

Macroprudential indicators

December 2018

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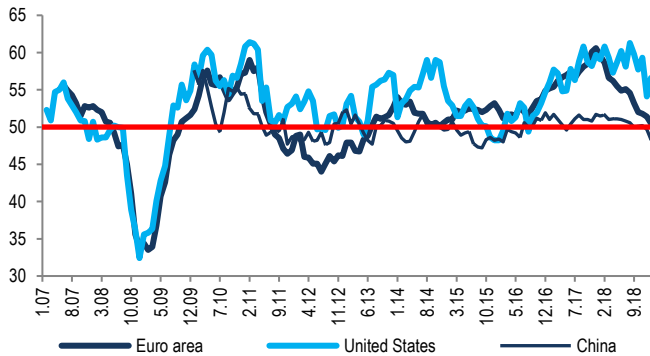
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General note:

'Index: 31 December 2017 = 1' means that the given index was normalized so that its value on the specified date (31 December 2017) was equal to 1.

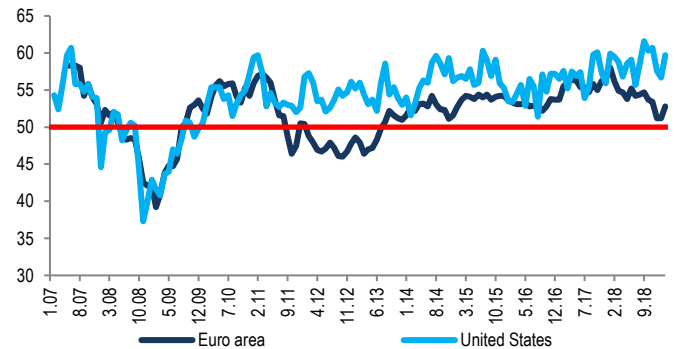
Macroeconomic risk indicators

1 Manufacturing Purchasing Managers' Index (PMI) in selected economies



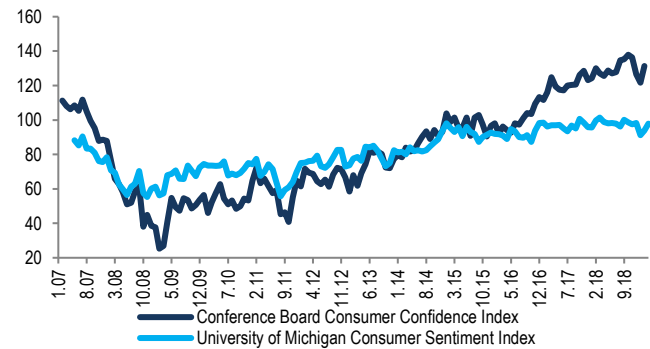
Source: Bloomberg.
 Note: PMI (Purchasing Managers' Index) is an indicator of the economic health of the manufacturing or service sector: an index value of more than 50 represents expansion, while a value of below 50 represents contraction.

2 Services Purchasing Managers' Index (PMI) in selected economies



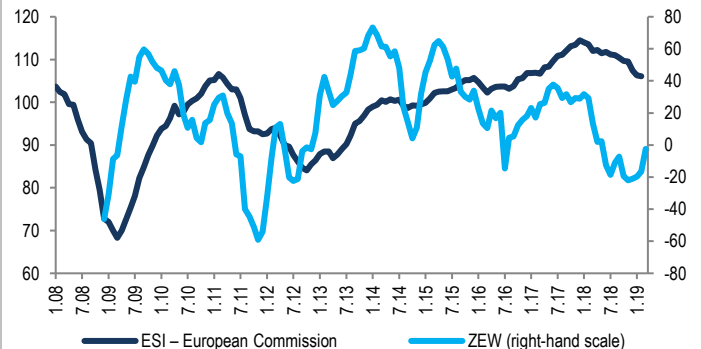
Source: Bloomberg.
 Note: PMI (Purchasing Managers' Index) is an indicator of the economic health of the manufacturing or service sector: an index value of more than 50 represents expansion, while a value of below 50 represents contraction.

3 Consumer confidence indicators in the United States



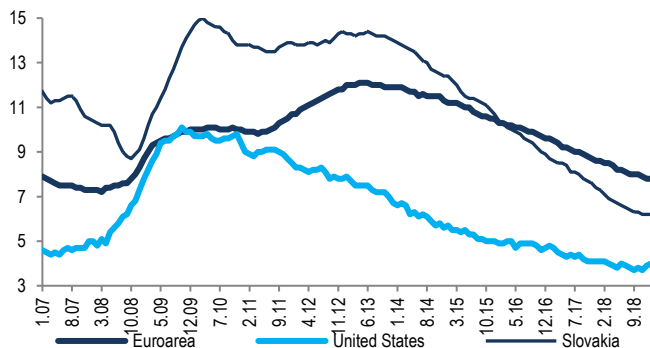
Source: Bloomberg.
 Note: The chart refers to US consumer confidence indices produced by two different institutions.

4 Economic sentiment indicators in the euro area



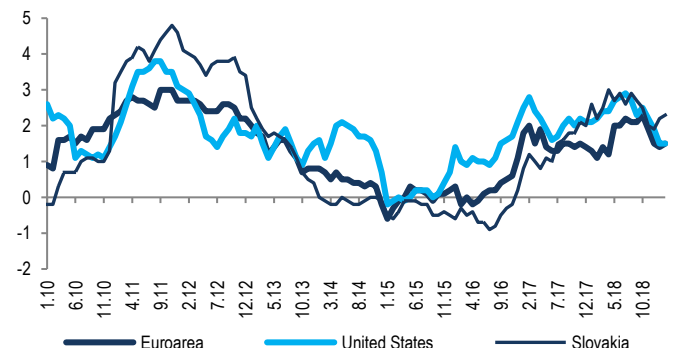
Source: Bloomberg.
 Notes: ESI is the Economic Sentiment Indicator compiled by the European Commission.
 ZEW represents the economic sentiment indicator compiled by a private company ZEW (Zentrum für Europäische Wirtschaftsforschung).

5 Unemployment rates in selected economies (percentages)



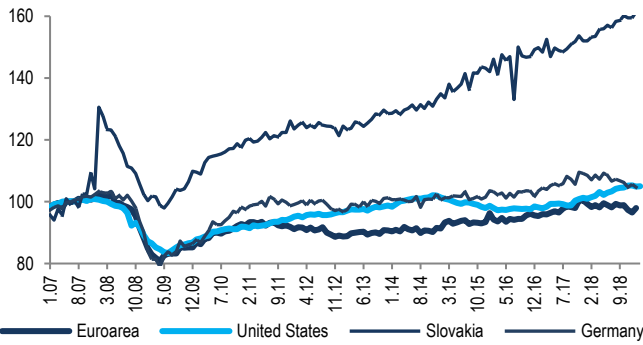
Source: Eurostat and Bureau of Labor Statistics.
 Note: Seasonally adjusted.

