



DIRECTORATE MONETARY POLICY AND FINANCIAL MARKET ANALYSIS

FINANCIAL MARKET ANALYSIS DEPARTMENT

CHART-PACK ON RECENT ECONOMIC AND FINANCIAL MARKET DEVELOPMENTS

2021

AUGUST



Chart-pack on recent economic and financial market developments *

23 August 2021

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.

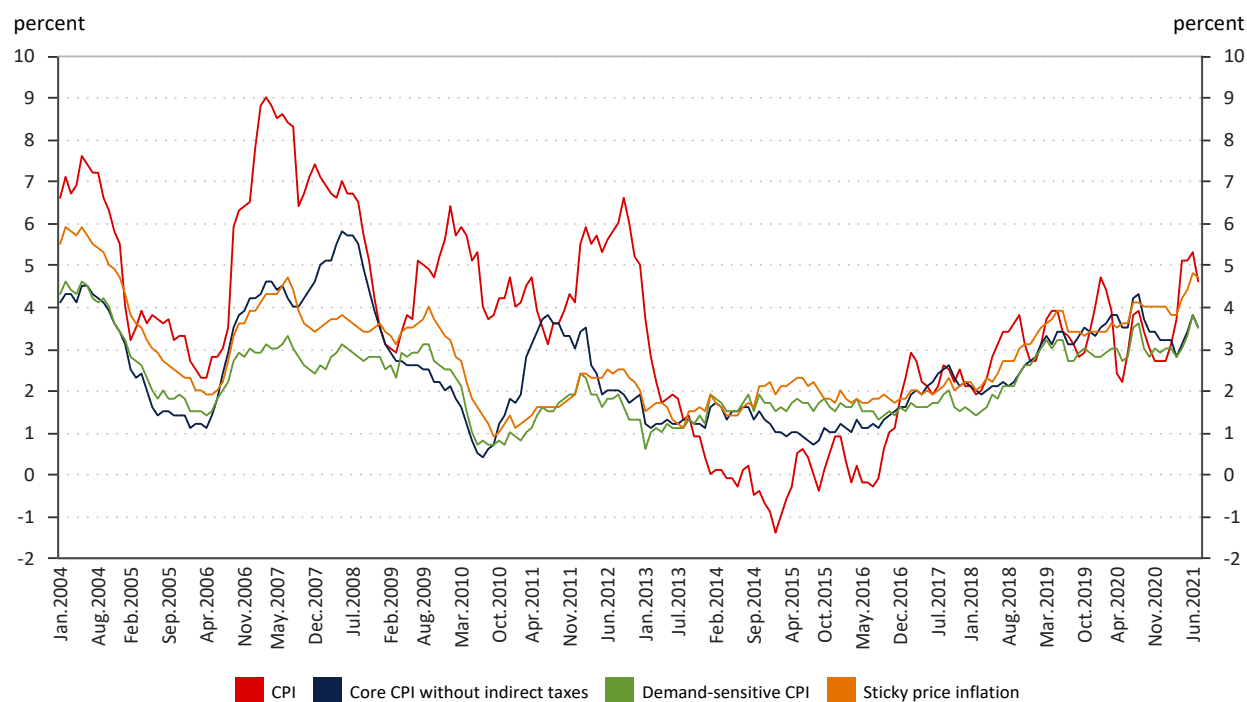
Earlier versions of the chart-pack are accessible on the website of Magyar Nemzeti Bank via the following address.

<http://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.

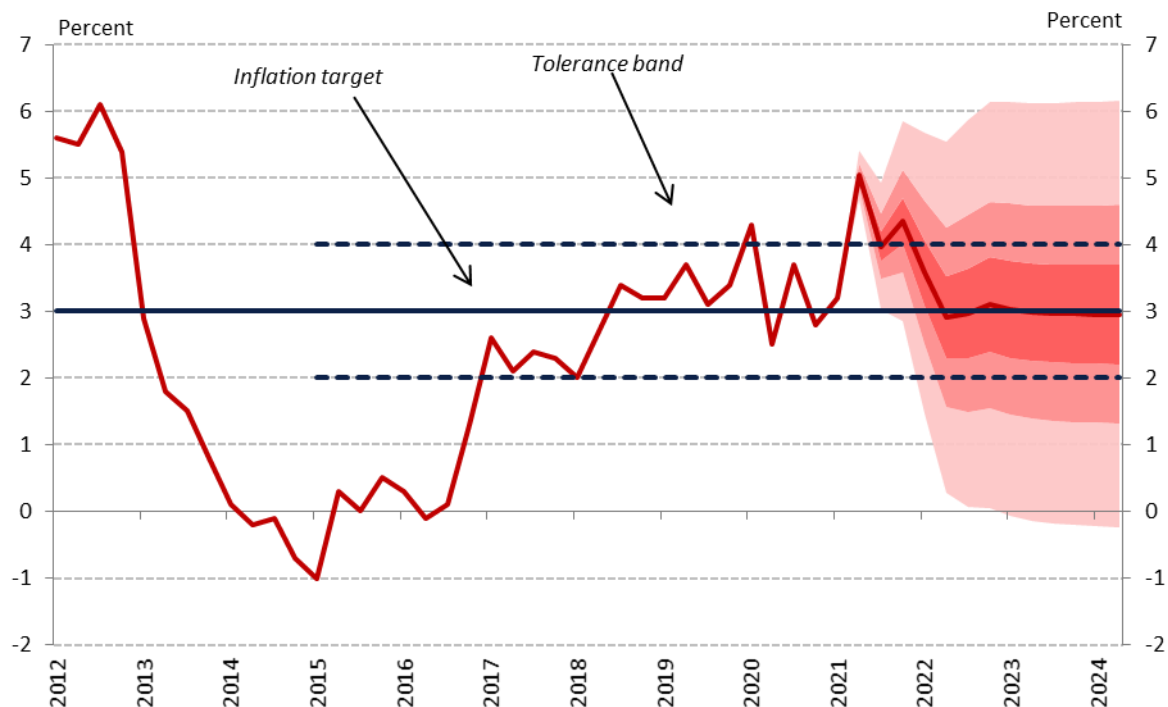
1. Development of inflation and underlying inflation indicators



Source: HSCO, MNB

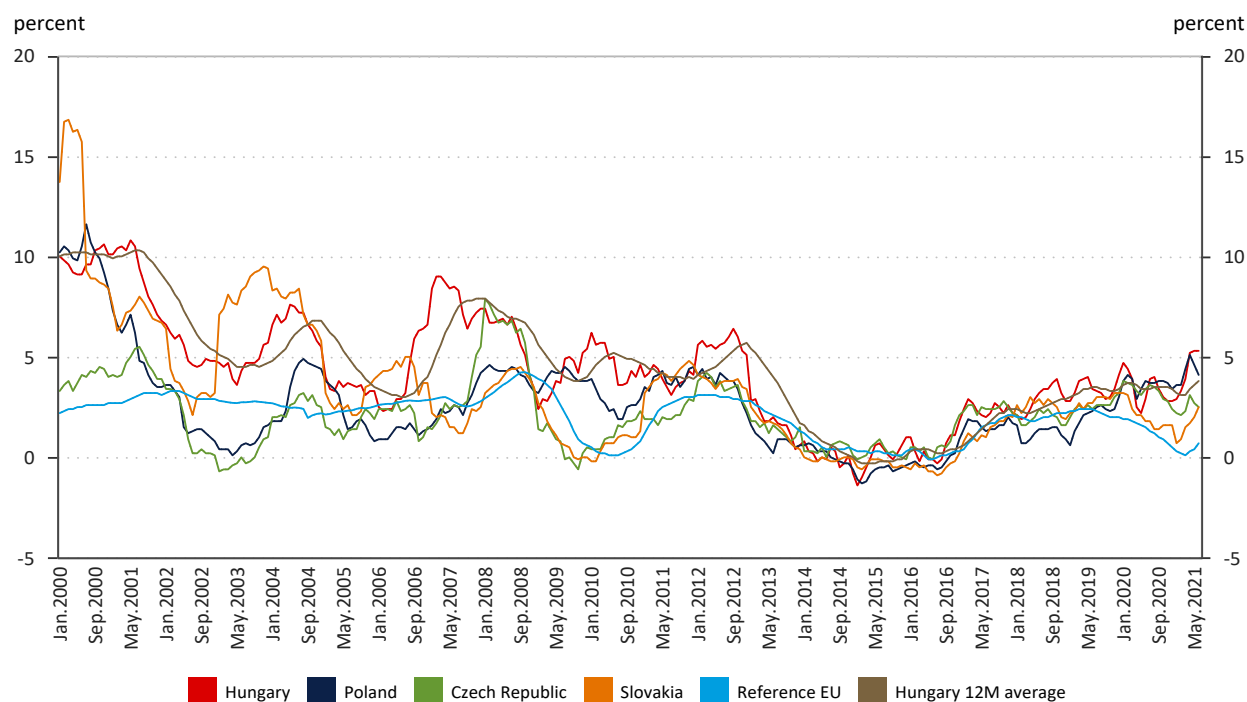
Note: Seasonally adjusted year-on-year growth rates.

2. Fan chart of the CPI forecast



Source: MNB, HCSO. Note: Based on seasonally unadjusted data.

3. Harmonised index of consumer prices



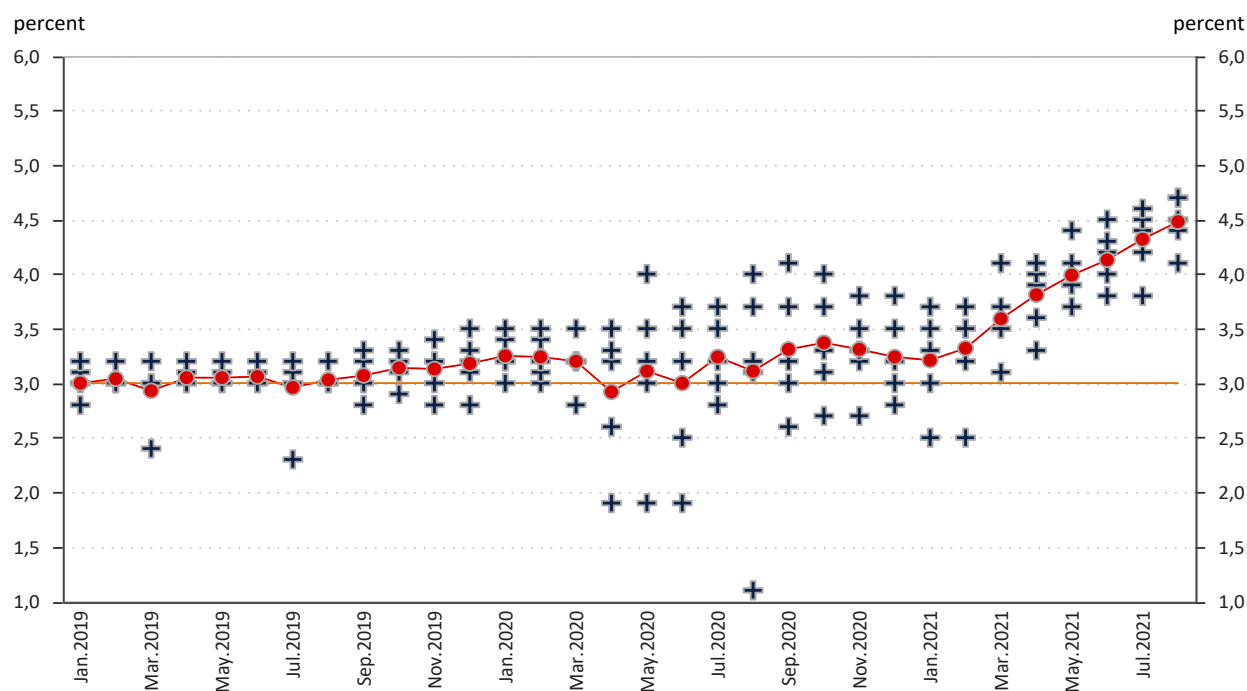
4. Decomposition of the Consumer Price Index

	Weight 2021	Apr 2021	May 2021	Jun 2021	Jul 2021
Consumer Price Index	100.0	5.1	5.1	5.3	4.6
Thereof:					
- Unprocessed food	6.4	-0.6	-1.0	0.5	1.4
- Processed food	13.8	3.1	3.5	3.9	3.5
- Manufactured goods	27.0	3.0	3.4	3.6	3.0
- Market services	22.4	3.1	3.3	4.1	4.1
- Non-regulated household energy	0.8	2.5	2.6	2.8	3.0
- Alcohol, tobacco	9.8	12.2	12.2	12.2	11.1
- Gasoline prices	6.0	39.2	36.2	24.2	19.7
- Regulated prices	13.7	-0.2	0.0	2.1	0.7
Core Consumer Price Index	63.2	3.1	3.4	3.8	3.5
CPI without tax changes	100.0	4.4	4.5	4.6	4.1

Source HCSO, MNB decomposition

Notes: annual growth rates (%). Seasonally not adjusted data.

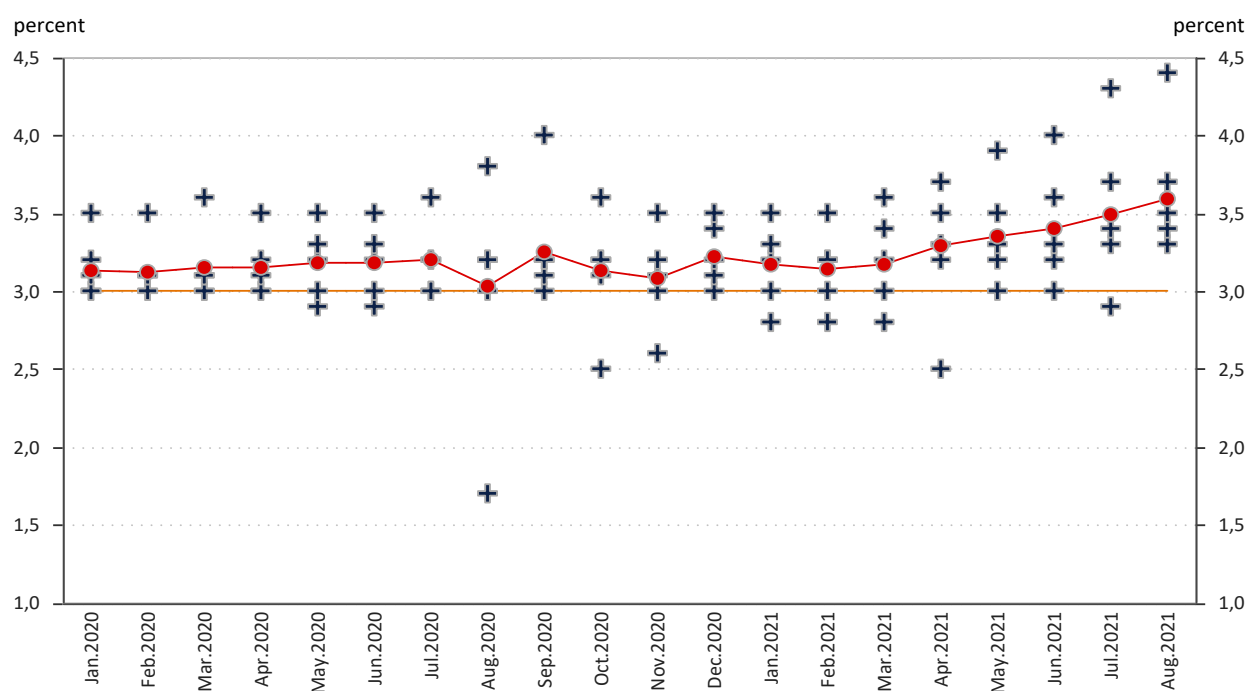
5. Market expectations for the inflation rate in current year



Source: Refinitiv

Note: crosses mark the quartiles of the analyst forecasts and the minimum and maximum values, the red continuous line represents the mean calculated by values, the brown line shows the inflation target of MNB.

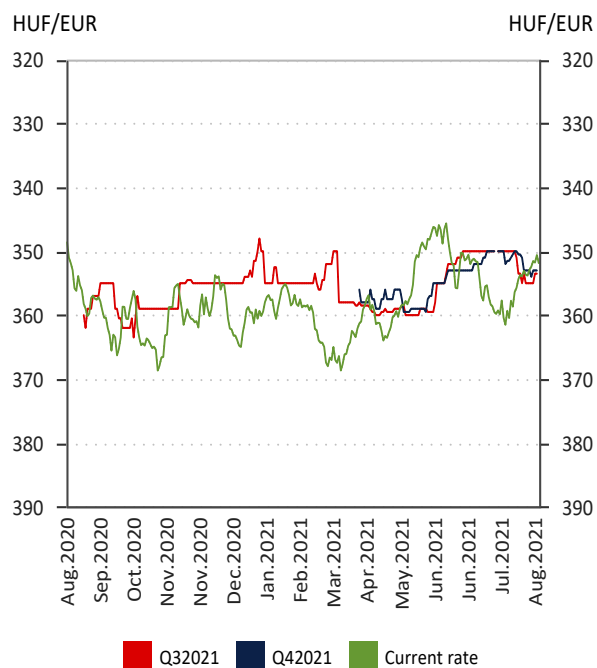
6. Market expectations for the inflation rate next year



Source: Refinitiv

Note: crosses mark the quartiles of the analyst forecasts and the minimum and maximum values, the red continuous line represents the mean calculated by values, the brown line shows the inflation target of MNB.

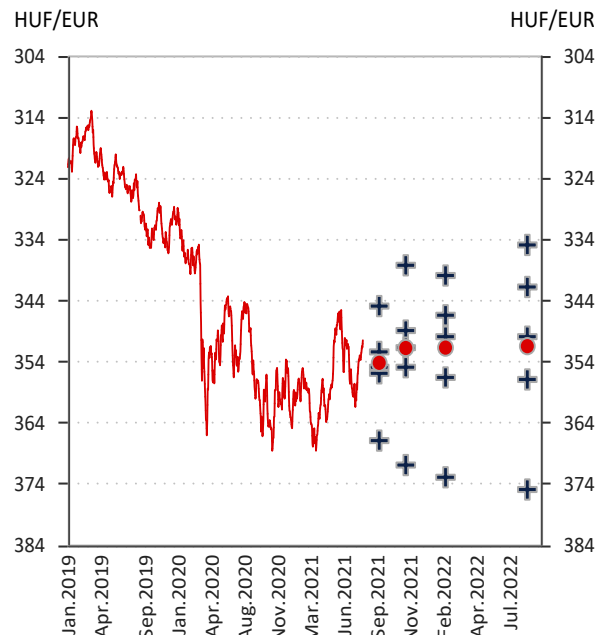
7. Expectations for HUF/EUR exchange rate (Bloomberg collection)



Source: Bloomberg

Note: Bloomberg collection; based on new FX forecasts. 2-weeks moving average, reverse scale.

8. Expectations for HUF/EUR exchange rate



Source: Refinitiv, MNB.

Note: reverse scale, the crosses mark the quartiles of the analyst forecasts and the minimum and maximum values, the red continuous line represents the mean calculated by values.

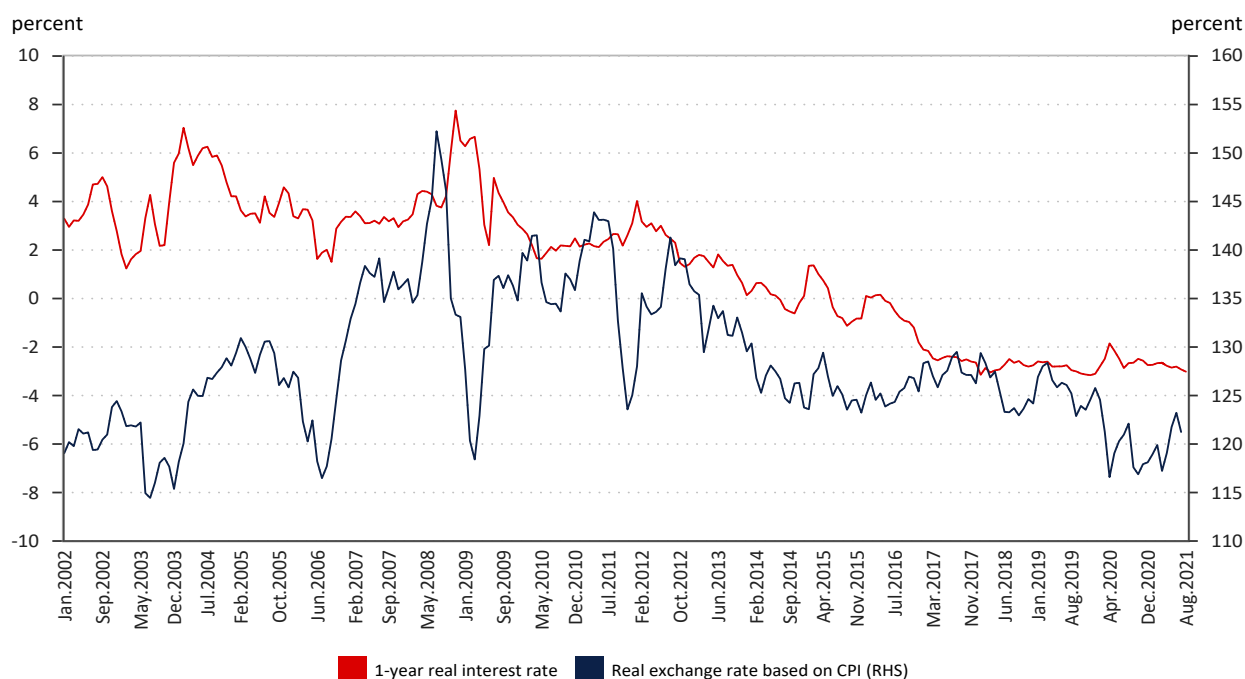
9. Spot and futures Brent crude oil price



Source: Bloomberg, MNB.

Futures are based on the latest available futures prices. Technical assumption underlying is used in our inflation forecast published in the most recent Inflation Report

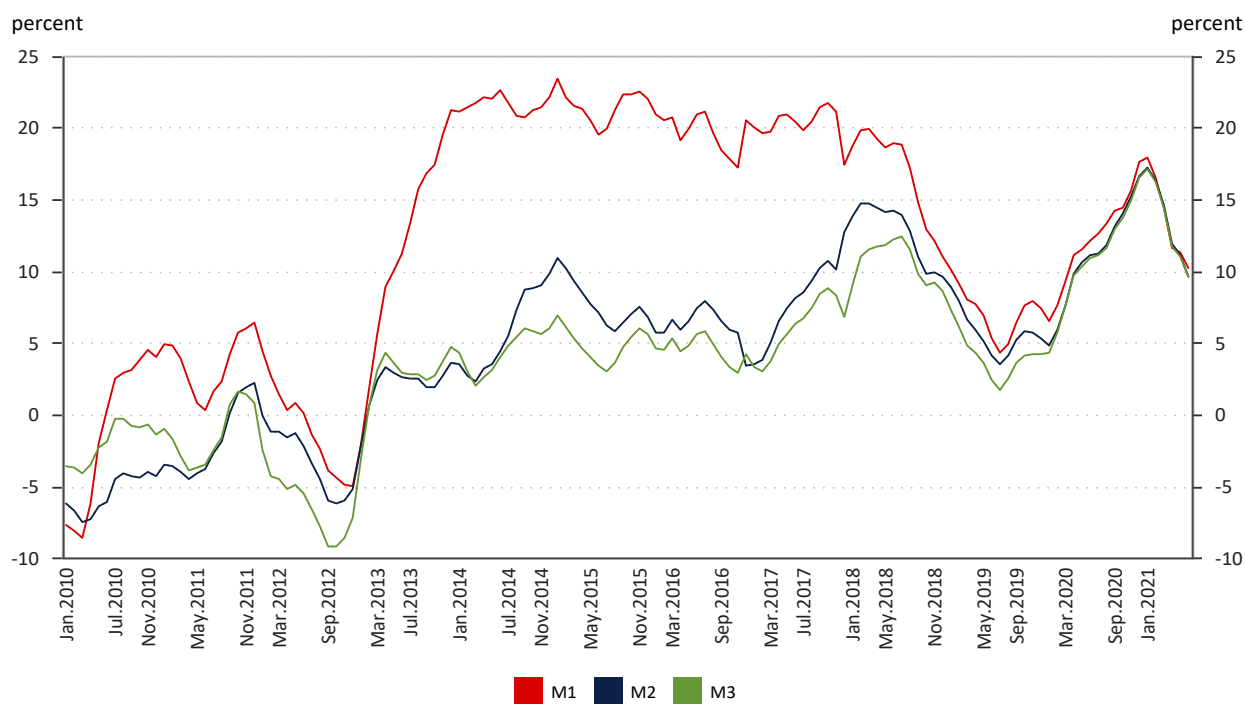
10. Monetary conditions



Source: Refinitiv, HCSO, Eurostat, ÁKK, MNB

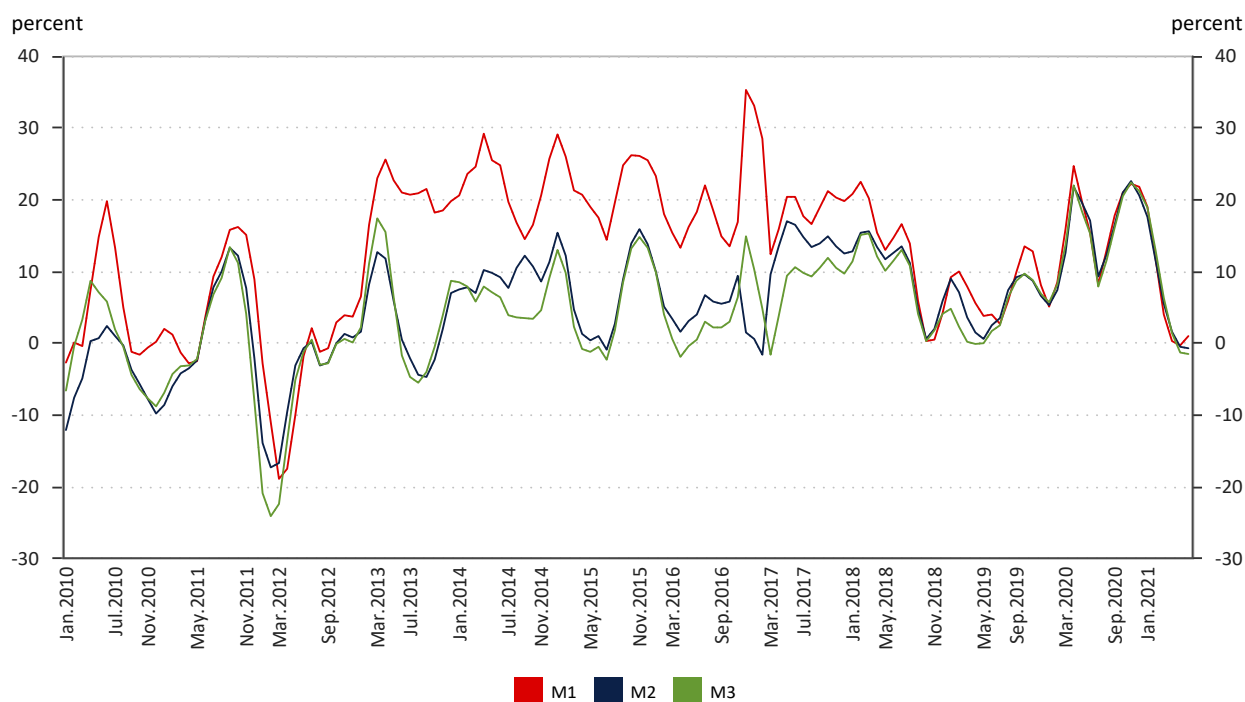
Note: Real interest rate is calculated from 1-year zero coupon yield and analysts corresponding 1-year forward inflation expectations derived from the Reuters-poll by the MNB. Real exchange rate is calculated from the change of the forint relative to euro, adjusted by the corresponding Hungarian CPI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

11. Real growth rate of monetary aggregates (year-on-year basis)



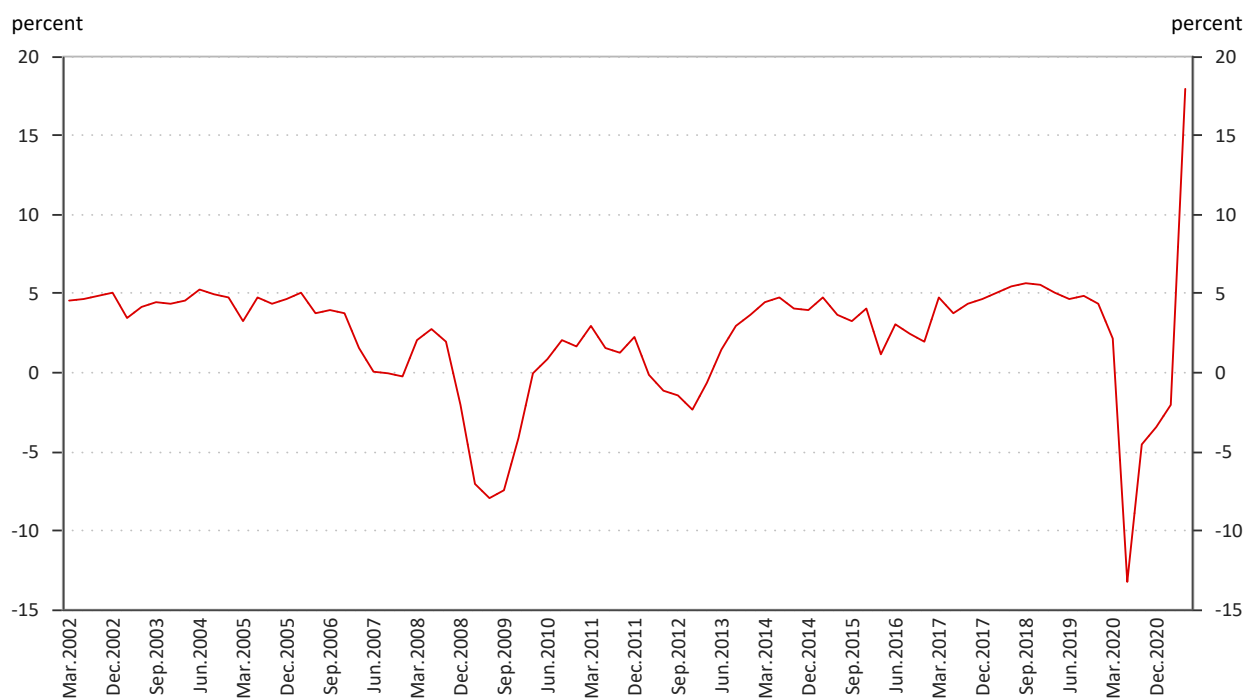
Source: MNB.

12. Real growth rate of monetary aggregates (annualized from quarterly rates)



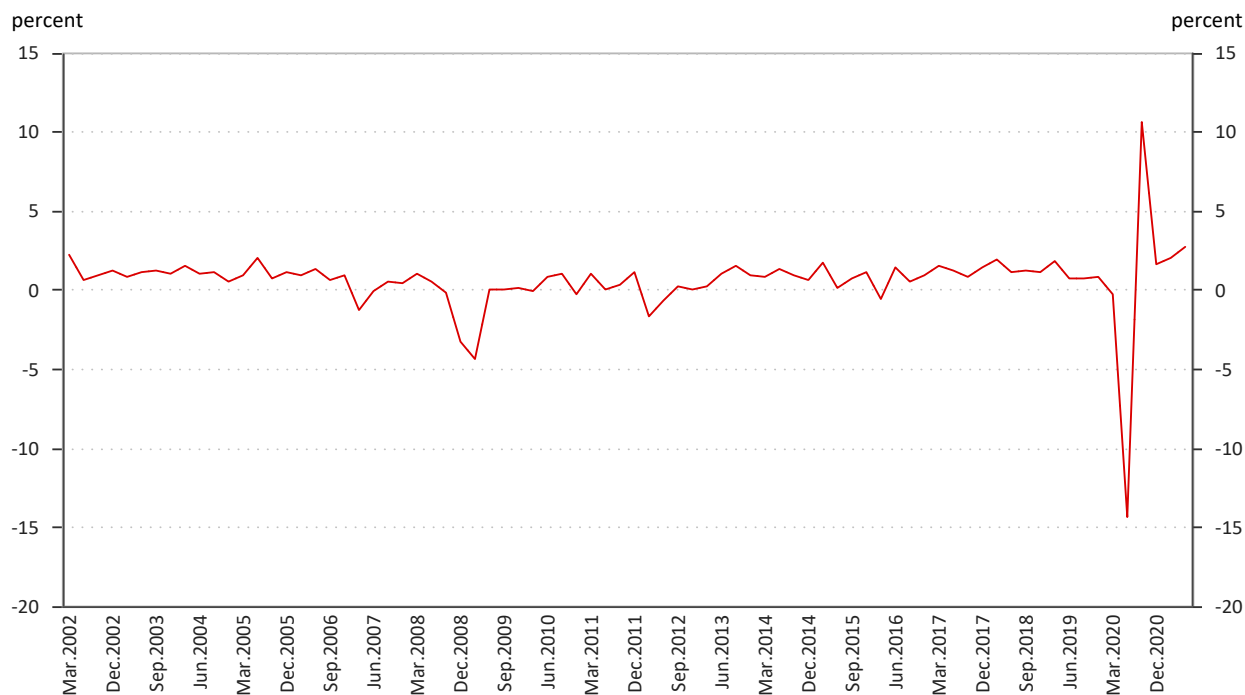
Source: MNB.

13. Change in annual GDP



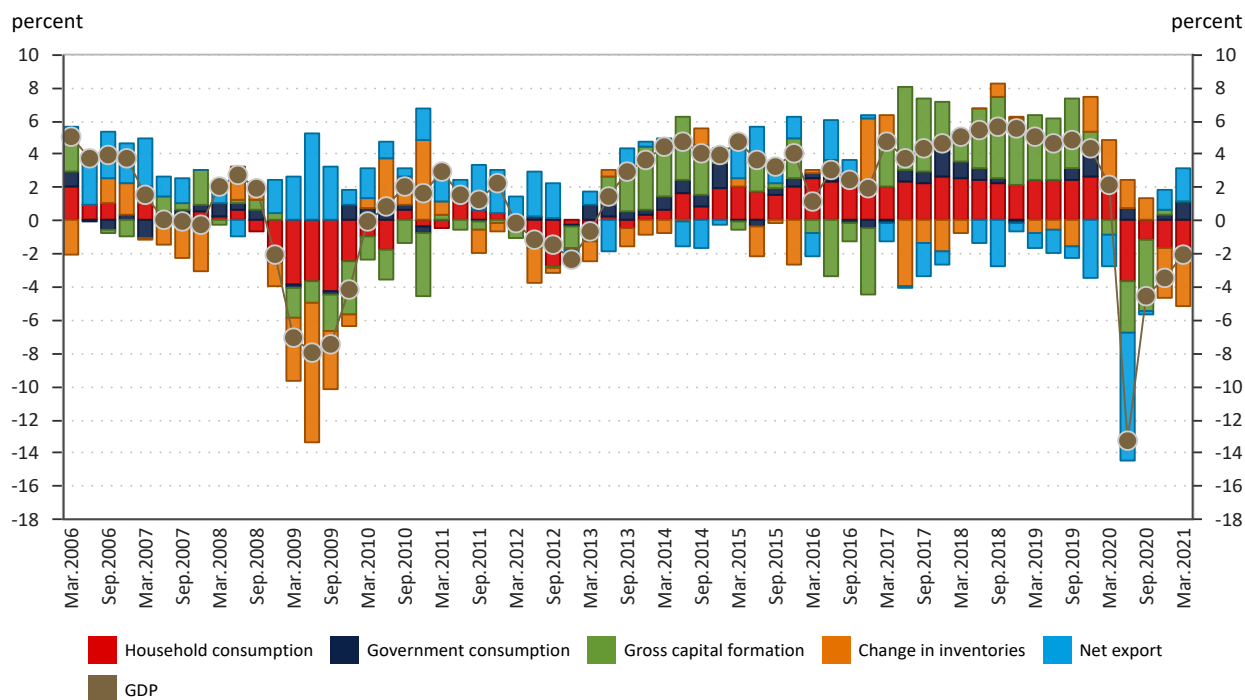
Source: HSCO

14. Quarterly GDP change



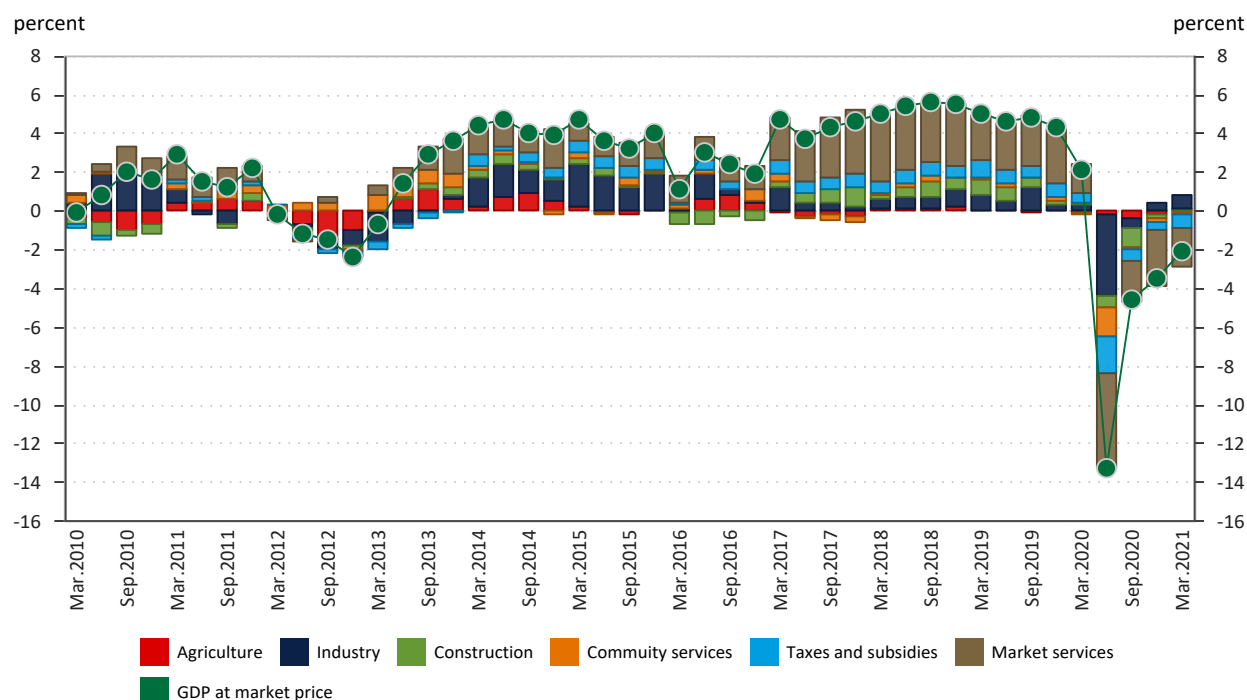
Source: MNB, HSCO.

