DIRECTORATE MONETARY POLICY AND FINANCIAL MARKET ANALYSIS
FINANCIAL MARKET ANALYSIS DEPARTMENT

CHART-PACK ON RECENT ECONOMIC AND FINANCIAL MARKET DEVELOPMENTS

2023
DECEMBER

Chart-pack on recent economic and financial market developments*

18/12/2023

As of the 30th of June, 2005 the Magyar Nemzeti Bank (the central bank of Hungary) publishes a comprehensive chart-pack about the latest information in financial markets and the macro-economy. Our aim is to provide analysts and the public with a frequently updated, easy-to-use, clear-cut data set, in order to promote better knowledge and understanding of the current economic and financial market situation. The updated chart-pack is published on the day of each rate-setting meeting at 5 pm.

Earlier versions of the chart-pack are accessible on the website of Magyar Nemzeti Bank via the following address: *https://www.mnb.hu/en/publications/studies-publications-statistics/chart-pack-on-recent-economic-and-financial-market-developments*

Questions and comments are welcome, and should be addressed to *info@mnb.hu*

*The data sources of this document, in whole or in part, do not fall within the scope of Act XLVI of 1993 on statistics, therefore the data contained in the tables and charts are not to be considered as official statistical data. Magyar Nemzeti Bank excludes all liability for any damage caused by the usage of the herein published non-official statistical data.

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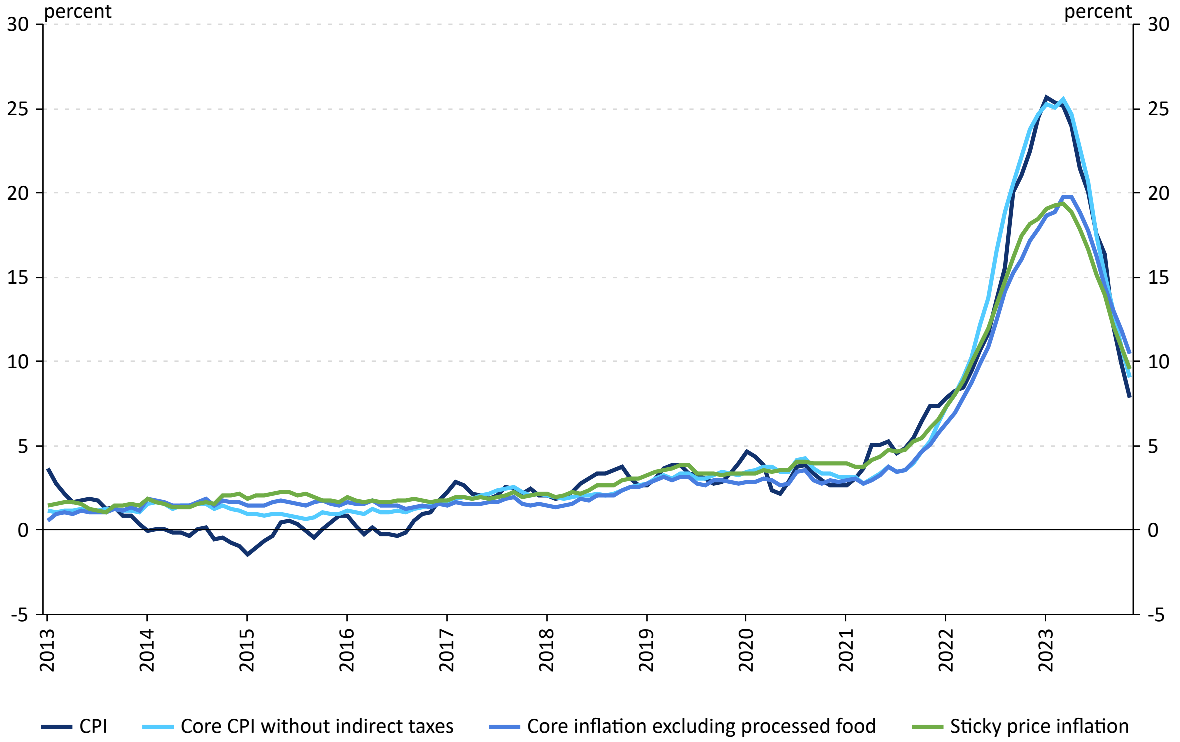
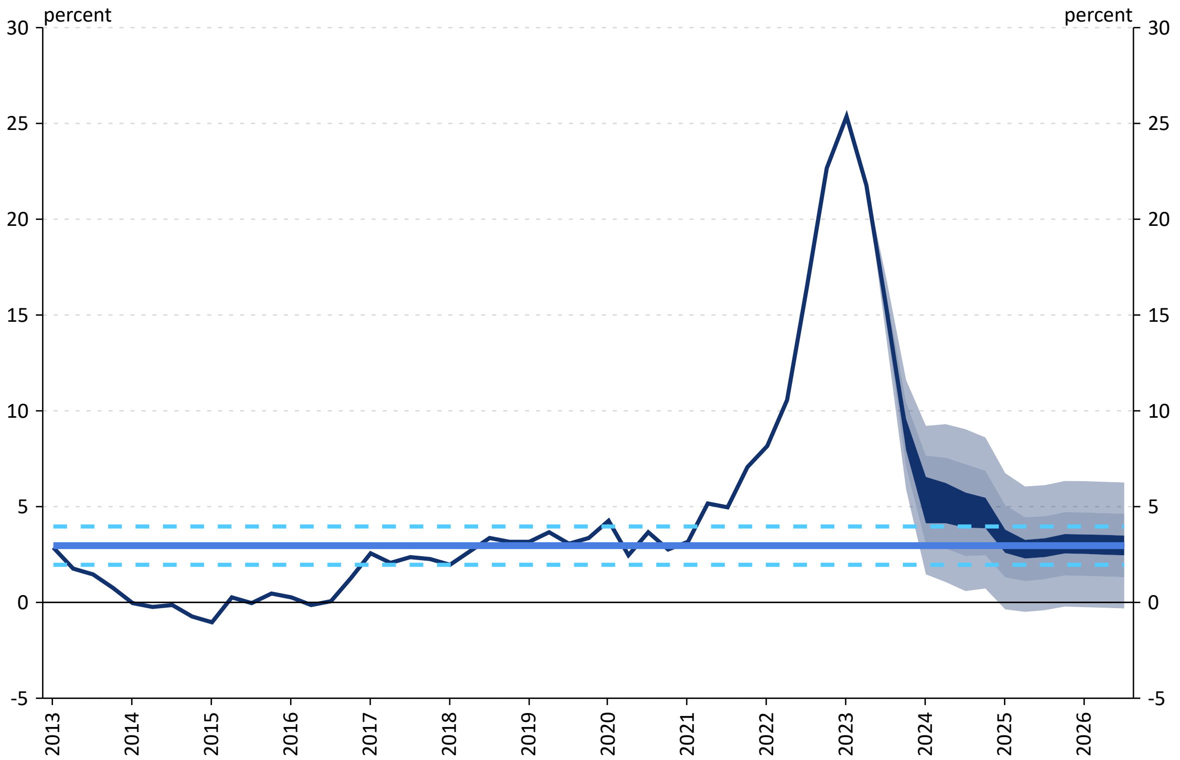
1. Development of inflation and underlying inflation indicators



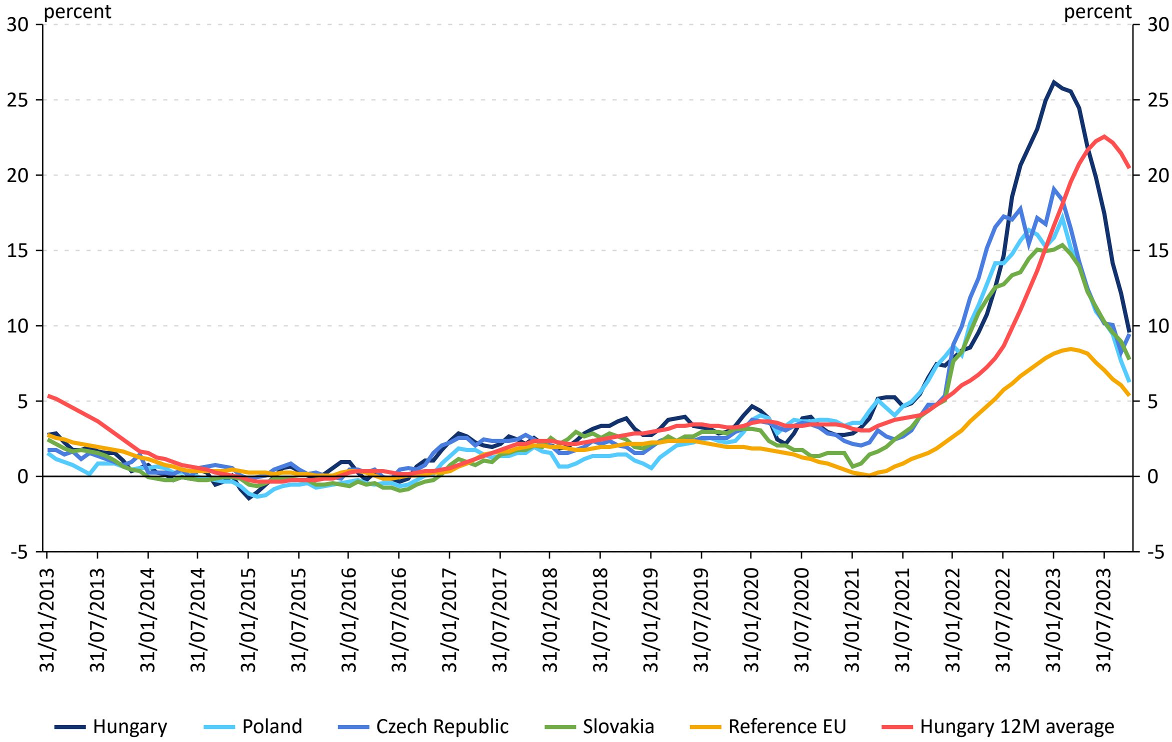
Source: HCSO, MNB
Note: Seasonally adjusted year-on-year growth rates.

2. Fanchart of the inflation forecast



Source: HCSO, MNB. Note: Seasonally unadjusted data. The dashed lines are the borders of the tolerance band, the thick continuous line is the inflation target of MNB.

3. Harmonised index of consumer prices



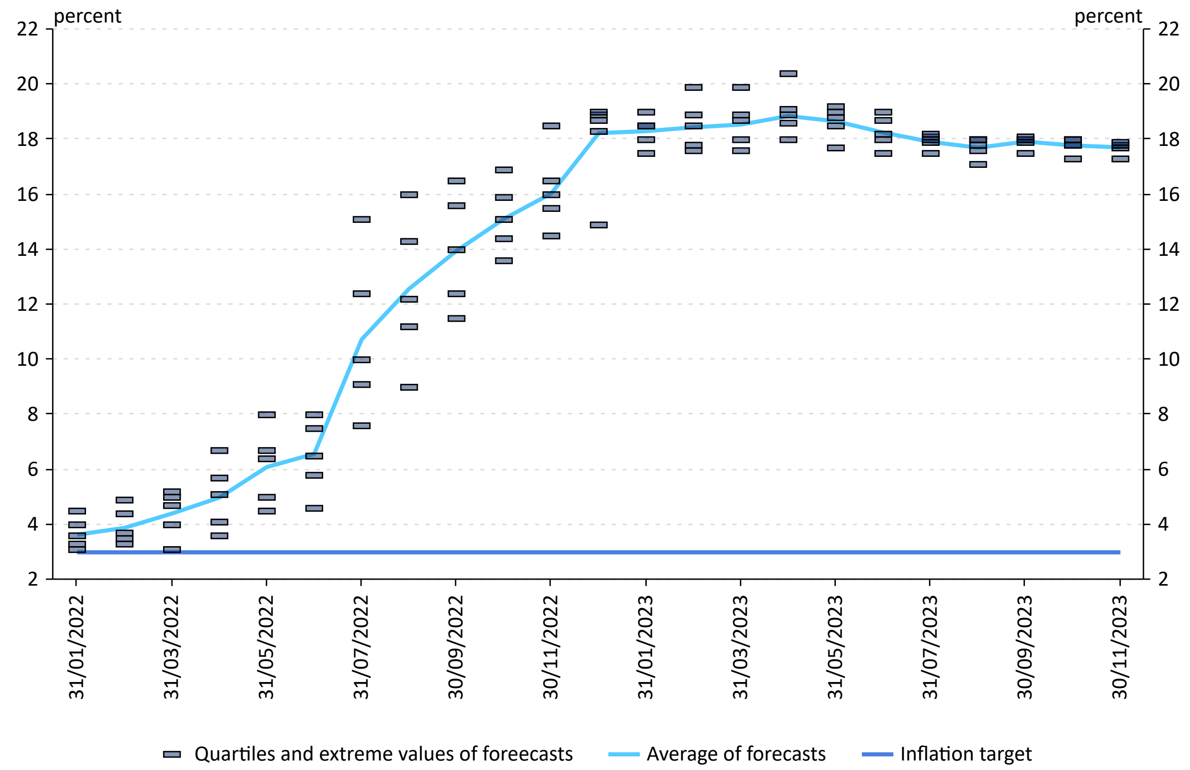
Source: Eurostat
Note: annual growth rate.

4. Decomposition of the Consumer Price Index

	Weight 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023
Consumer Price Index	100.0	16.4	12.2	9.9	7.9
Thereof:					
Unprocessed food	6.1	16.0	10.0	3.8	2.4
Processed food	13.5	17.9	12.9	7.5	3.6
Manufactured goods	25.4	11.4	10.1	8.8	7.2
Market services	24.8	16.4	15.2	14.2	13.5
Non-regulated household energy	0.9	42.1	18.7	5.5	0.7
Alcohol, tobacco	7.9	12.7	12.3	11.6	10.6
Gasoline prices	8.1	31.1	35.4	30.2	25.4
Regulated prices	13.2	18.8	-1.1	-1.0	-2.3
Core Consumer Price Index	63.7	15.2	13.1	10.9	9.1
CPI without tax changes	100.0	15.8	11.6	9.3	7.3

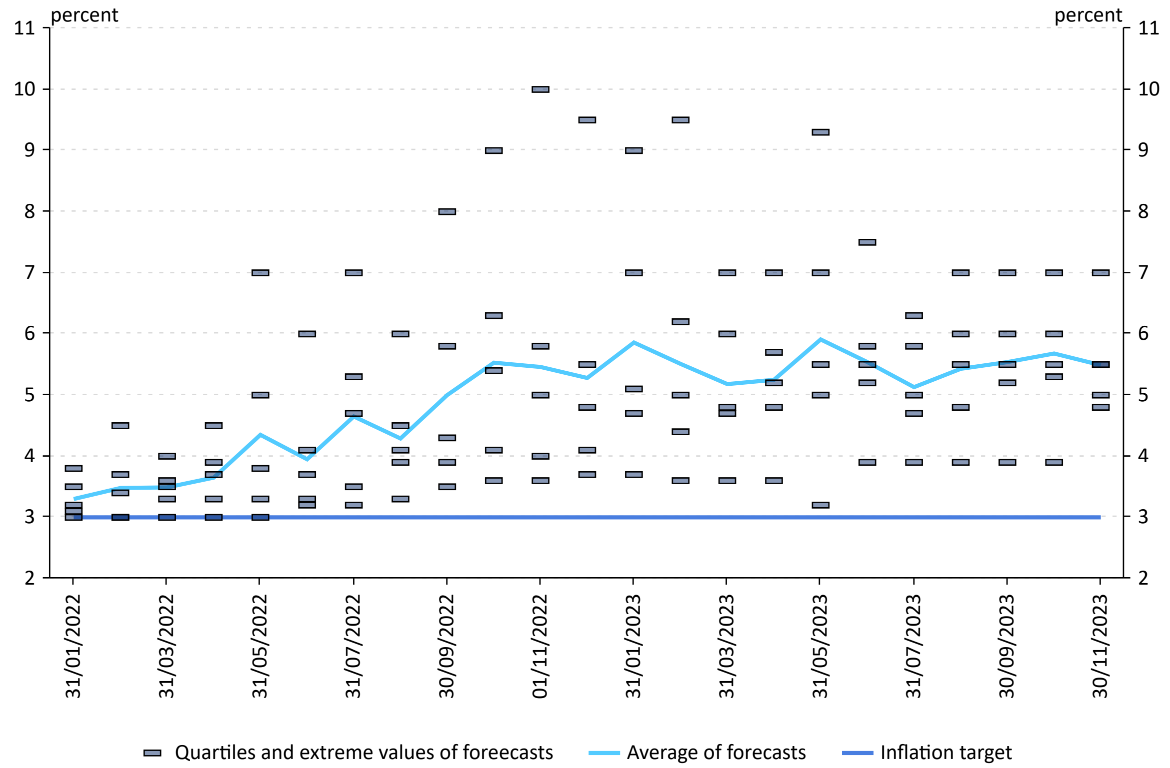
Source: HCSO, MNB decomposition.
Note: annual growth rates (%). Seasonally not adjusted data.

5. Market expectations for the inflation rate in current year



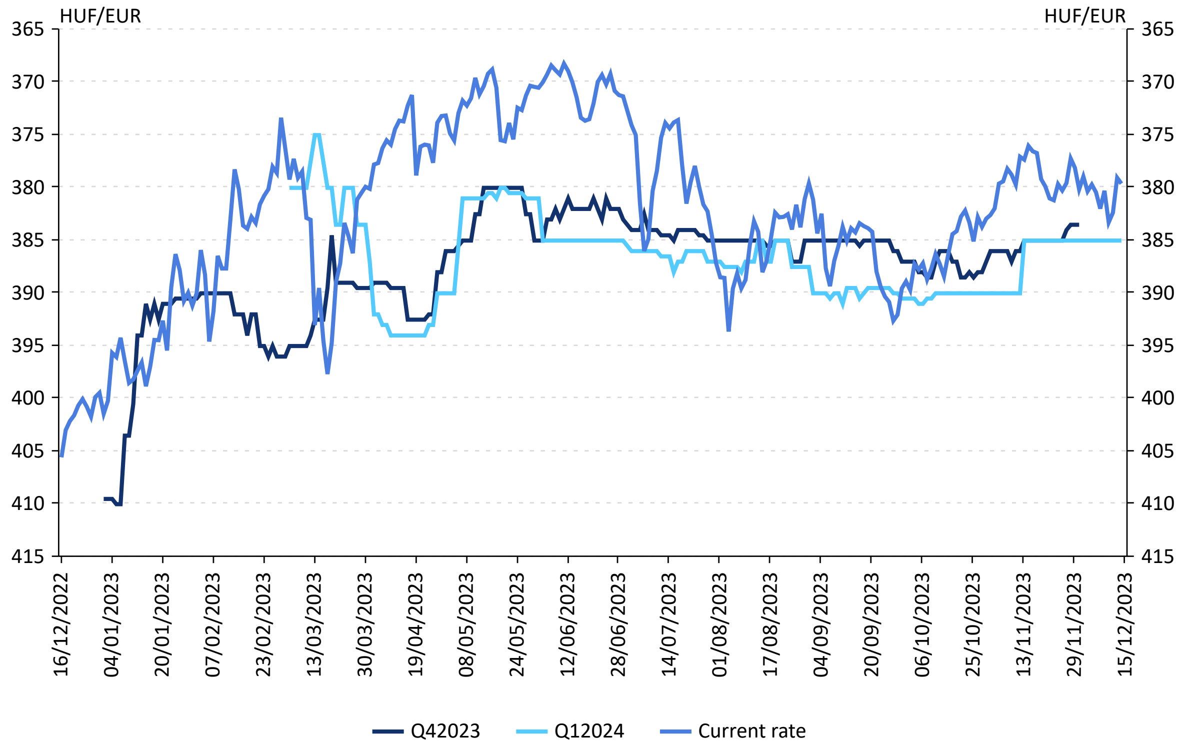
Source: Refinitiv, MNB.

6. Market expectations for the inflation rate next year



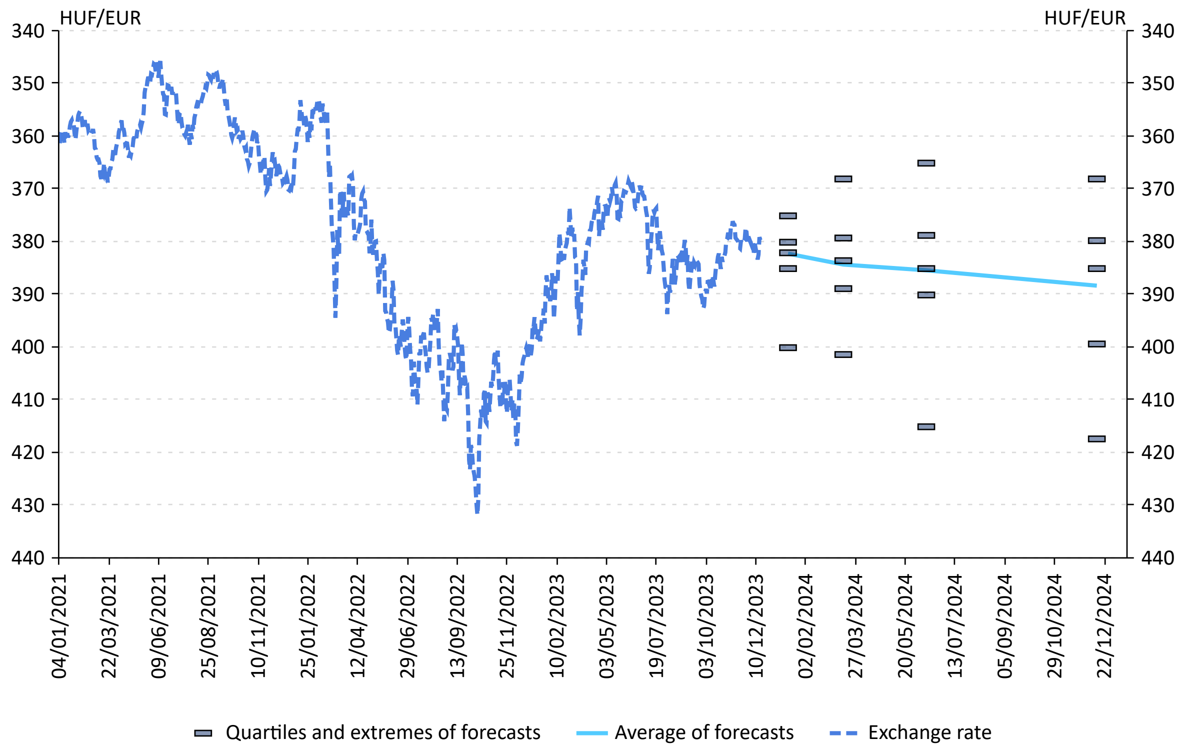
Source: Refinitiv, MNB.

7. Expectations for HUF/EUR exchange rate (Bloomberg collection)



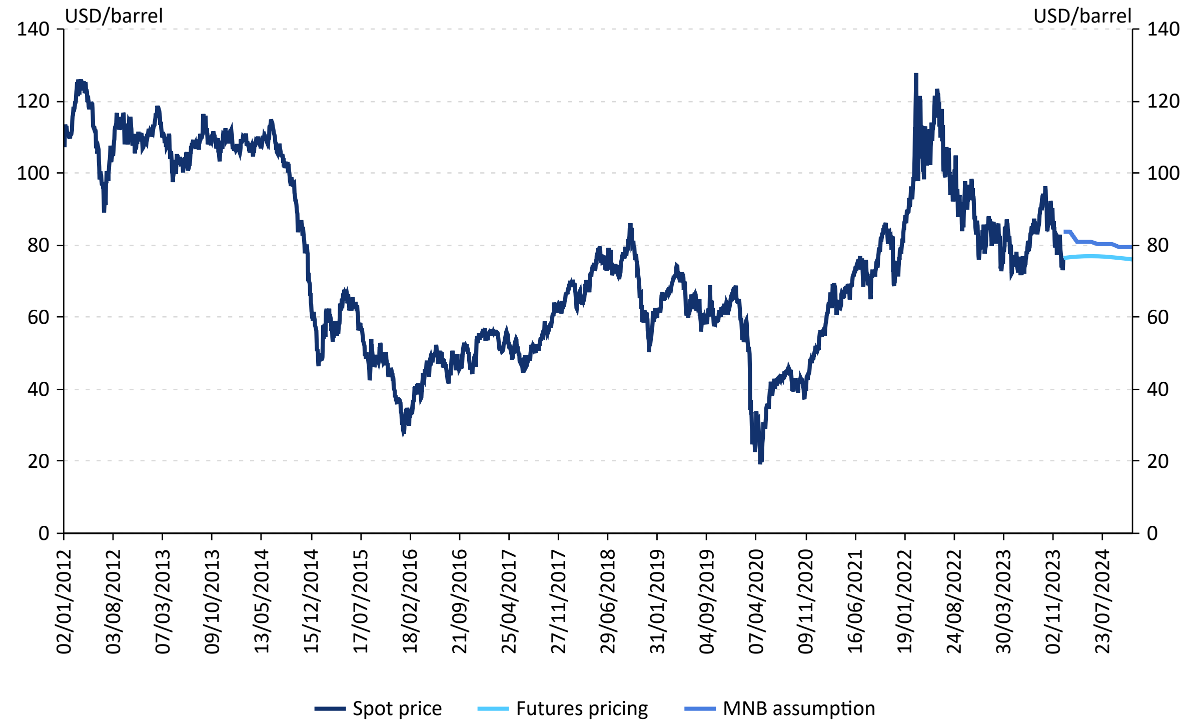
Source: Bloomberg
Note: Based on new FX forecasts. Reverse scale.

8. Expectations for the HUF/EUR exchange rate



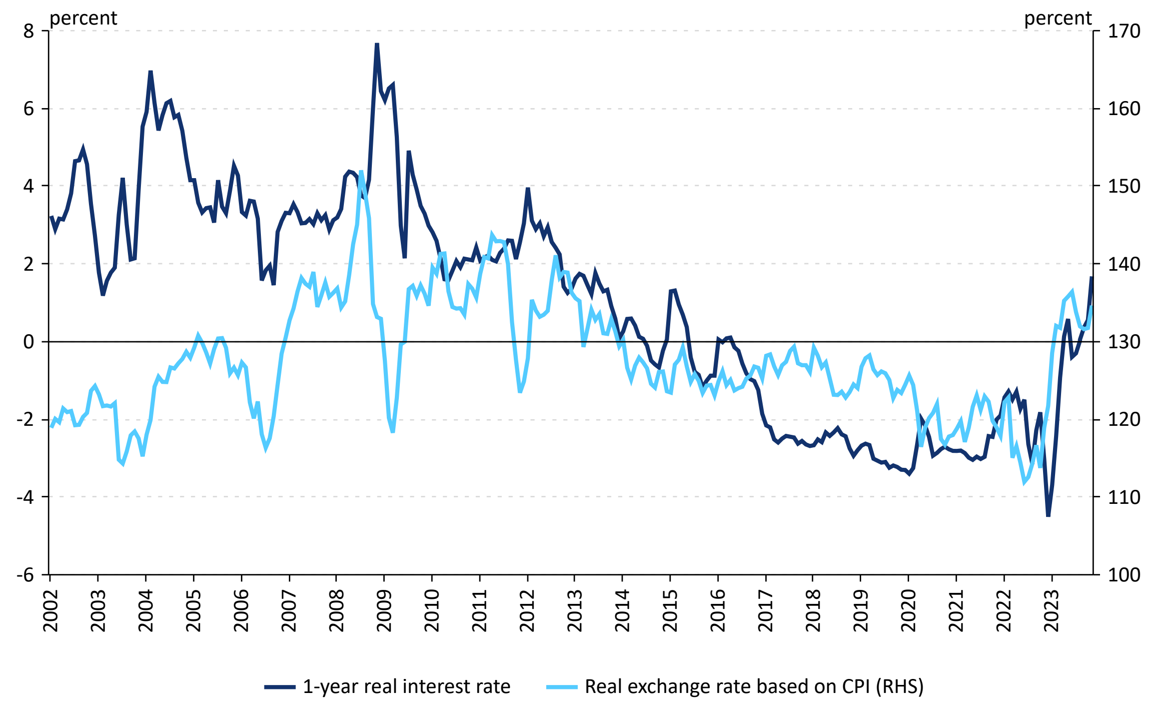
Source: Refinitiv, MNB.
Note: inverted scale.

9. Spot and futures Brent crude oil price



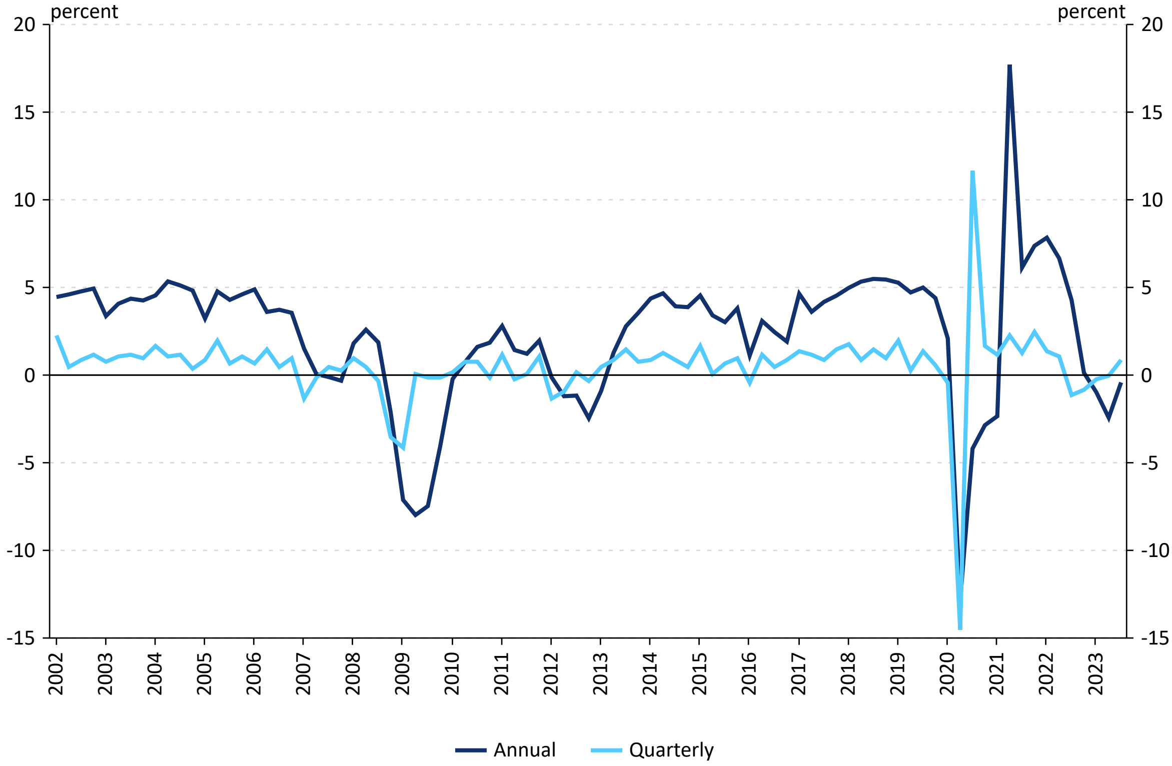
Source: Bloomberg, MNB.
Note: Futures prices show the most recent market price, while the MNB's technical assumption is the technical assumption used in the forecasts of the last Inflation Report.

10. Monetary conditions



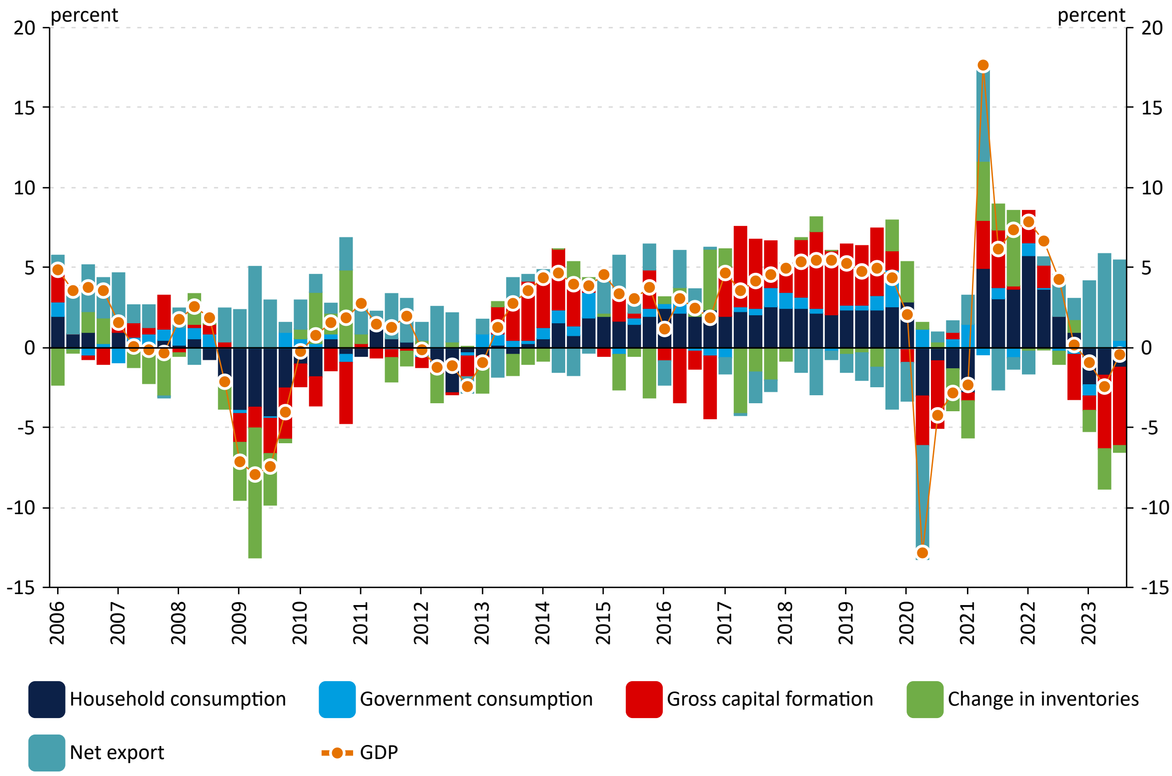
Source: Refinitiv, HCSO, Eurostat, GDMA, MNB.
Note: Real interest rate is calculated from 1-year GDMA zero coupon yield and analaysts corresponding 1-year forward inflation expectations derived from th Reuters-poll by the MNB. Real exchange rate is calculated from the change of the forint relative to euro, adjusted by the corresponding Hungarian CPI and the EMU is HICP. (1 January 2000=100%, increase represents appreciation)

11. Quarterly and yearly change of GDP



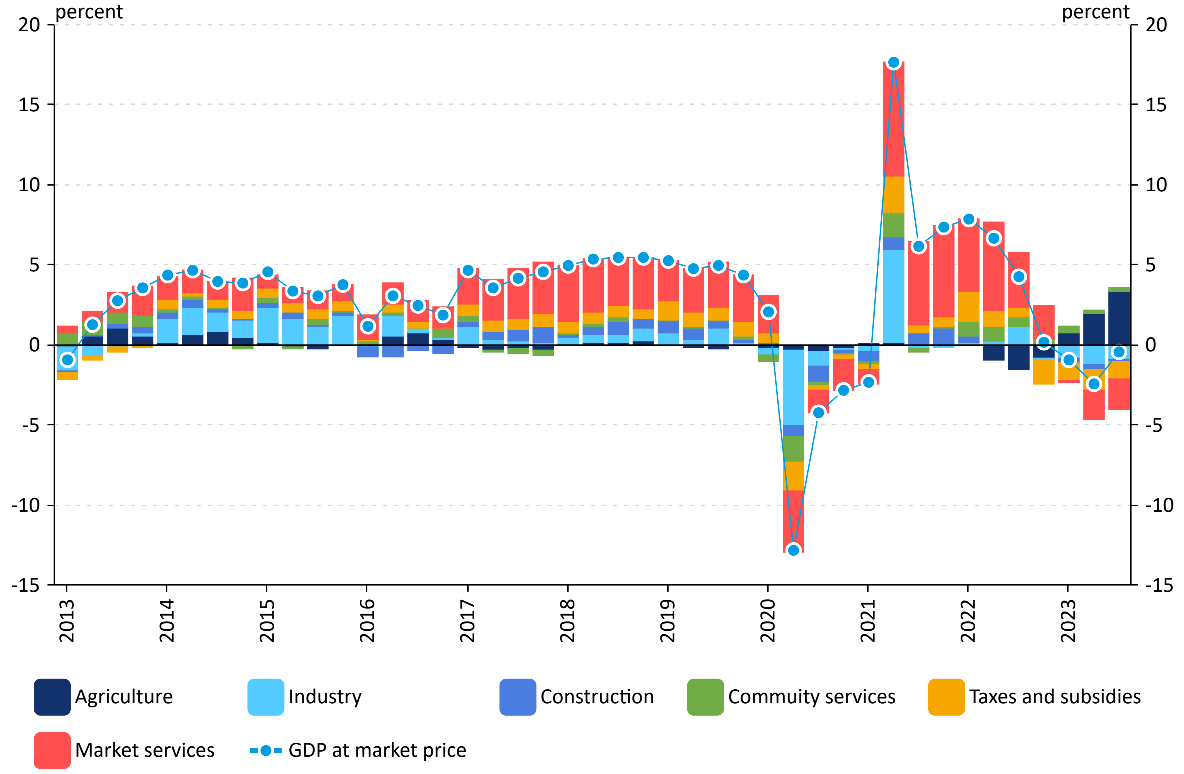
Source: HCSO, MNB.

12. Decomposition of GDP growth (expenditure approach)



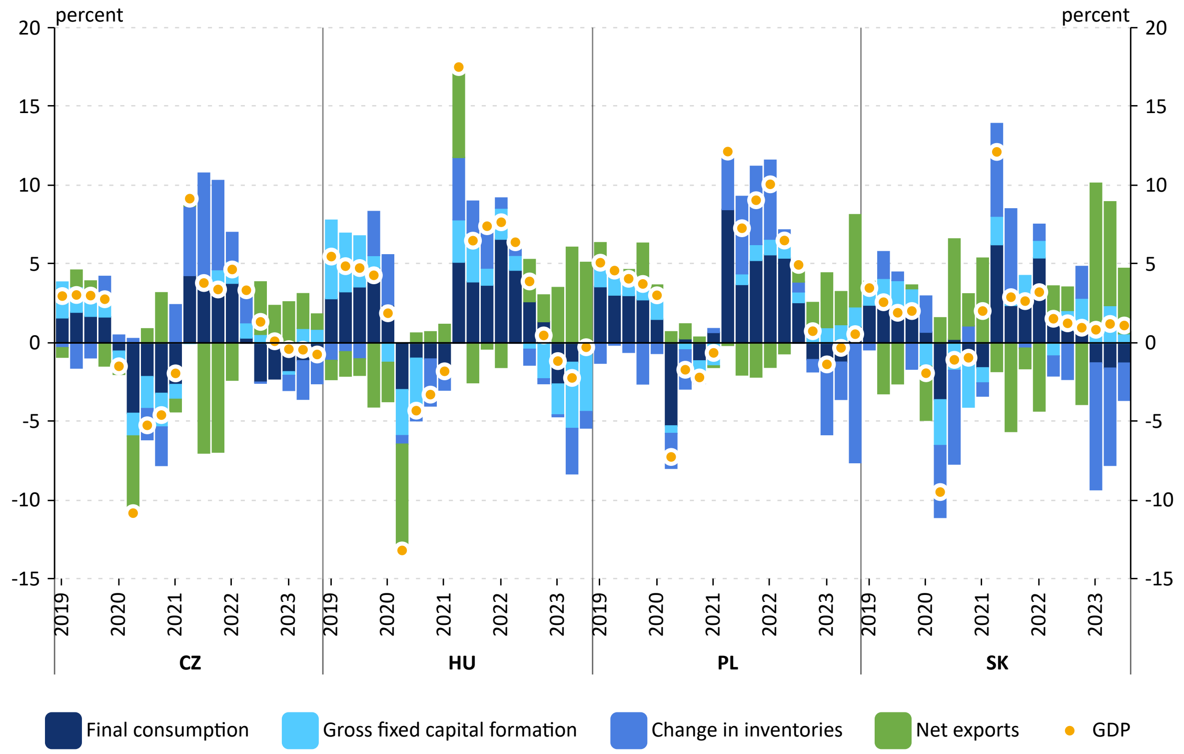
Source: HCSO.