6 Consumer price inflation in selected economies (annual percentage changes)



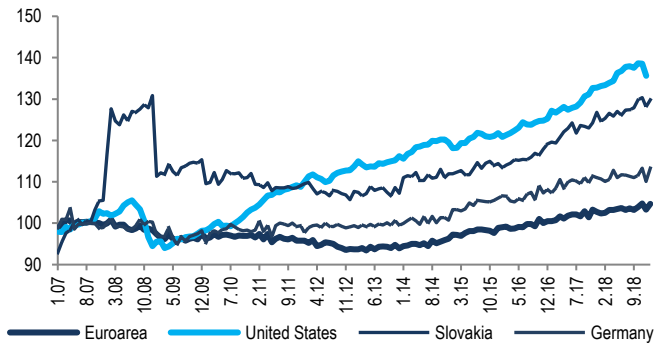
Source: Eurostat and Bureau of Labor Statistics.

7 Industrial production indices in selected economies



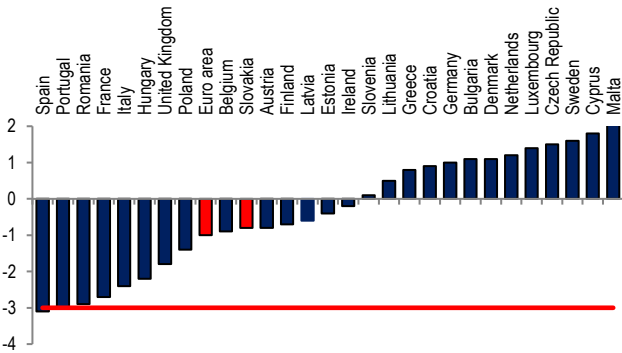
Source: Eurostat and US Federal Reserve.
Notes: Rebalanced (average: 2007 = 100).
Seasonally adjusted.

8 Retail sales indices in selected economies



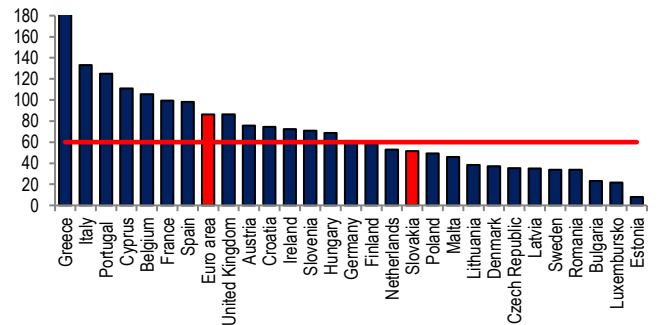
Source: Eurostat and US Department of Commerce.
Notes: Rebalanced (average 2007 = 100).
Seasonally adjusted.

9 General government balances of EU countries in 2017 (percentages of GDP)



Source: Eurostat.

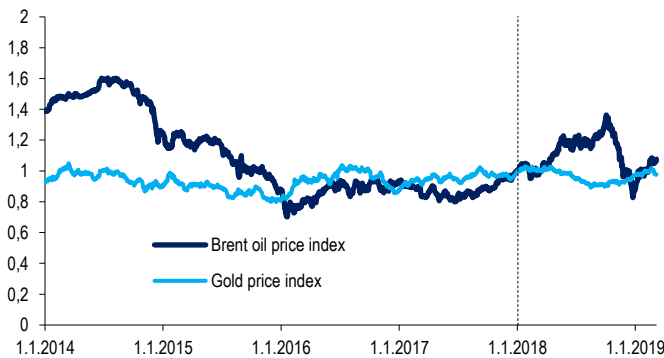
10 Gross government debt of EU countries in the third quarter of 2018 (percentages of GDP)



Source: Eurostat.

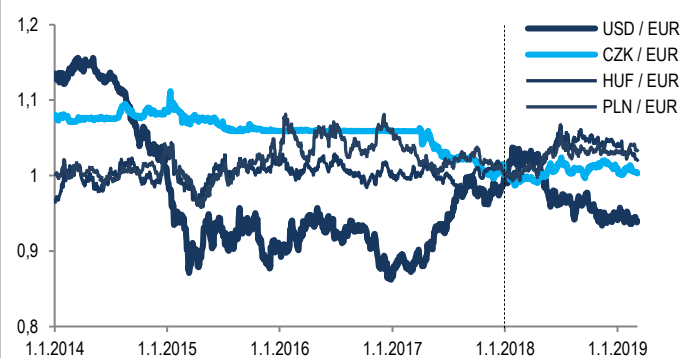
Financial market risk indicators

11 Price commodity indices (31 December 2017 = 1)



Source: Bloomberg and NBS.

12 Exchange rate indices (31 December 2017 = 1)



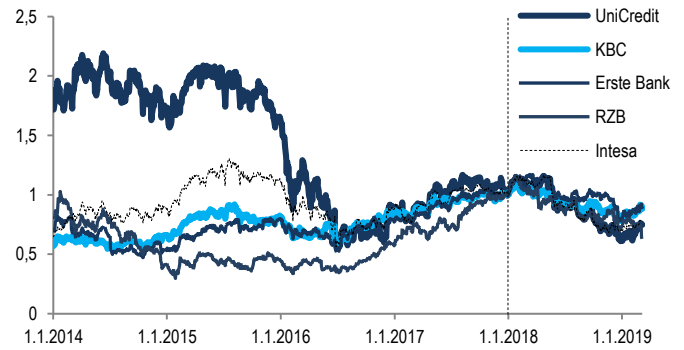
Source: Bloomberg and NBS.

13 Equity indices (31 December 2017 = 1)



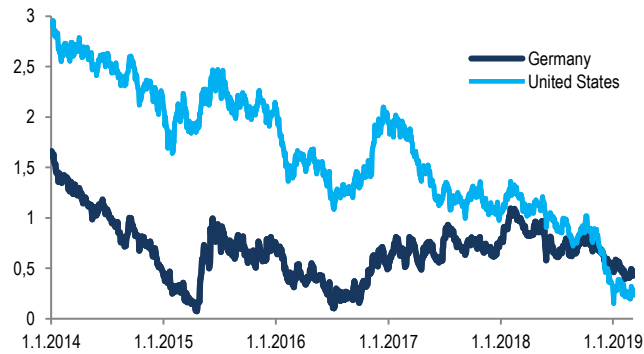
Source: Bloomberg and NBS.

14 Share price indices of the parent institutions of the five largest domestic banks (31 December 2017 = 1)



Source: Bloomberg and NBS.

