Y generic government bonds.

financing costs and indirectly through a change in the book value of other domestic assets. A significant relationship is thus created between the financial and government sectors (see Chart III.8).⁷

This situation forced the ECB to take unprecedented measures.⁸ In particular, it introduced a new facility consisting in unlimited yet conditional purchases of government bonds on secondary markets (Outright Monetary Transactions, OMT).⁹ Like the earlier LTRO, this facility led to a large decline in sovereign risk premiums (see Chart III.7). Some risk might arise in connection with this programme if it were to disappoint the currently high market expectations. The launch of the European Stability Mechanism (ESM) also later helped reduce tensions.¹⁰ It was used for the first time in December 2012, when Spain received EUR 39 billion to restructure its banking sector.

Despite a decline in aggregate liquidity risk, sovereign credit risk persists in the euro area...

The liquidity risk of the government sector fell significantly, partly because of the home bias effect (see Chart III.9).¹¹ However, fundamentals (the debt level, primary deficits, the economic outlook, funding maturity and balance-sheet recession in the banking sector) will continue to dominate, reducing the effectiveness of the measures introduced. Government bond market developments will depend mainly on compliance with current commitments at the euro area level (the establishment of the banking union) and at the country level (compliance with the promised fiscal consolidation). The banking union, which envisages single banking regulation and supervision, a common system for bank resolution and a common deposit guarantee scheme (see Box 1 in section 4), is expected to help reduce the risk of an outflow of deposits (see Chart III.10) and significantly weaken the link between the sovereign and banking sectors of individual countries (see Chart III.9).¹² However, these expectations may prove to be over-optimistic (see Box 2 in section 5).

... although markets assess the relative rather than the absolute level of government debt

The evolution of government bond yields shows that there is no safe absolute threshold for debt sustainability as perceived and priced by

7 See the thematic article Fiscal Sustainability and Financial Stability in this Report.

8 The markets responded strongly to the very announcement of the new rescue mechanism in July 2012, when ECB President Mario Draghi stated: "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough." (<http://www.ecb.int/press/key/date/2012/html/sp120726.en.html>).

9 The launch and execution of OMTs is conditional on the participation of the issuing state in the ESM/EFSD programme and full compliance with its conditions. The purchases will focus on government bonds with a maturity of one to three years.

10 Contrary to initial plans, the ESM was not launched until September 2012, after it had been ratified by the German Constitutional Court. For detailed information about the ESM, see FSR 2011/2012 and www.esm.europa.eu.

11 Domestic financial institutions' preference for domestic government bonds is narrowing the relationship between the government and financial sectors. This is increasing the risk of moral hazard, as manifested by expectations of the two sectors that they will be able to rely on assistance from the central bank should any difficulties arise.

12 See <http://www.imf.org/external/pubs/ft/sdn/2013/sdn1301.pdf>.

markets. The safe level of debt is relative and markets incorporate the government's ability to manage debt in the long run into the sovereign credit premium. Economic fundamentals and contingent liability estimates have a dominant position. However, the important factors also include the nature of the creditor base (domestic or foreign, banks or institutional investors), the time structure of the maturity of the debt and the currency in which the debt is issued. The government's ability and opportunity to influence money issuance also plays an important role. These facts are reflected in the demands of investors, who require a much higher risk premium for holding Italian or Spanish bonds than, say, British or Japanese bonds even though Spain's debt stands at 85% of GDP and Italy's at 127% of GDP, while the UK and Japan have debt of 88% and 214% of GDP respectively (see Chart III.11).

The calming of markets is fragile, with persisting fragmentation...

Although European markets have calmed, they remain fragmented (see Chart III.7). The possible reasons for this include differences in the real economy and differences in lending to corporations, which may be a result of a potential lack of capital and higher credit risk due to declining economic activity. Fragmentation is also being fostered by persisting uncertainty about the sufficiency of the lending capacity of the EFSF/ESM rescue mechanism and by the behaviour of investors, who on the one hand are seeking safe assets and on the other hand are looking for opportunities to achieve returns in an environment of sustained low rates.

... and concerns about contagion

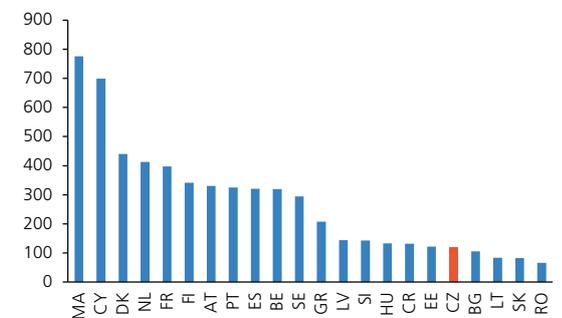
Market instability resurfaced in Europe in connection with the assistance programme for Cyprus in the first half of 2013. The resolution plan for the Cypriot financial sector, which contained a bail-in tool, got the markets moving for a while, albeit in a more controlled manner (in a persisting environment of excess liquidity) than in previous assistance episodes. The original programme, taking the form of a progressive tax on all deposits, came as a great surprise to the markets. It remains unclear whether the bail-in can be used to resolve financial sector stability problems in other countries and what impact it might have on the functioning of the banking union. The markets are also concerned about the implementation of capital controls in Cyprus. The main risk is associated with the movement of capital after these controls are lifted. The Cyprus crisis also drew attention to the problems of smaller economies with relatively large financial sectors. Yields on Slovenian government bonds recorded a particularly strong response (see Chart III.7). The problems of Cyprus, like the earlier crisis in Iceland, show how difficult it is to resolve a banking sector crisis using domestic public budgets if the size of the banking sector significantly exceeds the output of the economy (see Chart III.12).