15. Contribution to annual GDP growth



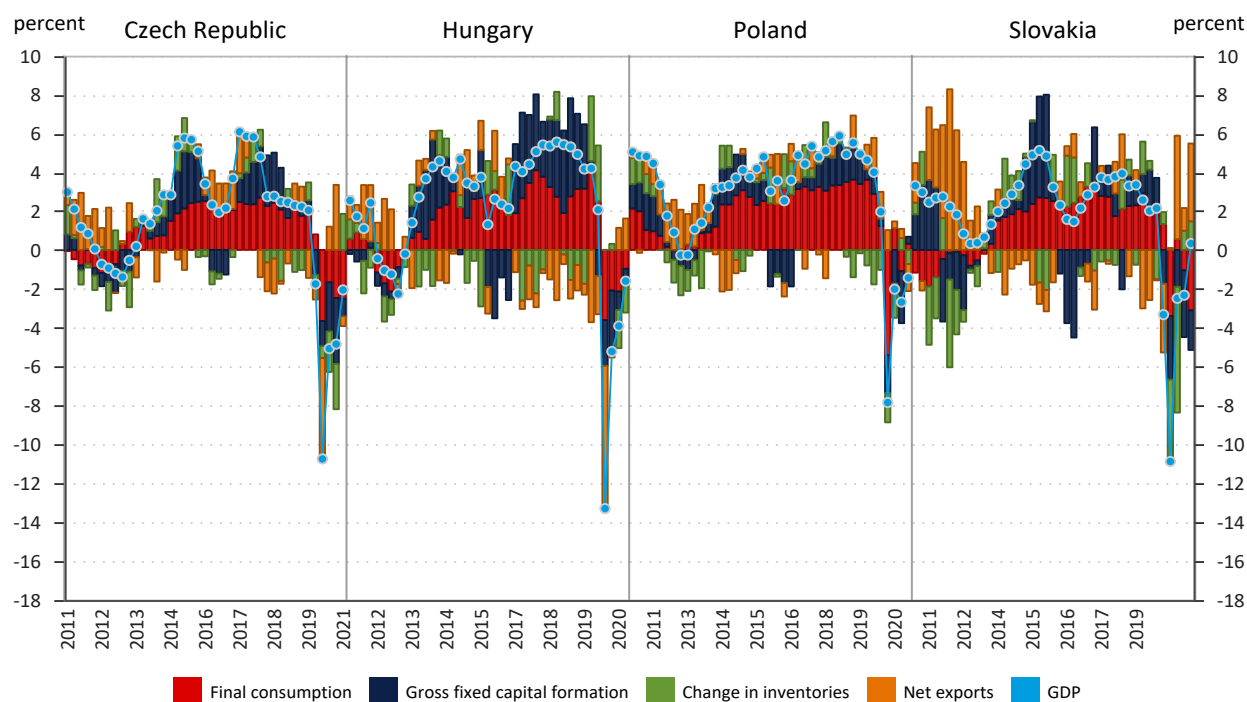
Source: MNB, HSCO.

16. Decomposition of GDP growth



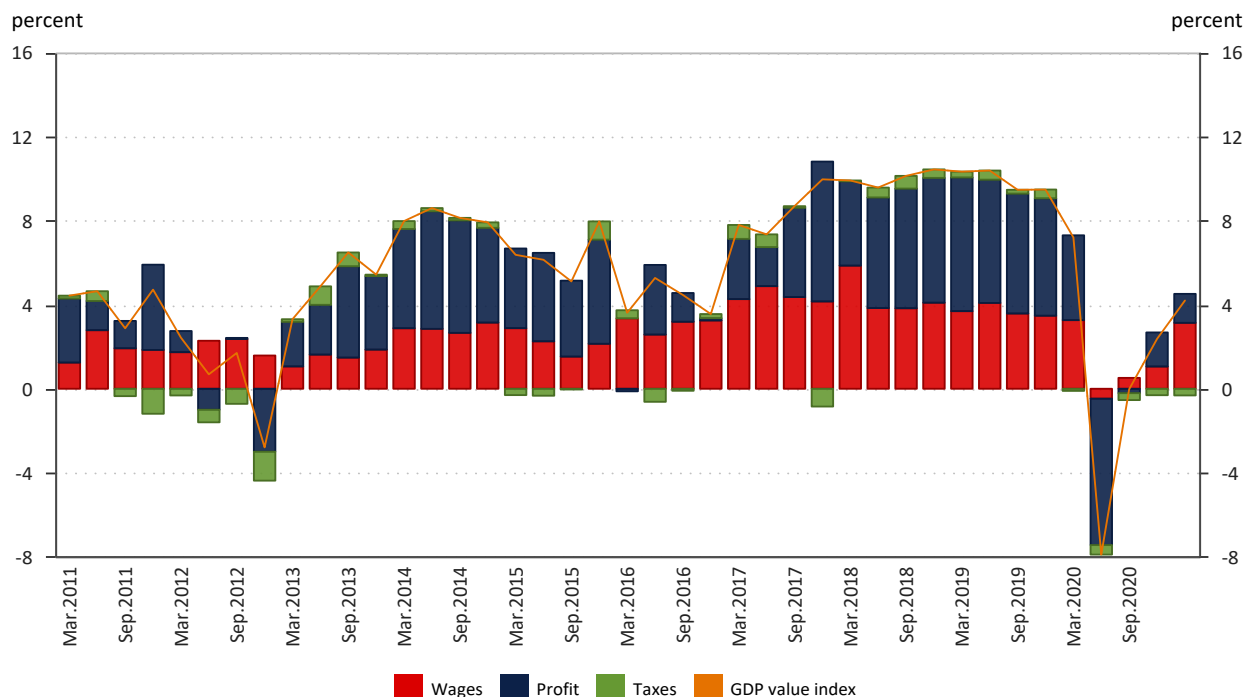
Source: HSCO.

17. Contribution to annual GDP growth in the region



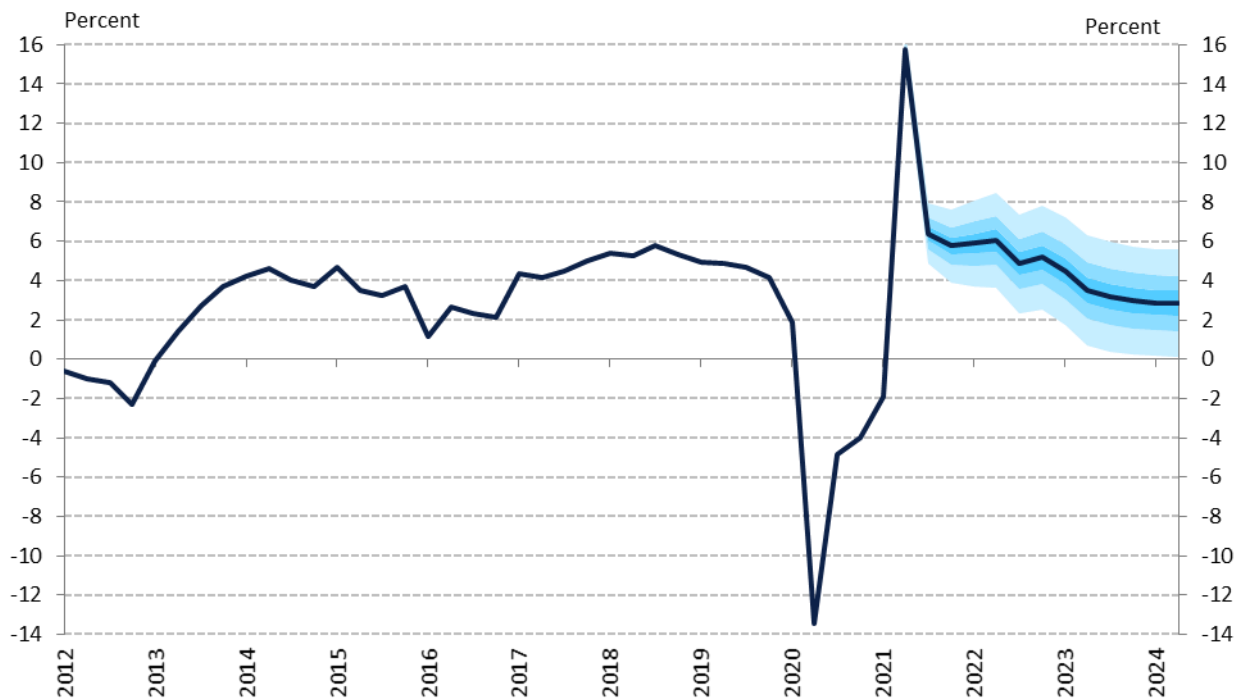
Source: MNB, HSCO. Note: based on seasonally and calendar adjusted and reconciled data

18. Decomposition of GDP growth (income approach)



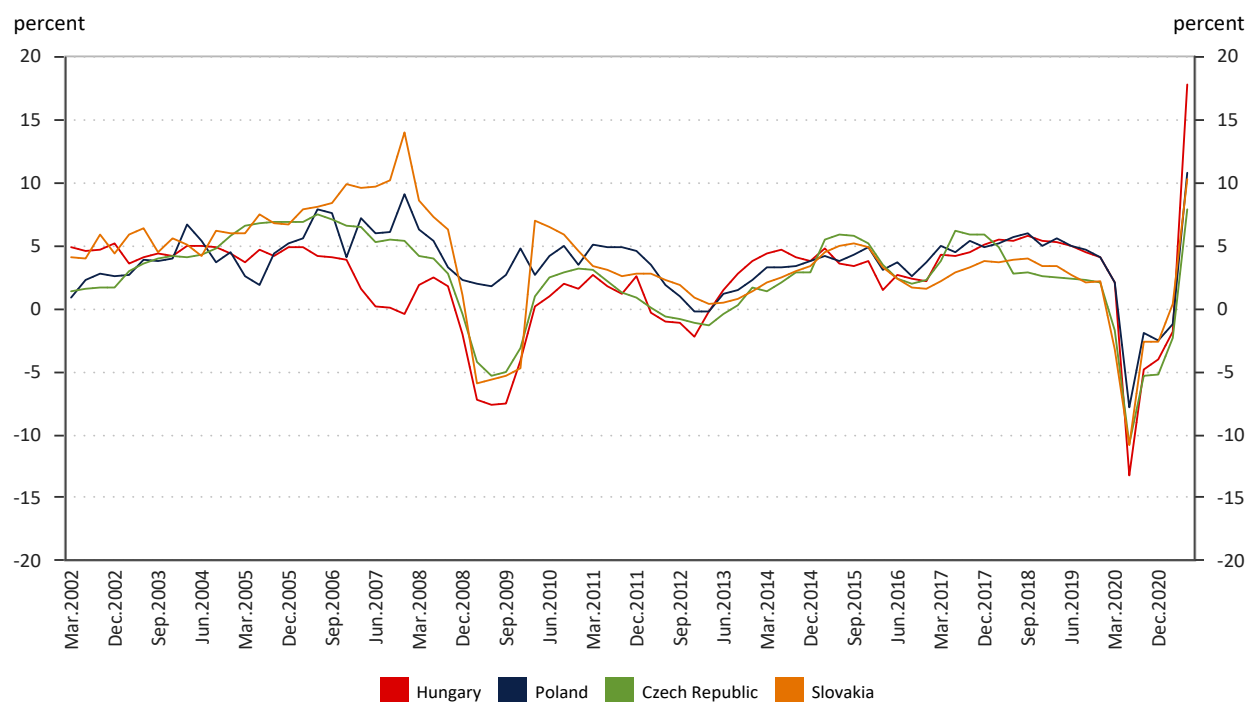
Source: MNB, HSCO Note: contribution in percentage points

19. Fan chart of the GDP forecast



Source: HCSO, MNB

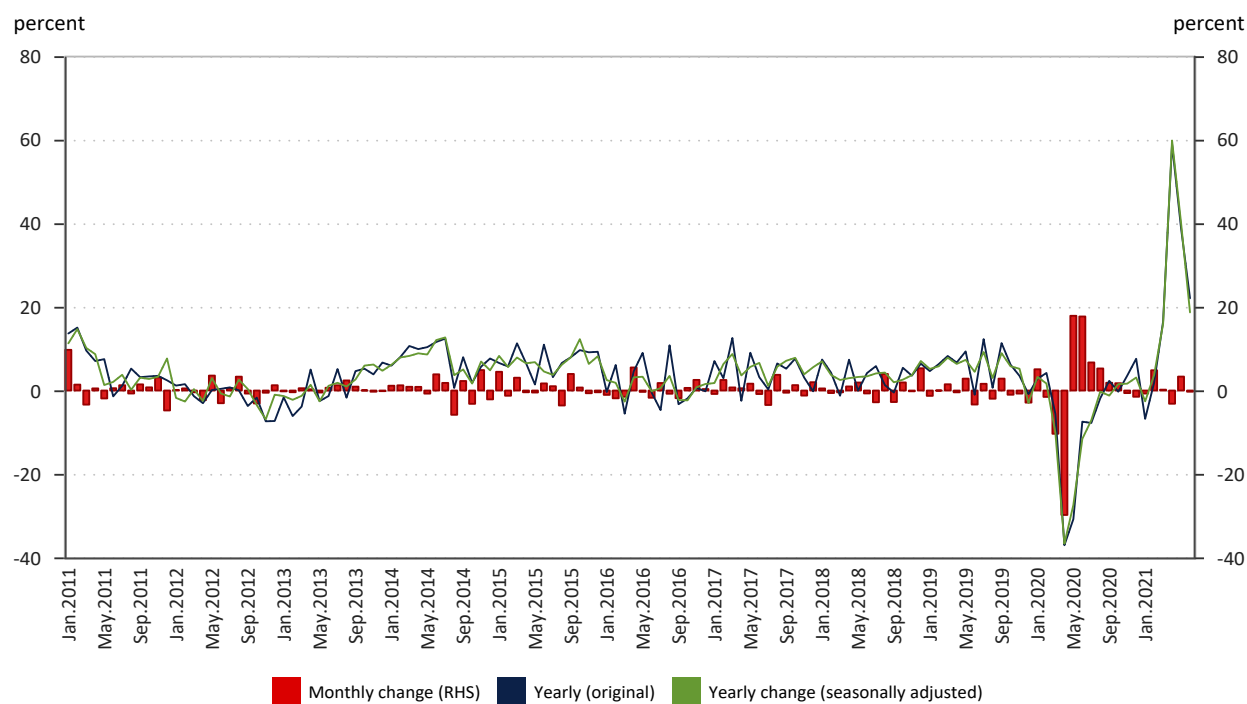
20. GDP growth rate in CEE



Source: Eurostat

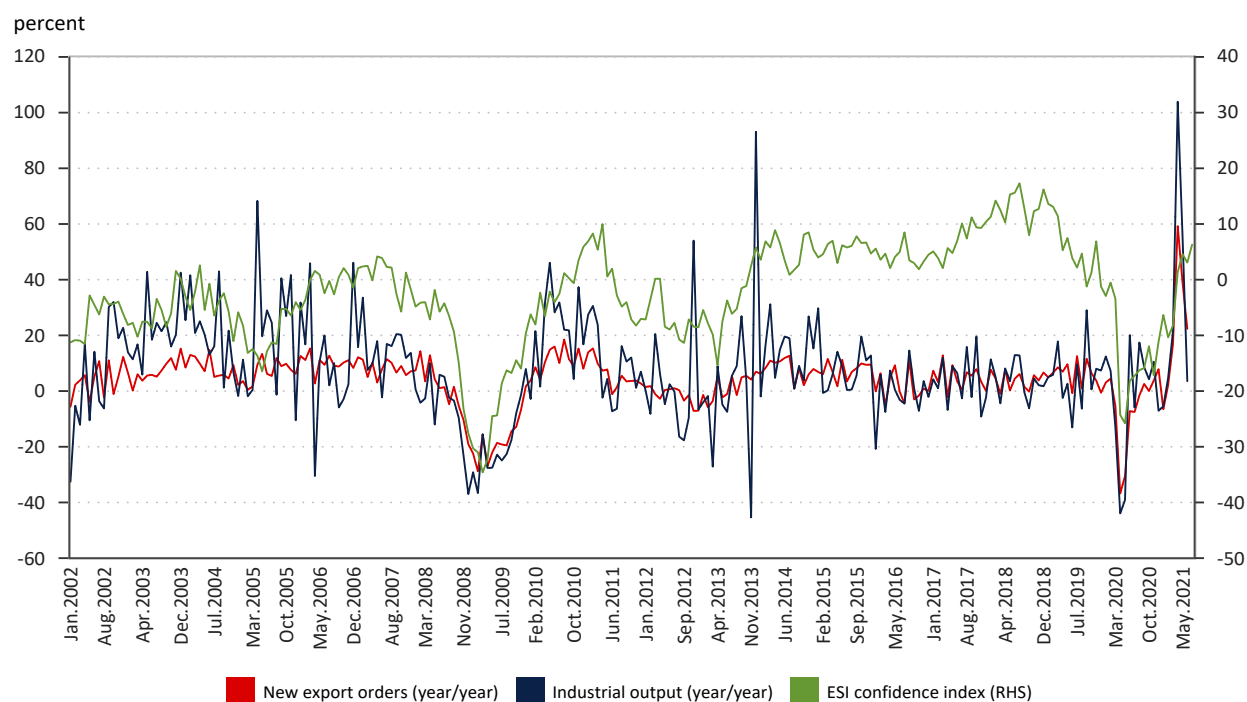
Note: annual growth rate.

21. Change in industrial production



Source: MNB, HCSO.

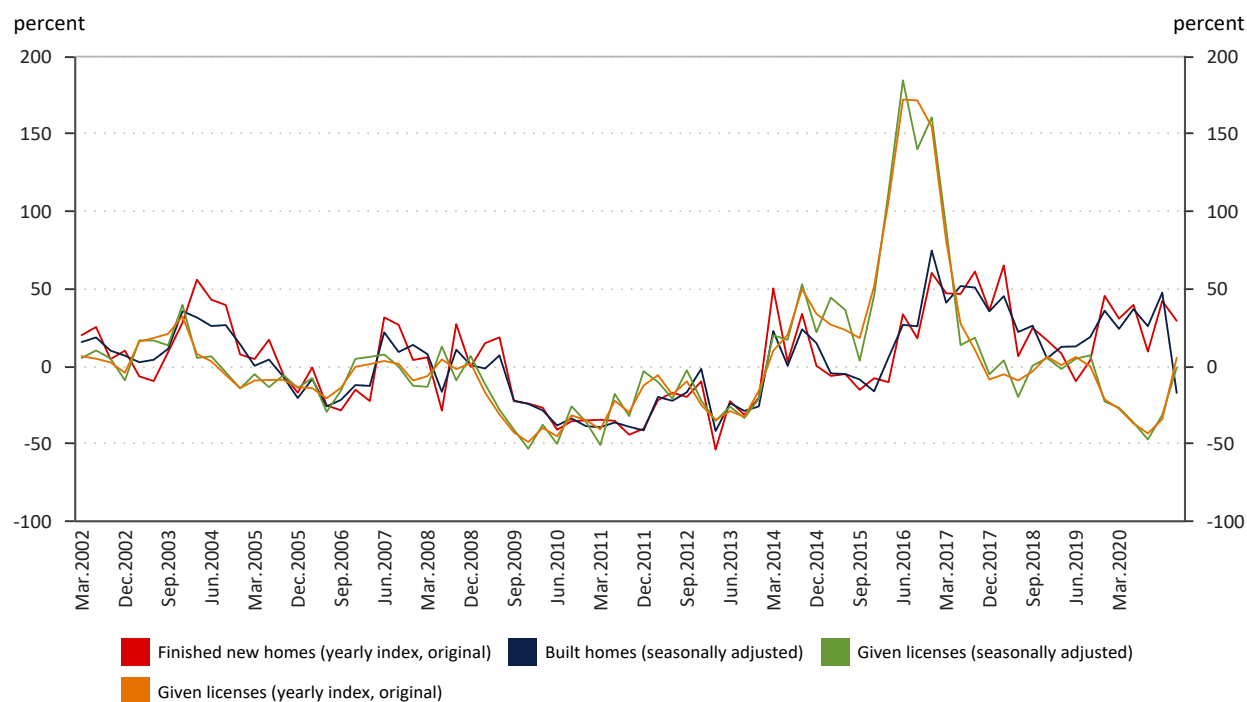
22. Industrial production and new export orders



Source: HSCO, European Commission.

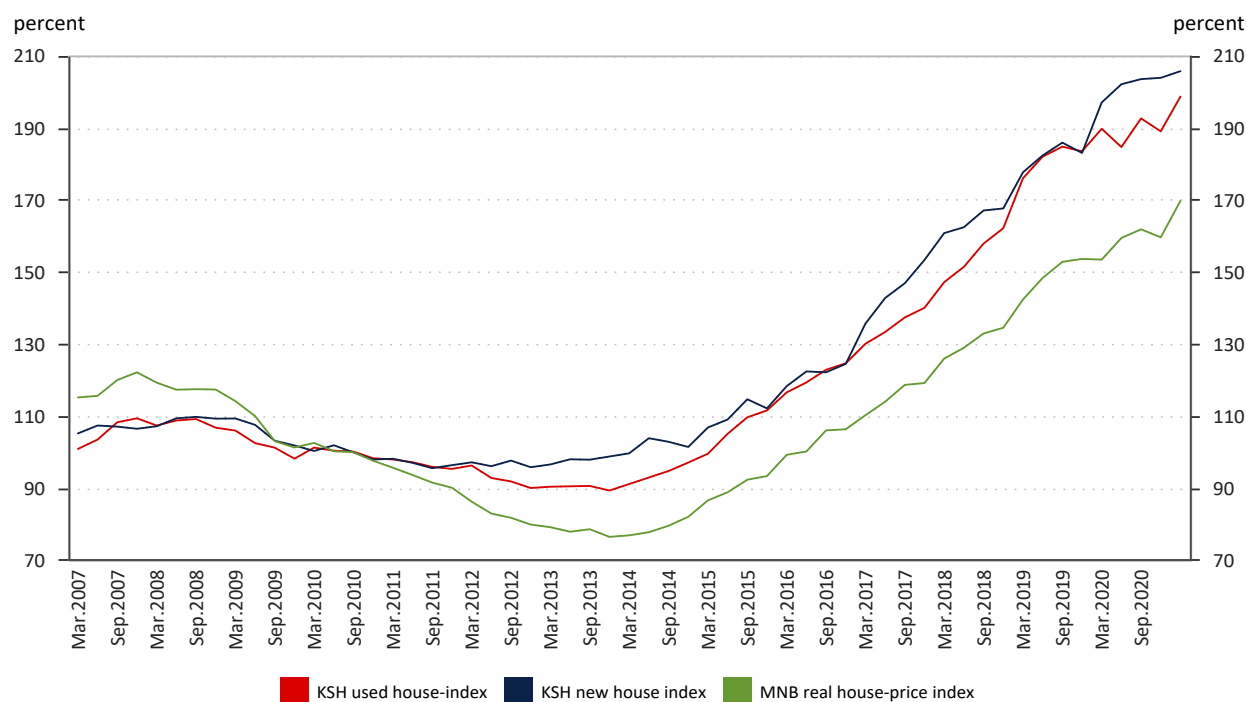
Note: ESI Index is a survey on business confidence by the European Commission. Chart represents the industrial sub-index.

23. Developments on the real estate market



Source: MNB, HCSO.

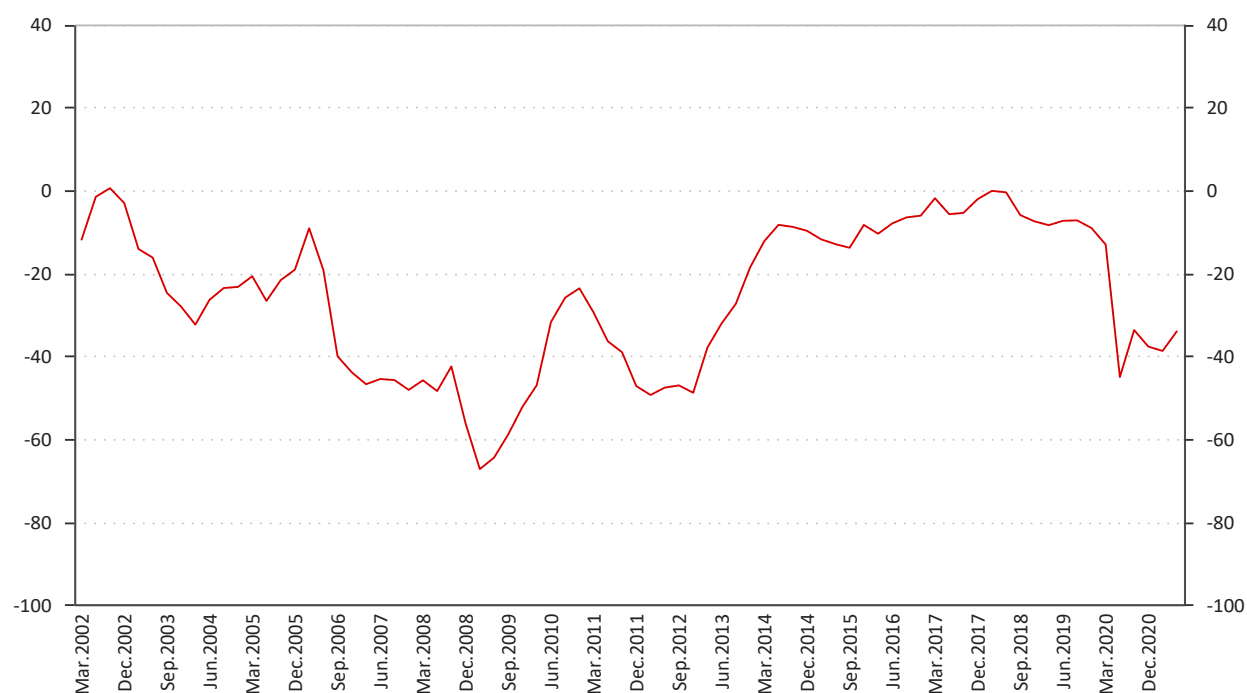
24. Development of house prices



Source: HCSO

Note: 2010=100, inflation adjusted indices.

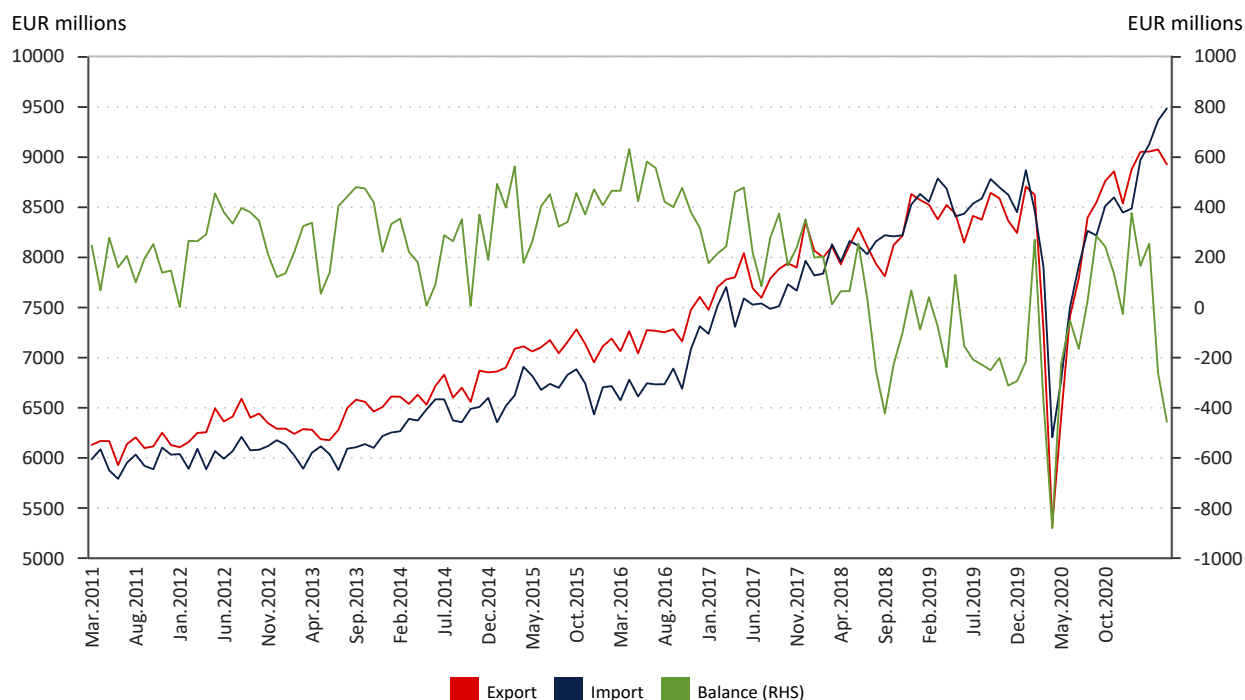
25. Household confidence index (reweighted)



Source: European Commission.

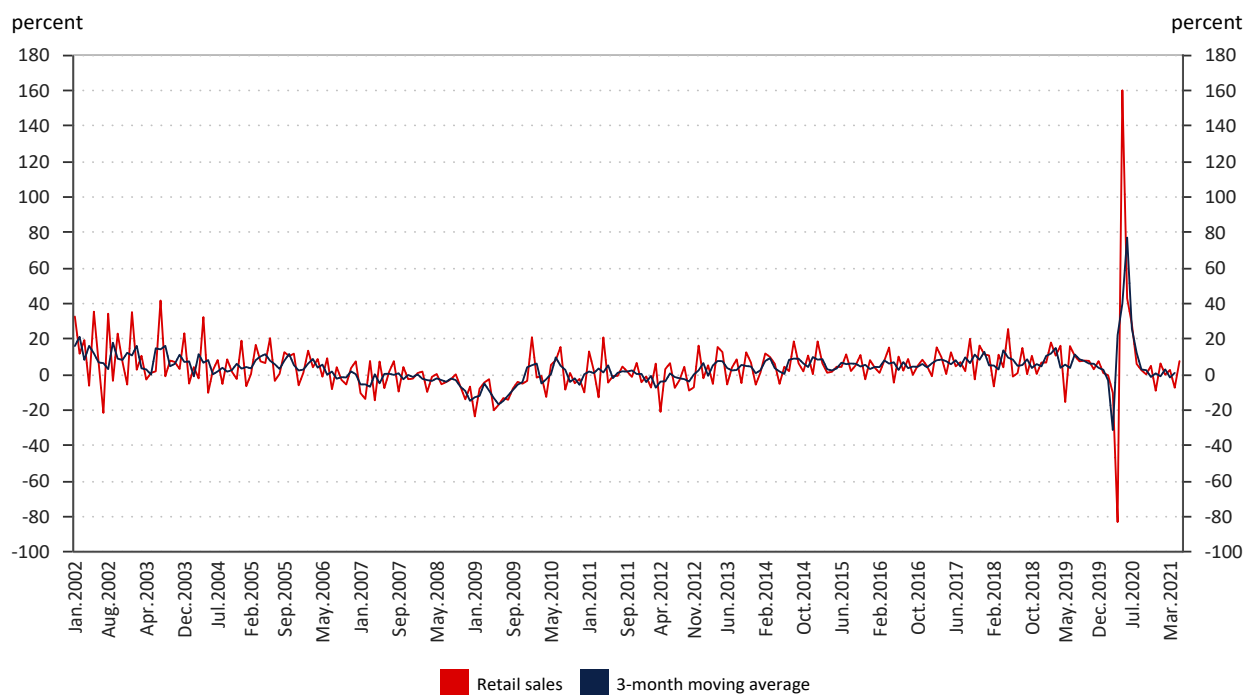
Note: Household confidence indicator is a composite indicator based on the ESI survey

26. Change in export and import volumes



Source: HCSO, MNB calculation. Comment: 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

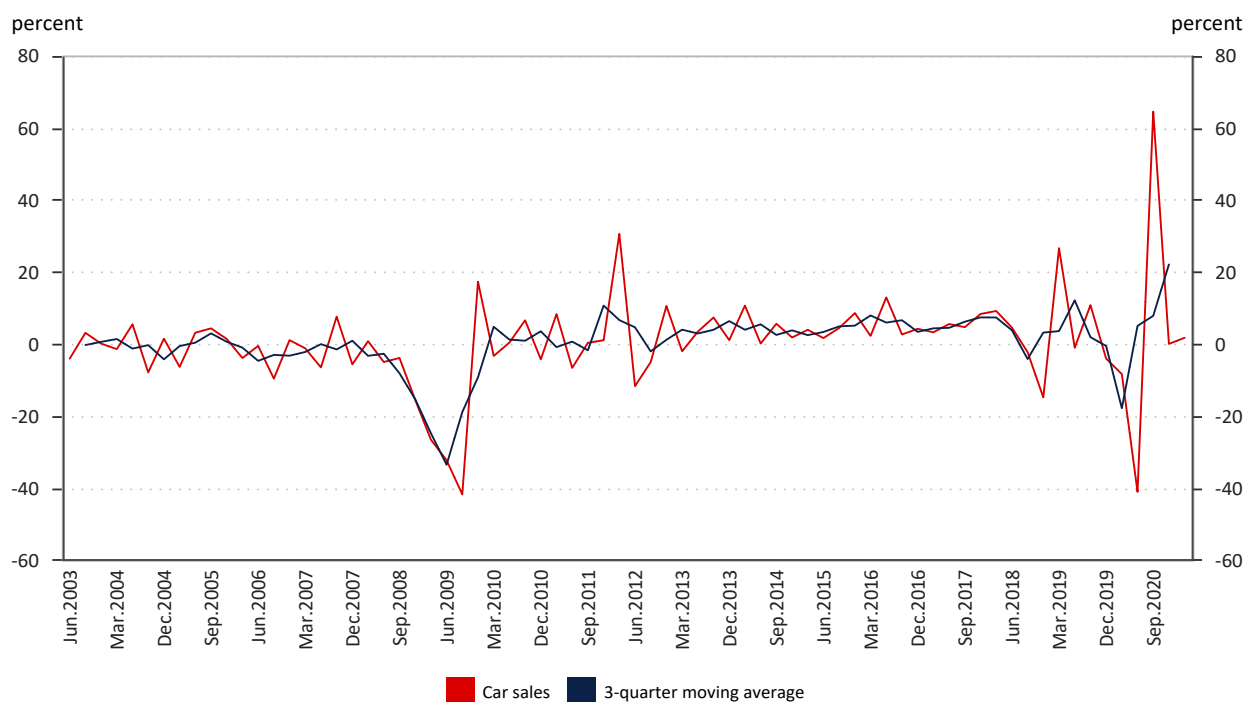
27. Total volume of retail trade



Source: HCSO.

