![Národná banka Slovenska - Eurosystém]

Macroprudential indicators of the financial sector

December 2014

Household credit risk indicators 8

Market risk and liquidity risk indicators 10

General notes:

The formulation 'index: 31 December 2013 = 1' means that the given index was set in such
a way that its value as at that date (31 December 2013) was 1.

Macroeconomic risk indicators

1 Manufacturing Purchasing Managers' Index (PMI) in selected economies
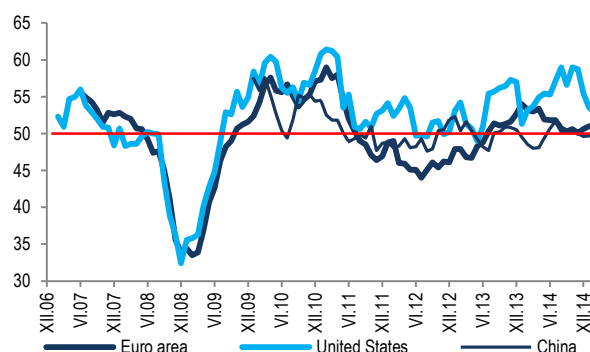
Legend: Euro area — United States — China

Source: Bloomberg.
Note: PMI (Purchasing Managers' Index) is an indicator of the economic health of the manufacturing or service sector: an index value of more than 50 represents expansion, while a value of below 50 represents contraction.

2 Services Purchasing Managers' Index (PMI) in selected economies
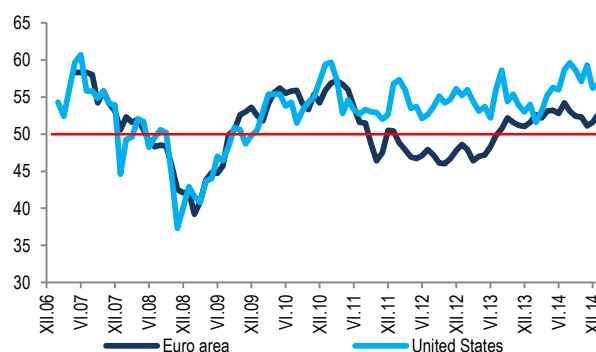
Legend: Euro area — United States

Source: Bloomberg.
Note: PMI (Purchasing Managers' Index) is an indicator of the economic health of the manufacturing or service sector: an index value of more than 50 represents expansion, while a value of below 50 represents contraction.

3 Consumer confidence indicators in the United States

Legend: Conference Board Consumer Confidence Index — University of Michigan Consumer Sentiment Index
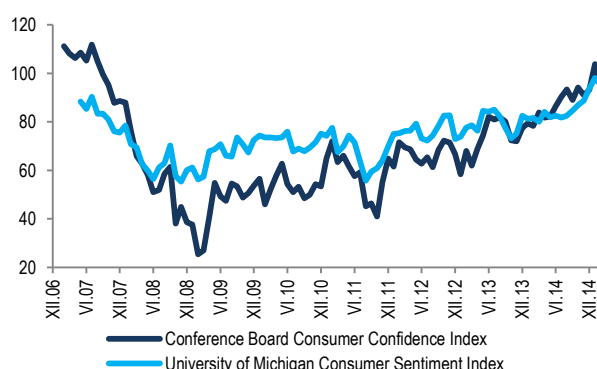
Source: Bloomberg.
Note: The chart refers to US consumer confidence indices produced by two different institutions.

4 Economic sentiment indicators in the euro area

Legend: ESI — ZEW (right-hand scale)
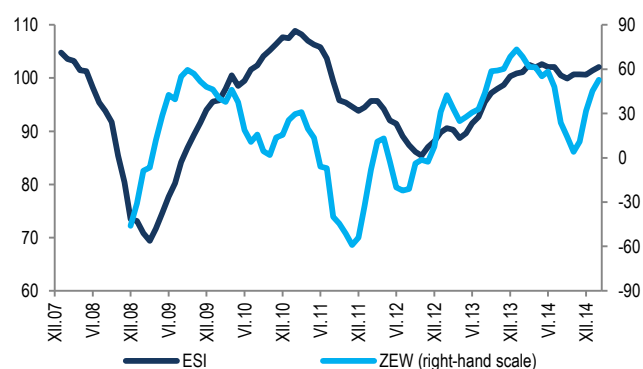
Source: Bloomberg.
Notes: ESI is the Economic Sentiment Indicator compiled by the European Commission. ZEW represents the economic sentiment indicator compiled by a private company ZEW (Zentrum für Europäische Wirtschaftsforschung).

5 Unemployment rates in selected economies

Legend: Euro area — United States — Slovakia
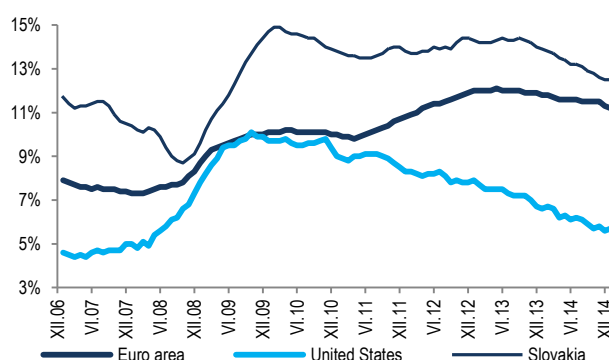
Source: Eurostat, Bureau of Labor Statistics.
Note: Seasonally adjusted.

6 Consumer price inflation in selected economies

Legend: Euro area — United States — Slovakia
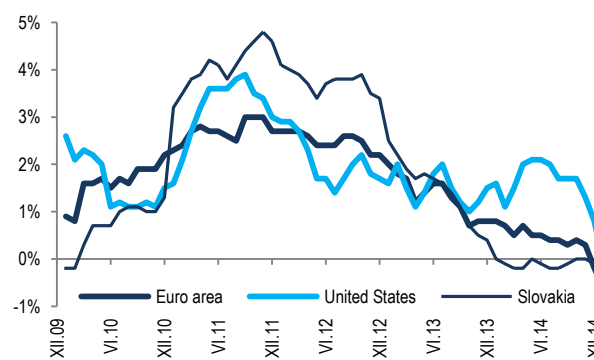
Source: Eurostat, Bureau of Labor Statistics.
Note: Year-on-year percentage changes in the consumer price indices.

7 Industrial production indices in selected economies
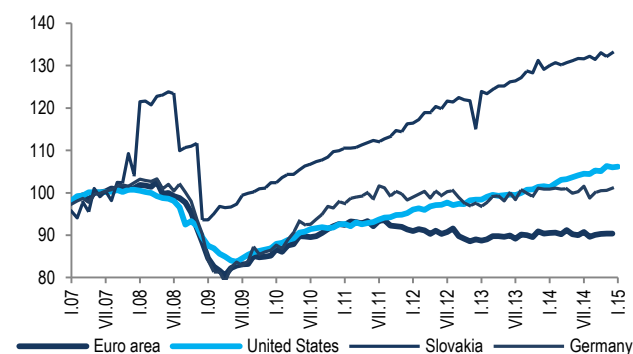
Source: Eurostat, US Federal Reserve.
Notes: Rebalanced (average: 2007 = 100).
Seasonally adjusted.