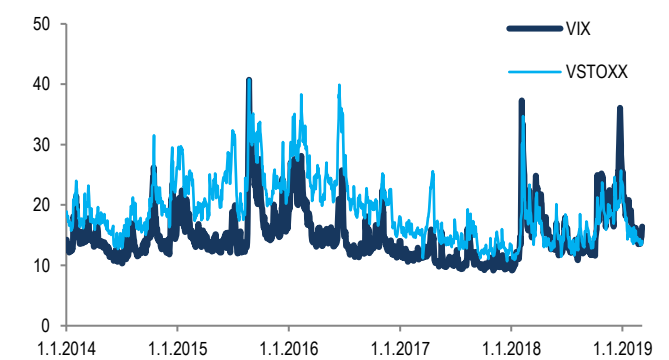
15 Yield curve slope in selected economies (percentage points)



Source: Bloomberg and NBS.

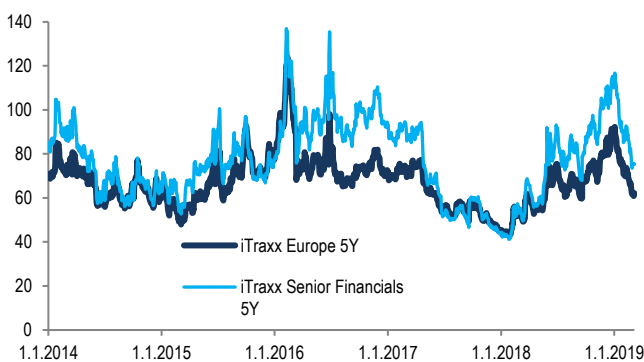
Notes: The yield curve slope is expressed as the difference between the yield to maturity on 10-year and 3-month government bonds.

16 Volatility of equity indices



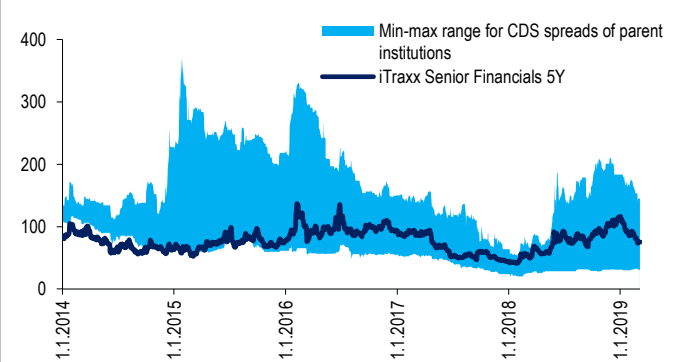
Source: Bloomberg.

17 CDS spread indices (basis points)



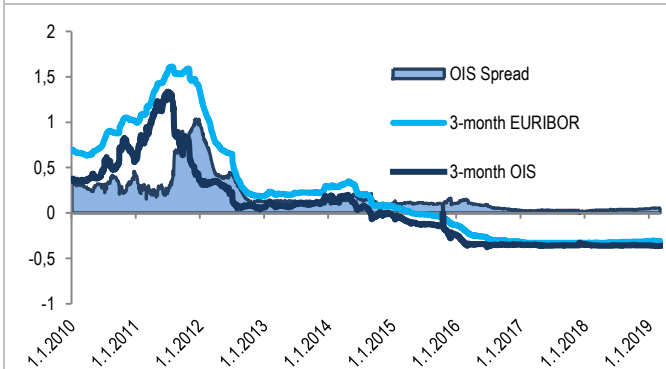
Source: Bloomberg and NBS.

18 CDSs of the parent institutions of the largest Slovak banks (basis points)



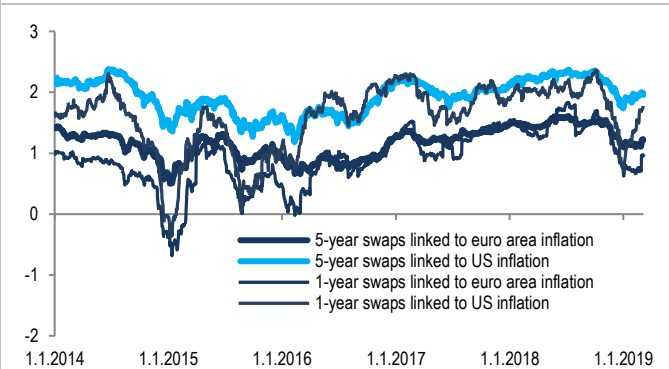
Source: Bloomberg and NBS.

19 Three-month rates and the OIS spread (percentages; percentage points)



Source: Bloomberg and NBS.

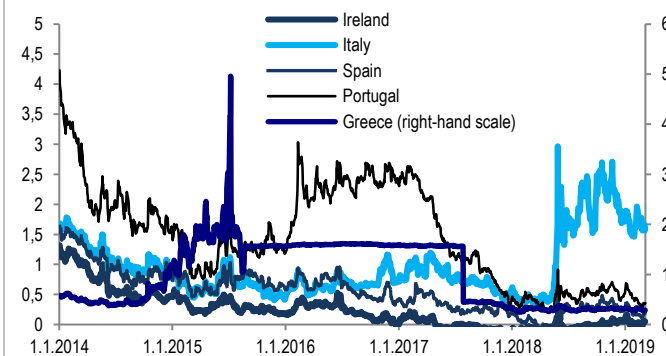
20 Inflation-linked swap prices (percentages)



Source: Bloomberg and 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.

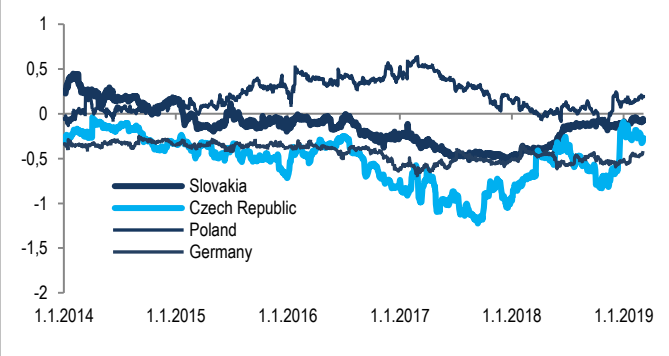
21 Credit spreads on 5-year government bonds issued by lower-rated countries (percentage points)



Source: Bloomberg and NBS.

Notes: The vertical scales shows differences between the yield on 5-year bonds issued by the given countries and 5-year OIS rates, representing a 5-year interest rate on high-rated bonds.

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

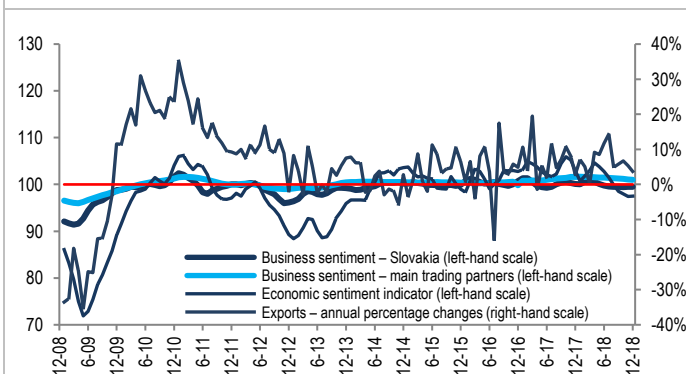


Source: Bloomberg and NBS.