Demand for safe assets is pushing yields to low or even negative levels...

Some regulations currently under preparation (e.g. liquidity standards and the requirement to settle contracts via central counterparties), the quantitative easing and fixed exchange rate policies of some central

CHART III.12

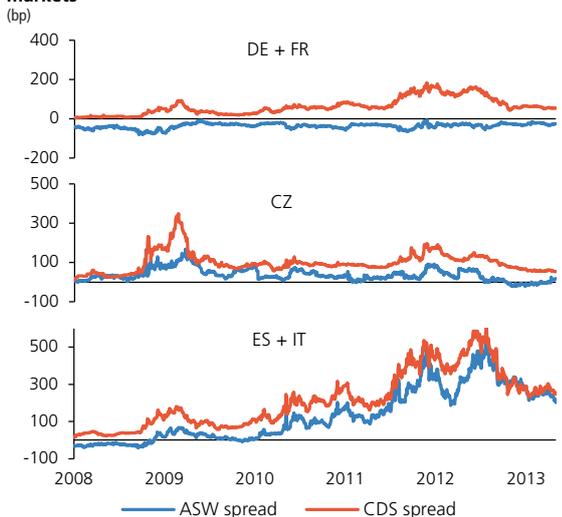
Ratios of MFI assets to GDP in selected countries
(end-2011, %)



Source: Eurostat

CHART III.13

Credit premiums on the government bond and sovereign CDS markets
(bp)

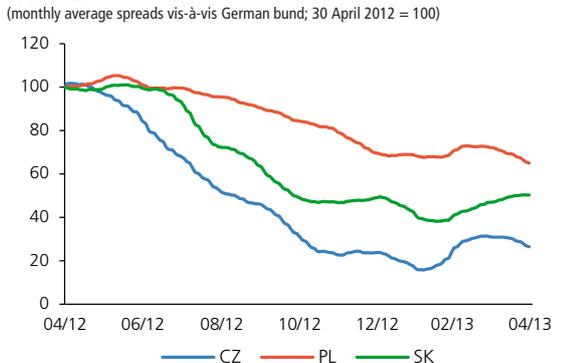


Source: Bloomberg LP, CNB calculation

Note: The credit premium on the bond market is calculated as the 5Y ASW spread, i.e. as the difference between the 5Y government bond yield and the 5Y IRS.

CHART III.14

Government bond yields for selected central European countries
(monthly average spreads vis-à-vis German bund; 30 April 2012 = 100)

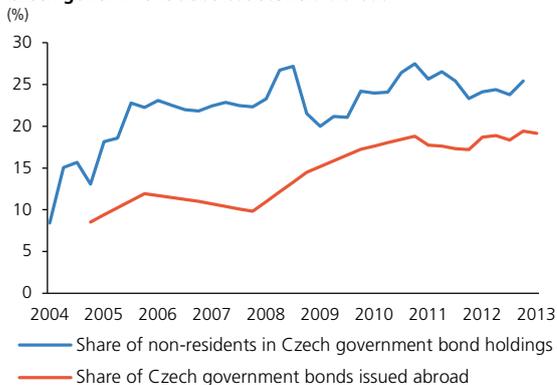


Source: Thomson Reuters, CNB calculation

Note: Yield spreads between the 5Y benchmark government bonds of the relevant countries and the German bund.

CHART III.15

Czech government debt issued/held abroad

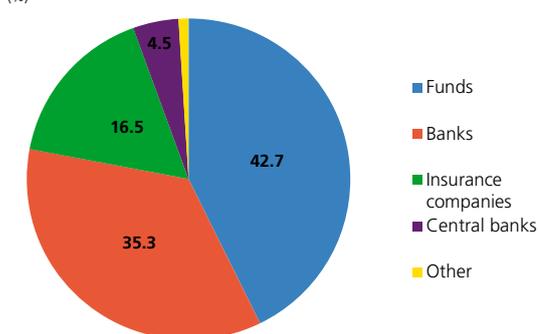


Source: MF CR, CNB

Note: The share of Czech government bonds issued abroad is calculated on the basis of nominal values. For this time series, the quarterly data up to and including 2010 are estimated from yearly data.

CHART III.16

Breakdown of foreign investors investing in Czech eurobonds on the primary market



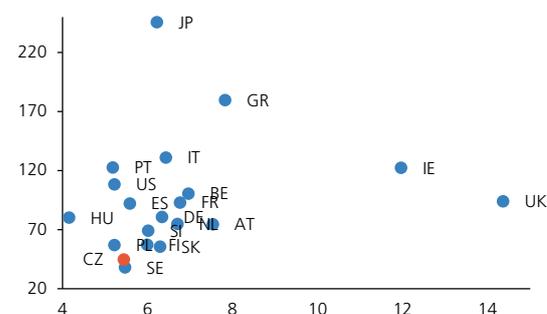
Source: MF CR, CNB calculation

Note: Weighted average for the two most recent issues (24 February 2012 and 5 October 2012).