8 Retail sales indices in selected economies
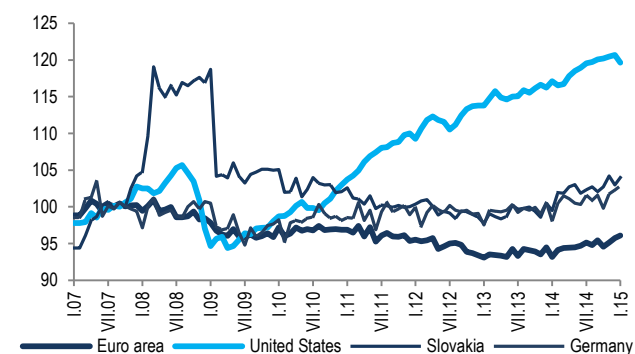
Source: Eurostat, US Department of Commerce.
Notes: Rebalanced (average 2007 = 100).
Seasonally adjusted.

9 General government balances of EU countries in 2013
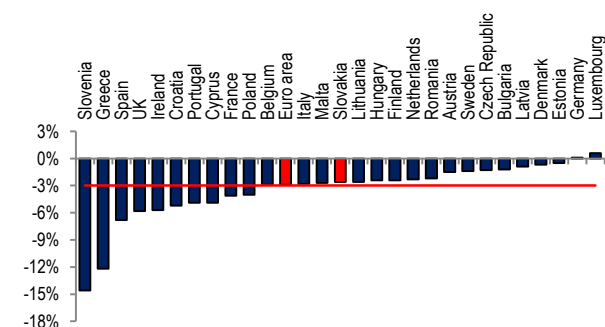
Source: Eurostat.
Note: Balance is expressed as a percentage of GDP.

10 Gross government debt of EU countries in 4. quarter of 2013
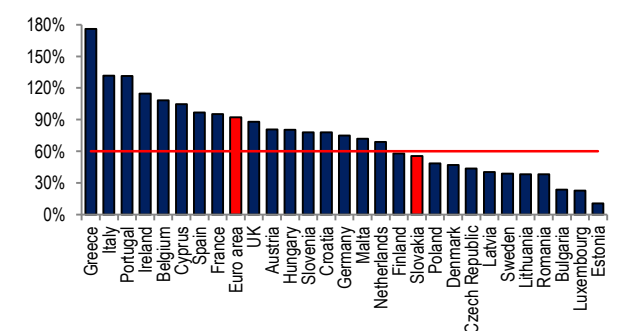
Source: Eurostat.
Note: Gross government debt is expressed as a percentage of shares of GDP.

Financial market risk indicators

11 Price commodity indices (31.12.2013 = 1)
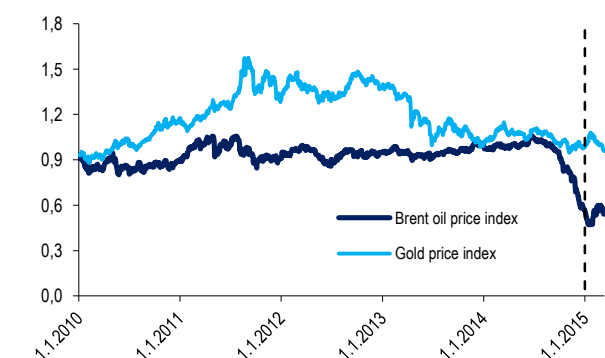
Source: Bloomberg, NBS.

12 Exchange rate indices (31.12.2013 = 1)
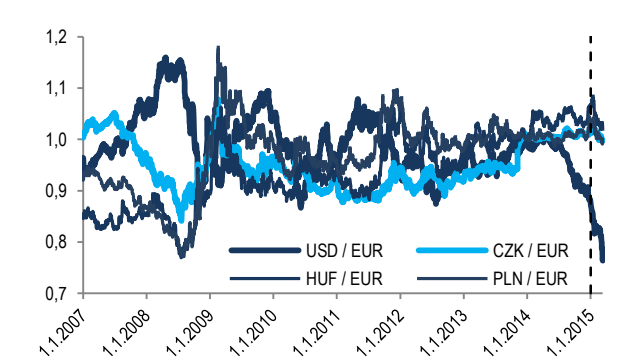
Source: Bloomberg, NBS.

13 Equity indices (31.12.2013 = 1)

EUROSTOXX
NIKKEI
S&P 500
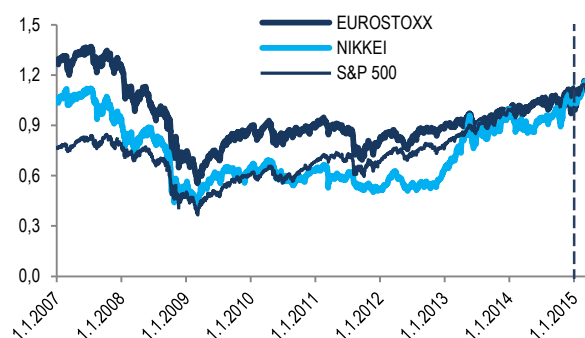
Source: Bloomberg, NBS.

14 Share price indices of the parent banks of the 5 largest domestic banks (31.12.2013 = 1)

UniCredit Bank
KBC
Erste Bank
RZB
Intesa
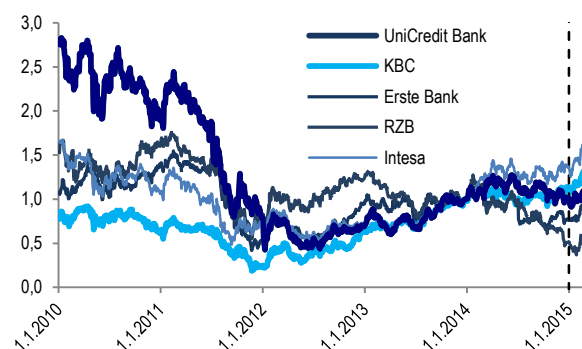
Source: Bloomberg, NBS.

15 Yield curve slopes in selected economies (p. p.)

Germany
United States
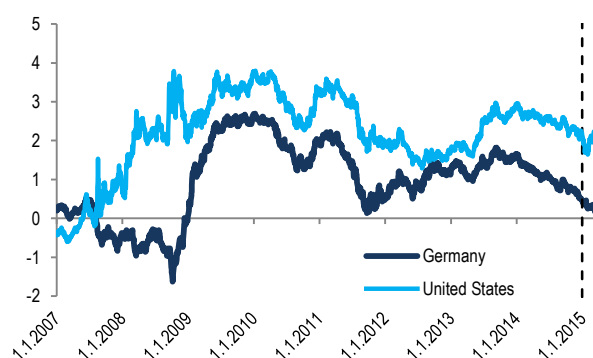
Source: Bloomberg, NBS.
Notes: The yield curve slope is expressed as the difference between the yield to maturity on 10-year and 3-month government bonds.
p. p. – percentage points

16 Volatility of equity indices

VIX
VSTOXX
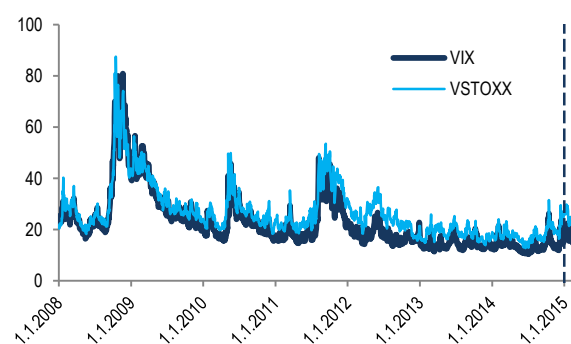
Source: Bloomberg.

