



DIRECTORATE MONETARY POLICY AND FINANCIAL MARKET ANALYSIS  
FINANCIAL MARKET ANALYSIS DEPARTMENT

**CHART-PACK ON RECENT  
ECONOMIC AND FINANCIAL  
MARKET DEVELOPMENTS**

**2021**  
SEPTEMBER



# Chart-pack on recent economic and financial market developments \*

21 September 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.

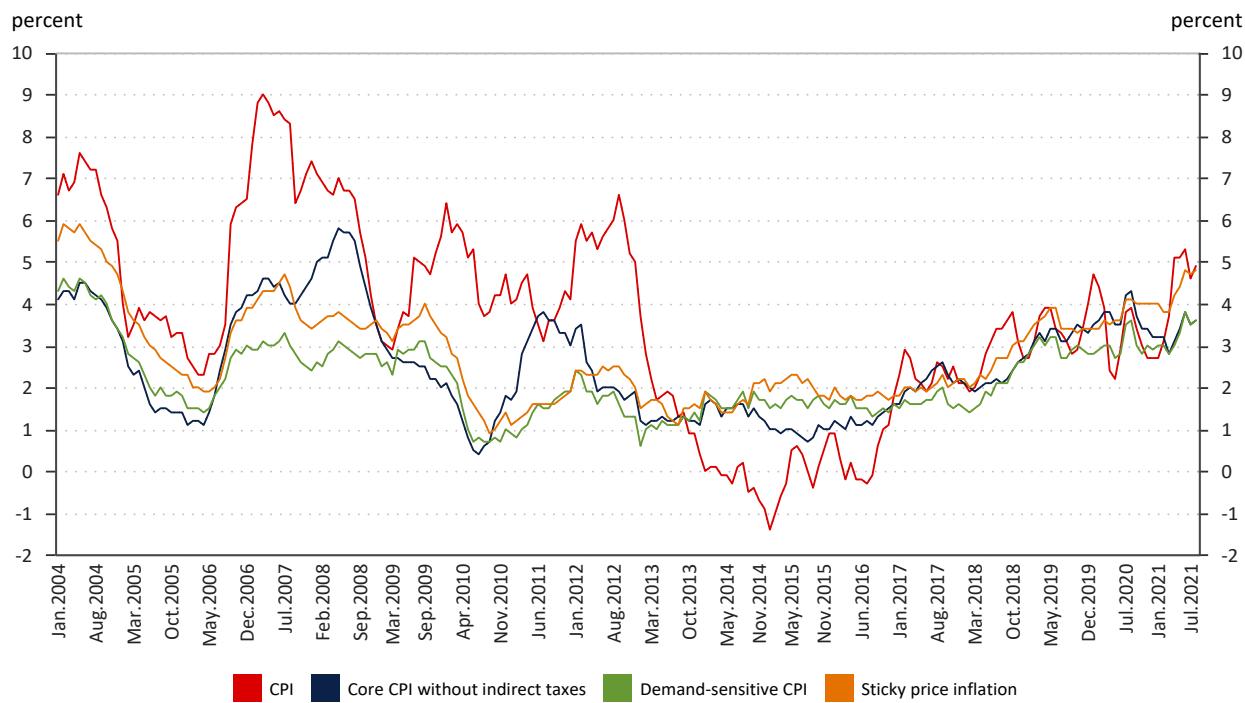
Earlier versions of the chart-pack are accessible on the website of Magyar Nemzeti Bank via the following address.

<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](mailto: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.

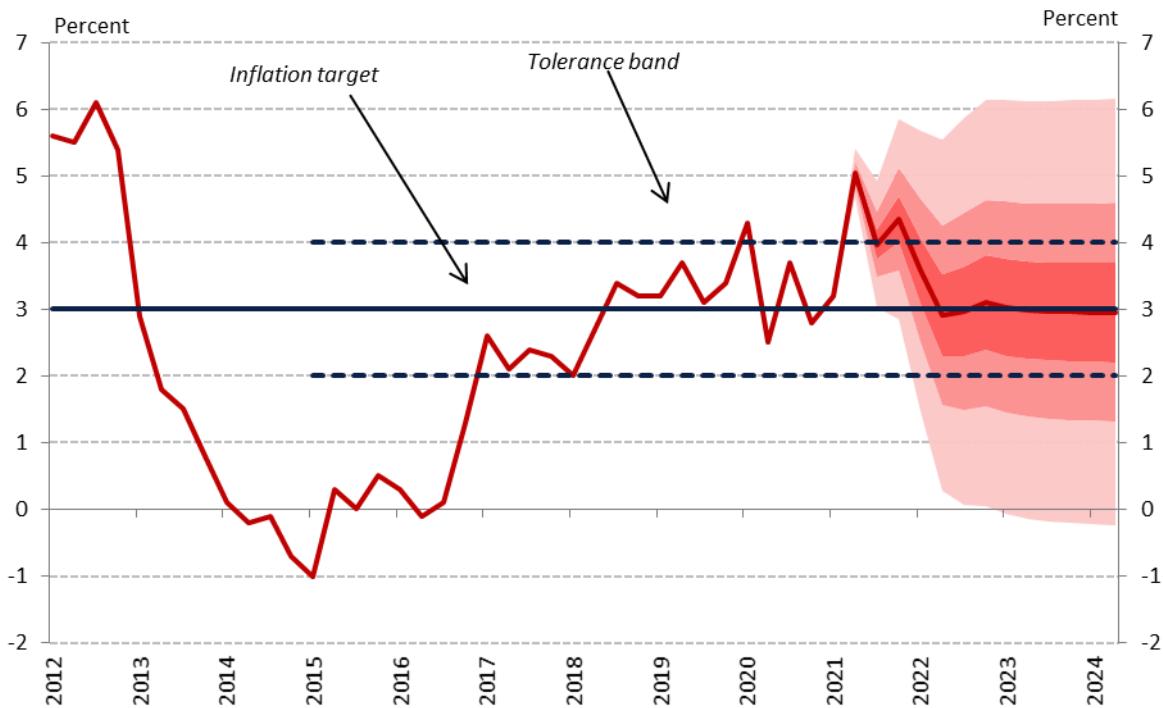
### 1. Development of inflation and underlying inflation indicators



Source: HSCO, MNB

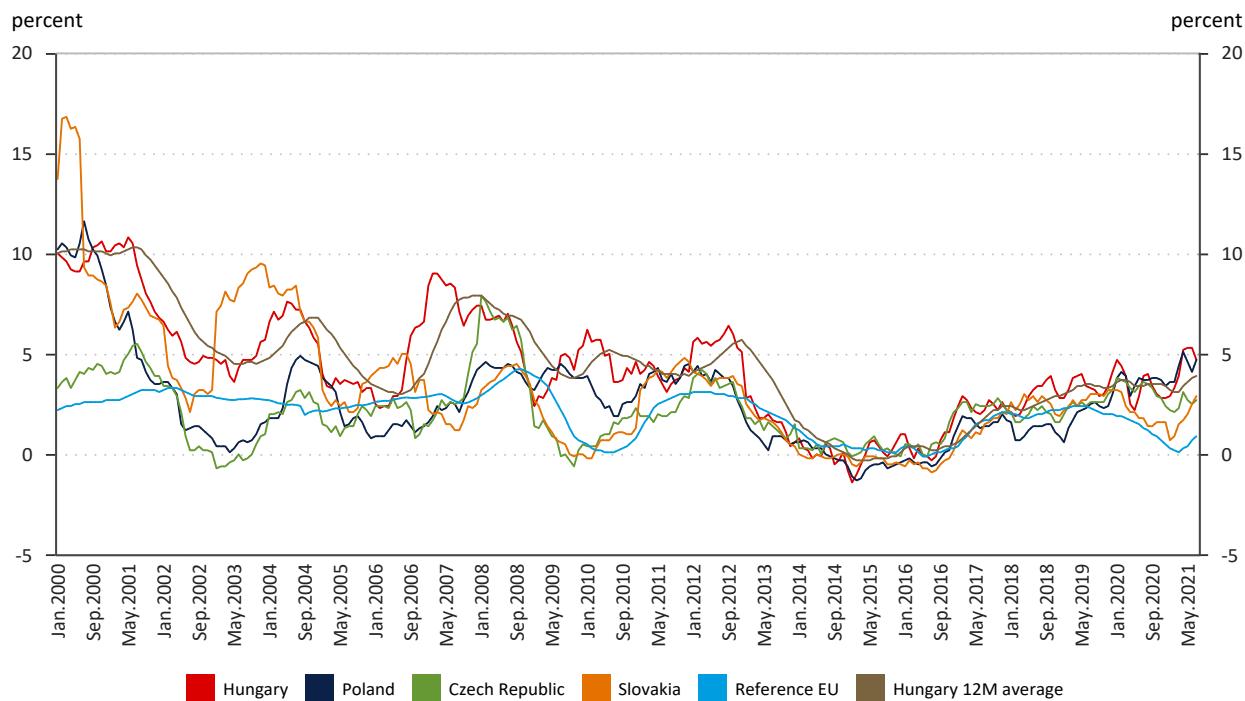
Note: Seasonally adjusted year-on-year growth rates.

### 2. Fan chart of the CPI forecast



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

### 3. Harmonised index of consumer prices

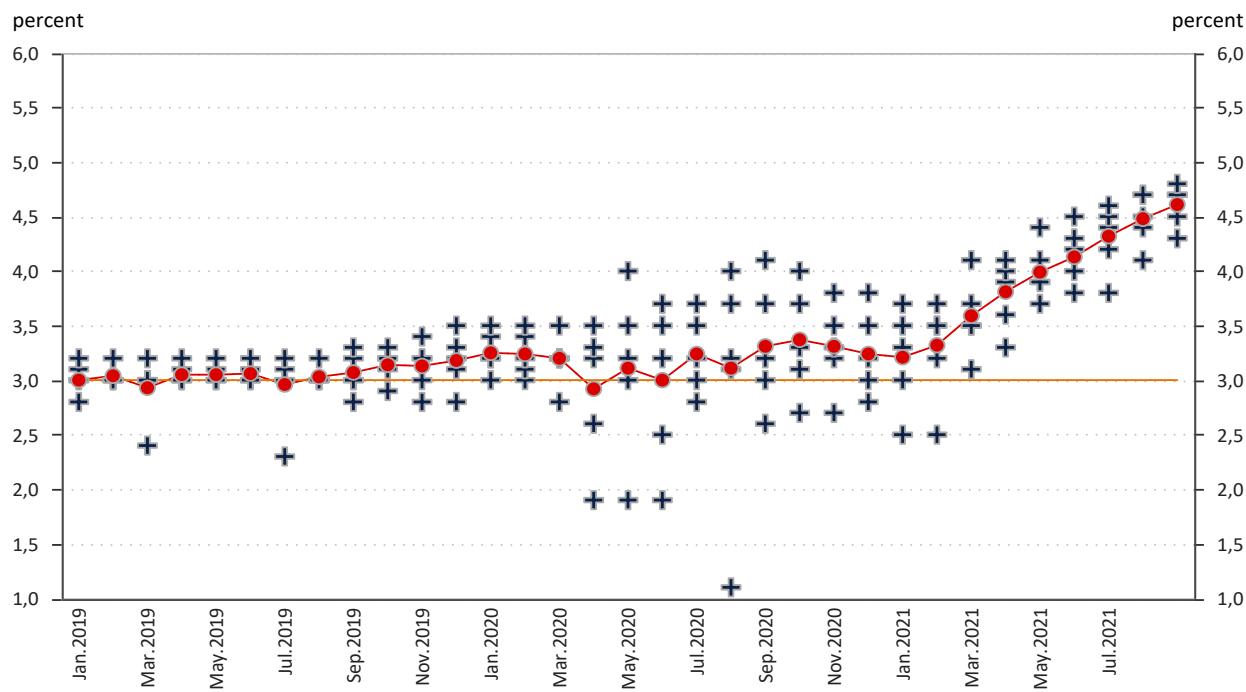


### 4. Decomposition of the Consumer Price Index

	Weight 2021	May 2021	Jun 2021	Jul 2021	Aug 2021
Consumer Price Index	100.0	5.1	5.3	4.6	4.9
Thereof:					
- Unprocessed food	6.4	-1.0	0.5	1.4	3.5
- Processed food	13.8	3.5	3.9	3.5	3.3
- Manufactured goods	27.0	3.4	3.6	3.0	3.3
- Market services	22.4	3.3	4.1	4.1	4.1
- Non-regulated household energy	0.8	2.6	2.8	3.0	2.9
- Alcohol, tobacco	9.8	12.2	12.2	11.1	10.4
- Gasoline prices	6.0	36.2	24.2	19.7	21.8
- Regulated prices	13.7	0.0	2.1	0.7	0.7
Core Consumer Price Index	63.2	3.4	3.8	3.5	3.6
CPI without tax changes	100.0	4.5	4.6	4.1	4.4

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

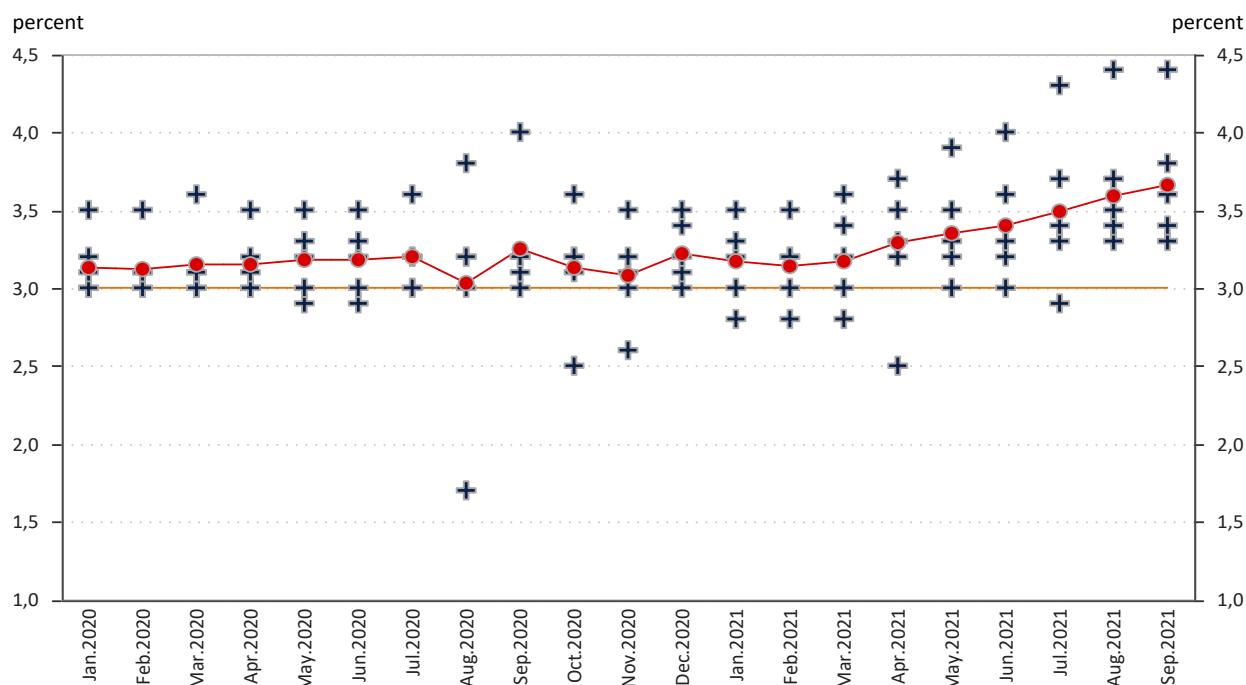
### 5. Market expectations for the inflation rate in current year



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.

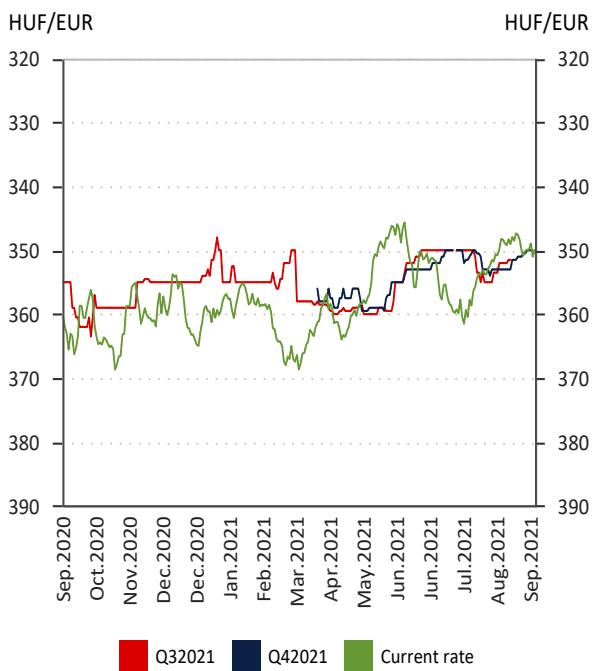
### 6. Market expectations for the inflation rate next year



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.