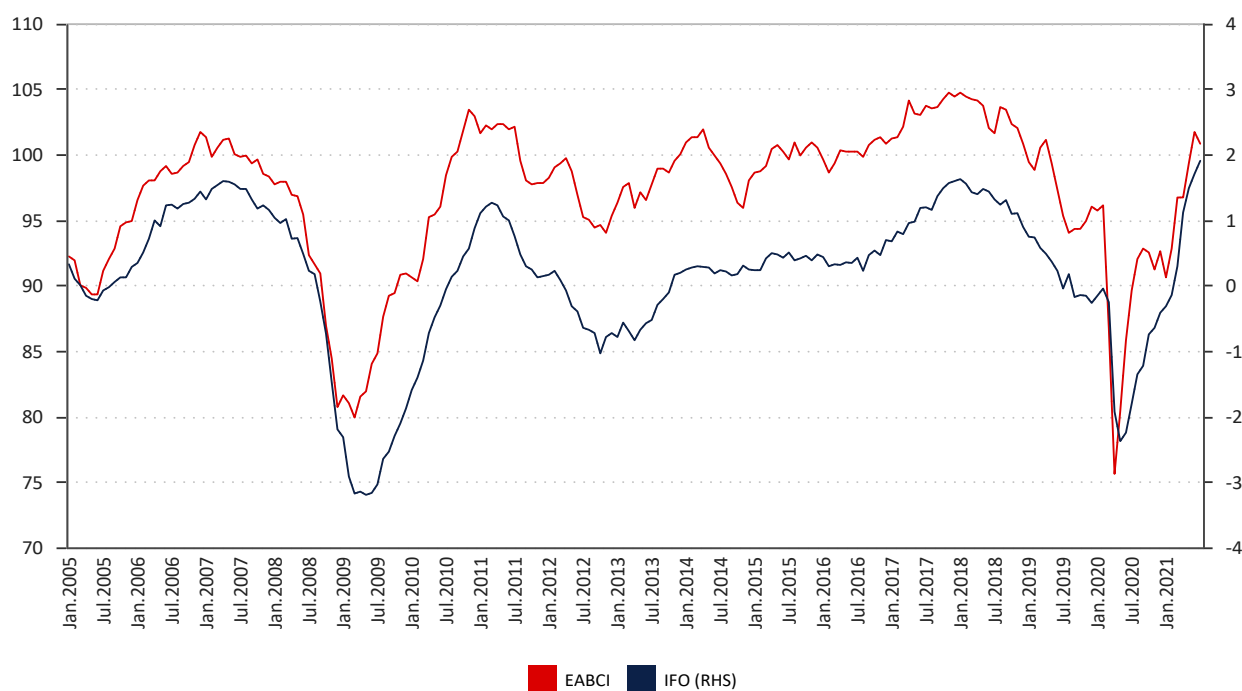
Note: seasonally adjusted annualised monthly growth rates. The data of total retail sales contain beyond the narrow retail sales the turnover of motor vehicles and automotive fuel as well.

28. Quarterly growth rates of automobile sales



Source: ACEA.

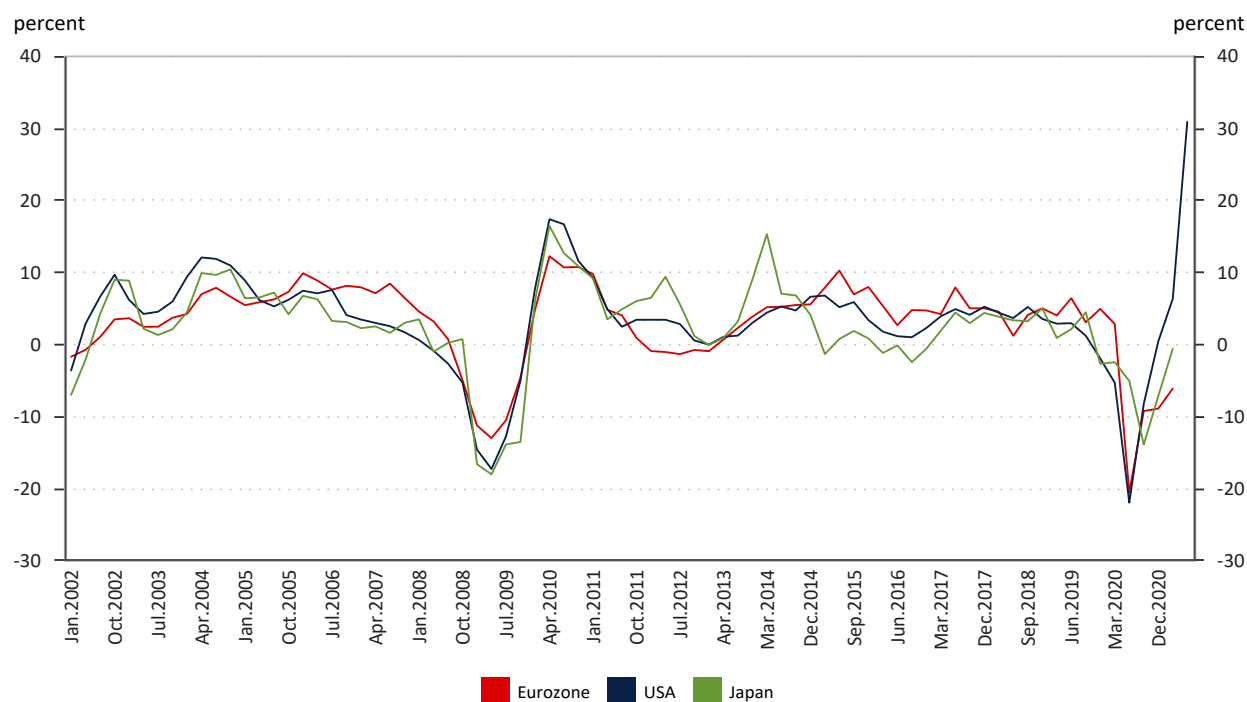
29. Business climate indices in the EMU



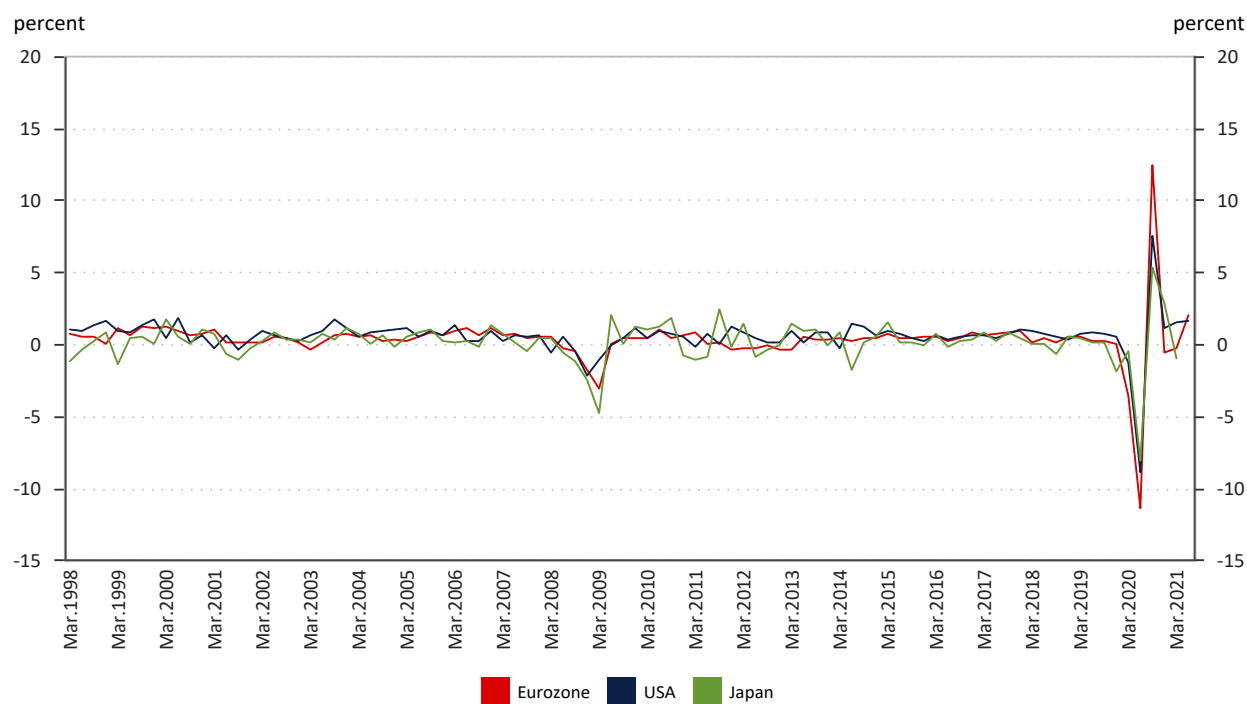
Source: IFO; European Committee.

Note: IFO: Business Climate Index of the German Institut für Wirtschaftsforschung (Average of year 2000 = 100); EABC: Business Climate Index of the European Committee (deviations from the long-run average), seasonally adjusted.

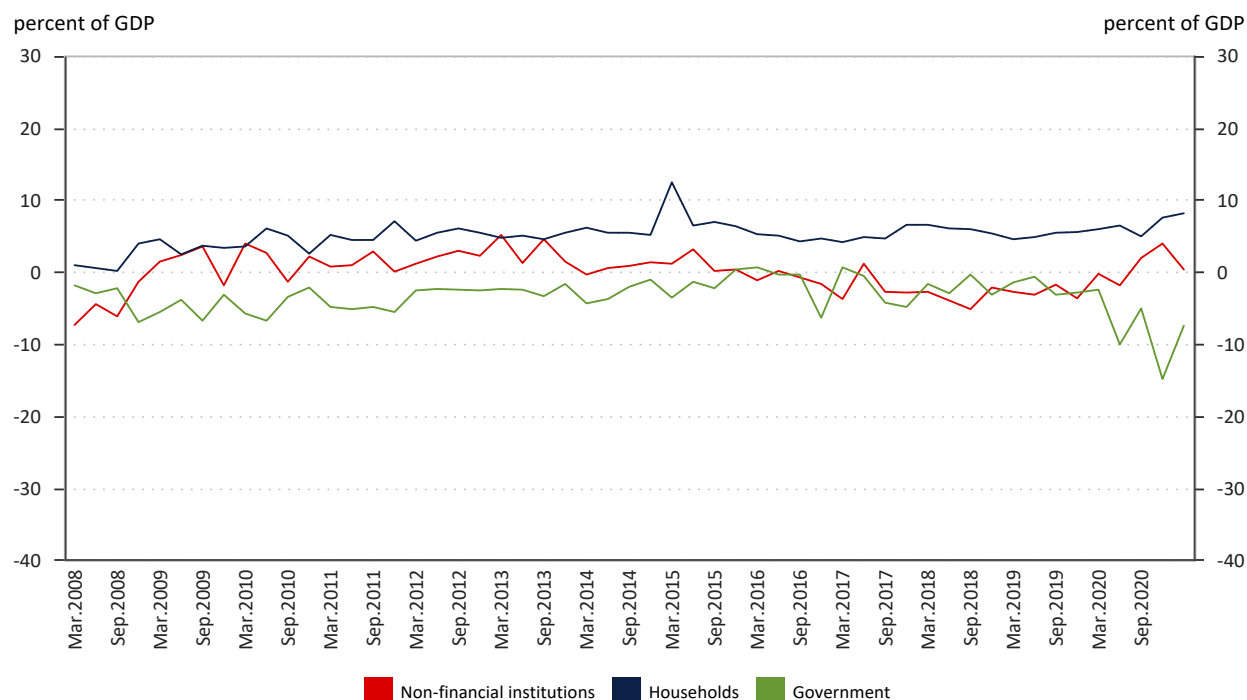
30. The annual growth rate of the volume of imported goods and services



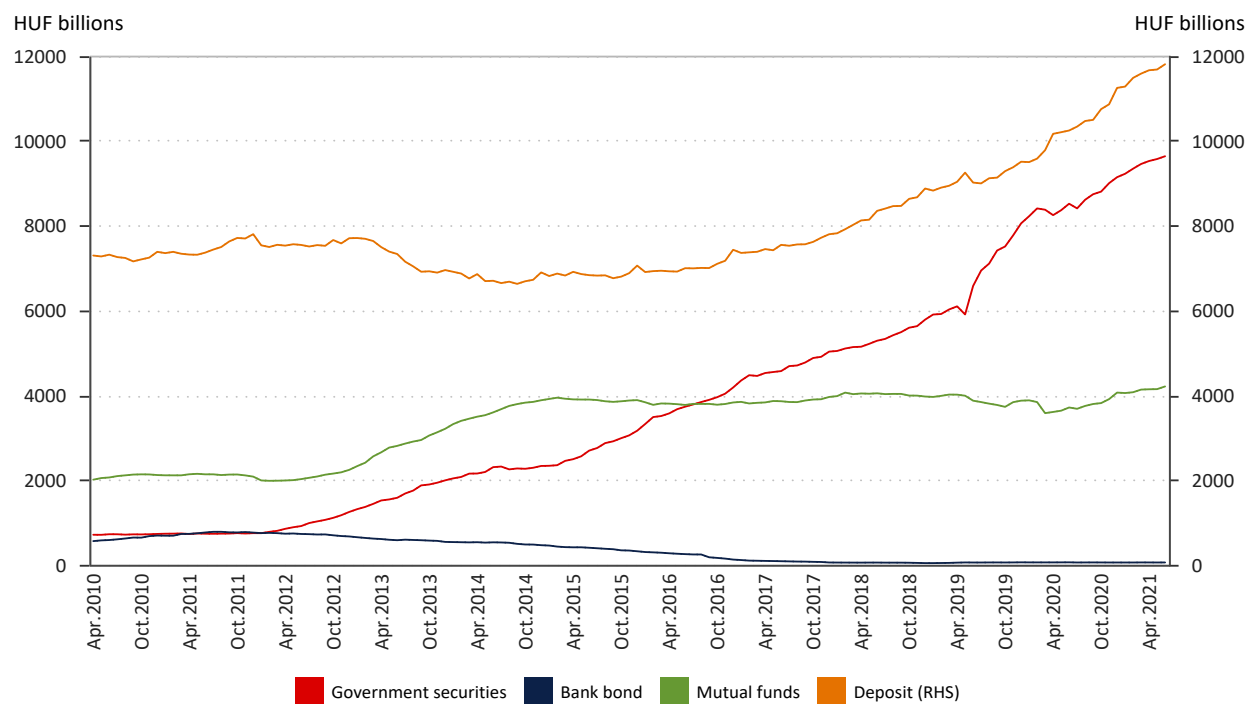
31. Quarterly GDP growth rate in the EMU, US and Japan



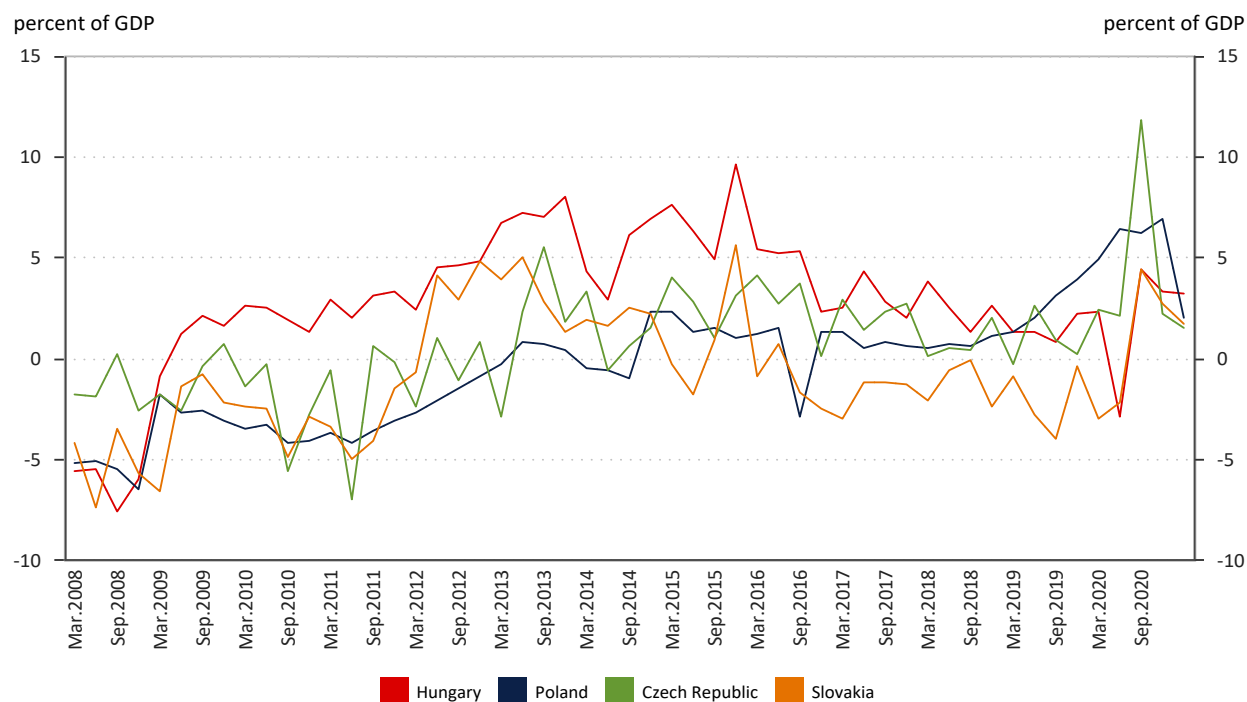
32. Net lending of domestic sectors



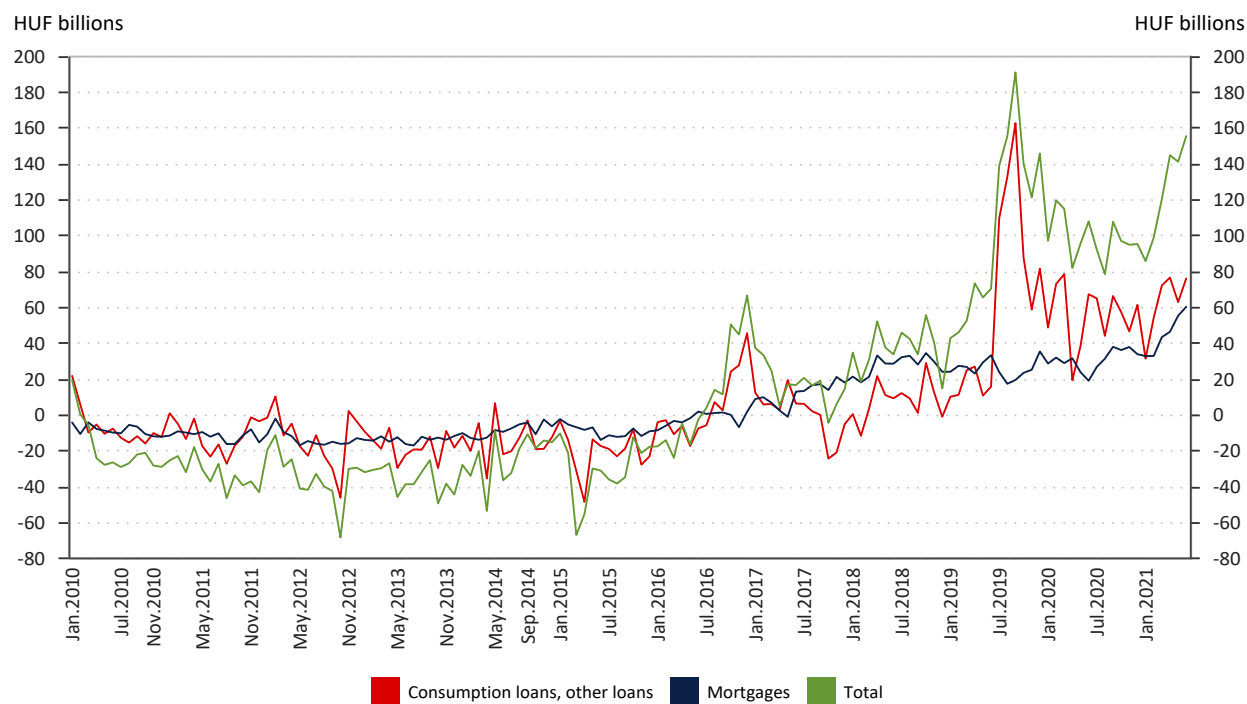
33. Main financial assets held by households

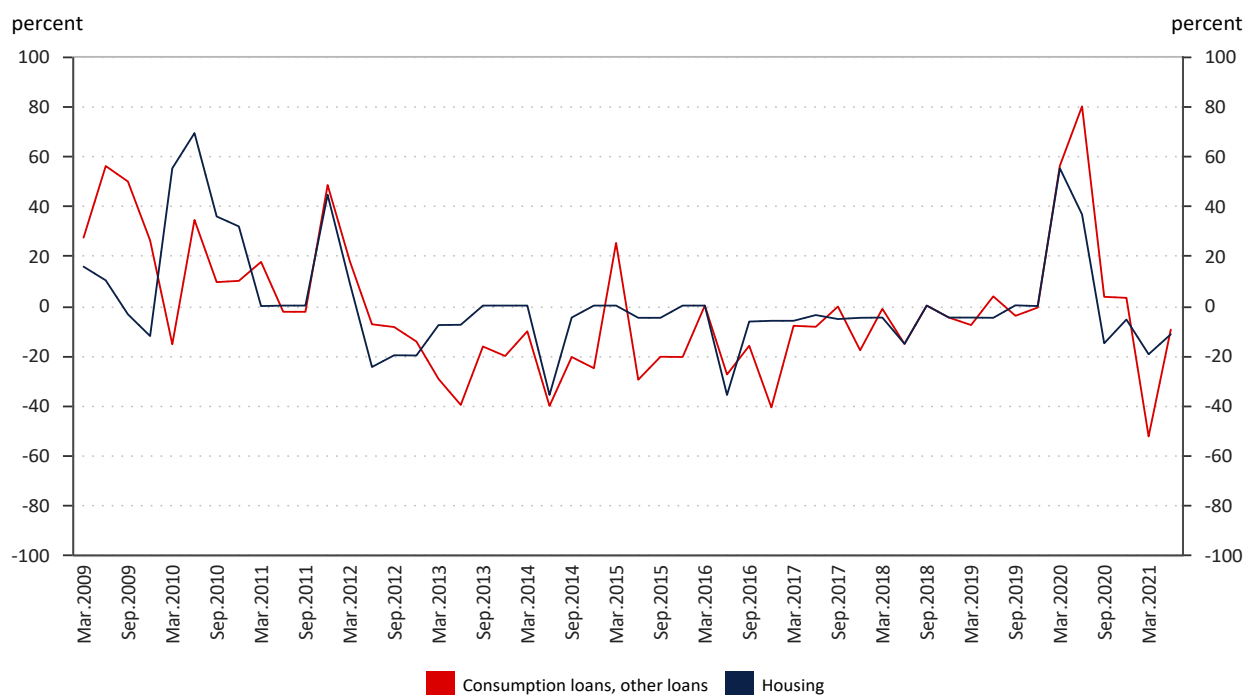


34. External financing capacity in the CEE countries



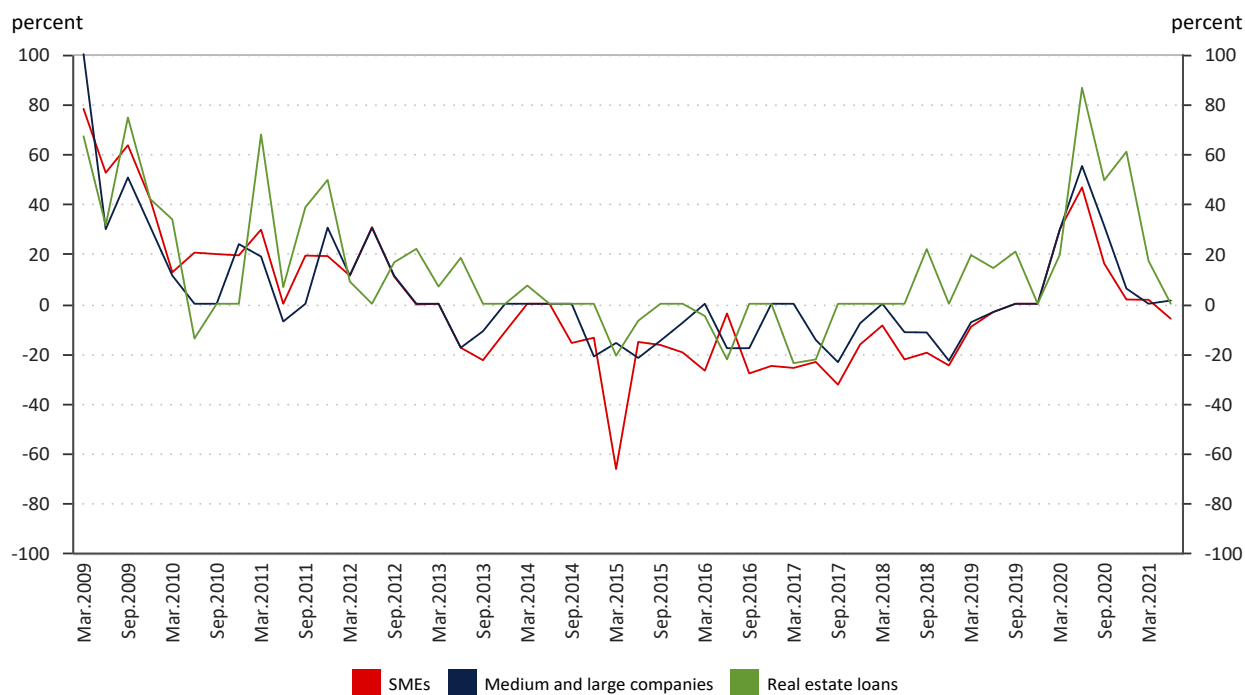
35. Net borrowing of the households



36. Creditworthiness standards and credit conditions in the household sector

Source: MNB

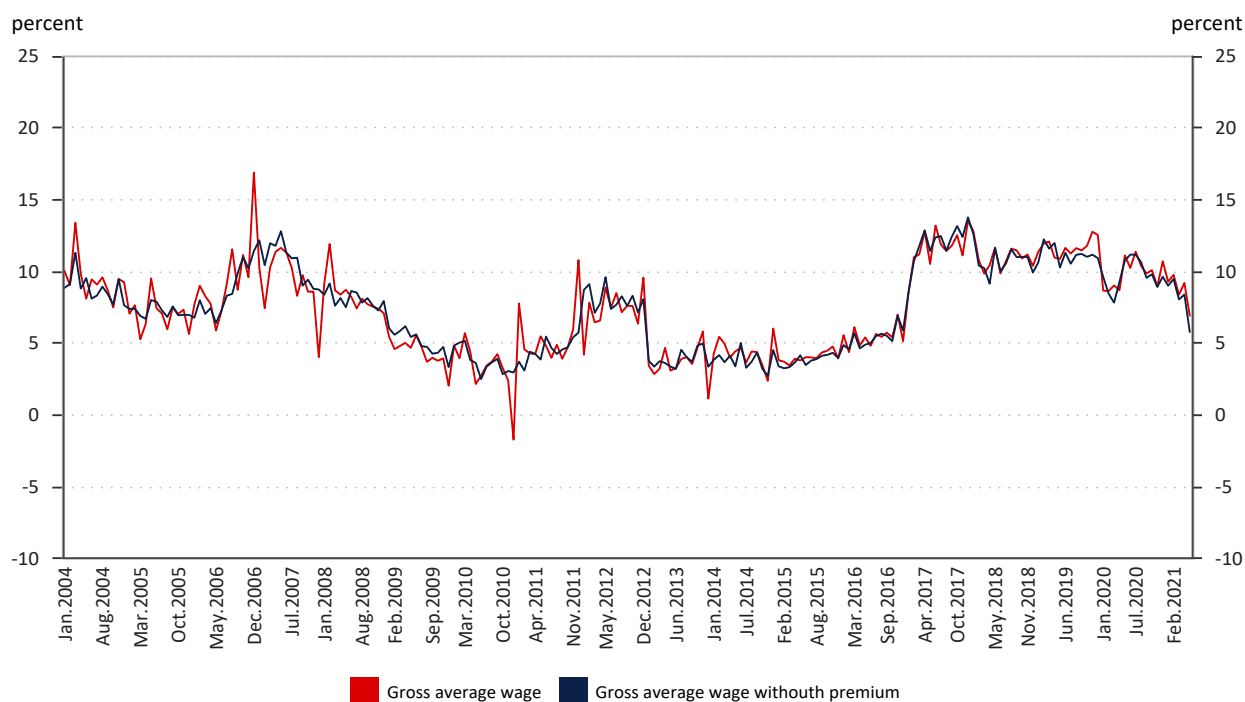
Note: credit conditions estimated by lending officers. Negative value indicates easing, positive indicates tightening compared to the last quarter (before 2009 to previous half a year). Last data is a forecast by MNB.

37. Creditworthiness standards and 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 is a forecast by MNB.

38. Wage growth in private sector



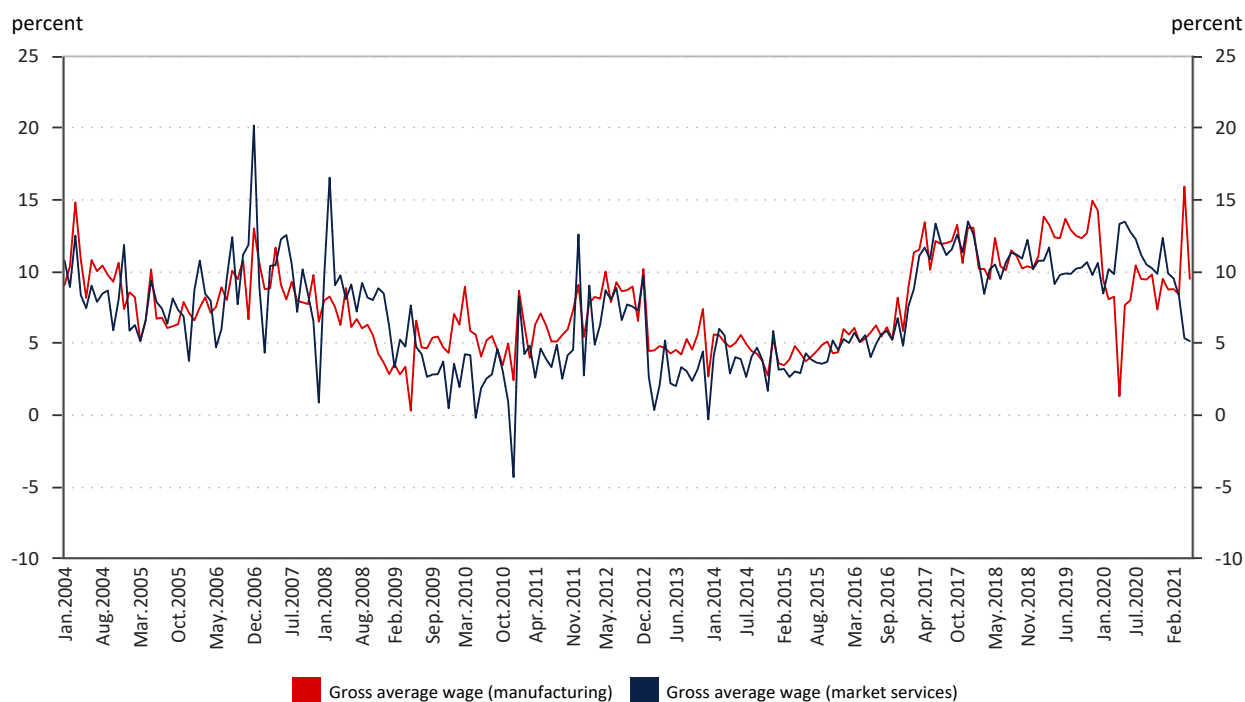
Source: HCSO, seasonally adjusted by MNB
 Note: annual growth rates.

39. Unit labour cost in the private sector



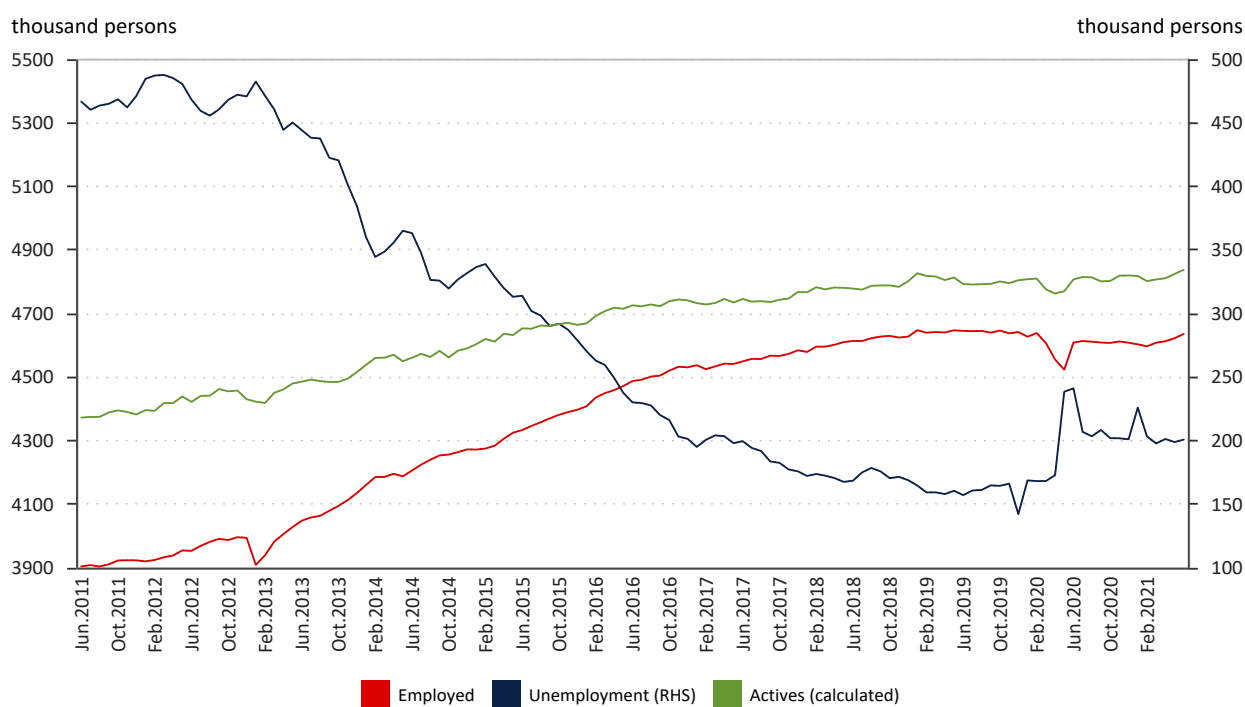
Source: HCSO, seasonally adjusted by MNB
 Note: annual growth rates.

40. Wage growth in the manufacturing and market service sector



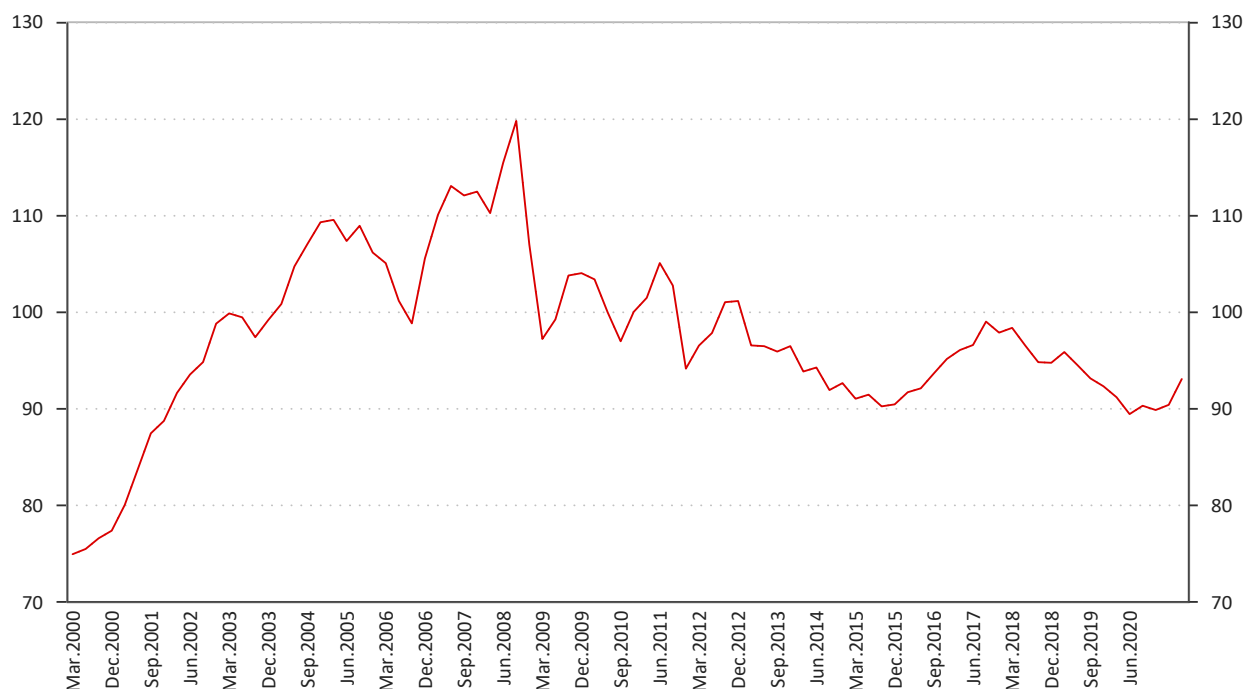
Source: MNB, HCSO.