17 CDS spread indices (b. p.)

iTraxx Europe 5Y
iTraxx Senior Financials 5Y
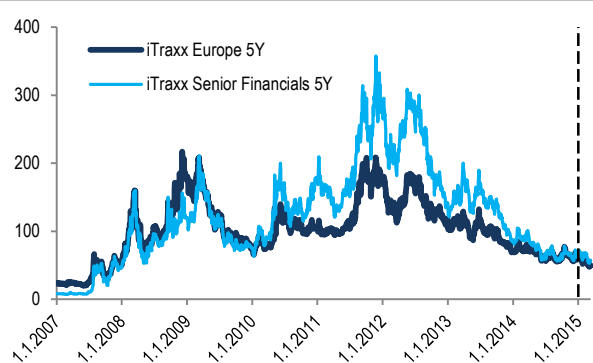
Source: Bloomberg, NBS.
Note: b. p. – basis points

18 CDSs of the parent banks of the largest Slovak banks (b. p.)

Max. - min. CDS spreads of parent banks
iTraxx Senior Financials 5Y
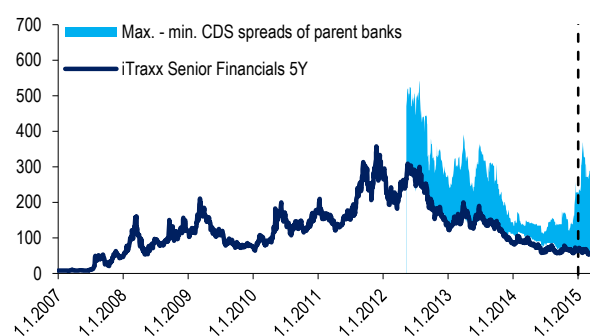
Source: Bloomberg, NBS.
Note: b. p. – basis points

19 3-month rates and the OIS spread (%, p. p.)

Legend: OIS Spread; 3-month EURIBOR; 3-month OIS
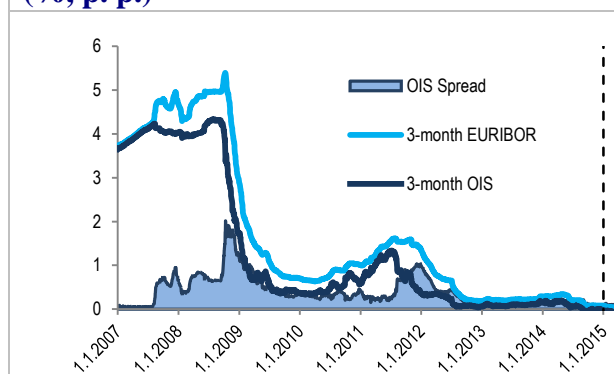
Source: Bloomberg, NBS.
Note: p.p. – percentage points

20 Inflation-linked swap prices (p. p.)

Legend: 5-year swaps linked to euro area inflation; 5-year swaps linked to US inflation; 1-year swaps linked to euro area inflation; 1-year swaps linked to US inflation
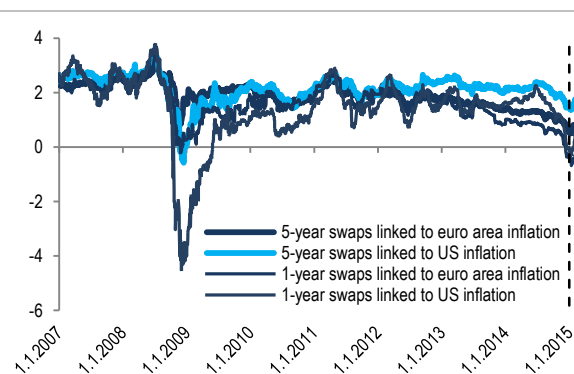
Source: Bloomberg, NBS.
Notes: Inflation-linked swaps are swap transactions in which one counterparty pays a fixed rate (a swap price) and the other pays a rate corresponding to the return on a selected price index. The inflation-linked swap price is calculated on a non-coupon basis.
p.p. – percentage points

21 Credit spreads on 5-year government bonds issued by countries with higher risk (p. p.)

Legend: Ireland; Italy; Spain; Portugal; Greece (right-hand scale)
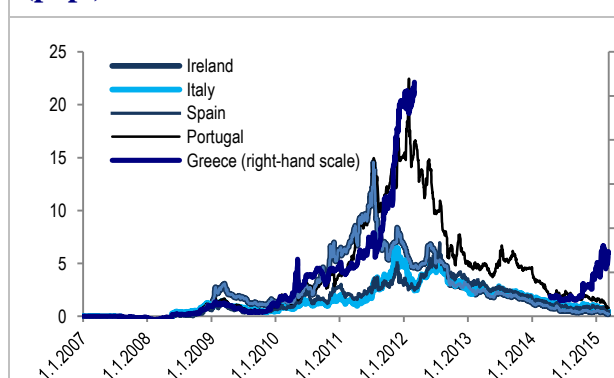
Source: Bloomberg, NBS.
Notes: The vertical scales shows percentage differences between yields on 5-year bonds issued by the different countries and 5-year OIS rates, representing a 5-year interest rate on high-rated bonds. p. p. – percentage points

22 Credit spreads on 5-year government bonds issued by selected central European countries and Germany (p. p.)

Legend: Slovakia; Czech Republic; Poland; Germany
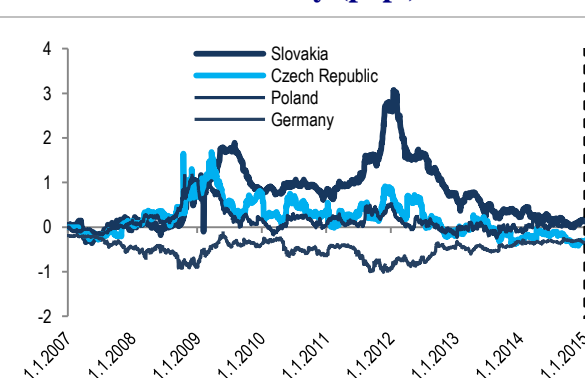
Source: Bloomberg, NBS.
Notes: The Chart shows percentage differences between yields on 5-year government bonds denominated in the domestic currencies of the countries and 5-year swap rates for the respective currencies. p. p. – percentage points

Corporate credit risk indicators

23 Exports and the business environment

Legend: Business sentiment - Slovakia (left-hand scale); Business sentiment - main trading partners (left-hand scale); Economic Sentiment Indicator (left-hand scale); Exports - annual rate of change (right-hand scale)
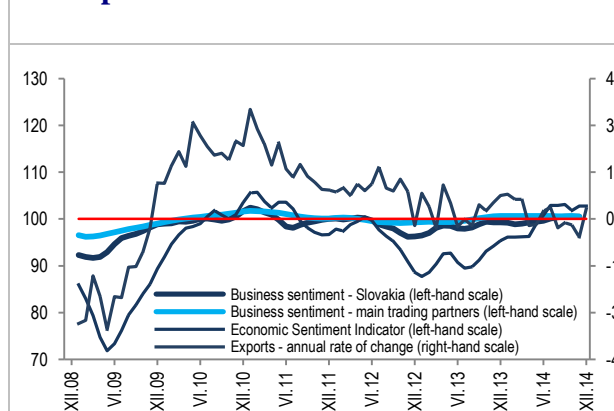
Source: NBS, OECD, Statistics Office of the SR.