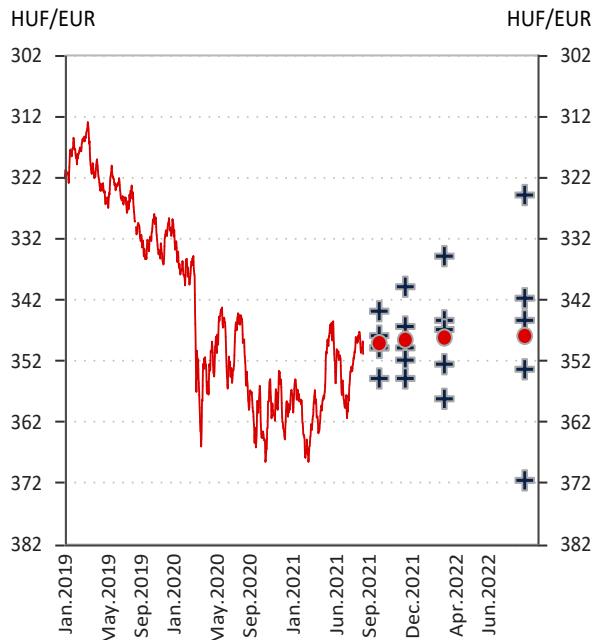
### 7. Expectations for HUF/EUR exchange rate (Bloomberg collection)



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.

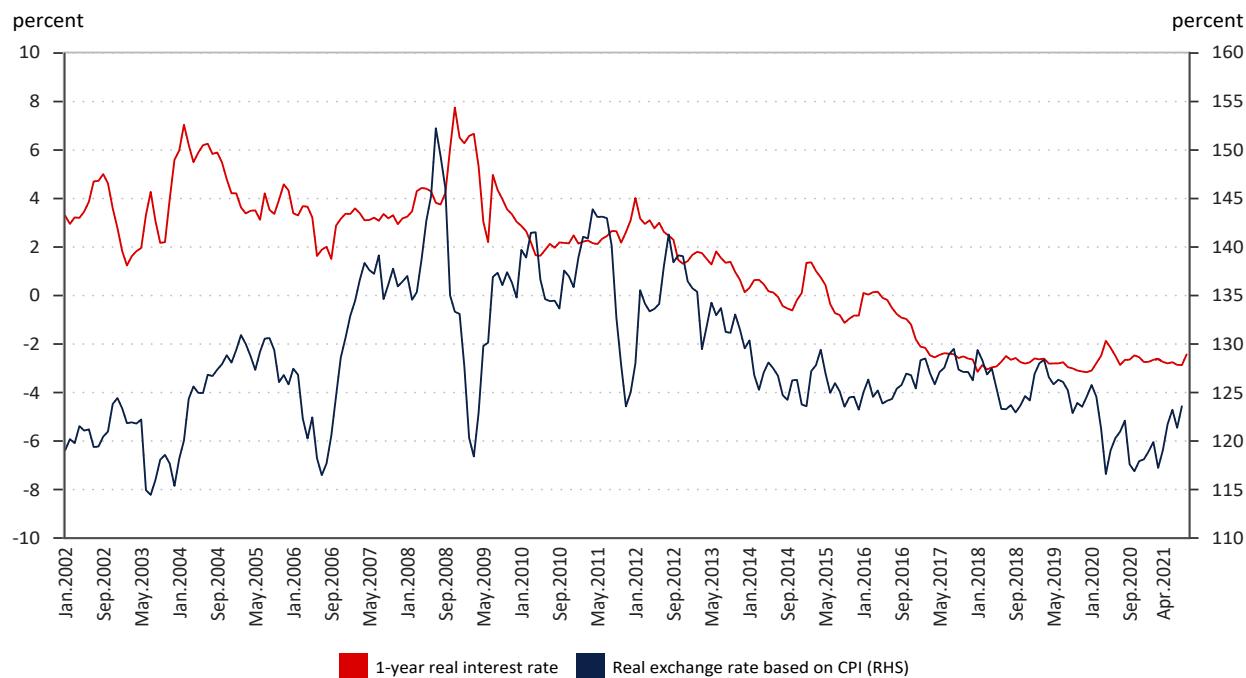
### 9. Spot and futures Brent crude oil price



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)

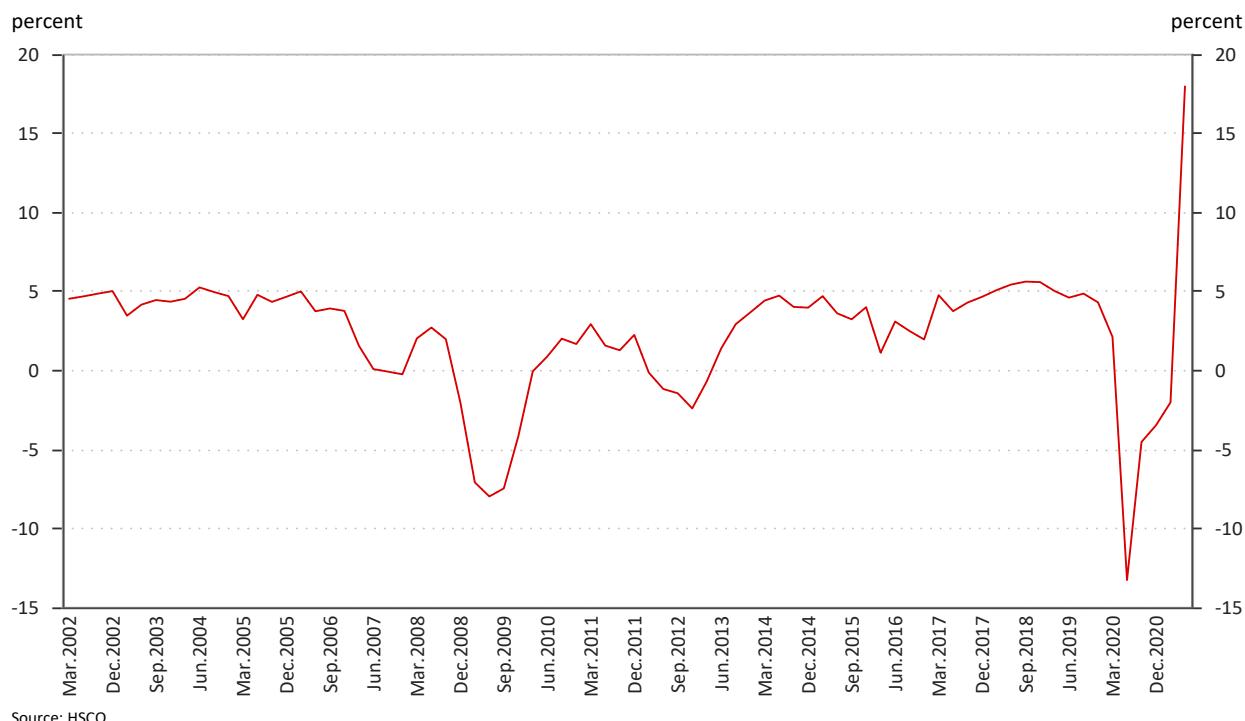
### 11. Real growth rate of monetary aggregates (year-on-year basis)



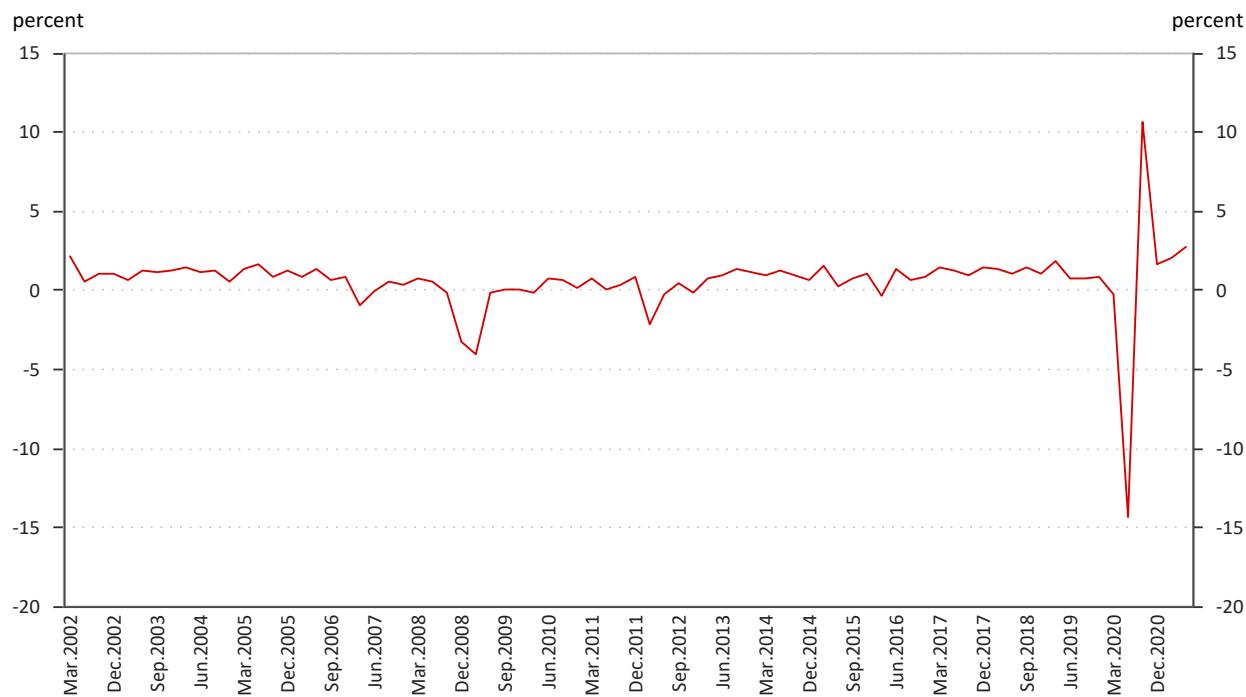
Source: MNB.

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

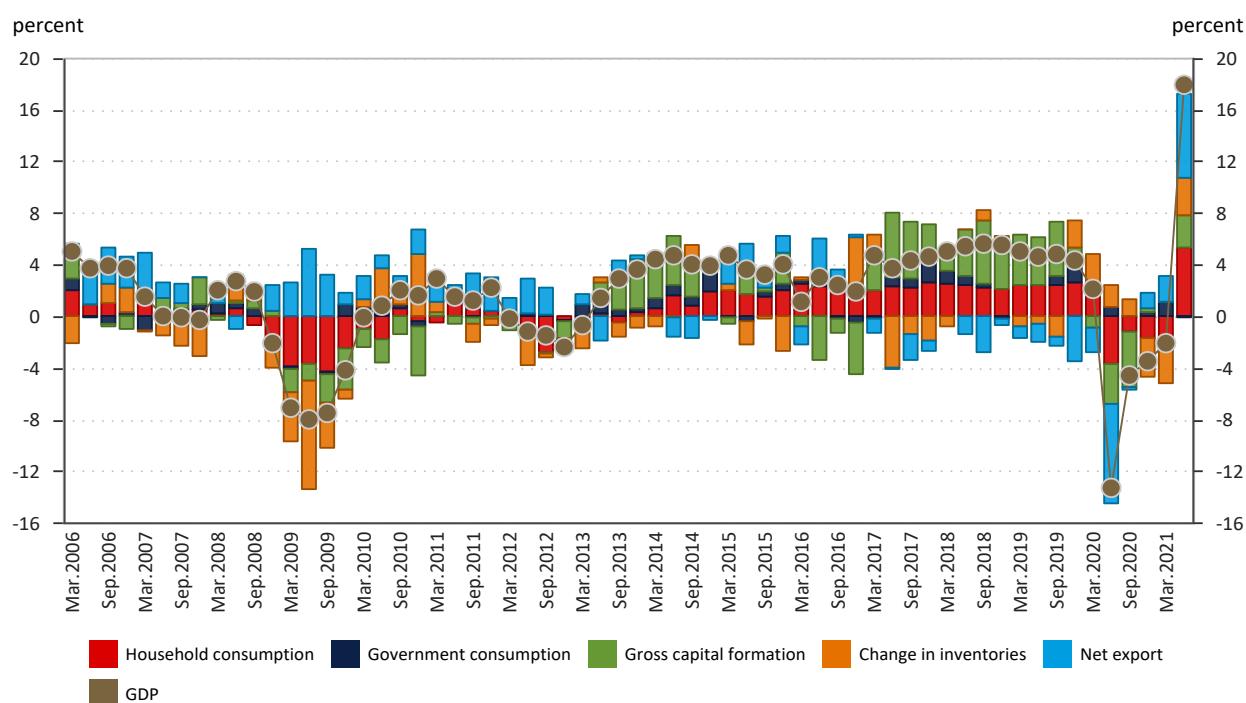
Source: MNB.

**13. Change in annual GDP**

Source: HSCO

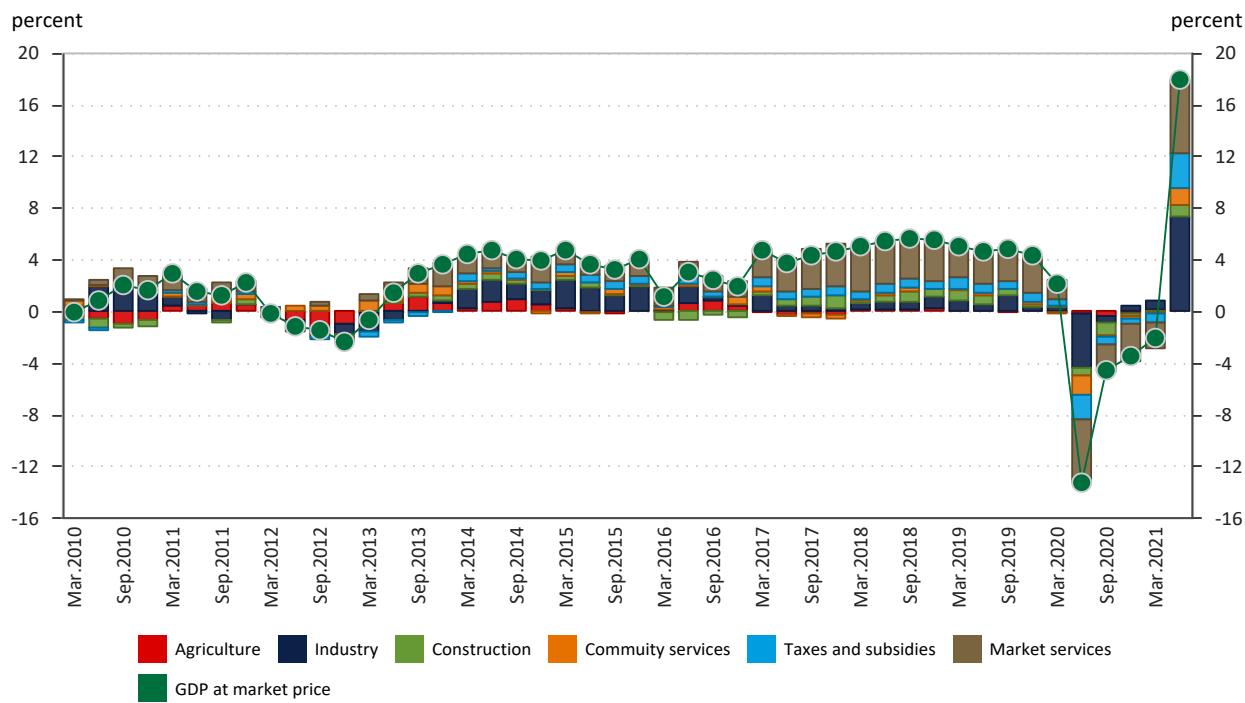
**14. Quarterly GDP change**

Source: MNB, HSCO.

**15. Contribution to annual GDP growth**

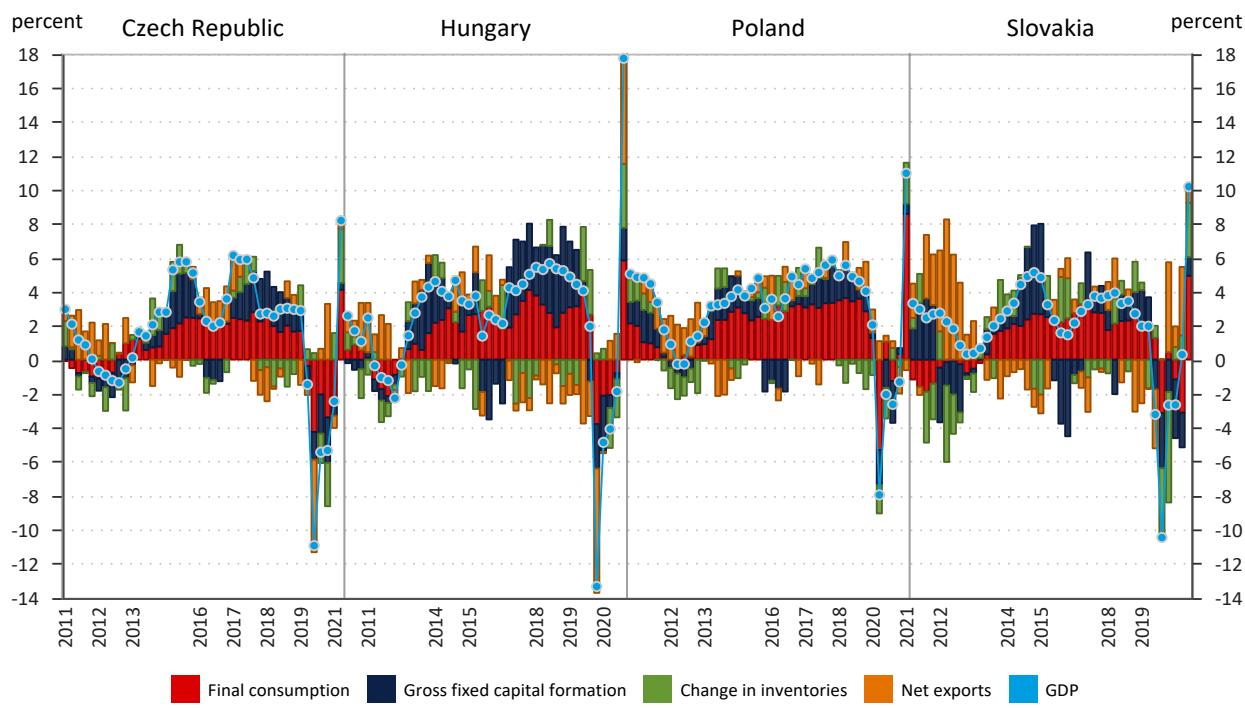
Source: MNB, HSCO.