13. Decomposition of GDP growth (production approach)



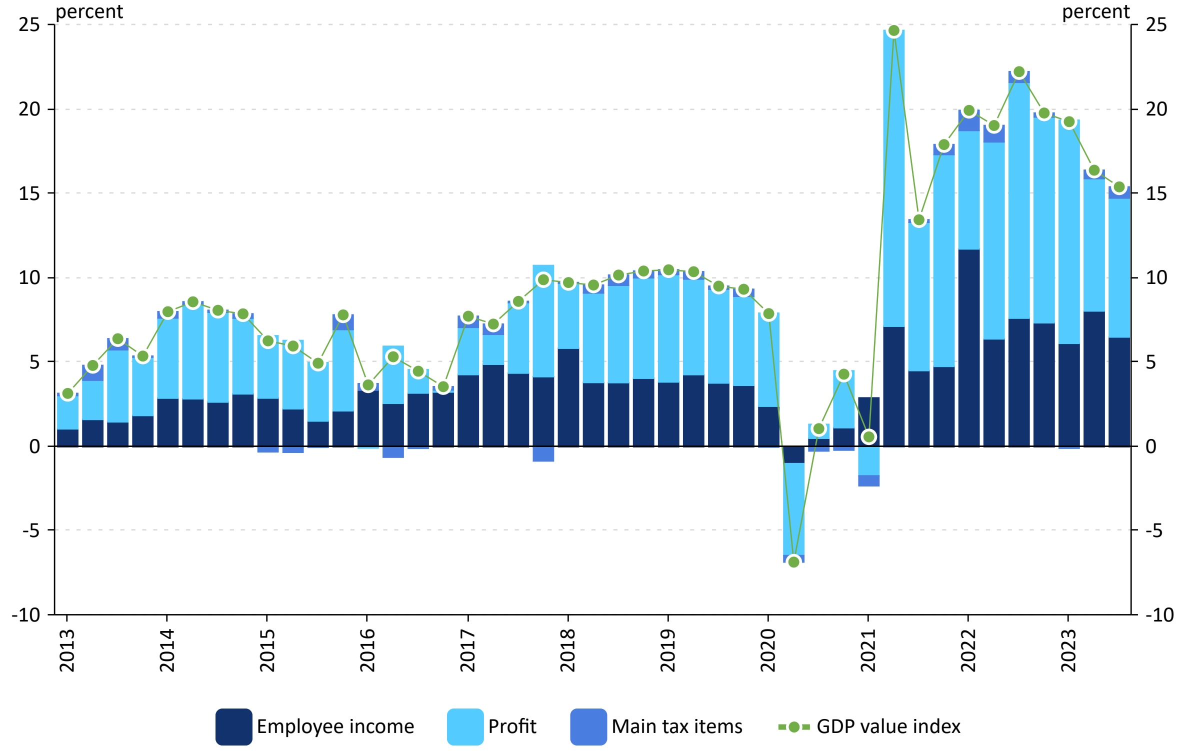
Source: HCSO.

14. Contribution to annual GDP growth in the region



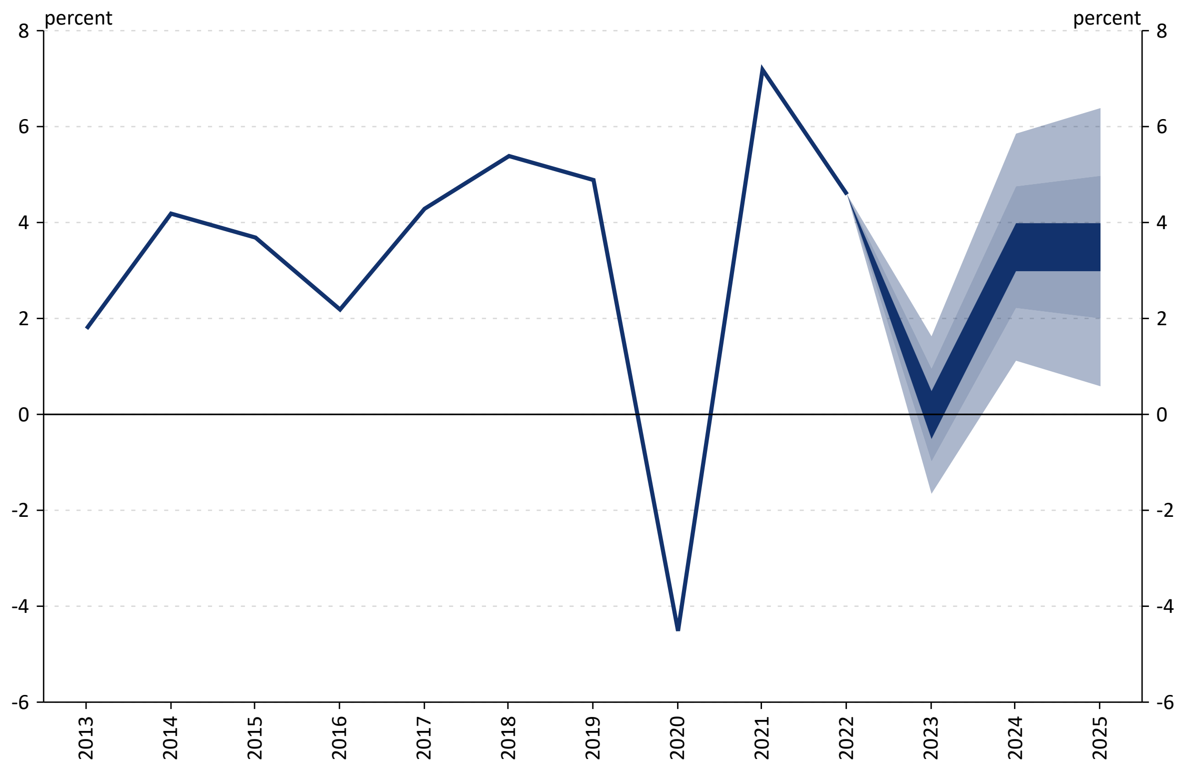
Source: MNB, HCSO.
Note: based on seasonally and calendar adjusted and reconciled data

15. Decomposition of GDP growth (income approach)



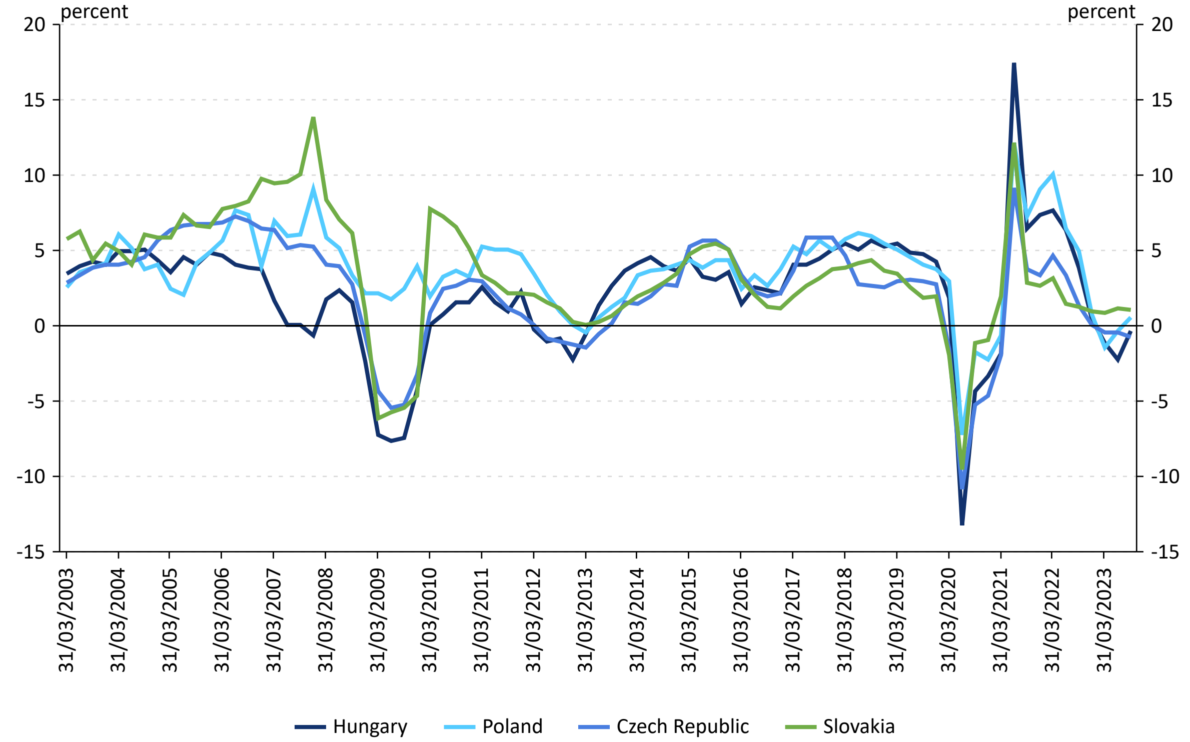
Source: MNB.
Note: Contribution in percentage points. Profit means gross operating profit, main taxes mean net product and production tayes.

16. Fan chart of the GDP forecast



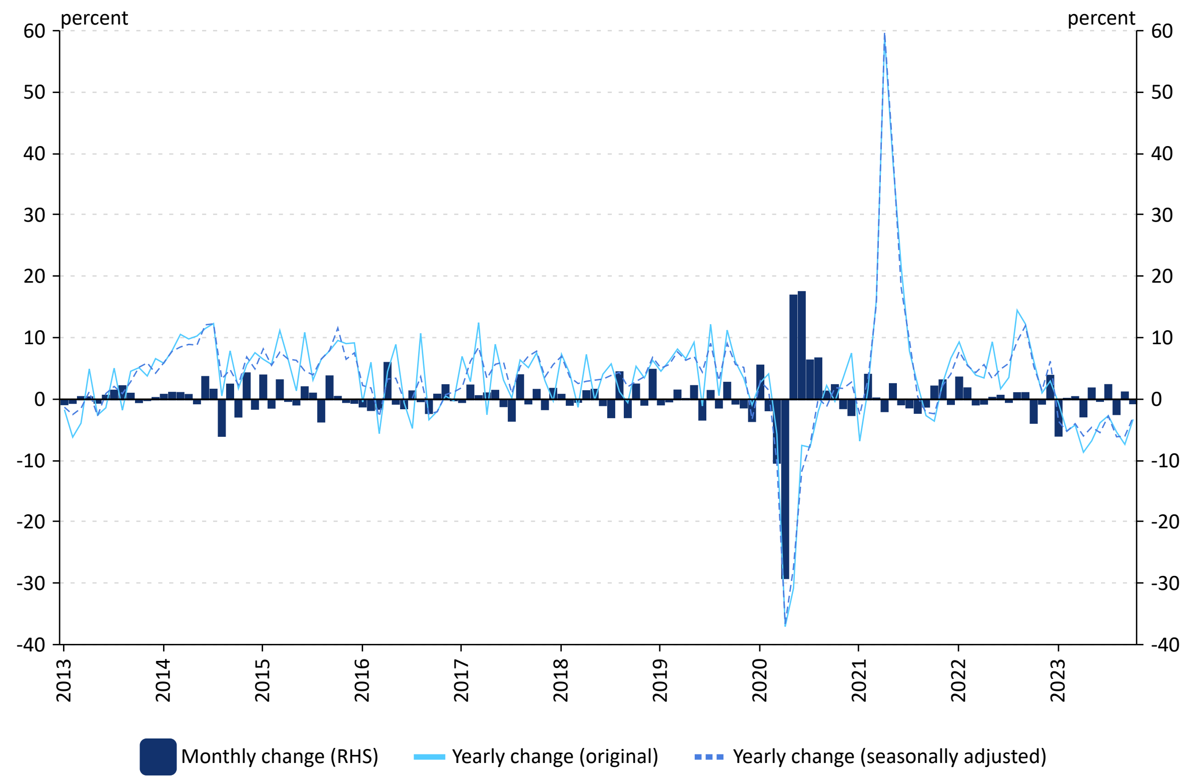
Source: HCSO, MNB.
Note: based on seasonally and calendar adjusted and reconciled data

17. GDP growth rate in CEE



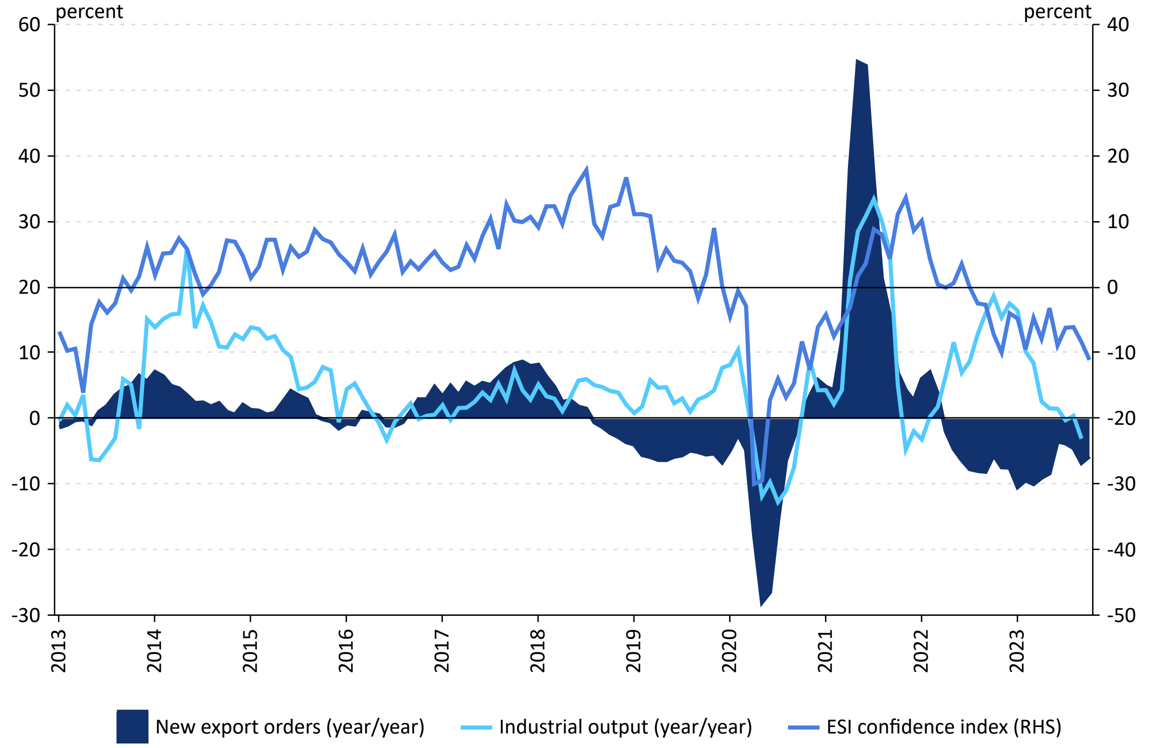
Source: Eurostat
Note: annual growth rate.

18. Change in industrial production



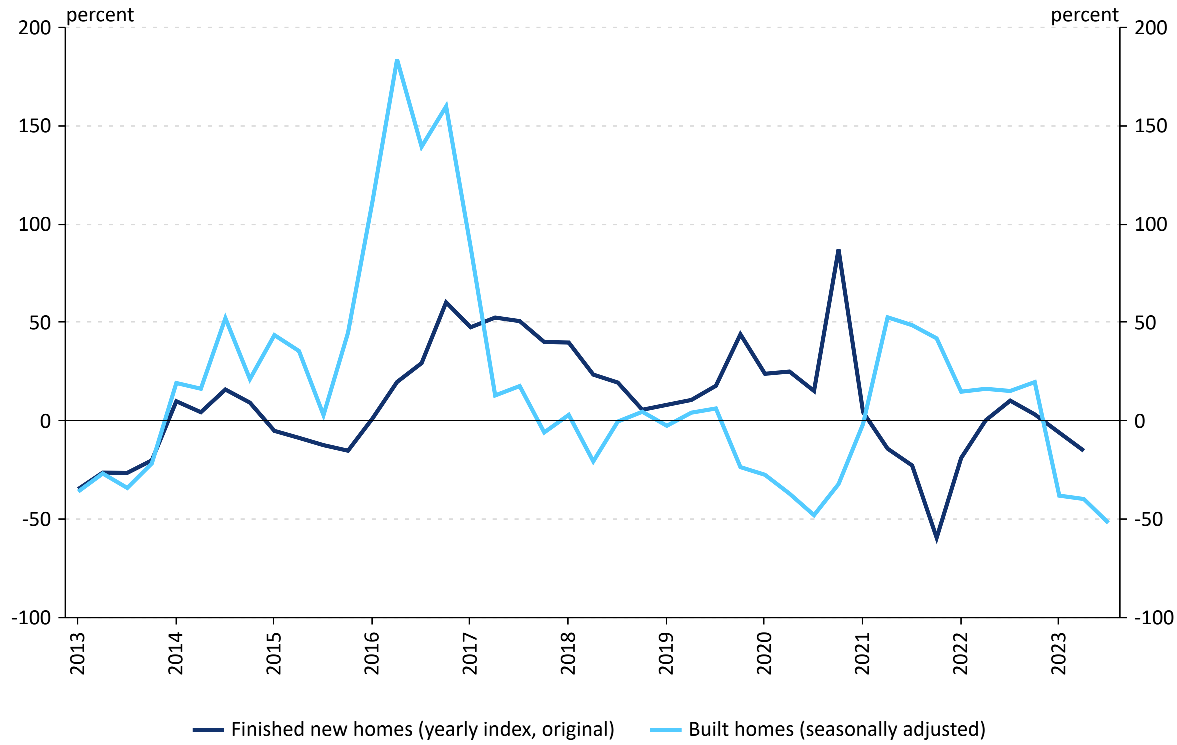
Source: MNB, HCSO.

19. Leading indicators of the domestic industrial production



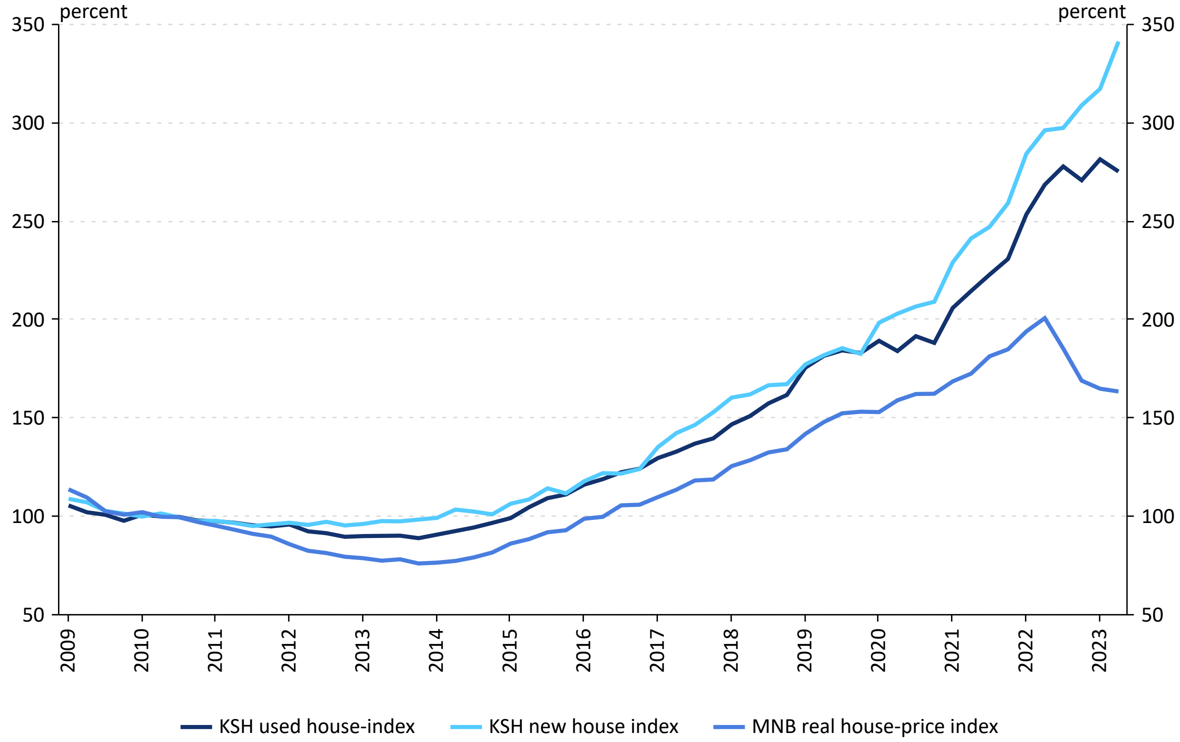
Source: HCSO, MNB, European Commission.
Note: 3-month moving average for German orders, 6-month moving average for Hungarian orders.

20. Developments on the real estate market



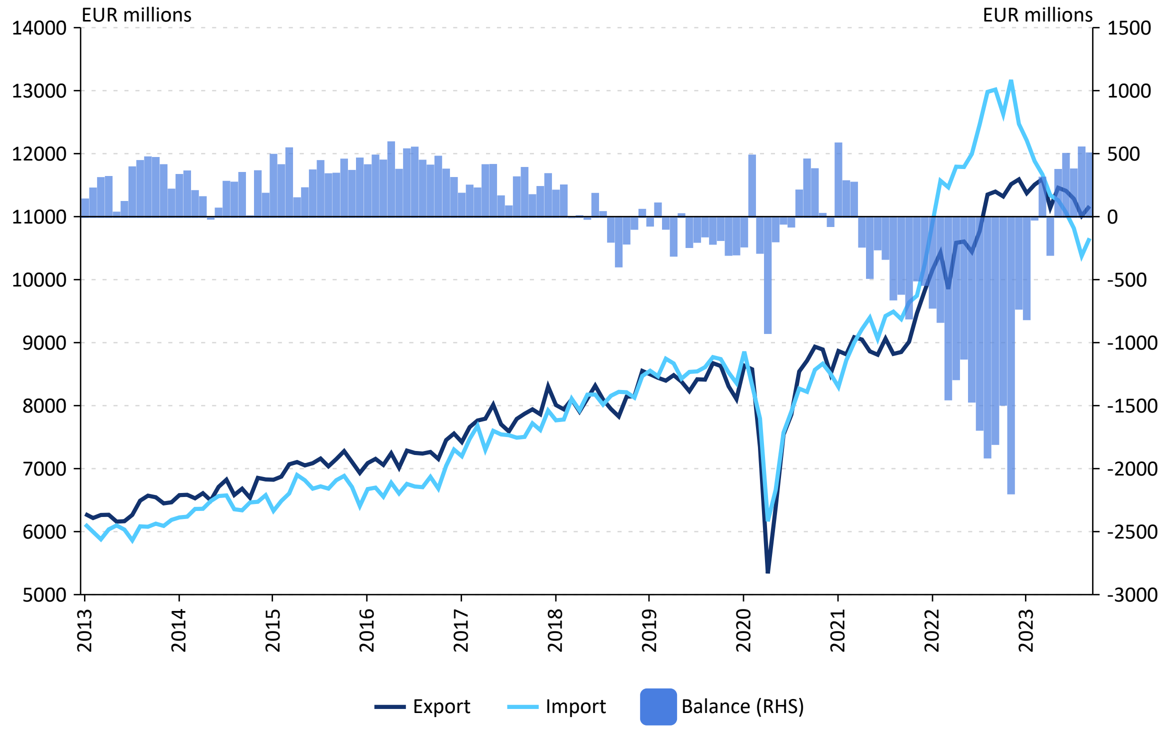
Source: HCSO, MNB.
Note: Year-on-year change based on seasonally unadjusted data.

21. Development of house prices



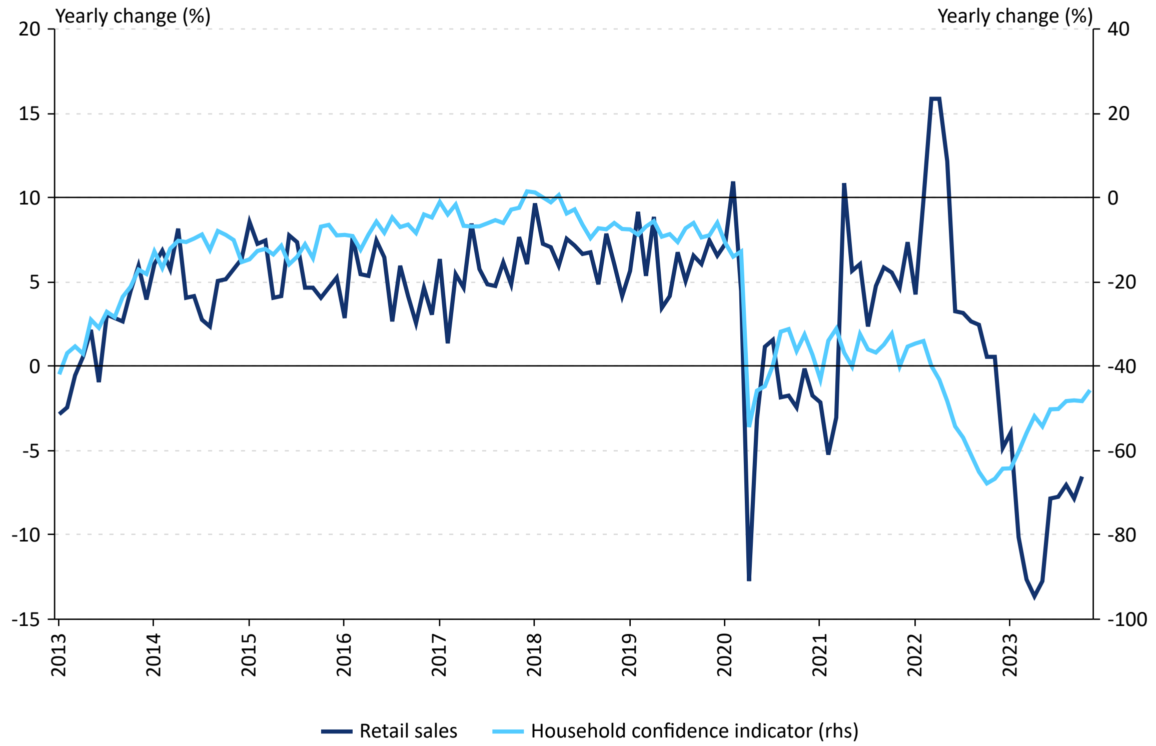
Source: HCSO, MNB.
Note: 2010=100 for all series. The MNB index is a real house price index (adjusted for inflation).

22. Change in export and import volumes



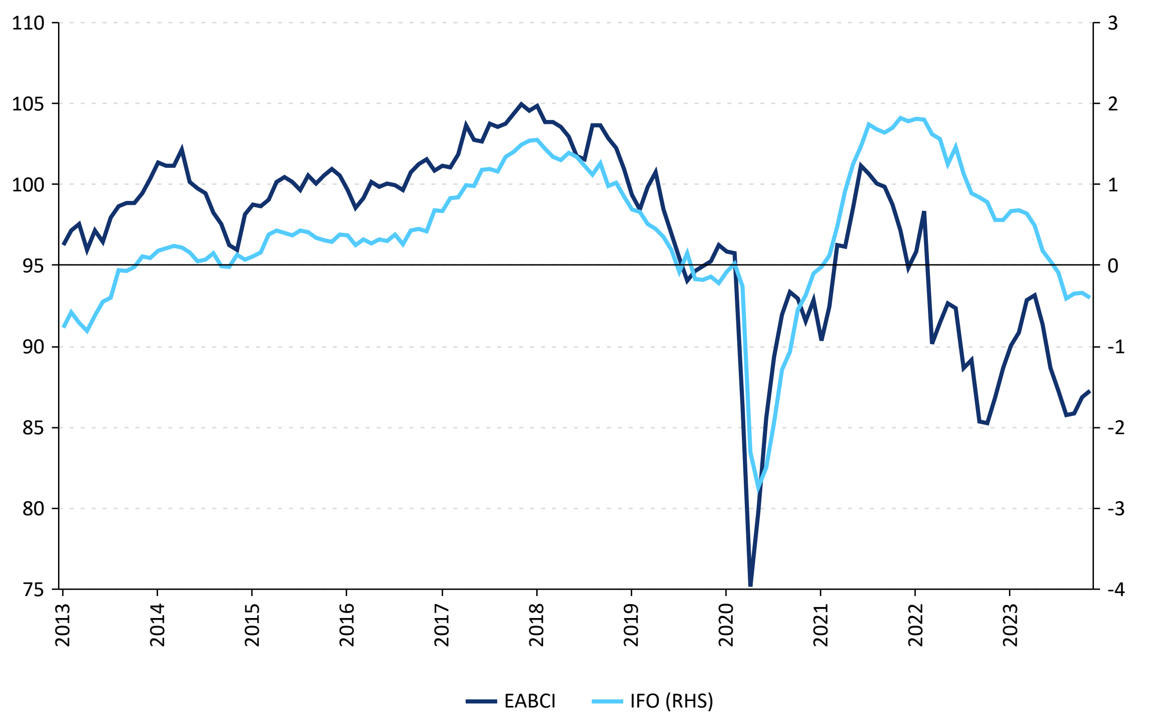
Source: HCSO, MNB calculation.
Note: Foreign trade was corrected due to slippage and missing items between specific months and the activity of VAT resident companies. The seasonal adjustment of the trade balance was done directly by MNB

23. Retail sales and confidence index



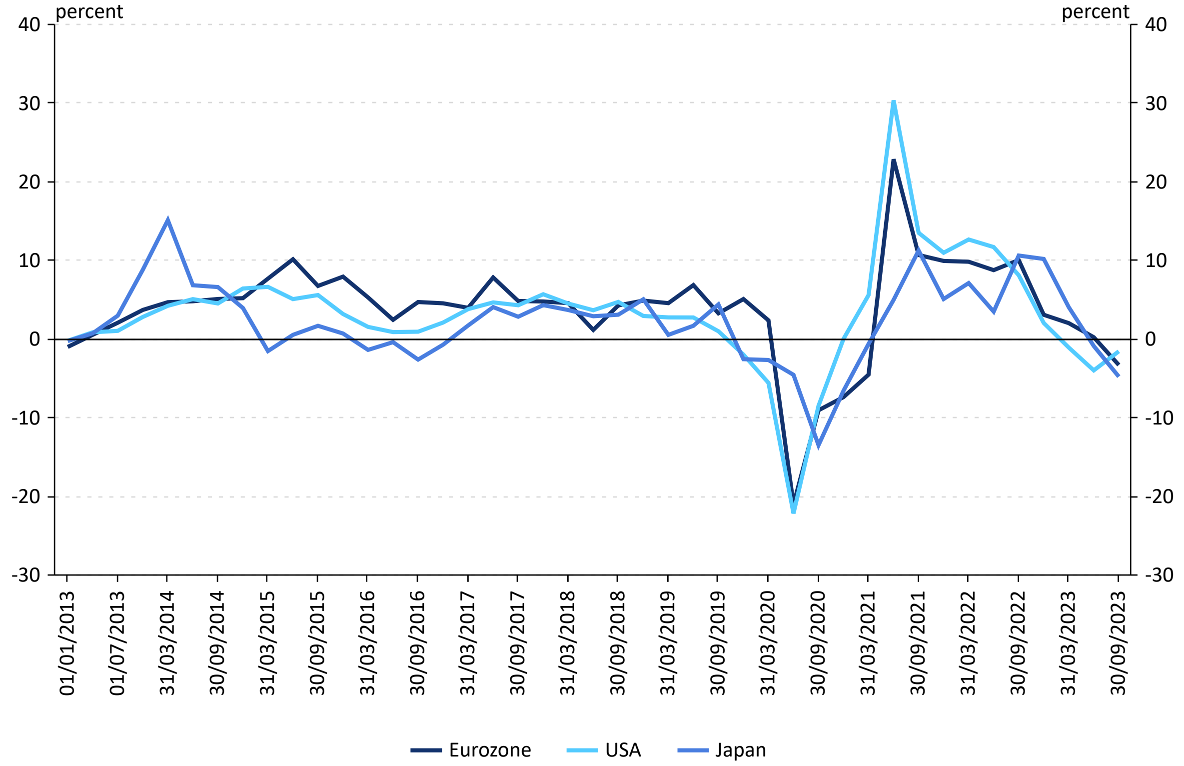
Source: HCSO, European Commission.
Note: The household confidence index is a composite indicator calculated based on the ESI survey.

24. Business climate indices in the EMU



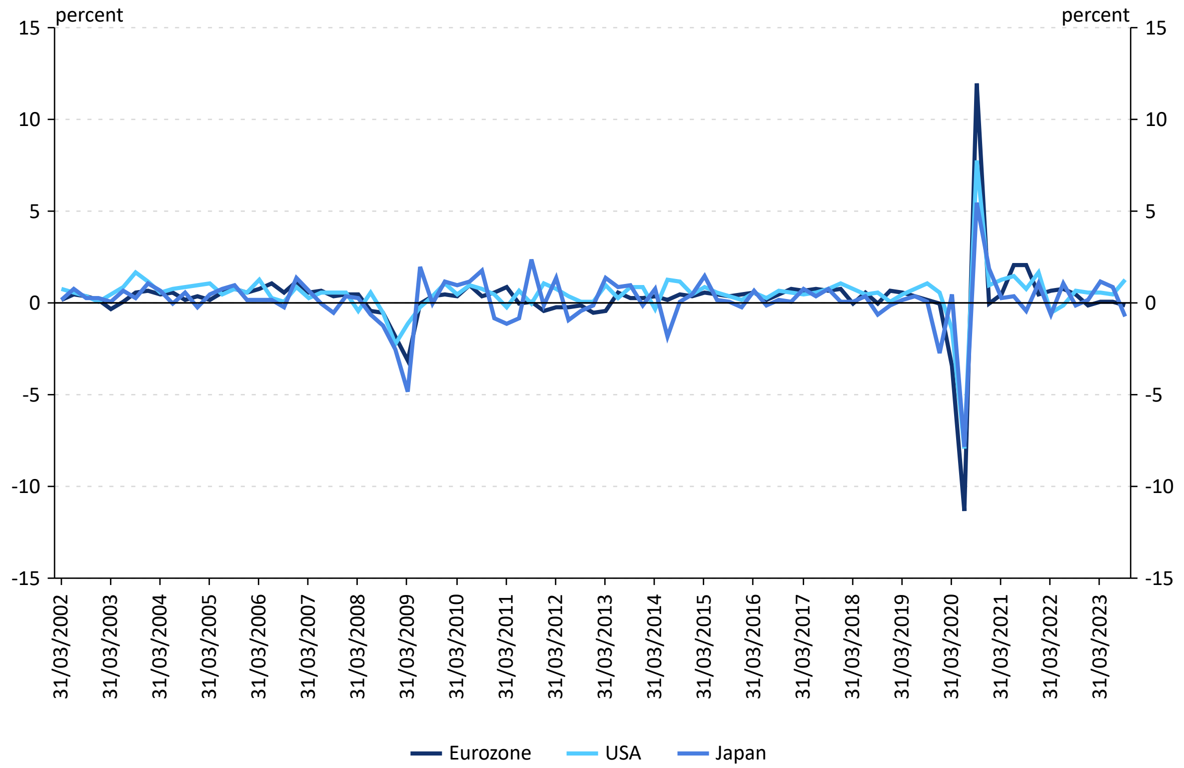
Source: IFO; European Commission.
Note: IFO: business climate index of the Gergman Institut für Wirtschaftsforschung (average in the year 2000 = 100); EABCI: business climate indicator of the European Commission (distance from the long-term average); seasonally adjusted data.

25. The annual growth rate of the volume of imported goods and services



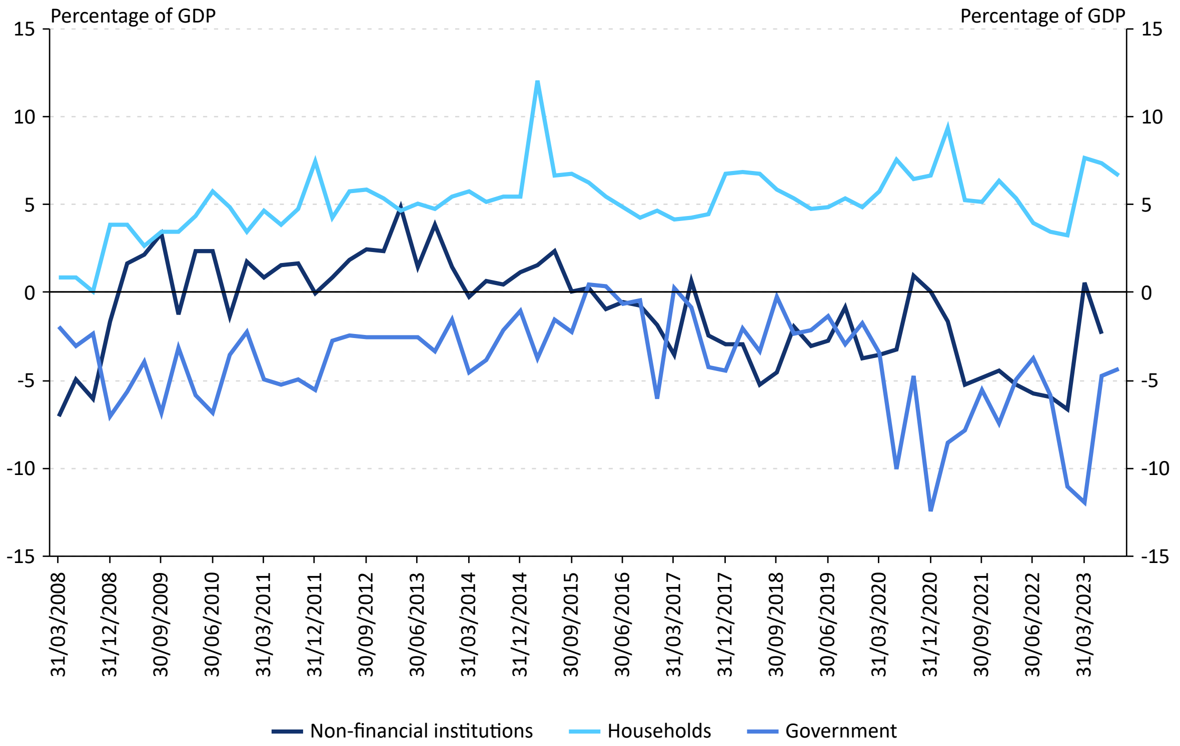
Source: Eurostat.

26. Quarterly GDP growth rate in the EMU, US and Japan



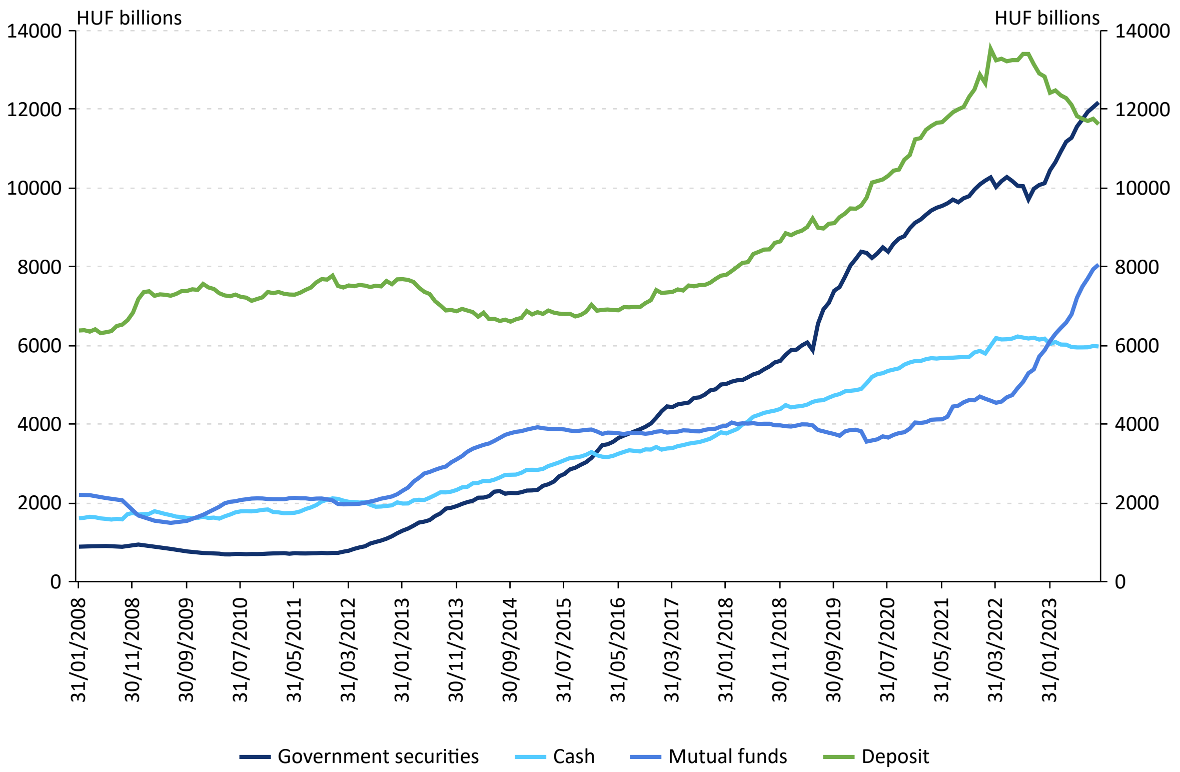
Source: Eurostat.