Notes: The Chart shows the difference between yields on 5-year government bonds denominated in the domestic currencies of the given country and 5-year swap rates for the respective currency.

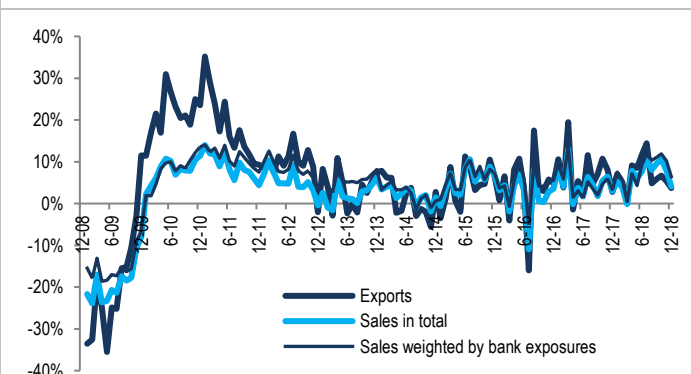
Corporate credit risk indicators

23 Exports and the business environment



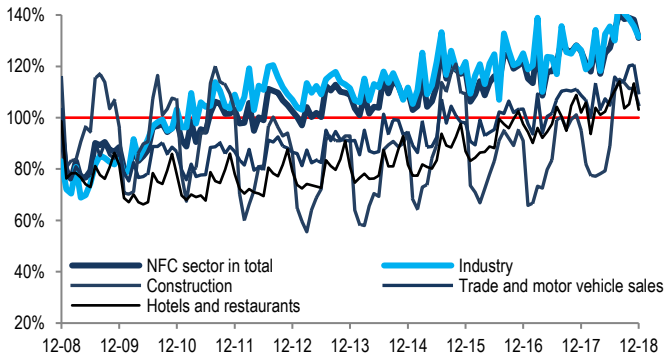
Source: NBS, OECD and Statistical Office of the SR.

24 NFC exports and sales (annual percentage changes)



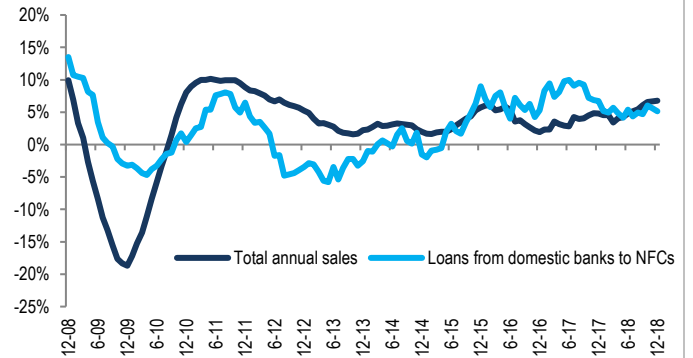
Source: SO SR, OECD, Slovak Ministry of Economy and NBS.

25 Sales in selected sectors compared with their level for the period June 2007 to June 2008 (percentages)



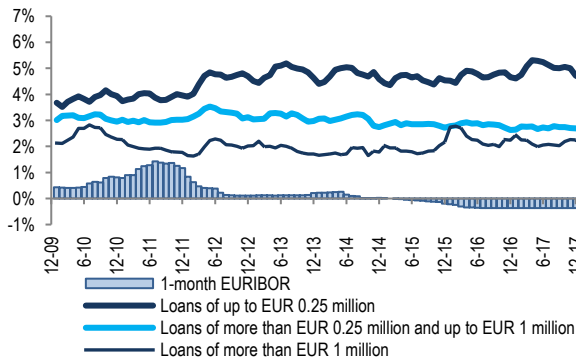
Source: Statistical Office of the SR.

26 NFC loans and sales (annual percentage changes)



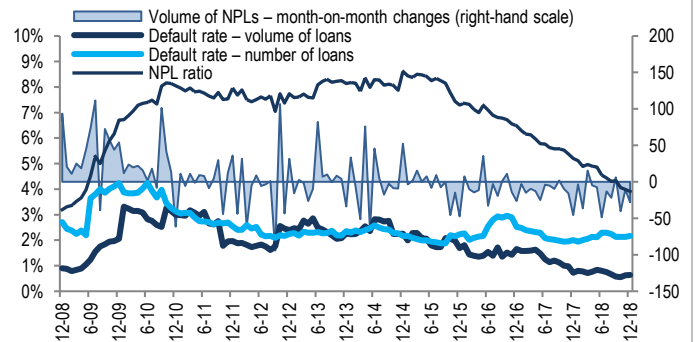
Source: NBS and Statistical Office of the SR.

27 Interest rate spreads on new loans to NFCs (percentages)



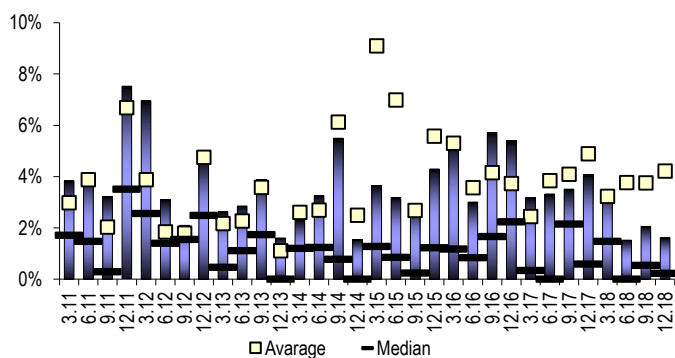
Source: NBS and European Banking Federation.
Note: The spread is defined as the difference between the monthly EURIBOR rate and the average rate on new loans in the respective category.

28 Non-performing loans (NPLs) and default rates



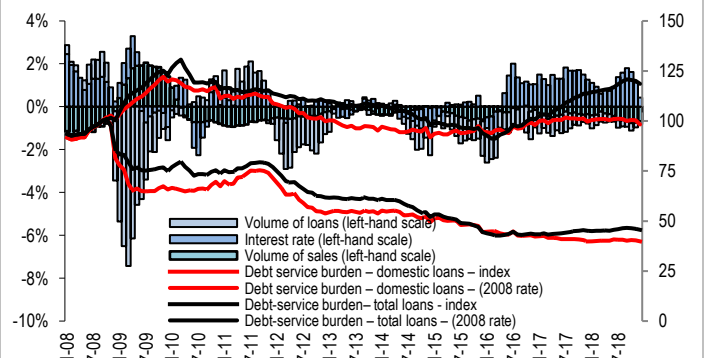
Source: NBS.
Note: The default rate denotes the ratio of the number/volume of loans that defaulted within a period of one year to the number/volume of non-defaulted loans at the beginning of the one-year period. Data on the right-hand scale are in EUR mil.