CHART III.17

Average maturity versus debt level

(x-axis: average maturity in years; y-axis: ratio of government debt to GDP in %; end-2012)



Source: Bloomberg LP, IMF

banks, the migration of investors from unsecured to secured markets due to concerns about counterparty risk, and the increased aversion of some conservative investors in response to future economic developments are significantly increasing demand for safe assets and depressing income on such assets to low or negative levels. The correlation between the risk premium and yields on government bonds of countries with the highest ratings has been negative since the start of the debt crisis, since, as a result of the downward pressure on long-term interest rates and the search for quality, prices of safe assets have been diverging from fundamentals reflecting their real risk premium (see Chart III.13).¹³ In response to this anomaly, new imbalances may arise in the form of excessively high (artificially created) market prices of other assets (e.g. corporate bonds or government bonds of other countries; see Charts III.14 and III.19), as the yield curve of the selected safe assets might start to be used as a benchmark for the pricing of other assets. If the distorted asset prices derived from this benchmark start to align, it could have very adverse consequences. If economic conditions necessitate the withdrawal of unconventional monetary stimuli, medium-term risks to financial stability may also emerge in connection with the holding of safe assets in central banks' balance sheets, i.e. the robustness of safe asset status may come into question. In such an event, the markets may expect central banks not only to stop purchasing safe assets, but also to start selling them. Such expectations could result in a sharp adjustment of prices of benchmark assets with a negative impact on prices of other assets.

... and Czech government bonds are also recording falling yields...

Czech government bond yields have also reached all-time lows (see Chart III.2). The government yield curve is flattening out as a result of stronger demand for domestic bonds. This is due to a relatively low debt-GDP ratio (see Chart III.12), government fiscal consolidation efforts as well as a lack of alternatives for investment in Czech korunas. Domestic investors are showing constantly high interest in Czech bonds (see section 4). However, Czech bonds are also becoming increasingly popular abroad, as can be seen from the interest in issues of euro-denominated Czech government bonds (see Chart III.15). The foreign investors demanding Czech bonds are most often financial institutions from core euro area countries and from Central and Eastern European countries (see Chart III.16).

... but the market price may decline in the future

Government bonds of other Central European countries are also enjoying strong investor interest, as reflected in narrower yield spreads vis-à-vis the German bund (see Chart III.14). The fall in yields is often explained by the

¹³ Under normal conditions, the correlation between the yield on a government bond and the sovereign CDS spread of the same maturity is positive, as in both cases their movements reflect the sovereign default risk. If sovereign risk increases, the government bond yield and the price of hedging should both rise. A negative relationship suggests barriers to arbitrage and an anomaly in one of the markets. High demand for these high-quality assets, especially among foreign investors, increases interest in hedging against default risk. For this reason, prices of hedging (the CDS spread) go up and the asset yield (the government bond yield) goes down, hence the correlation is negative (see Chart III.13).

assumption that central banks will hold short-term rates at very low levels for an extended period of time. However, Czech government bond yields have declined much more significantly for the most frequent maturities (i.e. over 1 year and up to 5 years – see section 4) than can be explained by this factor alone. At the same time, this sharp fall cannot be explained by including Czech government bonds among safe assets. Unlike in Germany, the looser relationship between Czech government bond yields and the relevant CDS seems to be due not to a search for “Czech quality”, but rather to the above-mentioned opportunity to invest free funds in more profitable assets with a currently low default risk (see Charts III.11 and III.2).¹⁴ This situation could change quite quickly. Moreover, since the Czech government bond market is not very liquid, the adjustment of prices would not necessarily be linked with a change in the phase of the cycle. It could be caused by a mere change in the investment strategy of a single large bank that usually purchases government bonds. This situation could result in herd behaviour. In the event of mass sell-offs, the yields demanded could rise sharply and the government sector could run into liquidity difficulties. Although the risk of multiple equilibria is more relevant to the case of high debt, it cannot be ruled out even if the debt level is lower. This risk is higher for debt with a shorter average maturity (see Chart III.17), since the larger is the debt to be refinanced in a given year, the more likely it is that current investors will be concerned about future refinancing. This may make them unwilling to refinance the debt now.

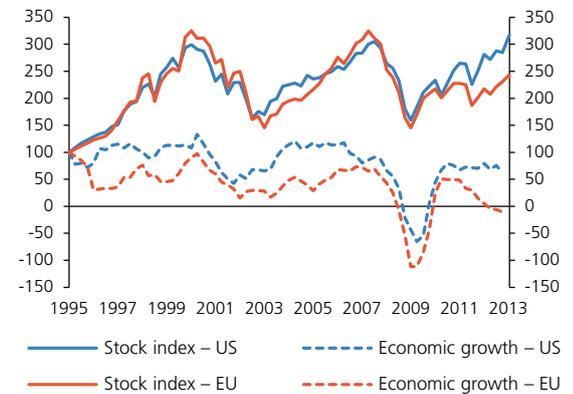
Global stock markets have been recording sharp growth