24 Exports and corporate sales

Legend: Exports - annual rate of change; Sales in total - annual rate of change; Sales weighted by bank exposures - annual rate of change
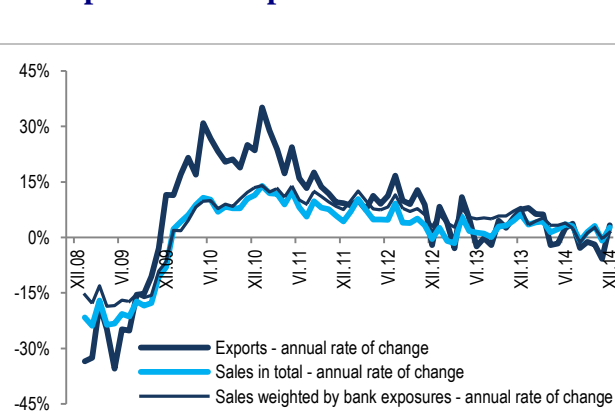
Source: Ministry of Economy of the SR, NBS, OECD, Statistical Office of the SR.

25 Sales in selected sectors compared with their level for the period 06/2007 to 06/2008

- Corporate sector in total
- Industry
- Construction
- Trade and motor vehicle sales
- Hotels and restaurants
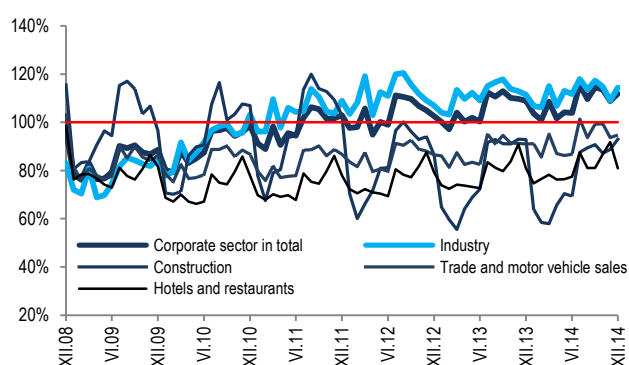
Source: Statistical Office of the SR.

26 Corporate loans and sales

- Total sales - annual rate of change
- Year-on-year growth in corporate loans by domestic banks
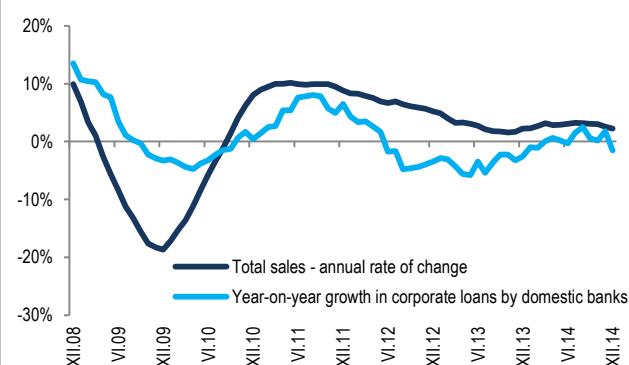
Source: NBS, Statistical Office of the SR.

27 Interest rate spreads on new loans to enterprises

- EURIBOR 1M
- Loans of up to and including €0.25 million
- Loans of more than €0.25 million, up to and including €1 million
- Loans of more than €1 million
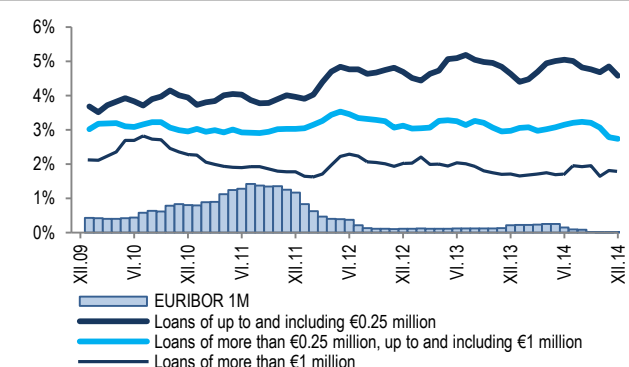
Source: NBS, European Banking Federation.
Note: The spread is defined as the difference between the monthly EURIBOR rate and the average rate on new loans in the respective category.

28 Non-performing loans and default rates

- Change in the amount of NPL - m/m (right-hand scale)
- Default rates (amount of loans)
- Default rates (number of loans)
- Ratio of non-performing loans
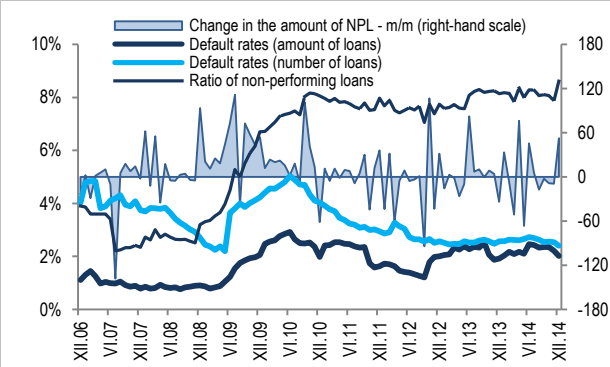
Source: NBS.
Notes: Data on the right-hand scale are in EUR mil.
Default rates refer to the number/volume of loans re-categorised as defaulted to the number/volume of non-defaulted loans at the beginning of the period under review.

29 Loans at risk

- Average
- Median
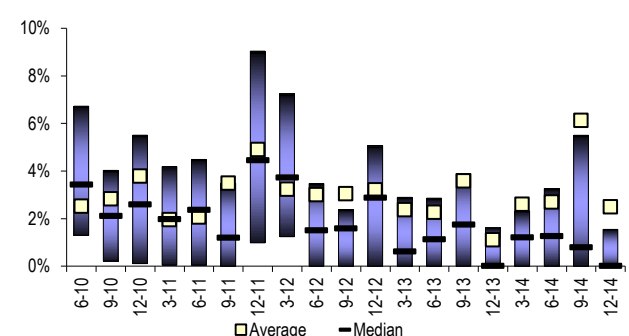
Source: NBS.
Note: The chart shows the interquartile range.