### 16. Decomposition of GDP growth

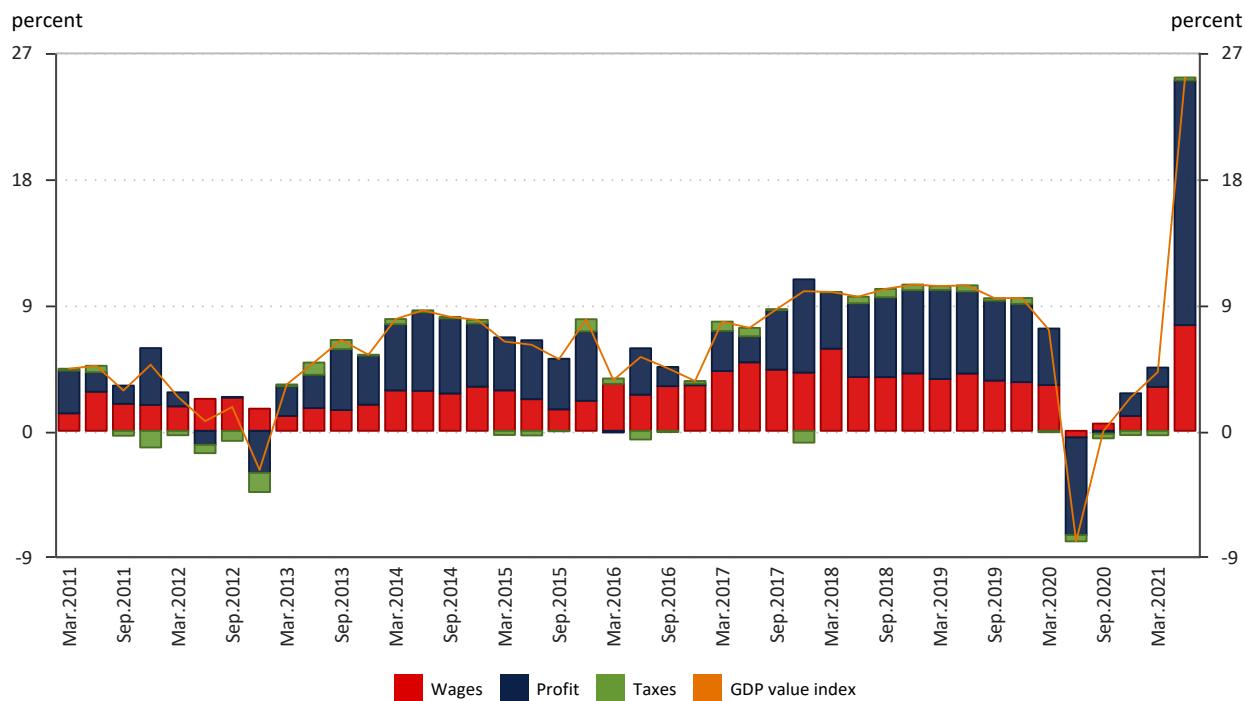


Source: HSCO.

### 17. Contribution to annual GDP growth in the region



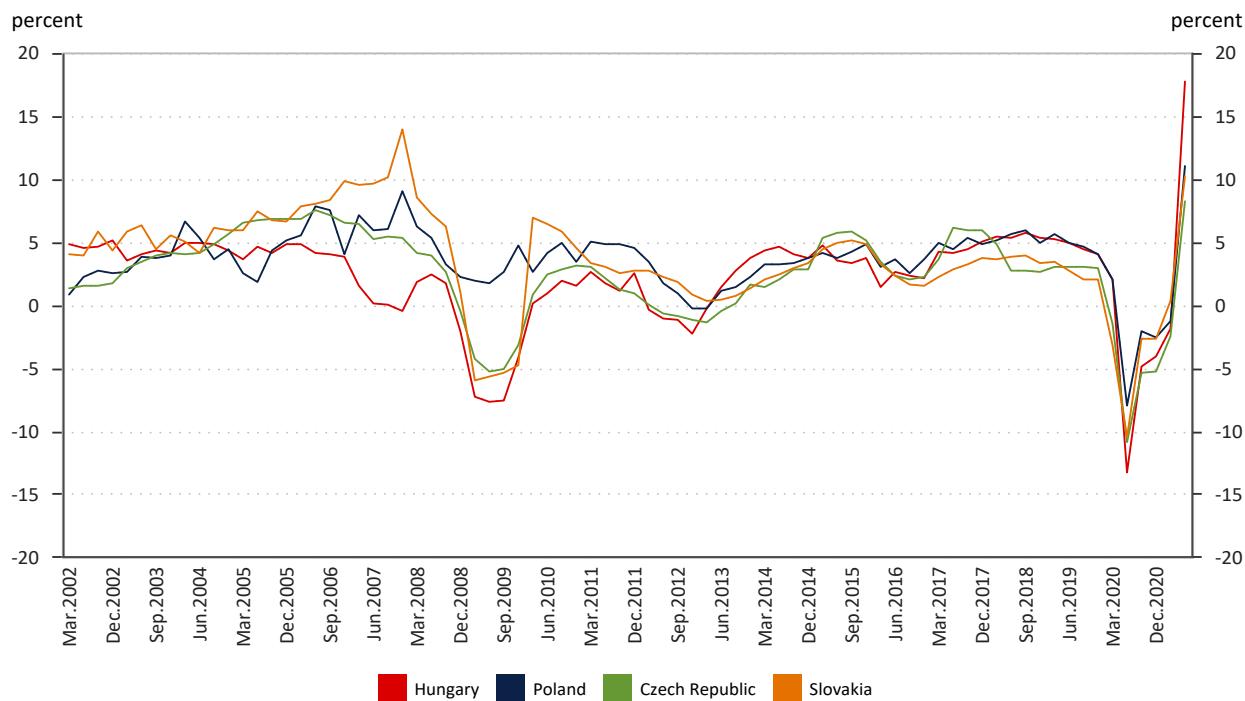
Source: MNB, HSCO. Note: based on seasonally and calendar adjusted and reconciled data

**18. Decomposition of GDP growth (income approach)**

Source: MNB, HSCO Note: contribution in percentage points

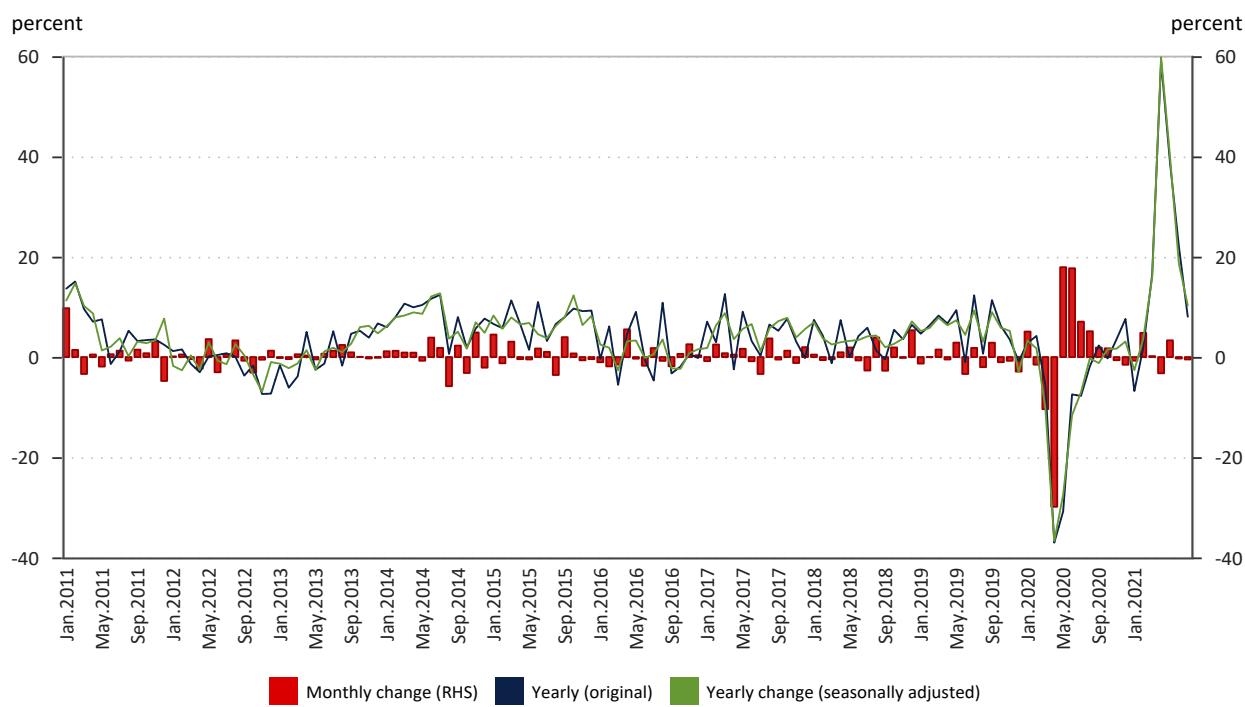
**19. Fan chart of the GDP forecast**

Source: HCSO, MNB

**20. GDP growth rate in CEE**

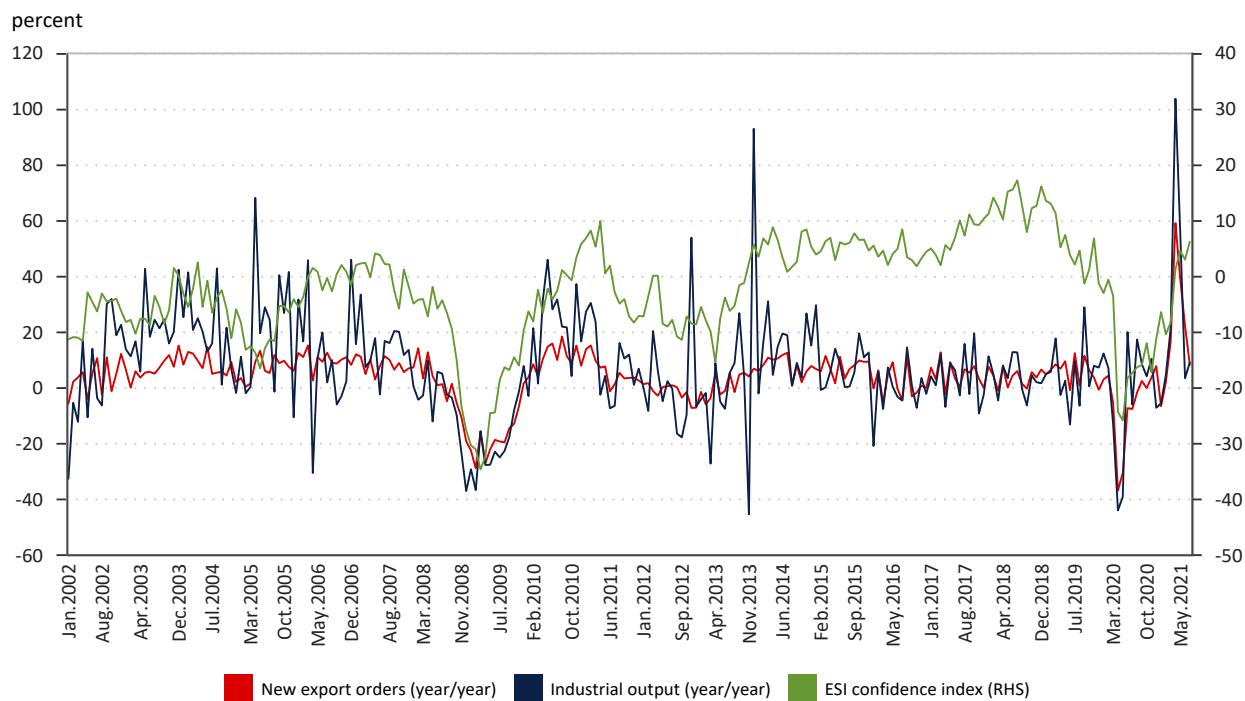
Source: Eurostat

Note: annual growth rate.

**21. Change in industrial production**

Source: MNB, HCSO.

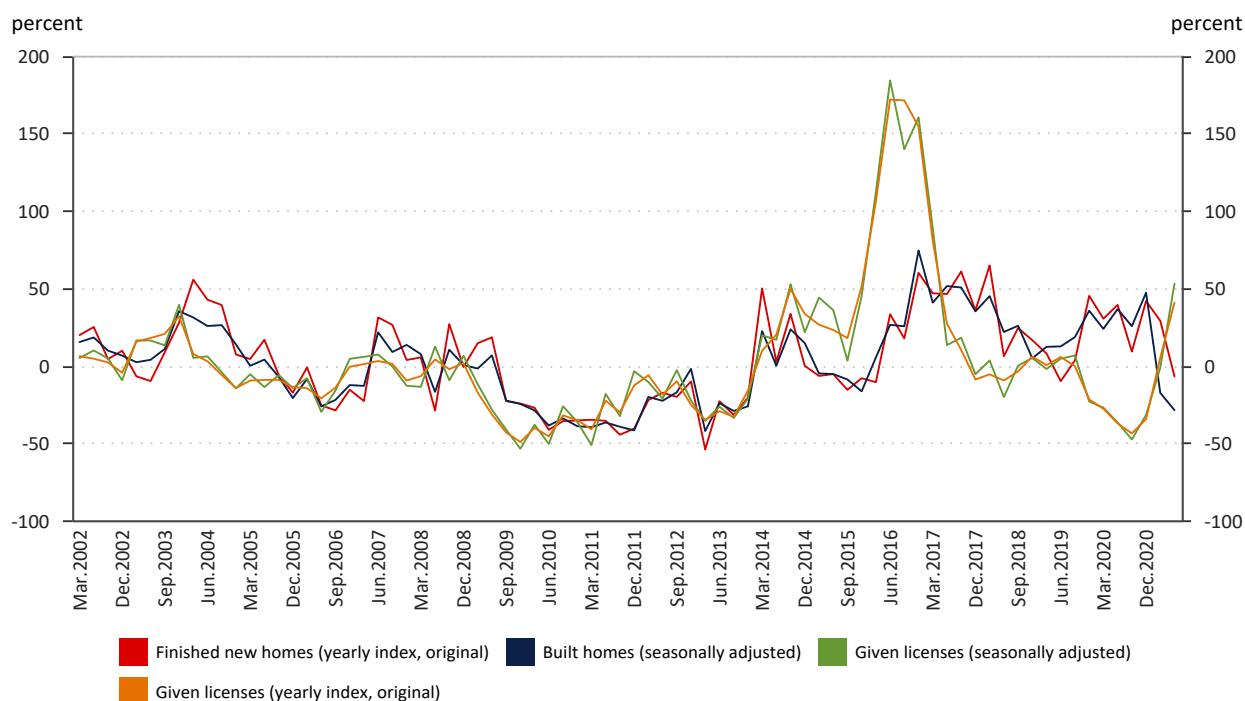
## 22. Industrial production and new export orders



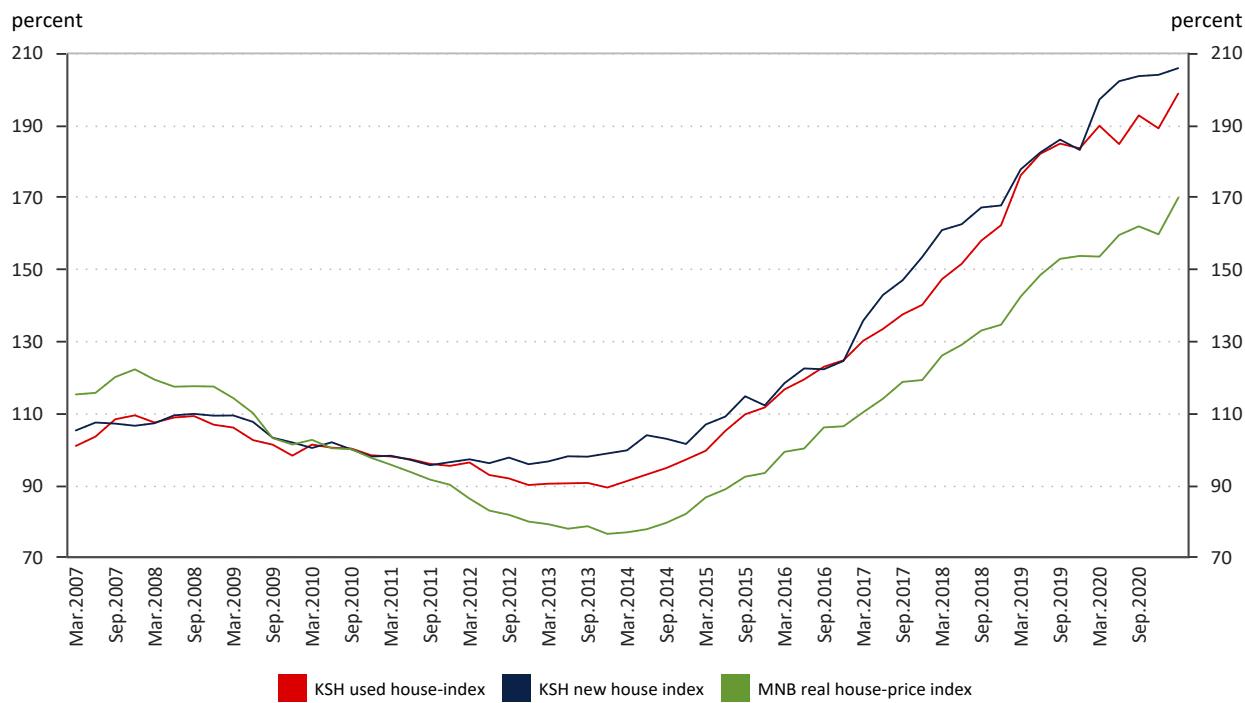
Source: HSCO, European Commission.