The environment of very low interest rates is also affecting the stock markets. In addition to investors seeking higher yields, the demand for shares may be due to corporations taking advantage of the opportunity of low debt financing costs to purchase shares. Here too, however, mixed trends can be observed across countries and continents (see Chart III.18). Besides the reasons given above, shares on US markets are enjoying growth on the back of good news from the real economy. Financial issues even regained their pre-crisis levels for the first time in March 2013. By contrast, financial issues in Europe (which are currently at around 40% of their pre-crisis levels) are causing significantly slower growth in stock indices. Moreover, the markets for these shares are showing high volatility, reflecting the uncertainty about banking sector stability and the potential resurgence of the debt crisis. This is confirmed by a fall in bank shares connected with the Cyprus crisis and the uncertainty about taxation of deposits. Investor confidence in this sector is also being affected by uncertainty regarding the form and timing of the planned regulatory changes, such as the introduction of a financial transaction tax.¹⁵

CHART III.18

World stock markets and the business cycle

(1995 Q1 = 100)



Source: Bloomberg LP, CNB calculation

Note: For the stock index, the S&P 500 was used for the USA and DJ STOXX Europe was used for Europe.

CHART III.19

Main stock, bond and precious metal indices

(2 January 2009 = 100)



Source: Bloomberg LP, Thomson Reuters, CNB calculation

14 At the same time, the different trends in the CDS credit premium and the underlying bond are associated with differences in the structure of participants in the two markets (see Box 4 of FSR 2011/2012).

15 Eleven EU countries are expected to introduce a financial transaction tax in 2014: Belgium, Estonia, France, Italy, Germany, Portugal, Slovakia, Slovenia, Spain, Austria and Greece.

3.2 THE PROPERTY MARKET

Property prices declined further in 2012, in some property categories for the fourth consecutive year. The number of real estate market transactions fell accordingly. The price decline was in line with fundamentals and was similar to that seen in economies comparable to the Czech Republic. From the regional perspective the trends are very mixed, with prices in Prague falling more slowly than in the rest of the Czech Republic, or even rising slightly. Likewise, the number of transactions in Prague is rising, in line with a recovery in residential development sales. However, the overall financial situation in the property development sector remains unfavourable, with the NPL ratio staying at high levels or increasing even further according to some calculations. Along with other estimates, the property price sustainability indicators, which improved further during 2012 thanks to the price decline mentioned above, suggest that property prices are slightly undervalued. Given the outlooks for their fundamentals, though, apartment prices are expected to stagnate or decline slightly in the period ahead and might start rising in mid-2014. However, property prices are subject to considerable – mostly downside – risks.

Property prices continued the downward trend observed in previous years...

Czech property prices continued the downward trend observed in previous years across all categories in 2012 (see Chart III.20). Transaction prices of apartments fell the most (by 2.9% year on year as of the year-end) and are now about 22% down from the peak recorded in late 2008. Prices of family houses, which are the most stable of all, reversed the slight increase observed in 2011 and declined by 1.8% year on year. They are now 5% below their peak. Prices of building plots, which had previously been the only category to maintain growth during the financial crisis, also fell in 2012. Building plot prices calculated from available asking prices decreased by 3.7% year on year in 2012 and are 6.9% below their 2011 Q1 peak.¹⁶ The decline in property prices deepened slightly overall in 2012. Apartment prices were around 2.4% lower than assumed in the *Baseline Scenario* of FSR 2011/2012. This was due mainly to the worse-than-expected evolution of economic activity, which caused the risks of lower property prices highlighted in FSR 2011/2012 to materialise.

... but price developments were mixed across regions

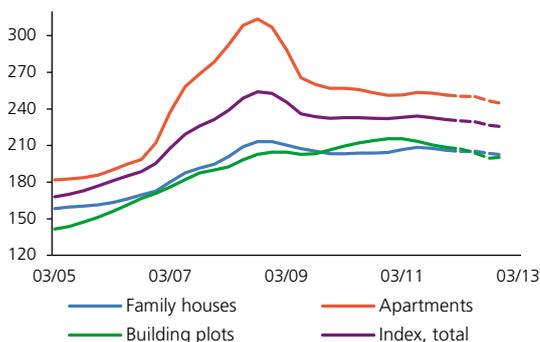
The apartment price data, for which there are multiple alternative sources for various regions, indicate that the price dynamics were fairly mixed. While apartment prices in Prague recorded slower declines and even

¹⁶ Based on alternative indicators of building plot transaction prices according to the HB index (see <http://www.hyposvet.cz/hb-index/>), these prices continued to rise in 2012 (by 6.4%). However, the HB index data are available in a relatively short time series (only since 2010) with no detailed regional breakdown. Building plot prices based on this source have not been very closely correlated with other sources of data in the past either.

CHART III.20

Property prices – transaction prices

(absolute index; 1999 Q1 = 100)



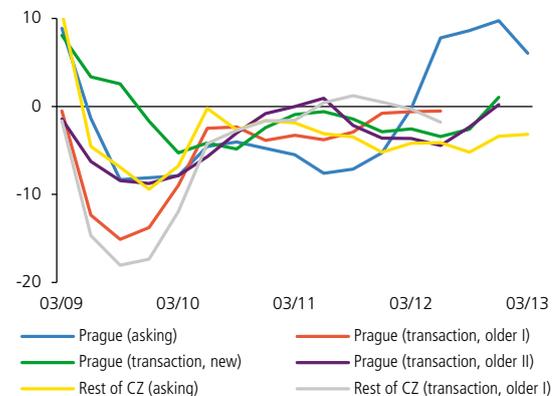
Source: CZSO, HB index, CNB calculation

Note: The data for family houses and apartments for 2012 H1 are preliminary data. The other data for 2012/2013 are calculated from alternative sources of data on transaction prices (HB index, etc.).