27. Net lending of domestic sectors as a percentage of GDP



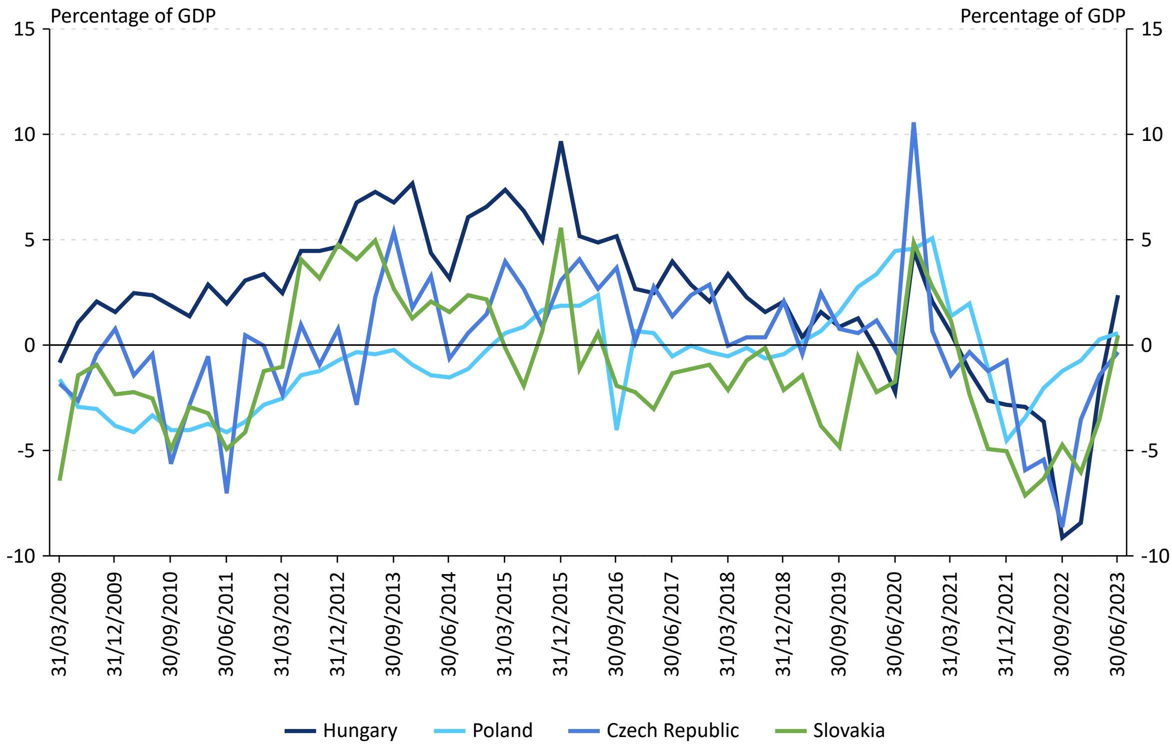
Source: MNB.
Note: Sesonally adjusted by MNB. The last data for households and general government are provisional.

28. Main financial assets held by households



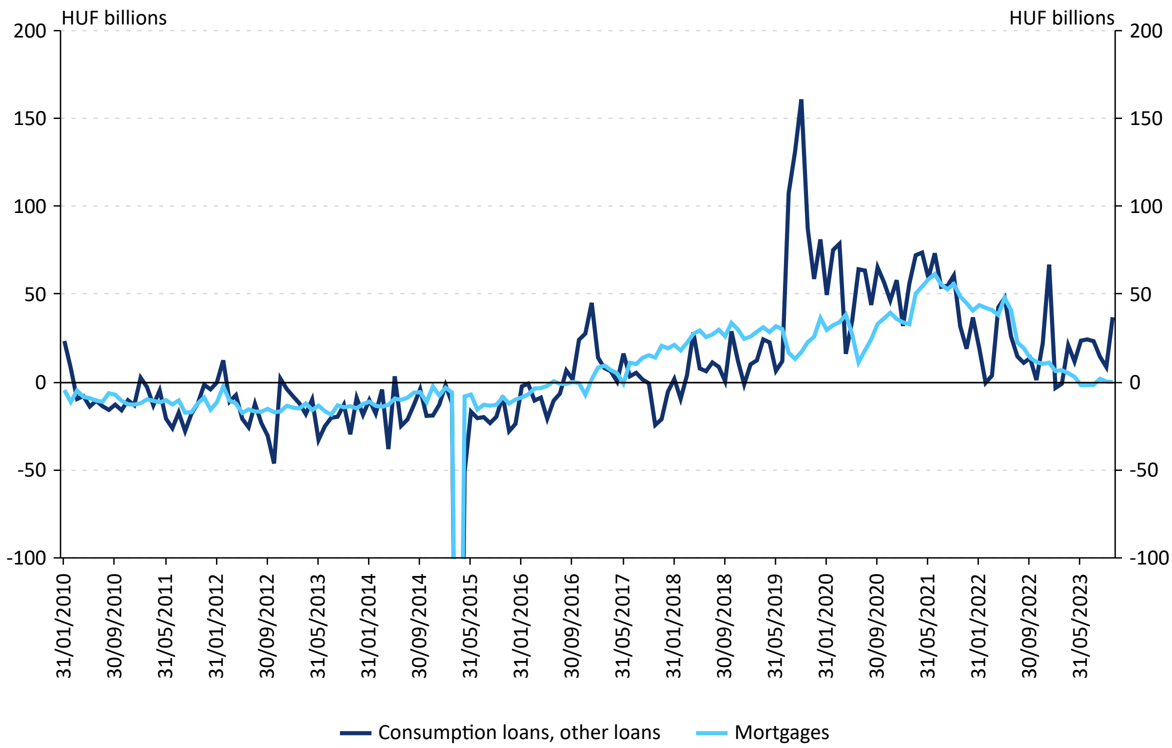
Source: MNB.

29. Net lending in the CEE countries as a percentage of GDP



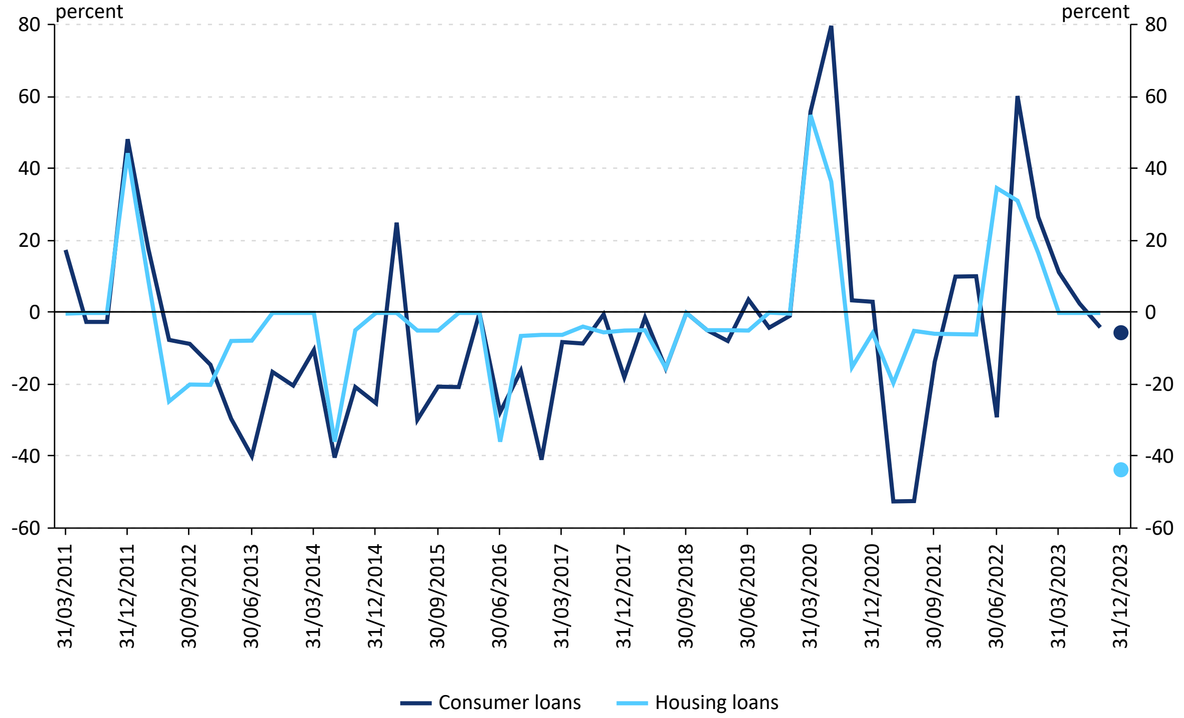
Source: MNB, Eurostat.
Note: Seasonally adjusted data.

30. Net borrowing of the households



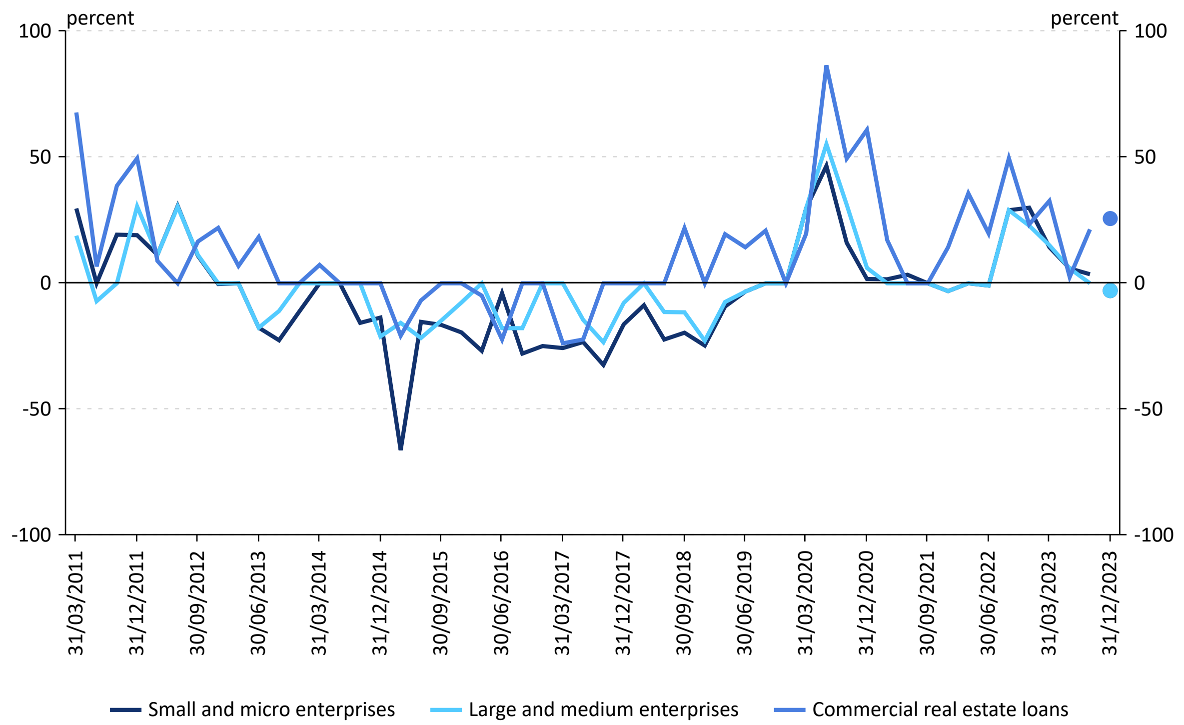
Source: MNB.
Note: The significant change in 2015 was a result of the conversion and settlement of FX loans.

31. Credit conditions in the household sector



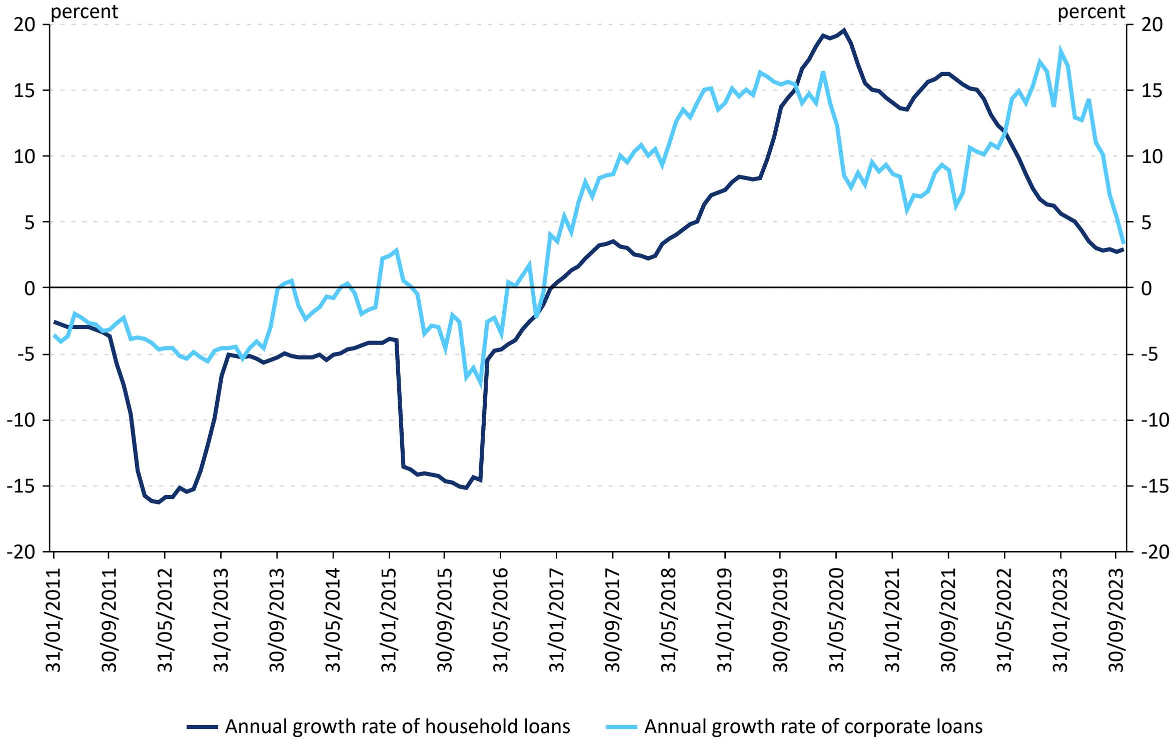
Source: MNB.
Note: credit conditions estimated by lending officers. Negative value indicates easing, positive indicates tightening compared to the last quarter (before 2009 to previous half a year). Last data point is estimation.

32. Credit conditions in the corporate sector



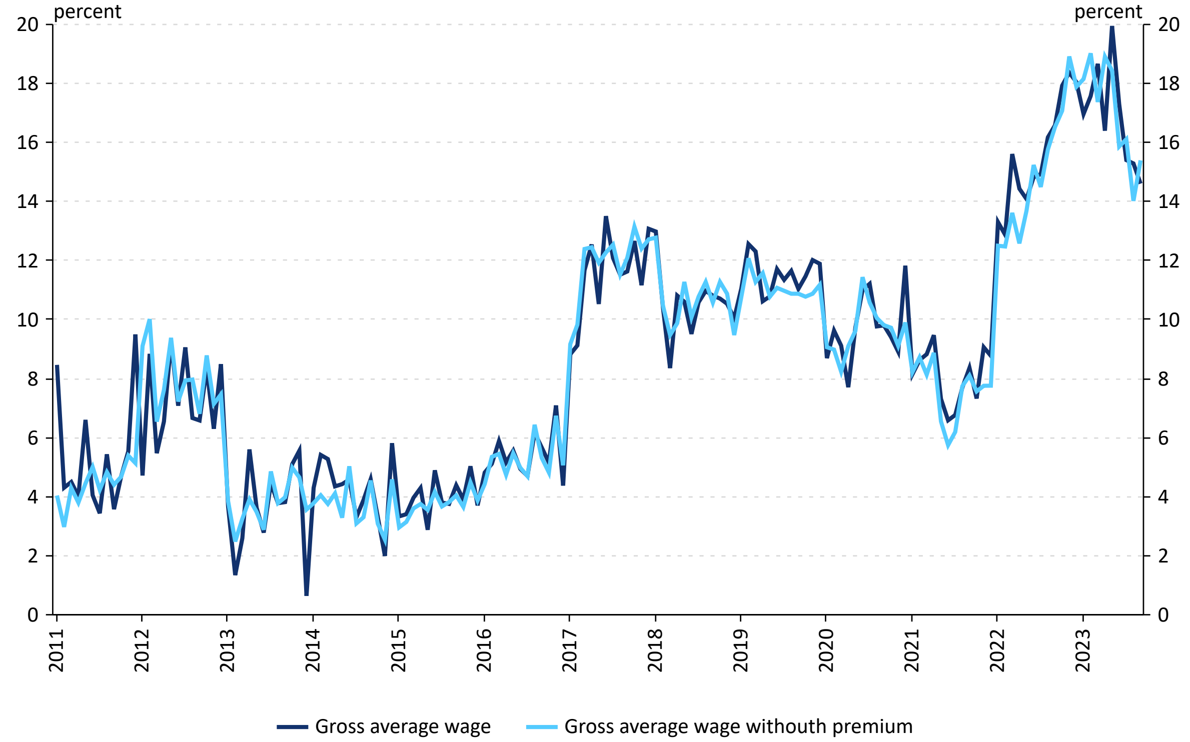
Source: MNB
Note: credit conditions estimated by lending officers. Negative value indicates easing, positive indicates tightening compared to the last quarter (before 2009 to previous half a year). Last data point is estimation.

33. Annual change of the household and corporate loan stock of credit institutions



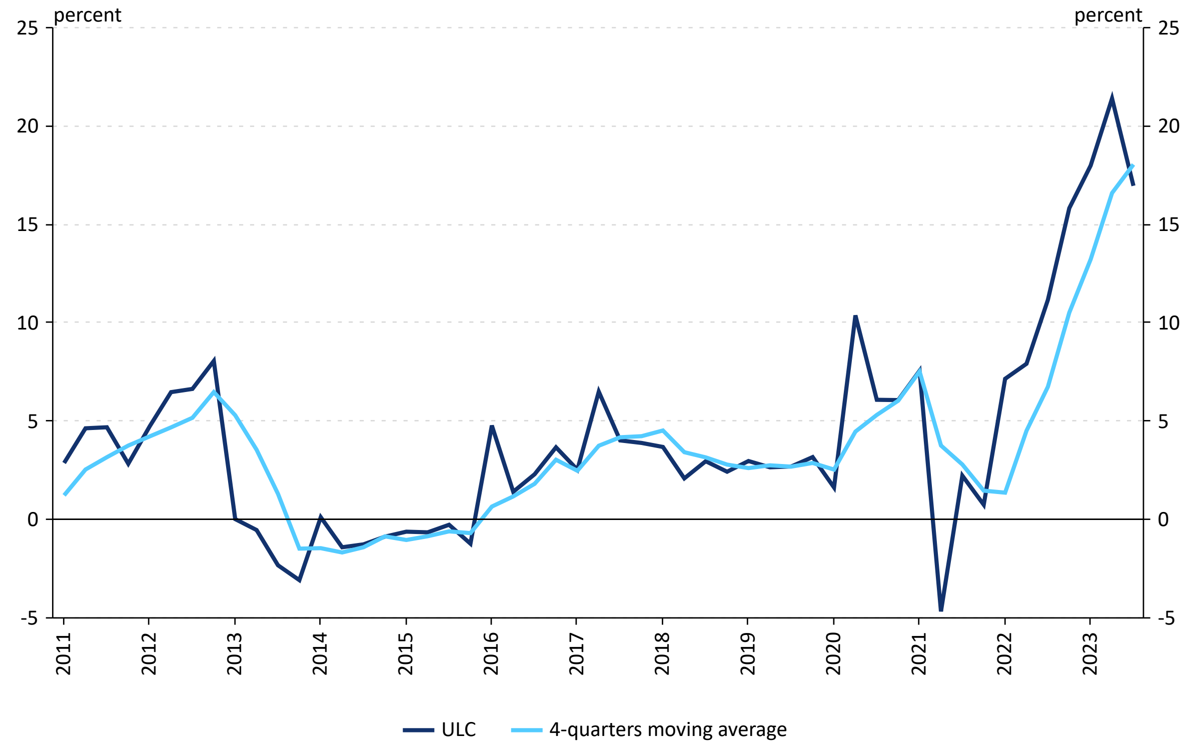
Source: MNB.
Note: Transaction based.

34. Wage growth in private sector



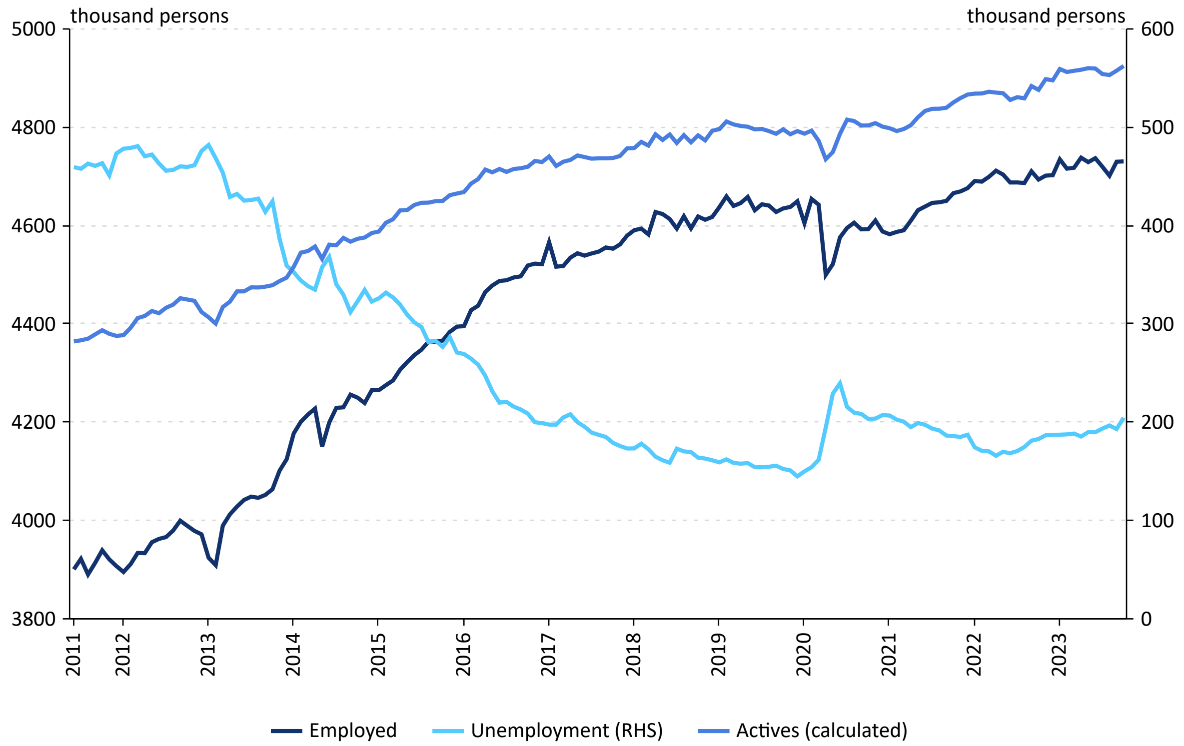
Source: HCSO.
Note: annual growth rates.

35. Unit labour cost in the private sector



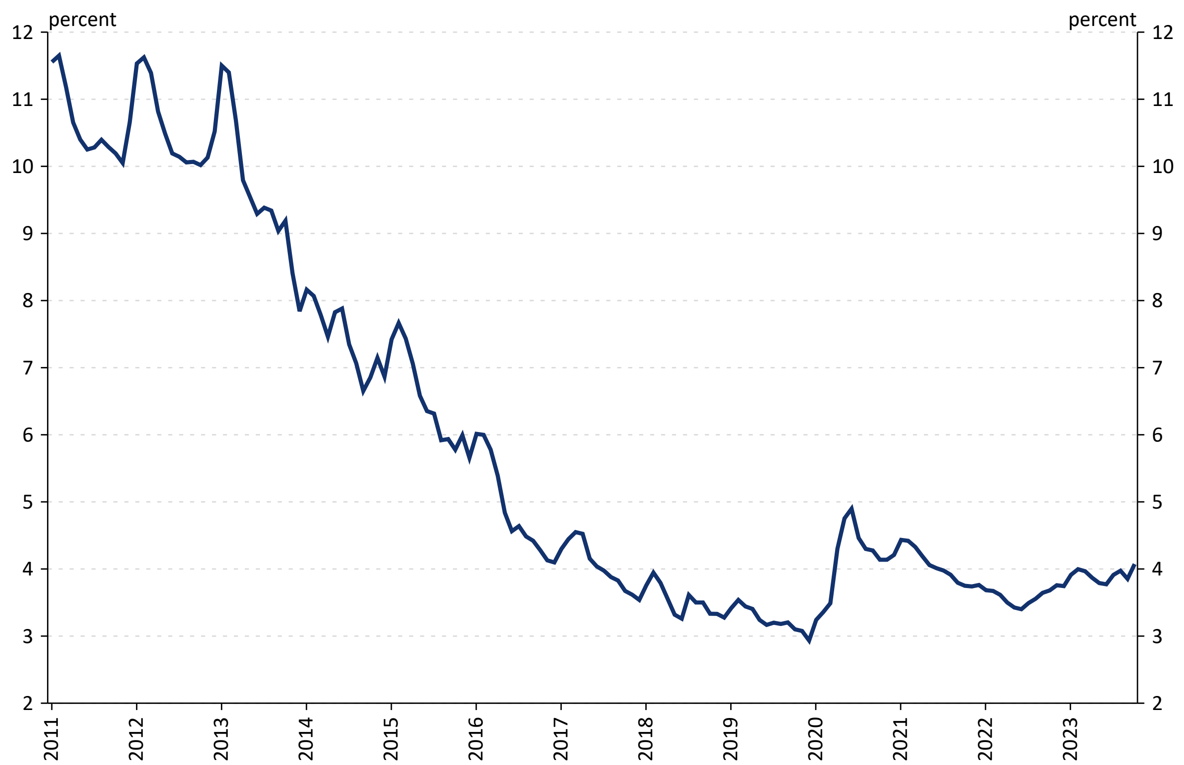
Source: HCSO.
Note: annual growth rates.

36. Activity and unemployment



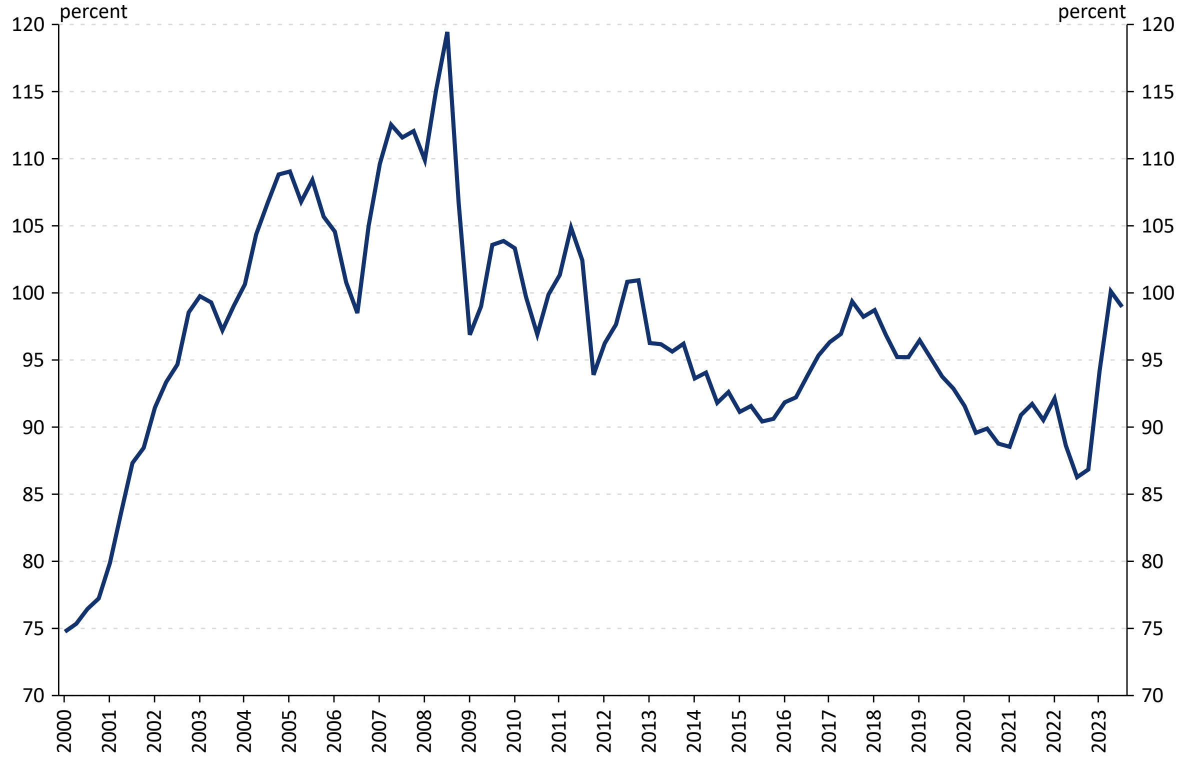
Source: HCSO.
Notes: Level based on monthly model methodology of the HCSO, seasonally adjusted. For the 15-74 age group.

37. Unemployment rate



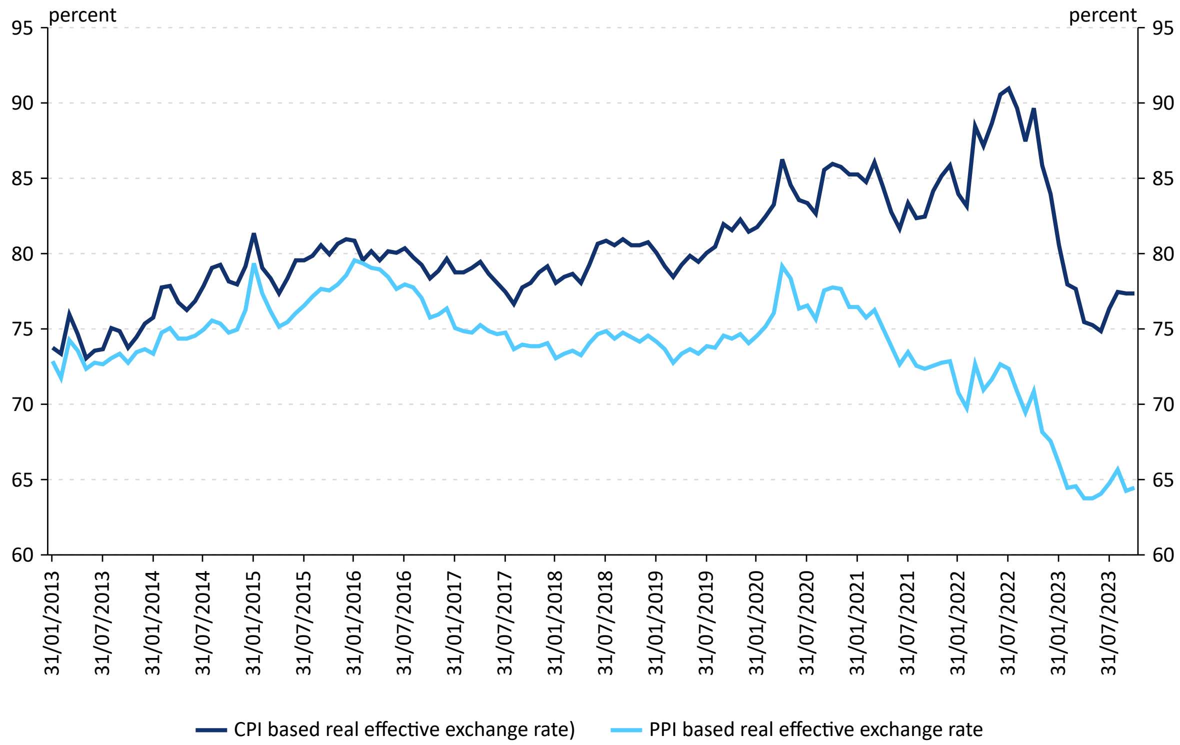
Source: HCSO.
Notes: Level based on model methodology of the HCSO, seasonally adjusted. For the 15-74 age group.

38. ULC based real effective exchange rate of the HUF



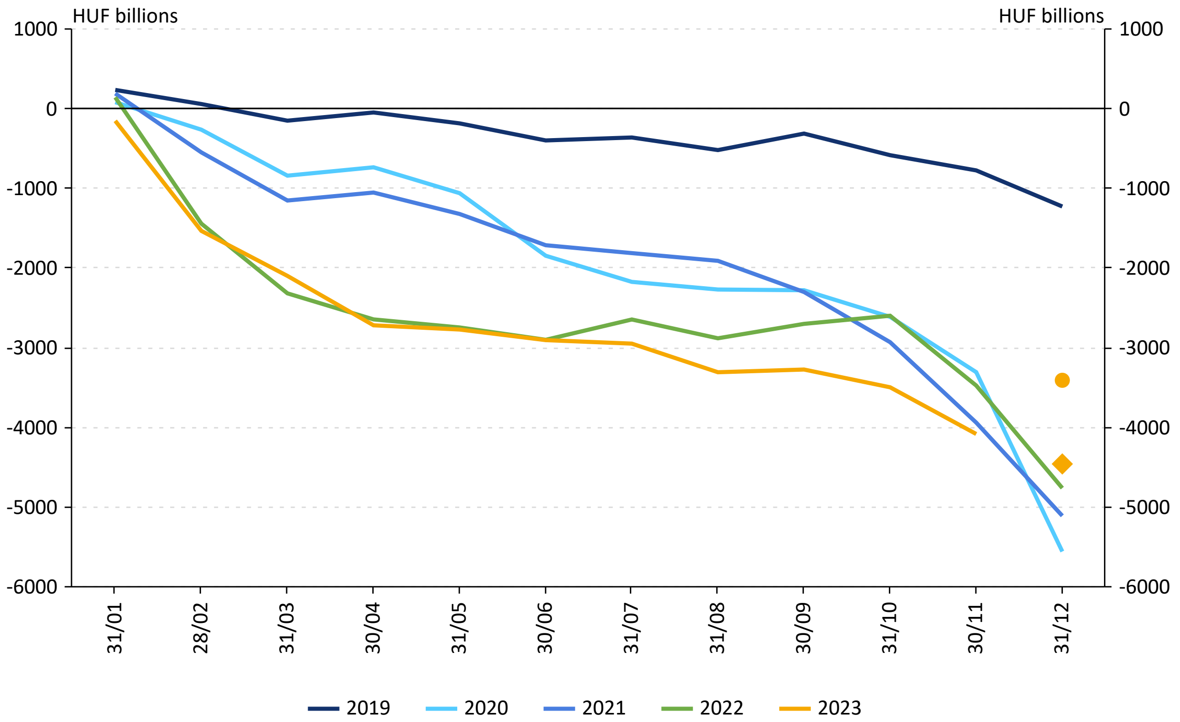
Source: Eurostat.
Note: average of year 2000 = 100%. Increase means real-effective appreciation of HUF.

39. CPI and PPI based real effective exchange rates of the HUF



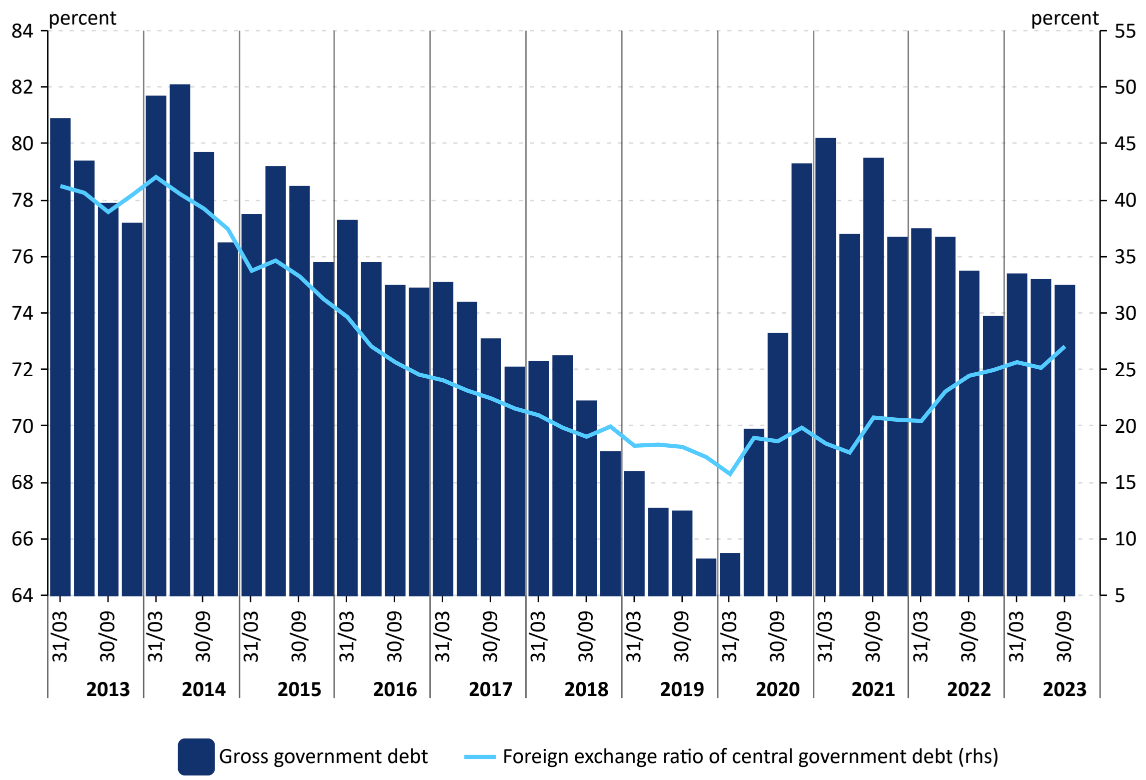
Source: HCSO.
Note: average of year 2000 = 100%. Increase means real-effective depreciation of HUF.

40. Intra-year cumulative cash balance of the central government budget



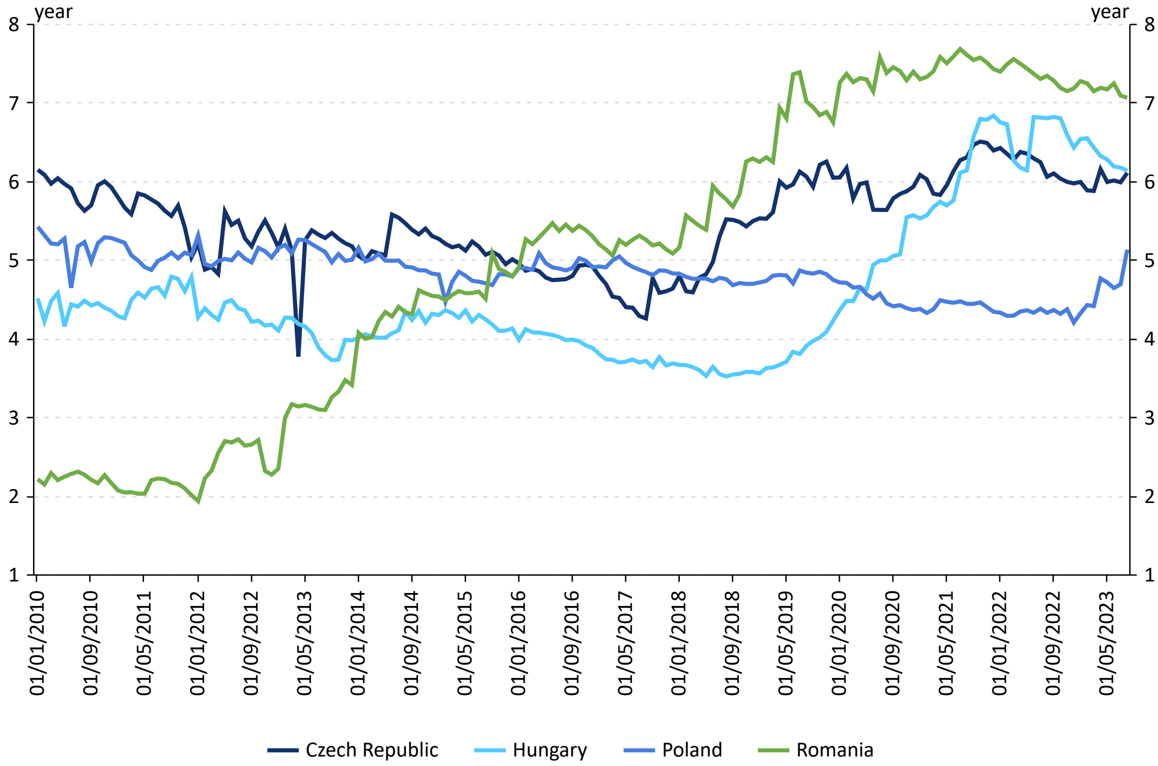
Source: HST.
Note: Cumulated balance. The cumulative cash flow appropriation of the Budget Act for 2023 is HUF -3400 billion, according to the EDP report, the expected year-end balance (marked with a rhombus) is HUF -4450 billion.