29 Loans at risk (percentages)



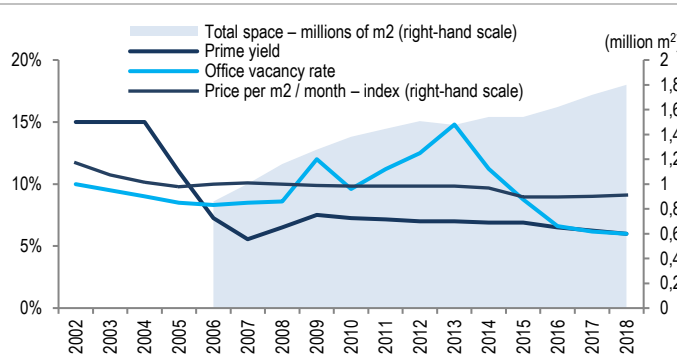
Source: NBS.
Note: The chart shows interquartile ranges.

30 The debt-service burden and its components



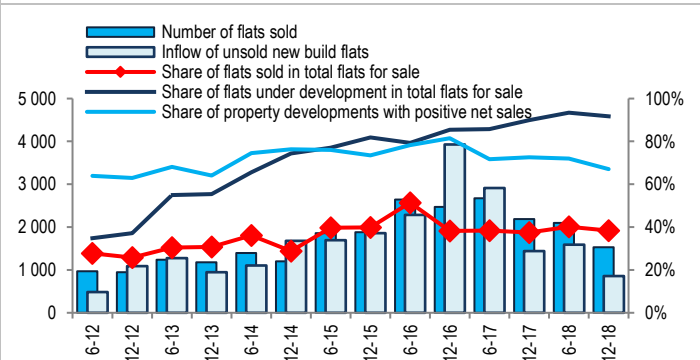
Source: NBS and SO SR.
Note: Data on the right-hand scale are in EUR mil.

31 Commercial real estate: developments in the office segment



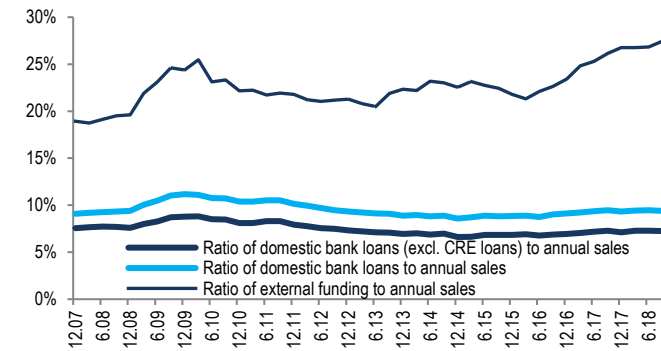
Source: CBRE, JLL and NBS.
Note: The chart shows prices and occupancy in Bratislava.

32 Commercial real estate: sales in the residential segment (new flats)



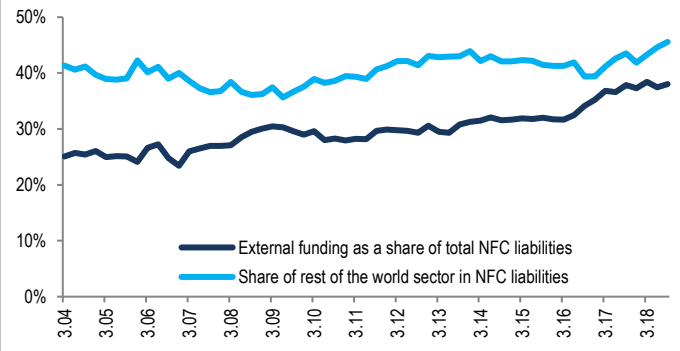
Source: Lexas and NBS.
Note: The chart shows developments in Bratislava.

33 Comparison of the NFC sector's balance sheet and sales (percentages)



Source: NBS and Statistical Office of the SR.
Note: CRE- commercial rate estate.

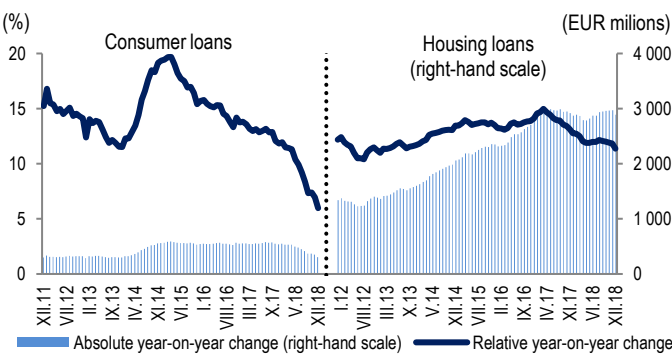
34 Structure of NFC liabilities (percentages)



Source: NBS.

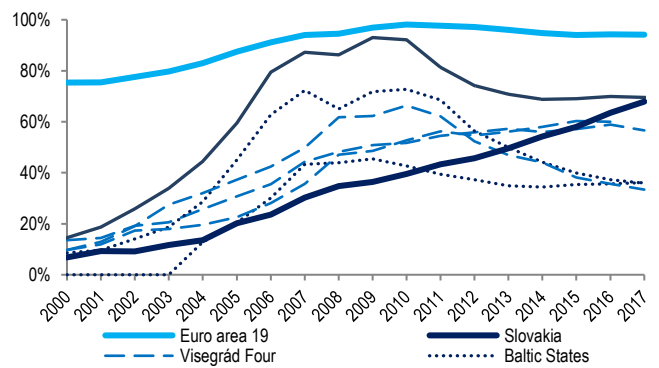
Household credit risk indicators

35 Stock of retail loans (year-on-year changes)



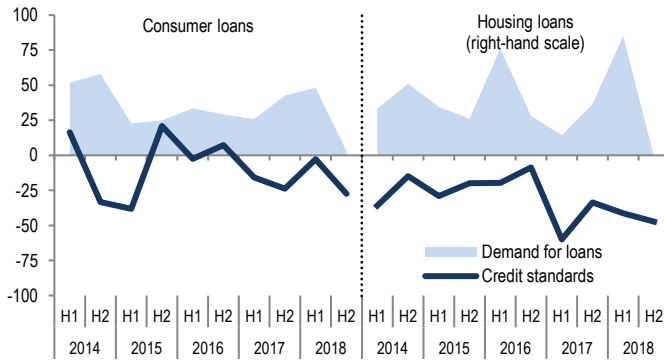
Source: NBS.