CHART III.21

Property prices according to the CZSO – transaction prices and asking prices

(year-on-year indices; %)



Source: CZSO

Note: The data on apartment transaction prices come from two independent sources – property tax returns ("older I") and a CZSO survey of estate agencies ("older II" and "new").

switched to annual growth¹⁷ for some types of property, the decline in prices for the Czech Republic outside Prague deepened further (see Chart III.21). A comparison of prices of new and older (“used”) apartments in Prague also shows that prices of new apartments, which fell only gradually in response to the lower demand in the initial phases of the financial crisis, saw similar decreases in 2011–2012 as prices of older apartments, probably in response to slow sales. Moreover, anecdotal evidence for 2012 suggests a “price war” between major developers in some parts of Prague. This was reflected in the overall index for Prague, albeit only partially (the historical weights), and in at least a partial stimulation of the apartment market in Prague.

Apartment prices in the Czech Republic are similar to those in other comparable countries

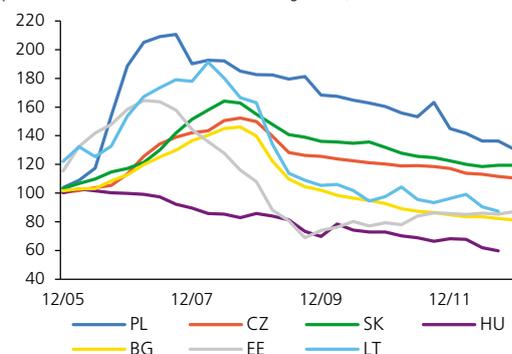
Property prices in the Czech Republic were essentially in line with those abroad (see Charts III.22 and III.23). Like in the Czech Republic (which recorded a decline of 5.6%), real apartment prices fell in most EU countries with a similar level of economic development. In some countries (Poland, Hungary, Slovenia, Romania and Lithuania) the declines were bigger in real terms than those the Czech Republic, while in others (Portugal, Bulgaria, Slovakia and Latvia) they were smaller. The only comparable country to show price growth was Estonia, although this represented a correction of the massive property price decline of almost 60% recorded in 2007–2008. Overall, the variation across the said countries can be well explained by their different economic and labour market situations.

In advanced countries, property prices remained very mixed. Real property prices declined further in countries with a high level of sovereign risk (in addition to the aforementioned Portugal, prices fell by 12.8% in Spain, 13.2% in Greece and 6.2% in Ireland), whereas in some countries that had seen significant downward corrections in recent years prices stabilised or even started rising last year (in the USA, for example, property prices went up by 6.4%). Prices also continued to go up in some countries that had previously been showing subdued price growth (by 6.3% in Austria, by 3.4% in Germany and by 3.9% in Switzerland), reaching relatively high levels. This raises the question of whether this is due to a search for yield and whether such prices are overvalued. Despite some minor price declines, the possibility of property price overvaluation also persists in countries in which the price declines in recent years have not yet fully offset the fast pre-crisis growth (e.g. France, Belgium and Sweden).

CHART III.22

Property prices – international comparison, selected EU countries

(prices in real terms; absolute index; 2005 average = 100)

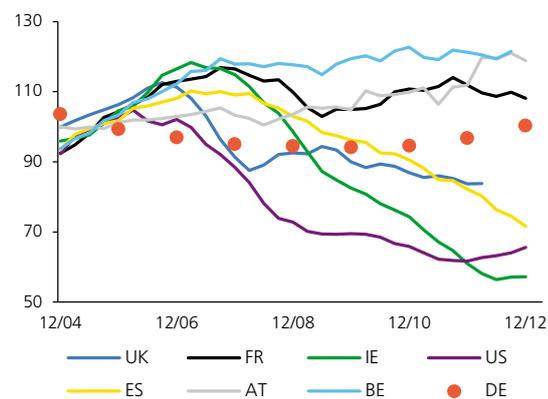


Source: BIS, national statistical offices and central banks

CHART III.23

Property prices – international comparison, advanced countries

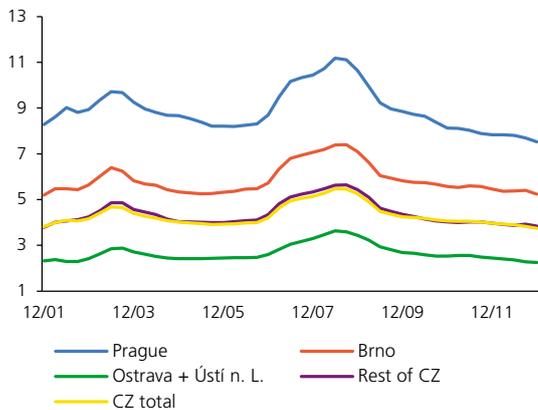
(prices in real terms; absolute index; 2005 average = 100)



Source: BIS, Nationwide (UK), national statistical offices

¹⁷ Nevertheless, the relatively sharp growth in asking prices of apartments in Prague, which reached almost 10% at the end of 2012 according to the CZSO, is not too conclusive, as it is not consistent with alternative sources of asking price data. According to the IRI, for example, asking prices in Prague were down by 4.3% year on year at the end of 2012.