41. Activity and unemployment



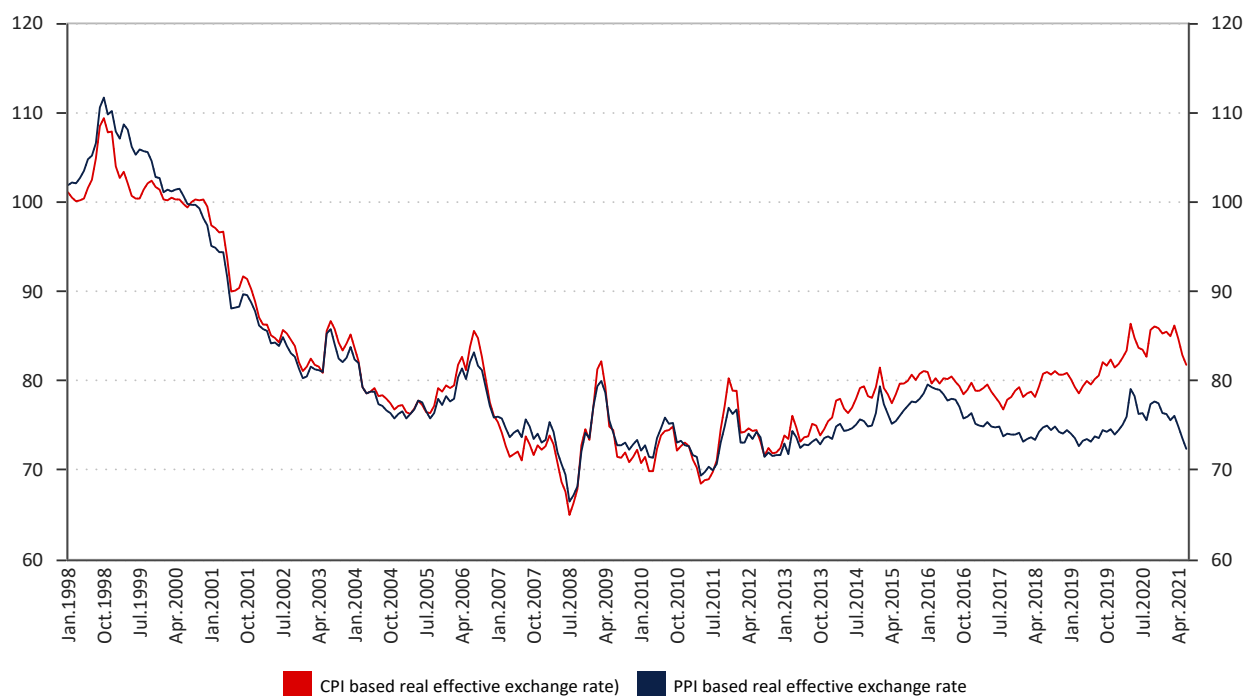
Source: HCSO.

Notes: levels, seasonally adjusted.

42. ULC based real effective exchange rate of the HUF

Source: Eurostat.

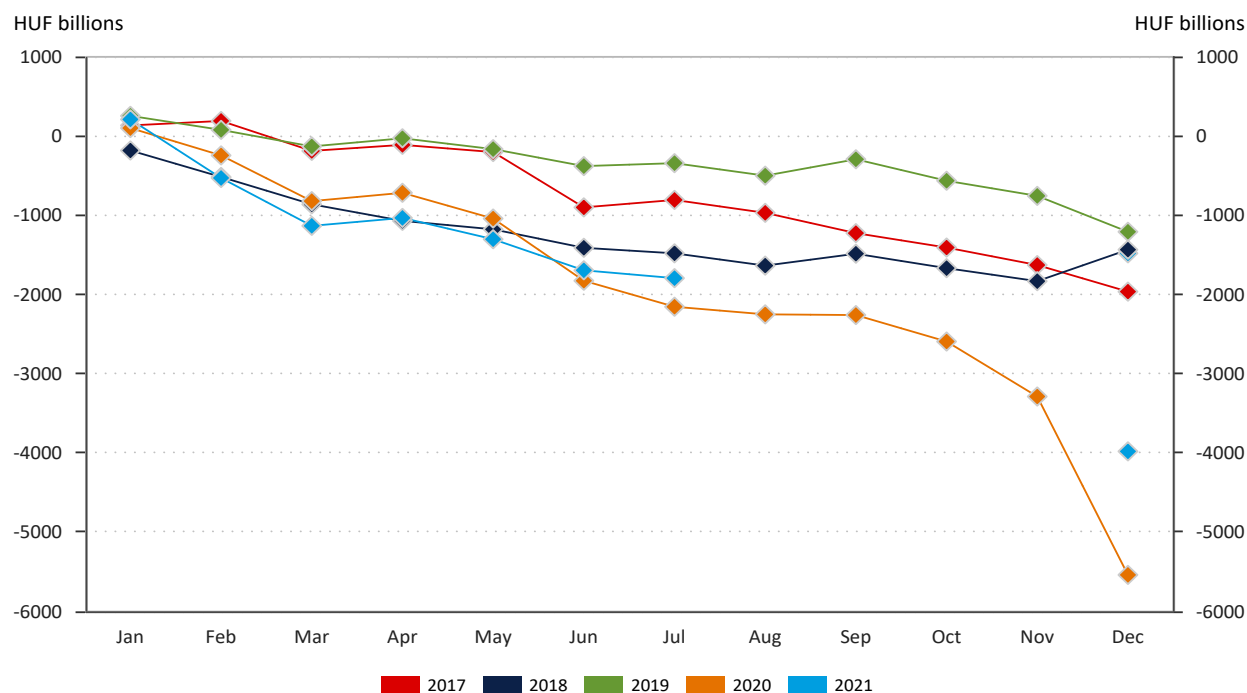
Note: average of year 2000 = 100%. Increase means real-effective appreciation of HUF.

43. 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.

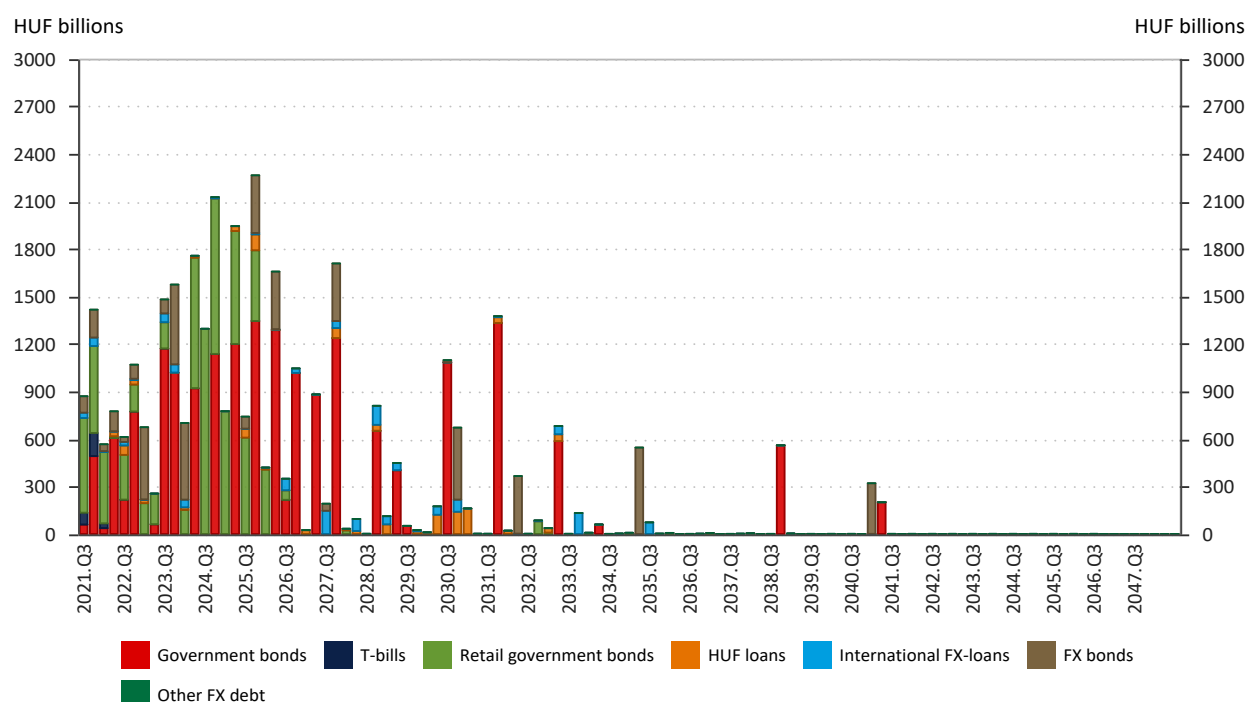
44. Monthly evolution of budget deficit



Source: Hungarian State Treasury

Note: Cumulated balance. For December 2021 the appropriation for cash-flow balance in the Budget Act is HUF 1491 billion, while the deficit is HUF 3,990 billion according to the amendment of the Budget Act for 2021.

45. Quarterly maturity structure of the government debt



Source: MNB, ÁKK.

Note: Redumptions in the recent quarter are included.

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

	2021	2022	2023
CPI (annual average growth rate, %)			
MNB (June 2021)	4.1	3.1	3.0
Consensus Economics (July 2021)*	3.9 - 4.3 - 4.8	2.9 - 3.5 - 4.1	
European Commission (July 2021)	4.4	3.3	
IMF (April 2021)	3.6	3.5	3.3
OECD (May 2021)	3.9	3.9	
Reuters survey (July 2021)*	3.8 - 4.3 - 4.6	2.9 - 3.5 - 4.3	3.0 - 3.2 - 4.0
GDP (annual growth rate, %)			
MNB (June 2021)	6.2	5.5	3.5
Consensus Economics (July 2021)*	4.7 - 6.3 - 8.0	3.7 - 5.0 - 7.0	
European Commission (July 2021)	6.3	5.0	
IMF (April 2021)	4.3	5.9	3.8
OECD (May 2021)	4.6	5.0	
Reuters survey (July 2021)*	4.5 - 6.1 - 7.7	4.4 - 5.1 - 7.0	3.5 - 4.0 - 4.5
Current account balance (as a percentage of GDP)			
MNB (June 2021)	1.4	2.1	1.9
European Commission (May 2021)	-0.6	-0.5	
IMF (April 2021)	-0.4	-0.3	-0.2
OECD (May 2021)	0.8	0.8	
Budget deficit (ESA-2010 method*, a percentage of GDP, with complete cancellation of free reserves)			
MNB (June 2021)	-7.5	-5.9	-3.9
Consensus Economics (July 2021)*	(-7.7) - (-7.2) - (-5.3)	(-6.8) - (-5.4) - (-3.8)	
European Commission (May 2021)	-6.8	-4.5	
IMF (April 2021)	-6.5	-4.8	-3.6
OECD (May 2021)	-7.5	-5.9	
Reuters survey (July 2021)*	(-7.9) - (-7.4) - (-6.7)	(-6.5) - (-5.8) - (-4.8)	(-5.0) - (-4.1) - (-3.3)
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)			
MNB (June 2021)	5.3	4.3	2.4
ECB (June 2021)	2.9 - 4.6 - 6.2	2.3 - 4.7 - 5.5	2.1 - 2.2
Consensus Economics (July 2021)**	4.3	4.1	
European Commission (July 2021)**	3.9	4.0	
IMF (July 2021)**	4.3	4.0	2.3

Explanation:

*The lower value of the forecast band shows the ESA balance if the Country Protection Fund is used, while the higher value shows the ESA balance if the Country Protection Fund is not used.

**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 forecasts for all partner countries.

Note:

For the 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.

Source: Consensus Economics, European Commission, IMF, OECD, Reuters poll

47. Domestic financial developments*Overview*

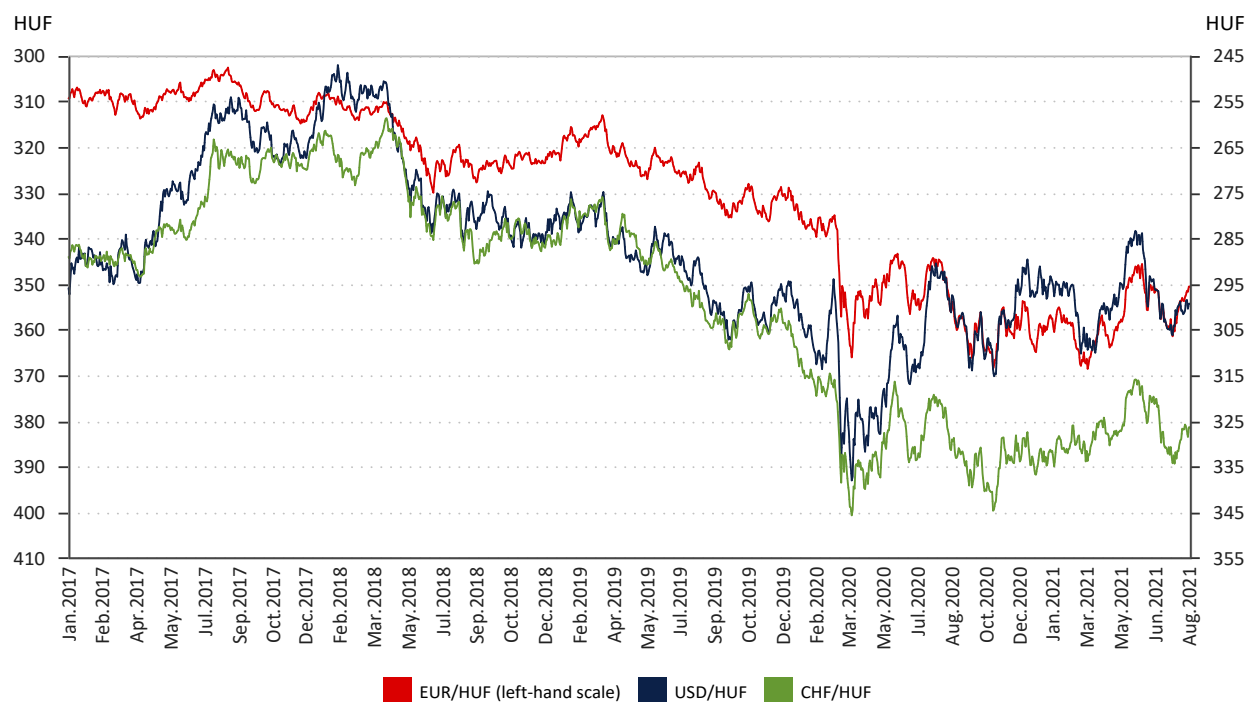
Indicator	One month ago	One week ago	Current
HUF/EUR spot exchange rate	359.6	353.6	351.3
Skewness of expectations on HUF/EUR exchange rate	0.68	0.56	0.55
HUF-positions of foreign investors (HUF billions)	-1851	-1700	-1648
Forward positions of domestic investors (HUF billions)	1102	951	872
MNB base rate (%)	0.90	1.20	1.20
Expected short-term interbank rate at the end of the year (%)*	1.99	2.15	2.17
3-months interbank rate (%)	1.27	1.57	1.58
3x6 FRA rate (%)	1.63	2.06	2.09
3 month T-bill yield (%)	0.61	0.68	0.77
5 year T-bond yield (%)	2.04	2.17	2.14
Slope of yield curve (10Y-1Y, bp)	195	198	191
O/N FX-swap spread (bp)	32	17	20
3-month FX-swap spread (bp)	31	15	16
5-year FX-swap spread (bp)	19	28	28
5-year CDS spread (bp)	55	50	50
5x5 swap bond spread (bp)**	241	277	278
Average spread of USD-denominated government bonds (bp)	107	103	104
Foreign holdings of HUF-government securities (HUF billion)	4502	4624	4631

Notes:

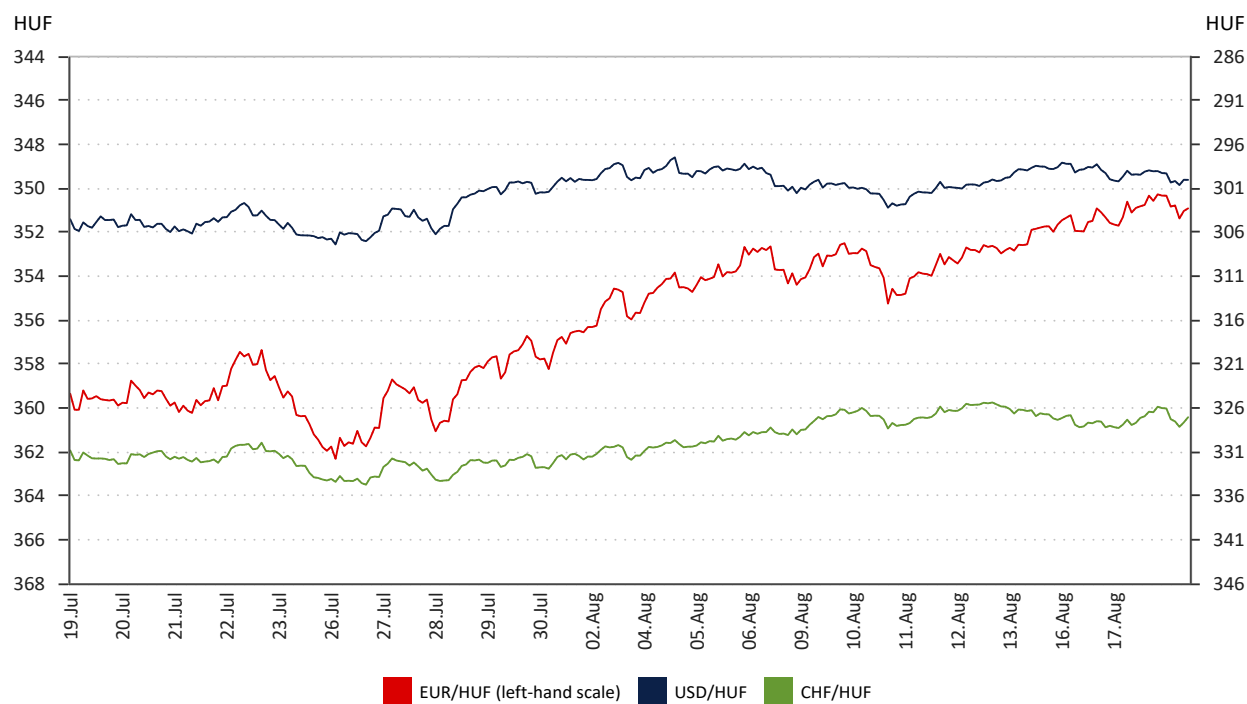
* Based on forward yield curve.

** Over Euro yield.

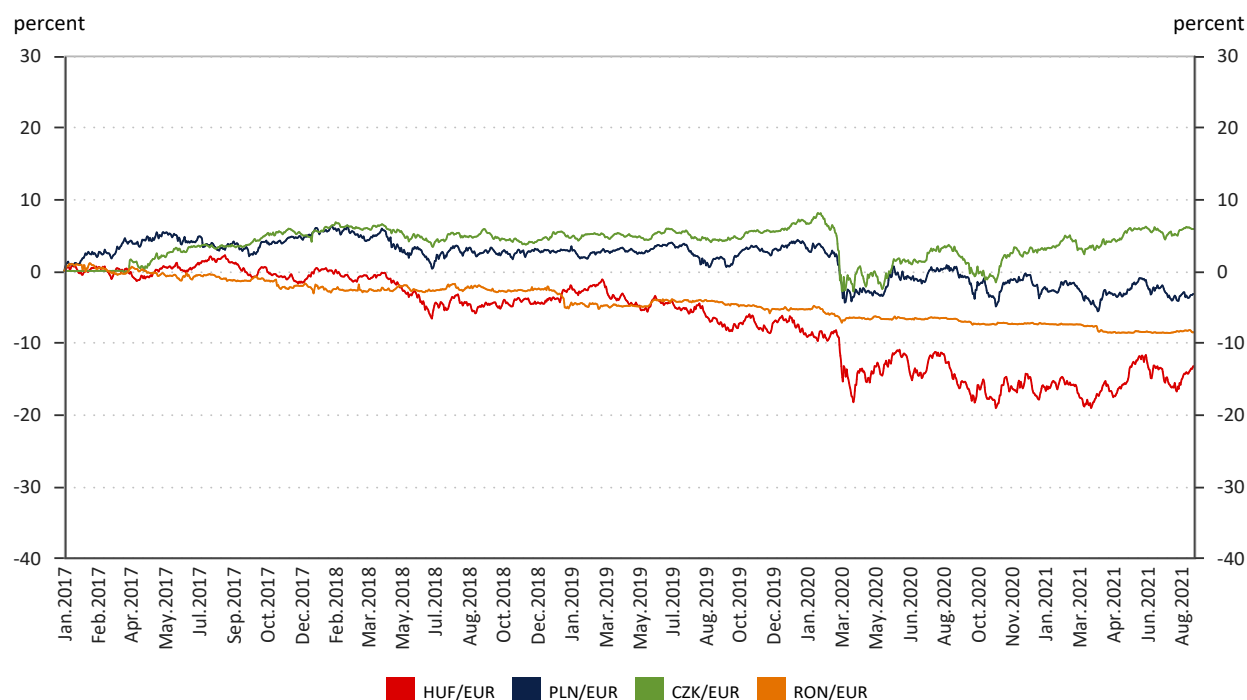
48. Developments in HUF exchange rate



49. Developments in HUF exchange rate (last month)



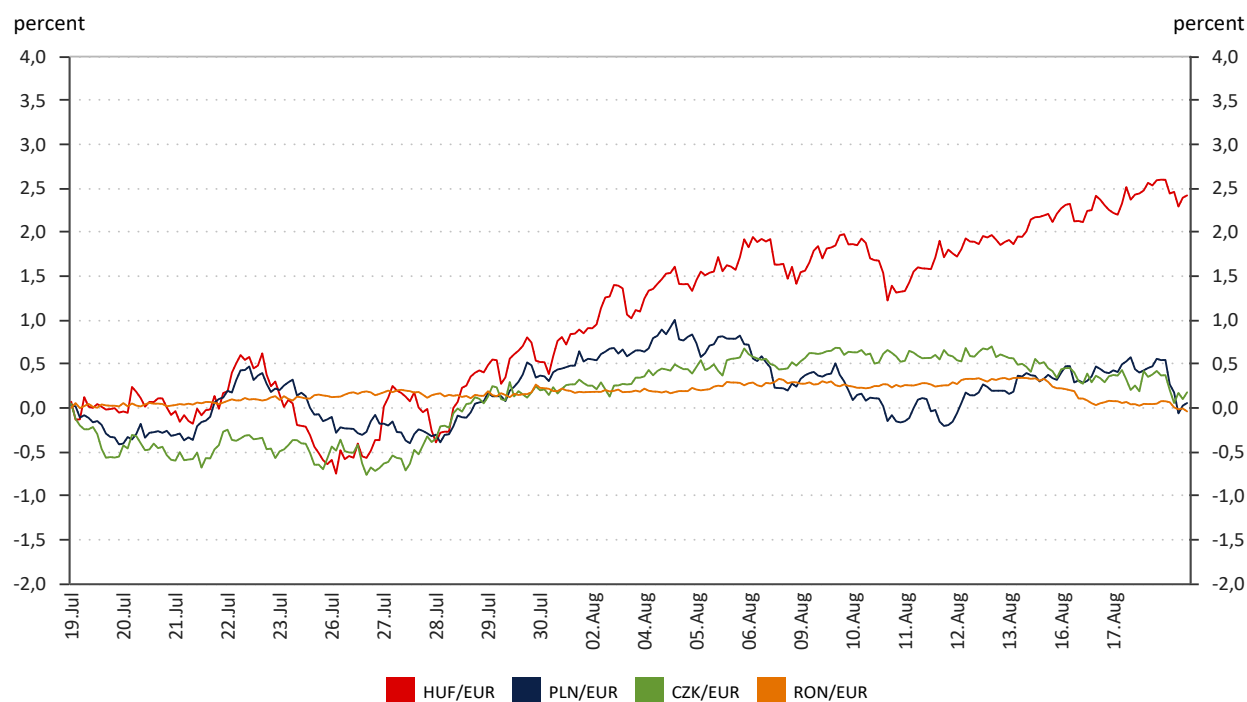
50. Emerging markets exchange rate



Source: Refinitiv

Note: cumulative change. Positive values mean appreciation.

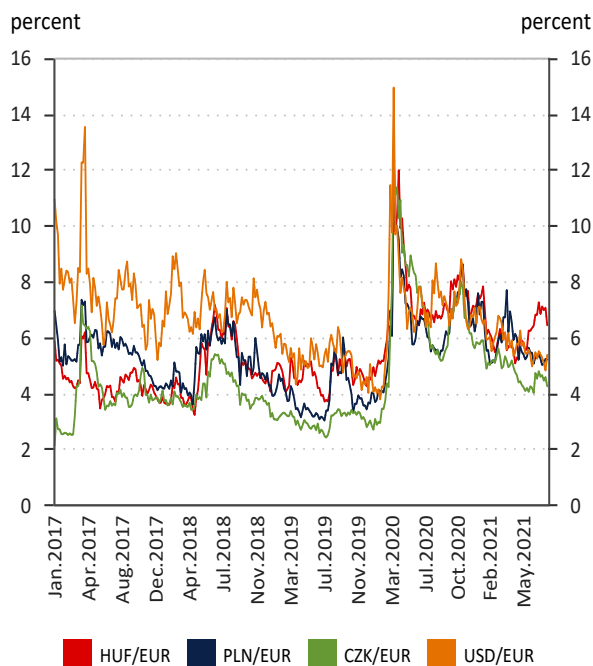
51. Emerging markets exchange rate (last month)



Source: Refinitiv.

Note: cumulative change, negative value means depreciation of the local currency.

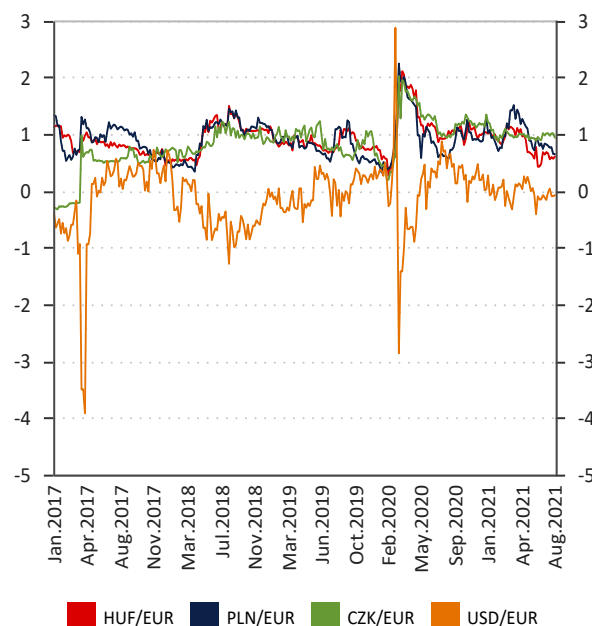
52. Volatility of exchange rate expectations



Source: Bloomberg

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

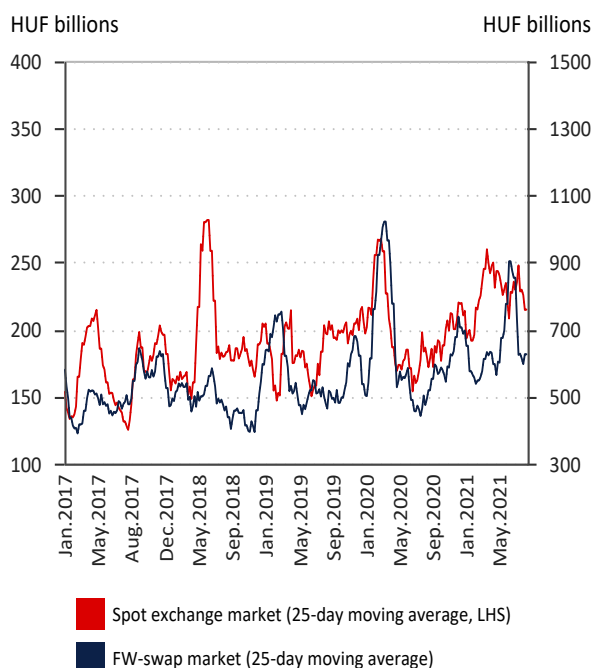
53. Skewness of exchange rate expectations



Source: Bloomberg

Notes: 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.

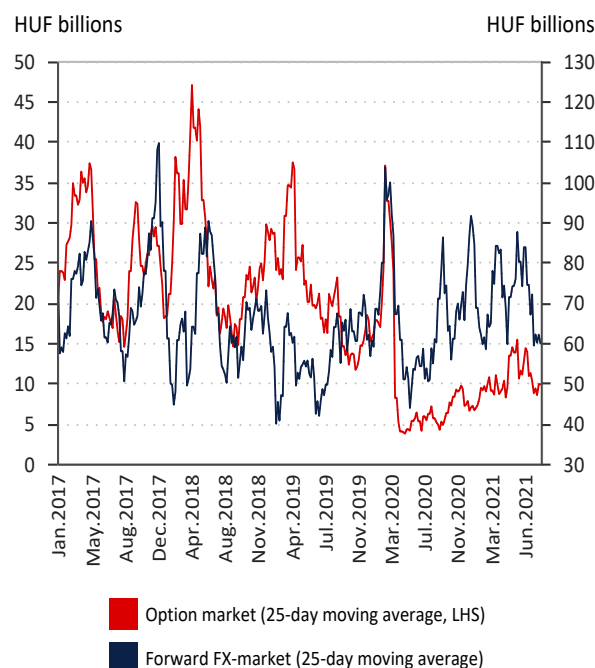
54. Turnover on the spot and the FX-swap market



Source: MNB

Notes: forint against foreign exchange deals by domestic banks; moving averages calculated based on deal date data.

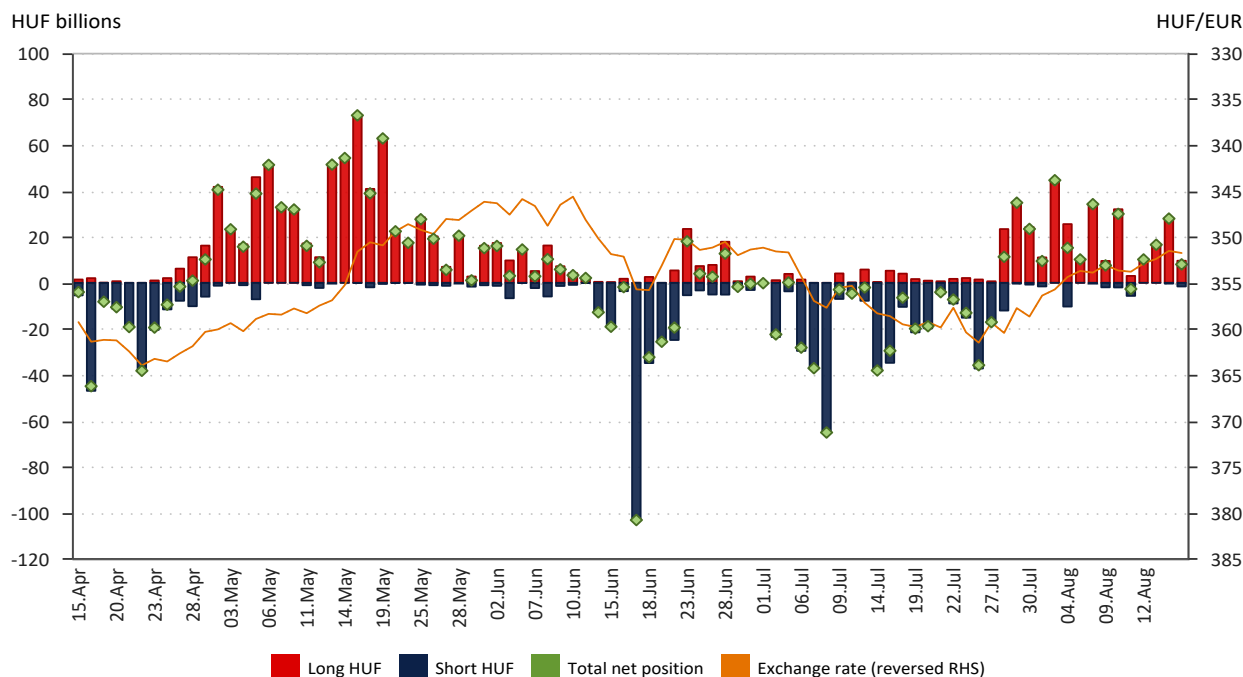
55. Turnover on the forward and option market



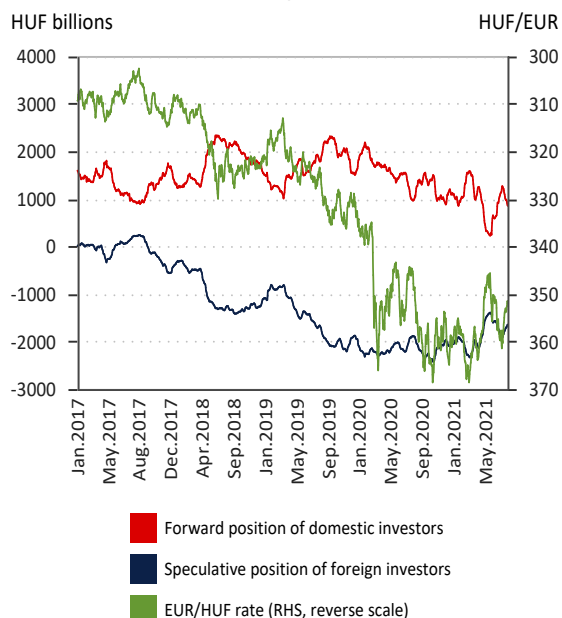
Source: MNB

Note: forint against foreign exchange deals by domestic banks; moving averages calculated based on deal date data.