30 Debt-servicing burden by components

- Interest rate (left-hand scale)
- Loans (left-hand scale)
- Sales (left-hand scale)
- debt-service burden - domestic loans - index
- debt-service burden at 2008 rates - domestic loans
- debt burden-service - total loans - index
- debt-service burden at 2008 rates - total loans
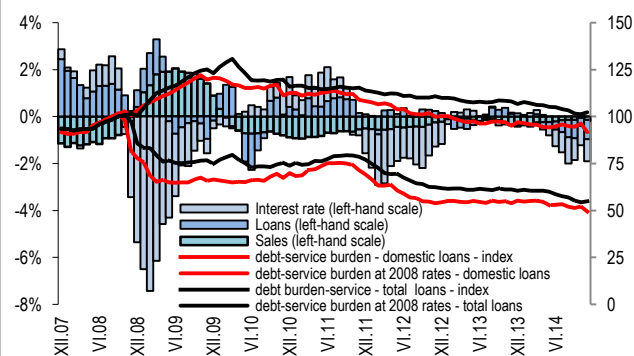
Source: NBS, SO SR.
Note: Data on the right-hand scale are in EUR mil.

31 Commercial real estate: prices (EUR/m^2) and vacancy rates in the office segment

Price per m2 / month - inner centre
Price per m2 / month - outer centre
Price per m2 / month - outside centre
Office vacancy rate - inner centre (right-hand scale)
Office vacancy rate - outer centre (right-hand scale)
Office vacancy rate - outside centre (right-hand scale)
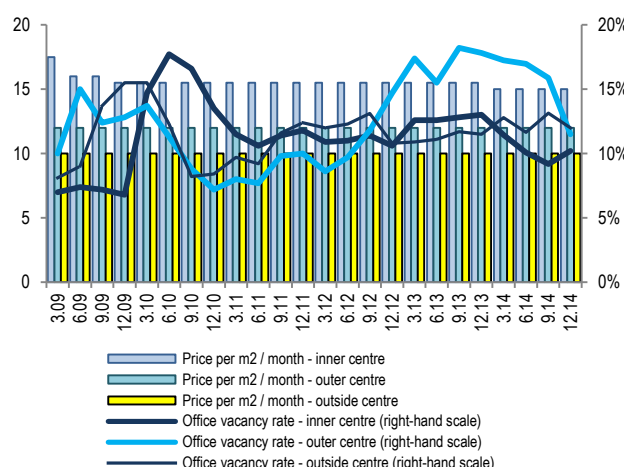
Source: CBRE, NBS.
Note: The chart plots prices and vacancy rates in Bratislava.

32 Commercial real estate: sales of the new apartments in the residential segment

Number of apartments where sales fell through (left-hand scale)
Number of apartments sold in a given quarter (left-hand scale)
Residential segment: Net new apartment sales (left-hand scale)
Share of projects with positive net apartment sales (right-hand scale)

Source: Lexxus, NBS.

33 Comparison of corporate balance sheets and sales

Ratio of domestic bank loans (excl. Loans for commercial property) to annual sales
Ratio of domestic bank loans to annual sales
Ratio of external funding to annual sales

Source: NBS, Statistical Office of the SR.

34 Liabilities of non-financial corporations

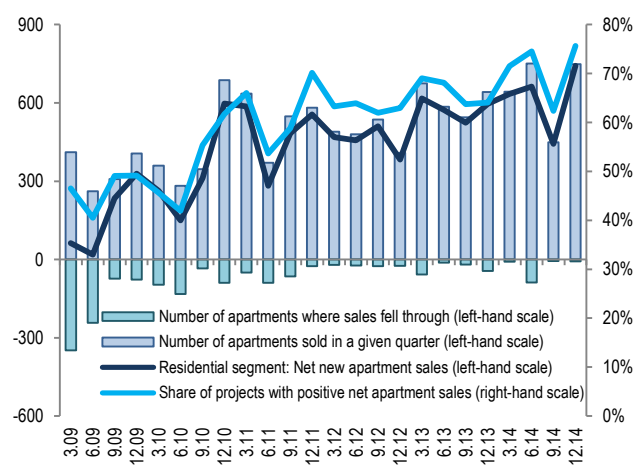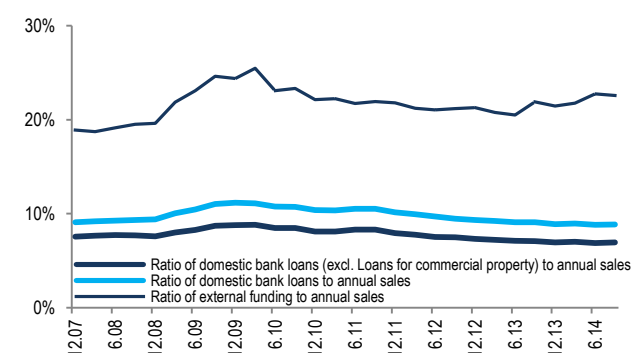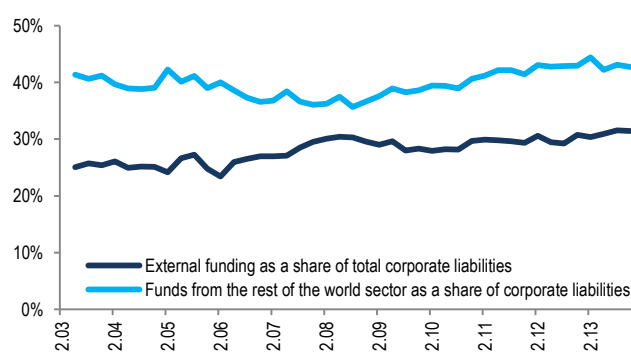External funding as a share of total corporate liabilities
Funds from the rest of the world sector as a share of corporate liabilities

Source: NBS.

Household credit risk indicators

35 Household indebtedness in Slovakia and in selected countries

Belgium
Germany
Hungary
Poland
Euro area (18 countries)
Czech Republic
Spain
Austria
Slovakia
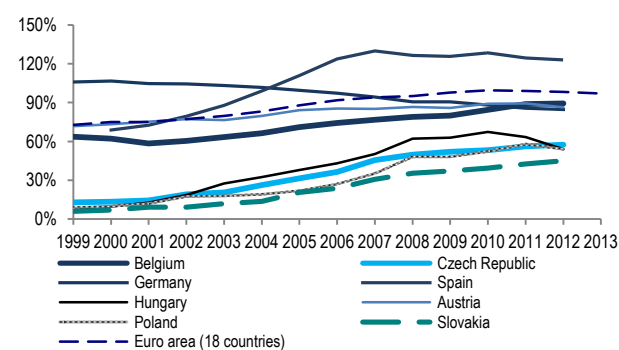
Source: Eurostat.
Note: The ratio of total debt of households to disposable income.

36 Changes in household financial assets

Curenncy and deposits
Shares and other equity
Insurance, pension and standardised guarantee systems
Ratio of financial assets to financial liabilities (right-hand scale)
Currency and deposits as a share of financial assets (right-hand scale)
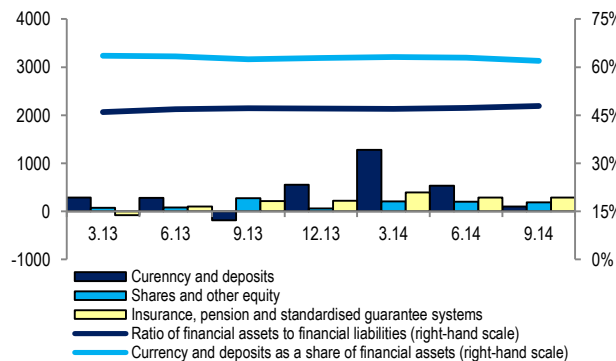
Source: NBS.
Notes: Data refer to quarter-on-quarter changes. Owing to methodology changes, no historical data are available as yet. Data on the left-hand scale are in EUR million.