41. The government debt-to-GDP ratio and the share of FX denominated debt in the central government debt



Source: GDMA, MNB.

42. Average maturity of government bonds in regional countries



Source: ECB.

43. The latest central projection of the MNB compared to other prognoses

	2023	2024	2025	2026
CPI (annual average growth rate, %)				
MNB (September 2023)	17.6 - 18.1	4.0 - 6.0	2.5 - 3.5	
Consensus Economics (November 2023)*	16.9 - 17.8 - 18.7	3.8 - 5.0 - 7.0		
European Commission (November 2023)**	17.2	5.2	4.1	
IMF (October 2023)	17.7	6.6	4.3	3.8
OECD (November 2023)	17.5	4.6	3.3	
Reuters survey (November 2023)*	17.3 - 17.7 - 17.9	4.8 - 5.5 - 7.0	3.4 - 4.1 - 6.0	
GDP (annual growth rate, %)				
MNB (September 2023)	(-0.5) - 0.5	3.0 - 4.0	3.0 - 4.0	
Consensus Economics (November 2023)*	(-1.1) - (-0.6) - 0.0	1.8 - 2.7 - 4.4		
European Commission (November 2023)**	-0.7	2.4	3.6	
IMF (October 2023)	-0.3	3.1	3.3	3.4
OECD (November 2023)	-0.6	2.4	2.7	
Reuters survey (November 2023)*	(-1.0) - (-0.5) - (0.0)	2.2 - 2.8 - 3.3	2.8 - 3.4 - 4.0	
Current account balance (as a percentage of GDP)				
MNB (September 2023)	(-1.1) - (-0.1)	0.4 - 1.6	1.1 - 2.5	
European Commission (November 2023)**	0.9	0.1	-0.4	
IMF (October 2023)	-0.9	-1.6	-0.8	-0.3
OECD (November 2023)	0.1	0.8	-0.3	
Budget deficit (ESA-2010 method*, a percentage of GDP, with complete cancellation of free reserves)				
MNB (September 2023)	-5.2	-2.9	-1.9	
Consensus Economics (November 2023)*	(-6.4) - (-5.2) - (-4.3)	(-4.4) - (-3.6) - (-2.9)		
European Commission (November 2023)**	-5.8	-4.3	-3.8	
IMF (October 2023)	-5.5	-3.8	-2.8	-2.1
OECD (November 2023)	-5.2	-4.1	-3.4	
Reuters survey (November 2023)*	(-6.7) - (-5.6) - (-5.2)	(-5.0) - (-3.9) - (-3.0)	(-4.5) - (-3.3) - (-2.7)	
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)				
MNB (September 2023)	(-0.3) - 0.9	2.0 - 2.9	1.9 - 2.7	
ECB (September 2023)	0.7	1.0	1.5	
Consensus Economics (November 2023)*	0.7	1.3		
European Commission (November 2023)**	0.4	1.1	1.5	
IMF (October 2023)**	0.7	1.5	2.2	2.2
OECD (November 2023)**	0.5	1.1	1.6	

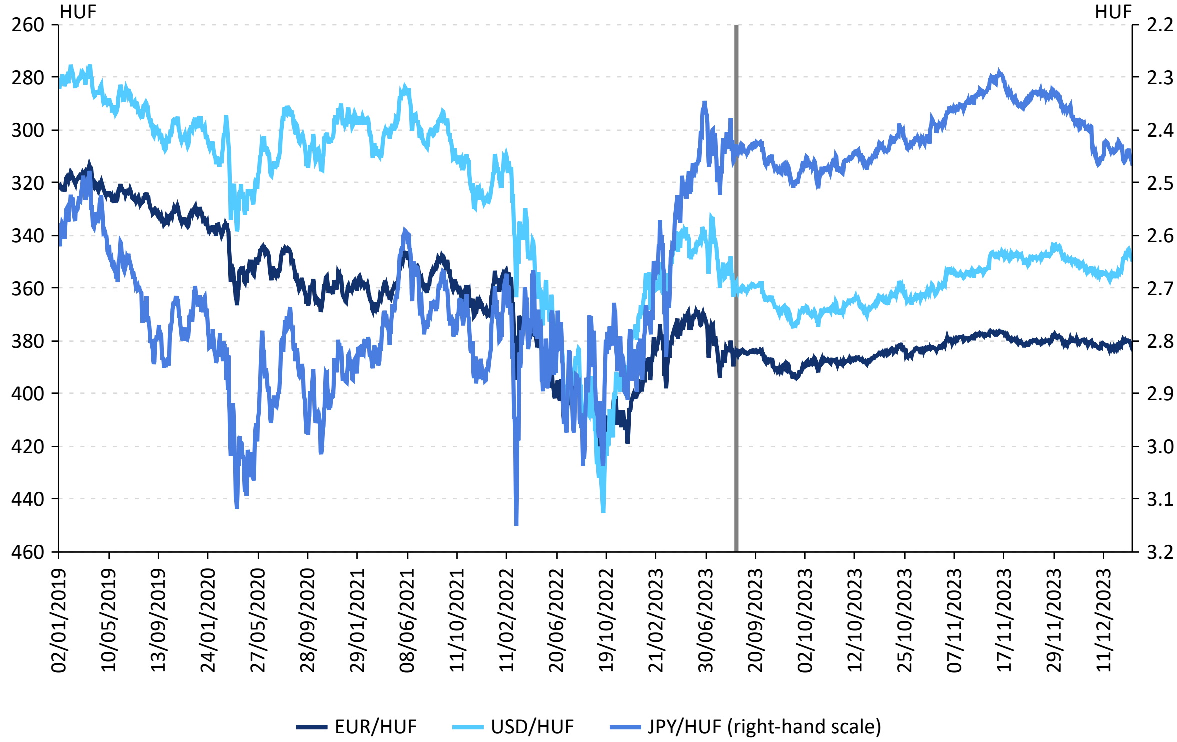
Source: Consensus Economics, European Commission, IMF, OECD, Reuters poll.
Note: annual growth (%). Data has not adjusted seasonally.
*For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies, we also indicate the lowest and the highest values to illustrate the distribution of the data.
**Values calculated by the MNB; the projections of the named institutions for the relevant countries are adjusted with the weighting system of the MNB, which is also used for the calculation of the bank?s own external demand indices. Certain institutions do not prepare forecast for all partner countries.

44. Domestic market developments

	One month ago	One week ago	Current
HUF/EUR spot exchange rate	376.53	380.28	379.6 ↑
Skewness of expectations on HUF/EUR exchange rate	2.075	1.925	1.925 ↓
HUF-positions of foreign investors (HUF billions)	-517.01	-622.69	-672.14 ↓
Forward positions of domestic investors (HUF billions)	927.572	1081.43	1105.304 ↑
MNB base rate (%)	12.25	11.5	11.5 ↓
Expected short-term interbank rate at the end of the year (%)*	10,2	10,24	9,919 ↓
3-months interbank rate (%)	11.202	10.488	10.289 ↓
3x6 FRA rate (%)	9.35	8.49	8.19 ↓
3 month T-bill yield (%)	7.96	7.27	6.55 ↓
5 year T-bond yield (%)	6.97	6.42	6.04 ↓
Slope of yield curve (10Y-1Y, bp)	-119	-131	-132 ↓
Overnight FX swap implied rate (%)	11.966	11.309	11.469 ↓
3 month FX swap implied rate (%)	10.274	9.202	8.76 ↓
5 year FX swap implied rate (%)	7.223	6.021	5.609 ↓
5-year CDS spread (bp)	149.68	144.475	139.745 ↓
5x5 swap bond spread (bp)**	383.247	369.683	353.913 ↓
Average spread of USD-denominated government bonds (bp)	209.187	192.155	179.709 ↓
Foreign holdings of HUF-government securities (HUF billion)	7191.763	6925.117	6917.826 ↓

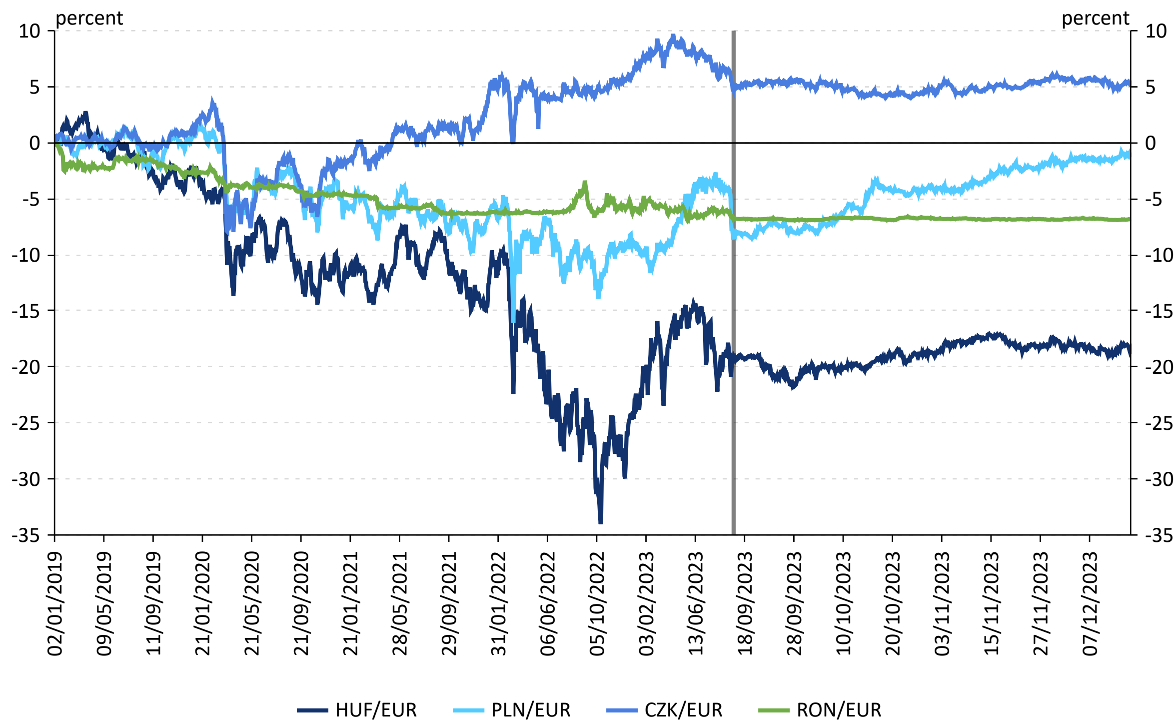
Note: Arrows indicate monthly changes.
* Based on forward yield curve.
** Over Euro yield.

45. HUF exchange rate



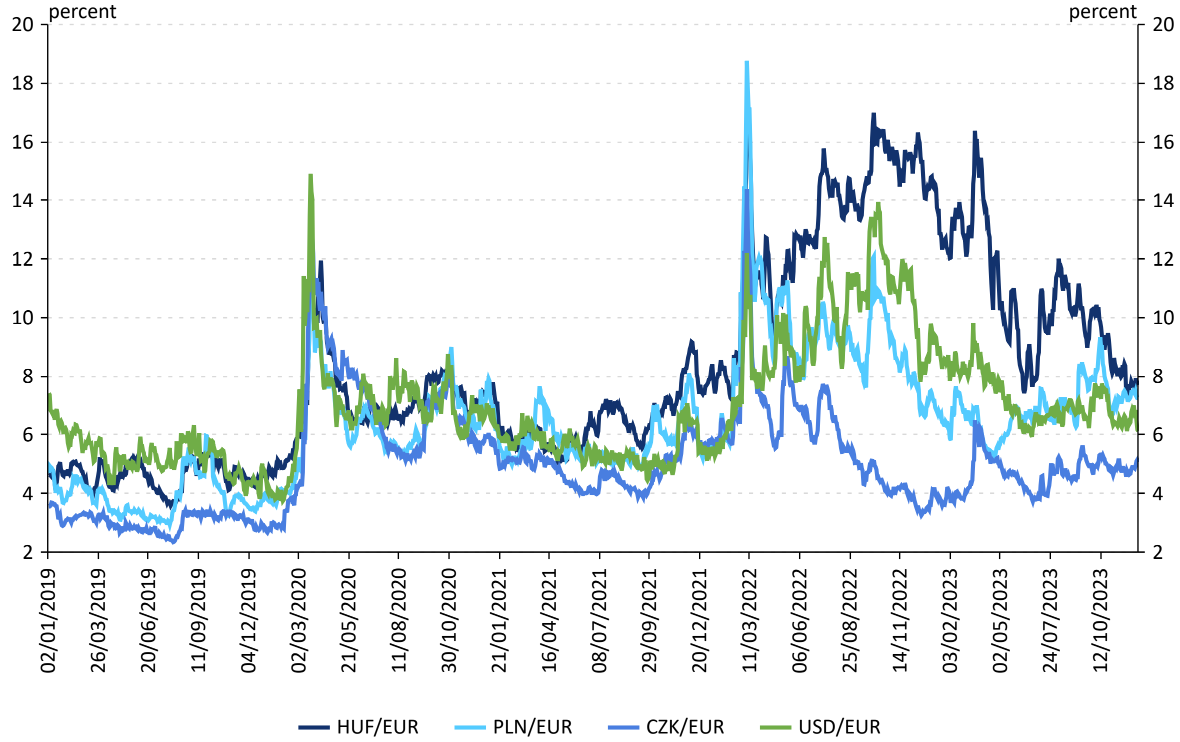
Source: Refinitiv.
Note: inverted scale. Intraday data is showed on the right side of the grey line.

46. Emerging markets exchange rate



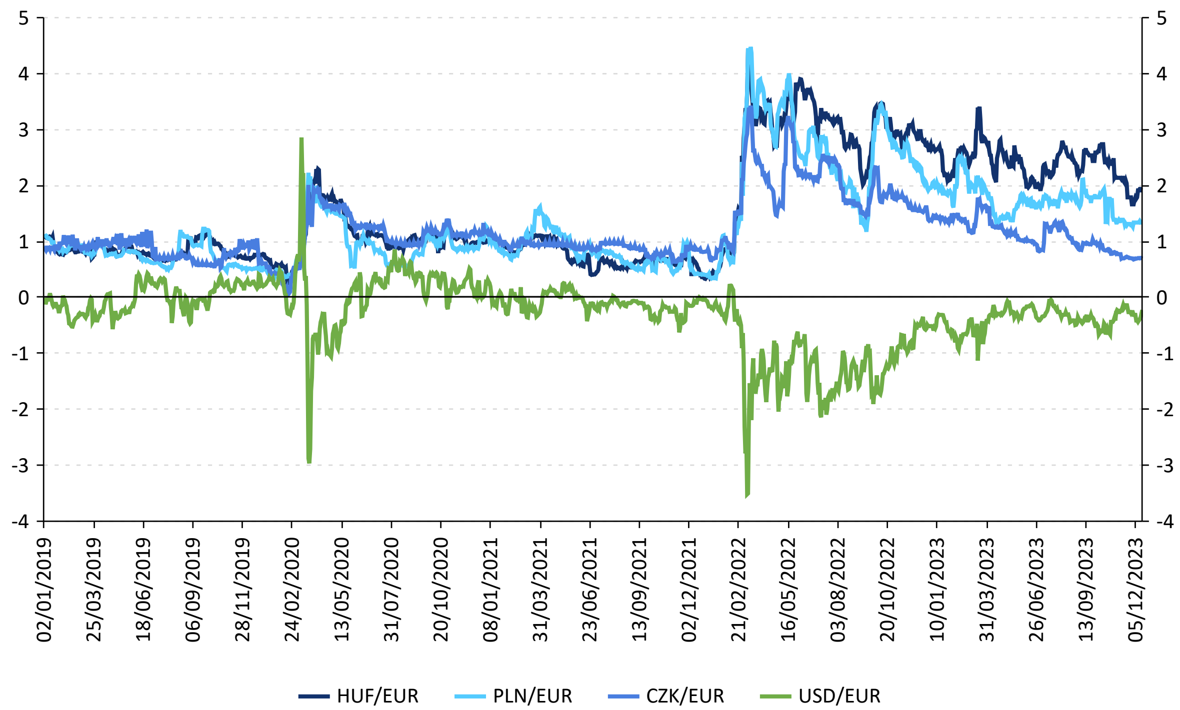
Source: Refinitiv.
Note: Change from the start of the series. Negative values mean the depreciation of the local currency. Intraday data is showed on the right side of the grey line.

47. Implied volatility of exchange rate expectations



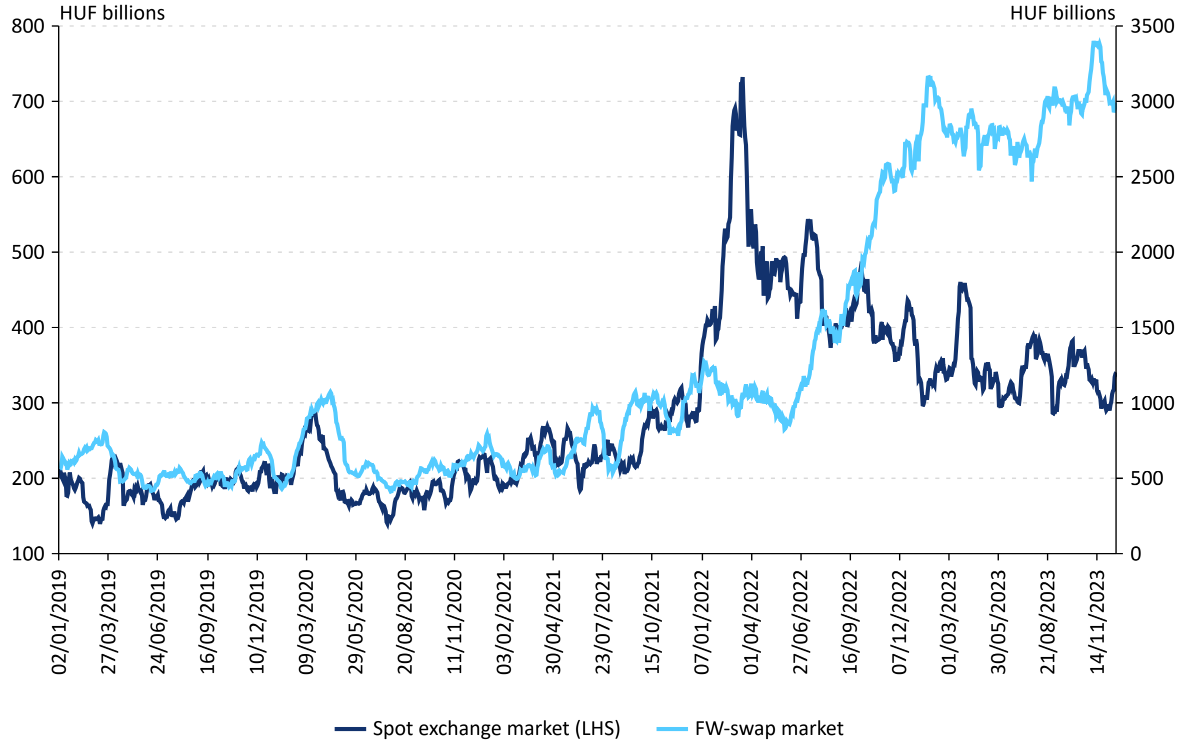
Source: Bloomberg
Note: implied volatility (based on foreign exchange option quotes) can be interpreted as an indicator of risk perceived by the market.

48. Skewness of exchange rate expectations



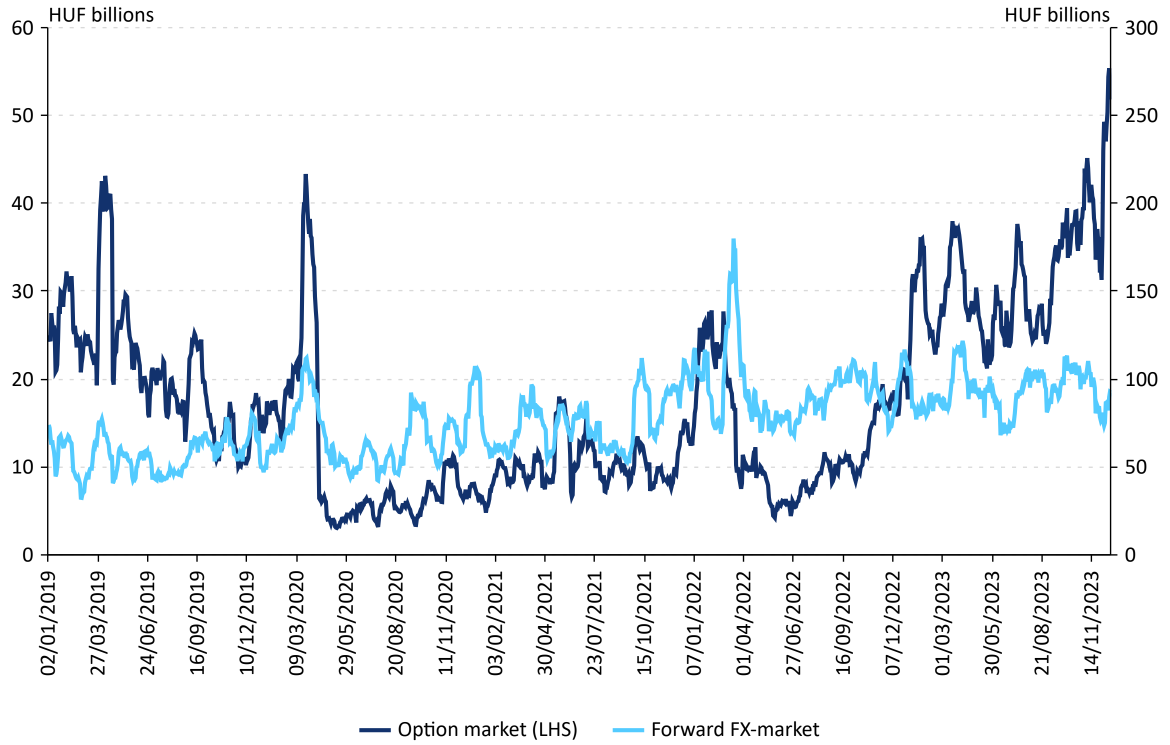
Source: Bloomberg.
Note: based on option quotes for 1-month 25D risk reversal; skewness=RR/Volatility*10. Risk reversal can be regarded as a nominal indicator for the skewness of the distribution of exchange rate expectations, while skewness eliminates the effect of changes in volatility.

49. Turnover on the spot and the FX-swap market



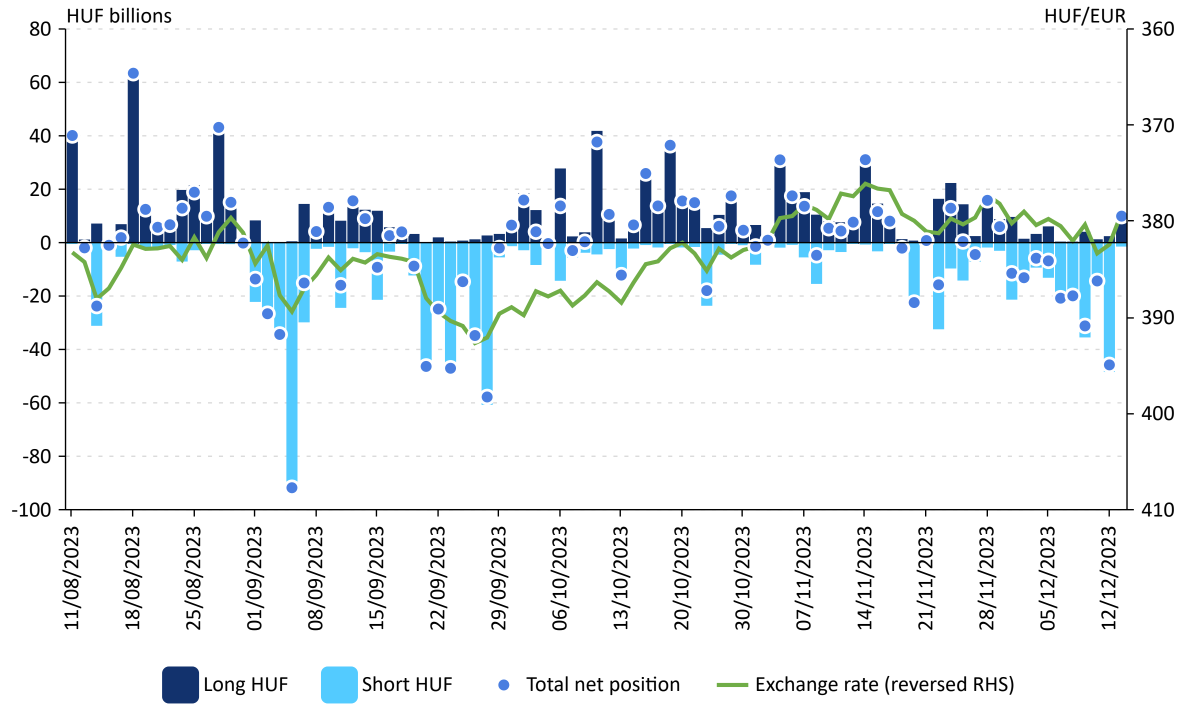
Source: MNB.
Notes: forint against foreign exchange deals by domestic banks; 25-days retrospective moving averages calculated based on deal date data.

50. Turnover on the forward and option market



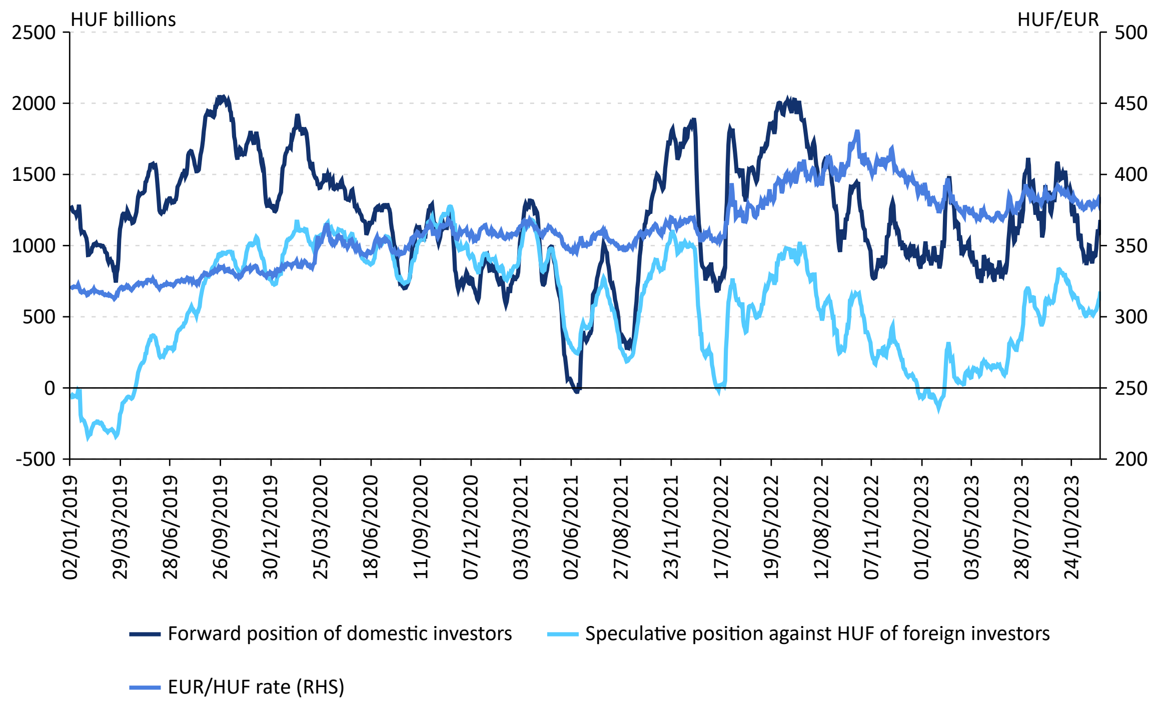
Source: MNB.
Note: forint against foreign exchange deals by domestic banks; 25-days retrospective moving averages calculated based on deal date data.

51. Open FX-positions of non-residents in HUF



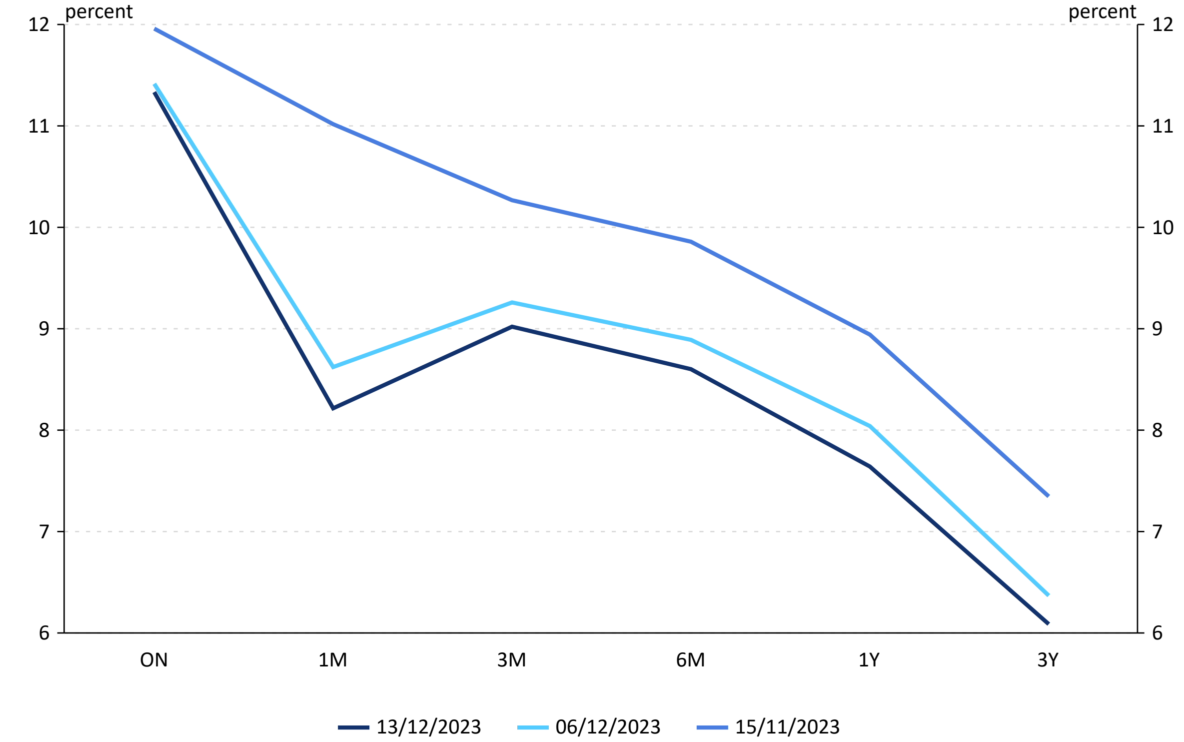
Source: MNB.
Note: Based on the daily FX reports of the transactions with non-residents of credit institutions. Net HUF positions are calculated based on the change of cumulative FX-swap stocks and spot positions of non-resident market participants. In case of positive value non-resident market participants extended long HUF positions, while in case of negative value short HUF positions were dominant. Positions are presented on spot deal dates.

52. Cumulated positions of non-residents in HUF and the EURHUF exchange rate



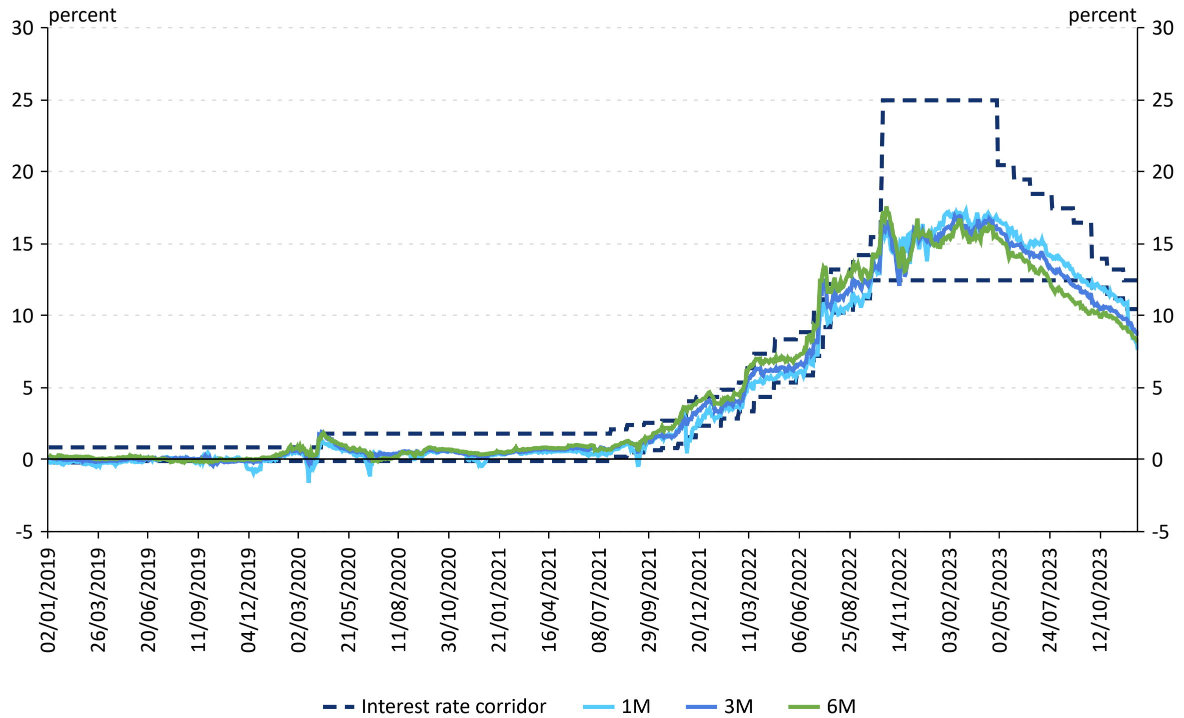
Source: MNB.
Note: Cumulative position, based on the daily FX reports of the transactions with non-residents of credit institutions. Net HUF positions are calculated based on the change of cumulative FX-swap stocks and spot positions of non-resident market participants. Due to the characteristics of the reports the change in th
stocks is relevant mainly to evaluate the direction of short-term fluctuations.

53. Implied yield curve on FX-swap markets



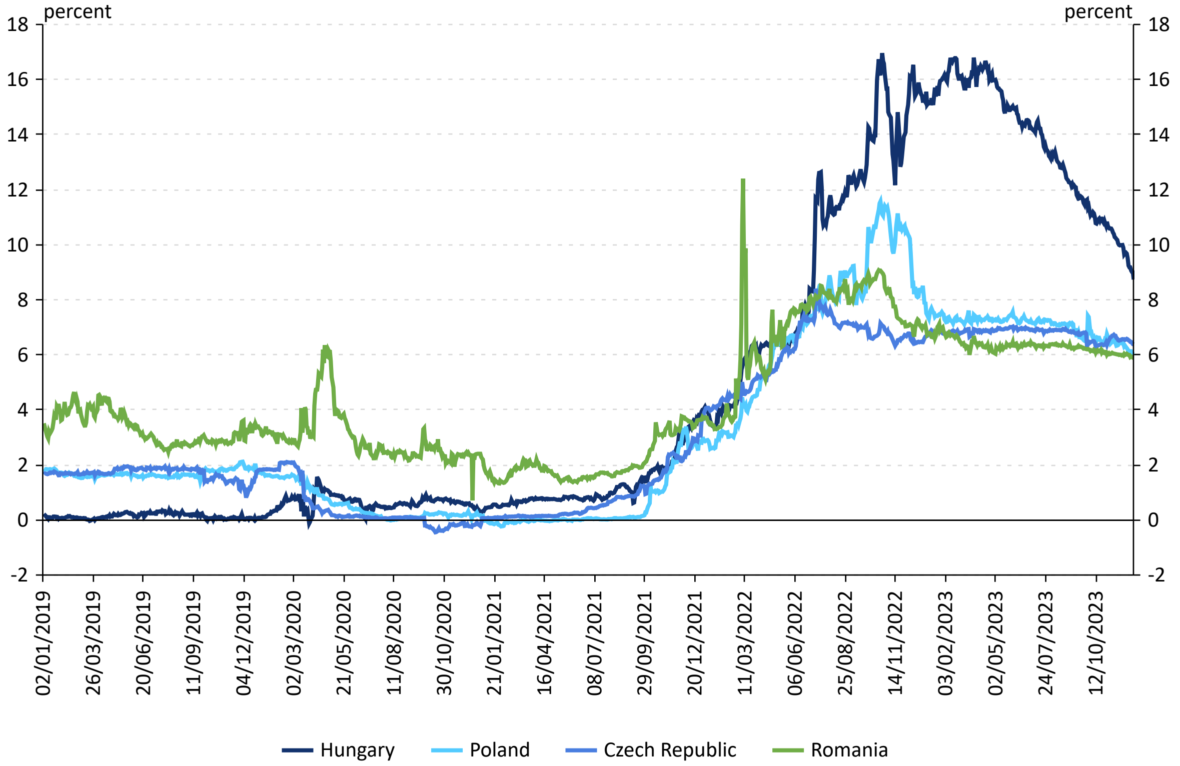
Source: MNB, Bloomberg.
Notes: Implied HUF yields. Based on BBG EUR/HUF quotes.

54. Implied HUF rates on FX-swap market



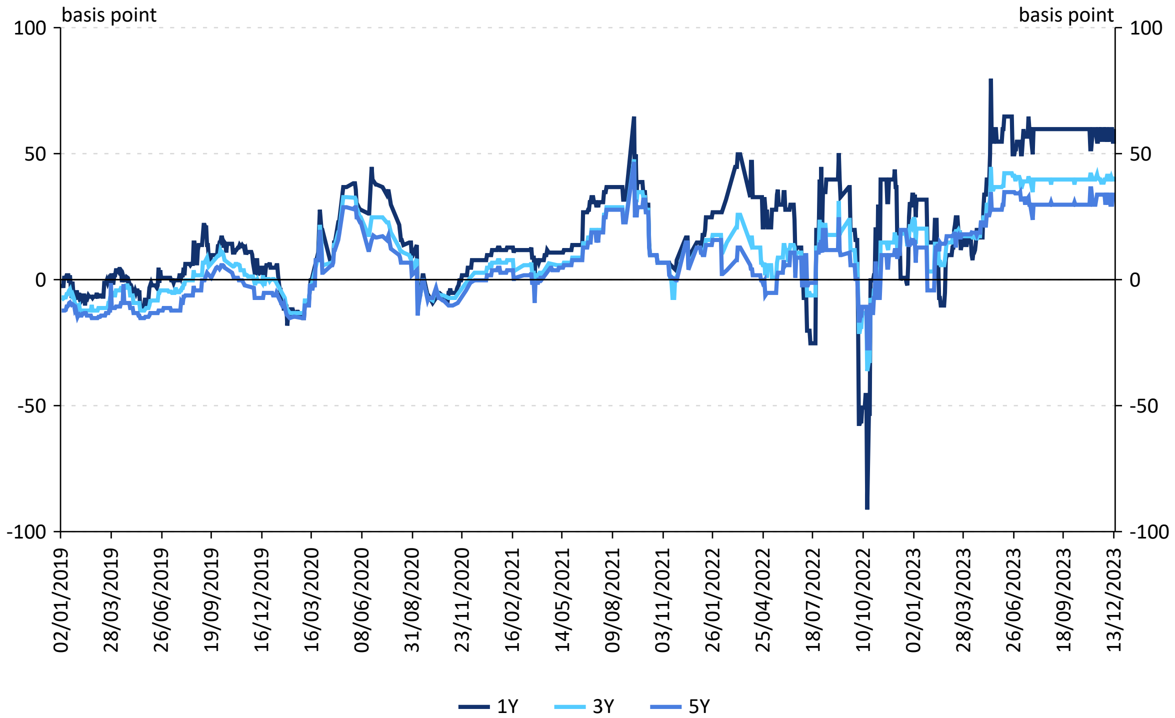
Source: MNB, Refinitiv.
Note: implied HUF yields based on trades in case of O/N maturity and based on USD/HUF FX-swap quotes provided by Thomson Reuters in the cases of 6-month maturity.