36 Household indebtedness in Slovakia and in selected countries (percentages)



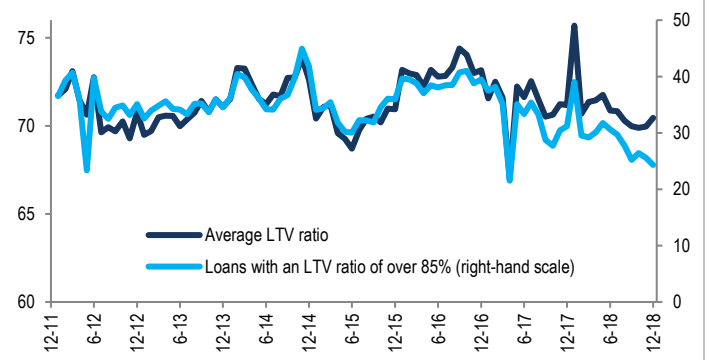
Source: Eurostat.
Note: The indicator is calculated as the ratio of households' total debt to their disposable income. Euro area 19 = average for the euro area.

37 Changes in credit standards and credit demand according to the bank lending survey



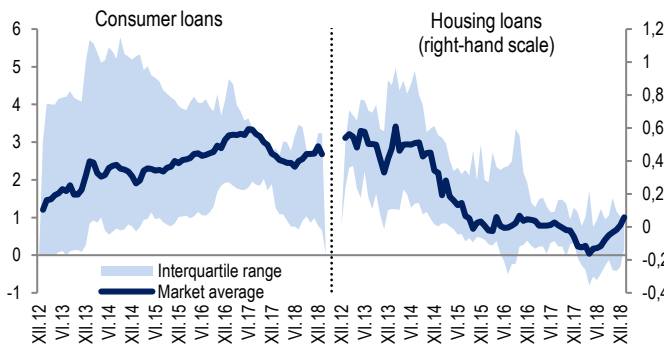
Sources: Bank Lending Survey and NBS.
 Note: The data show net percentage shares, with positive values denoting an increase in demand or an easing of standards.

38 Loan-to-value (LTV) ratio for new loans (percentages)



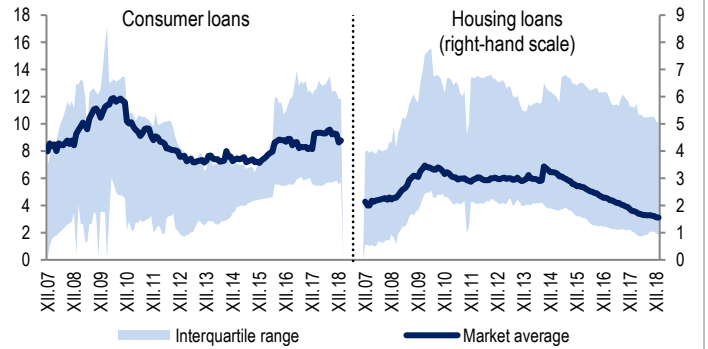
Source: NBS.
 Note: The indicator is defined in the section 'Glossary and abbreviations' of Analysis of Slovak Financial Sector 2018.

39 Net default rates for retail loans (percentages)



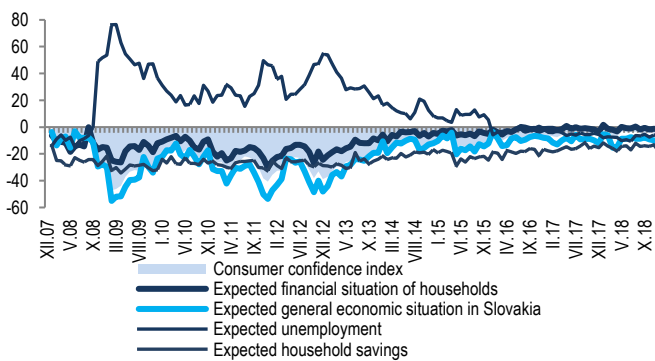
Source: SO SR.
 Note: The net default rate denotes the net change in the amount of NPLs over a 12-month period as a share of the outstanding amount of loans at the beginning of the period. The numerator is adjusted for the effect of loan write-offs/downs and sell-offs.

40 NPL ratios for retail loans (percentages)



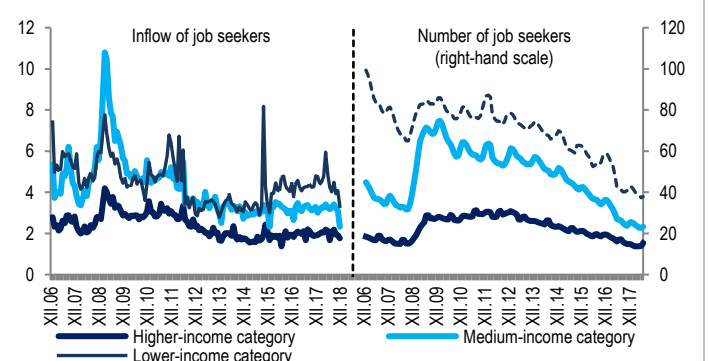
Source: NBS.

41 The consumer confidence index and its components



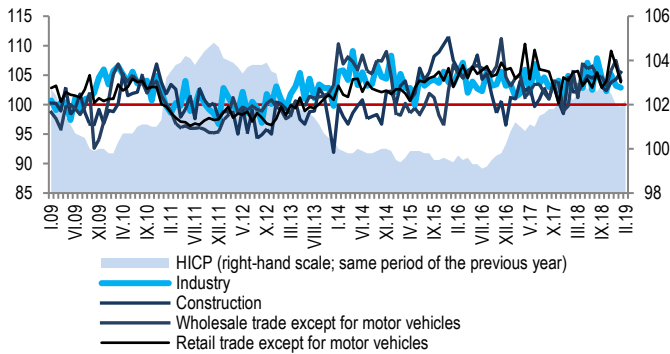
Source: Statistical Office of the SR.

42 Number and inflow of unemployed by income category



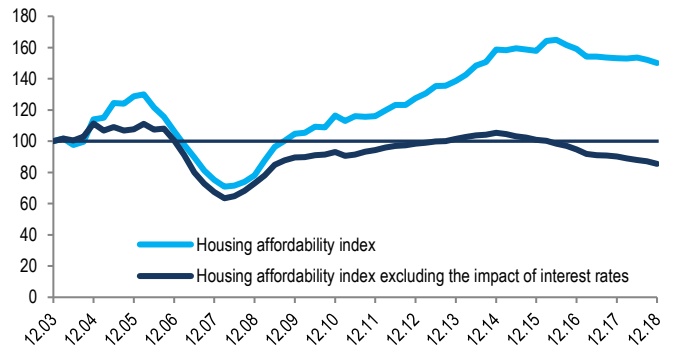
Source: Central Office of Labour, Social Affairs and Family of the Slovak Republic.
 Notes: The left-hand and right-hand scales show numbers of job seekers in thousands. The income categories are defined in the section 'Glossary and abbreviations' of Analysis of Slovak Financial Sector 2018.