37 Changes in the number of unemployed by income category

Source: Central Office of Labour, Social Affairs and Family of the SR.
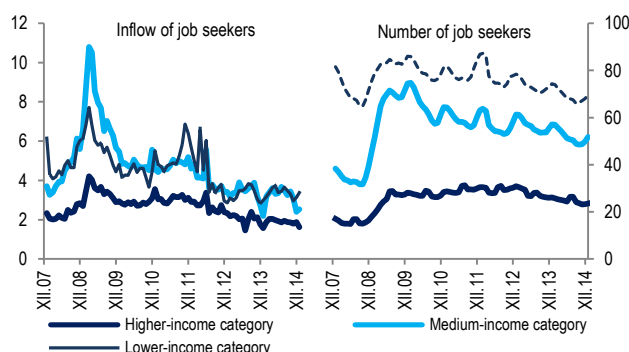Notes: Left-hand and right-hand scales: Numbers of job seekers are in thousands.
Household income categories – categorisation based on the KZAM employment classification and KZAM income data; it consists of three categories: higher-income category (income of over €800 per month) – legislators, senior officials and managers, scientists, professionals, technicians, health professionals, and teaching professionals; middle-income category (income between €600 and €800 per month) – office workers, craft and skilled workers, processors, and plant and machinery operators; lower-income category (income of up to €600) – service and retail workers, agricultural and forestry workers, auxiliary and unskilled workers.
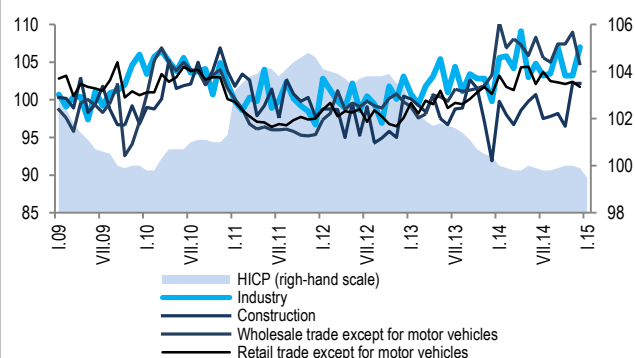
38 Index of employment in selected sectors
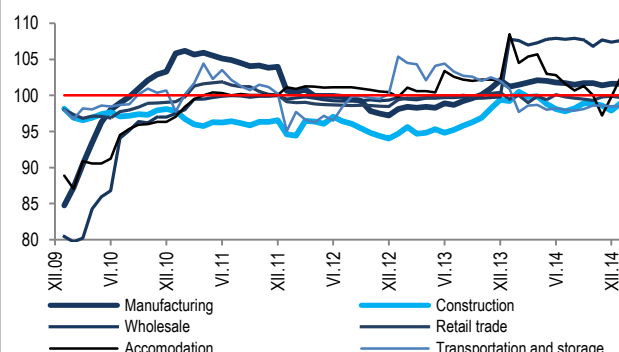
Source: Statistical Office of the SR.
Note: Year-on-year changes.

39 Expected employment in selected sectors
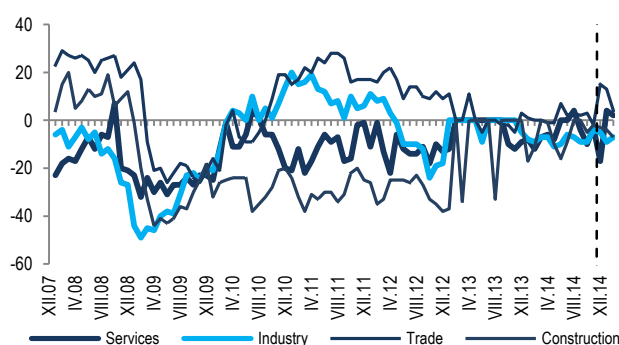
Source: Statistical Office of the SR.
Notes: Index data.

40 Index of real wages in selected sectors

Source: Statistical Office of the SR.
Note: HICP - Harmonised Index of Consumer Prices, change on the same period of the previous year.

41 The consumer confidence index and its components
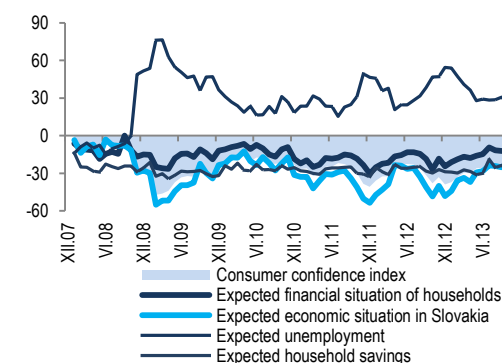
Source: Statistical Office of the SR.

42 Non-performing household loans

Source: NBS.
Note: Left-hand scale: ratio of non-performing household loans to total household loans. Data on the right-hand scale are in EUR mil.

43 Loan-to-value (LTV) ratio

Legend: Interquartile range | Banks in total | Large banks

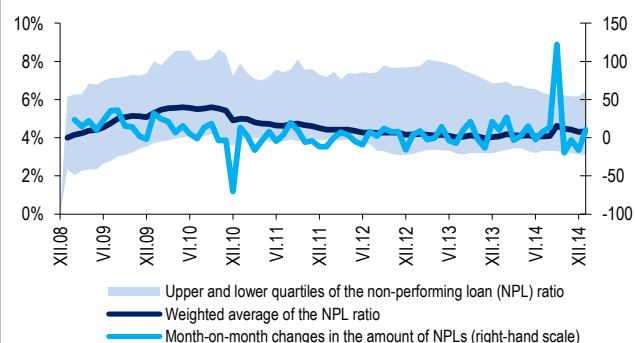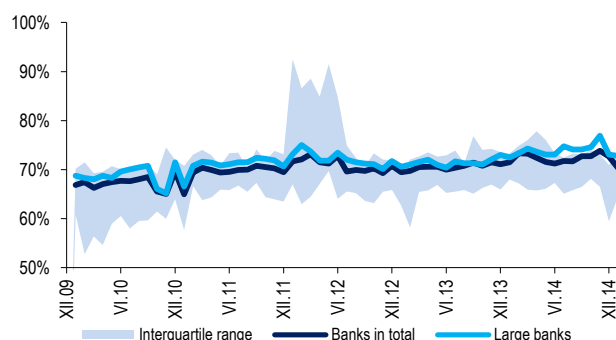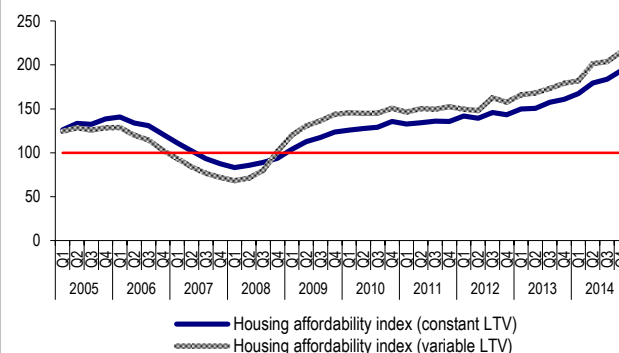Source: NBS.
Note: Loan-to-value ratio is the loan value divided by the value of the loan collateral.