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

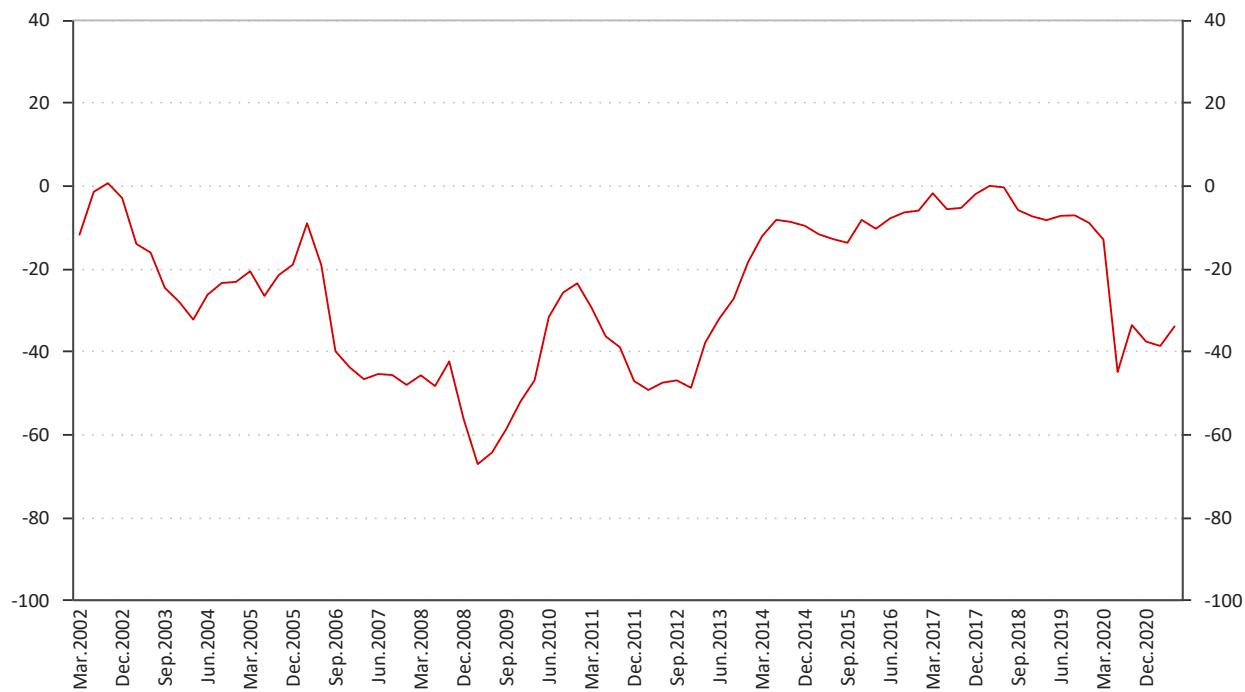


Source: MNB, HCSO.

**24. Development of house prices**

Source: HCSO

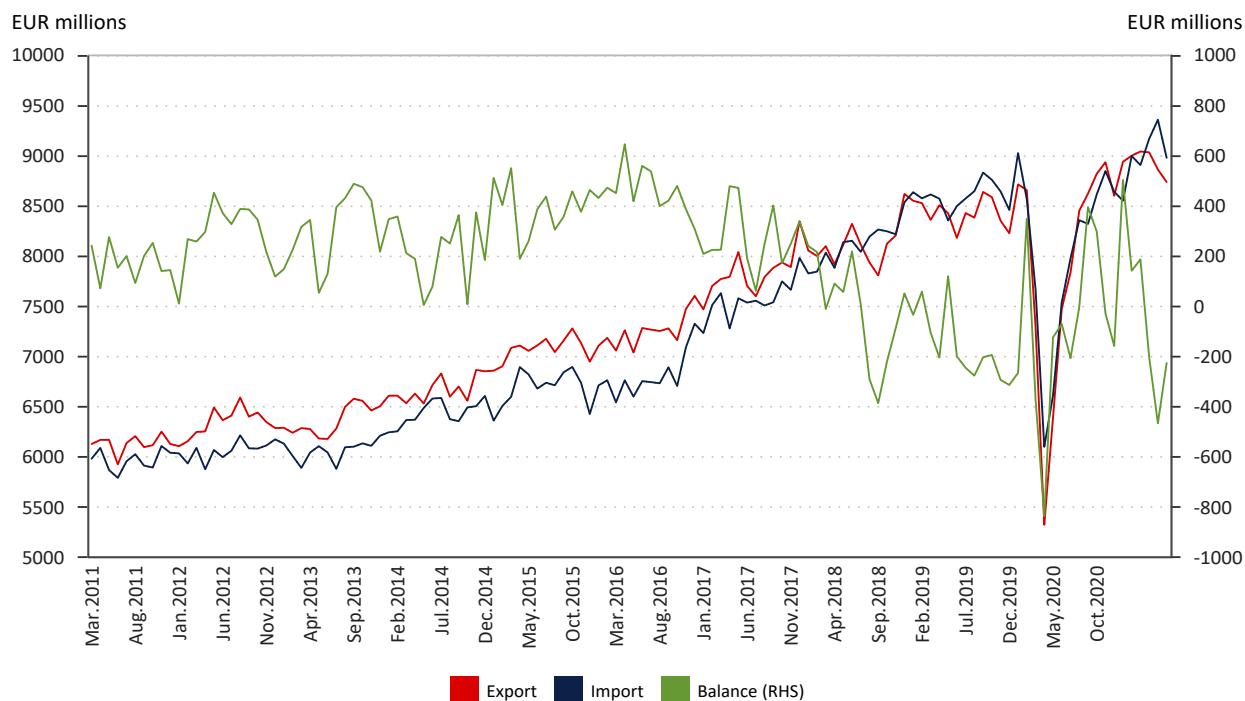
Note: 2010=100, inflation adjusted indices.

**25. Household confidence index (reweighted)**

Source: European Commission.

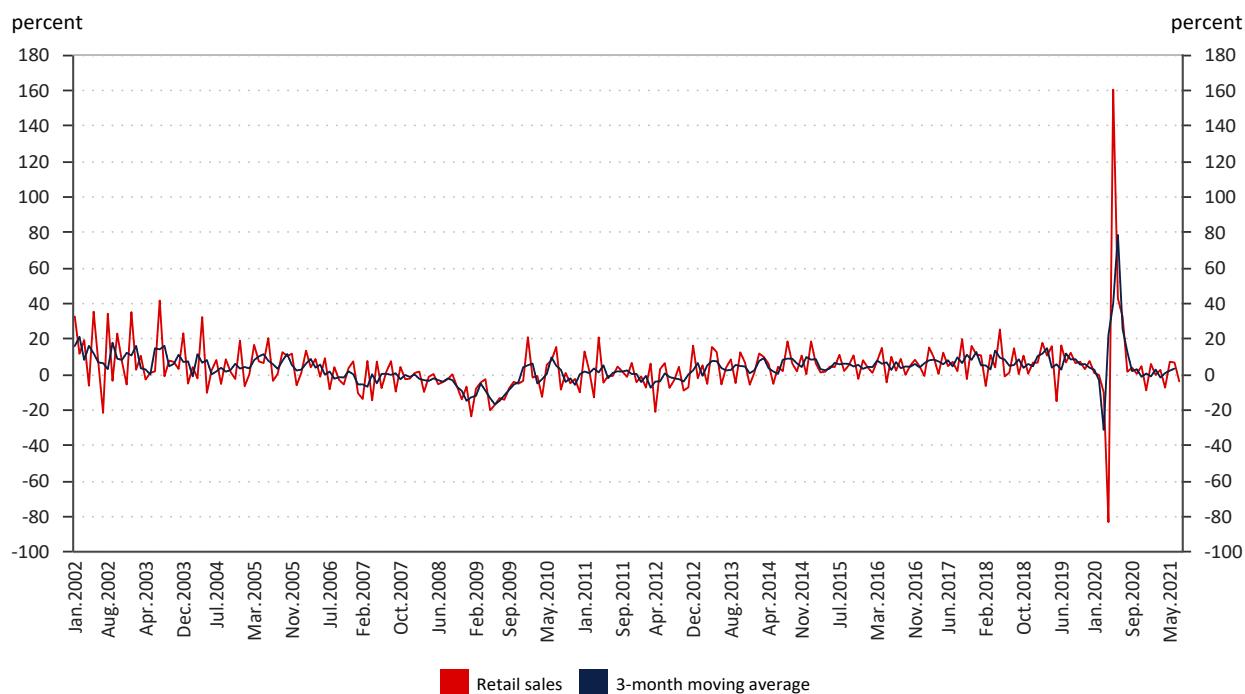
Note: Household confidence indicator is a composite indicator based on the ESI survey

### 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

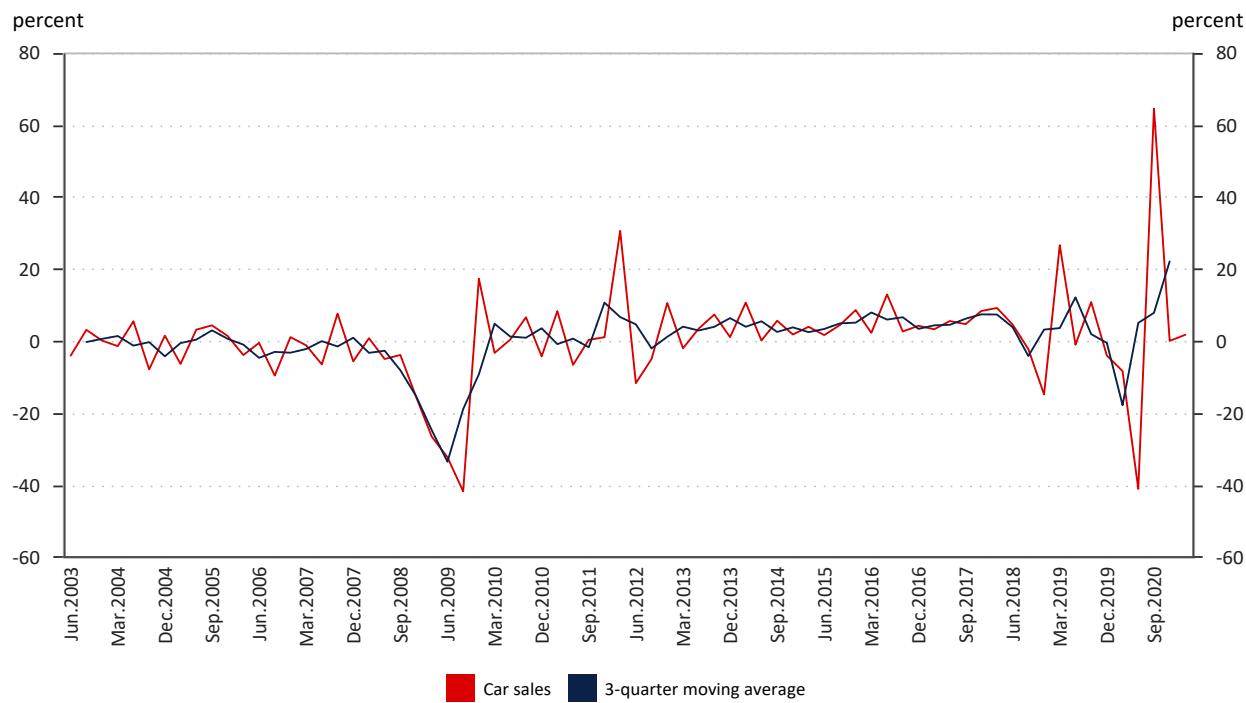
### 27. Total volume of retail trade



Source: HCSO.

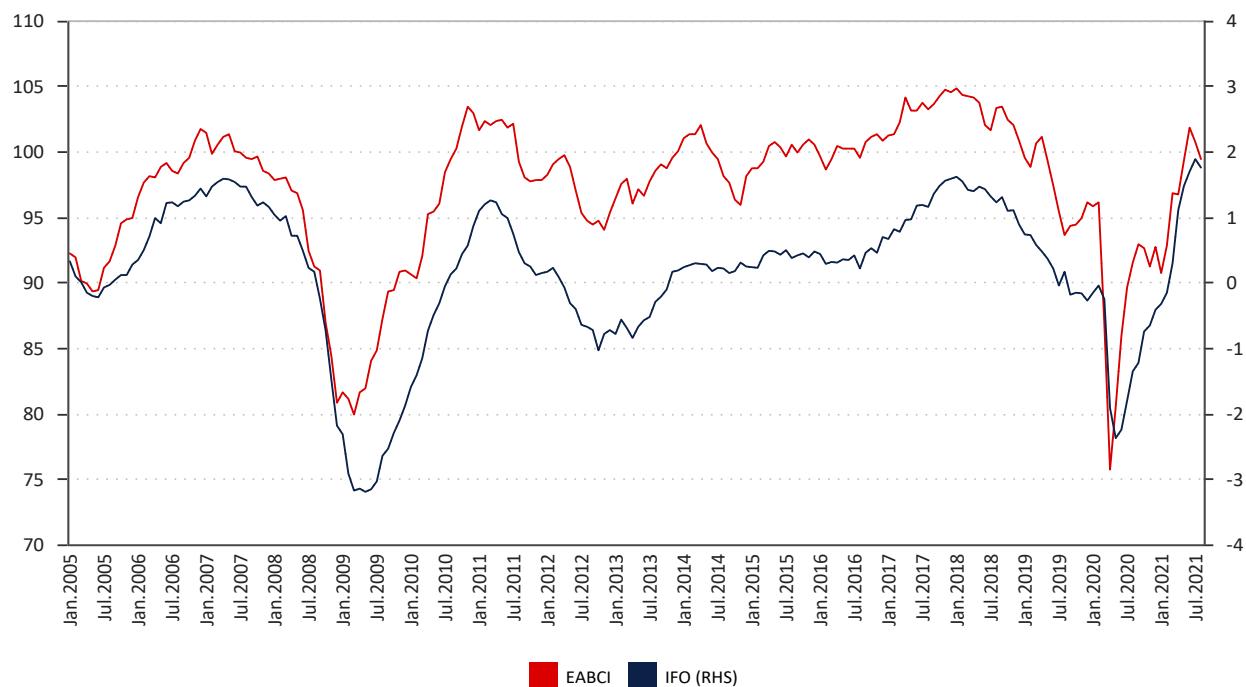
Note: seasonally adjusted annualised monthly growth rates. The data of total retail sales contain beyond the narrow retail sales the turnover of motor vehicles and automotive fuel as well.

### 28. Quarterly growth rates of automobile sales



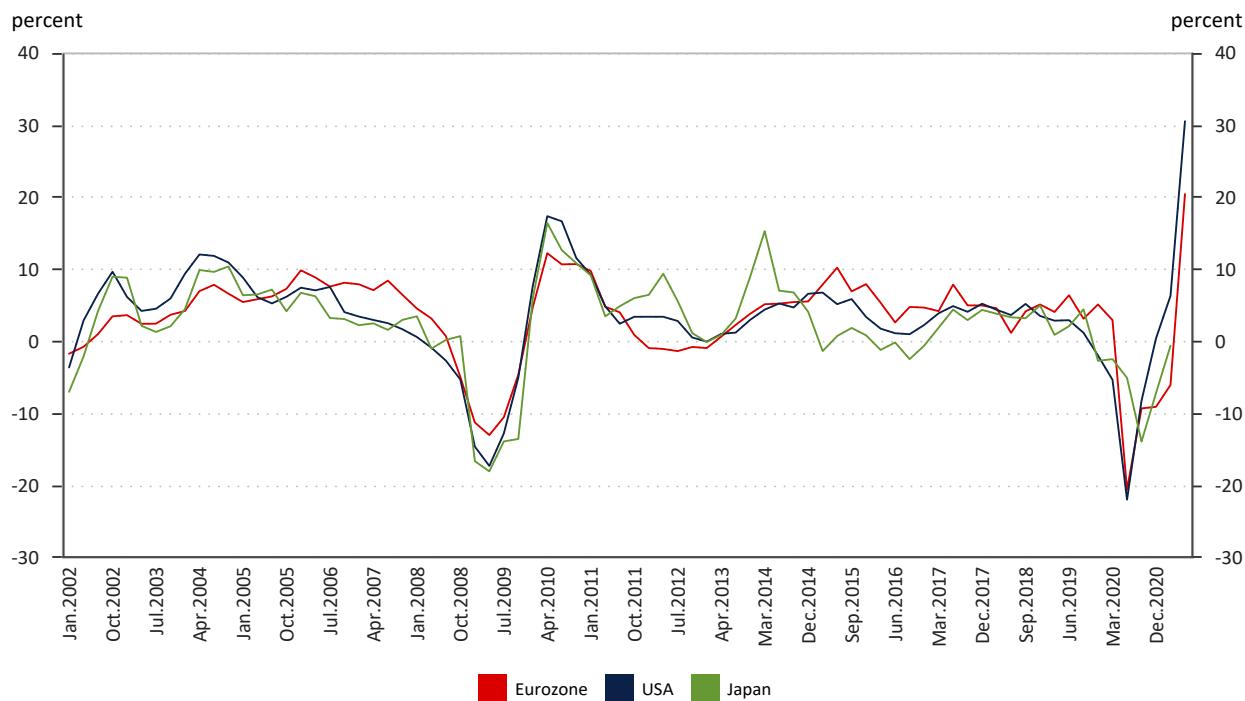
Source: ACEA.