55. Regional 3M FX-swap implied yields against euro



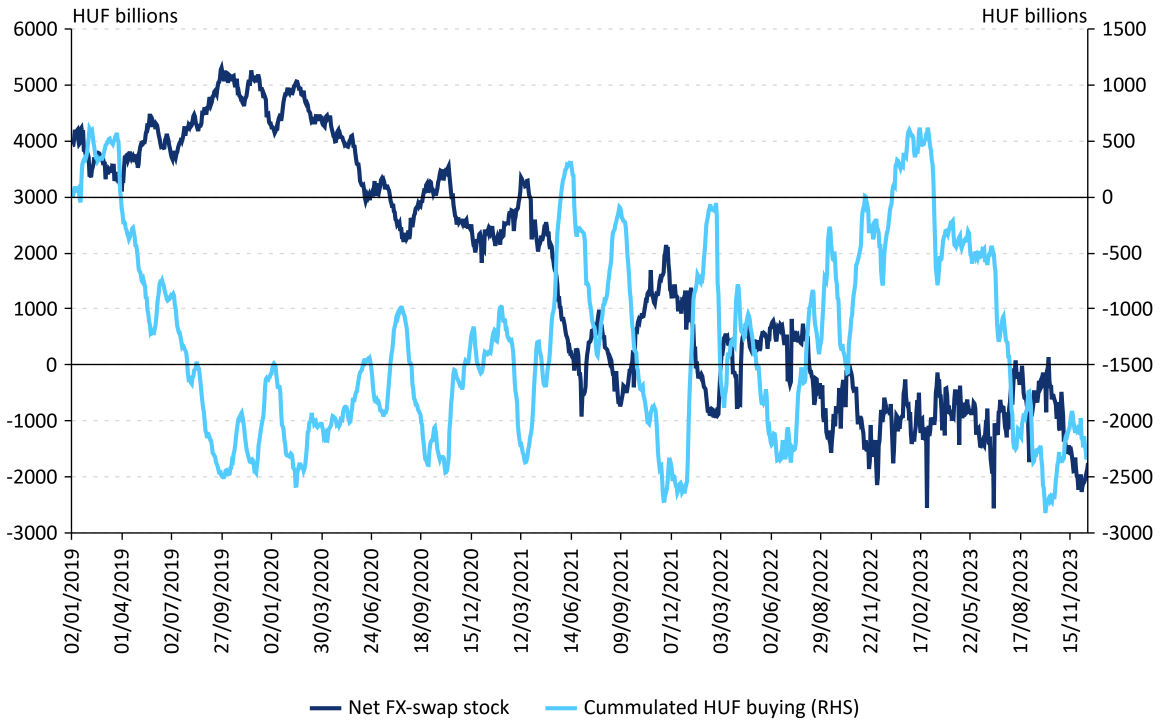
Source: Bloomerg.

56. EUR/HUF FX-swap spread



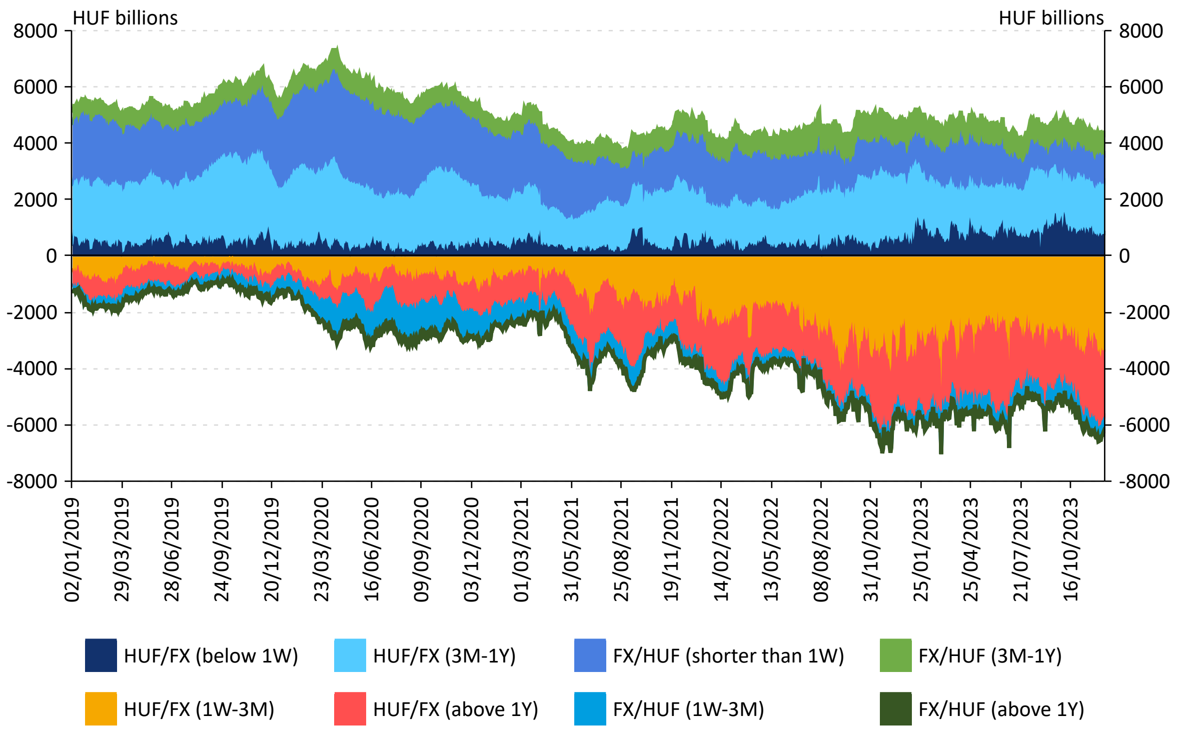
Source: Bloomberg.
Note: The spread represents the difference between the same tenors of the interbank spot yield curve and the EURHUF swap curve, where the 3M BUBOR a EURIBOR rates are considered to be the reference rates.

57. Forint FX-swap stock and cumulated HUF purchase of non-residents



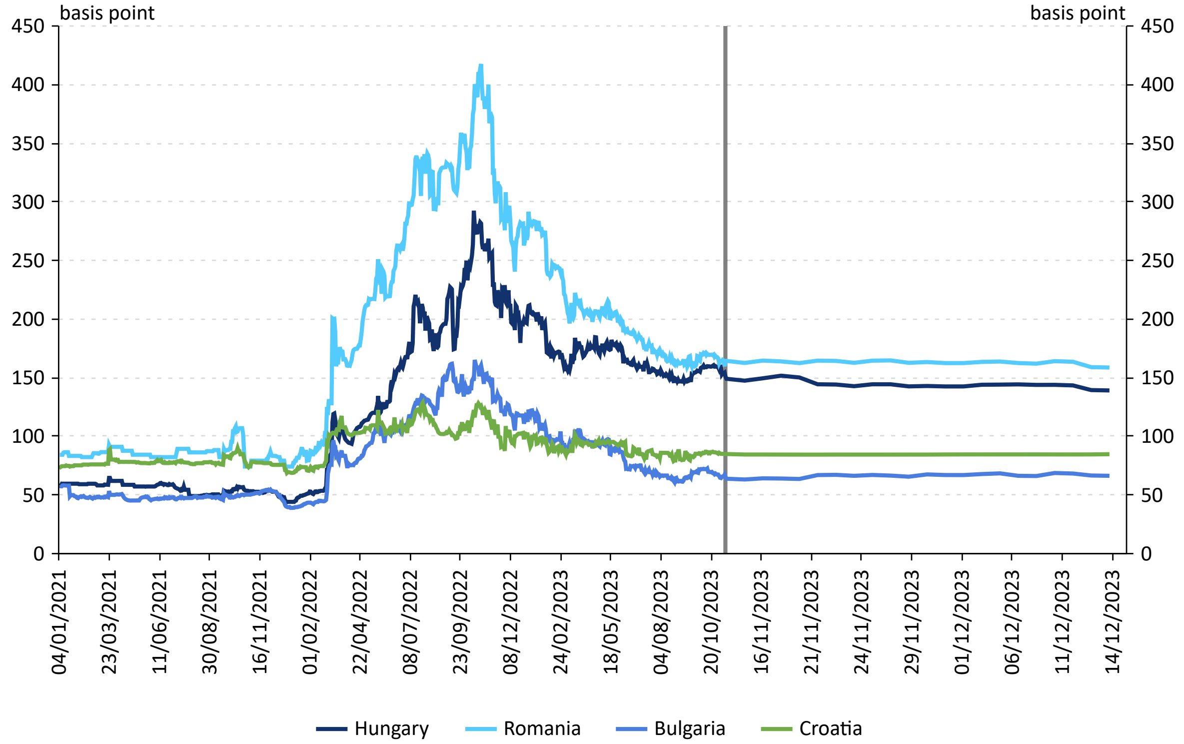
Source: MNB.
Note: Based on the daily FX reports of the transactions with non-residents of credit institutions. An increase in net swap stock stands for an excess of swap transactions with a long forint spot leg, while a decrease stands for an excess of swap tansactions with a short forint spot leg.

58. Gross FX-swap stocks of foreign investors by maturity



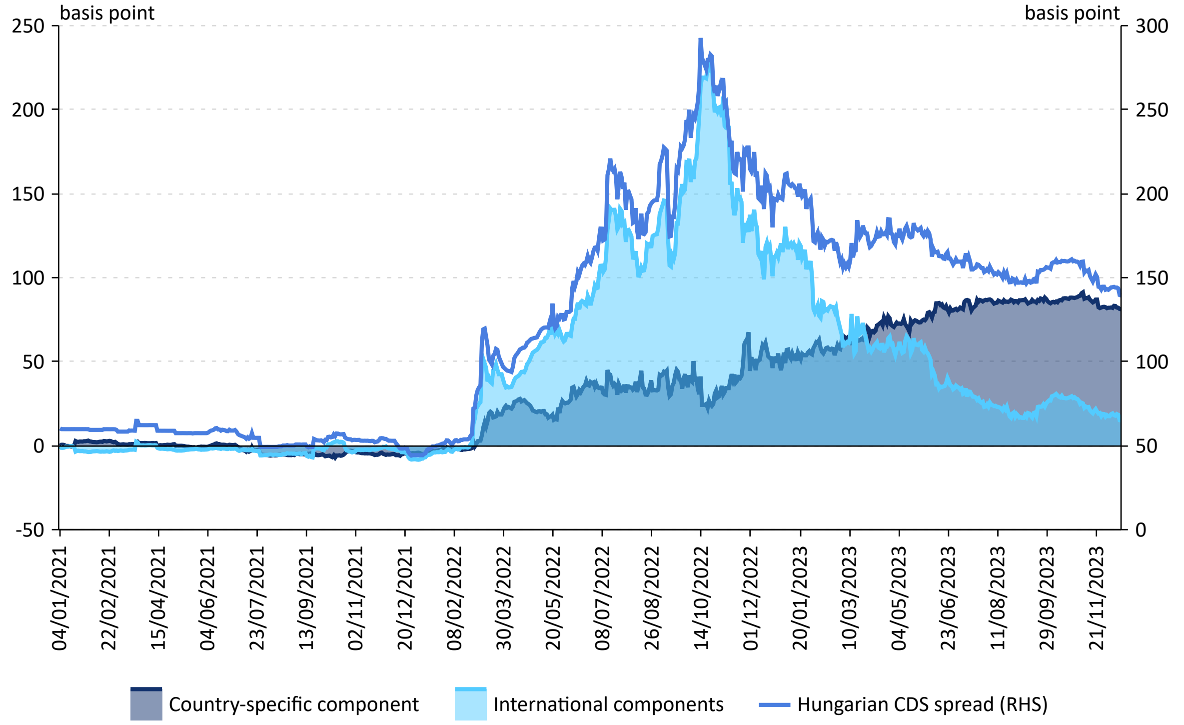
Source: MNB.
Note: Based on the daily FX reports of the transactions with non-residents of credit institutions. Positive values stand for swap stock with long forint spot leg while negative values stand for swap stock with short forint spot leg.

59. 5 year sovereign CDS spreads in CEE



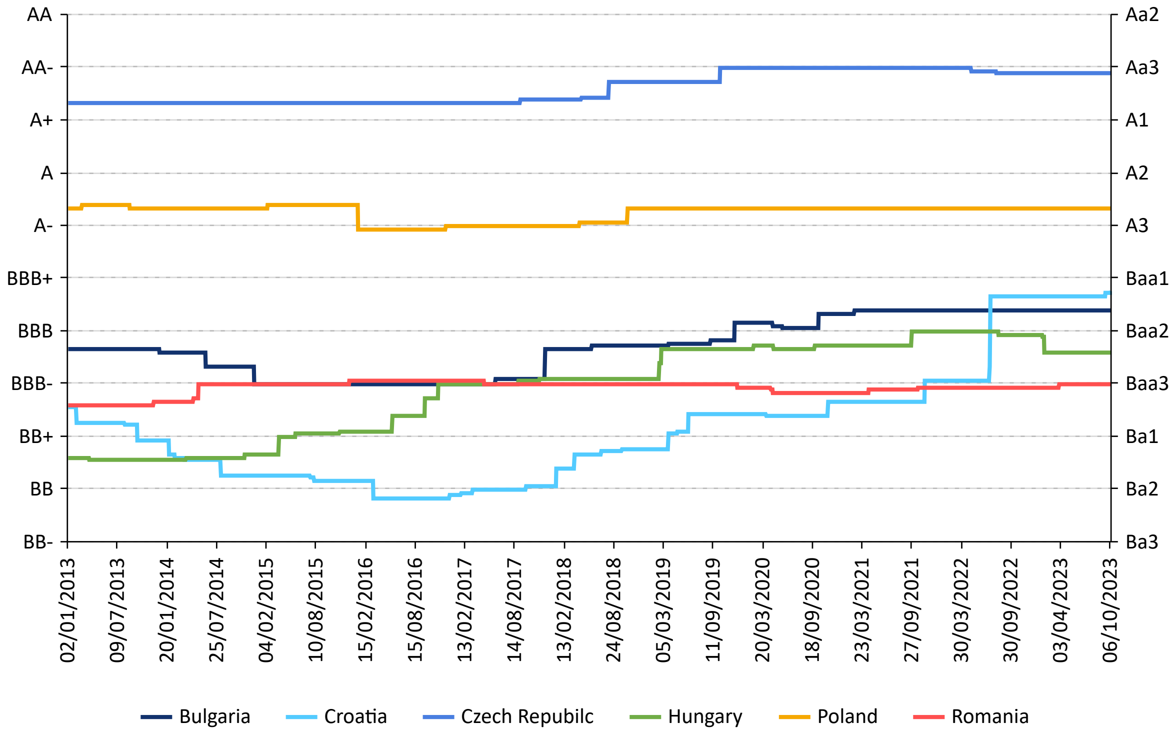
Source: Bloomberg.
Note: Higher frequency data for the last month on the right side of the grey line.

60. Components of Hungarian 5 year sovereign CDS



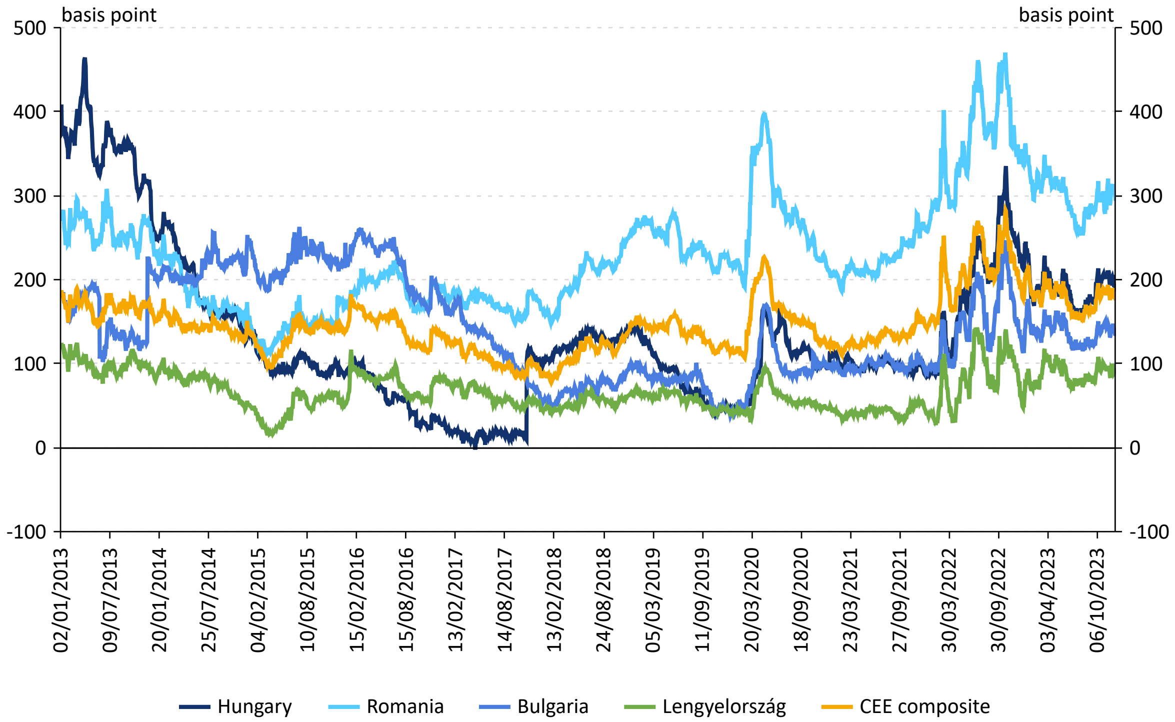
Source: Bloomberg
Note: based on factor analysis on daily CDS spread changes with volatility calculated on half-year windows. Cumulated series. Increases/decreases of component time series denote contributions to CDS spread increases/decreases.

61. Sovereign credit ratings in the region



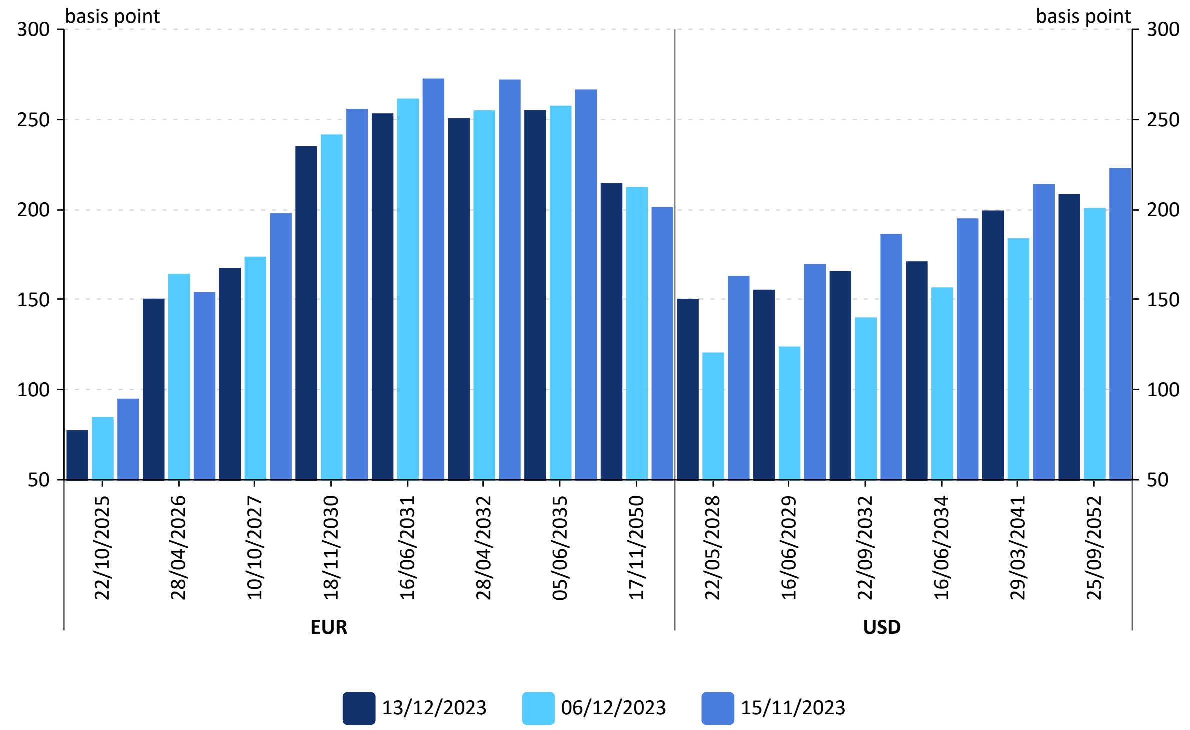
Source: Bloomberg.
Note: An "average" rating is calculated based on the individual ratings and the outlook (positive/neutral/negative) of S&P, Fitch and Moody's.

62. Emerging markets FX denominated government bond spreads



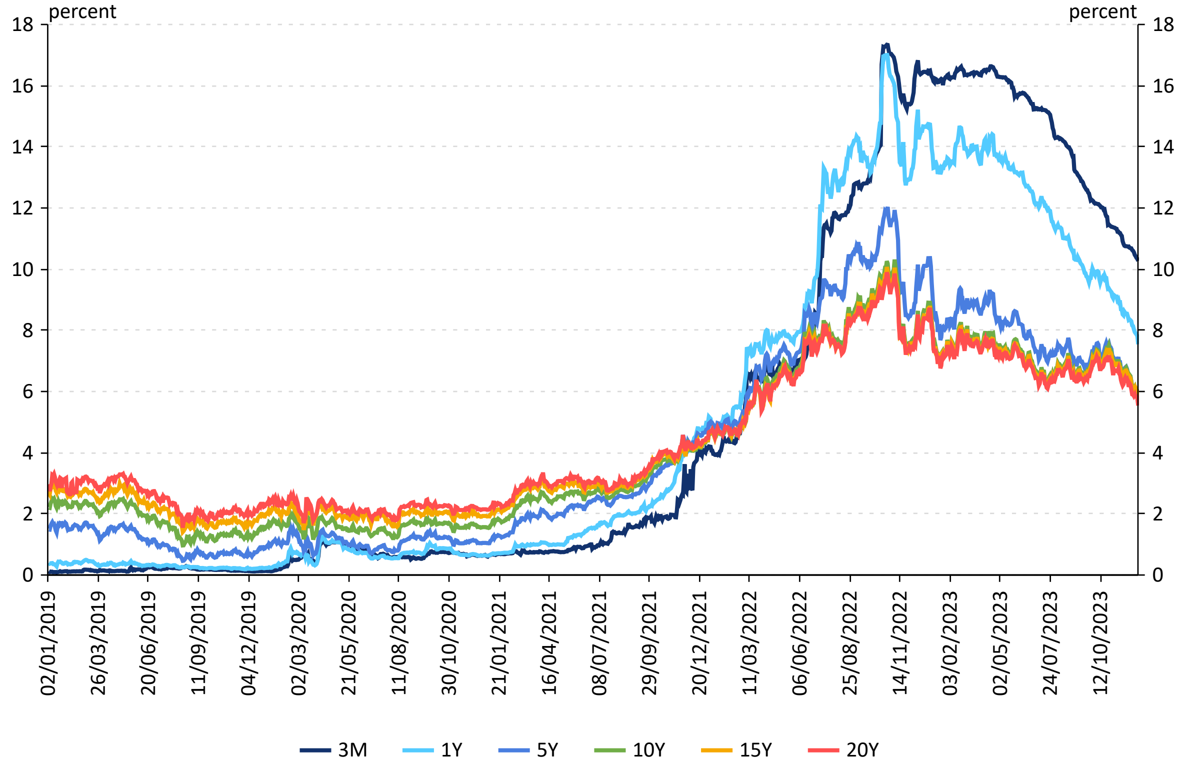
Source: Refinitiv, Bloomberg.
Notes: calculated from JP Morgan Euro EMBI data. The series are differences between euro denominated (liquid) foreign currency bond yields and euro zero coupon yields of the corresponding maturities. Different durations may result in significant difference in the level of spreads.

63. Domestic FX-government bond



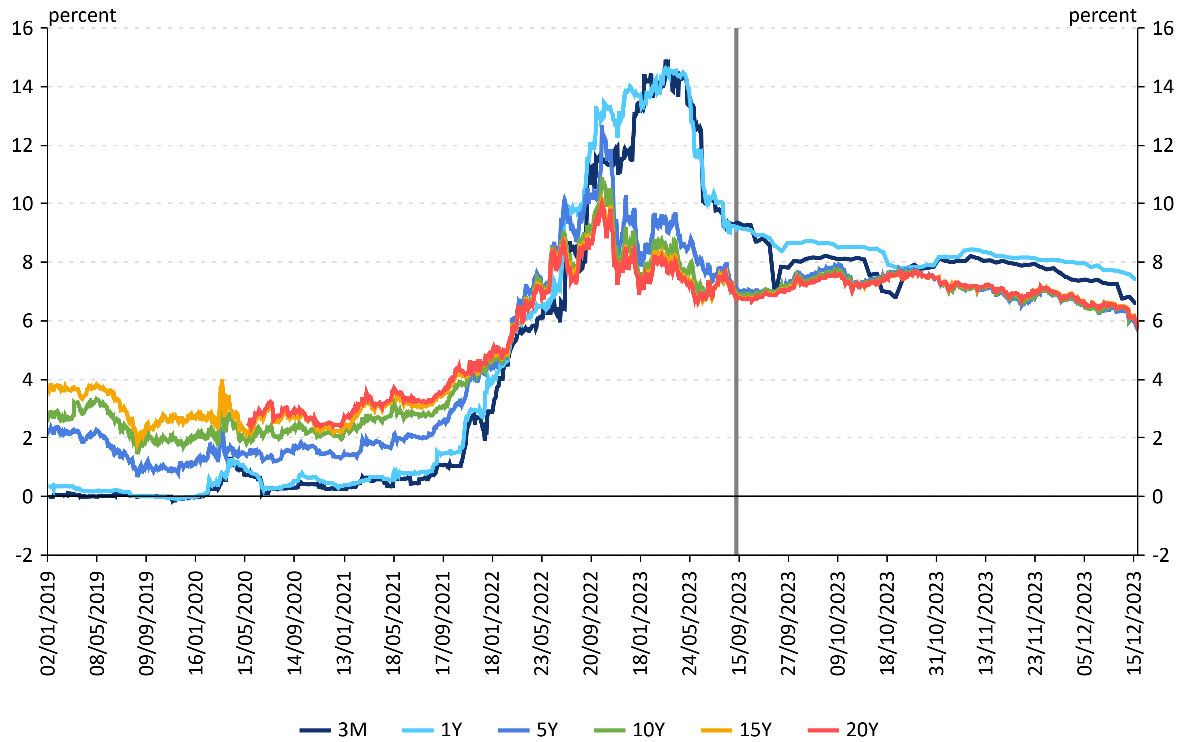
Source: Bloomberg.
Notes: Spread between EUR and USD denominated FX-bonds and the equivalent US T-bond or euro yields chosen by Bloomberg. We present bonds grouped by currency in order of maturity.

64. Interbank yields



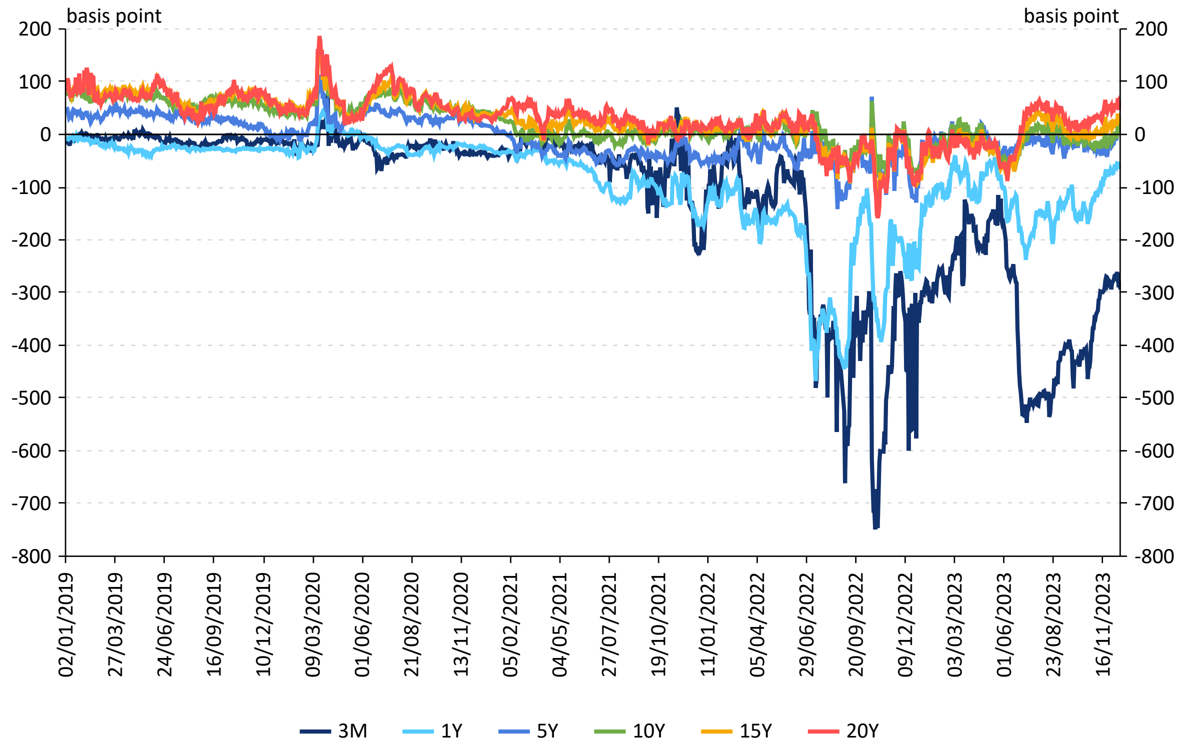
Source: Bloomberg.

65. Yields of benchmark government securities



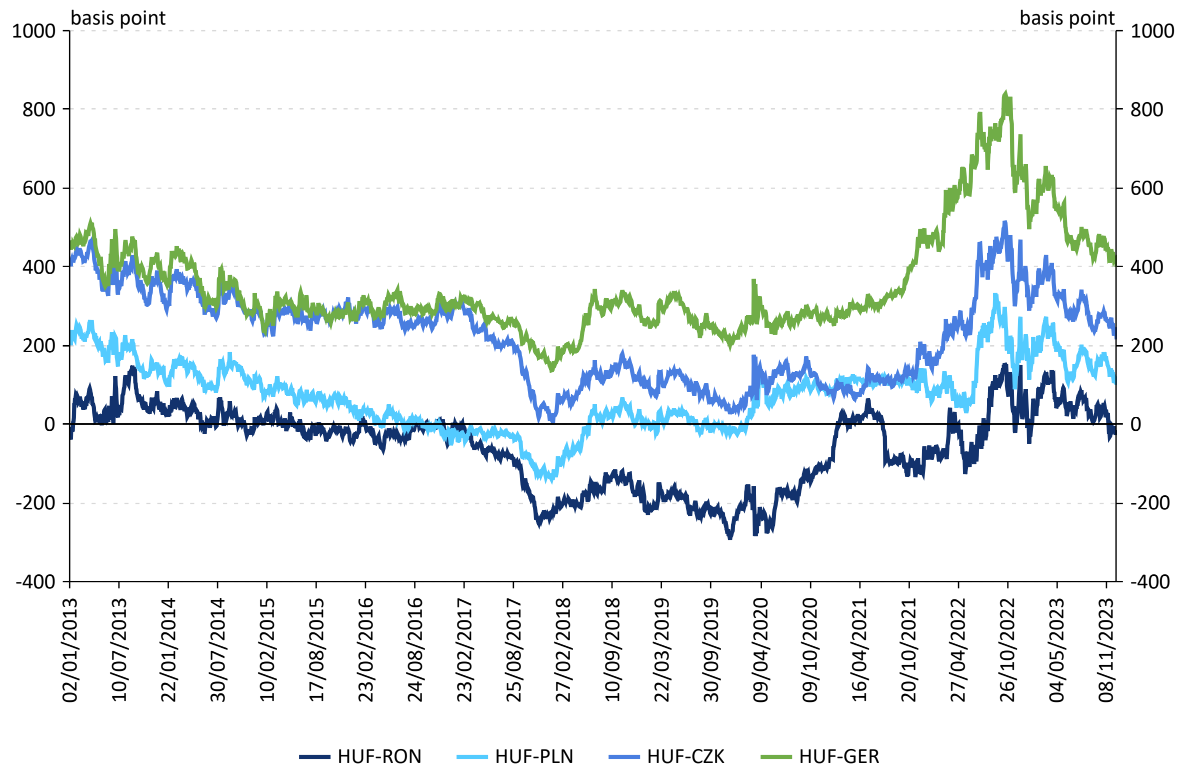
Source: Refinitiv.
Note: Intraday data is showed on the right side of the grey line.

66. Government securities - interbank yield spreads



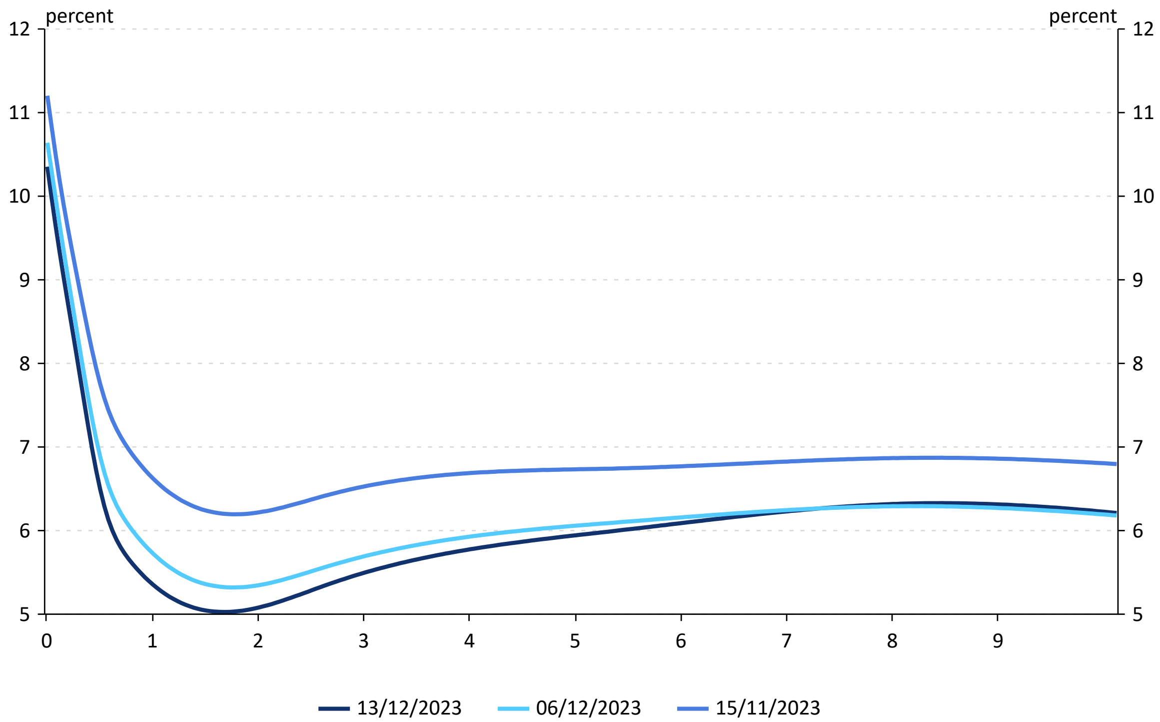
Source: Bloomberg, AKK.
Note: Spread between the corresponding government bond yield and interbank swap yield.

67. 10-year yield spread of the Hungarian governmend bond over the regional peers and Germany



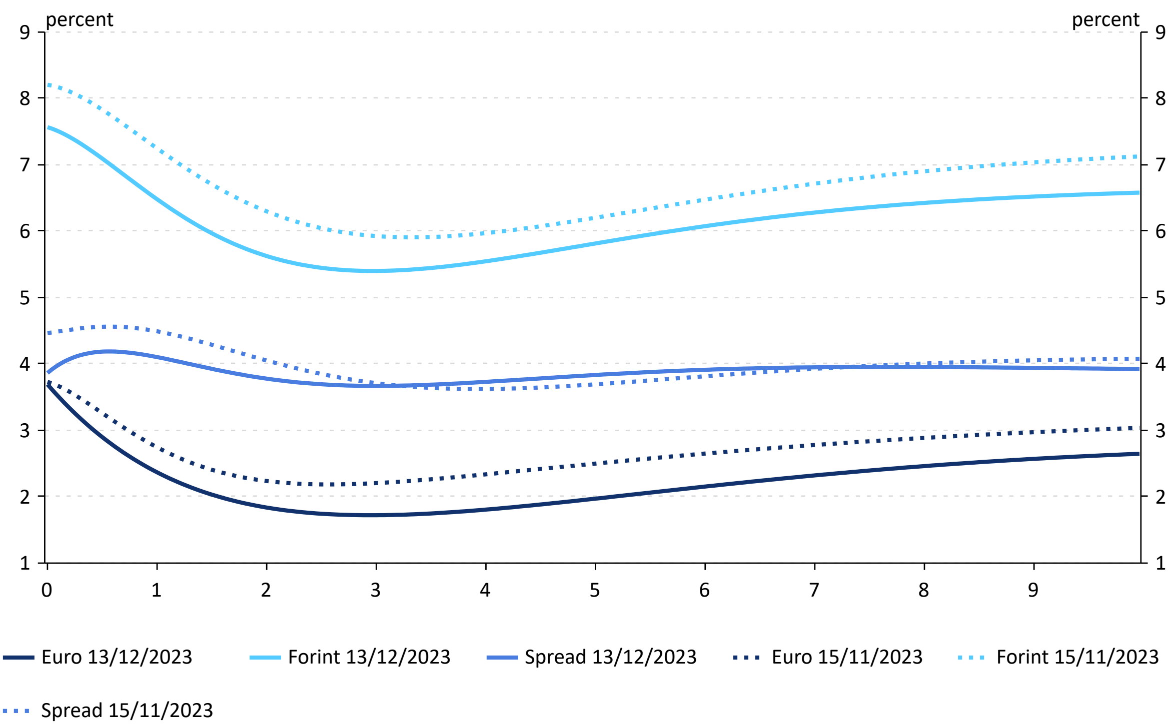
Source: Bloomberg.

68. Implied 3 month forward interest rate yield curve (based on interbank yields)



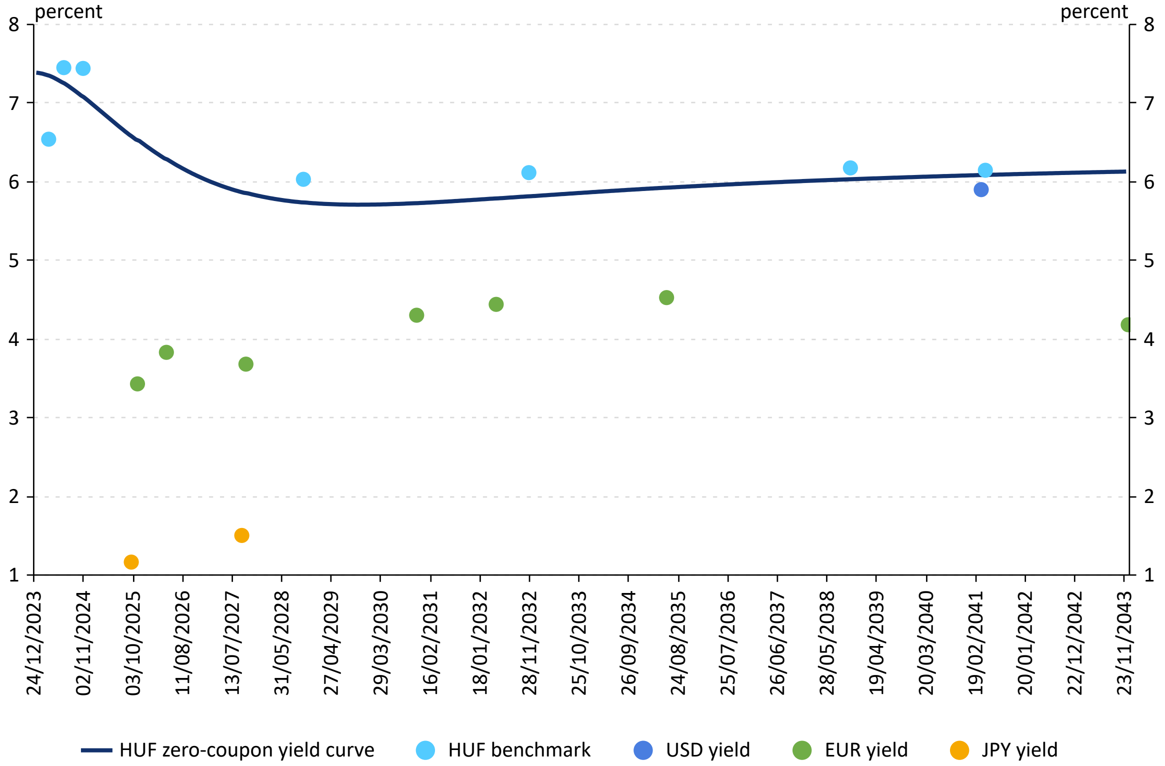
Source: MNB, Refinitiv, Bloomberg.
Note: Calculated from FRA-s, and IRS by spline method. The horizontal axis shows the settlement date of forward transactions, relative to the date of the curve, in years.