44 Housing affordability index

Legend:
— Housing affordability index (constant LTV)
····· Housing affordability index (variable LTV)

Source: NBS, Statistical Office of the SR.
Notes: Housing affordability index is an index representing the ratio of disposable income to loan instalments. The calculation of disposable income takes into account the average wage and average expenditure of households; the calculation of the instalment amount takes into account the average apartment price, average interest rate, average maturity, and a constant LTV ratio (75%). The calculation methodology for the housing affordability index is set out in the following paper: Rychtárik, Š., Krčmár, M. (2011), "Vývoj na trhu úverov na bývanie a jeho interpretácia" (Developments in the housing loan market and their interpretation), Nehnuteľnosti a bývanie 2010 (Real Estate and Housing), Vol. no 2, Bratislava, 2010.

Market risk and liquidity risk indicators

45 Value at Risk for investments in different types of financial instruments

Legend:
— Open position in USD
— 5-year euro-denominated bonds
— Equity investments (EUROSTOXX index)
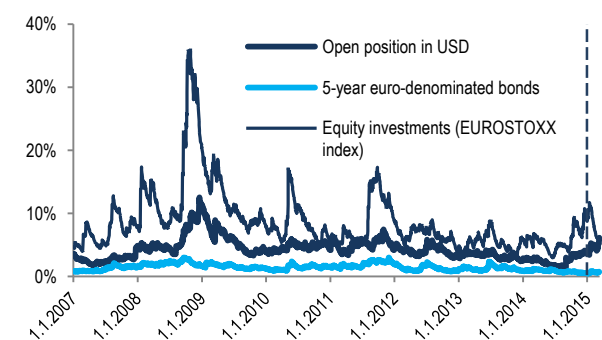
Source: Bloomberg, NBS.
Notes: The data represent the loss (as a percentage of the given investment) that should not be exceeded over a period of 10 days at a confidence level of 99%. This loss was determined on the basis of a risk factor volatility calculation, using exponentially weighted moving averages.
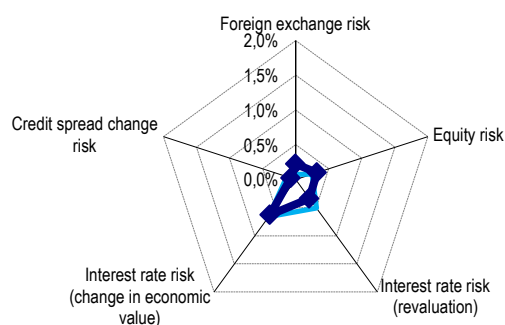
46 Sensitivity to different risk types in the banking sector
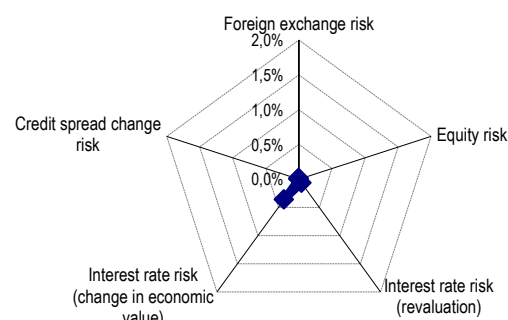
Source: Bloomberg, NBS.
Notes: The data represent the loss (as a percentage of assets) under each scenario of the sensitivity analysis. Sensitivity analysis includes four scenarios as follows: share prices declining by 10%; other currencies weakening against the euro by 5%; interest rates increasing in parallel by 0.3 percentage point; and credit spreads on bonds issued by Greece, Portugal, Ireland, Spain and Italy widening by 2 percentage points. In the case of interest rate risk, the impact on the revaluation of instruments valued at fair value is calculated, as is the impact on the economic value that represents the revaluation of all financial instruments. Individual risk types include also indirect risks that institutions are exposed to by virtue of their investments in common fund shares/units. The calculation of these indirect risks was based on the mapping of the different types of fund units/shares into the set of risk factors. Light blue line represents data as at 31 December 2013, dark blue line represents data as at 31 December 2014.
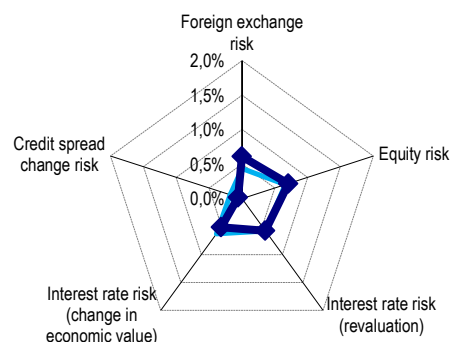
47 Sensitivity to different risk types in the sector of PFMC funds

Source: Bloomberg, NBS.
Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in the note to chart 46. Light blue line represents data as at 31 December 2013, dark blue line represents data as at 31 December 2014.

48 Sensitivity to different risk types in the SPMC funds sector

Source: Bloomberg, NBS.
Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in the note to chart 46. Light blue line represents data as at 31 December 2013, dark blue line represents data as at 31 December 2014.
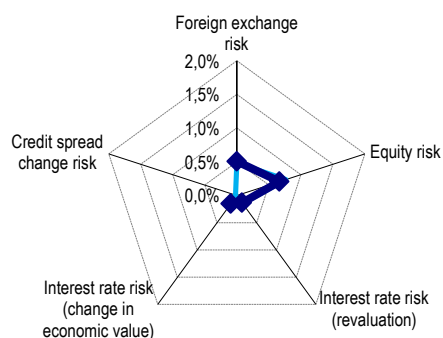
49 Sensitivity to different risk types in the collective investment sector

Source: Bloomberg, NBS.
Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in the note to chart 46. Light blue line represents data as at 31 December 2013, dark blue line represents data as at 31 December 2014.