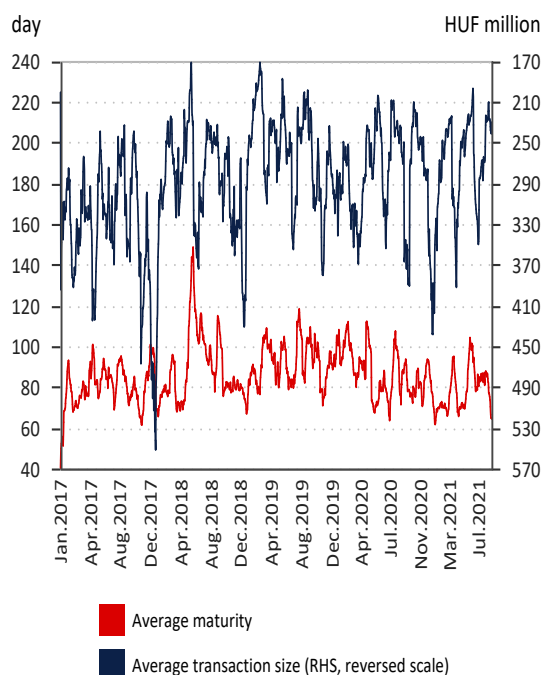
56. Open FX-positions of non-residents in HUF



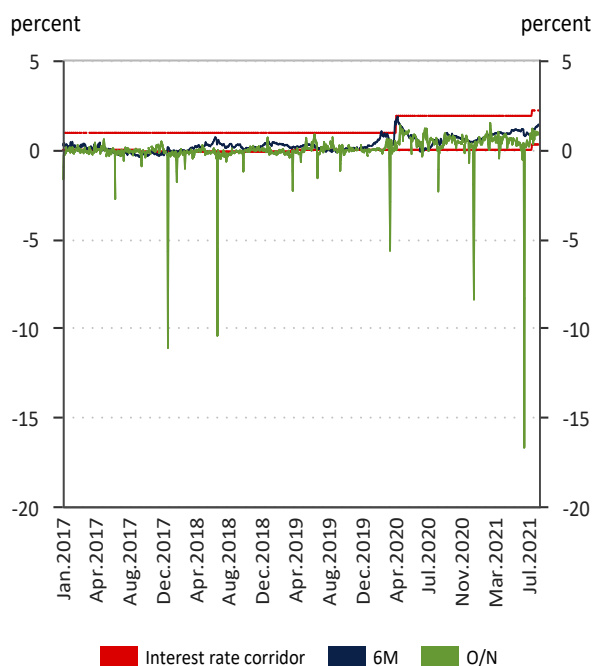
57. Cumulated positions of non-residents in HUF and the EURHUF exchange rate



58. Forward agreements of non-financial institutions



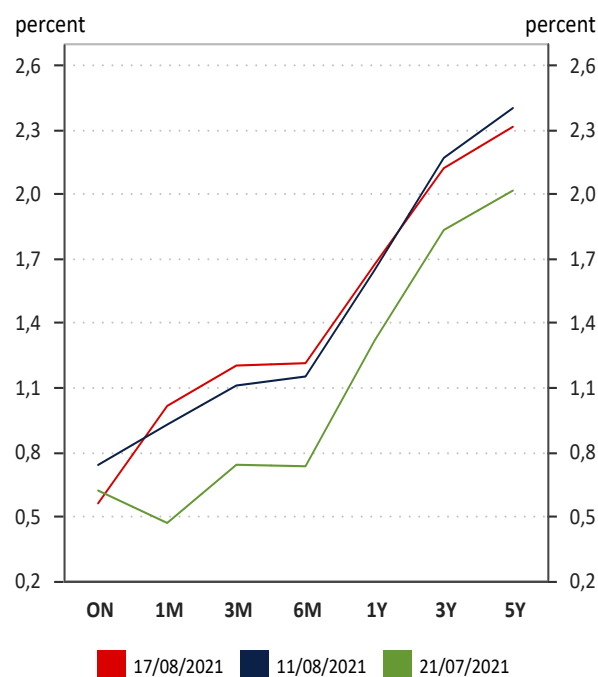
59. Implied HUF rates on FX-swap market



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.

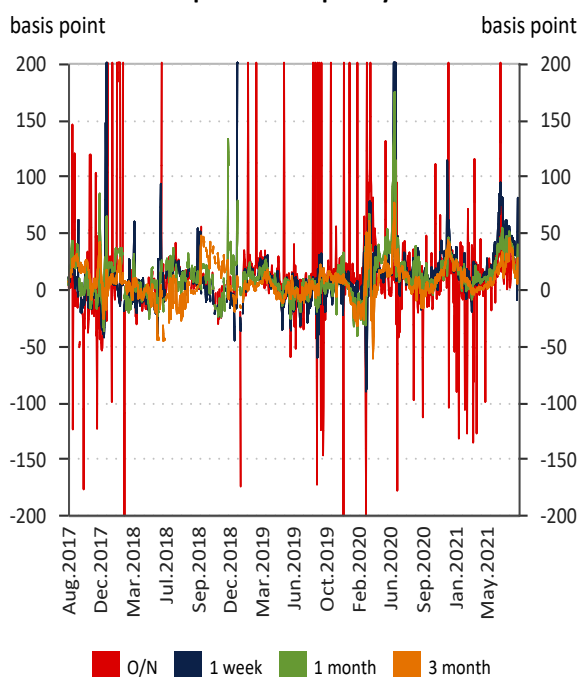
60. Implied yield curve on FX-swap markets



Source: MNB, Bloomberg.

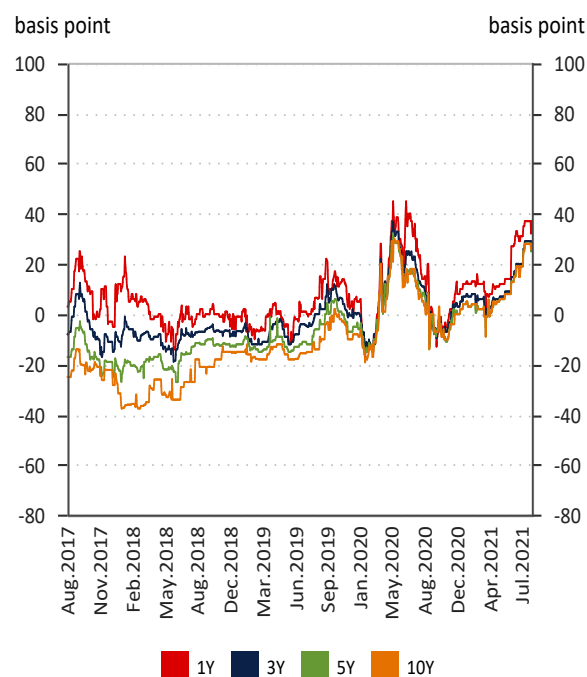
Notes: Implied HUF yields. Based on BBG USD/HUF quotes.

61. Difference between short-term interbank yields and FX-swap market implied yields



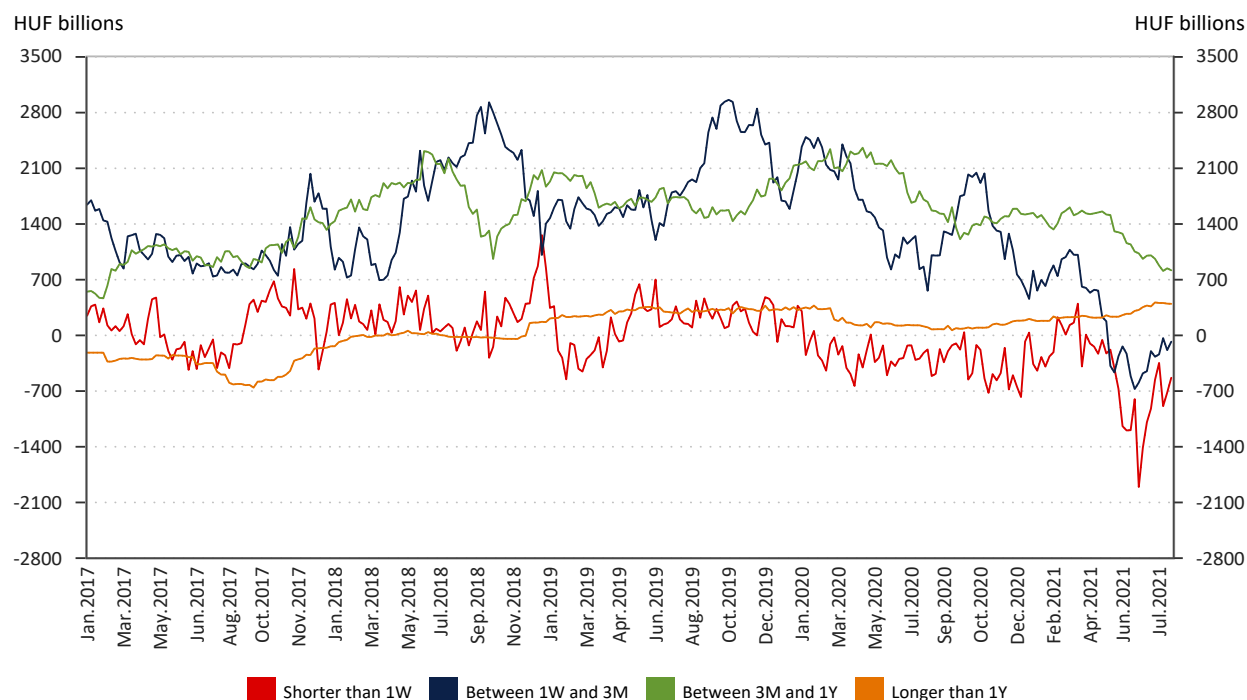
Source: Refinitiv.

62. Development of the EUR/HUF basis swap spread

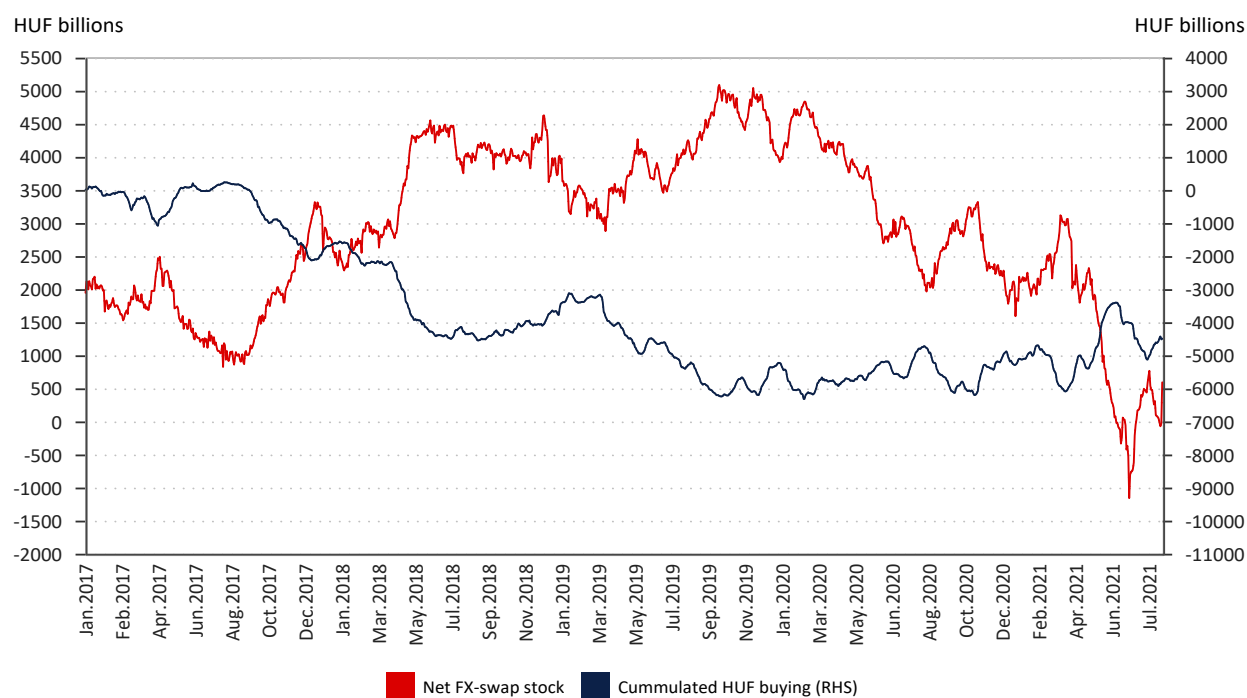


Source: Bloomberg.

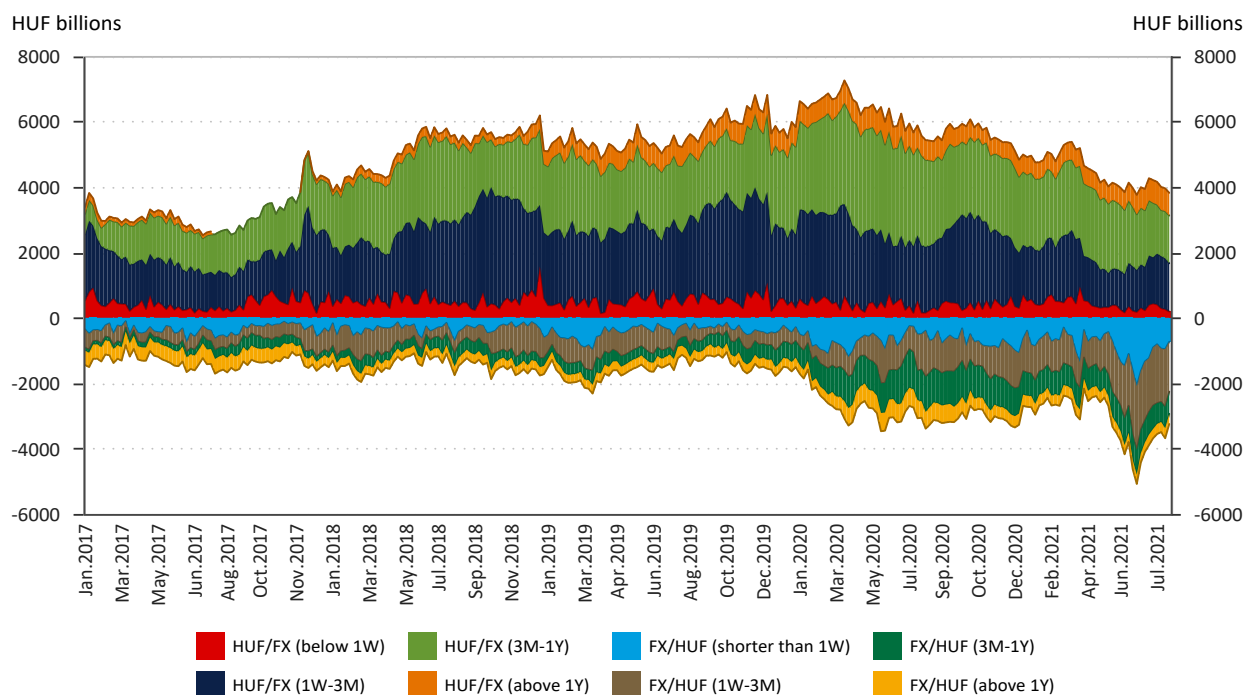
63. Net FX-swap stock of non-residents by maturity



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



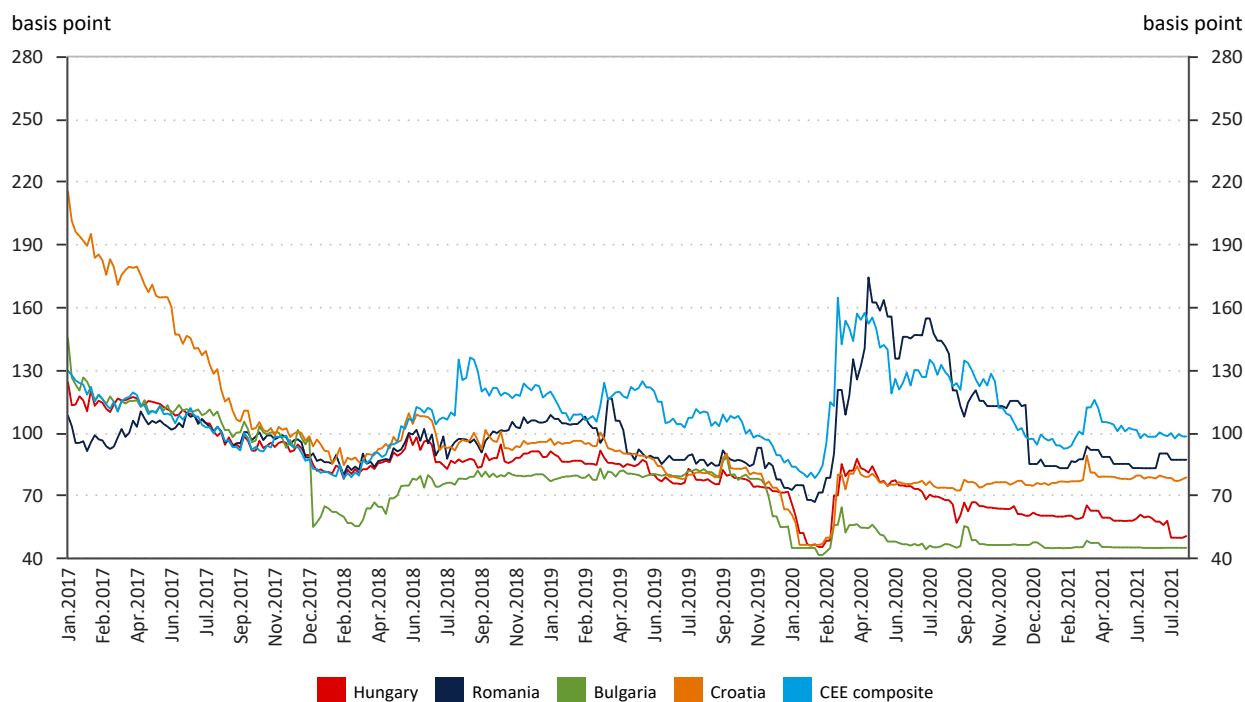
65. Gross FX-swap stocks of foreign investors by maturity



Source: MNB

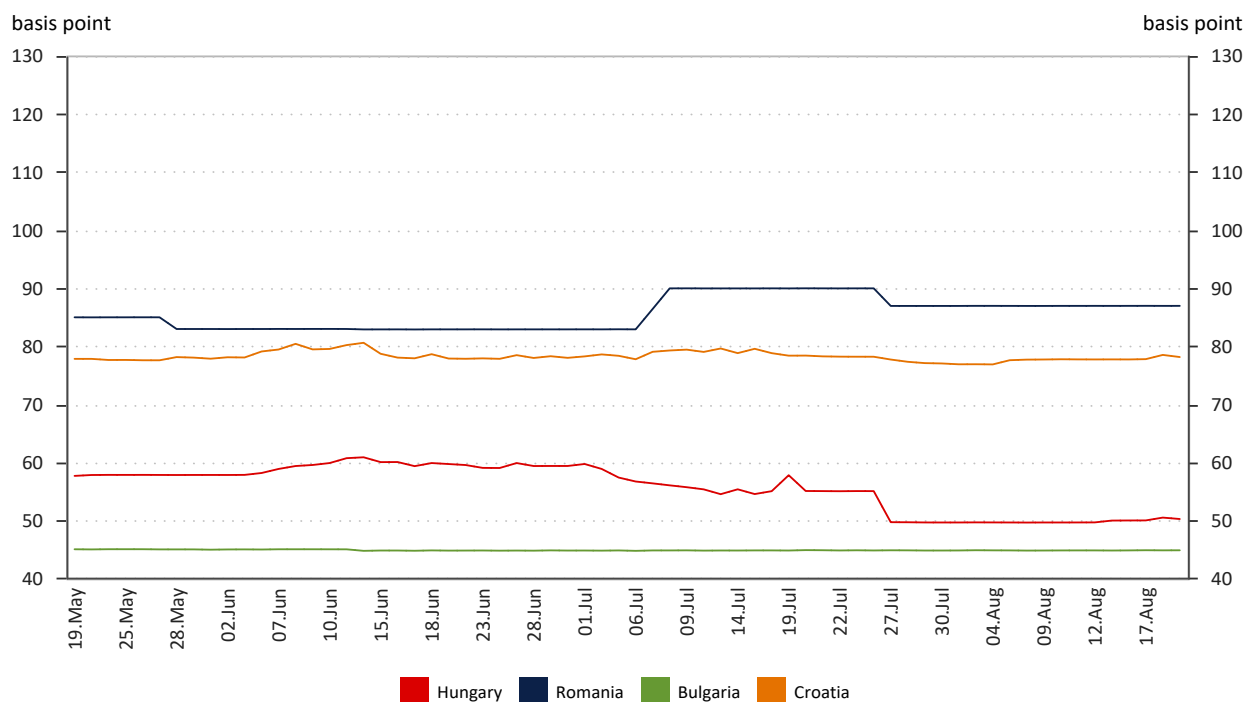
Note: Based on the daily FX reports of the transactions with non-residents of credit institutions. Positive values stand for swap stock with long forint spot leg, while negative values stand for swap stock with short forint spot leg.

66. 5 year sovereign CDS spreads in CEE



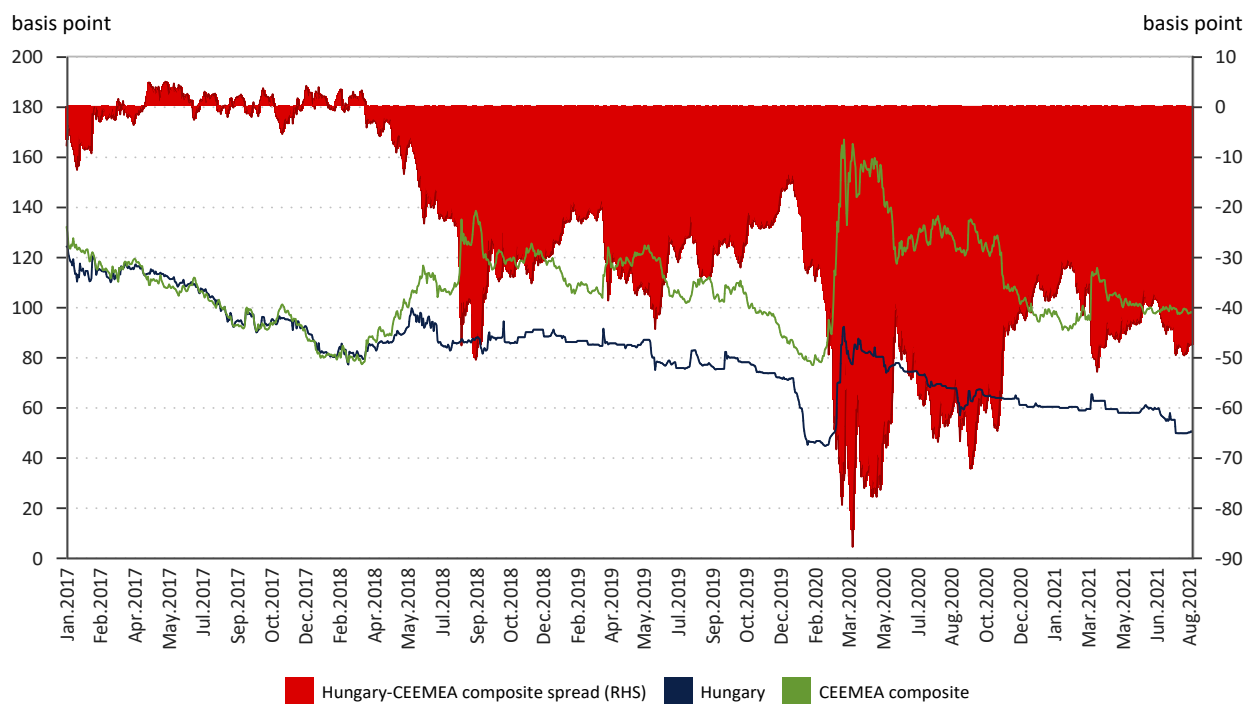
Source: Refinitiv.

67. 5 year sovereign CDS spreads in CEE (last months)



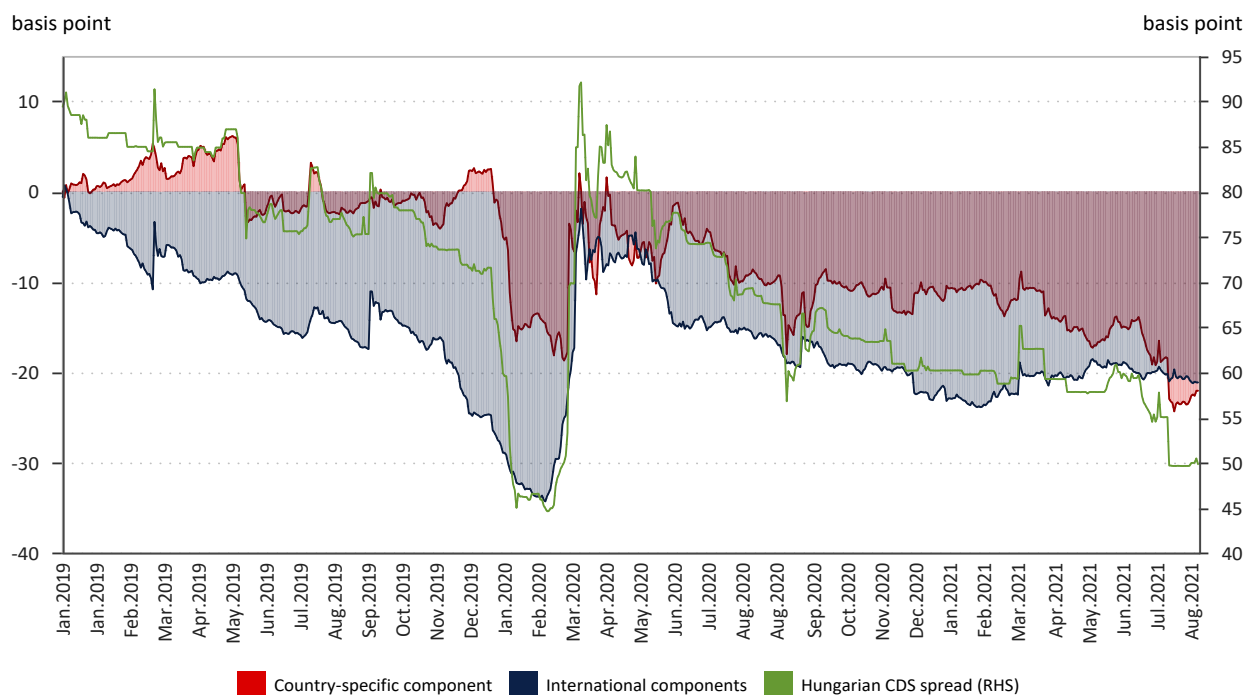
Source: Refinitiv.

68. 5 year sovereign CDS spread in Hungary versus CEEMEA composite index

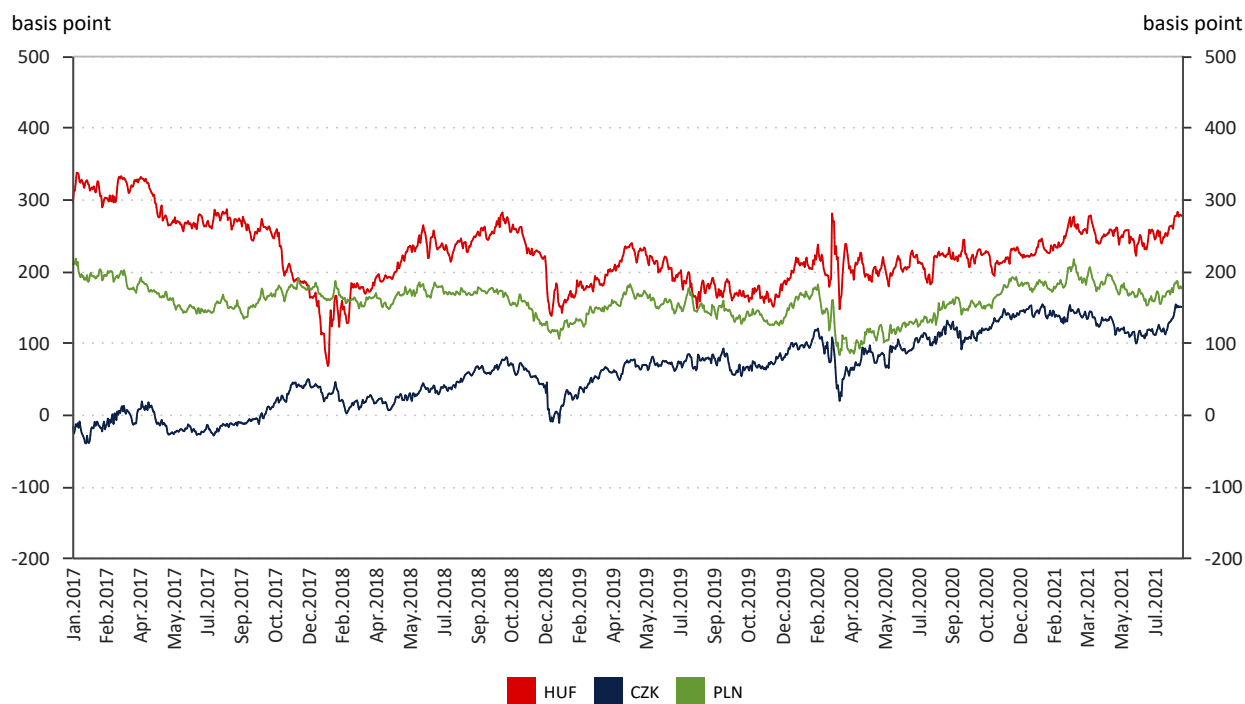


Source: Refinitiv.

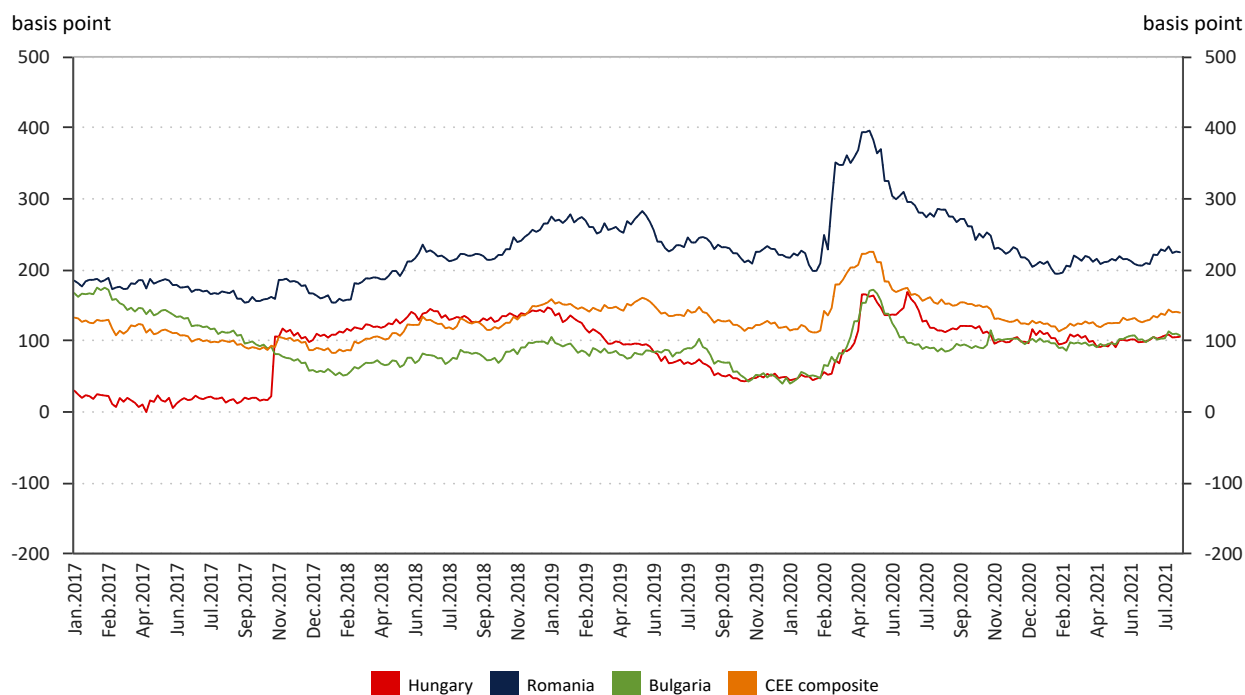
69. Components of Hungarian 5 year sovereign CDS



70. 5 year implied spreads over euro rates in 5 year time



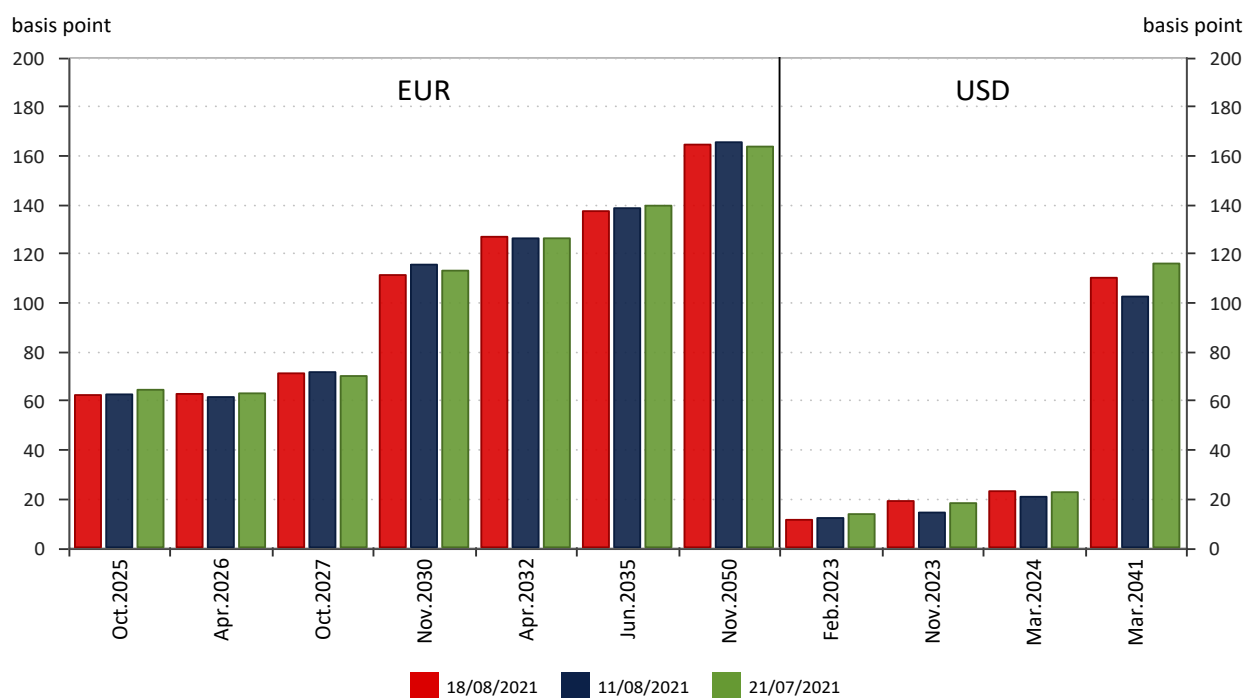
71. Emerging markets FX denominated government bond spreads



Source: Refinitiv, Bloomberg.

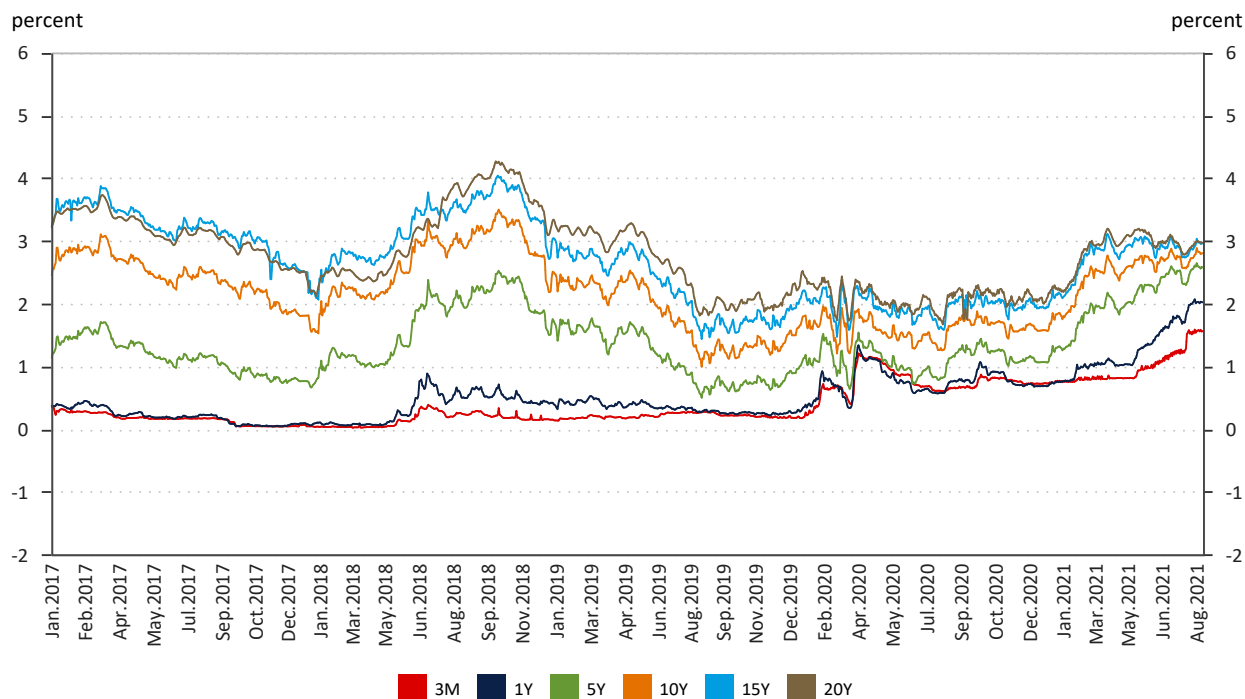
Notes: calculated from JP Morgan Euro EMBI data. The series are differences between euro denominated (liquid) foreign currency bond yields and euro zero coupon yields of the corresponding maturities. Different durations may result in significant difference in the level of spreads.