### 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); EABCi: Business Climate Index of the European Committee (deviations from the long-run average), seasonally adjusted.

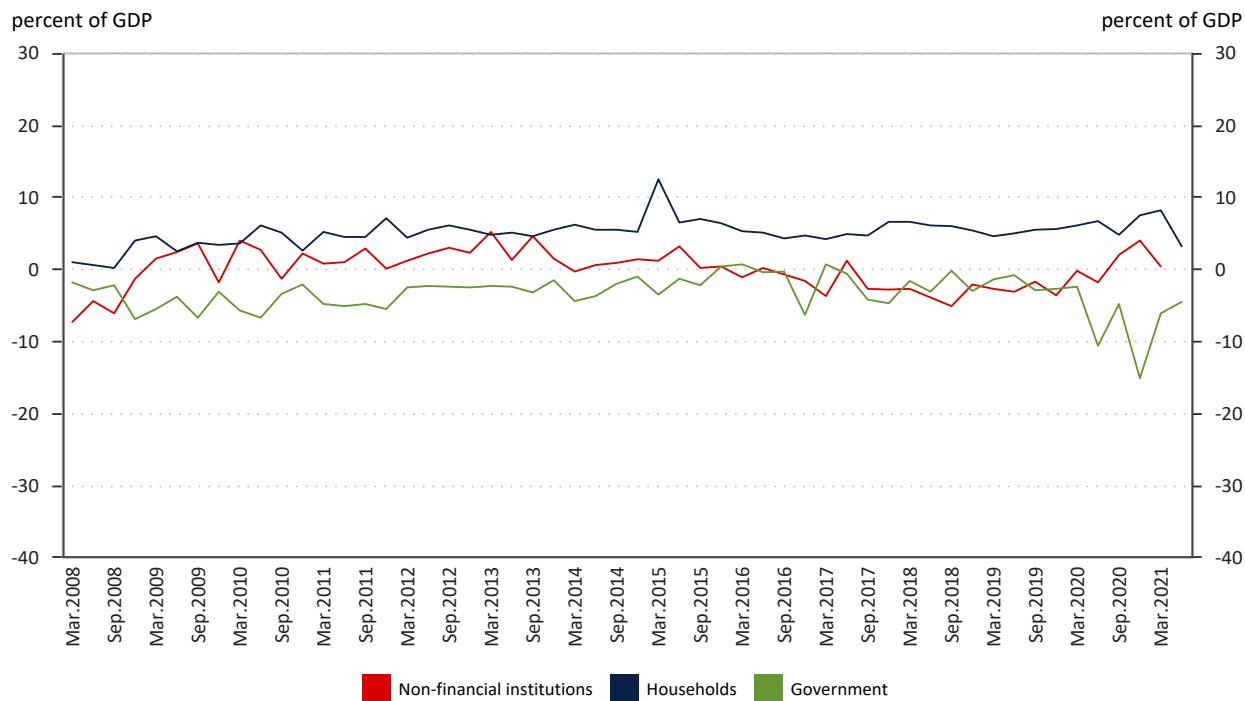
**30. The annual growth rate of the volume of imported goods and services**

Source: Eurostat.

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

Source: Eurostat

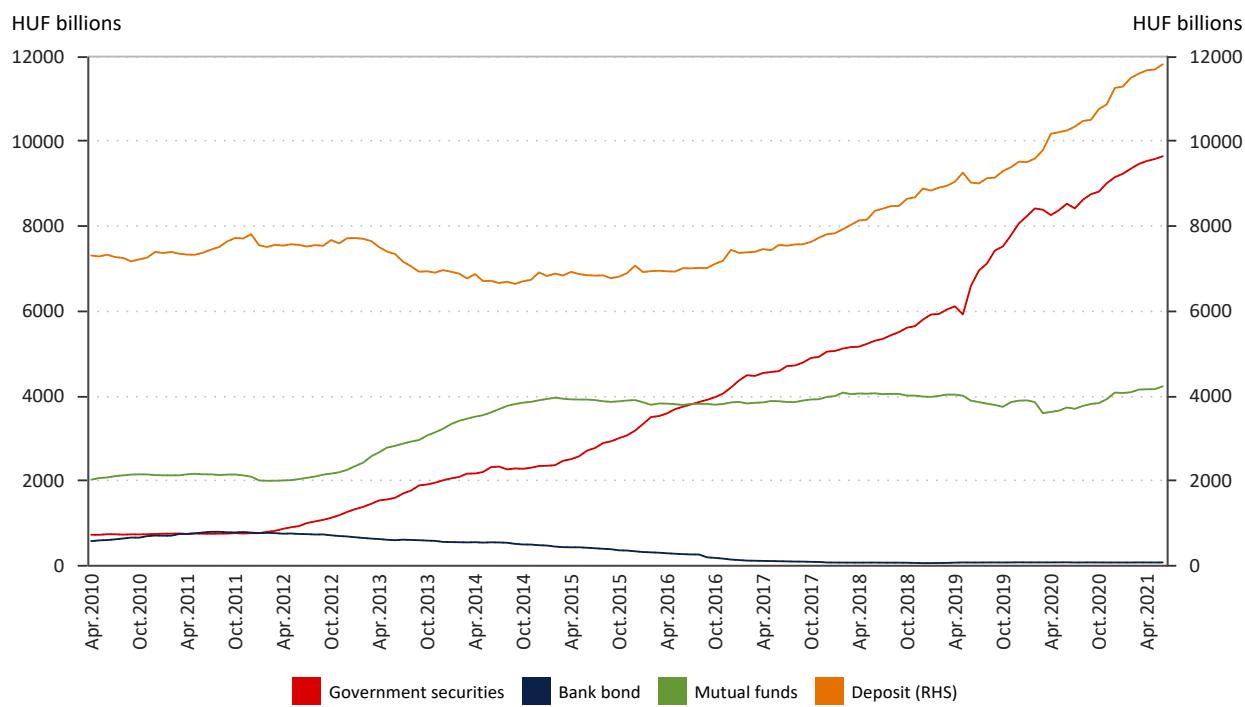
### 32. Net lending of domestic sectors



Source: MNB.

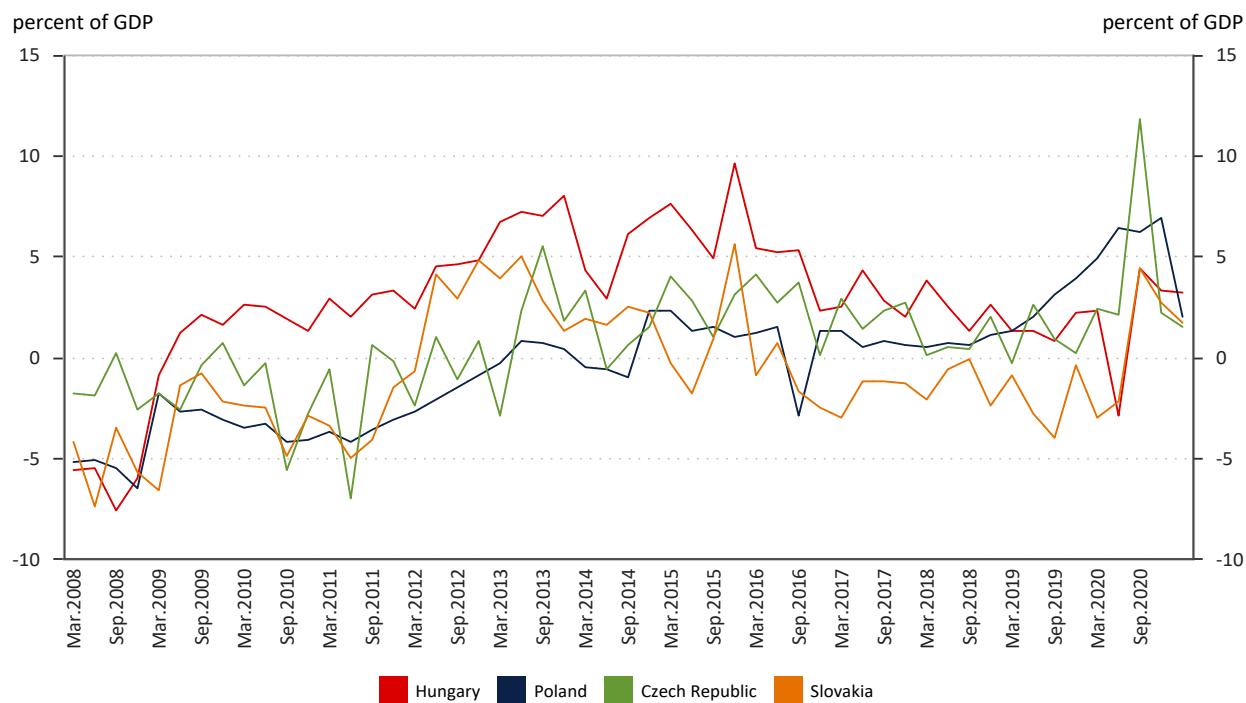
Note: Seasonally adjusted by MNB. In the case of households and general government, the last data is preliminary.

### 33. Main financial assets held by households



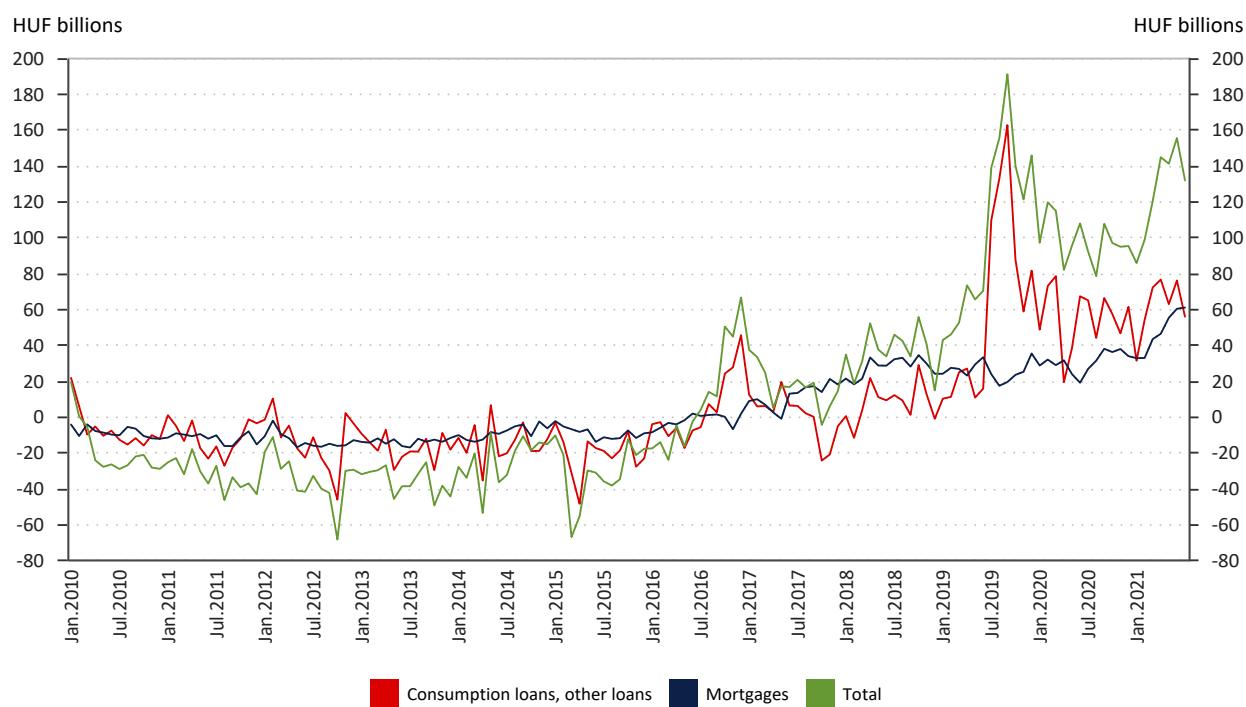
Source: MNB.

### 34. External financing capacity in the CEE countries



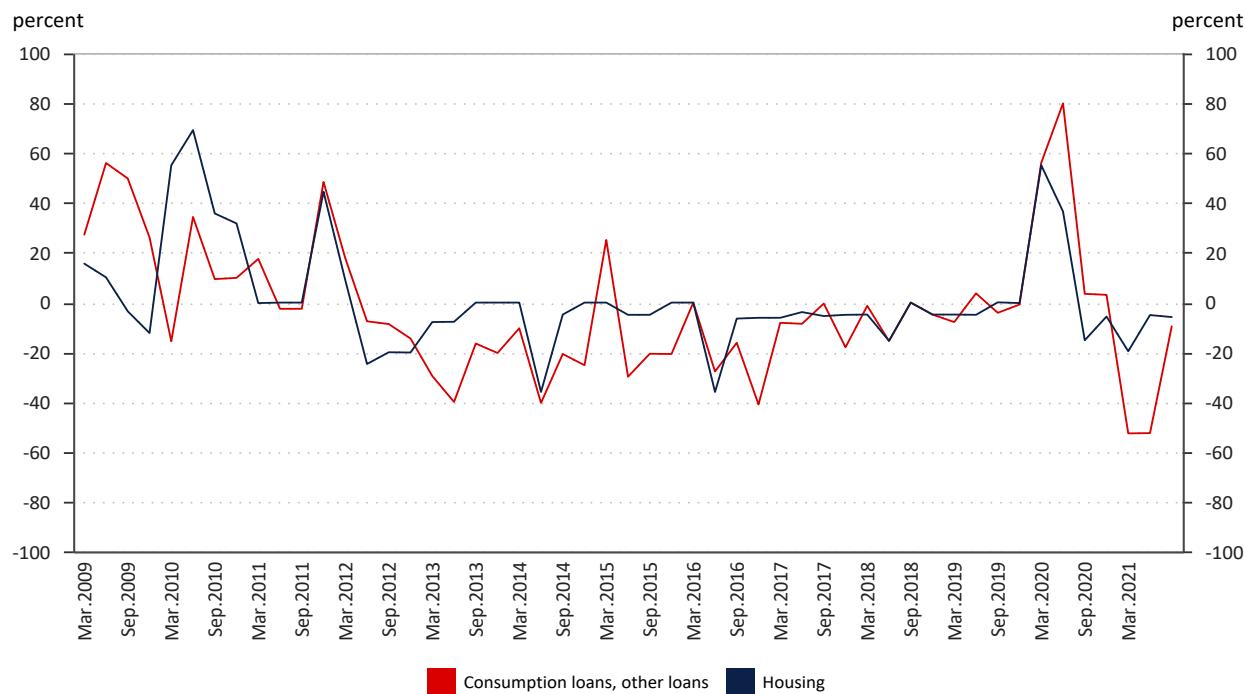
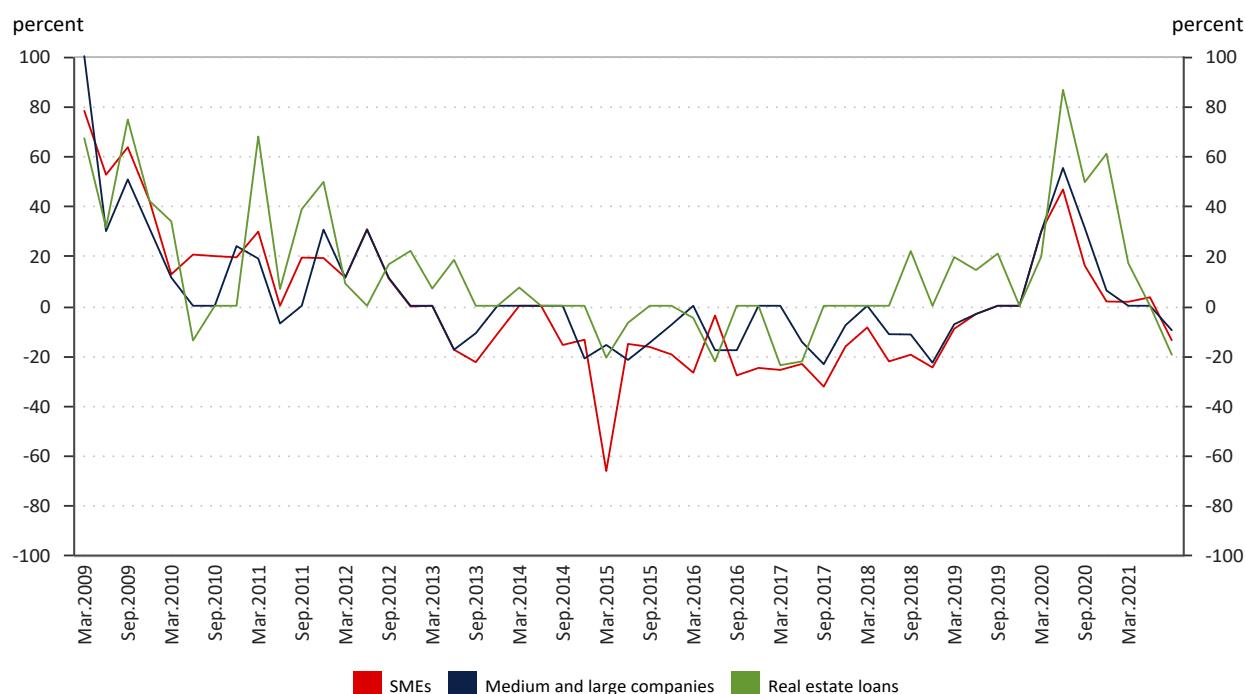
Source: MNB, Eurostat.