43 Real wages in selected sectors – index



Source: SO SR.

44 Housing affordability index (31 March 2004 = 100)

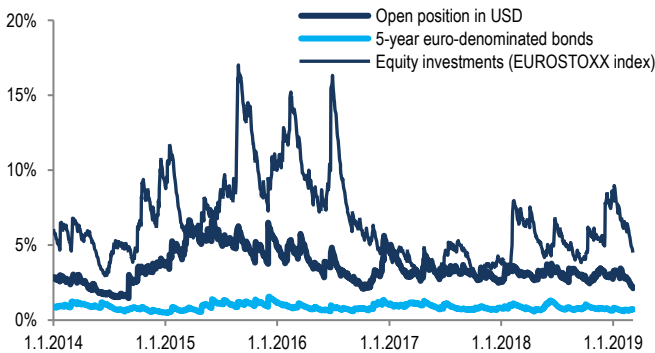


Source: NBS and Statistical Office of the SR.

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), *Nehnutelnosti a bývanie 2010 (Real Estate and Housing)*, Vol. No 2, Bratislava, 2010.

Market risk and liquidity risk indicators

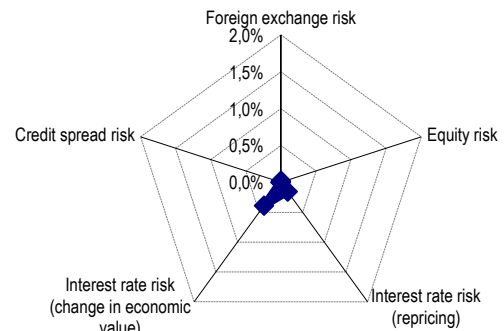
45 Value at Risk for investments in different types of financial instruments (percentages)



Source: Bloomberg and 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.

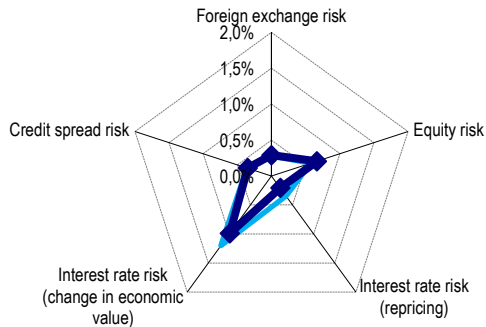
46 The sensitivity of the banking sector to different risk types (percentages)



Source: Bloomberg and NBS.

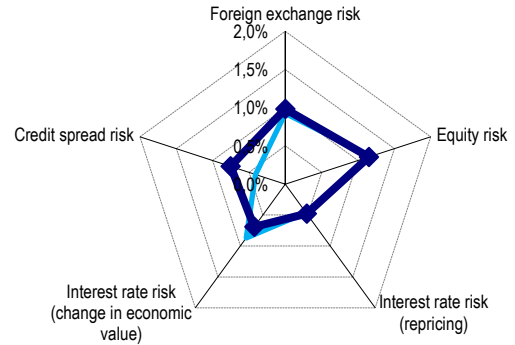
Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. Sensitivity analysis includes four scenarios as follows: share prices declining by 10%; other currencies weakening against the euro by 5%; interest rates increasing in parallel by 0.3 percentage 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 repricing of instruments valued at fair value is calculated, as is the impact on the economic value that represents the repricing of all financial instruments. Individual risk types include also indirect risks that institutions are exposed to by virtue of their investments in investment 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 2017, dark blue line represents data as at 31 December 2018.

47 The sensitivity of PFMC-managed pension funds to different risk types (percentages)



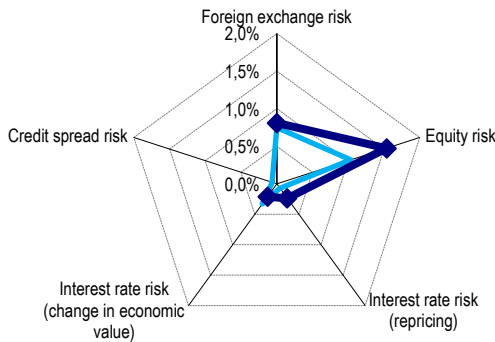
Sources: Bloomberg and NBS.
Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in glossary of Chart 46. Light blue line represents data as at 31 December 2017, dark blue line represents data as at 31 December 2018.

48 The sensitivity of SPMC-managed supplementary pension funds to different risk types (percentages)



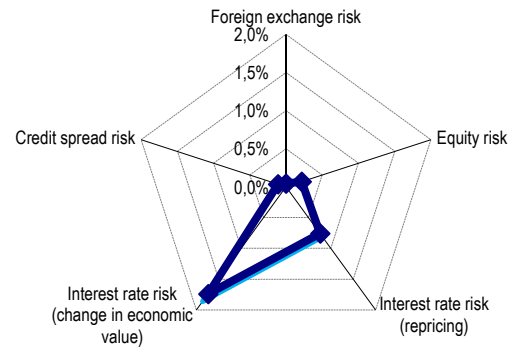
Sources: Bloomberg and NBS.
Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in glossary of Chart 46. Light blue line represents data as at 31 December 2017, dark blue line represents data as at 31 December 2018.

49 The sensitivity of investment funds to different risk types (percentages)



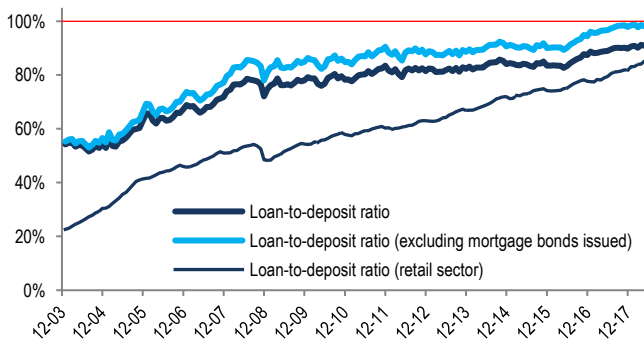
Sources: Bloomberg and NBS.
Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in glossary of Chart 46. Light blue line represents data as at 31 December 2017, dark blue line represents data as at 31 December 2018.

50 The sensitivity of insurers' assets to different risk types (percentages)



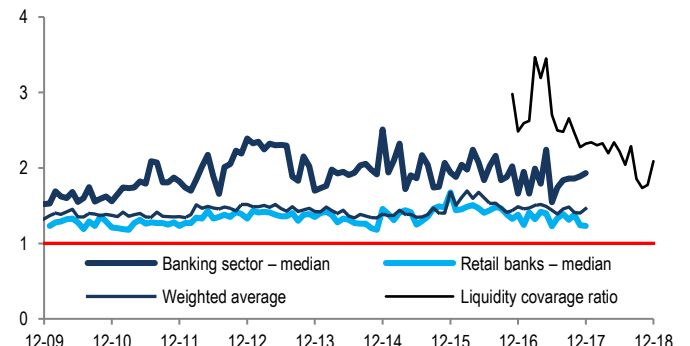
Sources: Bloomberg and NBS.
Notes: The data represent the percentage decline in the value of assets under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in glossary of Chart 46. Light blue line represents data as at 31 December 2017, dark blue line represents data as at 31 December 2018.