CHART III.24

Price-to-income ratios(ratio of price of 68 m² apartment to moving sum of wage over last four quarters)

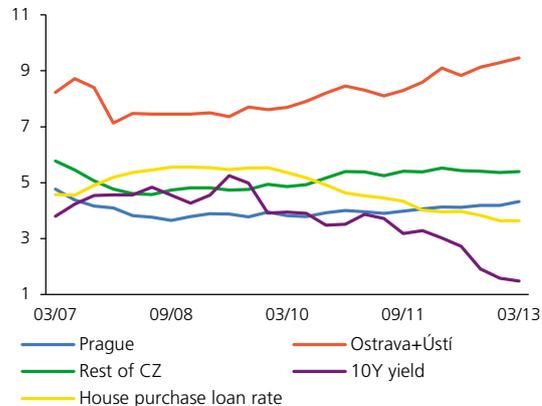
Source: CZSO, CNB calculation

Note: 2012 data preliminary or calculated from asking prices.

CHART III.25

Apartment rental returns

(averages for period in %; 2003–2006 yearly data, then quarterly)



Source: IRI, CNB

Note: Comparison with 10Y government bond yields and rates on new house purchase loans.

Property price sustainability indicators improved in the Czech Republic

The property price sustainability indicators improved again in 2012 and are indicating that property prices are rather undervalued. The price-to-income ratios for most regions fell below the levels of the period before the latest price growth and are close to historical lows (see Chart III.24). The price-to-income ratio is now down by more than 31% from its mid-2008 peak. The 5.4% year-on-year drop in the ratio was driven mainly by the decline in property prices and may also be partly due to a one-off increase in wages at the end of 2012 due to tax reasons.¹⁸ The ratio thus suggests a further improvement in housing affordability. However, significant regional differences persist, as it takes Prague households roughly twice as long to earn enough money for a typical flat as it does households in the Czech Republic as a whole.

Rental returns increased further in 2012 (rising by 2.1%, or 0.1 pp, on average year on year for the Czech Republic at the end of 2013 Q1; see Chart III.25), despite declines in both government bond yields and interest on house purchase loans (of 1.5 pp and 0.3 pp respectively). Rental returns were thus well above the return on speculative assets and the cost of debt financing of housing for all regions. On the one hand, the high rental returns (for most regions the highest in 5.5 years) suggest low downward pressures on property prices, but on the other hand they open up even more space for speculative property purchases. An increased proportion of real estate purchases as financial investment is also indicated by stylised facts published by developers themselves.¹⁹ Investment in real estate is usually viewed by investors as low-risk and as protection against inflation. This type of investment is also currently being fostered by falling mortgage rates, the elevated saving rate of households (related to provision for old age), a relative shortage of rental accommodation and the perceived undervaluation of apartment prices. However, as mentioned below, the risks of a deterioration in the fundamentals affecting property prices remain high. The longer-term demographic scenarios are also depressing property prices.

The overall decline in property prices in 2012 was in line with fundamentals. As in previous years, prices were affected mainly by developments on the labour market. The general unemployment rate increased by around 0.6 pp in 2012 and the number of vacancies declined by 2.5% year on year. Very low growth in nominal wages was observed for most of the year and real wages fell (for details see section 2.3 or the CNB's *Inflation Report*). The demographic determinants of property prices also worsened. Natural population growth dropped further. It is now almost at zero, the lowest level in seven years. Although population growth due to migration remains

¹⁸ Average wages showed a surprising large rise of 3.7% in nominal terms in 2012 Q4. However, this rise was largely due to a sharp increase in extraordinary bonuses paid to the best-paid employees, as some corporations took the opportunity at the end of 2012 to pay extraordinary bonuses to their managers in advance for tax reasons.

¹⁹ For example, according to an Ekospol client survey, the proportion of apartments purchased for investment purposes increased from 10.8% to 24.1% in 2012.

positive (at around 1 person per 1,000), it declined by 39% year on year and is at its lowest level since 2002.²⁰ The regional differences in property price growth are also well explained by demographic factors, with population growth being driven almost entirely by growth in Prague and the surrounding region of Central Bohemia.

Although the decline in property prices in recent years can largely be explained by deteriorating determinants, part of it remains unexplained. This fact is reflected in "statistical" undervaluation of property prices according to most of the methods considered (see Chart III.26). However, this can be attributed to the backward-looking nature of the methods applied. Given the expected macroeconomic developments and the deterioration in the financial situation of households, the *Baseline Scenario* continues to assume flat or slightly falling apartment prices, although they could begin to rise in mid-2014 (see Chart III.27). However, this scenario is subject to considerable – mostly downside – risks. The risk of potential worse macroeconomic developments is illustrated in the *Protracted Depression* stress scenario, in which property prices drop further by around 17% in 2013–2014. In addition, foreclosures affecting overindebted households and developers remain a downside risk to prices, despite better progress with sales of apartments in property development projects. Property prices are likely to remain mixed in the future. The emergence of a short-term speculative bubble is not ruled out in regions where purchases of property for investment (Prague in particular) are more prevalent. This bubble may also emerge "from below", with property prices stagnating or increasing only slightly amid worsening fundamentals.