72. Domestic FX-government bond

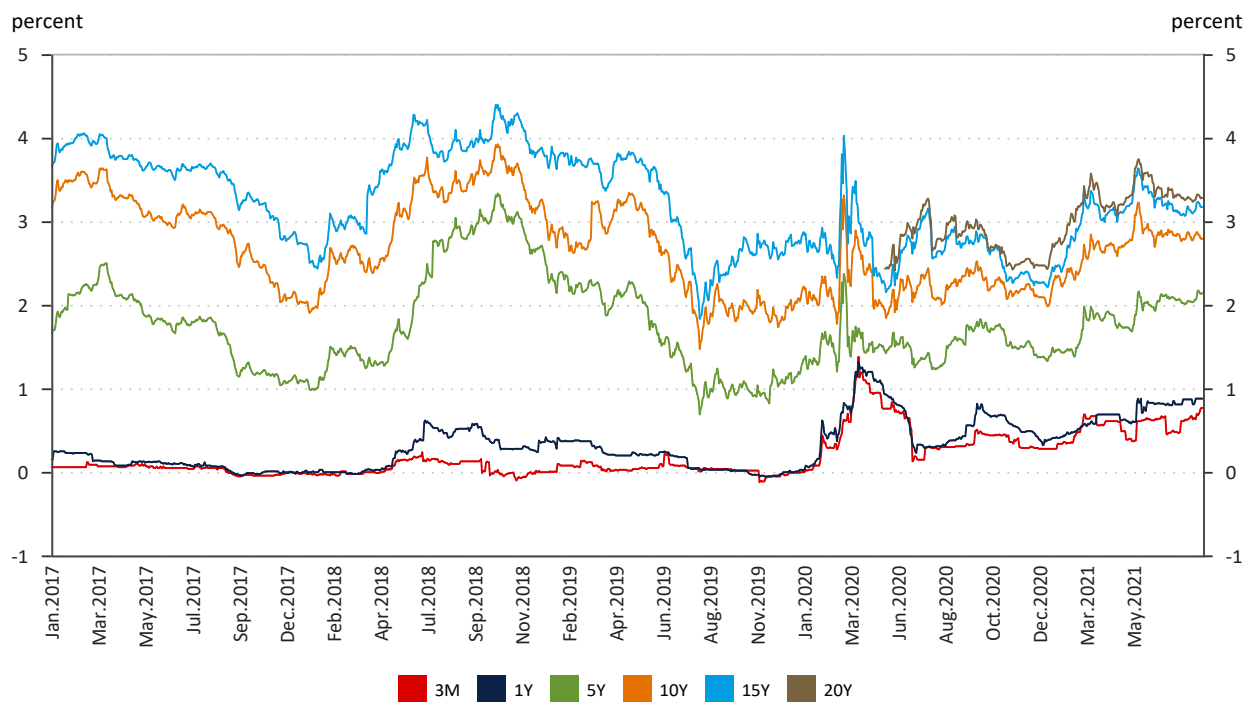


Source: Bloomberg.

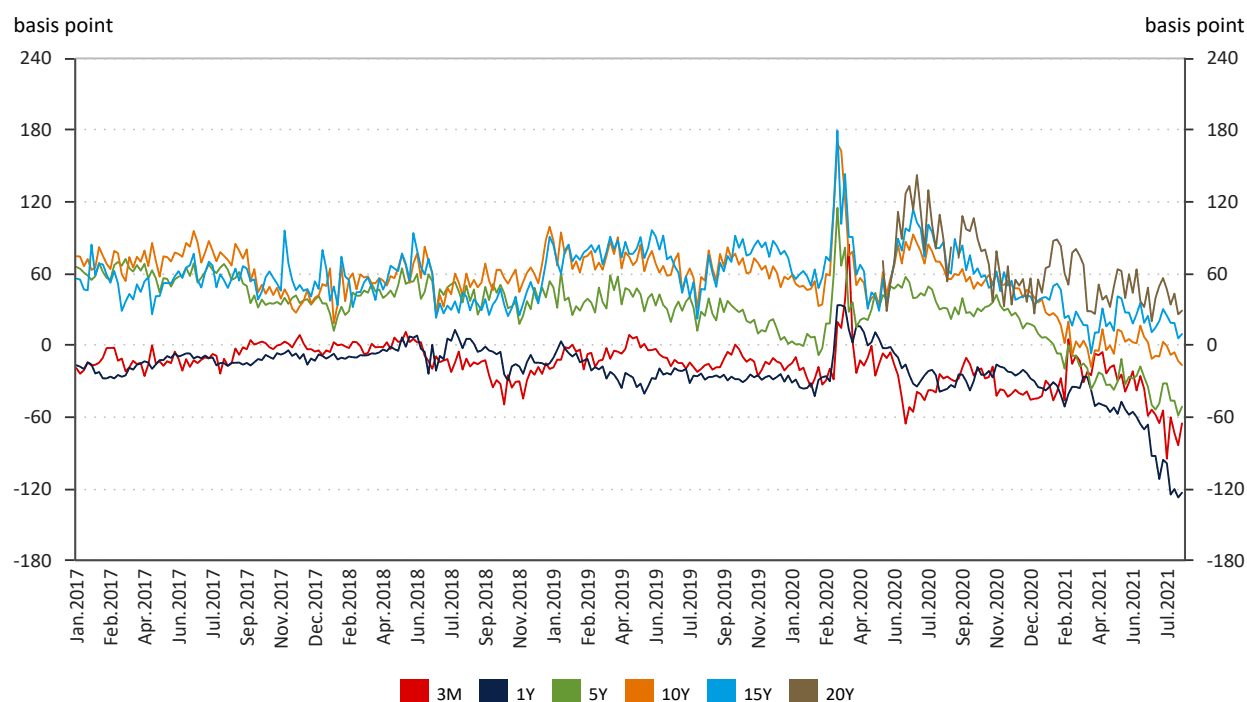
Notes: Spread between EUR and USD denominated FX-bonds and the equivalent US T-bond or euro yields chosen by Bloomberg. We present bonds grouped by currency in order of maturity.

73. Interbank yields

Source: Refinitiv.

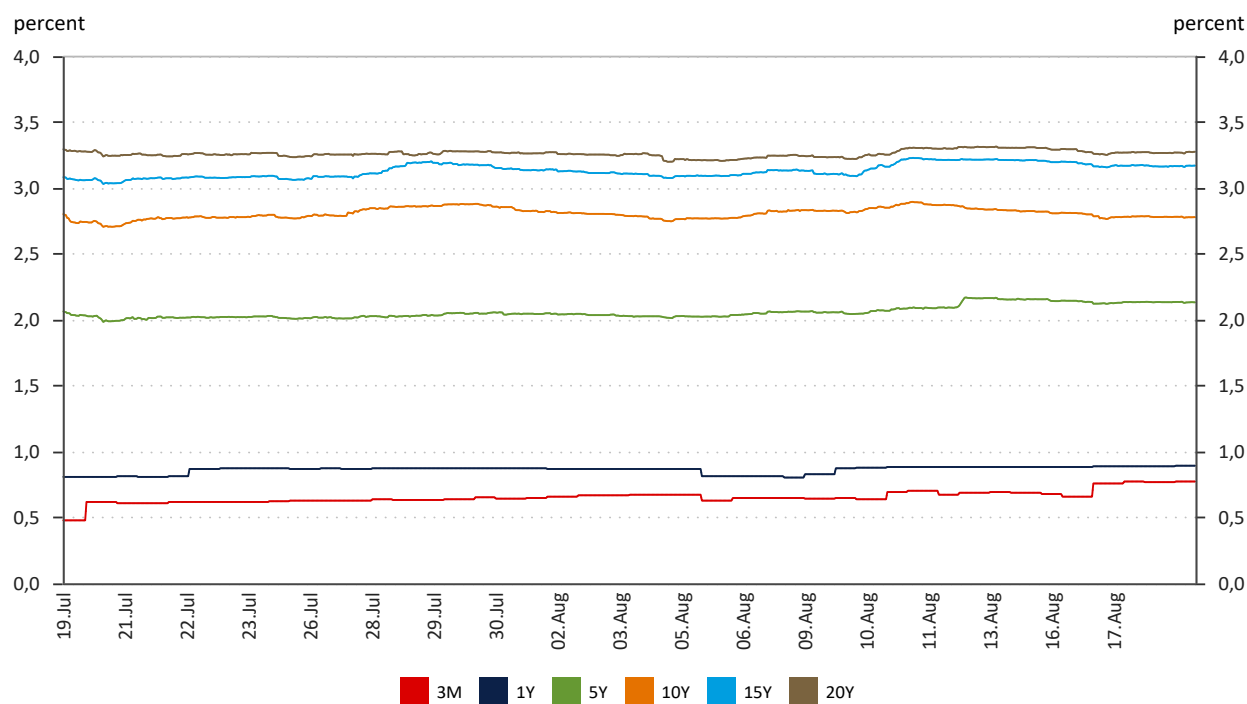
74. Yields of benchmark government securities

Source: Refinitiv.

75. Government securities - interbank yield spreads

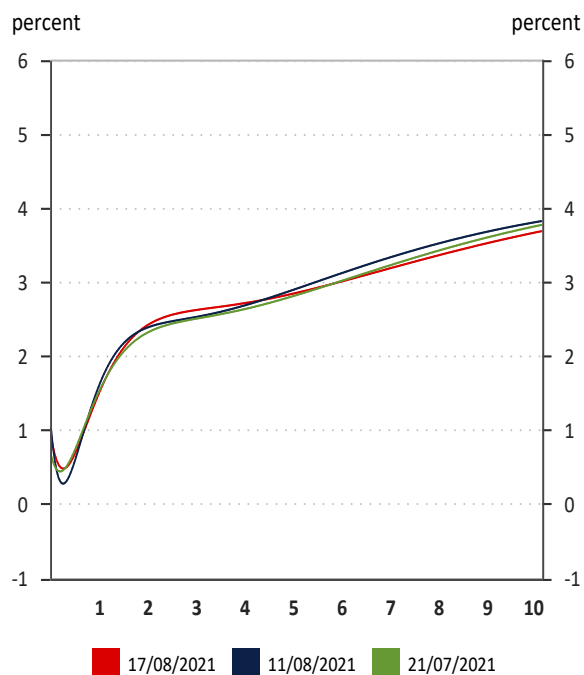
Source: Refinitiv

Note: Spread between the benchmark government bond yield of the given maturity and the interbank rates.

76. Yields of benchmark government securities (last month)

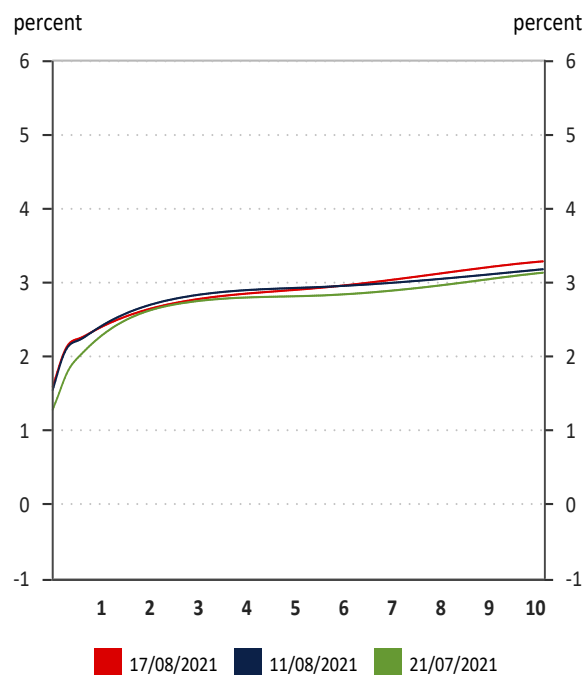
Source: Bloomberg, Hungarian State Treasury.

**77. Implied 3 month forward interest rate yield curve
(based on government securities yields)**



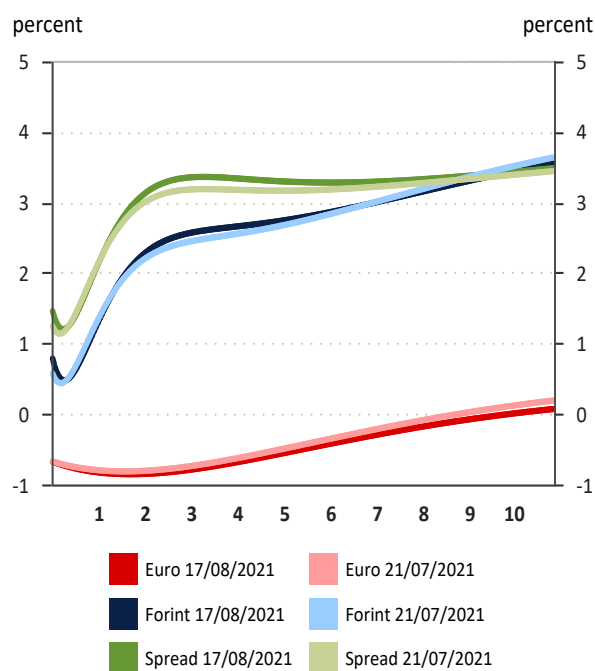
Source: MNB, ÁKK. Note: calculated by Svensson method by MNB. X axis shows maturities, in years.

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



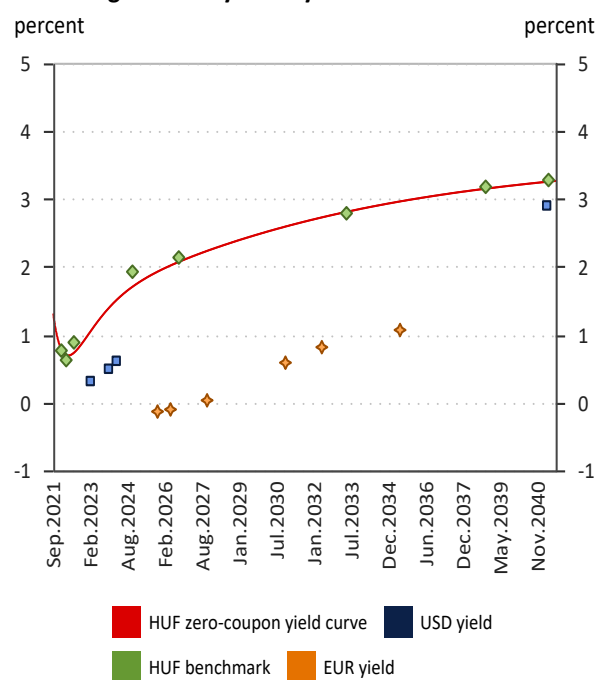
Note: Calculated from FRA-s, and IRS by spline method. X axis shows maturities, in years.

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



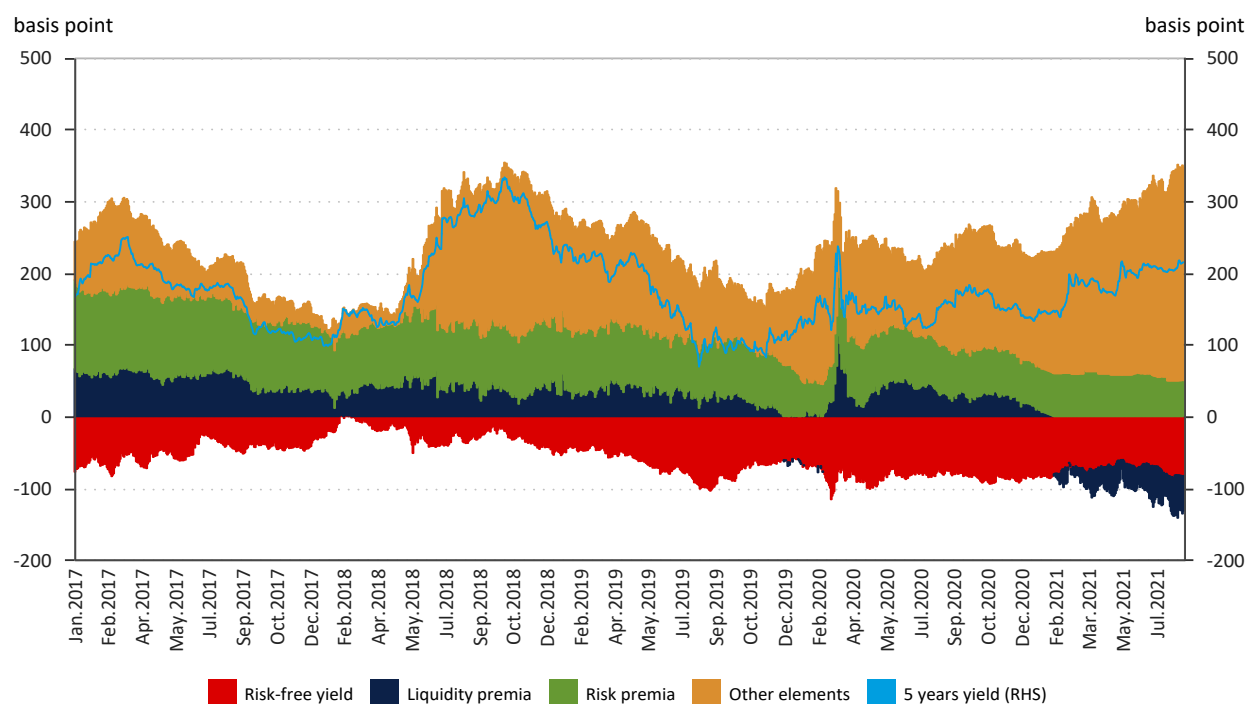
Source: Refinitiv
Note: X axis shows maturities, in years. Estimated by the ECB using the Svensson-technique, based on AAA-rated euro area central government bonds.

**80. Hungarian government bond yield curve and
foreign currency bond yields**

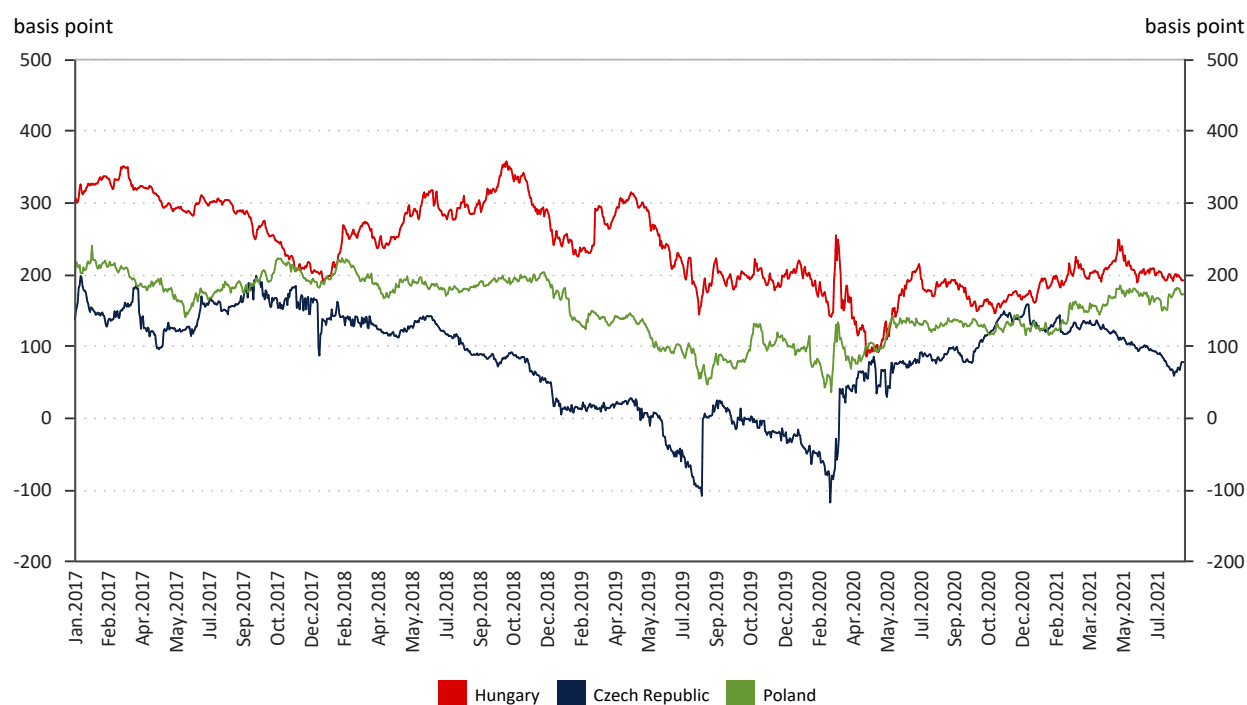


Source: MNB, Bloomberg.

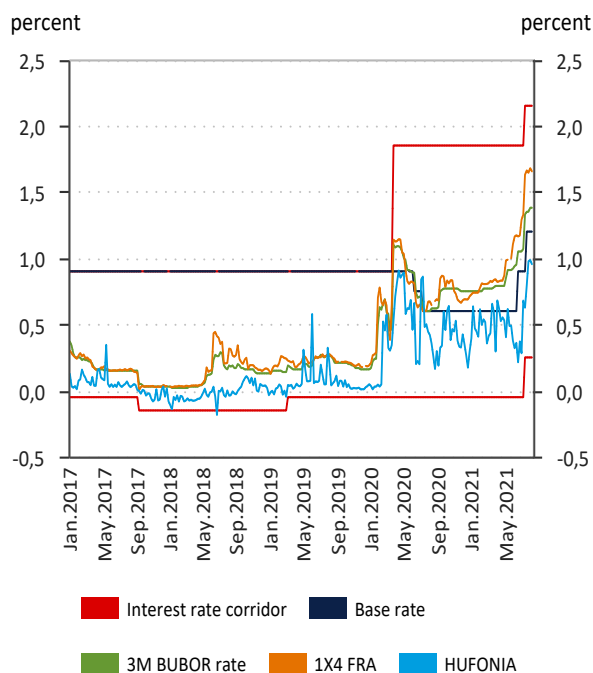
81. Decomposition of 5 year government bond yield



82. Slope of yield curve in CEE

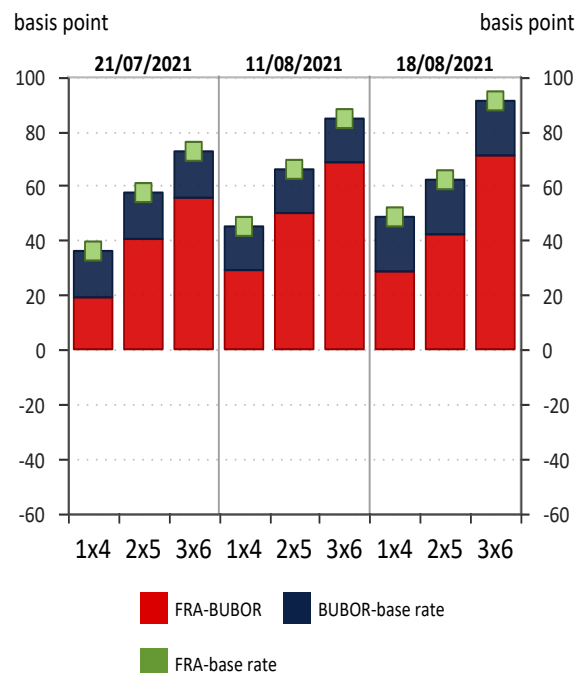


83. MNB base rate and money market rates



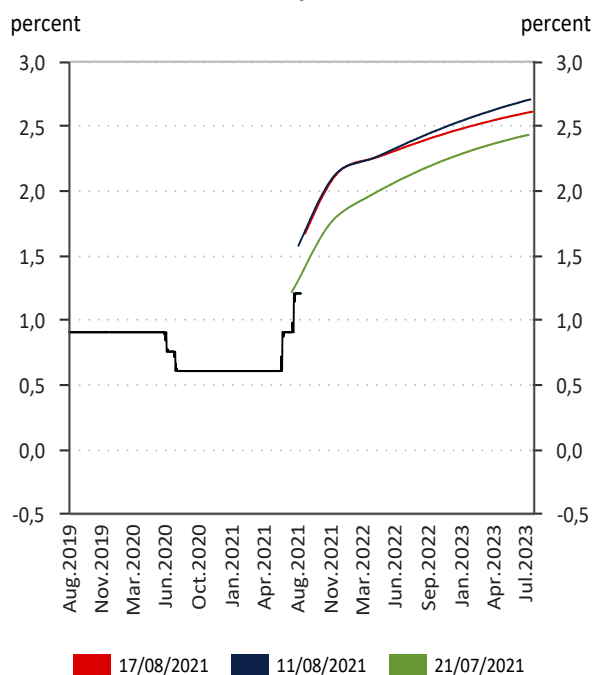
Source: Refinitiv, MNB

84. Difference between the 3 month FRA quotes and the current base rate



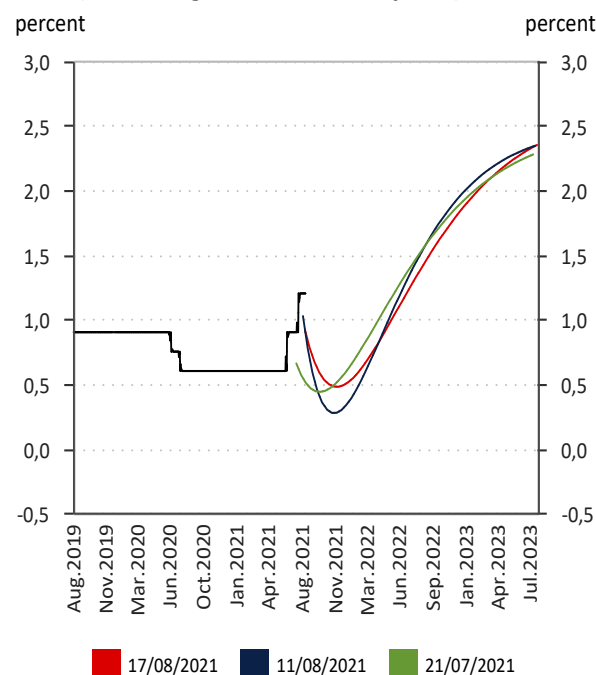
Source: Refinitiv, MNB.

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



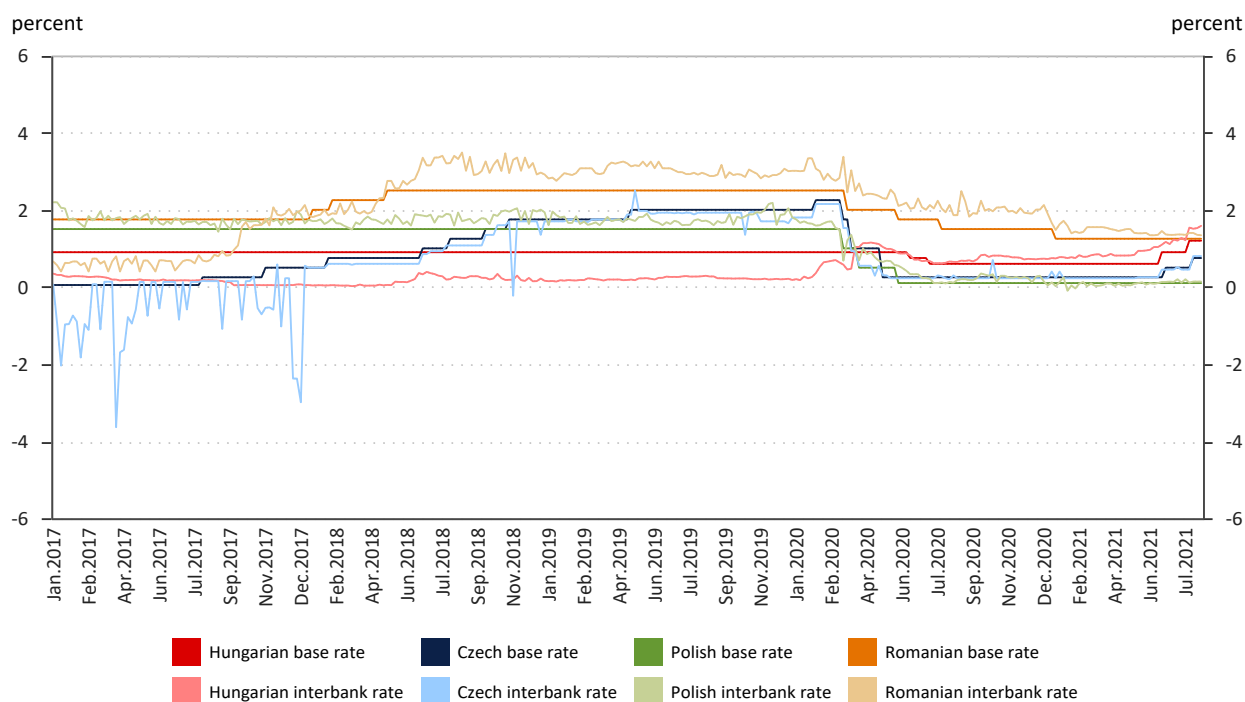
Source: MNB.

86. Implied 3 month forward interest rate curve (based on government bond yields)



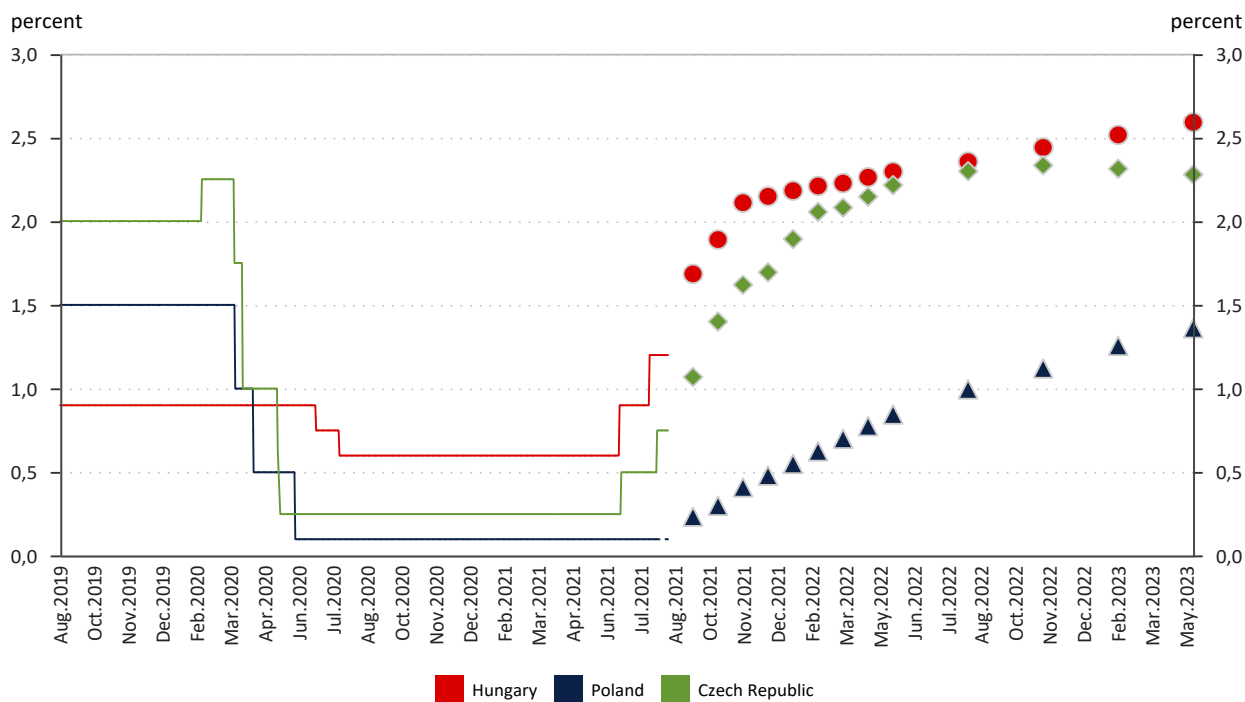
Source: MNB.

87. Base rates and short term interbank rates in the region



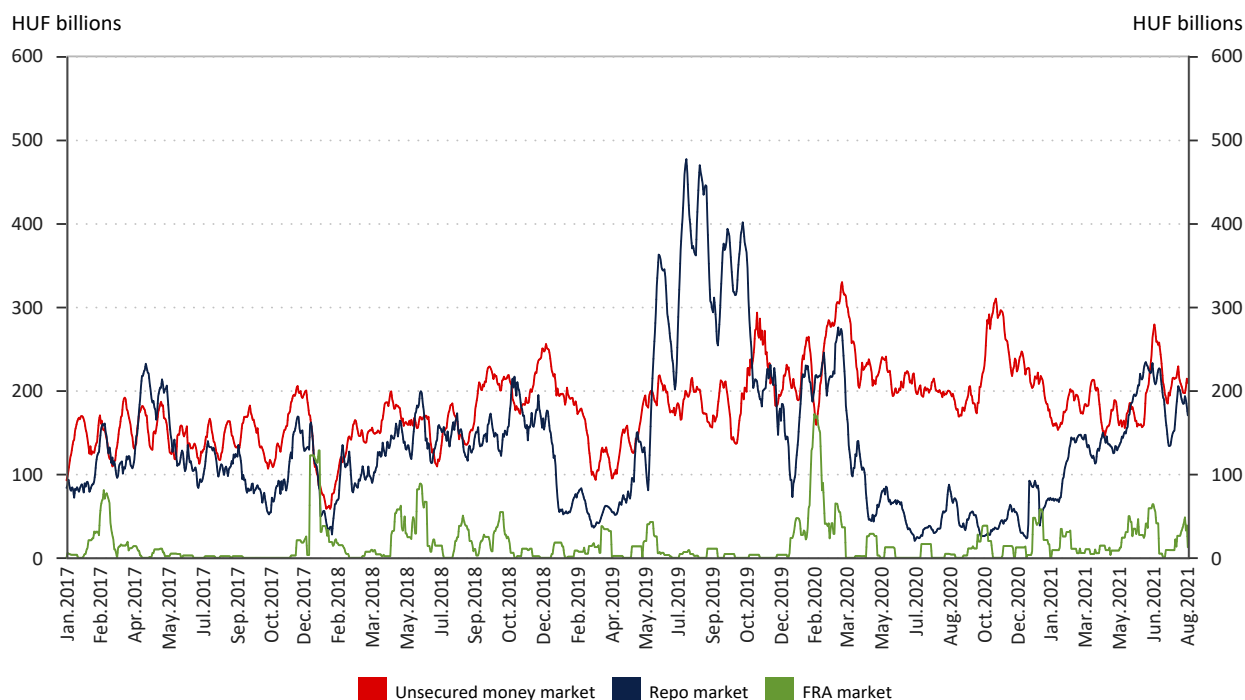
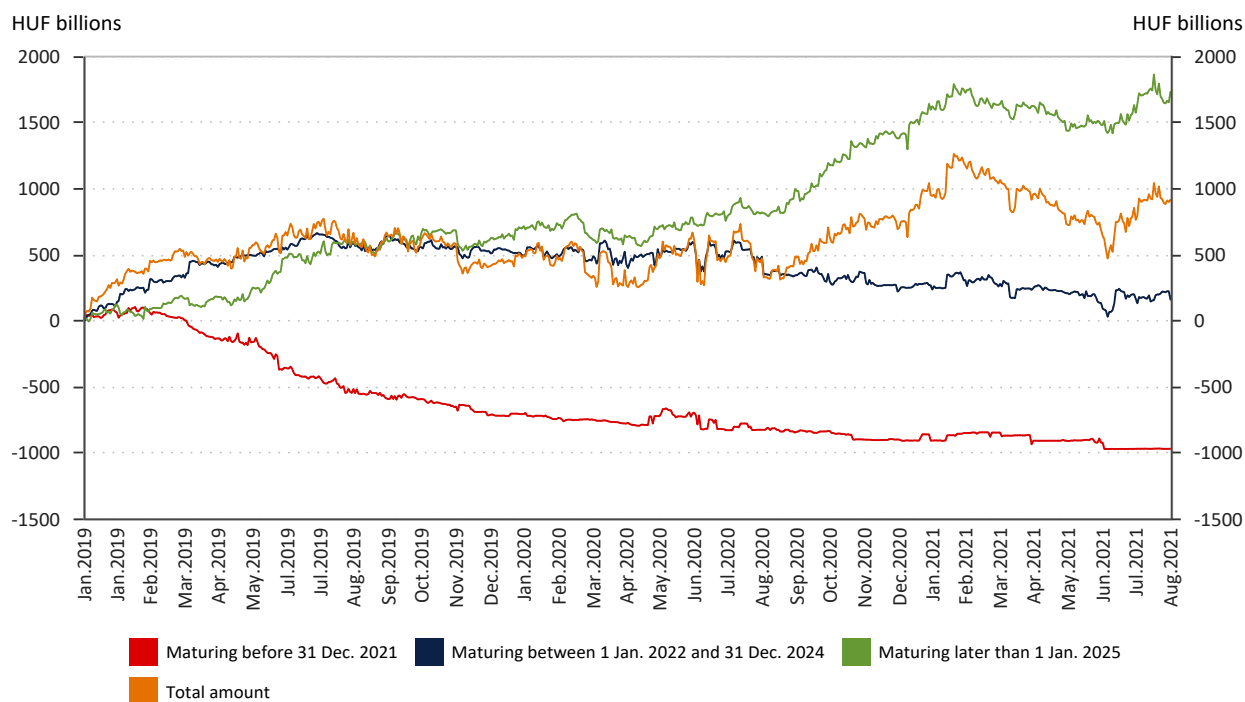
Source: Refinitiv.