69. Spread between 3-month forward yields in EUR and HUF



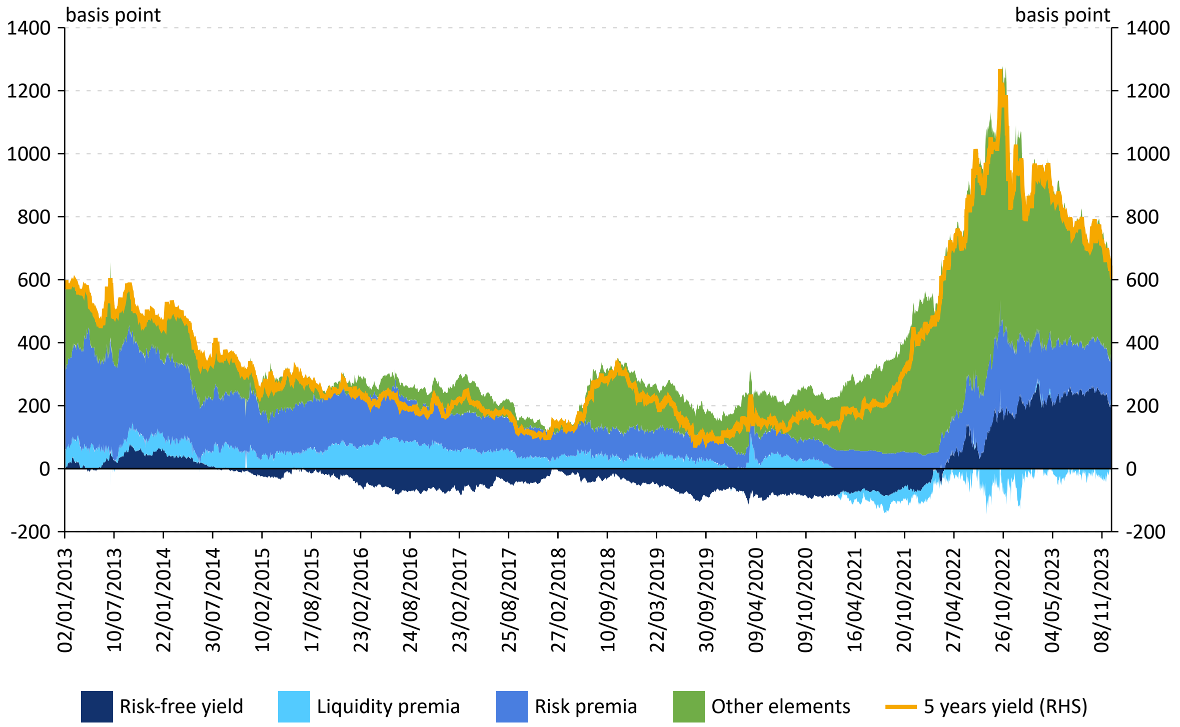
Source: Refinitiv.
Note: Estimated by the ECB using the Svensson-technique, based on AAA-rated euro area central government bonds. The horizontal axis shows the settleme date of forward transactions, relative to the date of the curve, in years.

70. Hungarian government bond yield curve and foreign currency bond yields



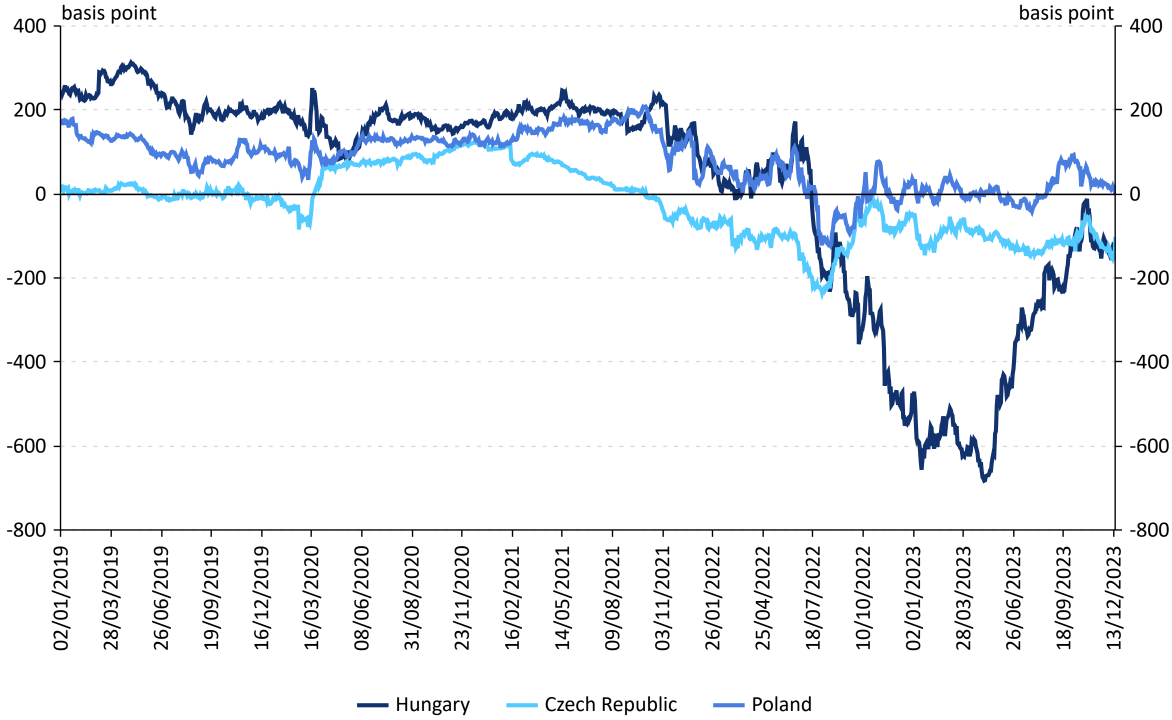
Source: MNB, Bloomberg.

71. Decomposition of the 5 year government bond yield



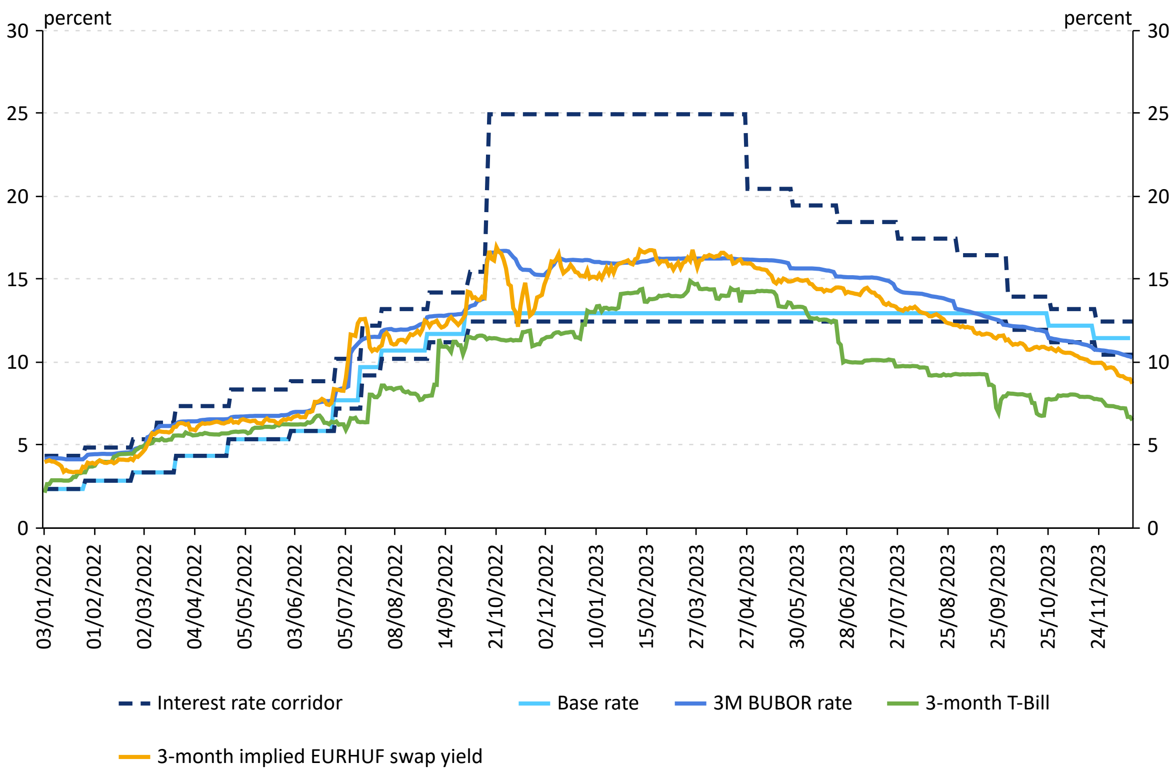
Source: Refinitiv, MNB
Note: Risk-free rate: German 5-year rate; Credit risk premium: 5-year Hungarian CDS spread; Liquidity premium: 5-year interest rate swap spread; others: based on residuals.

72. Slope of yield curve in CEE



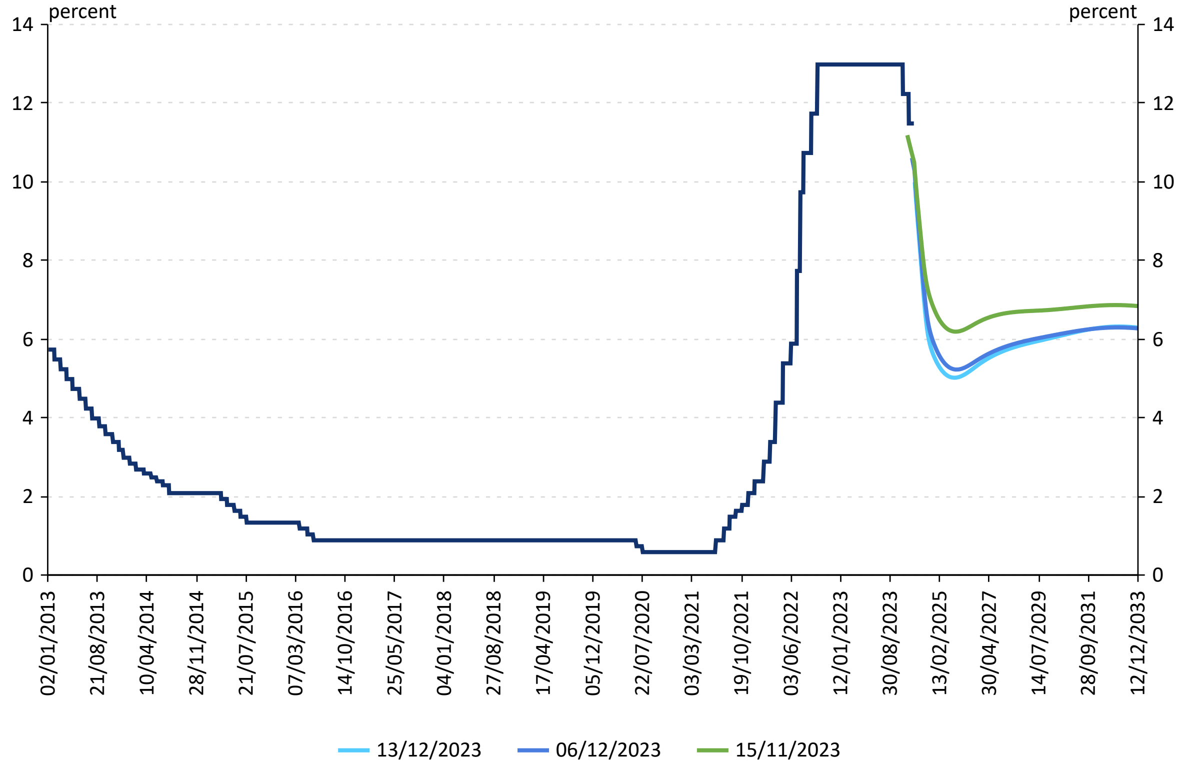
Source: Bloomberg
Note: Spread between 10 and 1 year local curreny benchmark government bond yield. In the case of Czech Republic, spread between 10 and 2 year benchmark government bond yield.

73. MNB base rate and money market rates



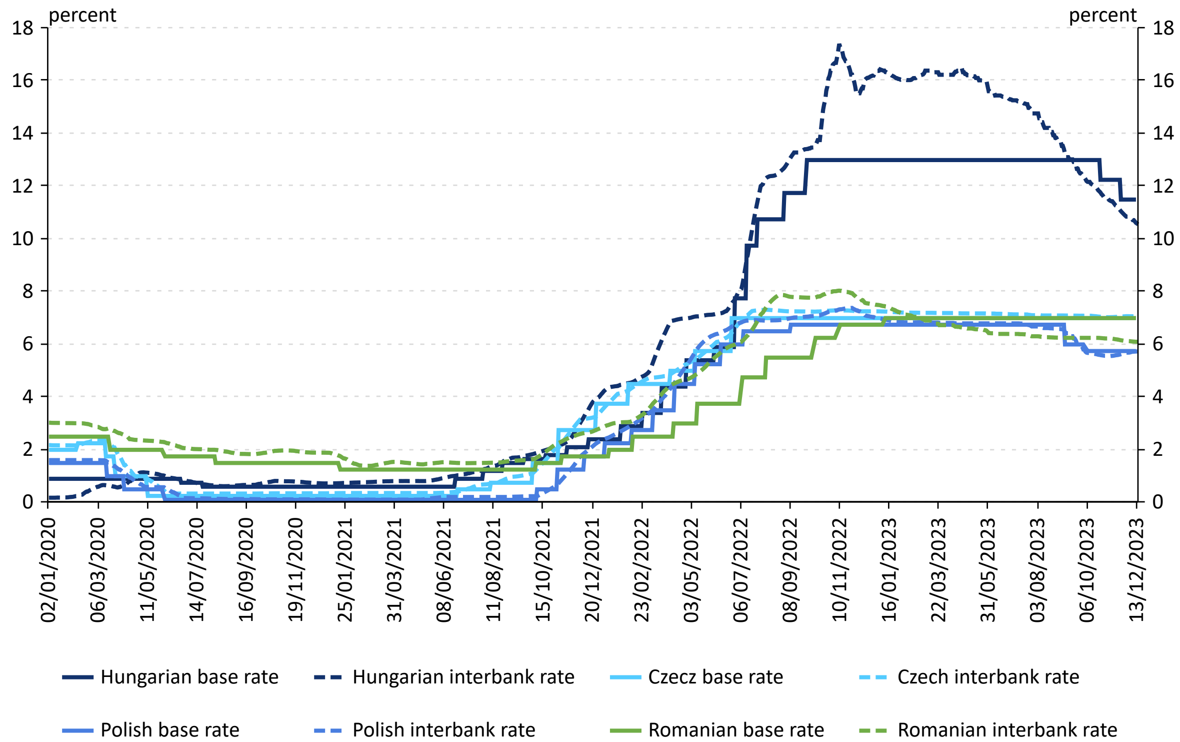
Source: Refinitiv, MNB

74. The base rate and the implied path of the 3-month BUBOR



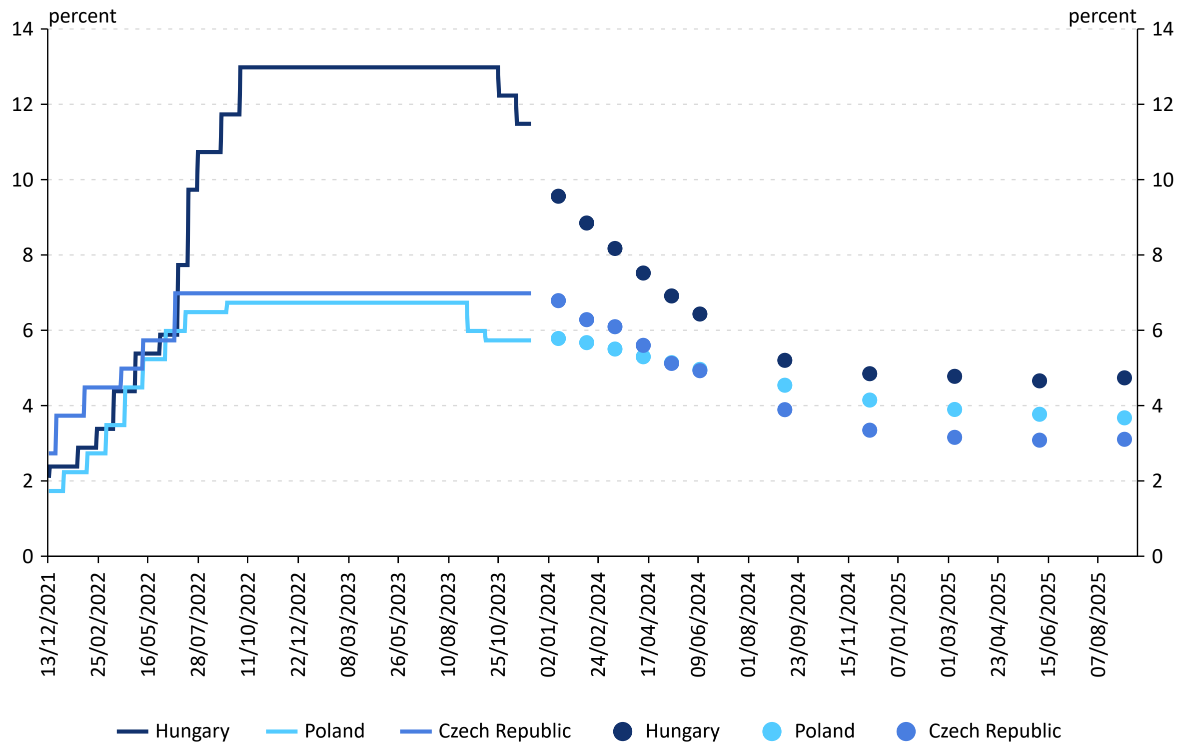
Source: MNB.

75. Central bank rates and 3 month interbank rates in the region



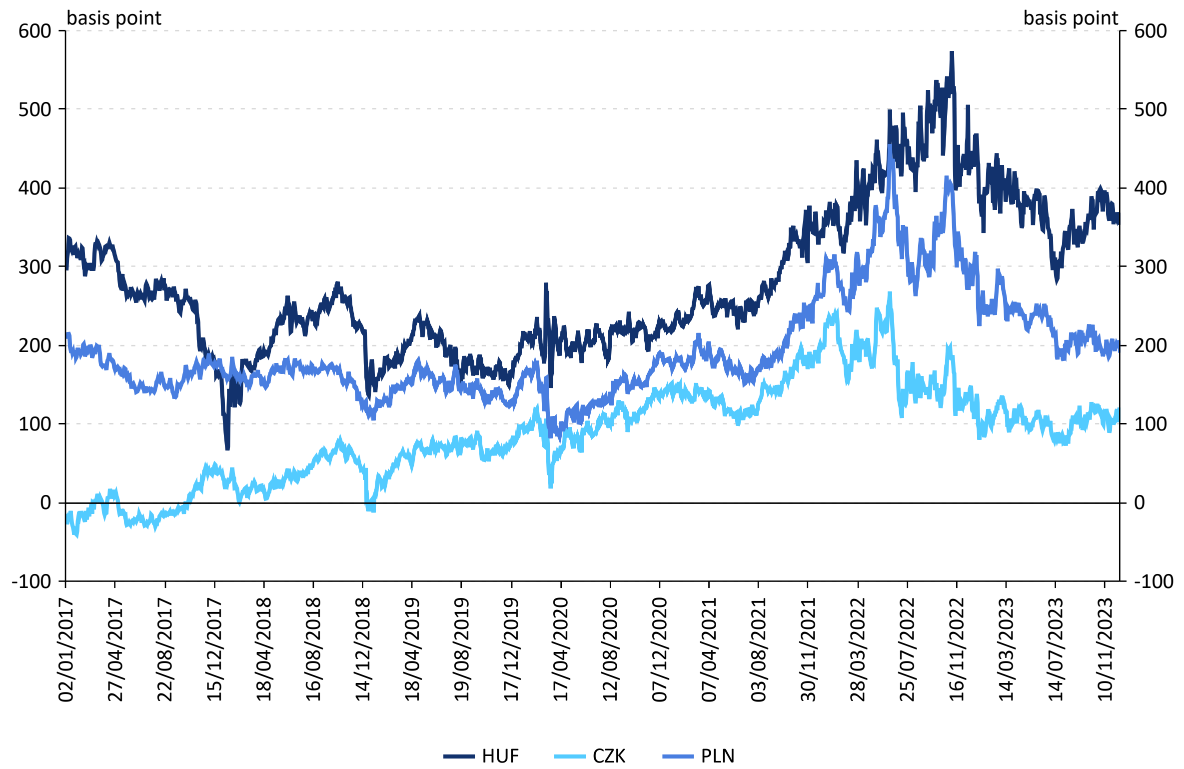
Source: Refinitiv.
Note: 20-days retrospective moving average for the interbank rates.

76. CEE base rates and forward rate aggreements



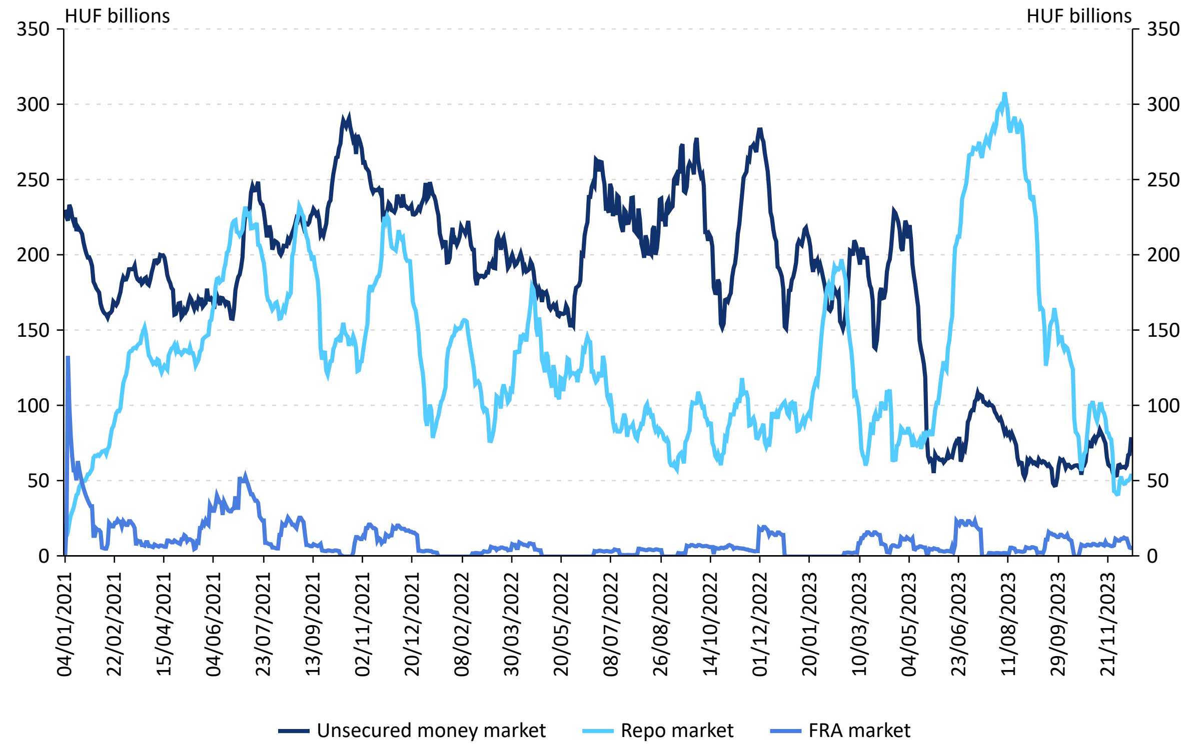
Source: Bloomberg
Note: Based on FRA transactions. Last update: (15/12/2023).

77. 5 year implied spreads over euro rates in 5 year time



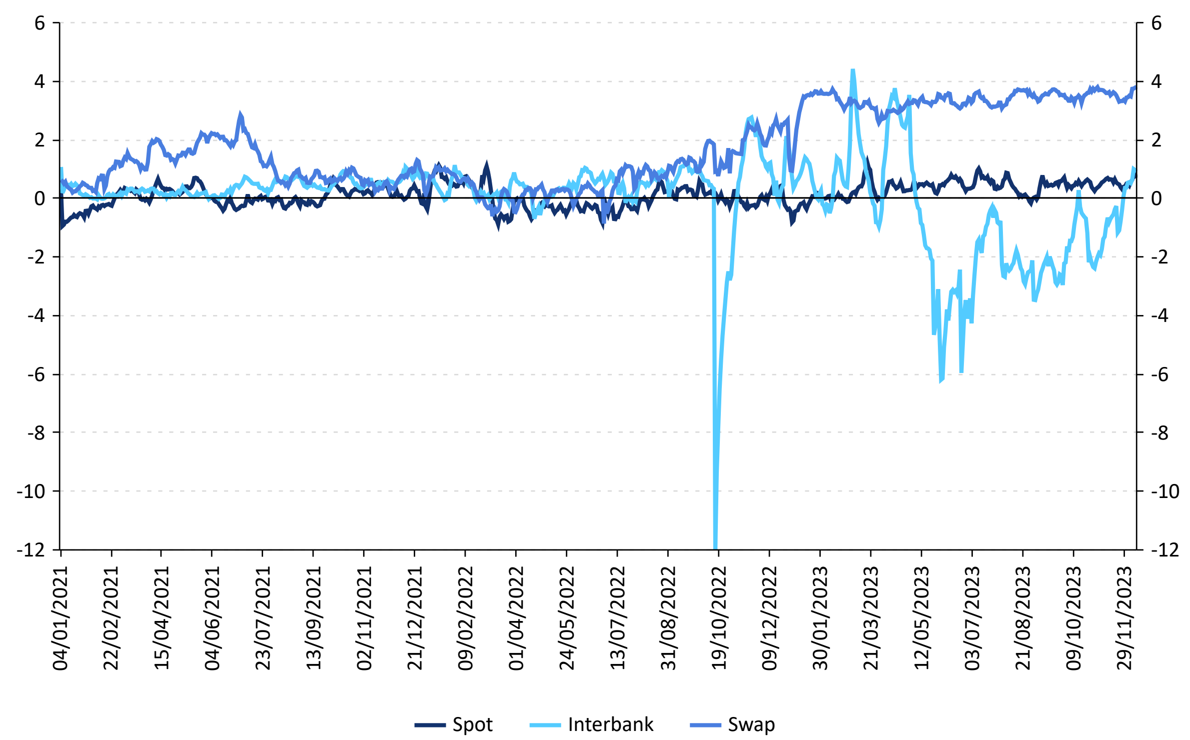
Source: Refinitiv.

78. Turnover on the interbank, HUF repo, and FRA markets (25 day moving average)



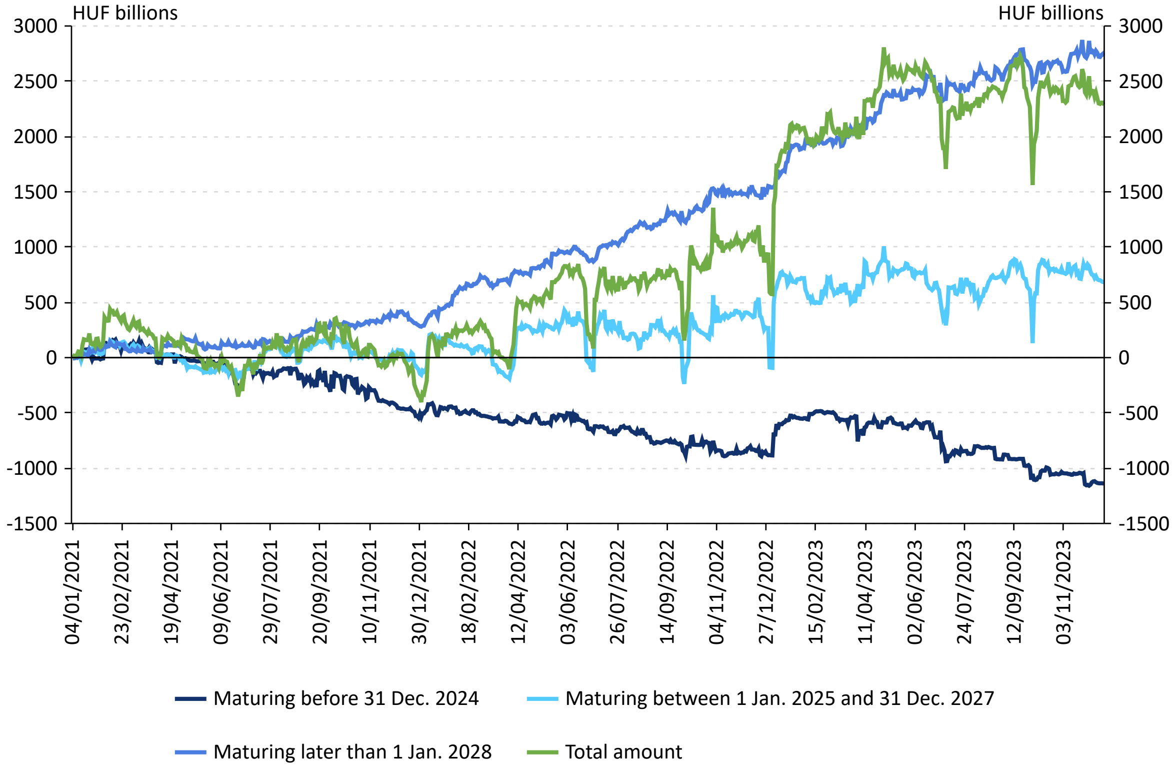
Source: MNB
Note: turnovers on deal date, based on reporting by domestic banks, 25-days retrospective moving averages.

79. Liquidity indices



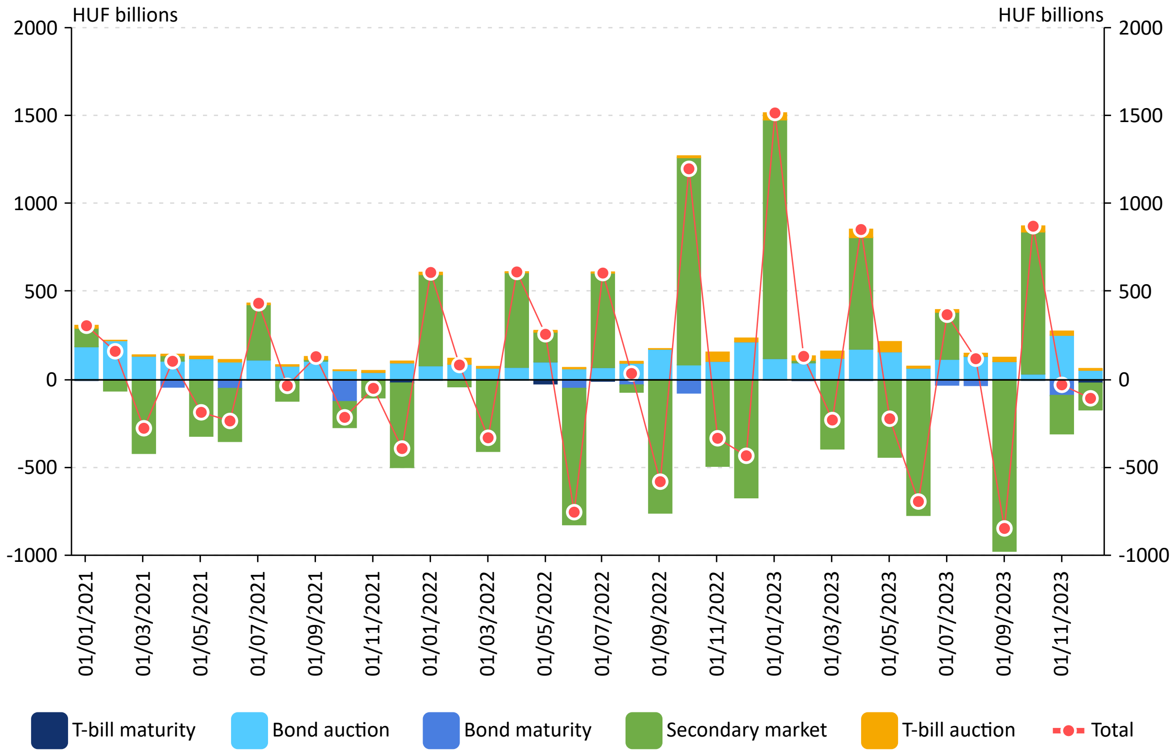
Source: MNB.
Note: Values above (below) 0 indicate liquidity conditions that are better (worse) than the historical average.

80. Change in government bonds of non-residents by tenor



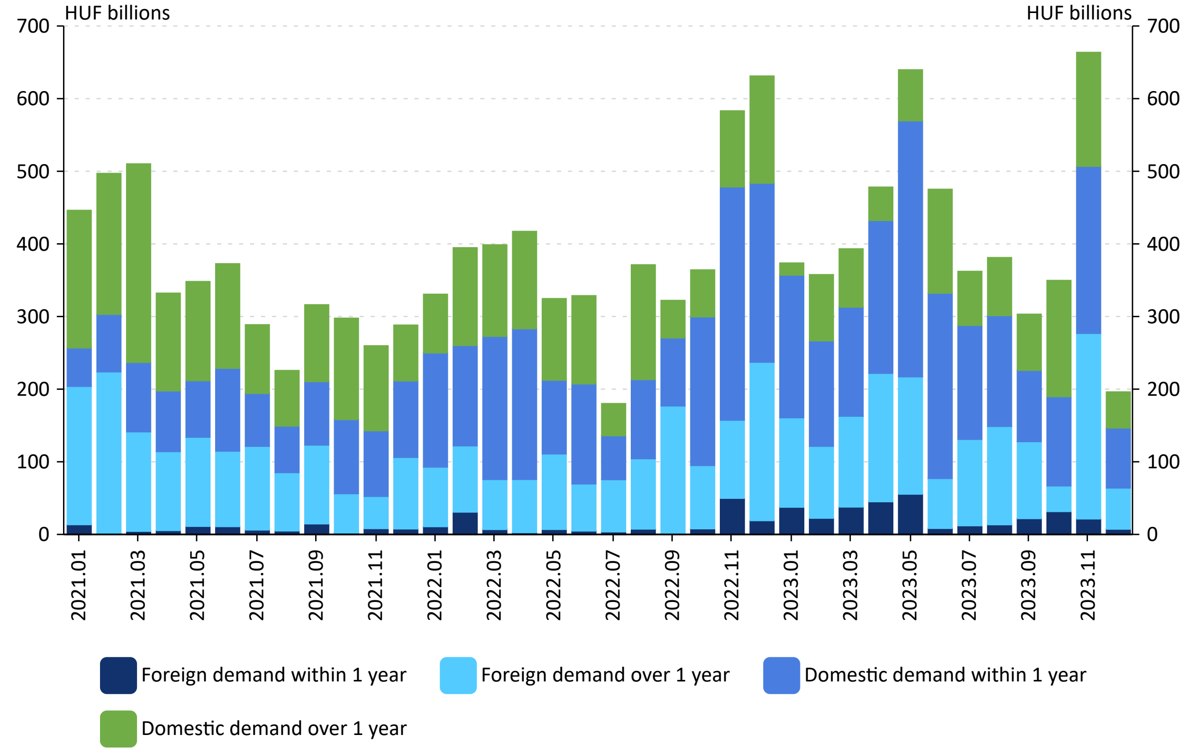
Source: MNB.

81. Decomposition of change in government securities held by non-residents (last months)



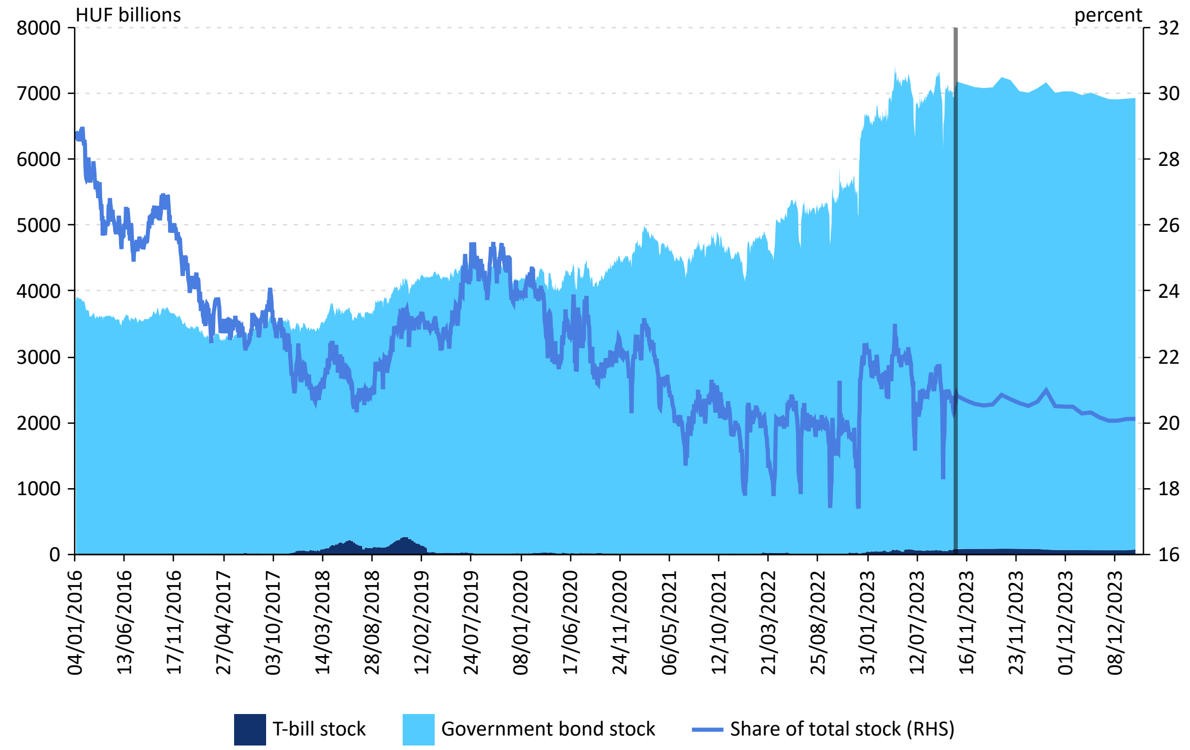
Source: MNB
Note: Last month is incomplete.

82. Primary market goverment security purchase of domestic and non-resident investors



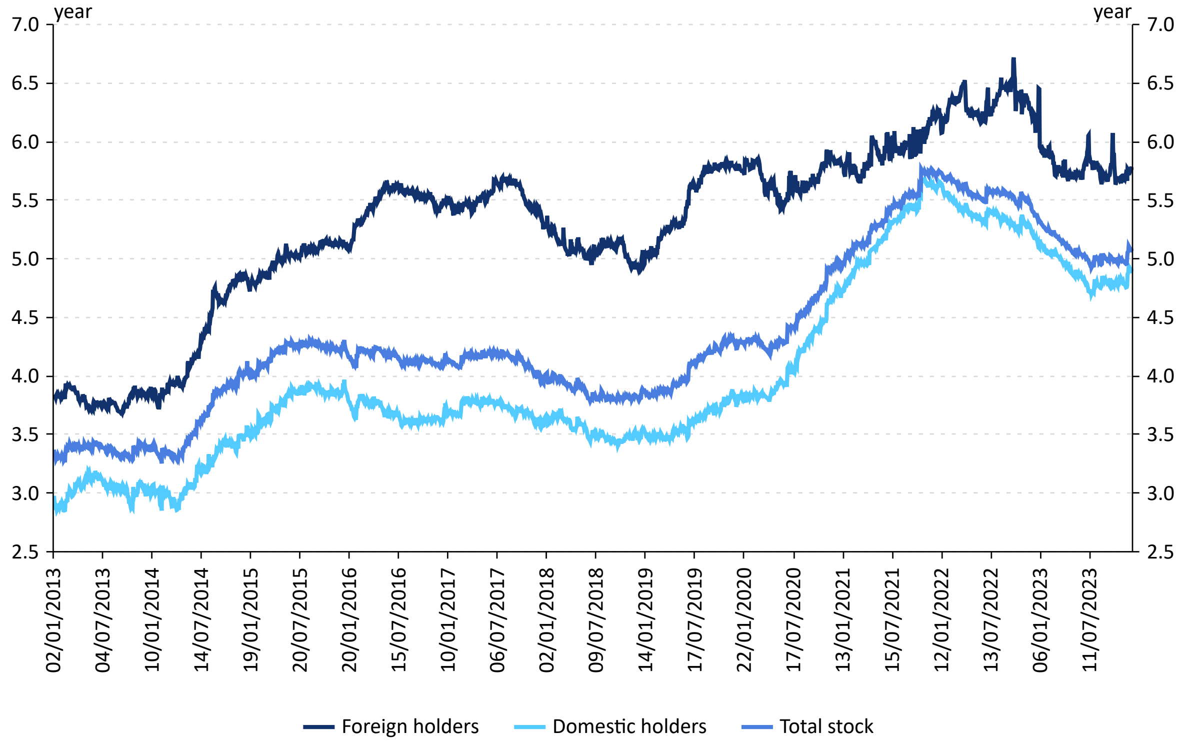
Source: MNB
Note: Last month is incomplete.