50 Sensitivity of insurers' assets to different risk types
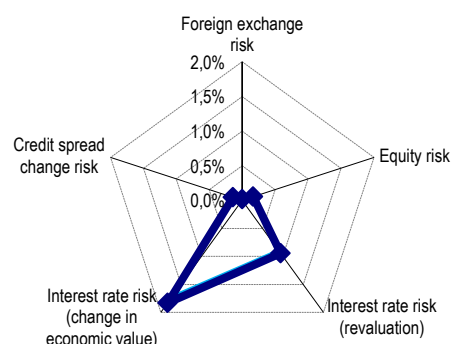
Source: Bloomberg, NBS.
Notes: The data represent the percentage decline in the value of assets under each scenario of the sensitivity analysis. The sensitivity analysis is described in the note to chart 46. Light blue line represents data as at 31 December 2013, dark blue line represents data as at 31 December 2014.
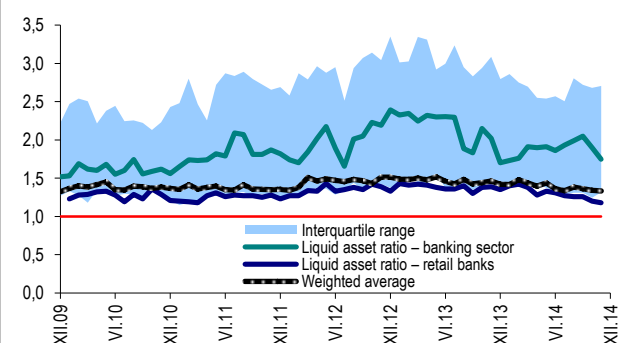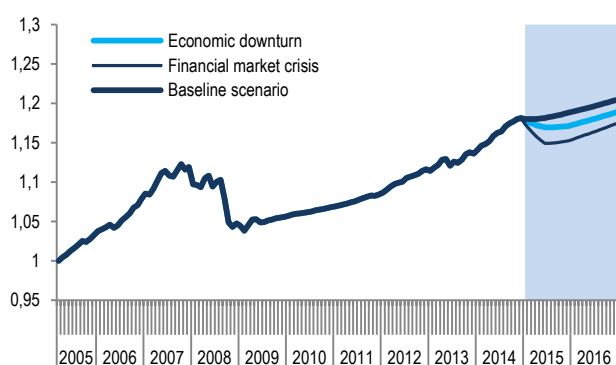
51 Loan-to-deposit ratio
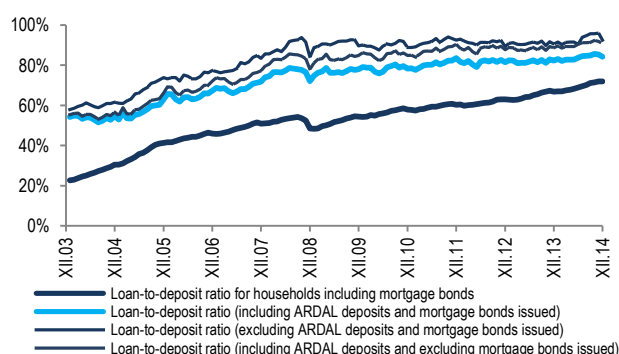
Source: NBS.
Note: ARDAL – Debt and Liquidity Management Agency.

52 Liquid asset ratio

Source: NBS

29 Impact of the Baseline scenario and stress scenarios on PFMC funds

Source: NBS, ECB, Bloomberg, internet.
Note: The left-hand scale shows the average of the index of the current of pension-point value weighted by the net asset value of individual funds.

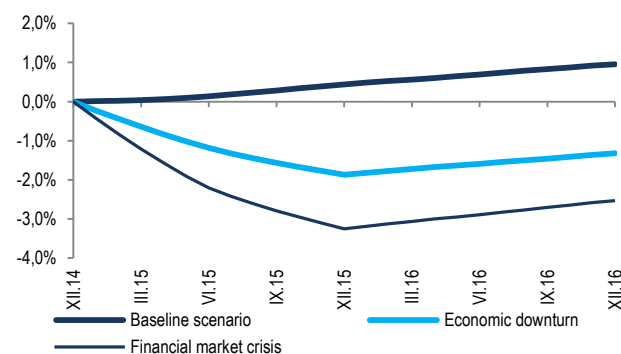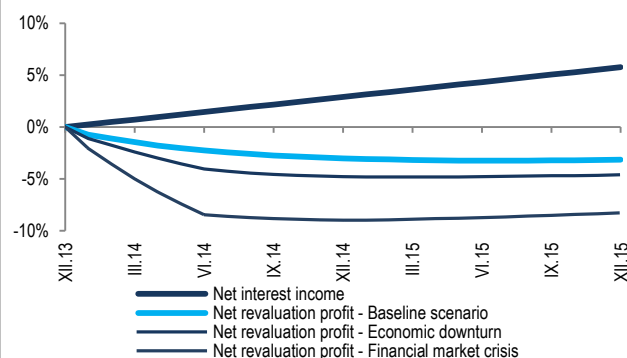## 54 Impact of the Baseline scenario and stress scenarios on payout PFMC funds
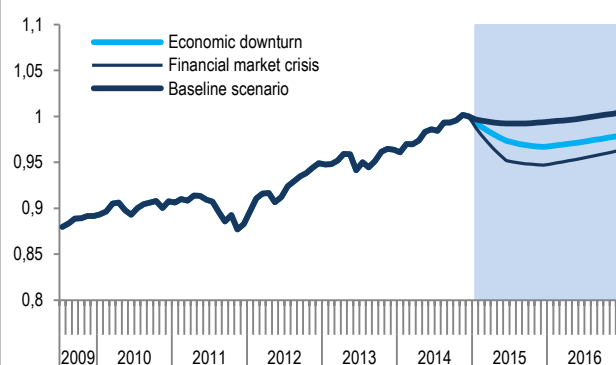
Source: NBS, ECB, Bloomberg, internet.
Note: The left-hand scale shows the average of the index of the current pension-point value weighted by the net asset value of individual funds.

55 Impact of the Baseline scenario and stress scenarios on collective investment funds
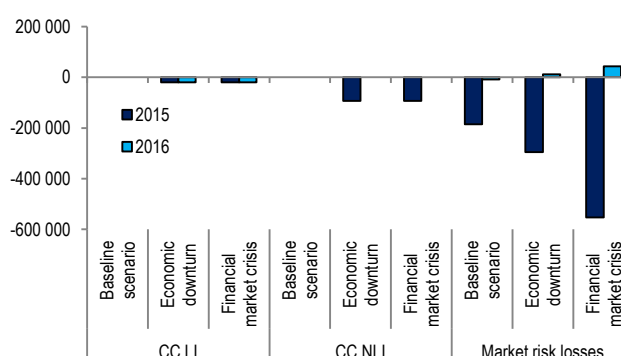

Source: NBS, ECB, Bloomberg, internet.
Note: The left-hand scale shows the estimated gain or loss as a share of NAV, weighted by the NAV of individual funds.

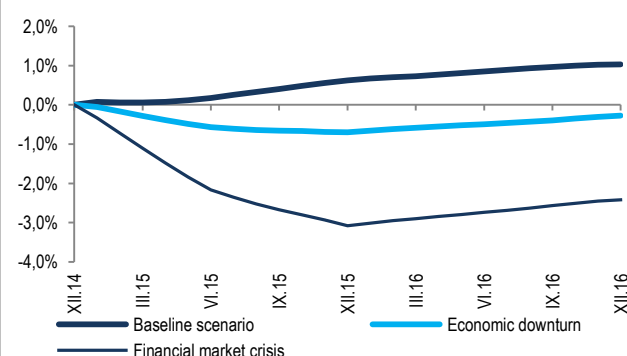## 56 Impact of the Baseline scenario and stress scenarios on the assets of insurance companies

Source: NBS, ECB, Bloomberg, internet.
Notes: The left-hand scale shows the estimated gain or loss as a share of NAV (except for assets covering technical provisions for unit-linked insurance), weighted by the total assets of individual insurance companies. The impact of stress scenarios on the value of liabilities was not taken into account.

57 Additional expenses that the insurance sector would incur under the Baseline and stress scenarios (EUR millions)

Source: NBS.
Notes: CC LI – cost of claims in life insurance; CC NLI – cost of claims in non-life insurance.

58 Impact of the Baseline scenario and stress scenarios on the assets of unit-linked insurance

Source: NBS, ECB, Bloomberg, internet.
Note: The left-hand scale shows the estimated gain or loss as a share of NAV, weighted by the NAV covering unit-linked insurance in individual insurance companies.