88. CEE base rates and forward rate agreements

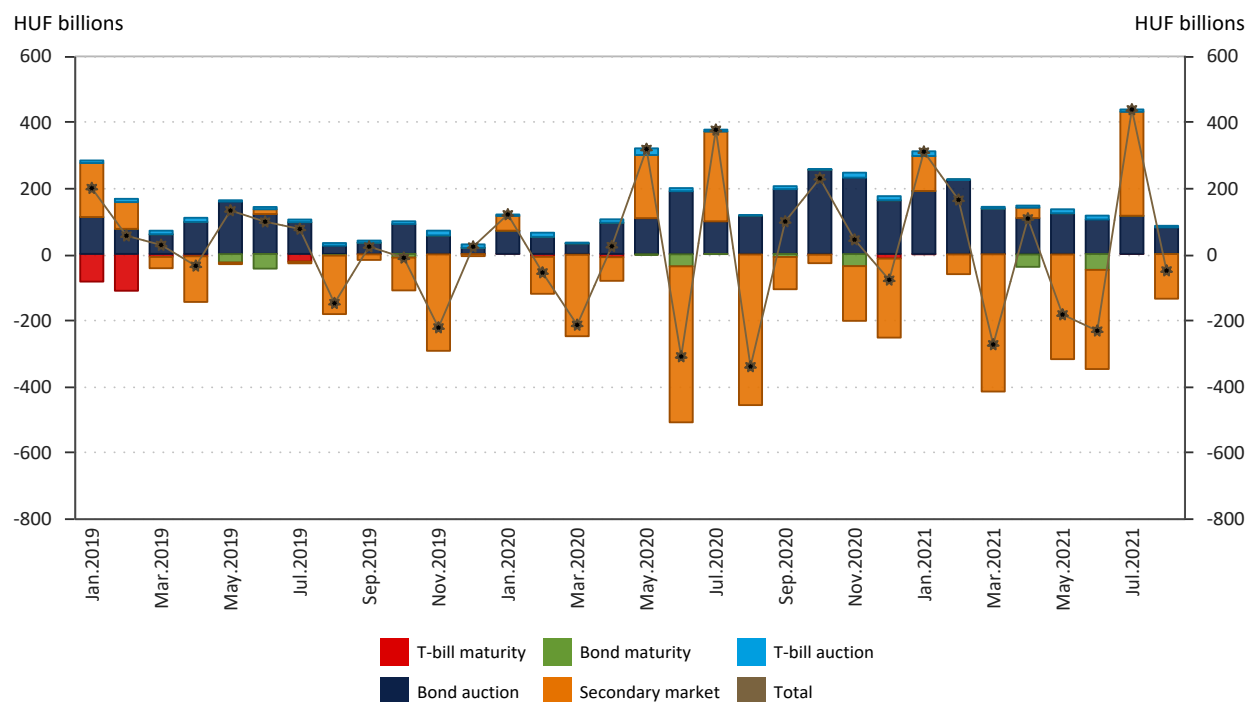


Source: Bloomberg

Note: Based on FRA transactions. Last update: (19/08/2021).

89. Turnover on the interbank, HUF repo, and FRA markets (25 day moving average)**90. Change in government bonds of non-residents by tenor**

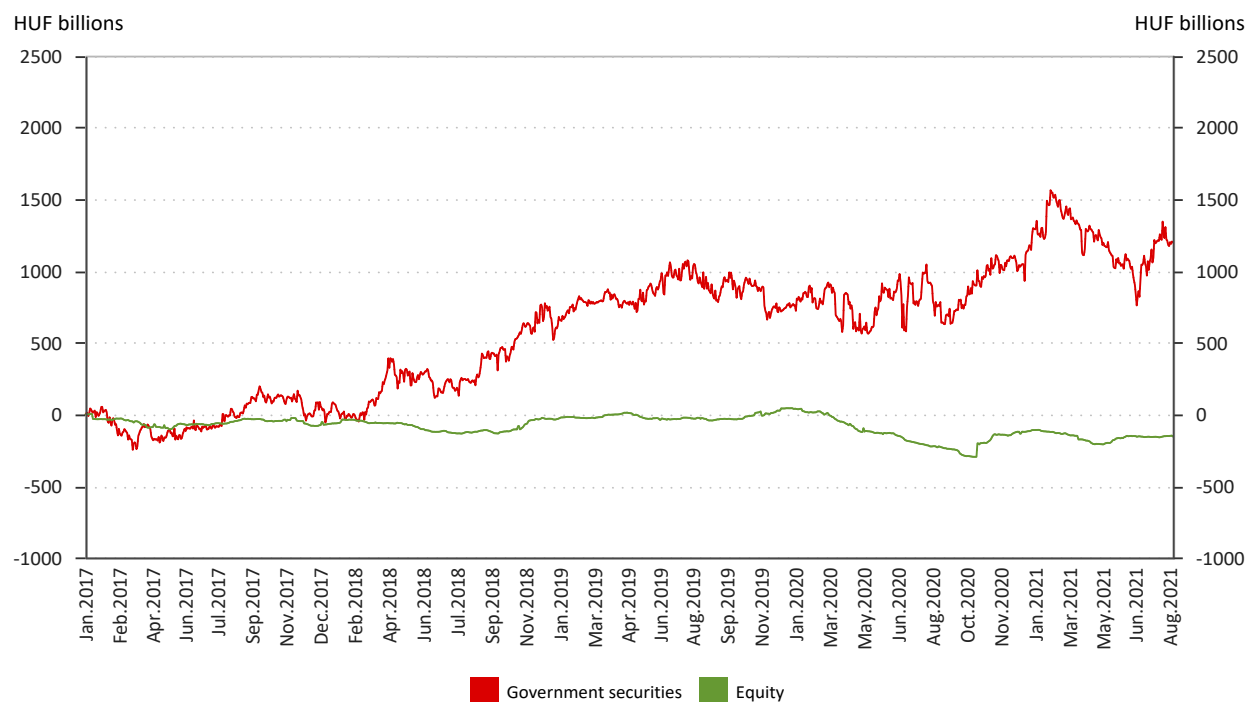
91. Decomposition of change in government securities held by non-residents (last months)



Source: MNB

Note: Last month is incomplete.

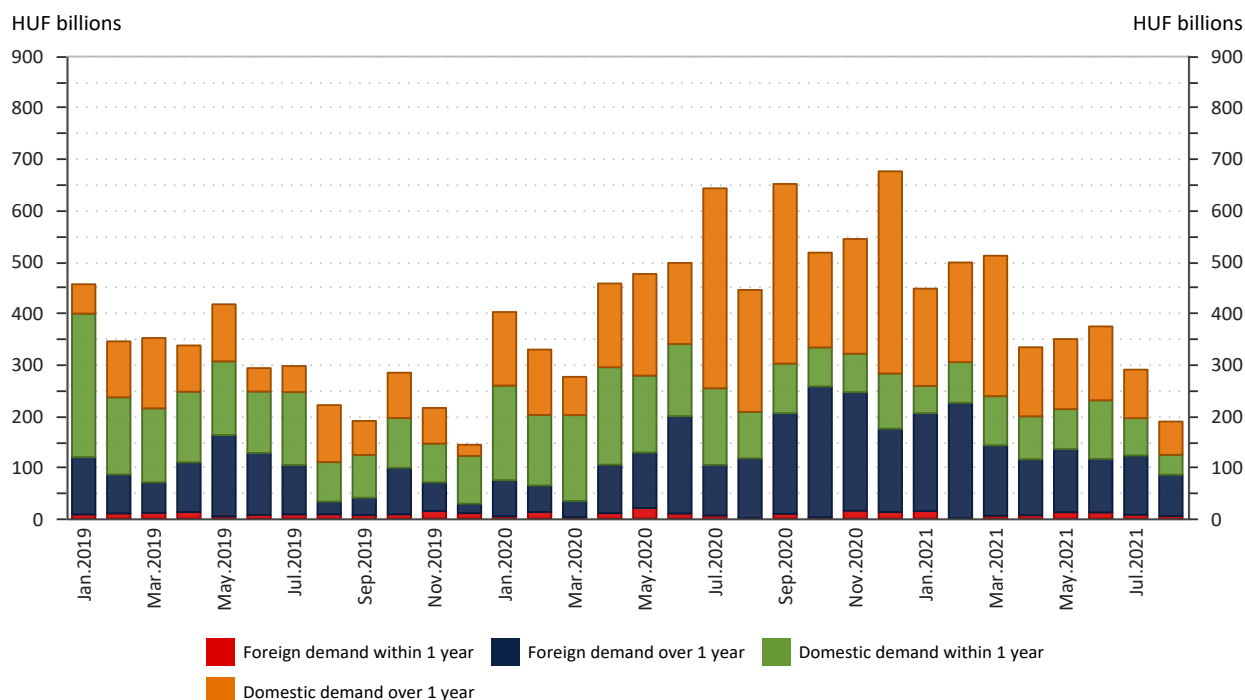
92. Forint financial assets held by non-residents



Source: MNB, KELER

Note: Cumulative change. Equity data are not comprehensive, it contains data for large- and mid-cap stocks quoted on the Budapest Stock Exchange.

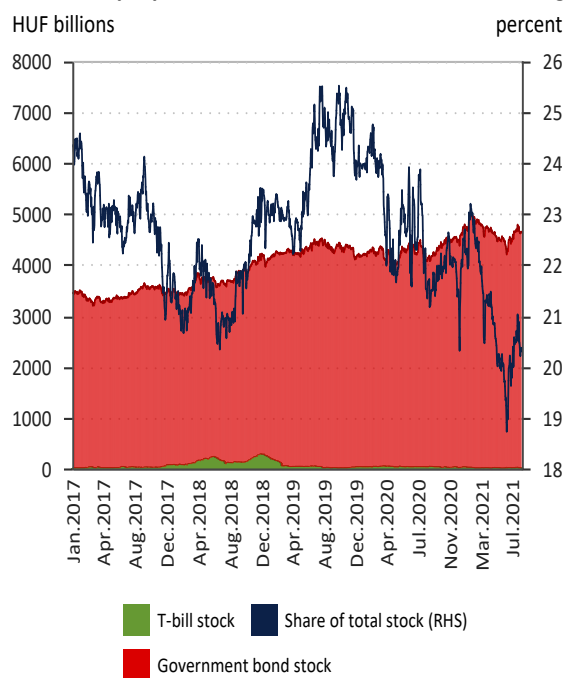
93. Primary market government security purchase of domestic and non-resident investors



Source: MNB

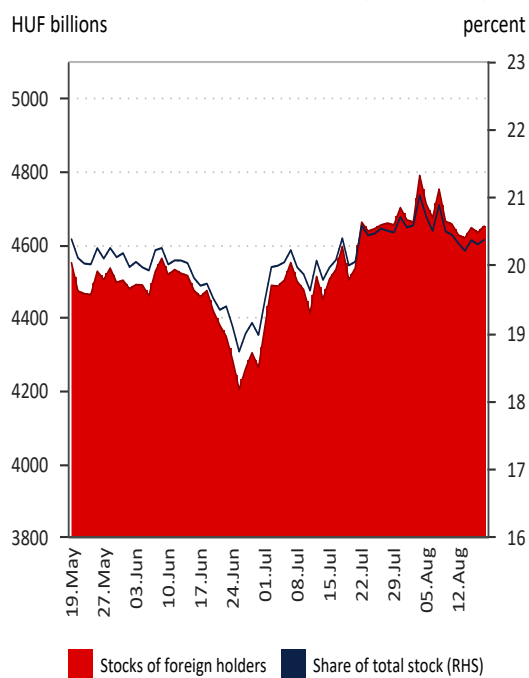
Note: Last month is incomplete.

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



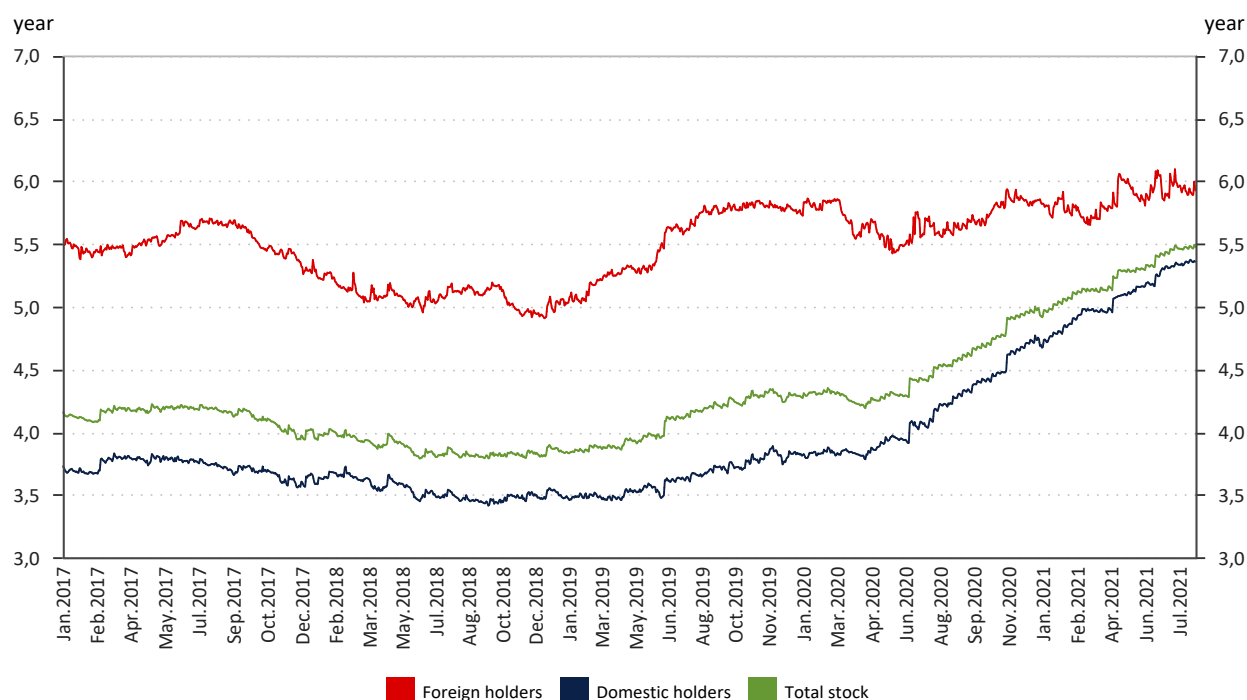
Source: MNB.

95. Government securities held by non-residents and the share of the total amount (last months)

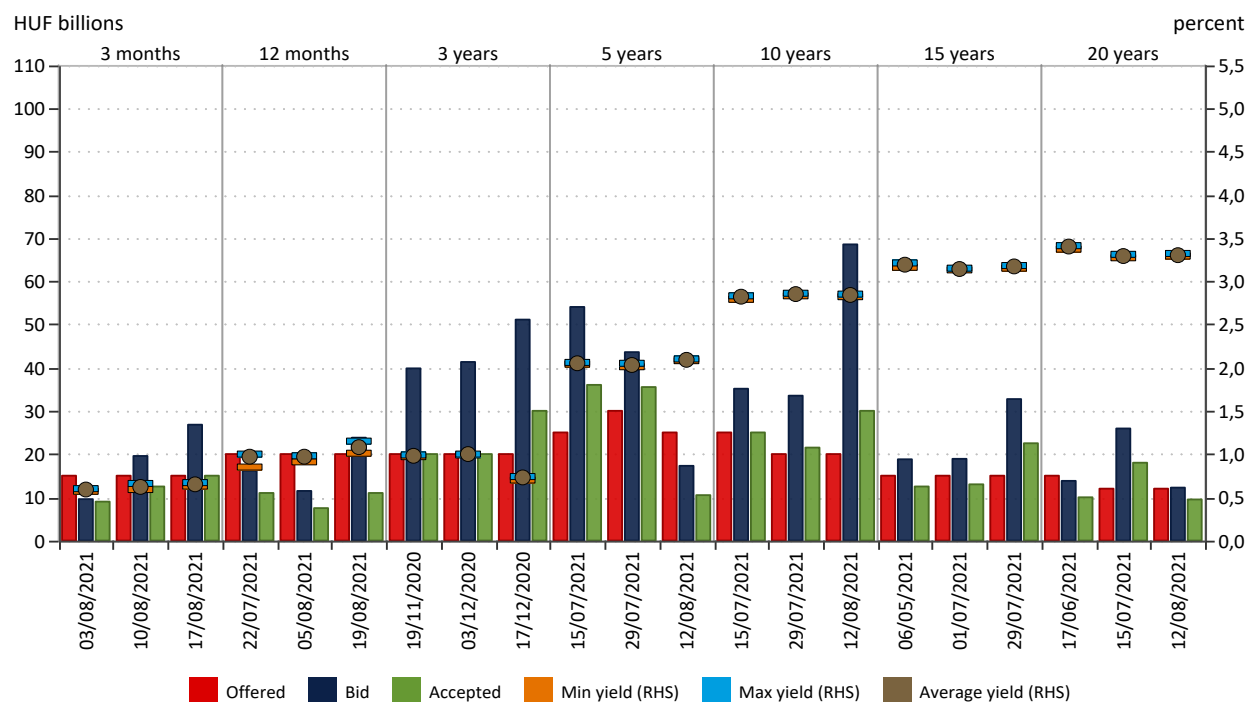


Source: MNB.

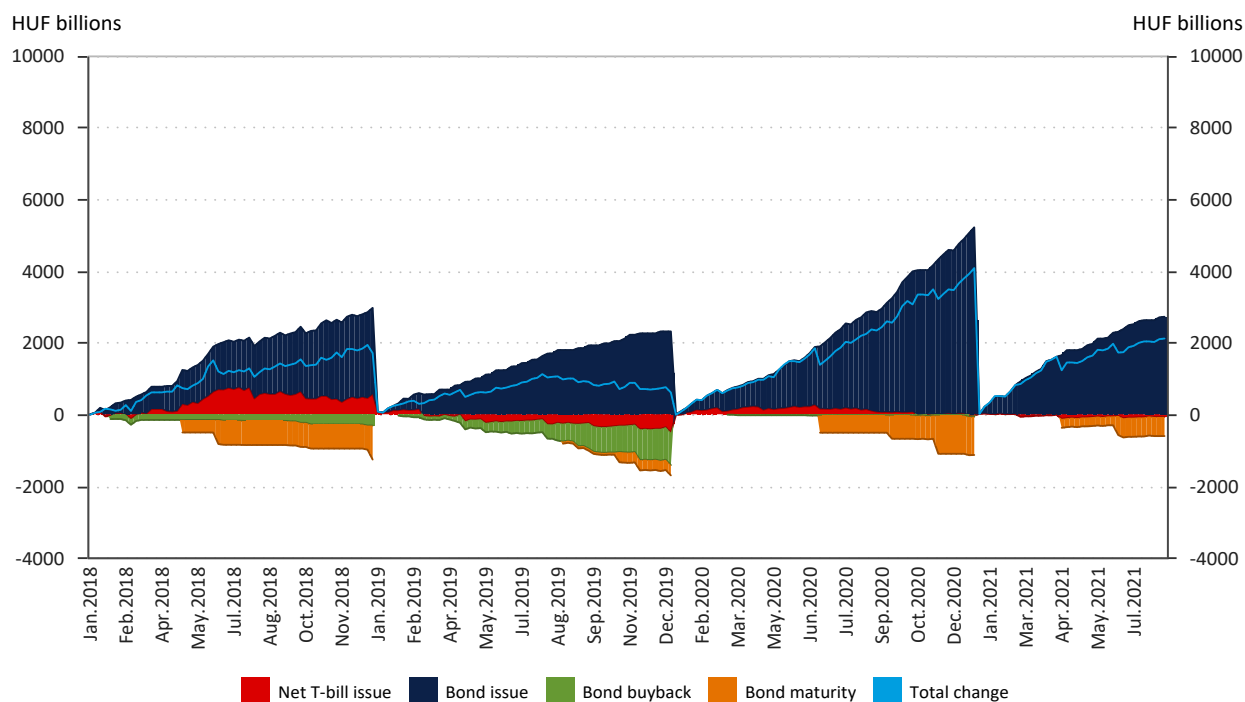
96. The average time to maturity of government security portfolio of residents and non-residents



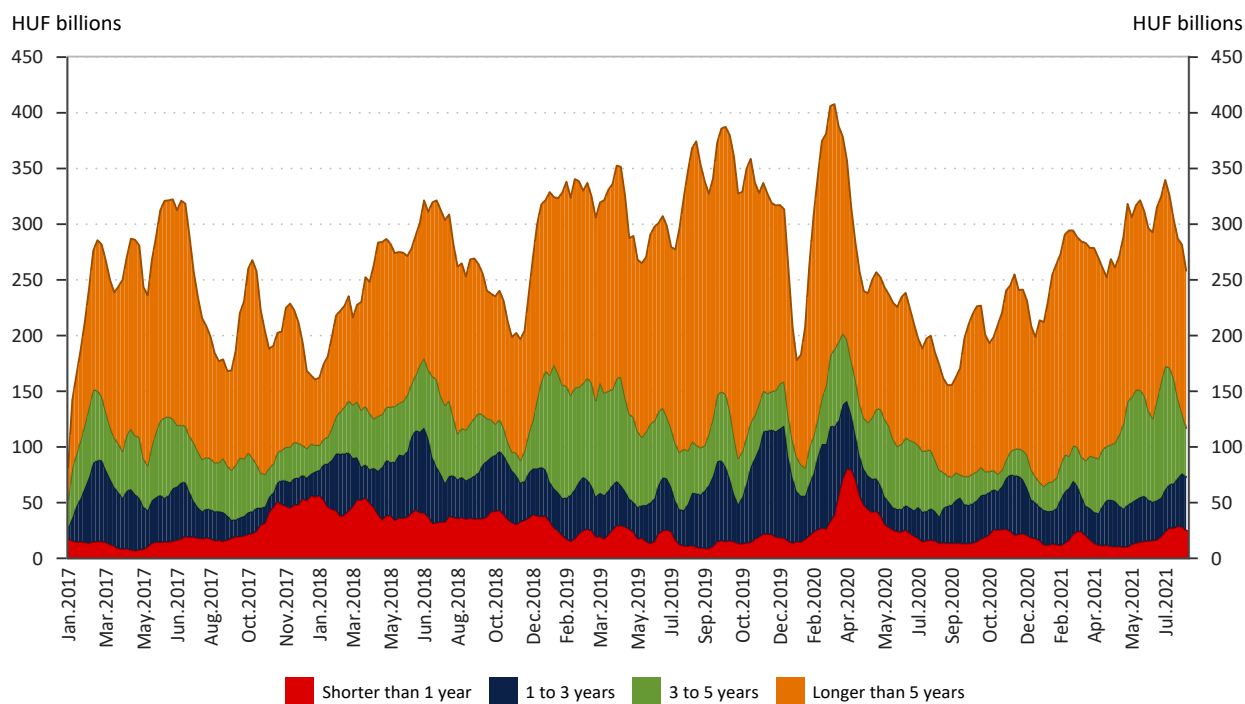
97. The turnover and yield data of the Hungarian primary T-bill and T-bond issues



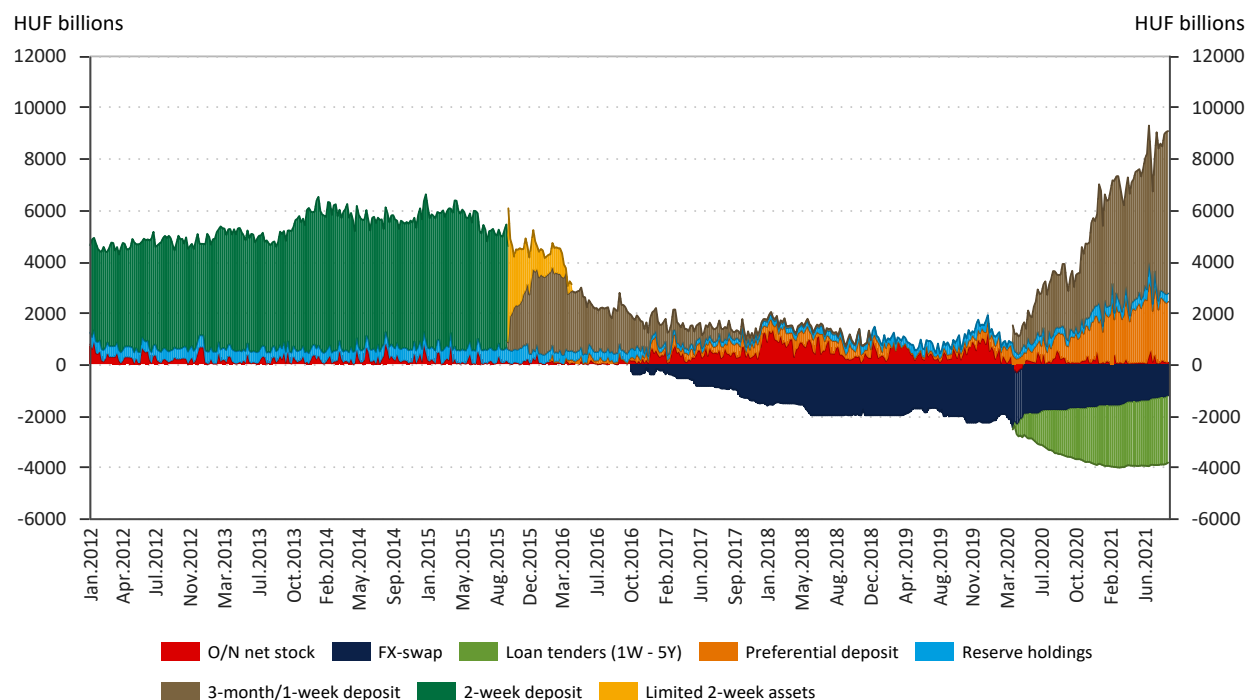
98. Government securities issues, buybacks, redemptions



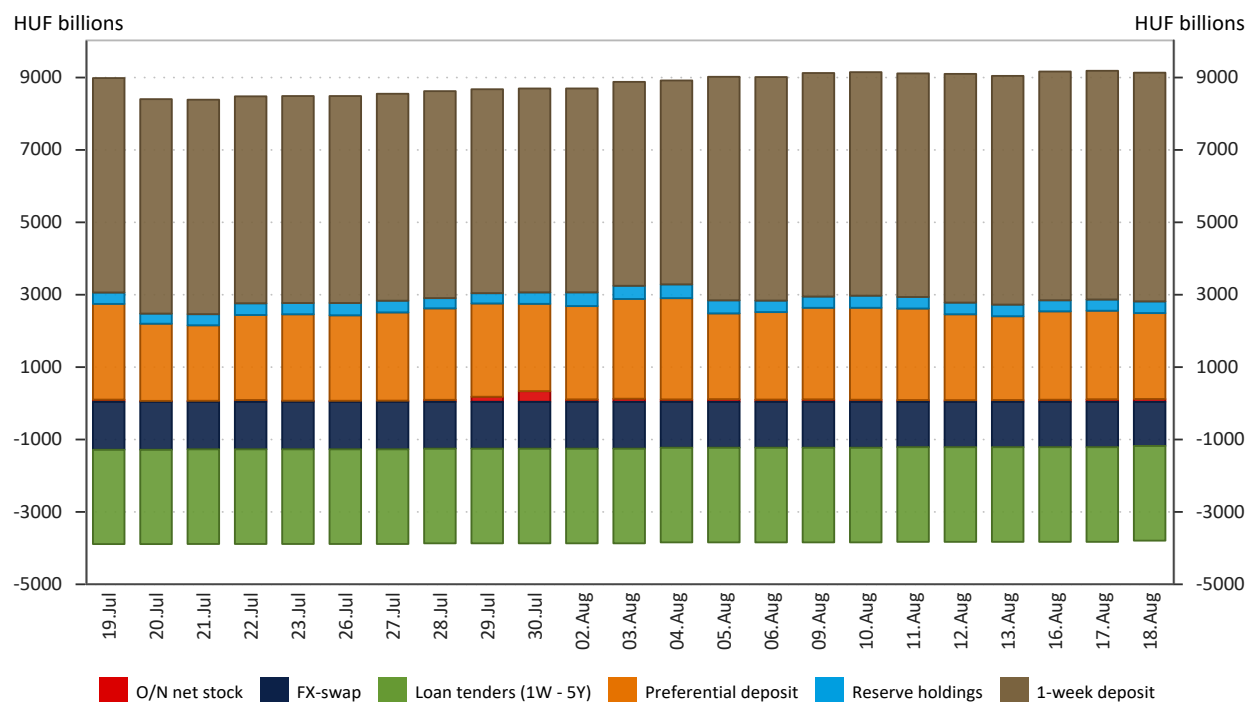
99. Turnover on the secondary market of government securities



100. Selected assets and liabilities of the MNB



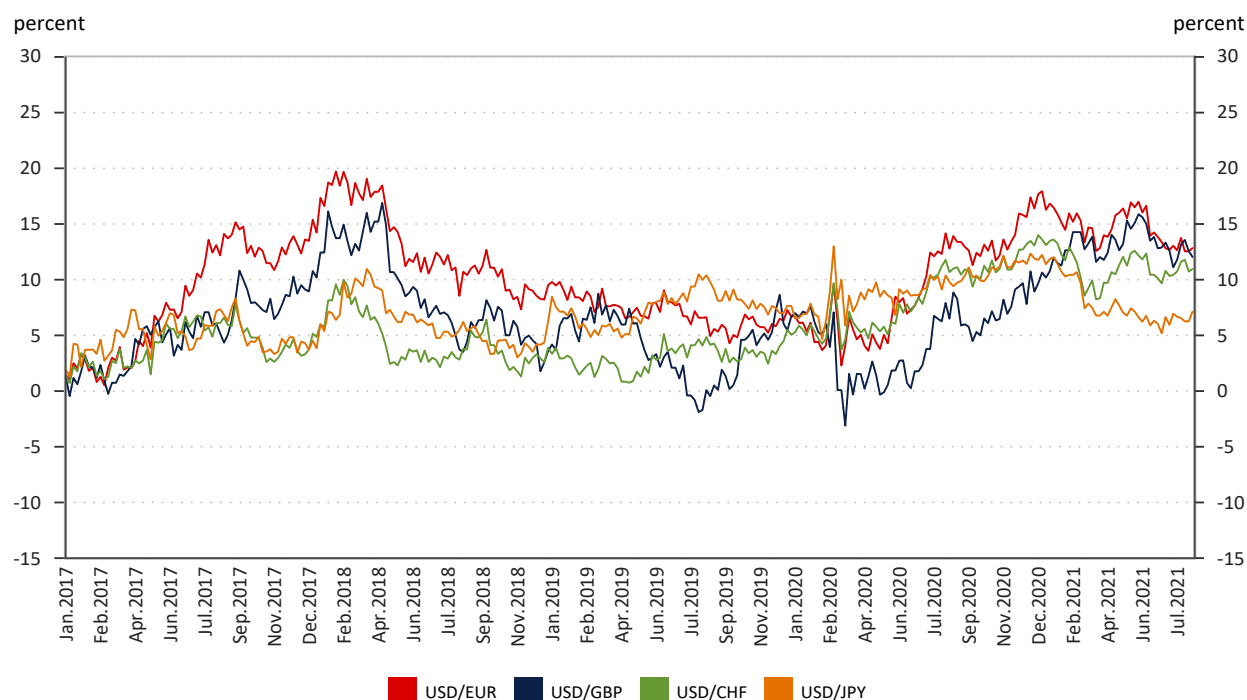
101. Use of selected facilities of the MNB beside the main instrument



102. International developments*Overview*

Indicator	1 month ago	1 week ago	Current
Fed base rate (%)	0.25	0.25	0.25
ECB base rate (%)	0.00	0.00	0.00
10-year T-bond yield (%)	1.22	1.36	1.26
10-year euro yield (%)	-0.41	-0.46	-0.48
VIX Index (%)	20.6	16.3	23.4
EMBI Global spread (bp)	329	317	323
SP 500 Index	4323	4461	4448
DAX Index	15216	15938	15966
NIKKEI Index	27653	28071	27586
USD/EUR exchange rate	1.18	1.17	1.17
USD/JPY exchange rate	109.86	110.40	109.77
CHF/EUR exchange rate	1.09	1.08	1.07
Brent oil (USD per barrel)	69.4	71.3	68.2

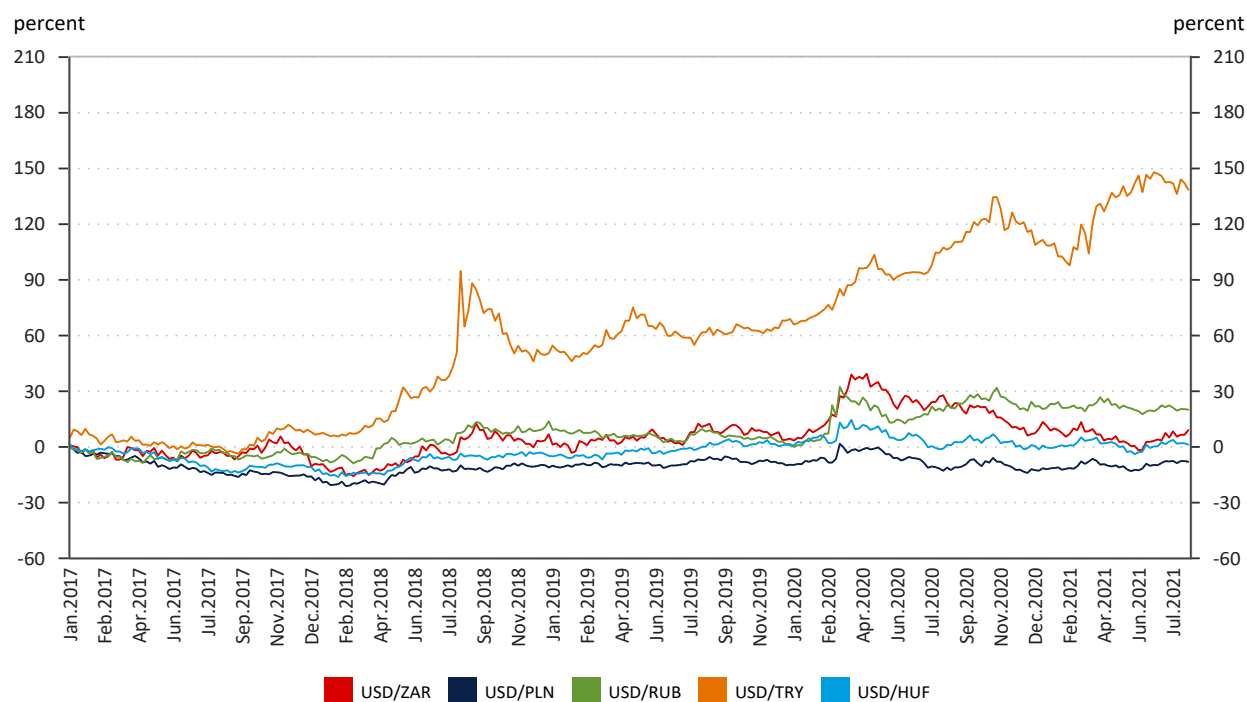
103. Major currencies versus the dollar



Source: Refinitiv

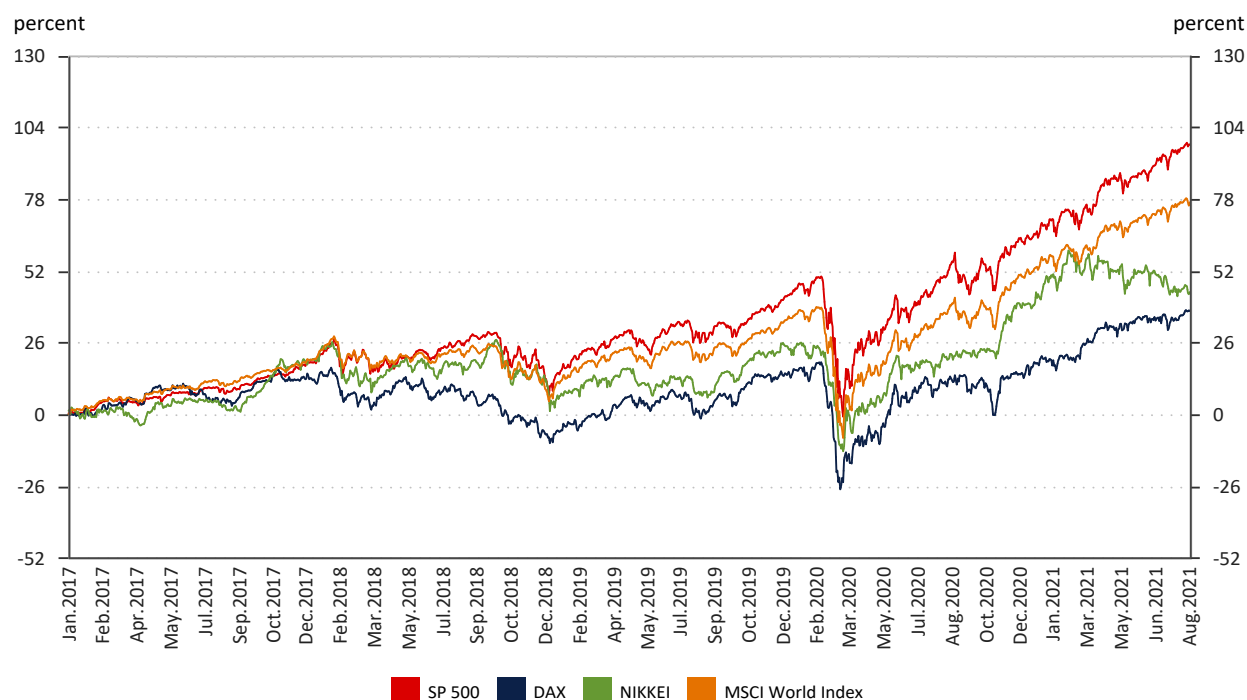
Note: cumulative change. Positive values indicate USD depreciation.