83. Government securities held by non-residents and the proportion to the total amount outstanding



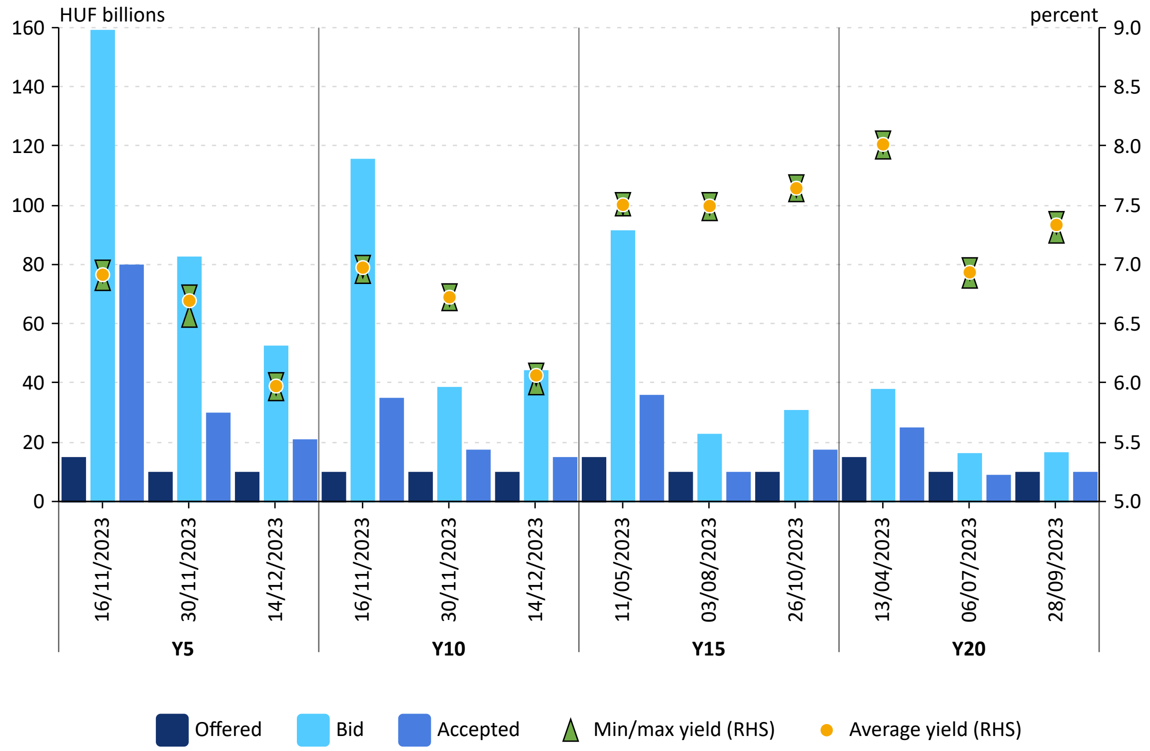
Source: MNB.
Note: Based on face values of HUF-denominated issues. To the right side of the grey line, data of the last month is magnified.

84. The average time to maturity of government security portfolio of residents and non-residents



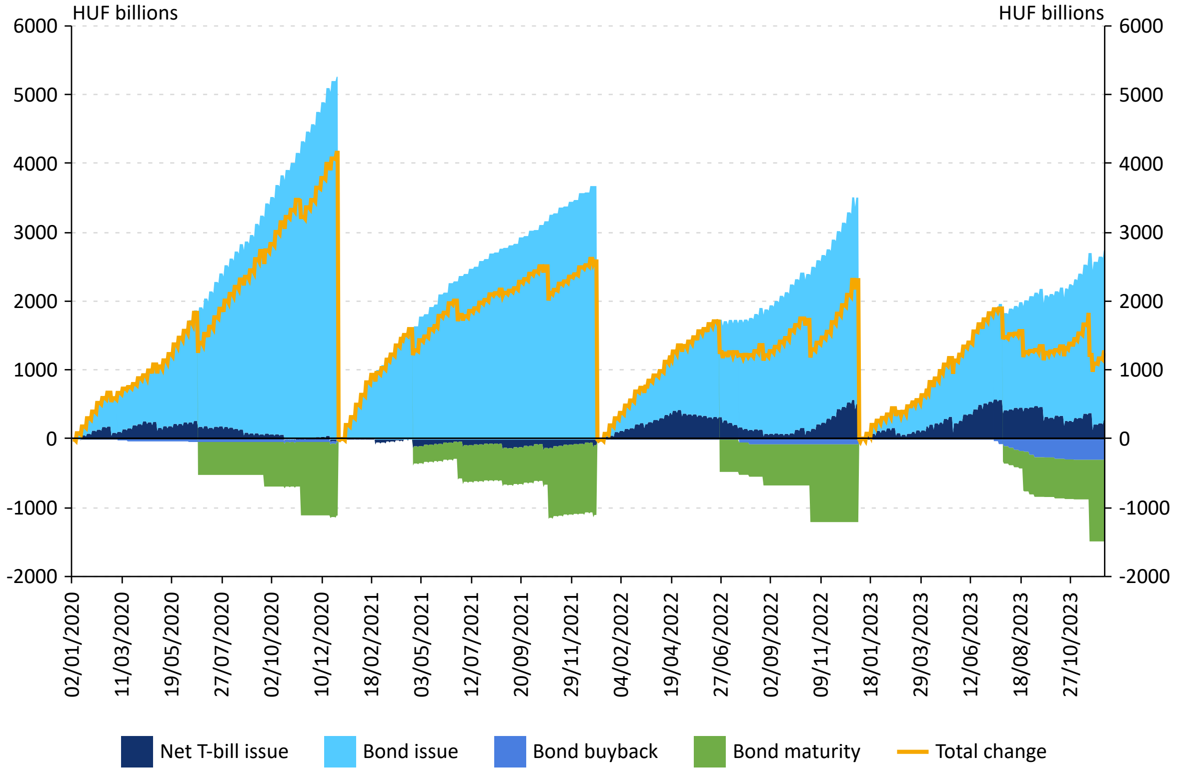
Source: MNB
Note: Based on HUF government bonds and T-bills.

85. Auction data for fixed-rate government bonds



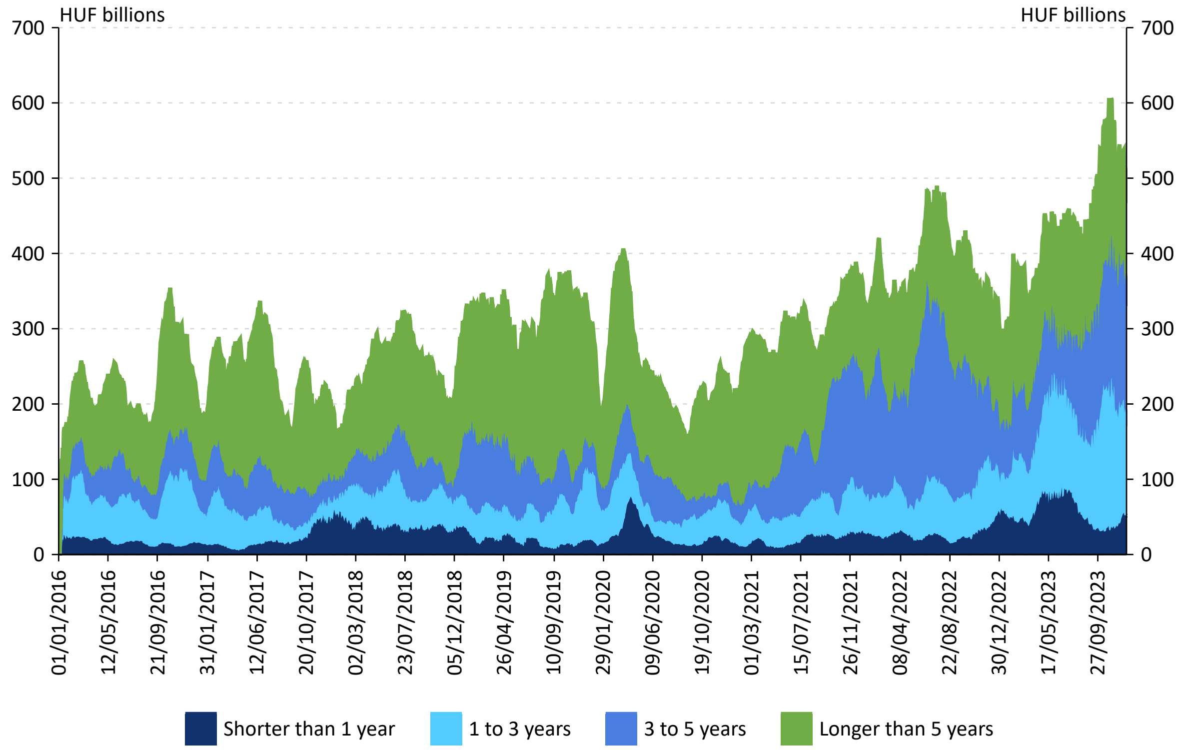
Source: GDMA.
Note: The accepted amount at the bond auctions also includes the results of the non-competitive tenders.

86. Government securities issues, buybacks, redemptions



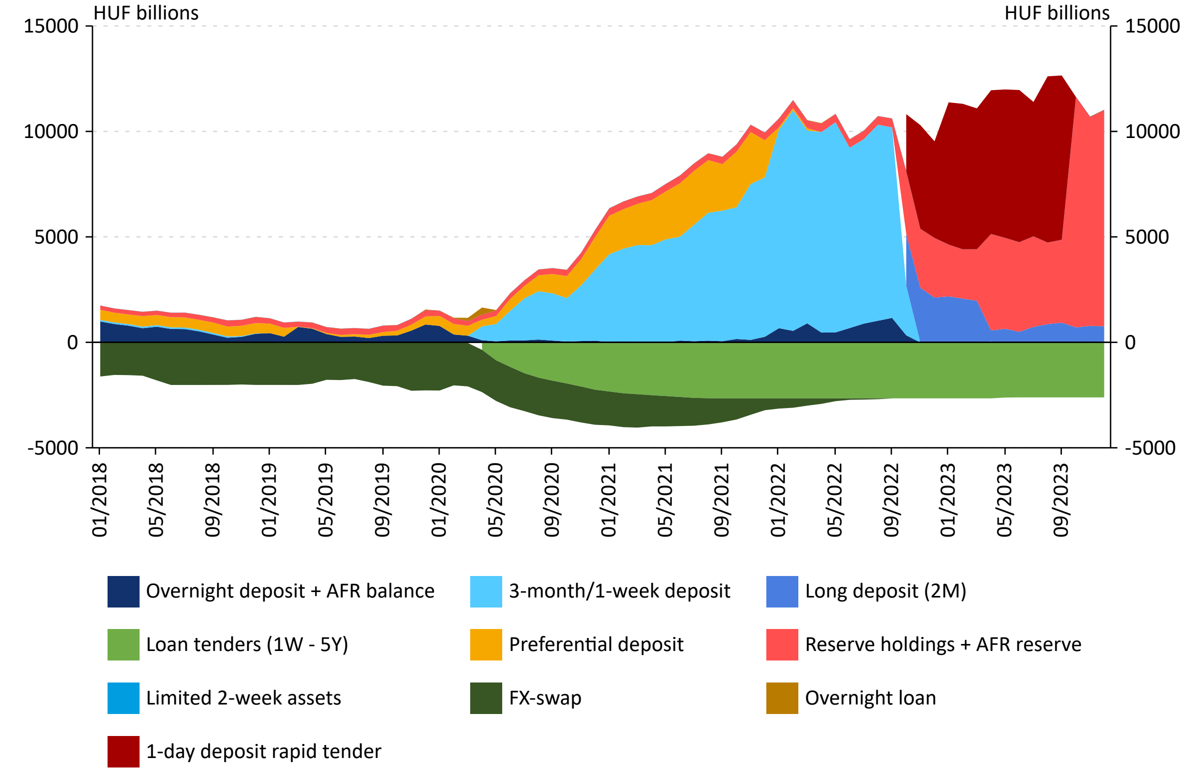
Source: MNB.

87. Turnover on the secondary market of government securities



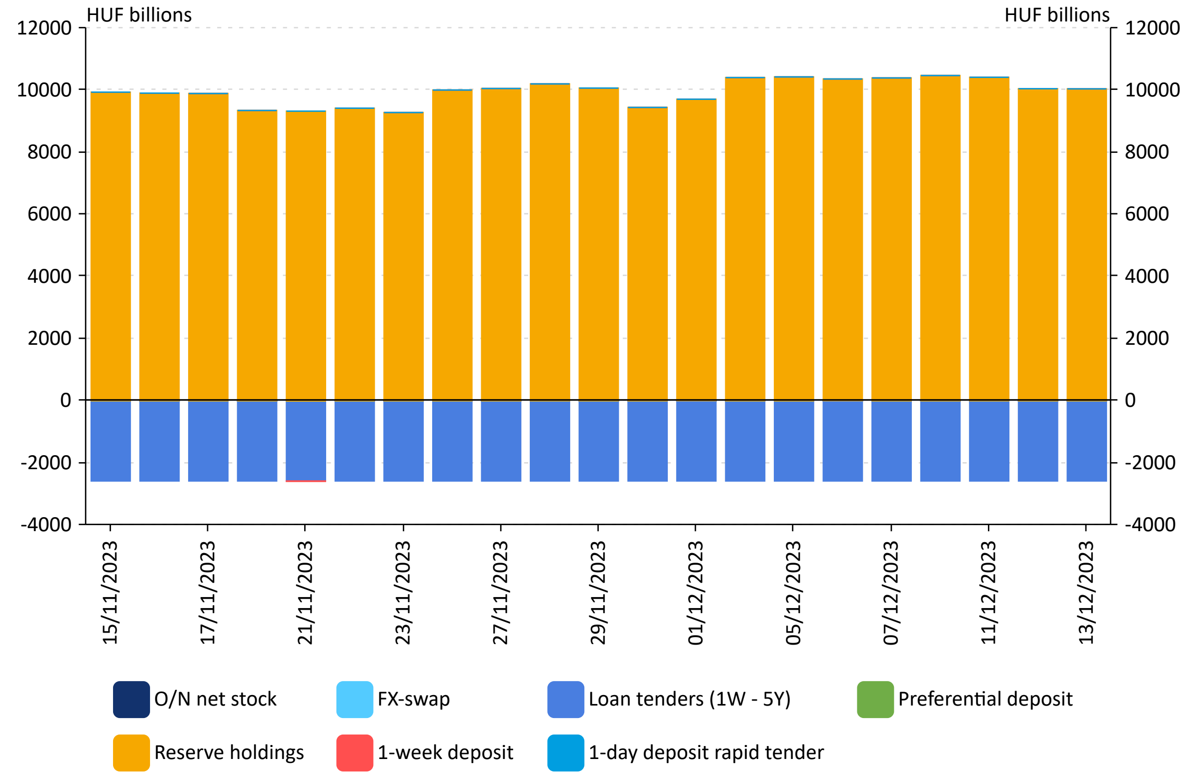
Source: MNB, KELER.
Note: 25-days retrospective moving average applied.

88. Selected assets and liabilities of the MNB



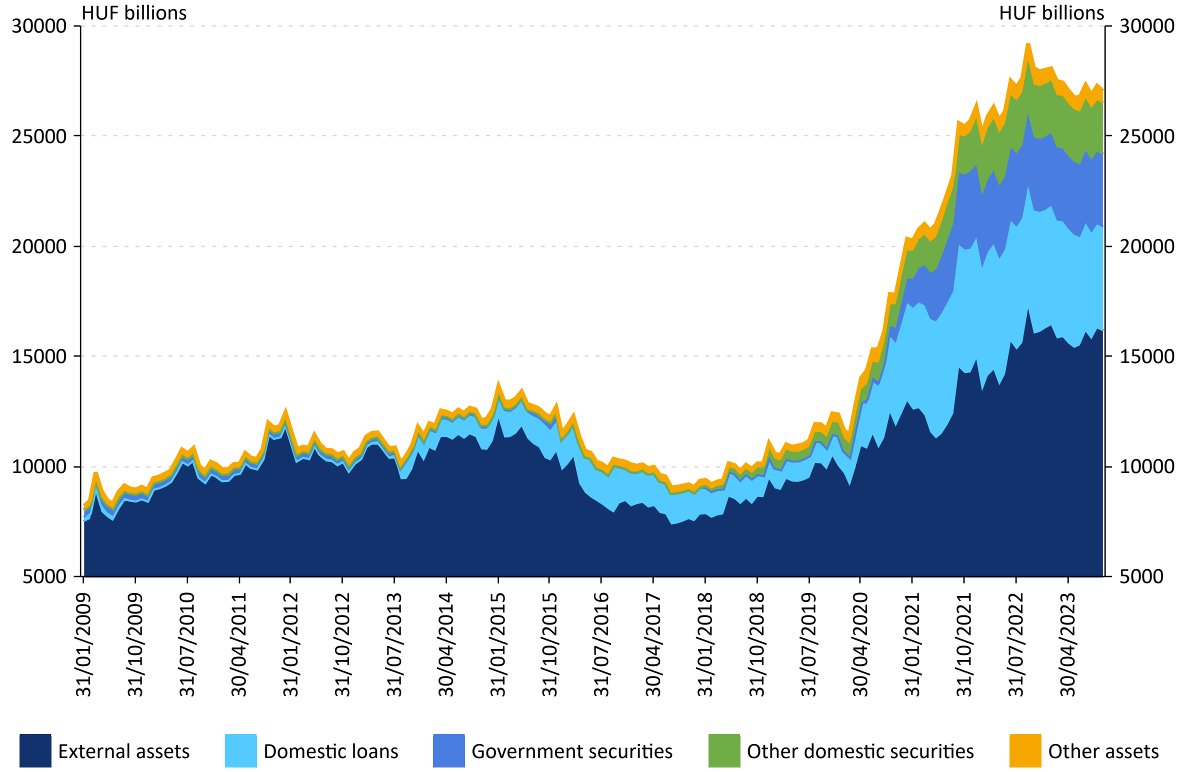
Source: MNB.

89. Daily usage of central bank tools



Source: MNB.

90. Asset side of the MNB's balance sheet

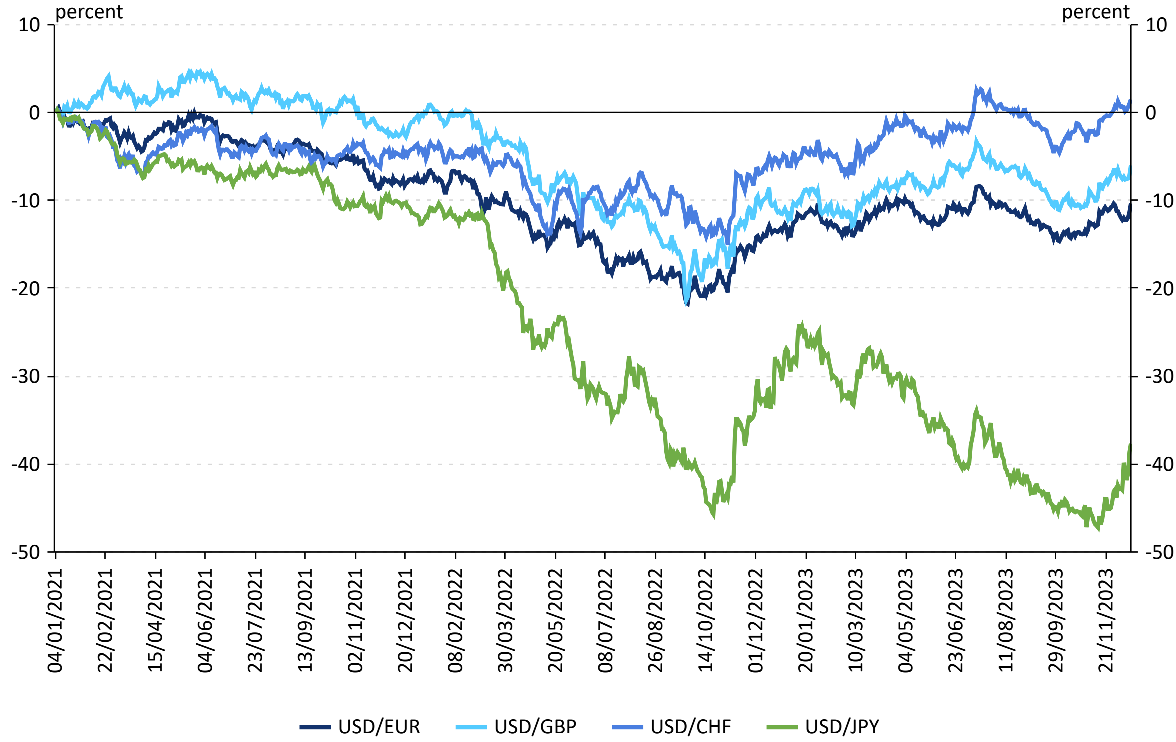


Source: MNB.

91. Overview of international developments

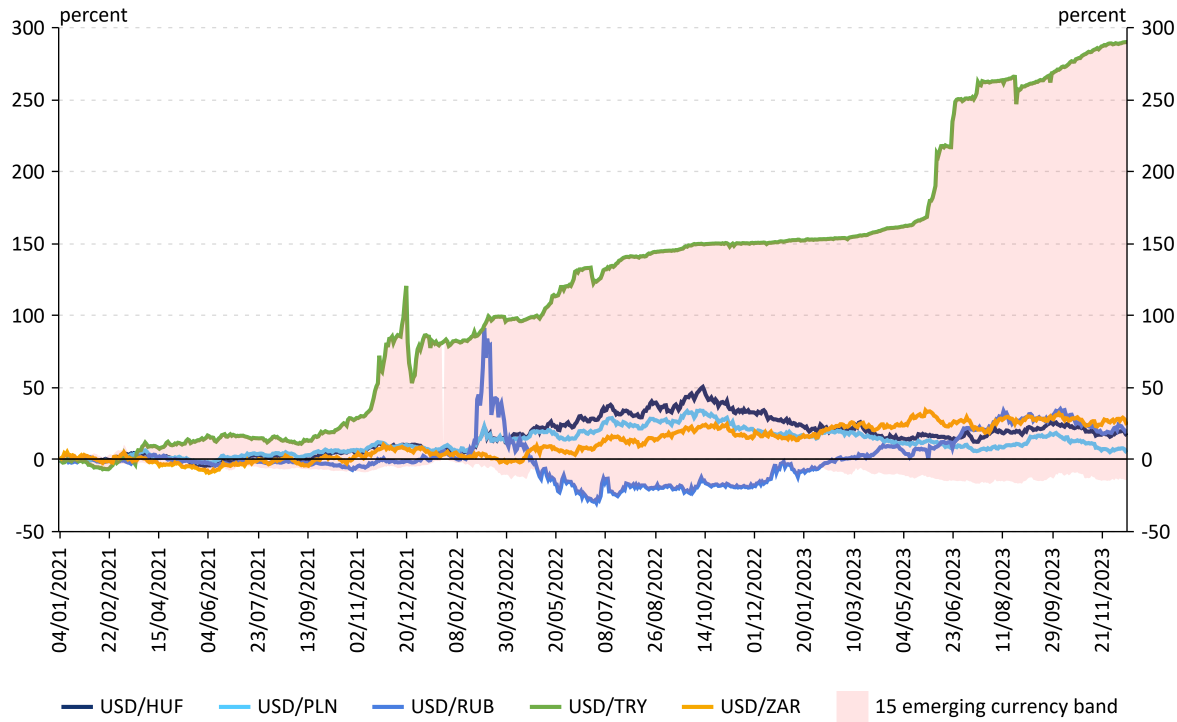
	One month ago	One week ago	Current
Fed base rate (%)	5.5	5.5	5.5
ECB base rate (%)	4.5	4.5	4.5
10-year T-bond yield (%)	4.531	4.226	3.921 ↓
10-year euro yield (%)	2.644	2.276	2.119 ↓
VIX Index (%)	14.2	13.13	12.1 ↓
EMBI Global spread (bp)	358.24	331.76	325.49 ↓
SP 500 Index	4502.88	4604.37	4719.55 ↑
DAX Index	15748.17	16759.22	16752.23 ↑
NIKKEI Index	33519.7	32307.86	32686.25 ↓
USD/EUR exchange rate	1.085	1.076	1.099 ↑
USD/JPY exchange rate	151.365	144.945	141.88 ↓
CHF/EUR exchange rate	0.963	0.947	0.954 ↓
Brent oil (USD per barrel)	82.47	74.05	76.61 ↓

92. Major currencies versus the dollar



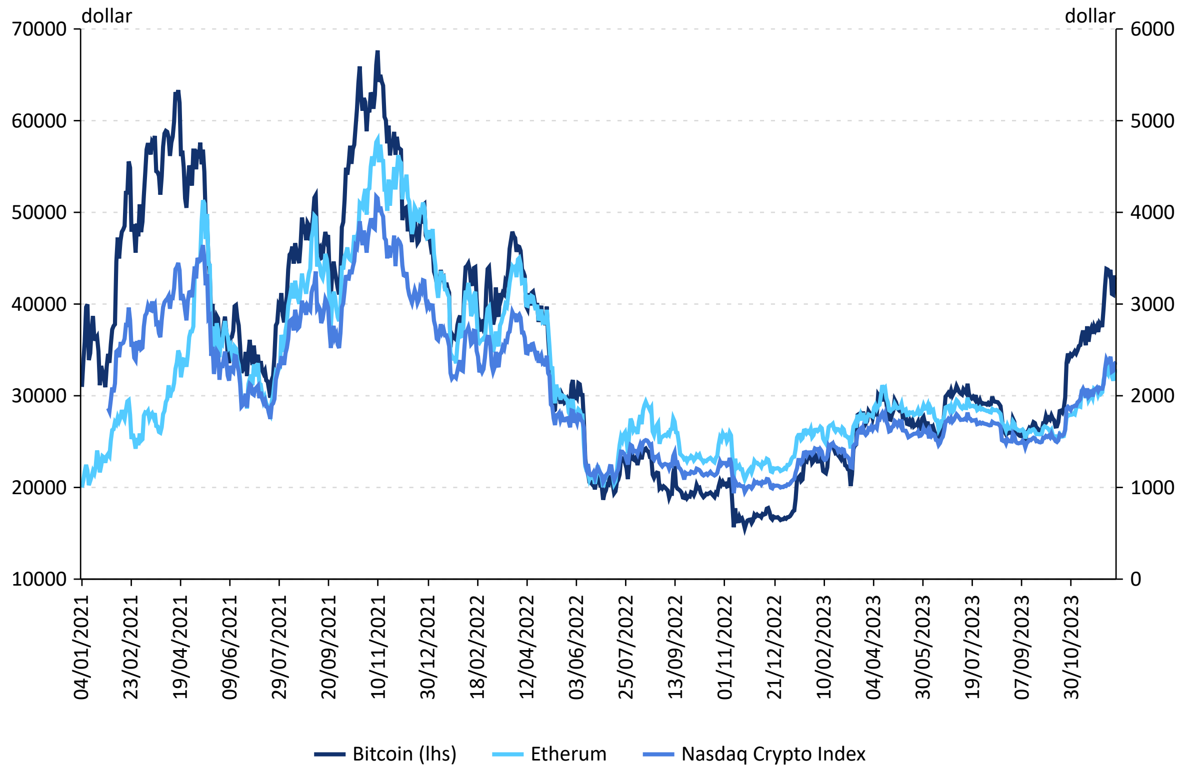
Source: Refinitiv
Note: cumulative change. Positive values indicate USD depreciation.

93. Emerging currencies versus the dollar



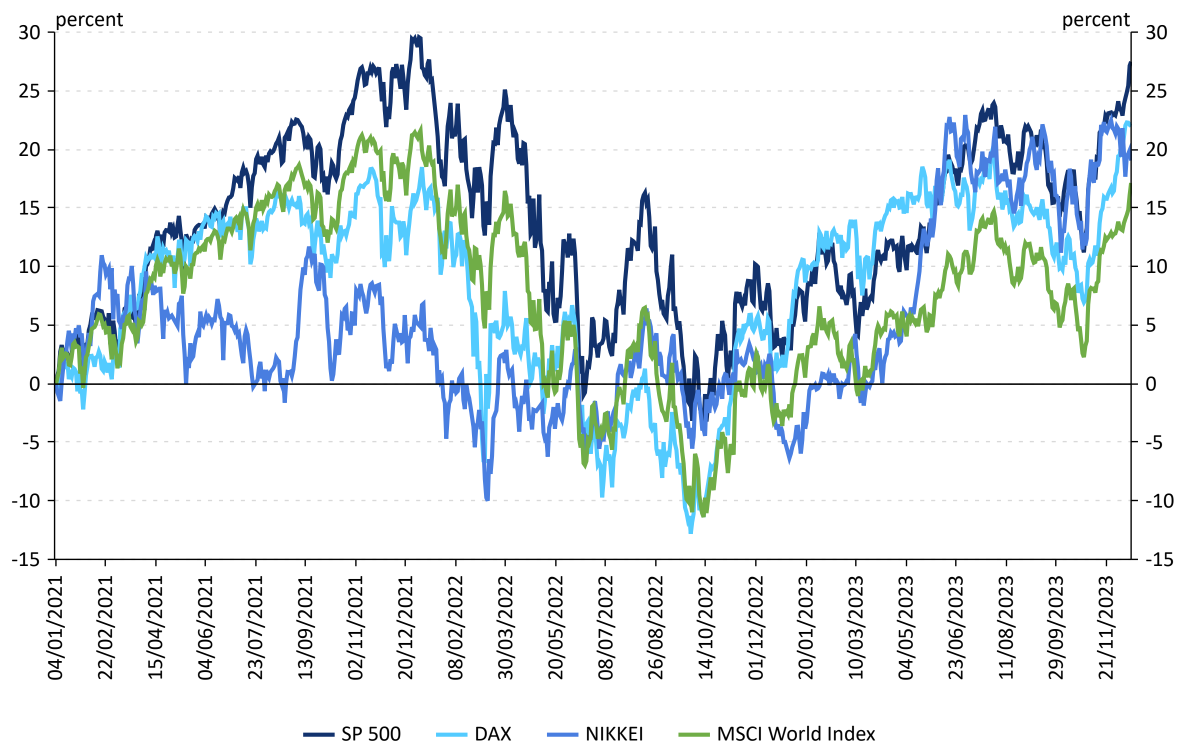
Source: Refinitiv.
Note: positive values indicate the depreciation of the EM currency. Cumulative change from the start of the series. The 15 EM currencies used: HUF, PLN,CZK,RON,TRY,ZAR,BRL,INR,IDR,MXN,COP,CLP,MYR,RUB,UAH

94. Price development of cryptocurrencies



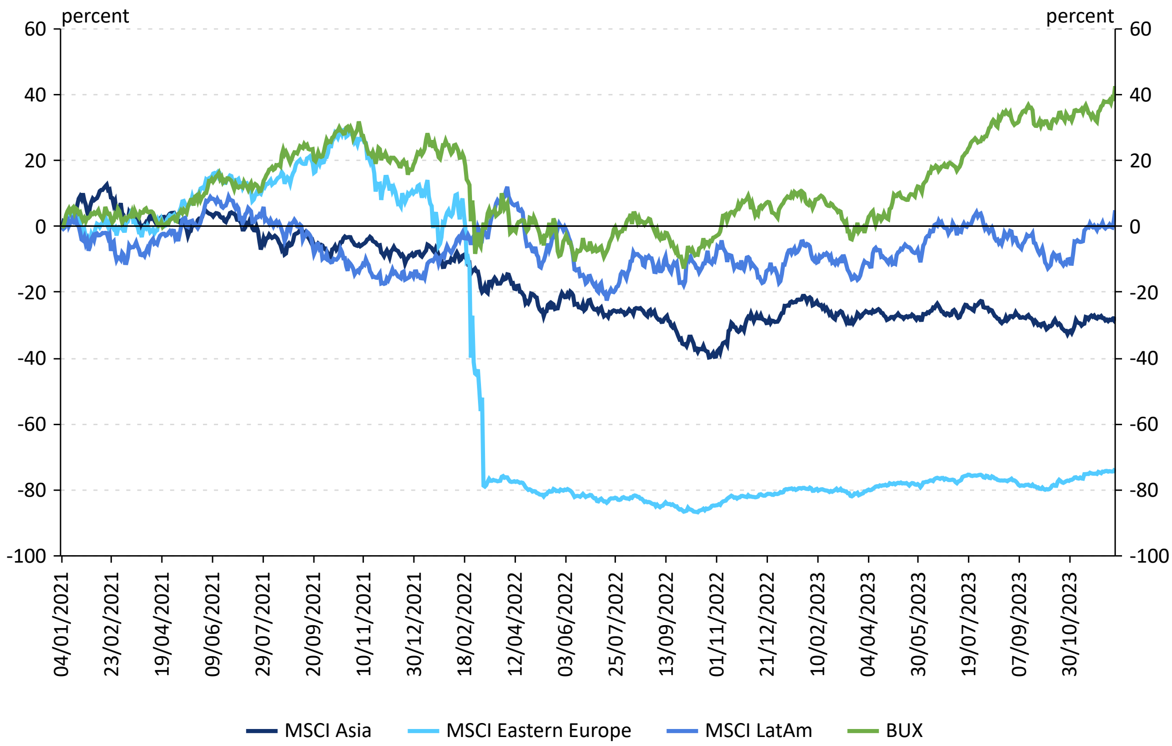
Source: Bloomberg.

95. Developed market stock indices



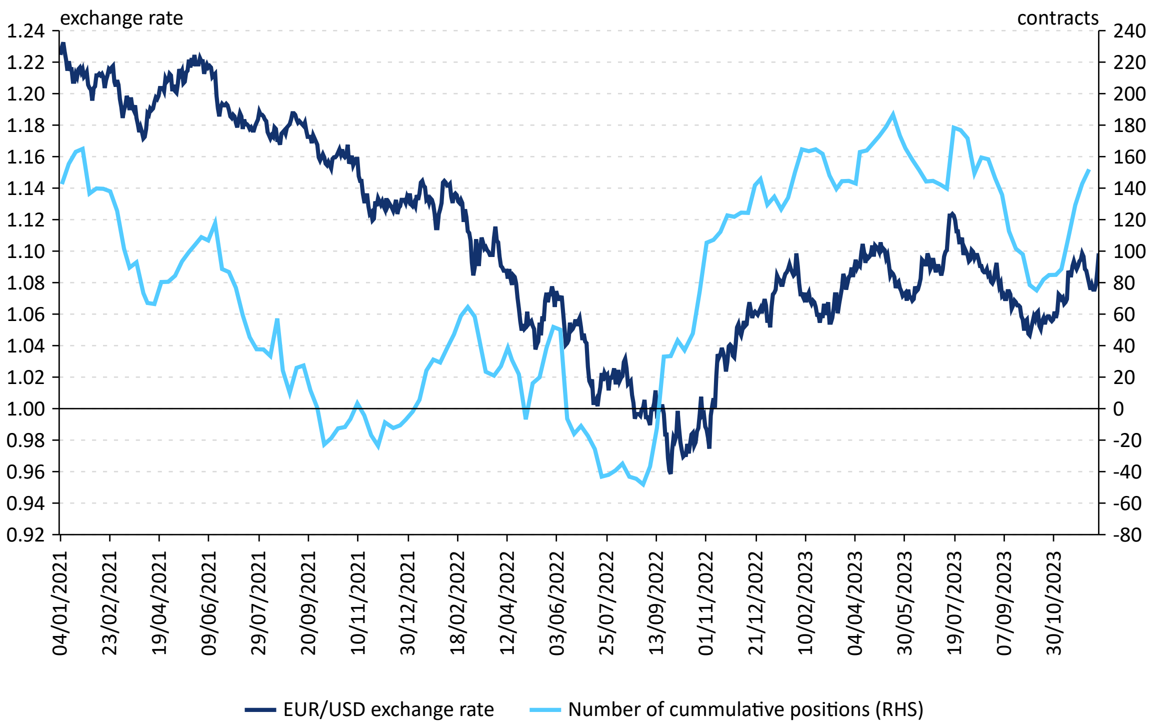
Source: Refinitiv
Notes: cumulative change.

96. Emerging stock exchange markets



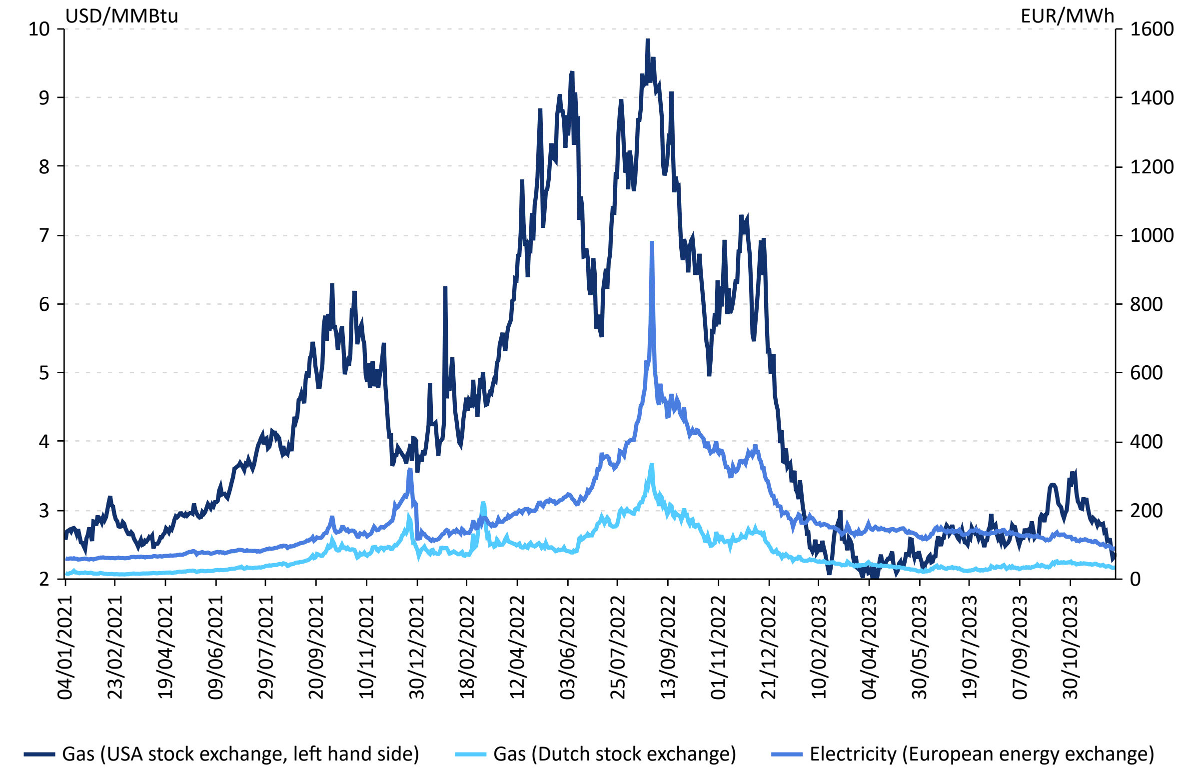
Source: Refinitiv, Bloomberg
Note: cummulative change, MSCI stock indices.