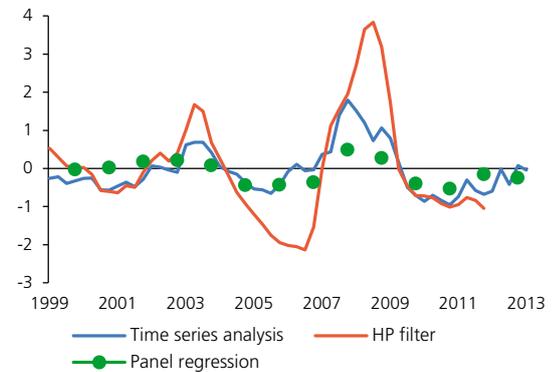
Transaction numbers were also mixed across regions

The overall decline in the number of property market transactions continued into 2012 (see Chart III.28) in terms of both the number of entries of records of title to houses and apartments in the cadastre (down by 10.9% year on year) and the number of apartment starts (down by 13.4%), which is the lowest in 15 years. The number of apartment completions increased (by 3%), causing the number of apartments under construction to fall, but it remains very low as well. The number of new mortgages for house purchase and the average mortgage amount fell in 2013 Q1 from the high levels observed last year (by 3.1% and 2.8% year on year respectively). However, the number of property market transactions confirms the "two-speed" property market hypothesis, as the number of entries of records of title to houses and apartments in the cadastre dropped by a sizeable 15.7% in the Czech Republic outside Prague and Central Bohemia for 2012 as a whole (Source: COSMC), while rising by 5.4% in Prague. Similarly, Prague also recorded higher growth in the number of apartment completions (15.6% year on year, and a sizeable 26.6% for apartments in apartment blocks) and a smaller decline in the number of apartment starts (3.2% year on year). The recovery in demand for new apartments in development projects

²⁰ Compared to its peak in 2007, population growth due to migration is at around 12%.

CHART III.26

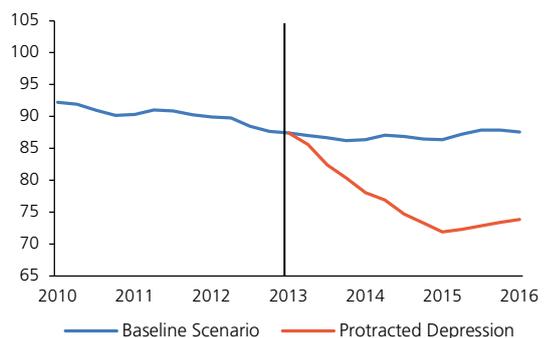
Apartment price gaps in the Czech Republic – deviations of actual prices from estimates
(CZK thousands per m²; positive values: overvaluation, negative values: undervaluation)



Source: CZSO, CNB calculation (WP 12/2009)

CHART III.27

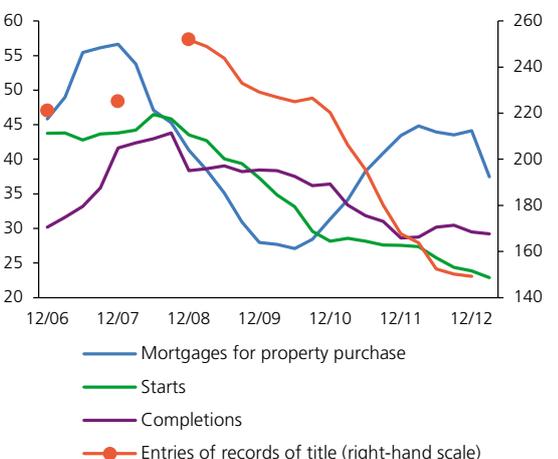
Property price index according to different scenarios
(2007 Q4 = 100)



Source: CNB

CHART III.28

Numbers of transactions on the property market
(thousands of transactions; moving sums over past year)

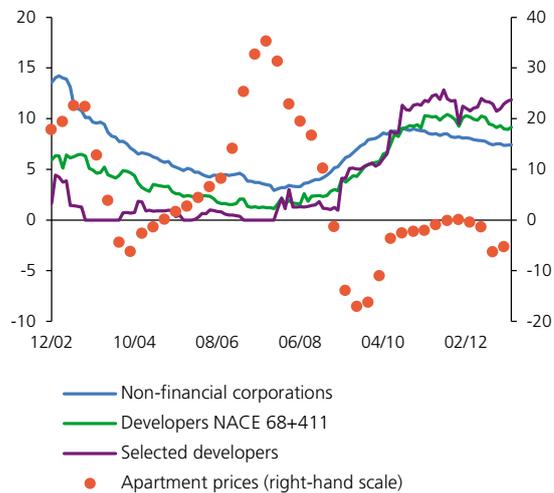


Source: CZSO, COSMC, FINCENTRUM HYPOINDEX
Note: Entries of records of title to buildings and apartments only.