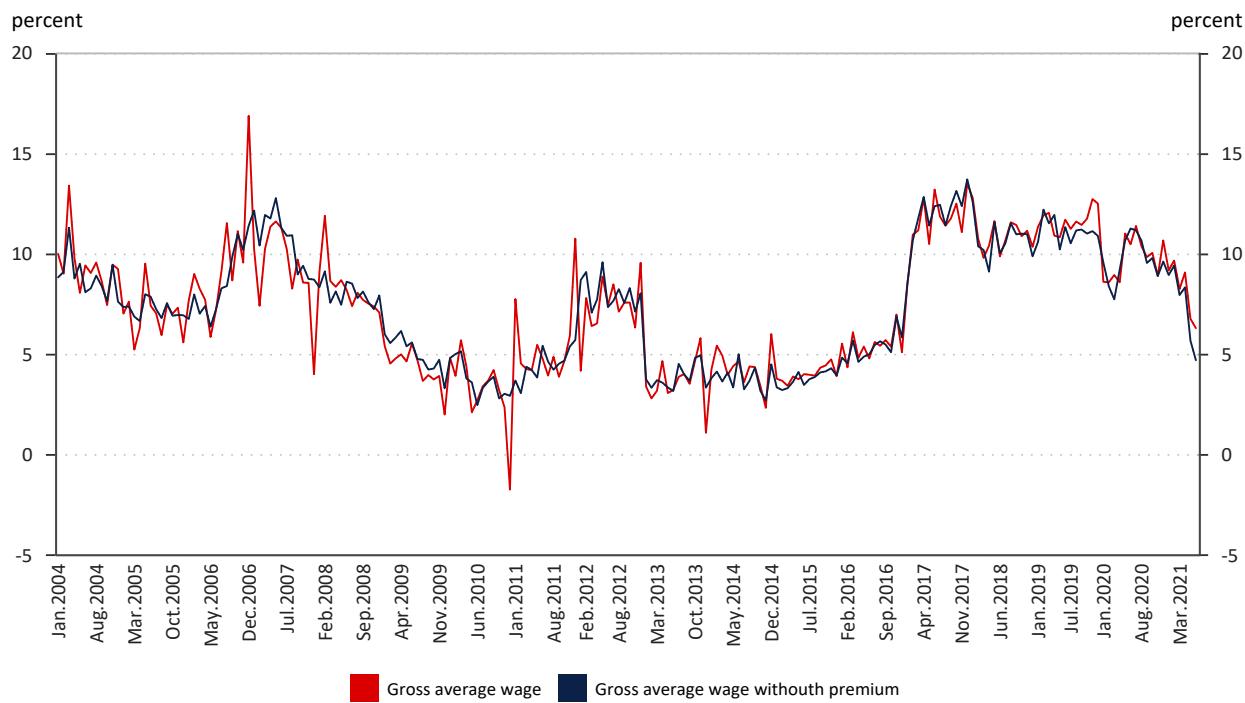
### 35. Net borrowing of the households



Source: MNB.

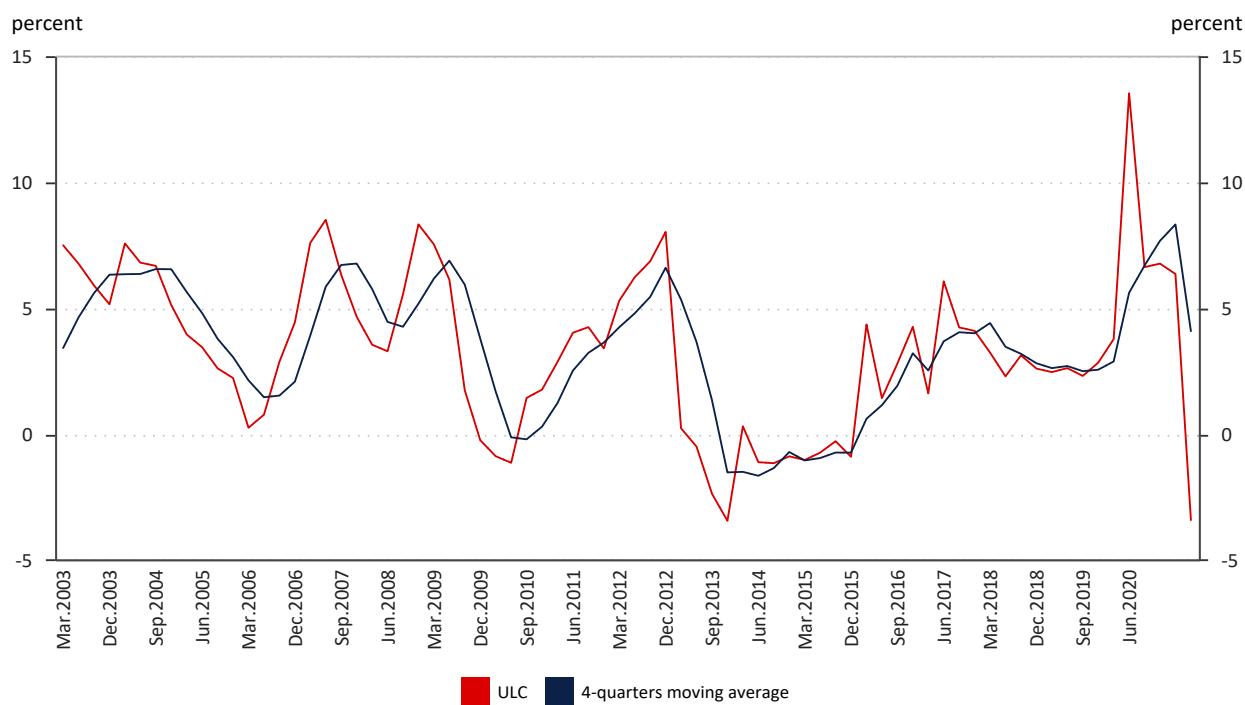
Notes: Figure showing underlying trends, adjusted for the impact of the forint conversion and settlement.

**36. Creditworthiness standards and credit conditions in the household sector****37. Creditworthiness standards and credit conditions in the corporate sector**

**38. Wage growth in private sector**

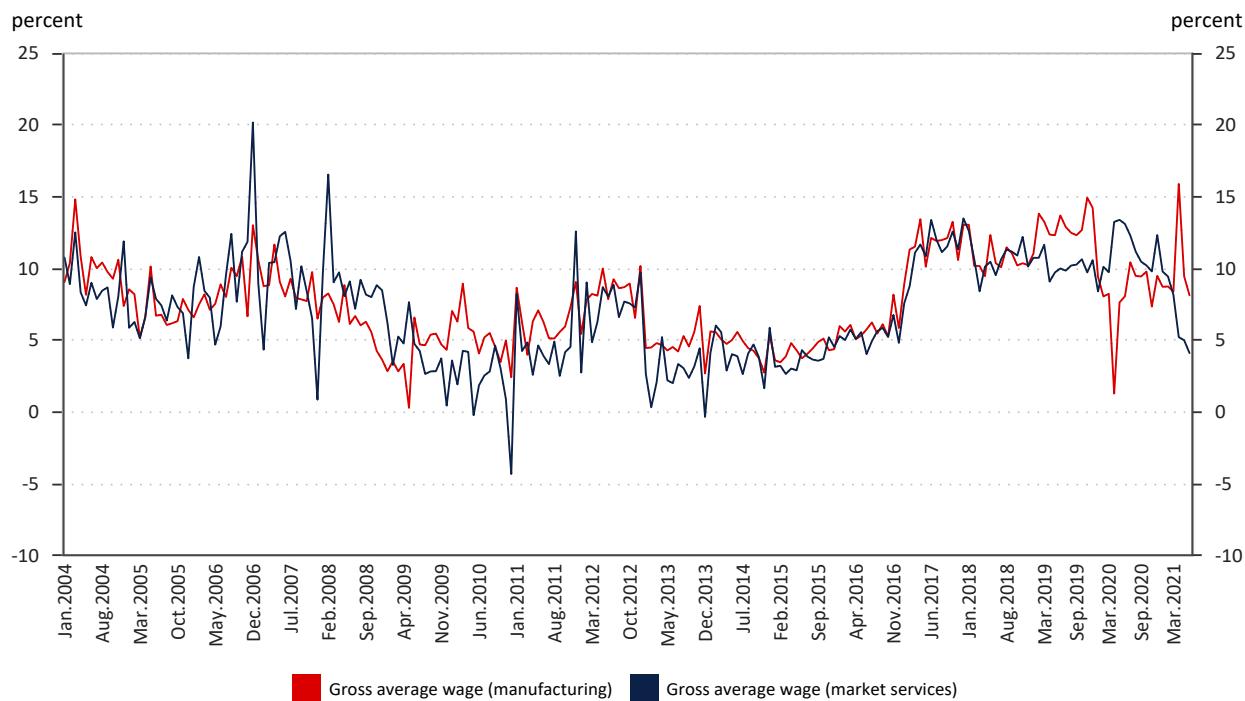
Source: HCSO, seasonally adjusted by MNB

Note: annual growth rates.

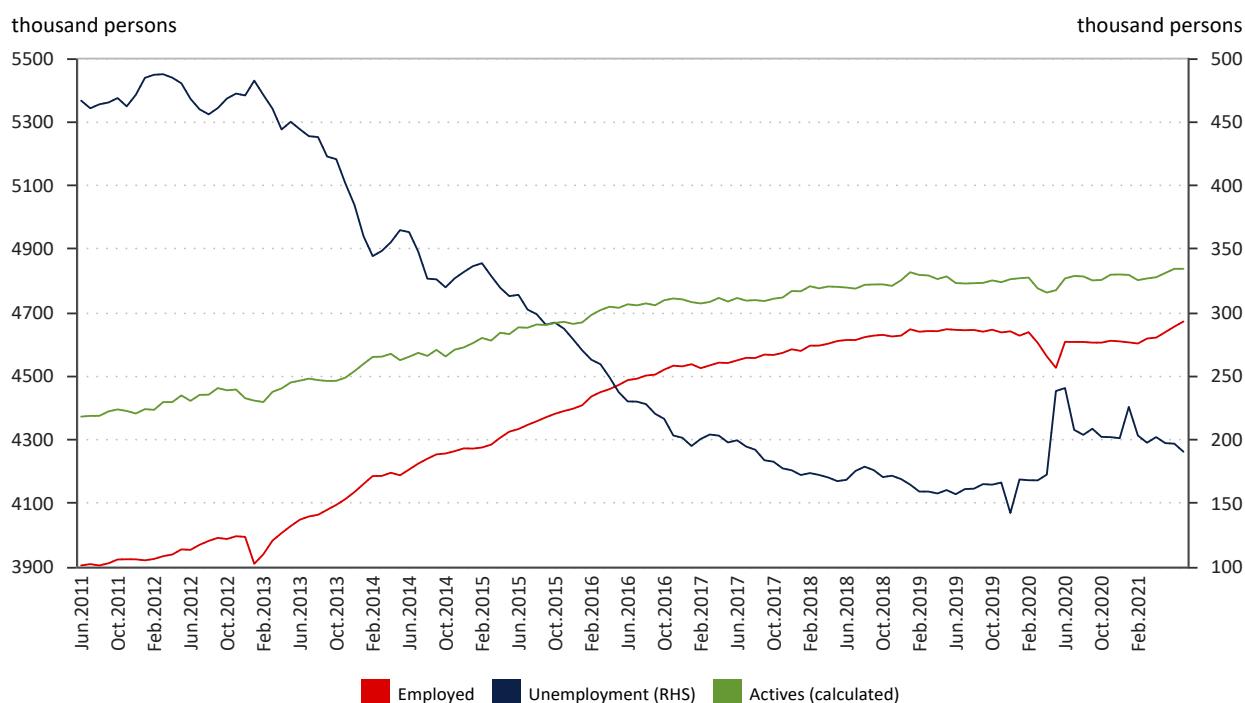
**39. Unit labour cost in the private sector**

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**

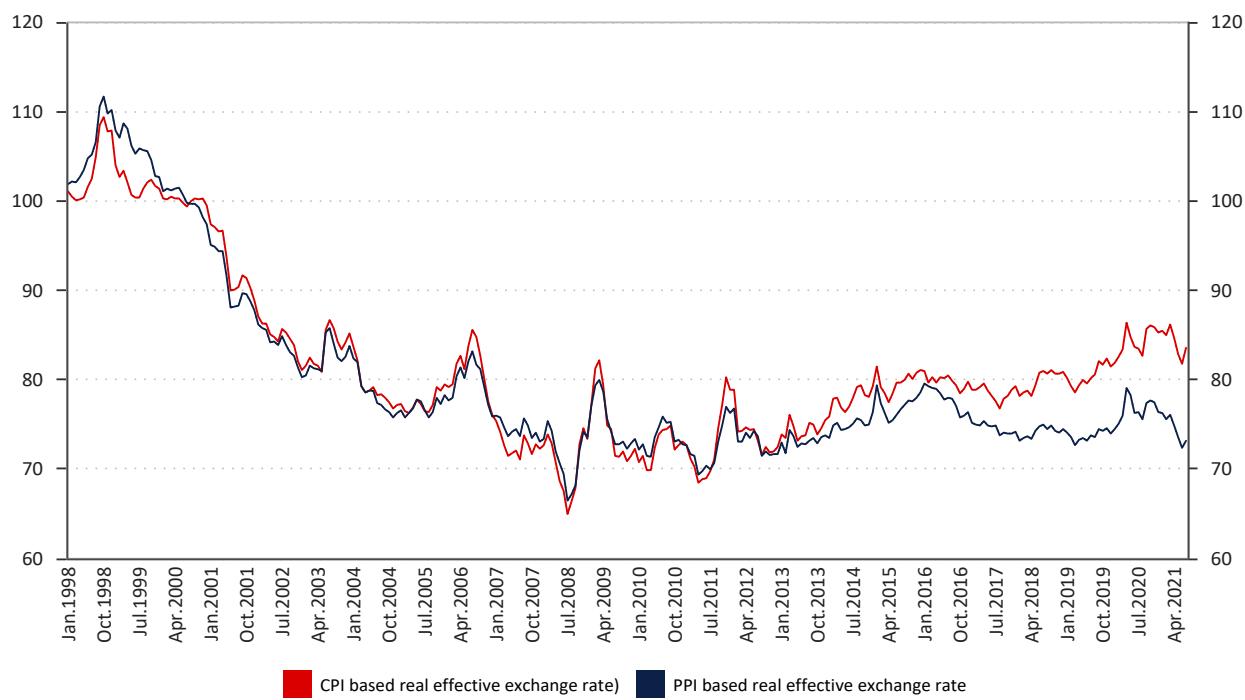
Source: HCSO.

Notes: levels, seasonally adjusted.

**42. ULC based real effective exchange rate of the HUF**

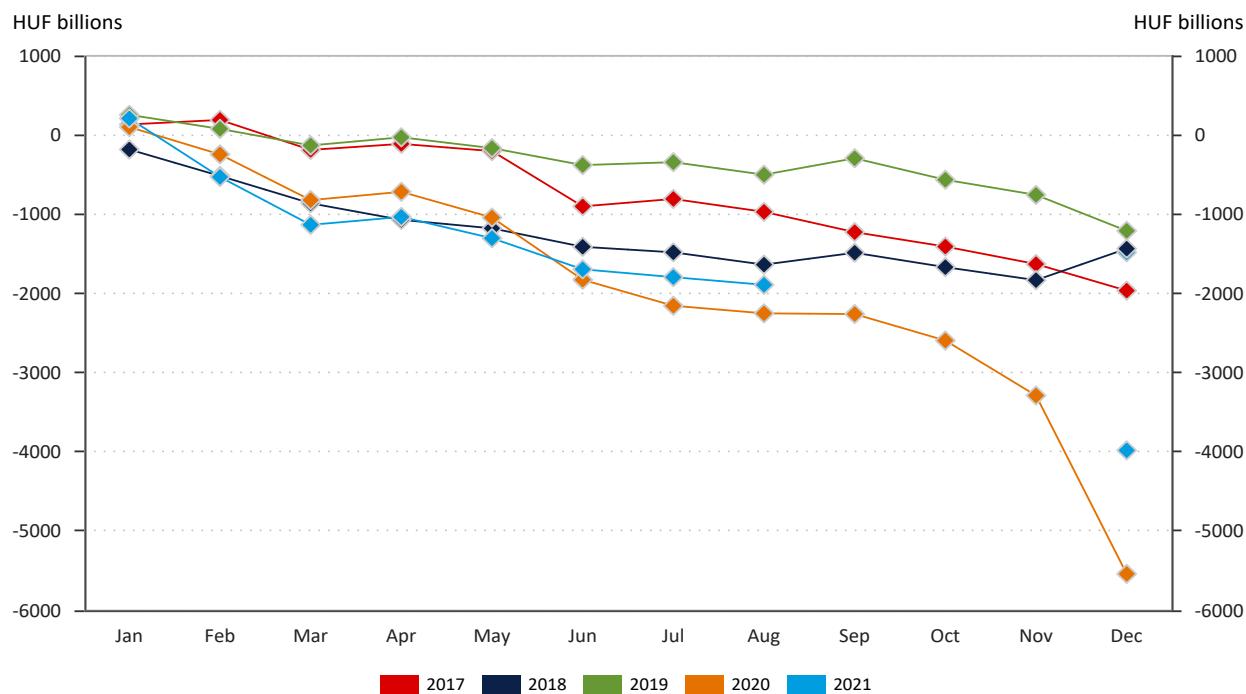
Source: Eurostat.