97. EUR/USD exchange rate and speculative positions



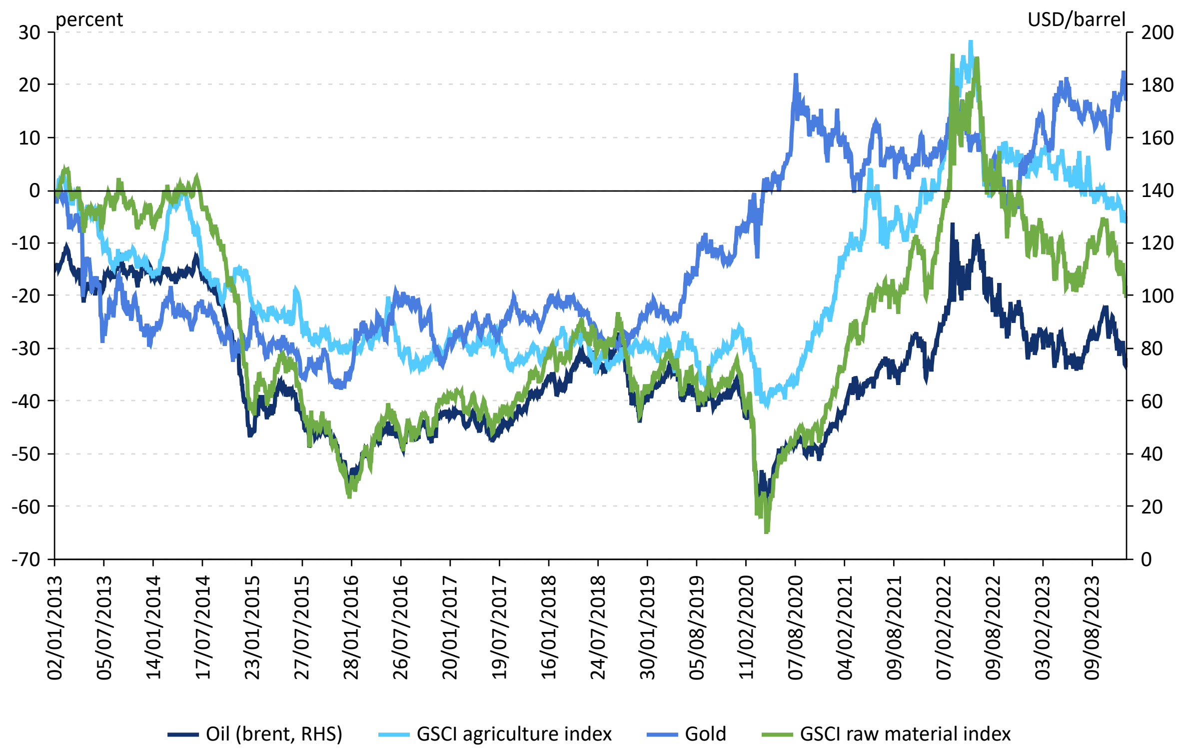
Source: Bloomberg, CTFC.
Notes: Speculative position is defined as a net of long and short transactions. Positive value means the majority of open positions on euro strengthening. Weekly datab by Commodity Futures Trading Commission.

98. Developments on the natural gas and electricity markets



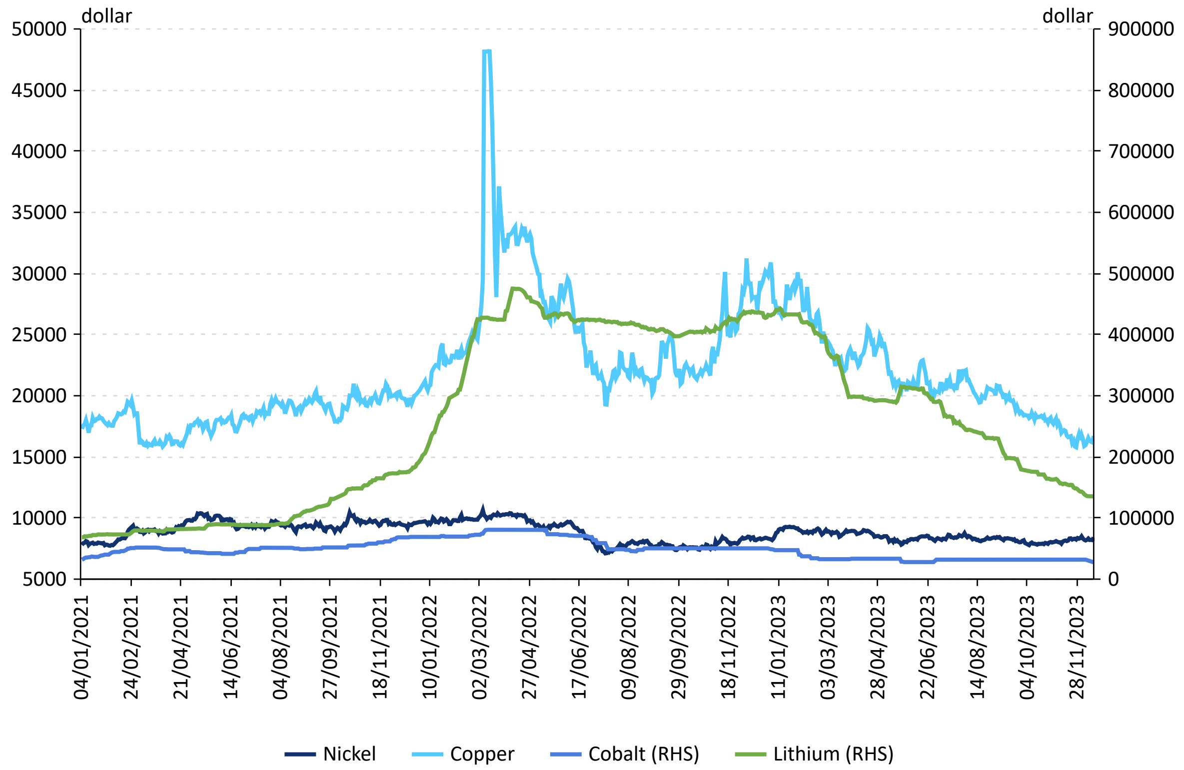
Source: Bloomberg .

99. Price of raw materials



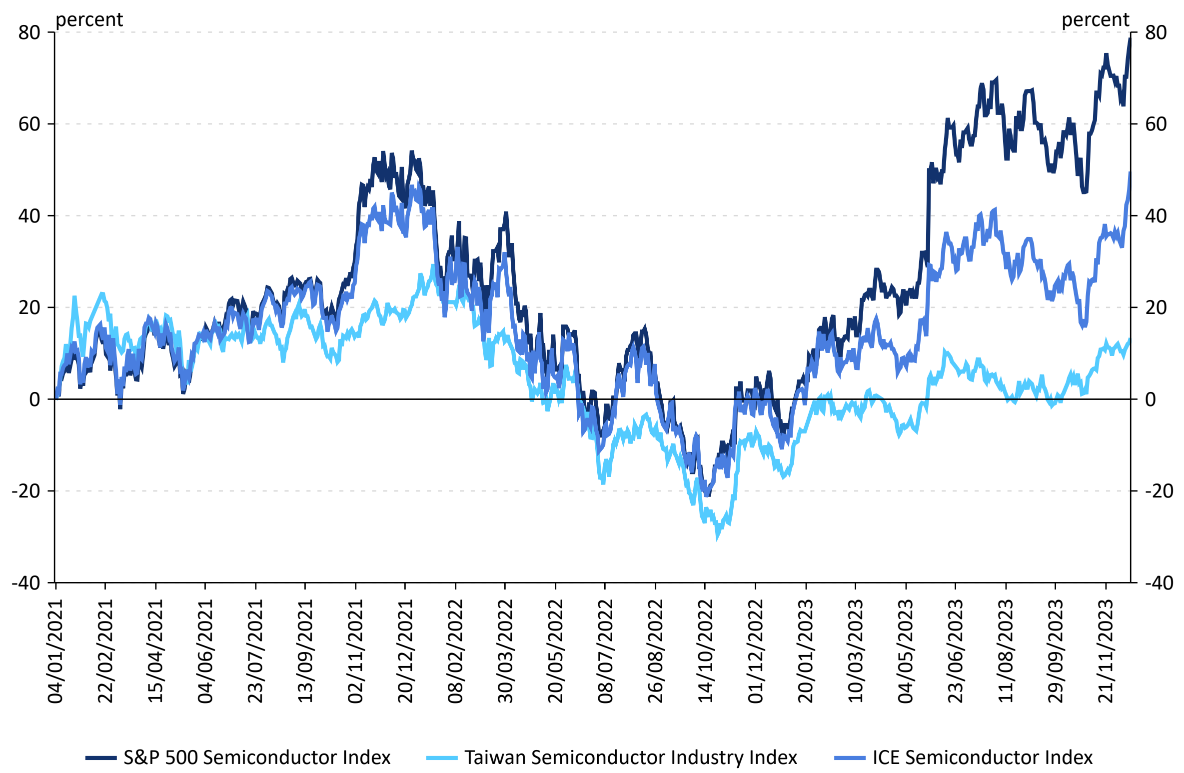
Source: Bloomberg.
Note: cumulative change except the Brent oil where the scale is nominal.

100. Industrial metals



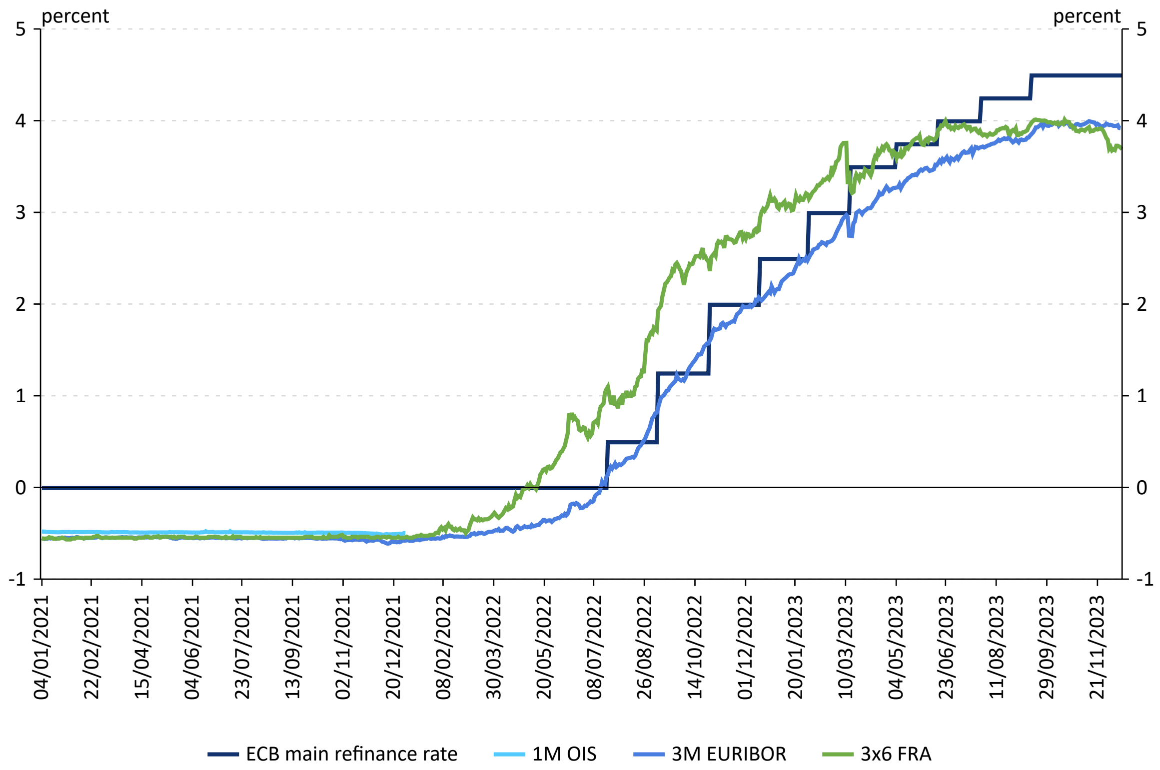
Source: Bloomberg.

101. Developments of the semiconductor makers' stock prices



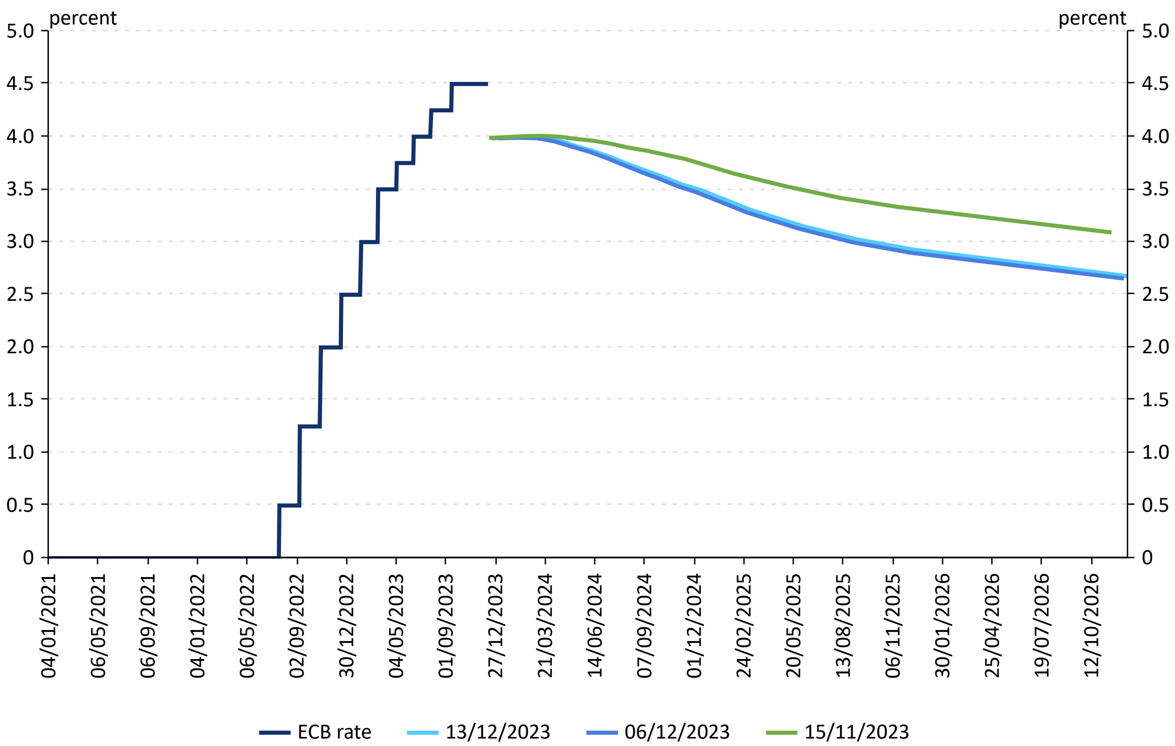
Source: Bloomberg.

102. Short term interbank rates in the eurozone



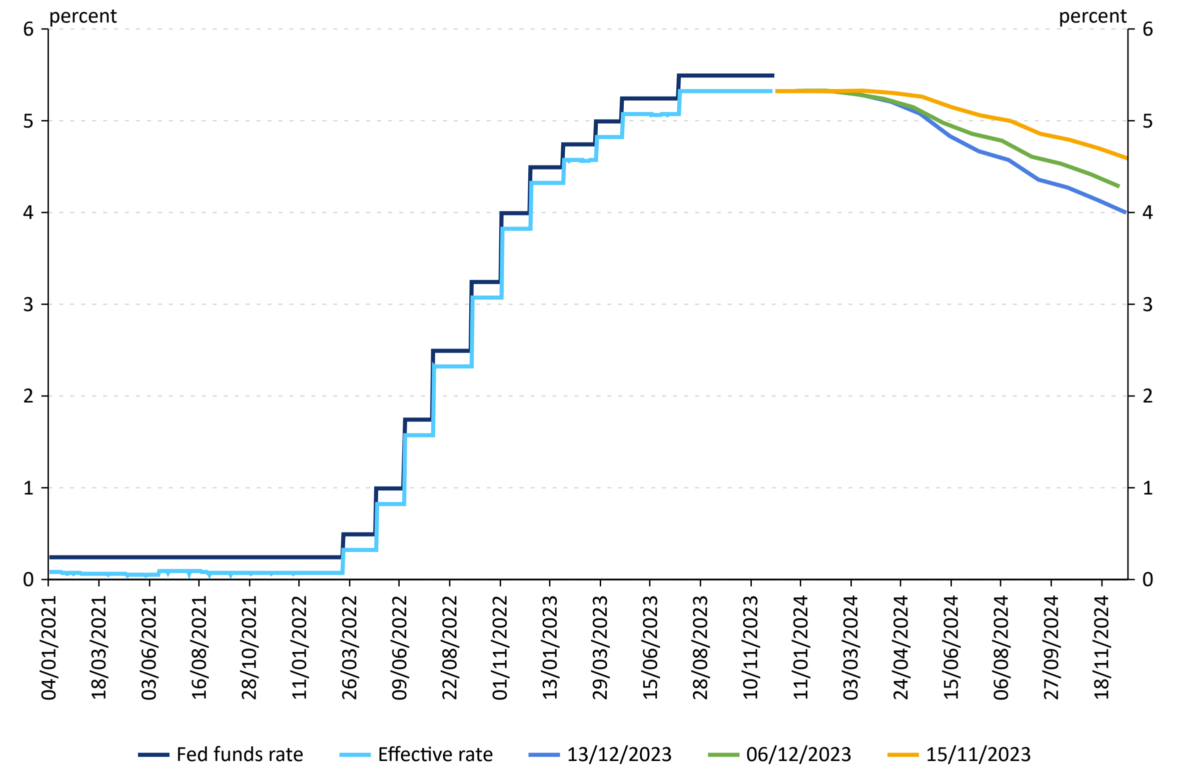
Source: Refinitiv.

103. Forecasts on ECB policy rate



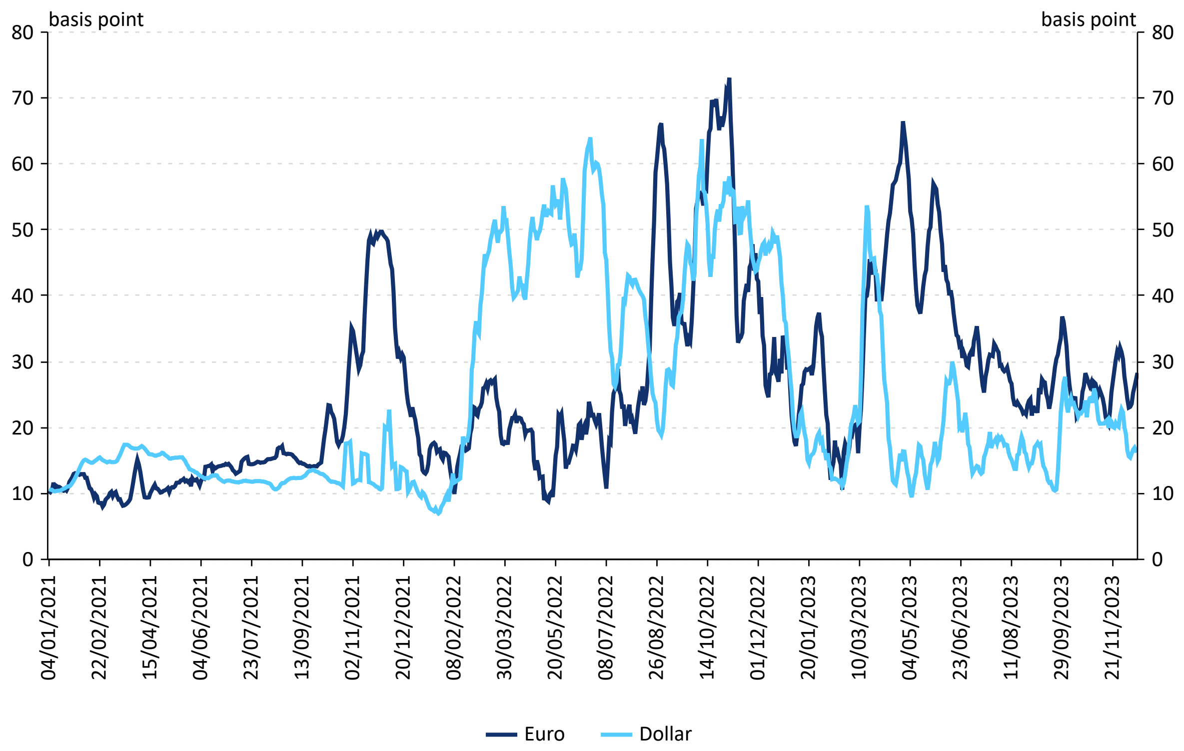
Source: ECB.
Note: Calculated 3-months forward yield curve based on German goverment bonds. ECB MRO rate.

104. Forecasts on Fed policy rate



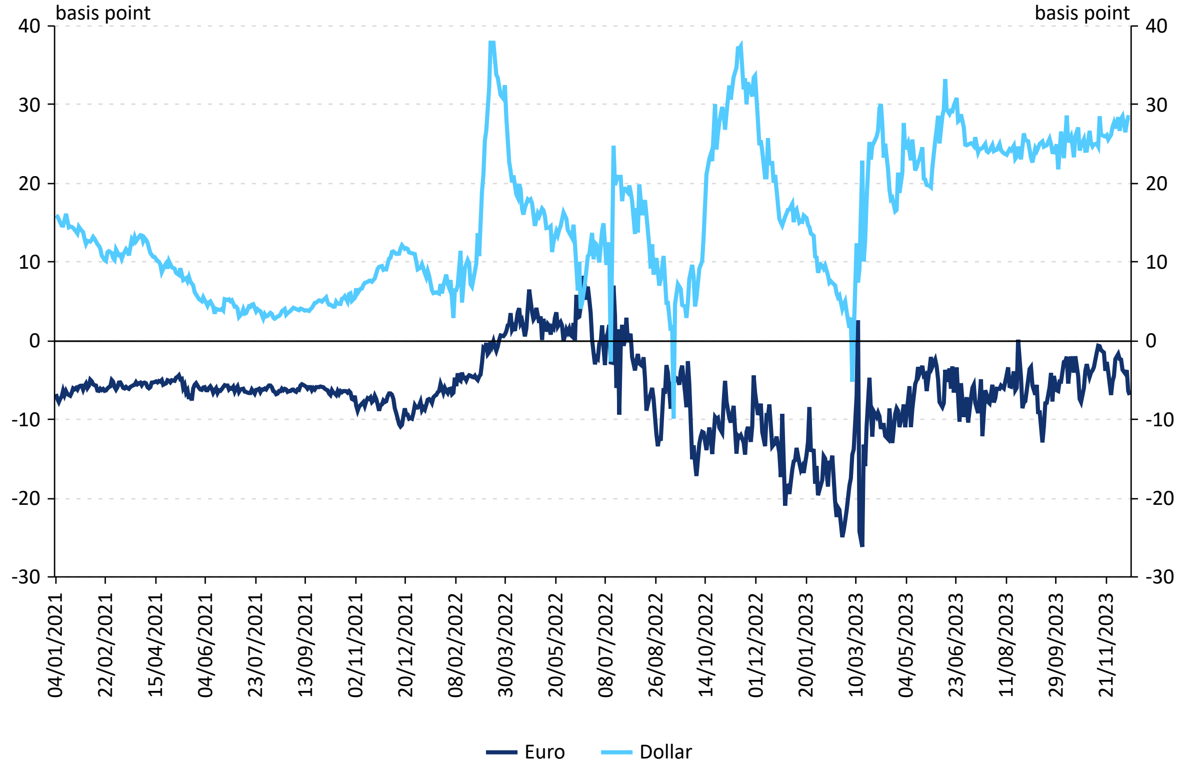
Source: Bloomberg.

105. 3M interbank and government bond yield spread



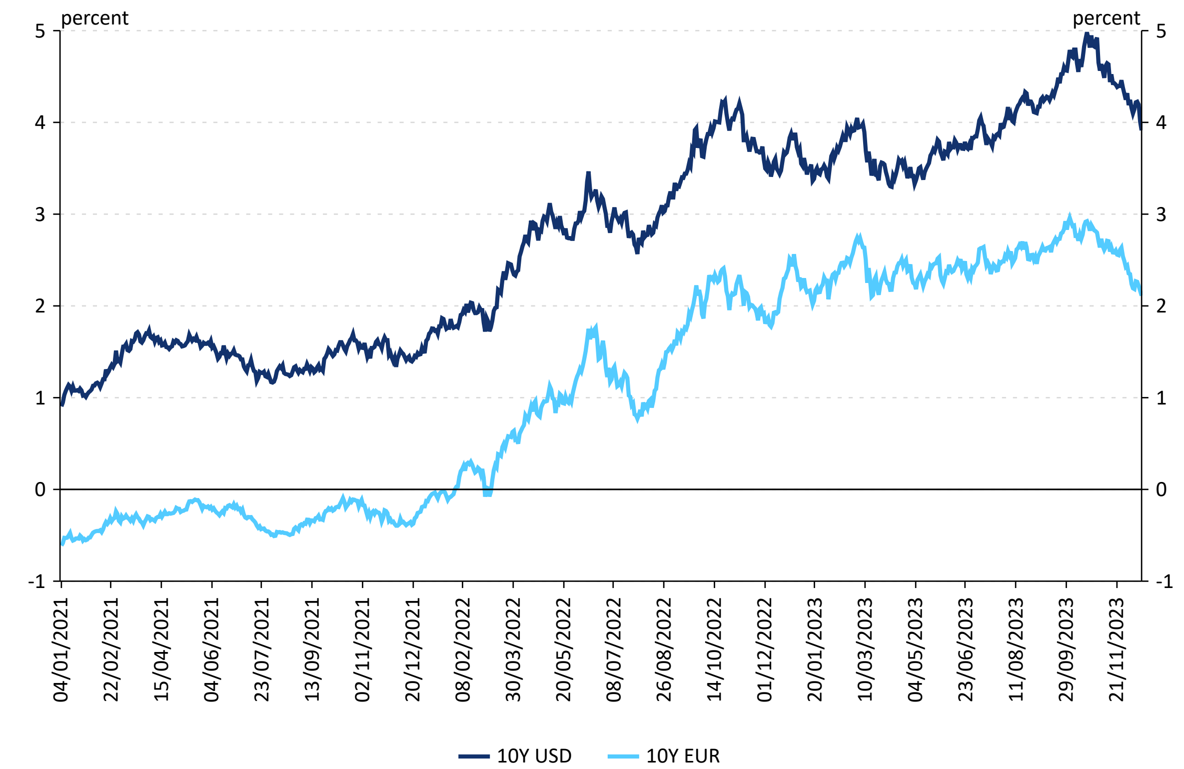
Source: Refinitiv.
Notes: Spread between 3-month interbank rates and 3-month T-bill yield.

106. 3M interbank and OIS yield spread



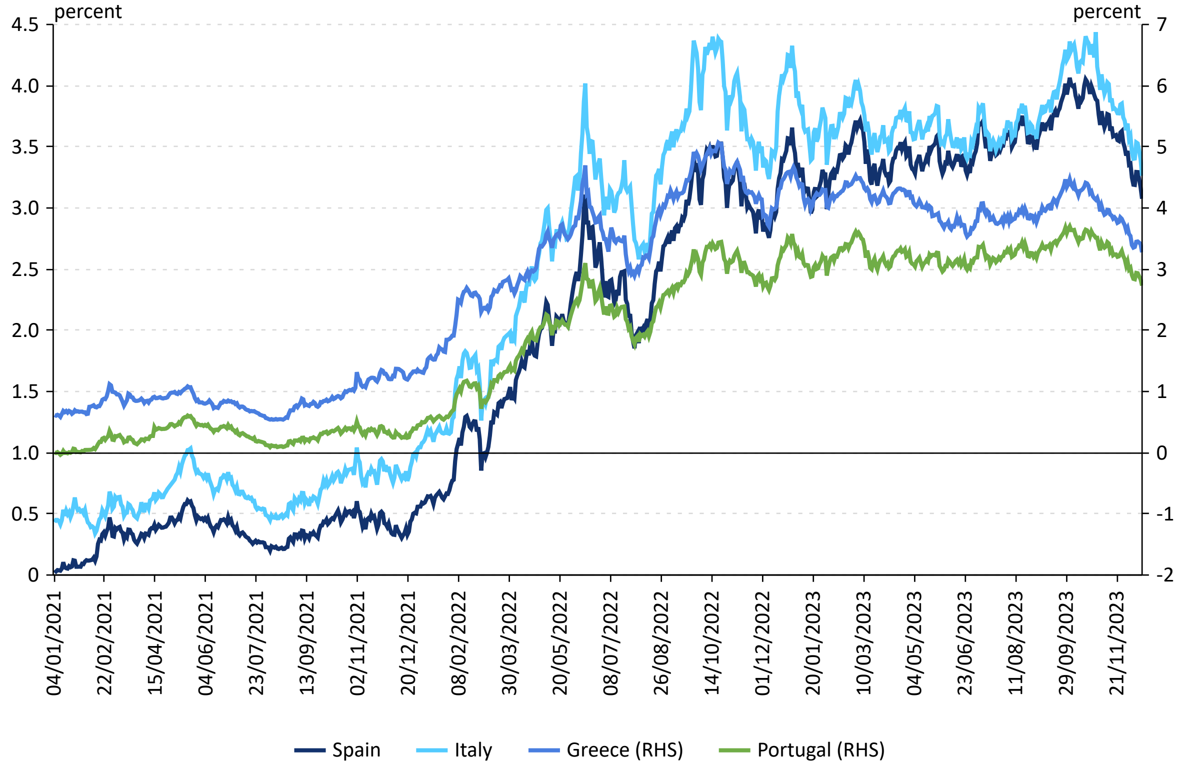
Source: Refinitiv.

107. Long term euro and dollar benchmark yields



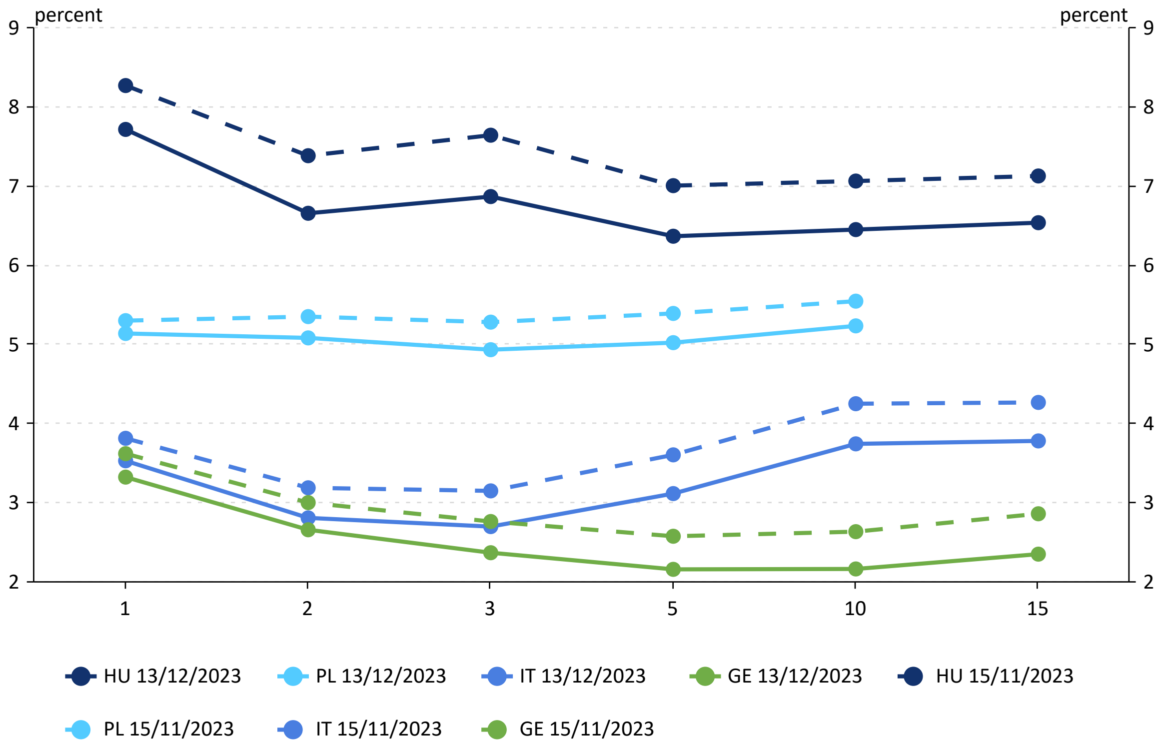
Source: Refinitiv.

108. Long term government bond yields in the Eurozone periphery



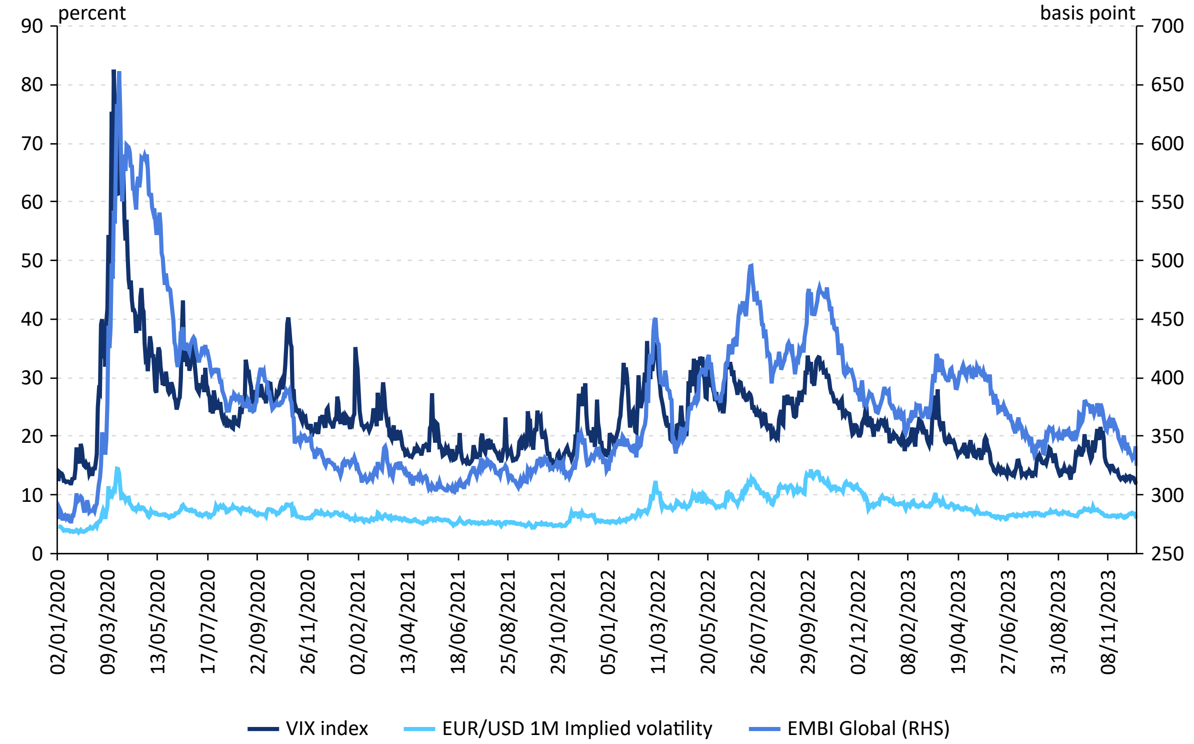
Source: Bloomberg.

109. Benchmark yield curves of Hungary, Poland, Italy and Germany



Source: Bloomberg
Note: X axis is displayed in years.

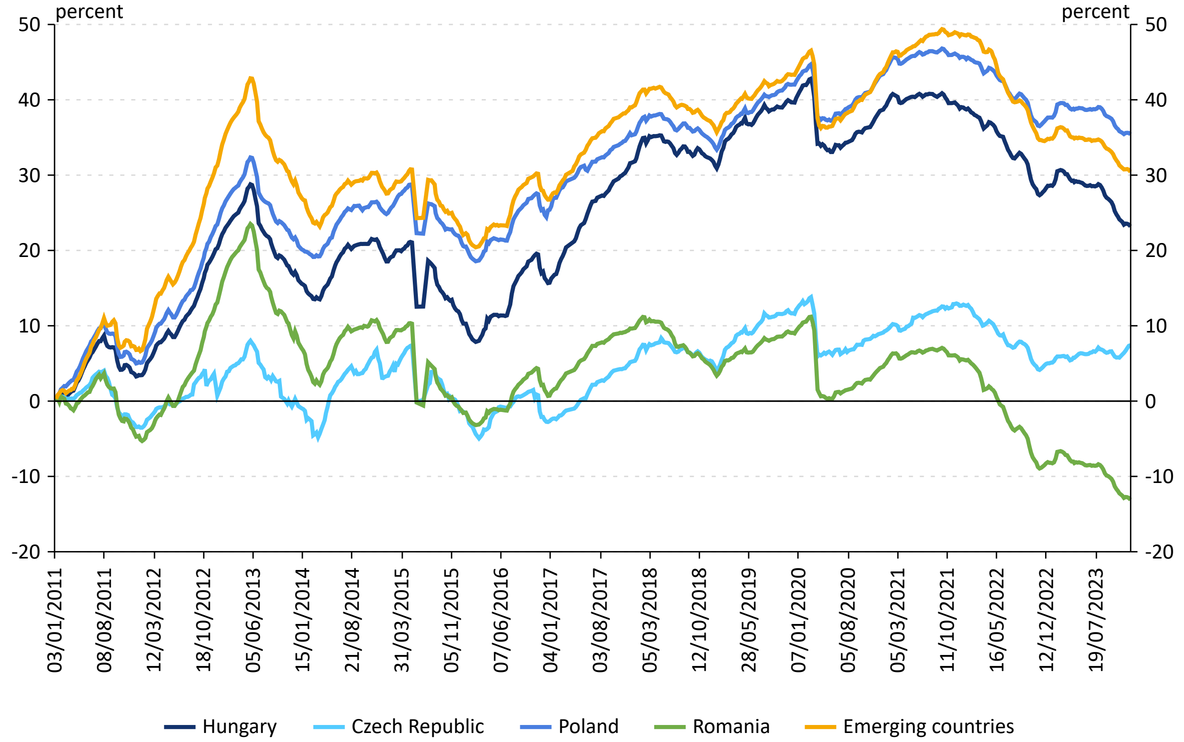
110. Main risk indicators



Source: Bloomberg

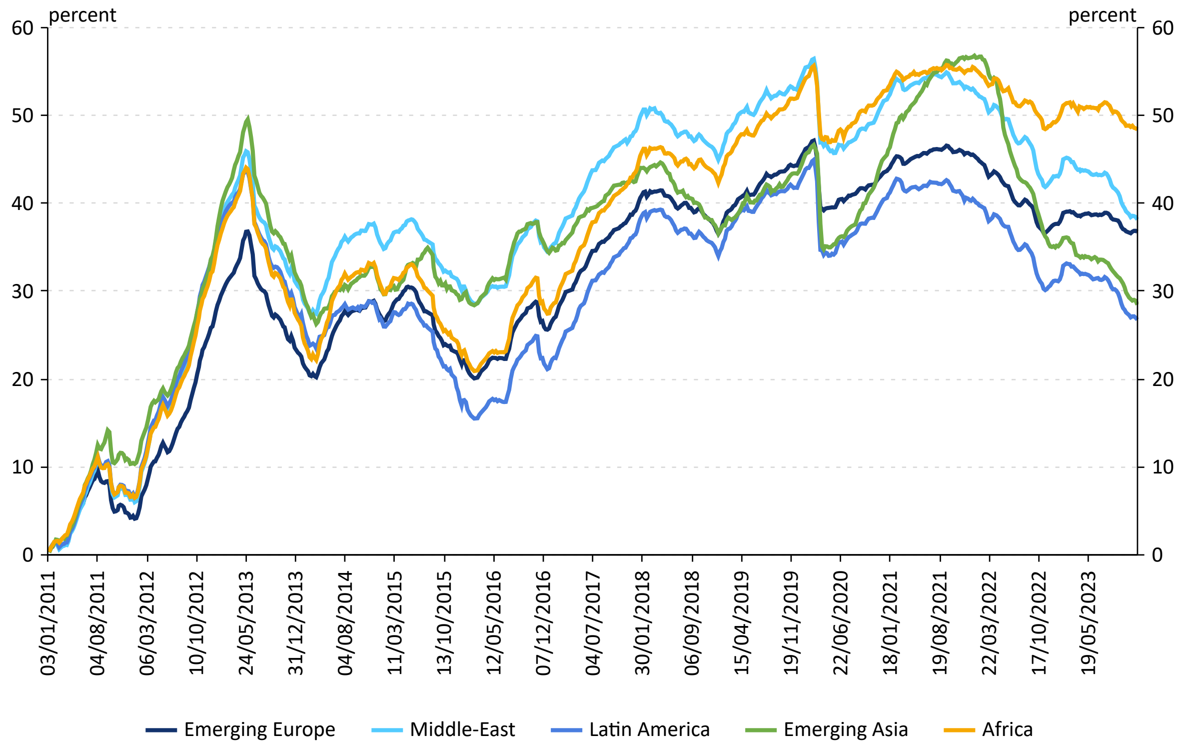
Note: An upward move indicates declining risk appetite or increasing risk aversion. VIX is the implied volatility of SP500 index.

111. Emerging bond-market flows



Source:EPFR
Note: Percentage change of asset under management by EPFR

112. Global bond-market flows



Source:EPFR
Note: Percentage change of asset under management by EPFR