CHART III.29

NPL ratios in the property development sector

(%; year-on-year growth for apartment prices)

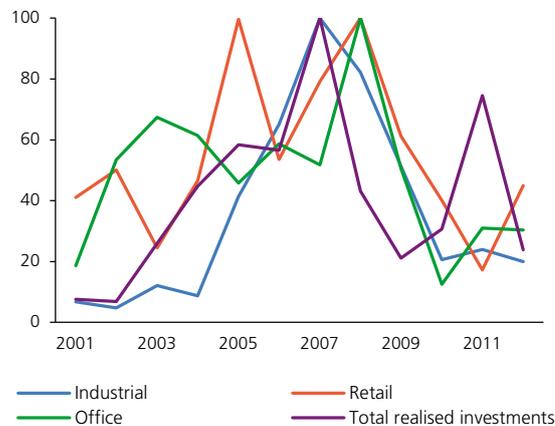


Source: CZSO, CNB

CHART III.30

Planned supply and realised demand on the commercial property market

(maximum = 100)



Source: Jones Lang LaSalle

Note: Supply of industrial and retail property calculated from new supply in m² for the Czech Republic as a whole and supply of office property in m² for Prague; realised investments from data in EUR. Maximum for office and retail property for 2008 and for industrial property and investments for 2007.

in Prague is confirmed by developers' data indicating a rise in the number of apartments sold in 2012 as a whole.²¹ The recovery continued into the start of 2013, with the number of unsold completed apartments also recording a decline.

The NPL ratio for developers remains high

Despite some recovery in demand and renewed progress with the sale of apartments in development projects,²² the overall financial situation of developers is not very favourable. While the NPL ratio in the non-financial corporations sector was declining during the year (by 0.8 pp since the end of 2011), the NPL ratio in the property development sector has been flat at high levels and for a group of selected developers has in fact risen further (by 2.3 pp since the end of 2011; see Chart III.29²³). The CCR data also suggest that banks monitor potentially risky customers for longer on average than in the past before categorising developer loans as NPLs (see Chart II.23). In 2007–2008, the average monitoring period for loans ultimately classified as NPLs had been around 3.5 months, whereas in 2011 it was 8.8 months on average and in 2012 it was 9.7 months. As with the entire non-financial corporations sector (see section 2.2), this may reflect on the one hand more prudential behaviour by banks, but on the other hand a softening of the credit conditions and an increase in forbearance. In any event it is clear that the level of risk associated with the current situation in the sector remains elevated for property development projects.

Following a significant recovery in 2011, investment activity in the commercial property segment fell sharply again in 2012 (by almost two-thirds) and is now only just above the level recorded in 2009, when property prices fell the fastest (see Chart III.30). Office property transactions accounted for 63% of the total volume of transactions. However, the supply of office buildings recorded a year-on-year decline of 2.2%, while the new supply of industrial property fell by 16.7%. By contrast, supply in the retail segment increased sharply (to 2.6 times the level recorded in 2011). The total gross take-up in the office property sector (the total rental stock) in 2012 remained close to the high levels seen in 2011 (recording a year-on-year decline of 16%). The share of renegotiations rose by 12.2 pp year on year to 43%. As a result, net take-up dropped more significantly (by 38.6% year on year), but it

21 According to Ekospol, the number of apartments sold in development projects rose by 16.2% to 4,014 in 2012; Trigema reported an increase of 20.8% to 4,578 and Skanska a rise of 2.5% to 4,720. According to the COSMC, however, the total number of apartment transfers (i.e. including older apartments) was one order of magnitude higher at almost 38,000.

22 Before the onset of the financial crisis, almost 95% of all the apartments in a typical development were sold prior to completion, whereas in 2011 the figure fell to 54%. In 2012, it picked up again to 63%. At the same time, however, marked differences in the success of individual property development projects persist, with customers differentiating more between developments according to quality and price.

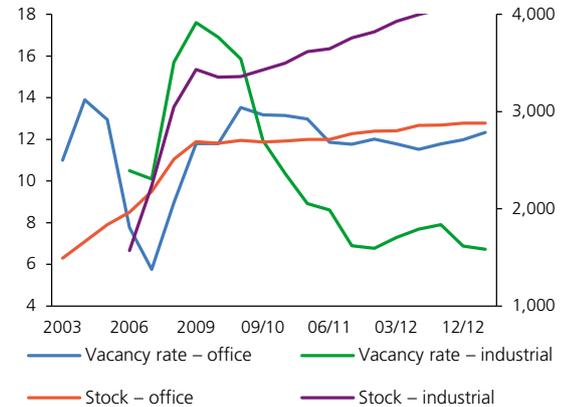
23 The NPL ratio for developers in Chart III.29 is calculated in two ways; both use the CNB's Central Credit Register as the source of data. The first method is based on selected (the largest) developers and related companies (about 1,300 entities). The second series shows loans granted to all corporations in the categories "Real estate activities" (NACE 68) and "Development of building projects" (NACE 411). Owners' associations and housing cooperatives were excluded.

remains positive and roughly at the average level of the last five years. Take-up also rose in the industrial property segment (gross take-up increased by 8.9% and net take-up by 26%). The recovery in take-up was reflected in a rise in prices and a related year-on-year drop in yields on office property of 0.4 pp. However, given the even bigger fall in the returns on alternative assets, the question remains whether the partial improvement reflects a search for yields regardless of the domestic economic situation. This could lead to an overheating of the market and an increase in the vacancy rate, as observed for office property in 2012 (see Chart III.31).

CHART III.31

Total stock and vacancy rates

(vacancy rate in %; stock in thousands of m² on right-hand scale; 2003–2009 yearly data, then quarterly)



Source: Jones Lang LaSalle, Prague Research Forum