51 Loan-to-deposit ratio (percentages)



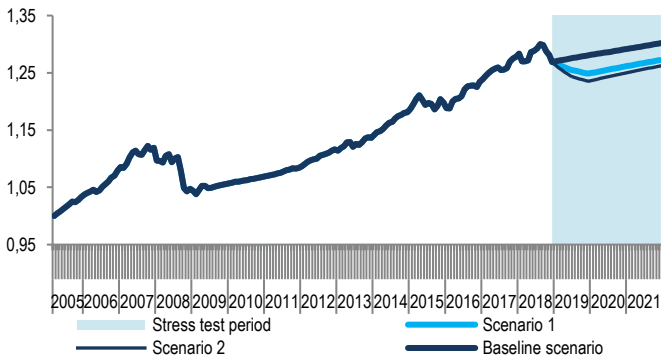
Source: NBS.

52 Chart P52 Liquid asset ratio and liquidity coverage ratio (percentages)



Source: NBS.

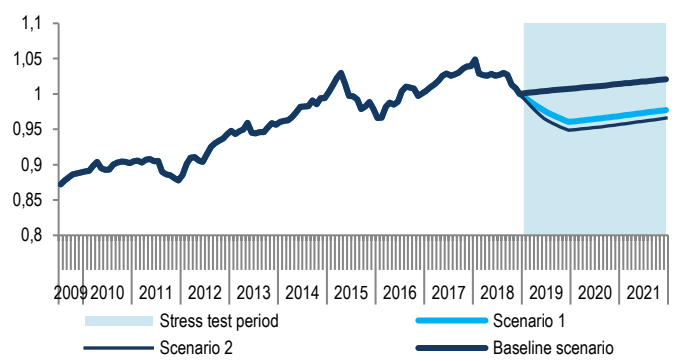
53 Impact of stress test scenarios on PFMC-managed pension funds



Sources: NBS, ECB, Bloomberg and internet.

Note: The vertical scale shows the average of the index of the current pension-point value weighted by the net asset value of individual funds.

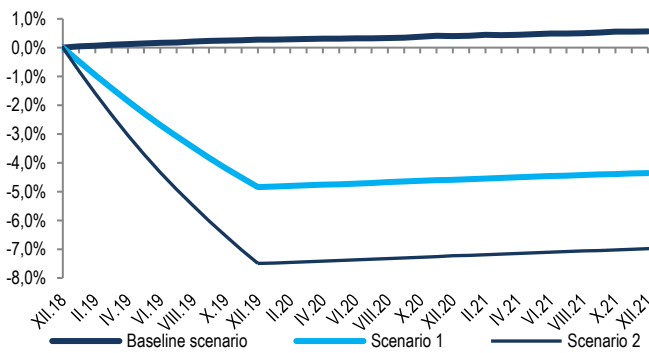
54 Impact of stress test scenarios on SPMC-managed distribution pension funds



Sources: NBS, ECB, Bloomberg and internet.

Note: The vertical scale shows the average of the index of the current pension-point value weighted by the NAV of individual funds.

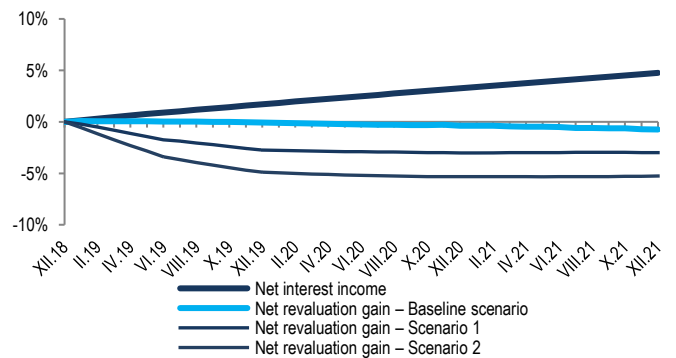
55 Impact of stress test scenarios on investment funds (percentages)



Sources: NBS, ECB, Bloomberg and internet.

Note: The vertical scale shows the estimated profit or loss as a share of the net asset value weighted by the NAV of individual funds.

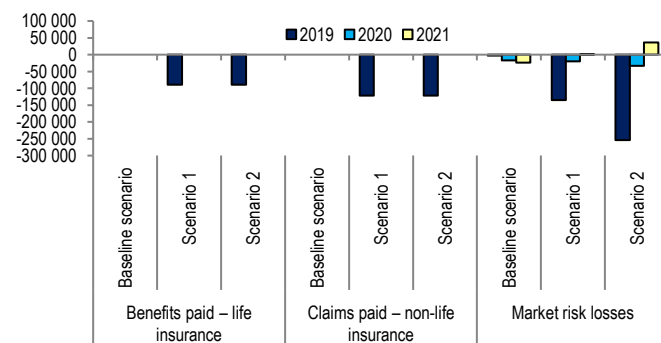
56 Impact of stress test scenarios on insurers' assets (percentages)



Sources: NBS, ECB, Bloomberg and internet.

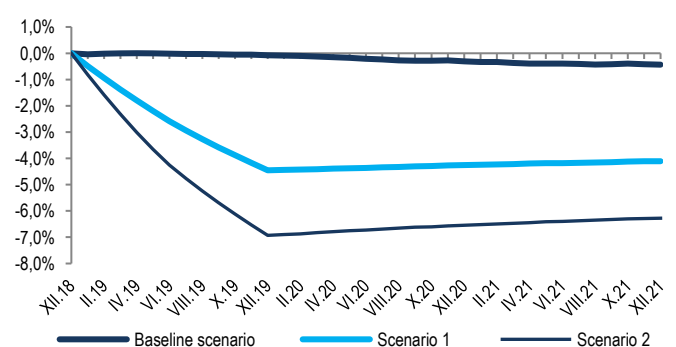
Notes: The left-hand scale shows the estimated profit or loss as a share of assets (except for assets covering technical provisions in unit-linked insurance) weighted by assets of individual insurers. The impact of the stress test scenarios on the value of liabilities was not taken into account.

57 Additional expenses incurred by the insurance sector under the stress test scenarios (EUR millions)



Source: NBS.

58 Impact of stress test scenarios on unit-linked insurance assets (percentages)



Source: NBS, ECB, Bloomberg and internet.

Note: The left-hand scale shows the estimated profit or loss as a share of NAV weighted by the net value of assets covering unit-linked insurance in individual insurers.