104. Emerging currencies versus the dollar



Source: Refinitiv Notes: positive value means depreciation of the emerging currency. Cumulative change.

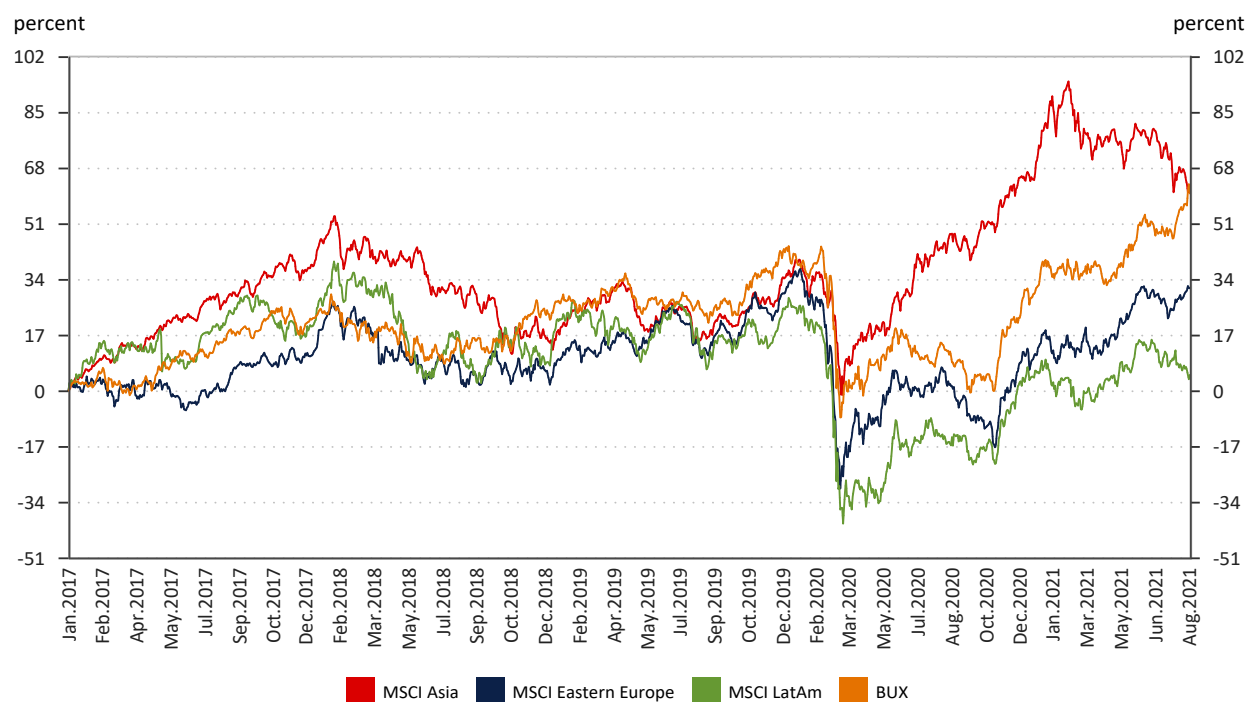
105. Developed market stock indices



Source: Refinitiv

Notes: cumulative change.

106. Emerging stock exchange markets



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

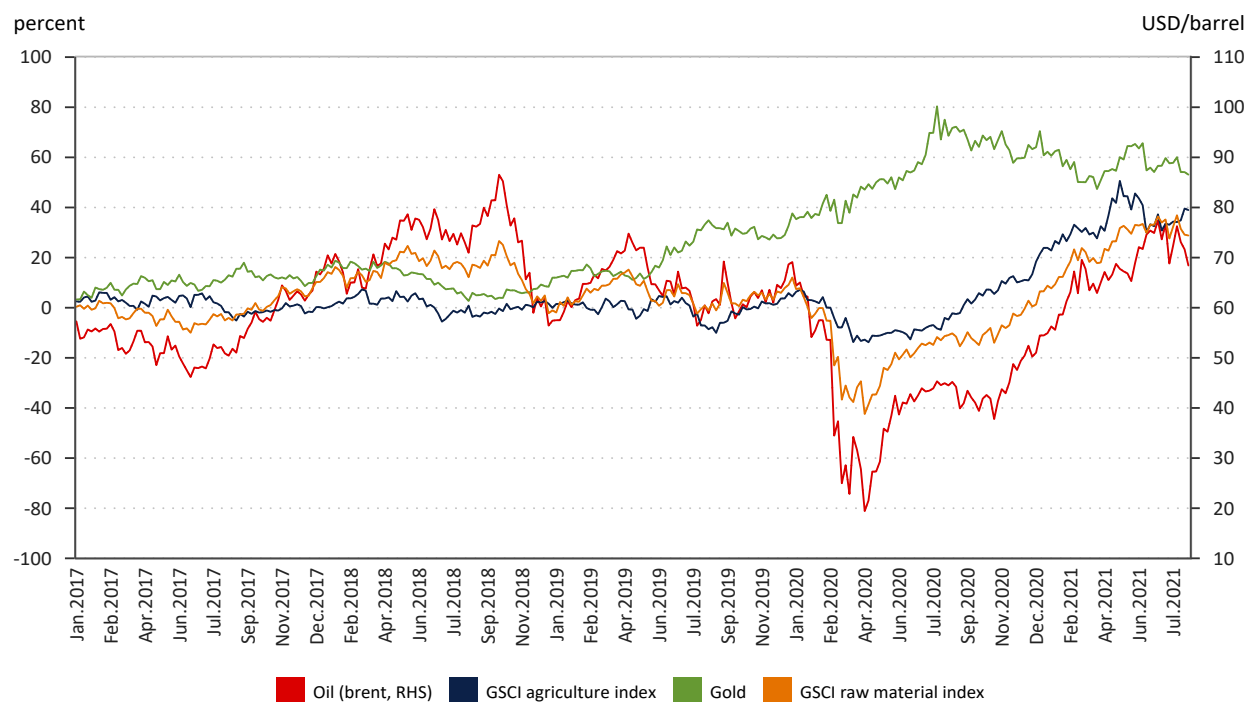
107. EUR/USD exchange rate and speculative positions



Source: Bloomberg, CFTC.

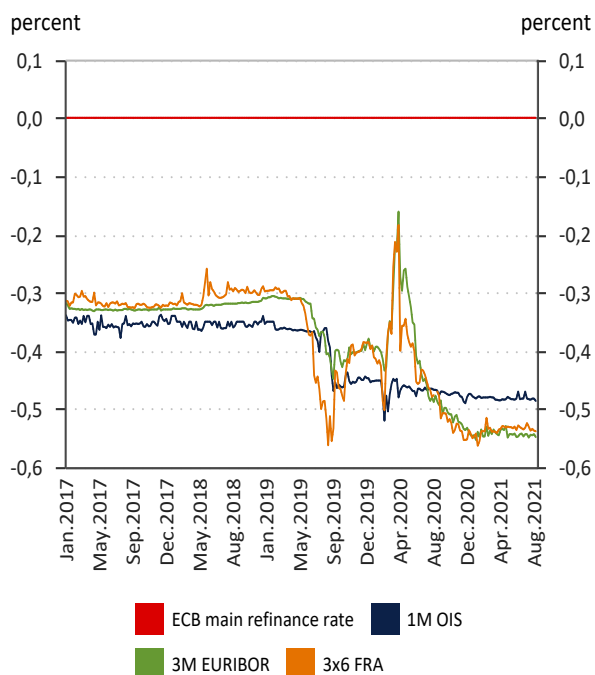
Notes: Speculative position is defined as a net of long and short transactions. Positive value means the majority of open positions on euro strengthening. Weekly datab by Commodity Futures Trading Commission.

108. Price of raw materials



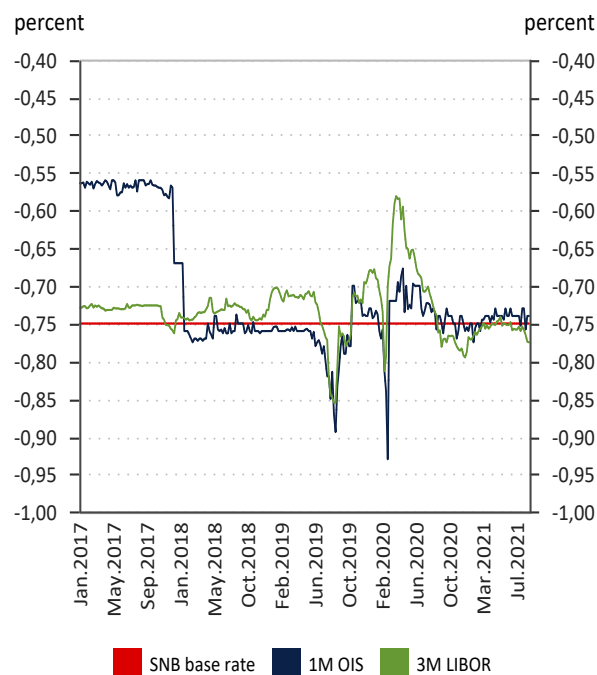
Source: Bloomberg Note: cumulative change except the Brent oil where the scale is nominal.

109. Short term interbank rates in the eurozone



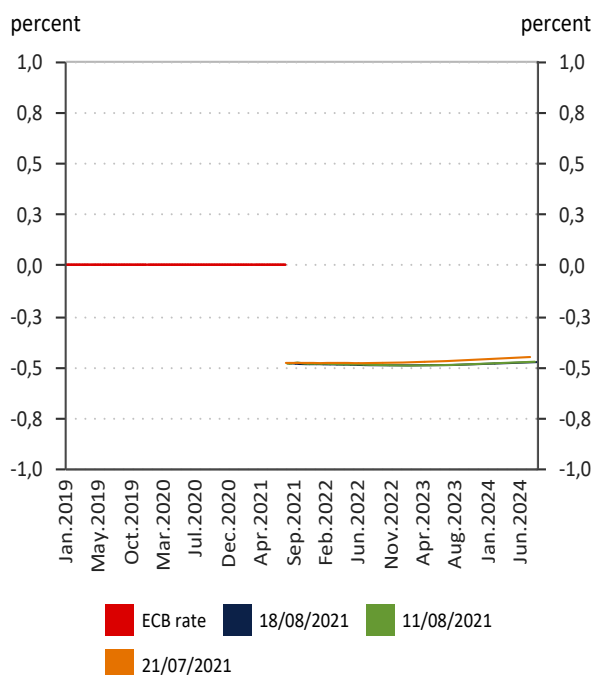
Source: Refinitiv.

110. Short term interbank rates in Switzerland



Source: Refinitiv, Bloomberg.

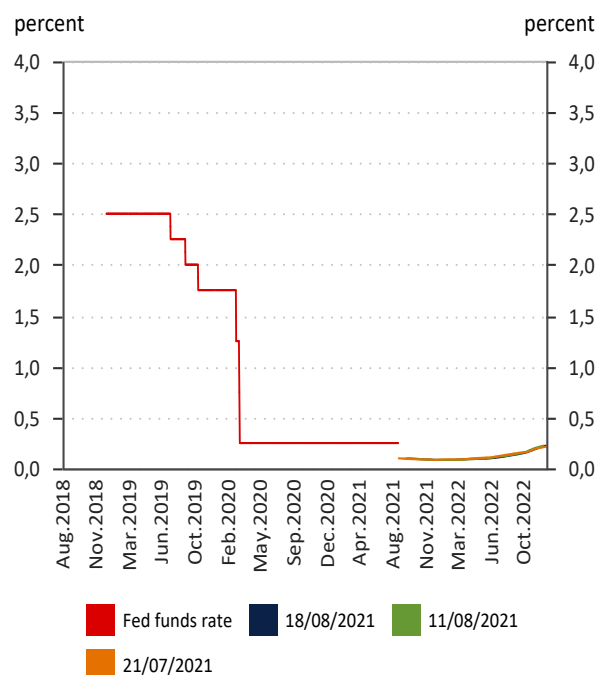
111. Forecasts on ECB policy rate



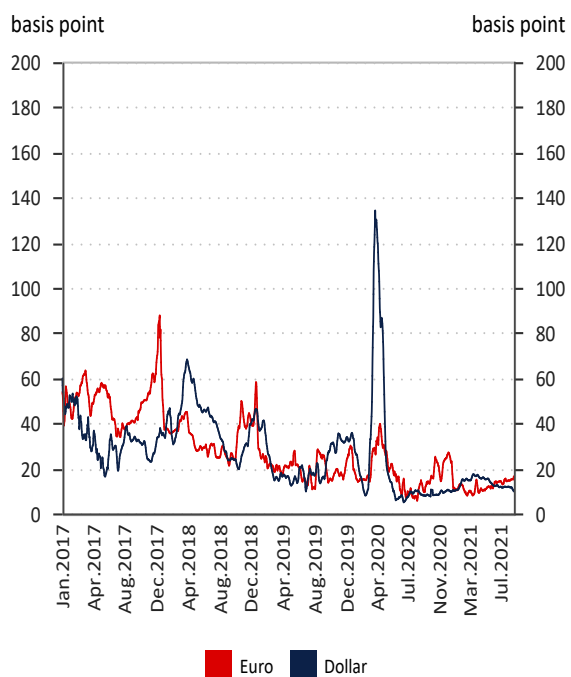
Source: ECB.

Note: Calculated 3-months forward yield curve based on German government bonds.

112. Forecasts on Fed policy rate

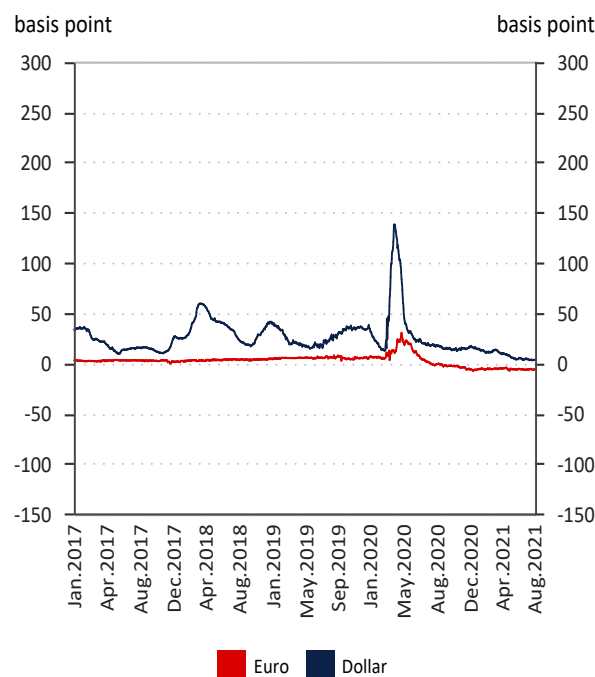


Source: Bloomberg.

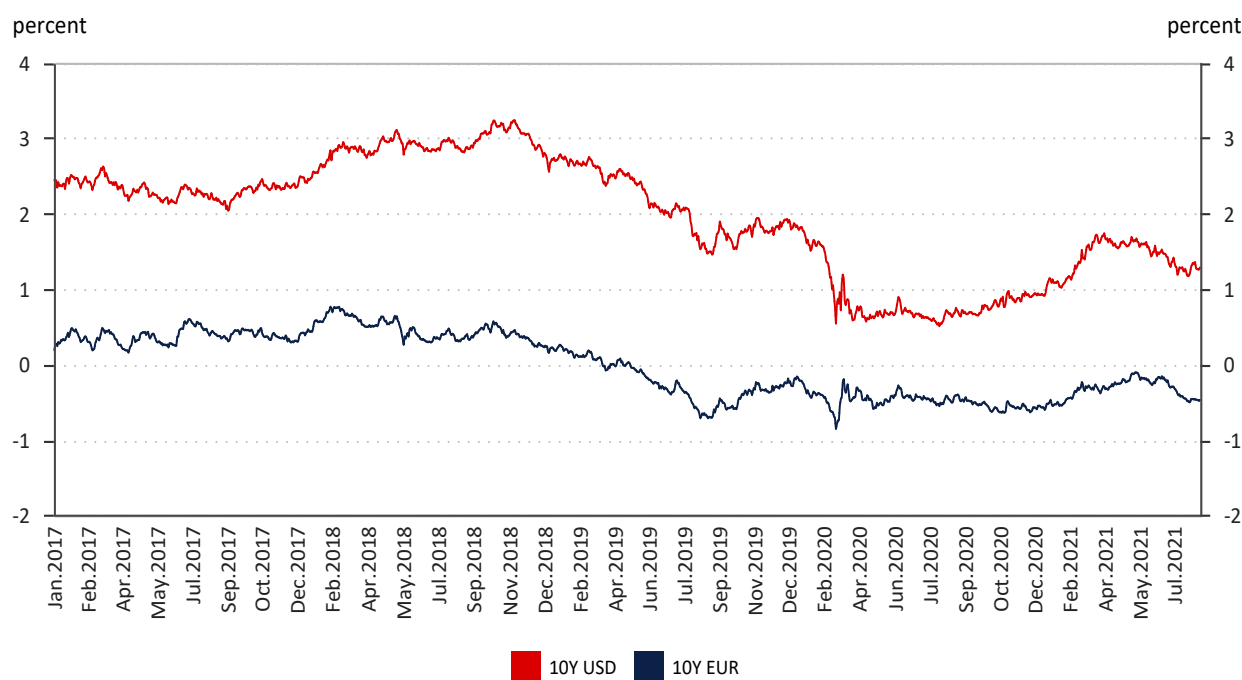
113. 3M interbank and government bond yield spread

Source: Refinitiv.

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

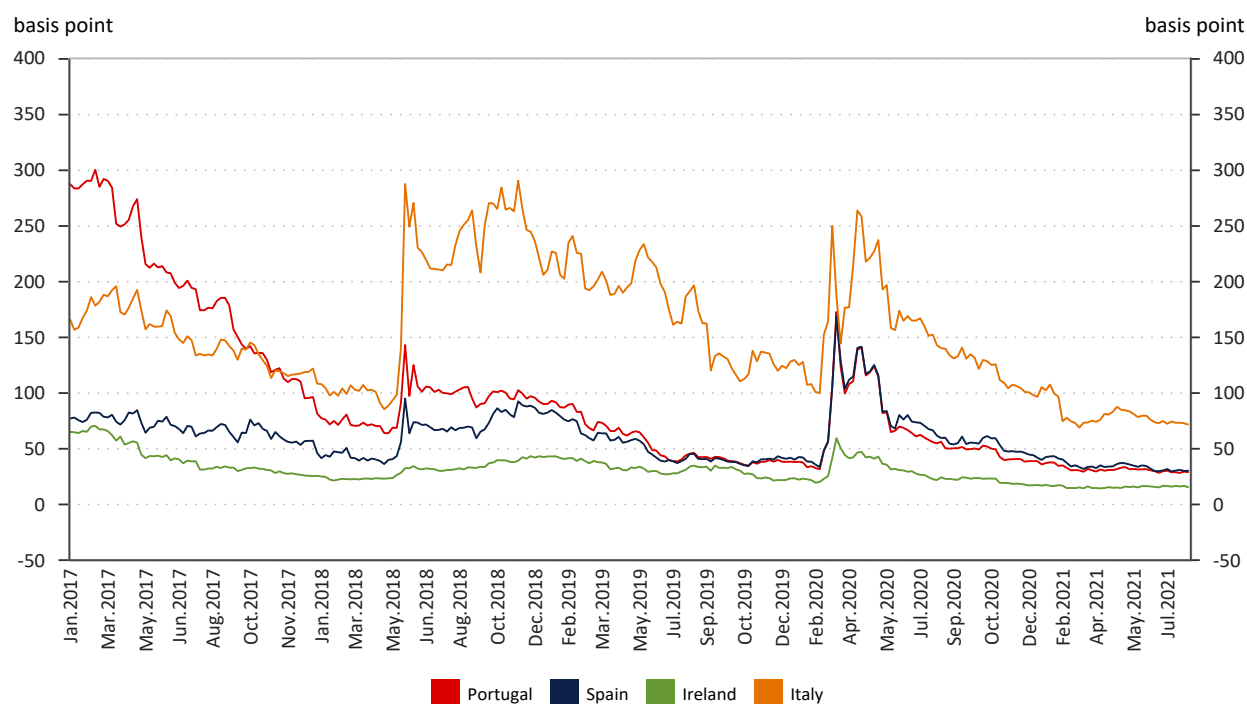
114. 3M interbank and OIS yield spread

Source: Refinitiv.

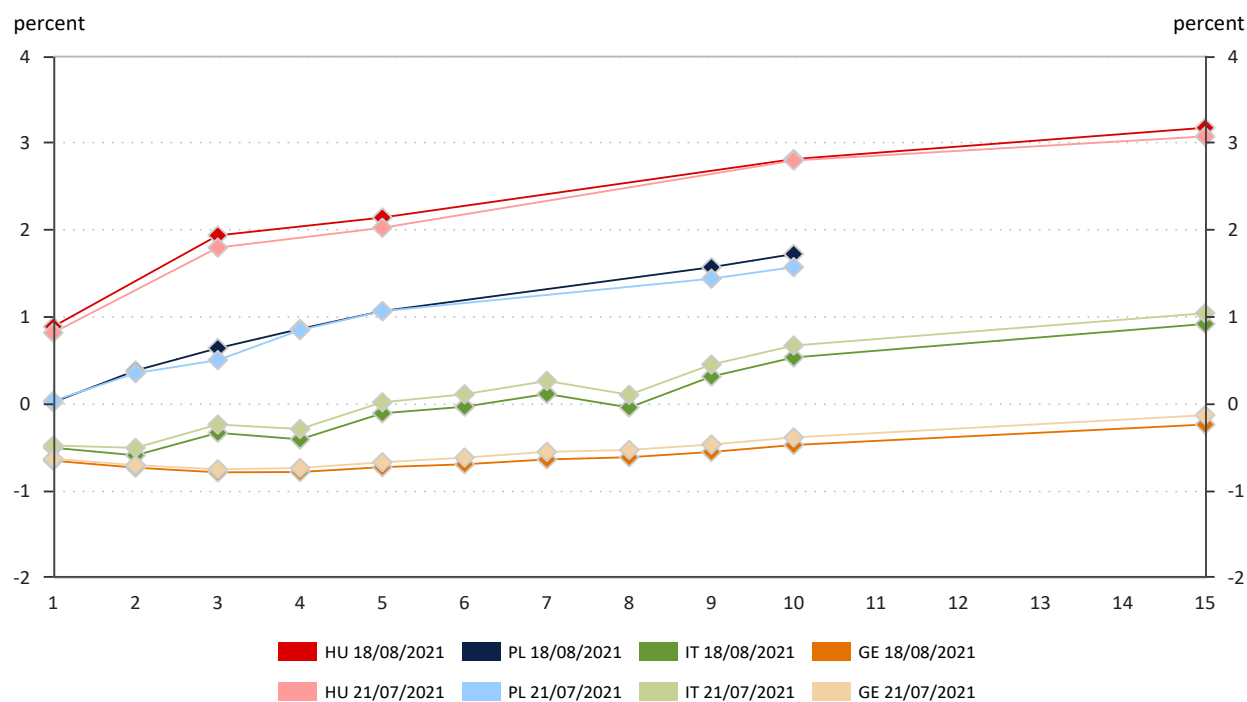
115. Long term euro and dollar benchmark yields

Source: Refinitiv.

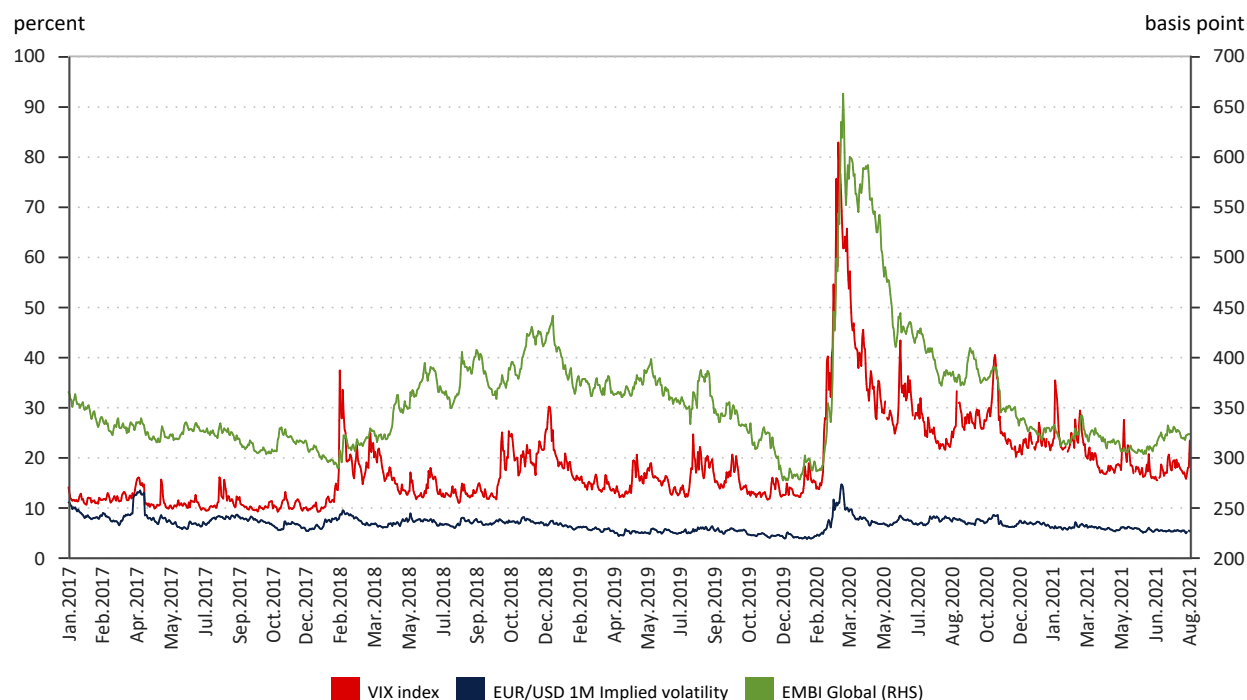
116. 5Y sovereign CDS in the eurozone periphery



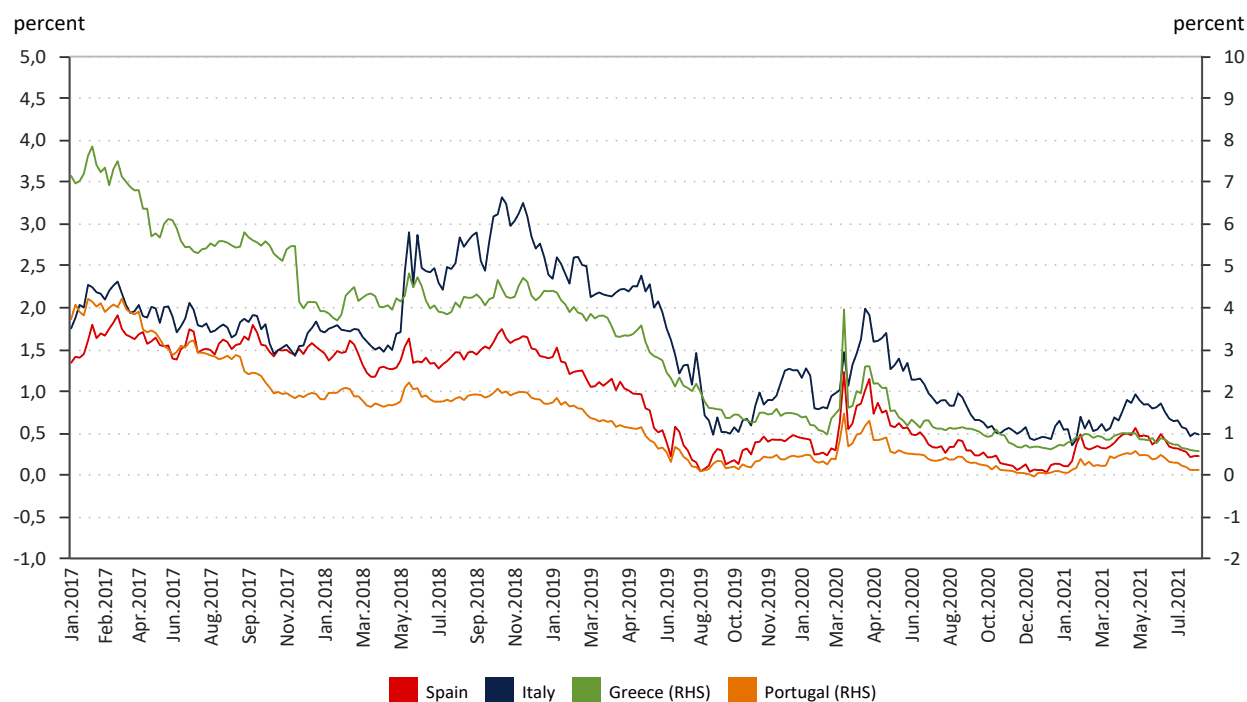
117. Benchmark yield curves of Hungary, Poland, Italy and Germany



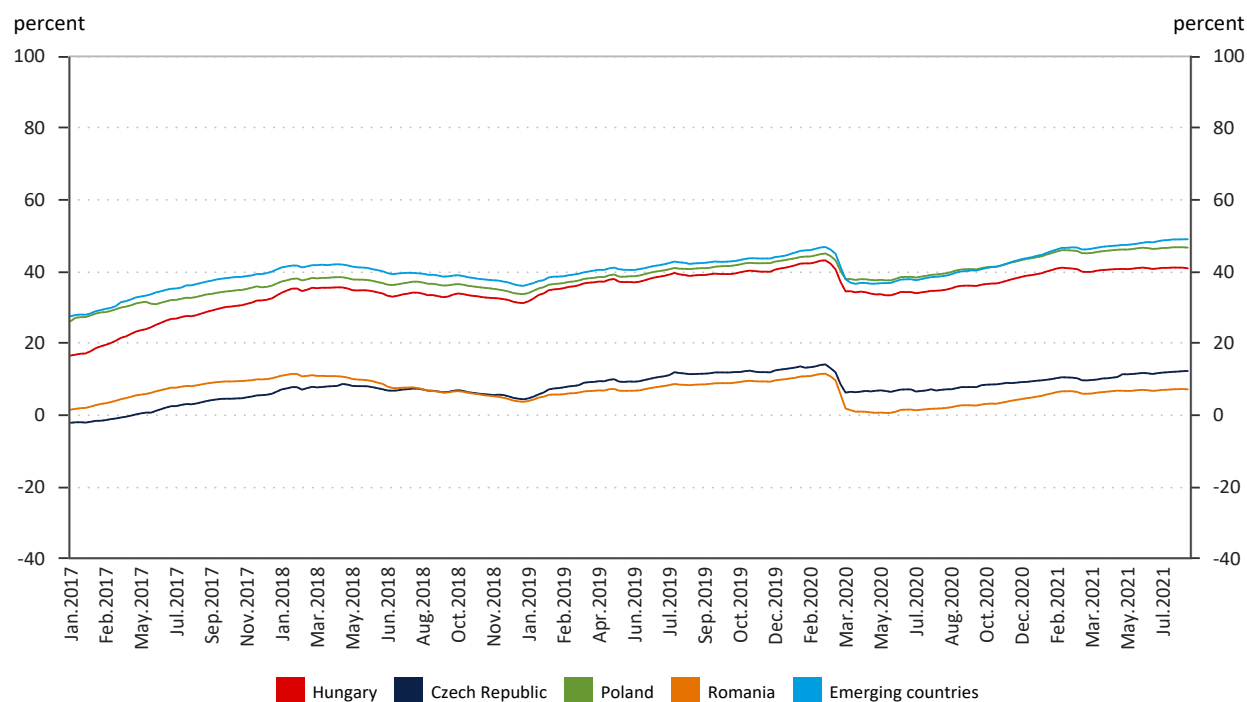
118. Main risk indicators



119. Long term government bond yields in the Eurozone periphery



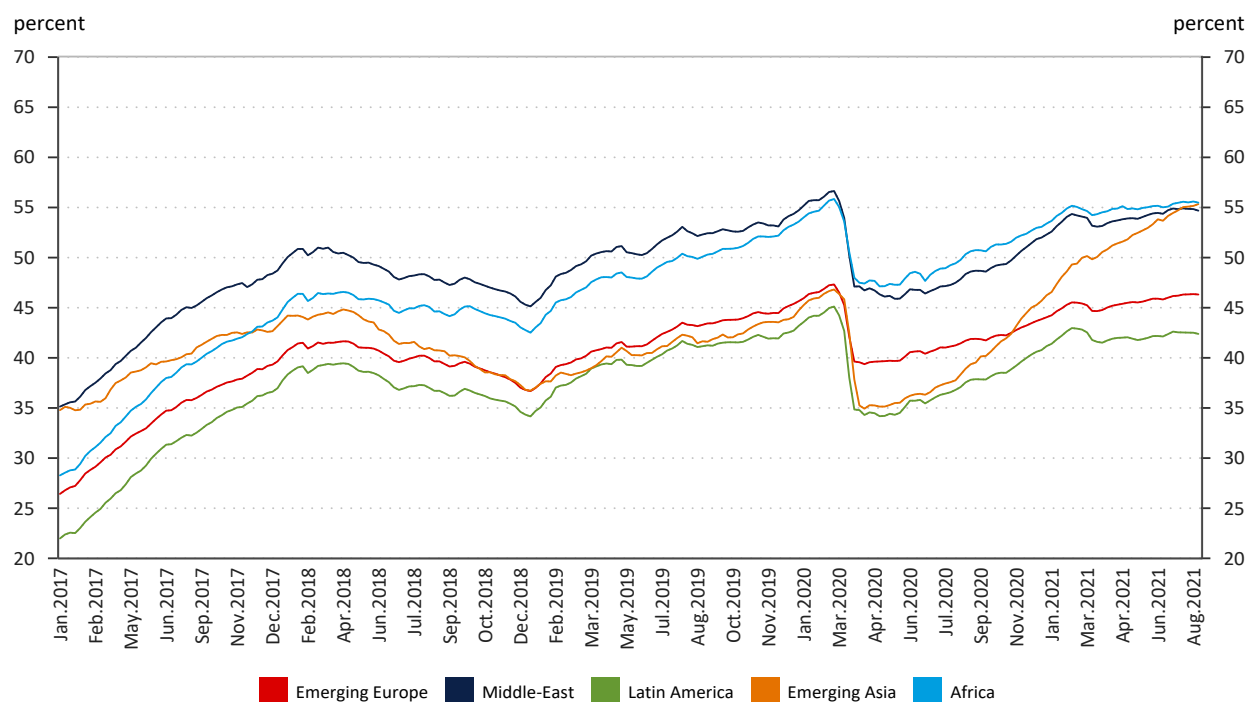
120. Emerging bond-market flows



Source:EPFR

Note: Percentage change of asset under management, 1/1/2011=0

121. Global bond-market flows



Source:EPFR

Note: Percentage change of asset under management, 1/1/2011=1