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**

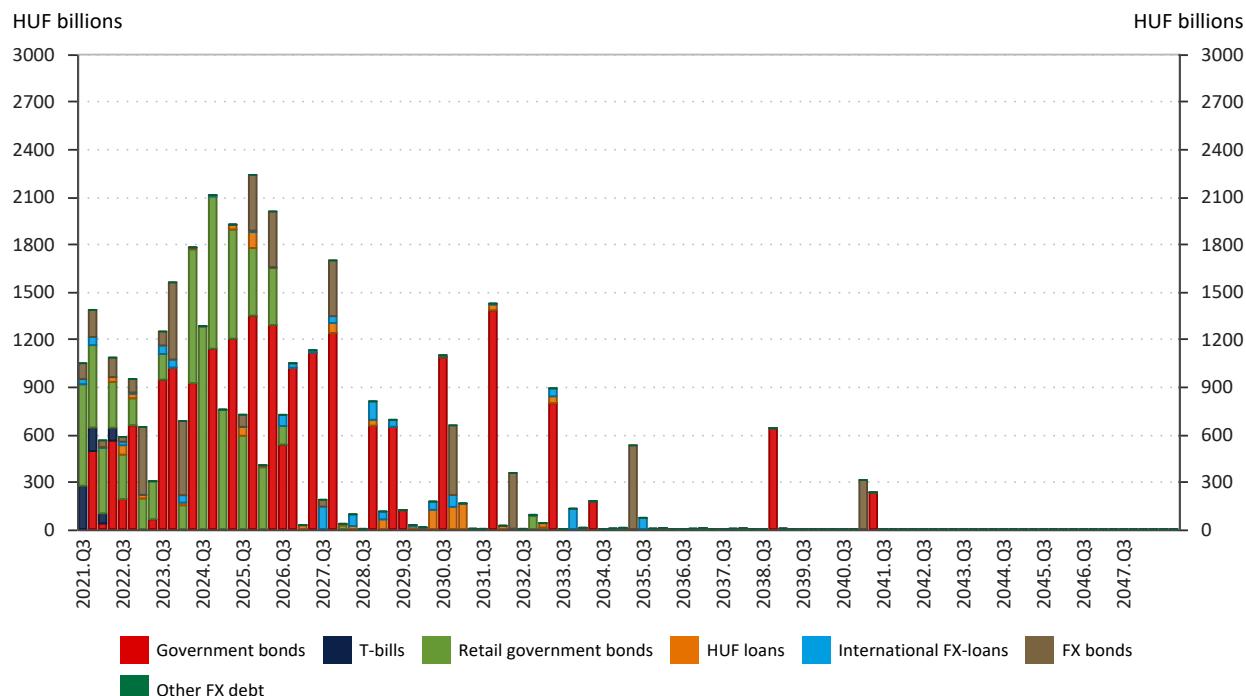
Source: HCSO.

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: Redemptions in the recent quarter are included.

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

	2021	2022	2023
<b>CPI (annual average growth rate, %)</b>			
MNB (June 2021)	4.1	3.1	3.0
Consensus Economics (August 2021)**	3.9 - 4.4 - 4.8	2.9 - 3.5 - 4.4	
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 (August 2021)*	4.1 - 4.5 - 4.7	3.3 - 3.6 - 4.4	3.0 - 3.2 - 3.3
<b>GDP (annual growth rate, %)</b>			
MNB (June 2021)	6.2	5.5	3.5
Consensus Economics (August 2021)**	4.7 - 6.4 - 7.9	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 (August 2021)*	5.7 - 6.8 - 8.0	4.4 - 5.3 - 7.0	3.5 - 4.0 - 4.4
<b>Current account balance (as a percentage of GDP)</b>			
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	
<b>Budget deficit (ESA-2010 method*, a percentage of GDP, with complete cancellation of free reserves)</b>			
MNB (June 2021)	-7.5	-5.9	-3.9
Consensus Economics (August 2021)**	(-8.5) - (-7.2) - (-5.5)	(-6.8) - (-5.5) - (-4.0)	
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 (August 2021)*	(-7.5) - (-7.0) - (-5.5)	(-5.9) - (-5.3) - (-4.0)	(-4.1) - (-3.3) - (-3.0)
<b>Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)</b>			
MNB (June 2021)	5.3	4.3	2.4
ECB (September 2021)	4.1 - 5.0 - 5.8	2.2 - 4.6 - 5.7	1.9 - 2.1 - 2.3
Consensus Economics (August 2021)**	4.3	4.2	
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*

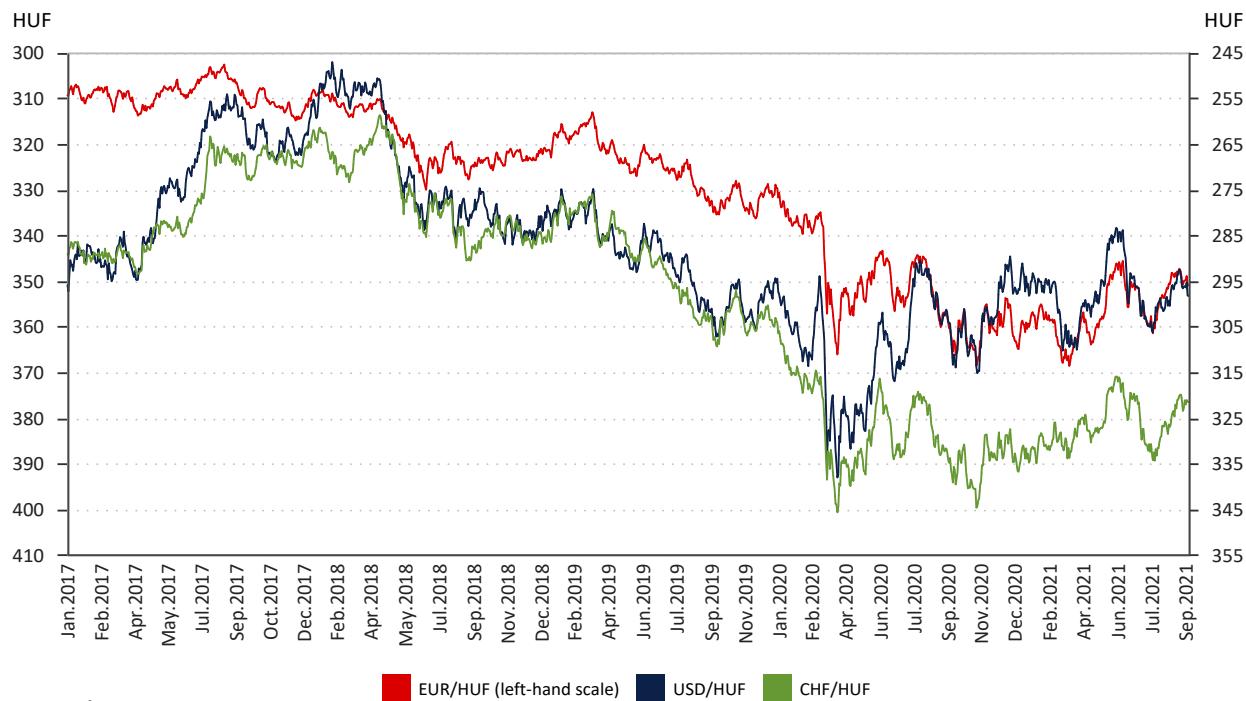
Indicator	One month ago	One week ago	Current
HUF/EUR spot exchange rate	351.7	350.8	350.8
Skewness of expectations on HUF/EUR exchange rate	0.55	0.65	0.68
HUF-positions of foreign investors (HUF billions)	-1589	-1366	-1375
Forward positions of domestic investors (HUF billions)	813	584	547
MNB base rate (%)	1.20	1.50	1.50
Expected short-term interbank rate at the end of the year (%)*	2.17	2.13	2.35
3-months interbank rate (%)	1.55	1.75	1.82
3x6 FRA rate (%)	2.09	2.12	2.31
3 month T-bill yield (%)	0.77	1.10	1.10
5 year T-bond yield (%)	2.14	2.52	2.59
Slope of yield curve (10Y-1Y, bp)	191	159	158
O/N FX-swap spread (bp)	19	17	1
3-month FX-swap spread (bp)	11	91	31
5-year FX-swap spread (bp)	28	37	32
5-year CDS spread (bp)	50	51	50
5x5 swap bond spread (bp)**	271	278	282
Average spread of USD-denominated government bonds (bp)	103	96	101
Foreign holdings of HUF-government securities (HUF billion)	4649	4720	4742

Notes:

\* Based on forward yield curve.

\*\* Over Euro yield.

#### 48. Developments in HUF exchange rate

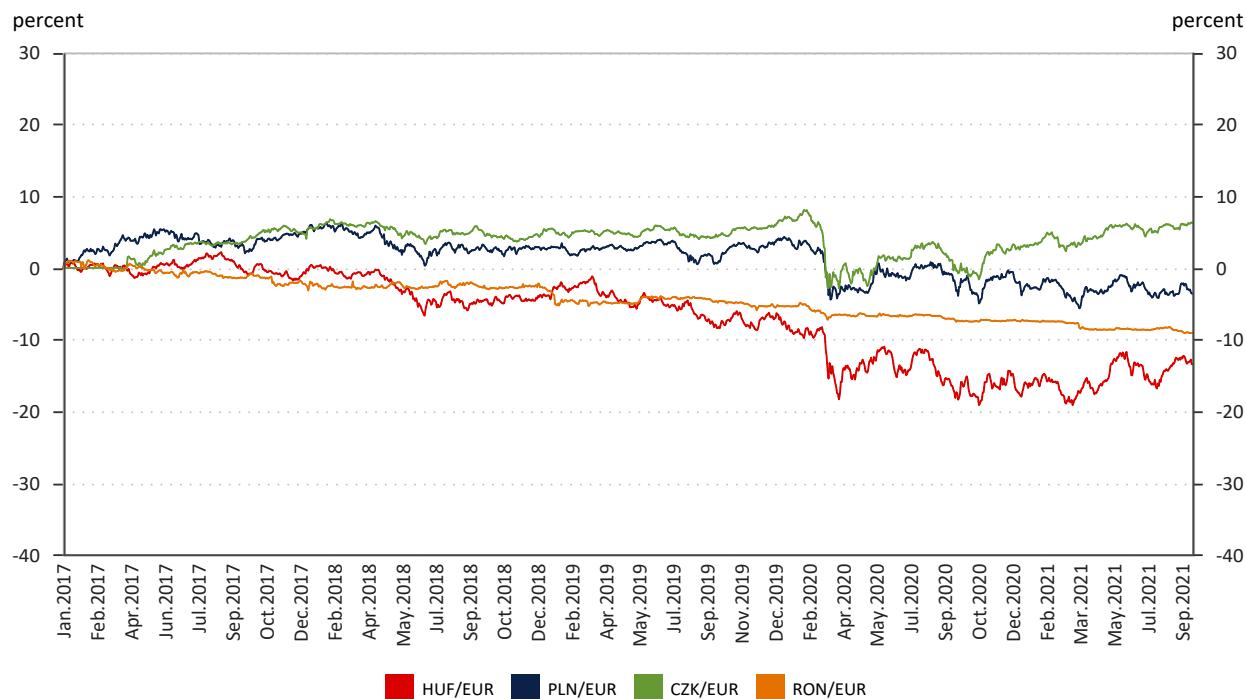


Source: Refinitiv Datastream

Note: reverse scale, daily observations.

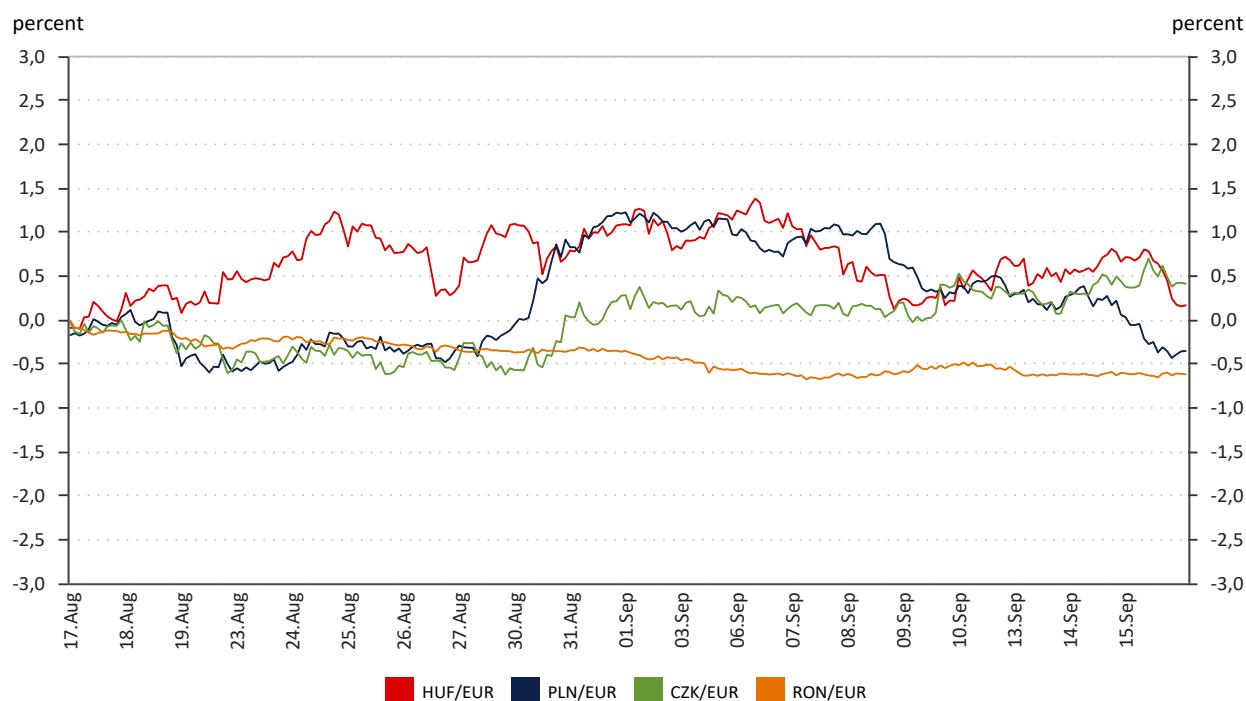
#### 49. Developments in HUF exchange rate (last month)

Source: Refinitiv  
Note: reverse scale.

**50. Emerging markets exchange rate**

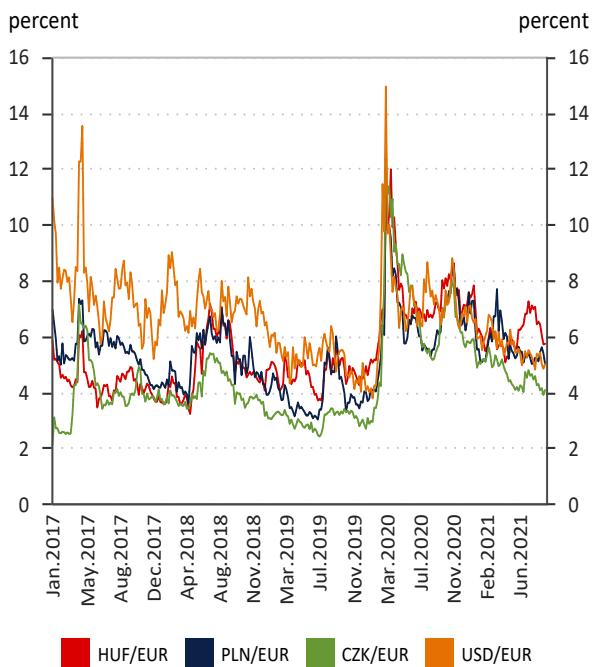
Source: Refinitiv

Note: cumulative change. Positive values mean appreciation.

**51. Emerging markets exchange rate (last month)**

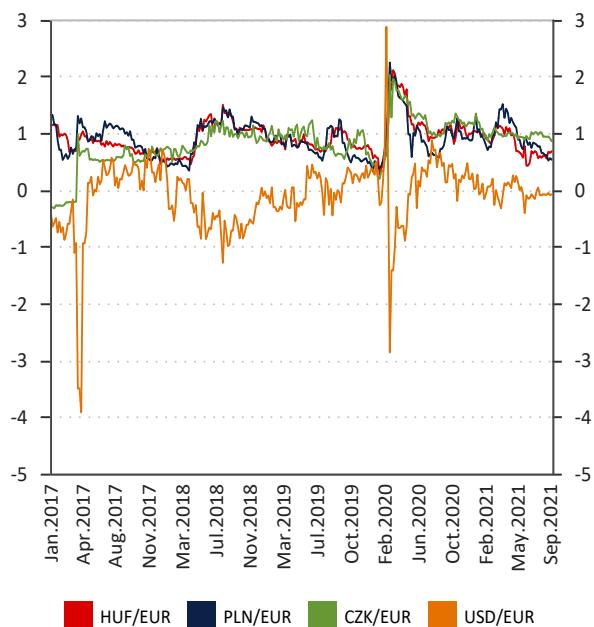
Source: Refinitiv.

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

**52. Volatility of exchange rate expectations**

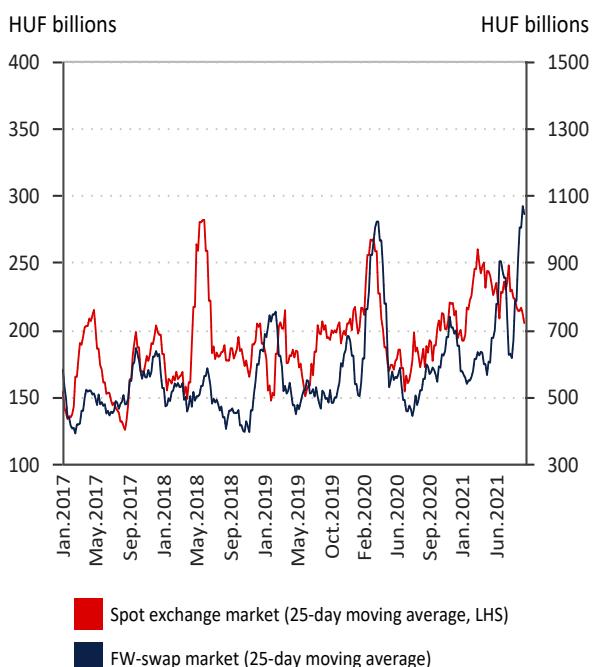
Source: Bloomberg

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**

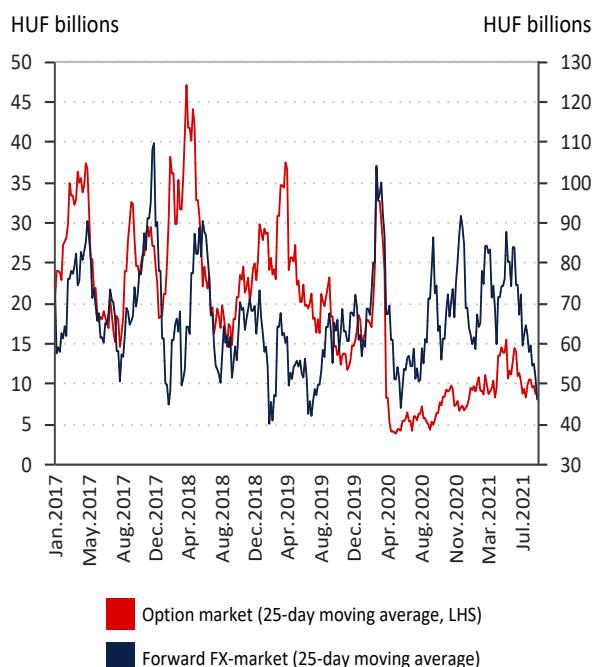
Source: Bloomberg

Notes: based on option quotes for 1-month 2SD 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

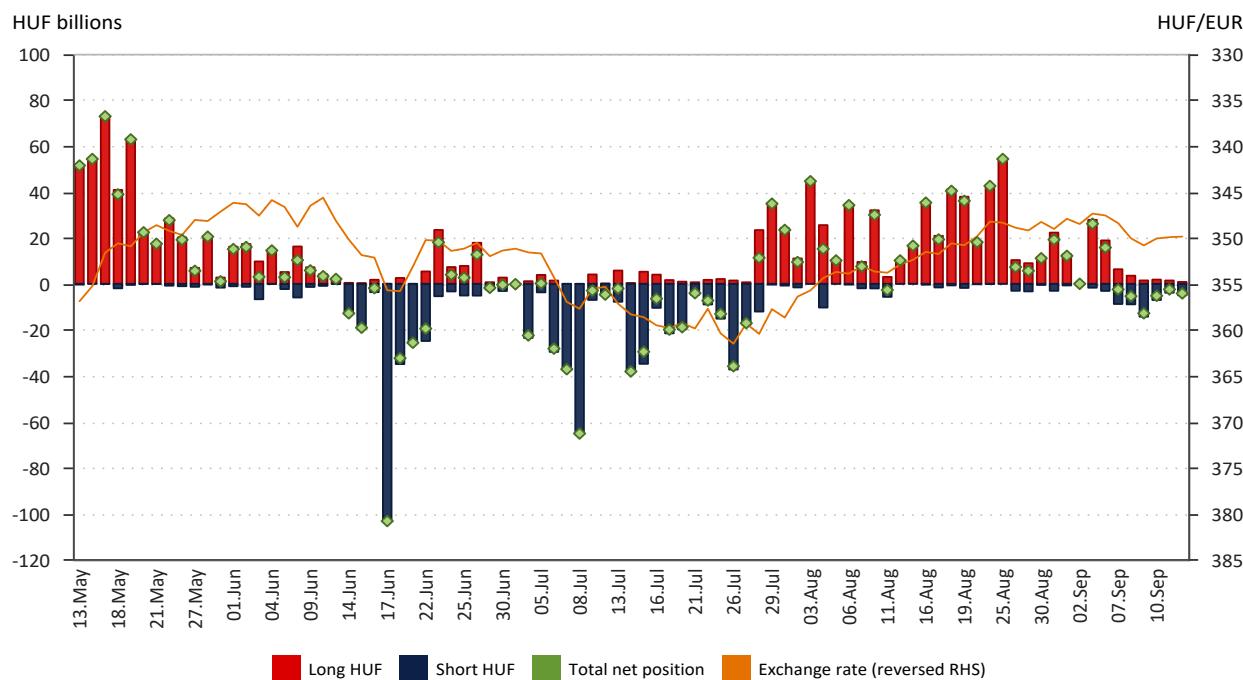
Notes: forint against foreign exchange deals by domestic banks; moving averages calculated based on deal date data.

**55. Turnover on the forward and option market**

Source: MNB

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

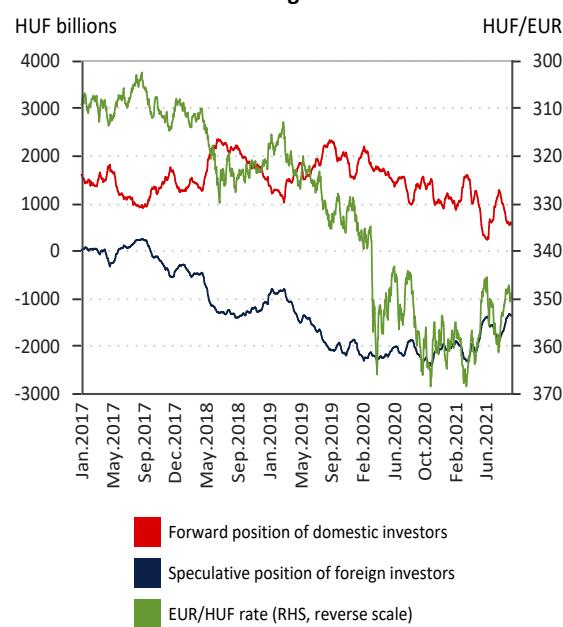
### 56. Open FX-positions of non-residents in HUF



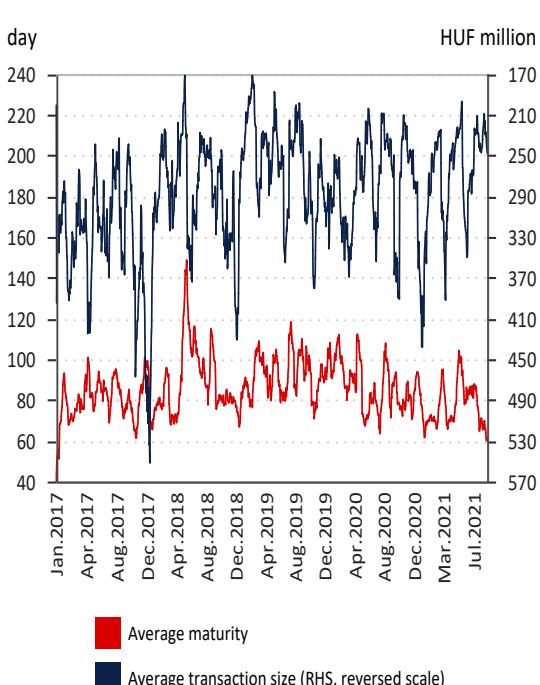
Source: MNB.

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.

### 57. Cumulated positions of non-residents in HUF and the EUR/HUF exchange rate



### 58. Forward agreements of non-financial institutions

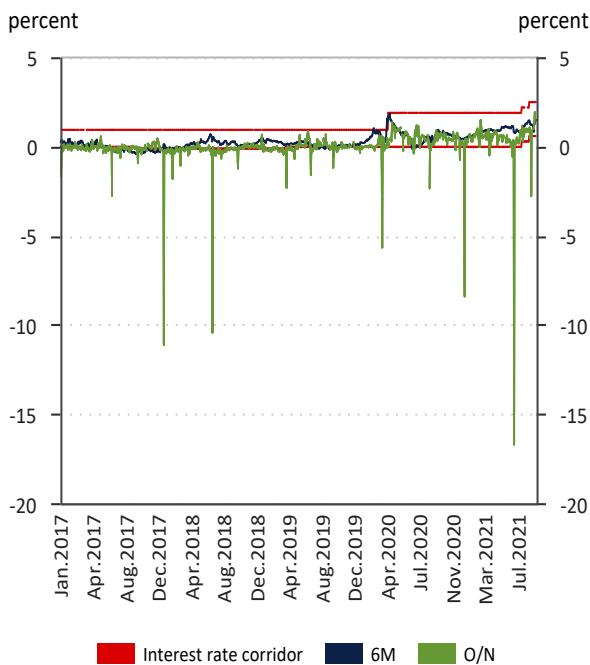
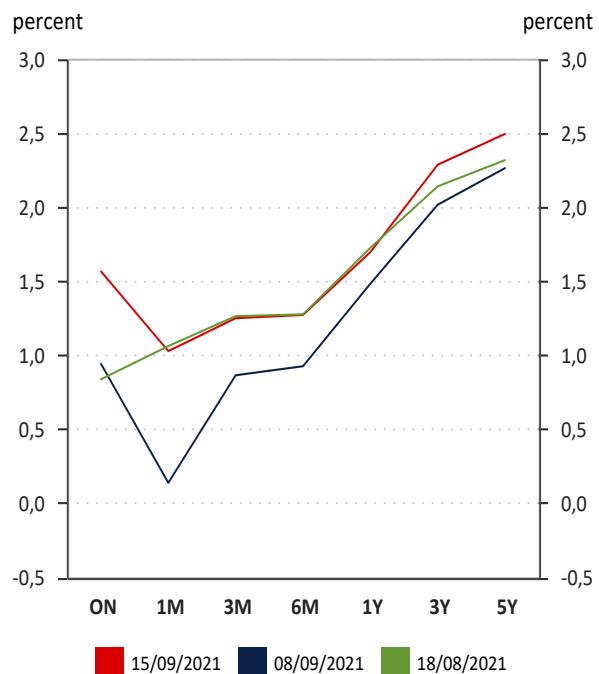
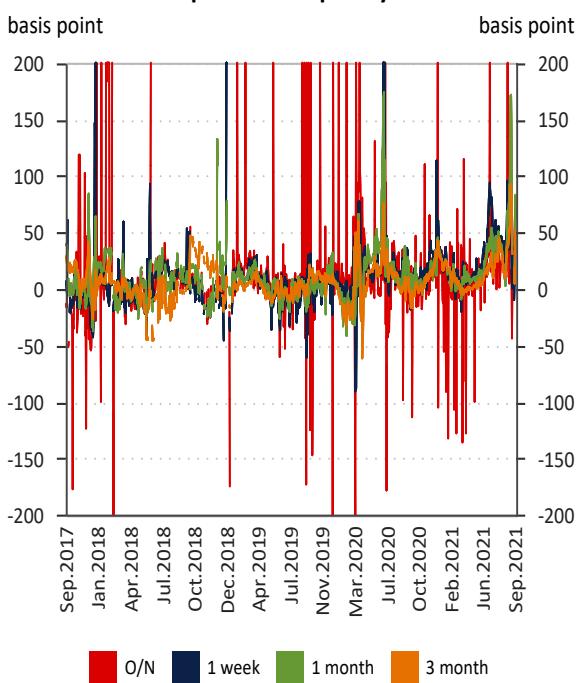
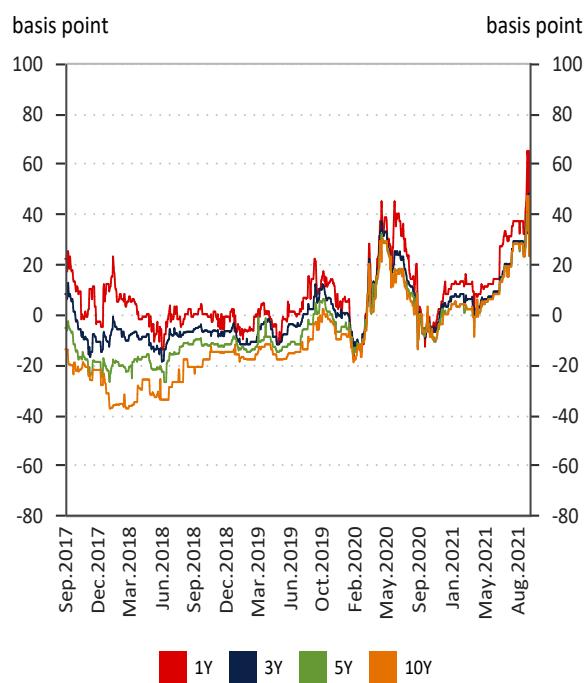


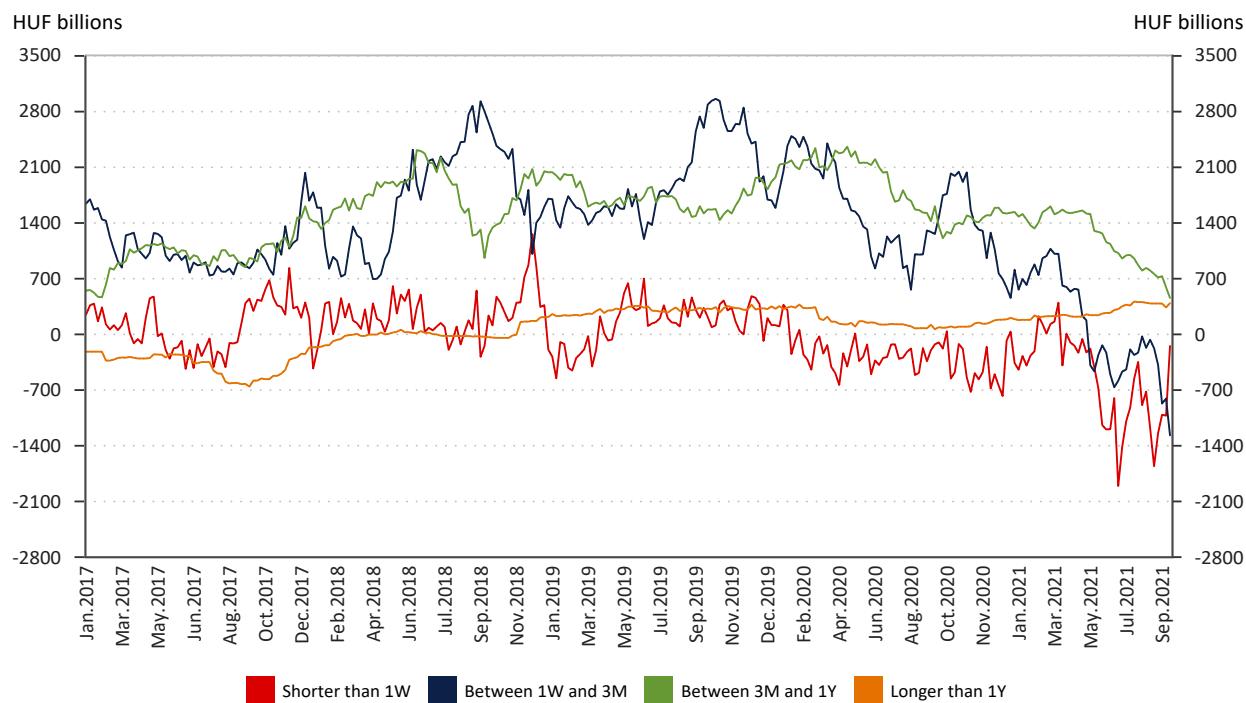
Source: MNB

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 the stocks is relevant mainly to evaluate the direction of short-term fluctuations.

Source: MNB

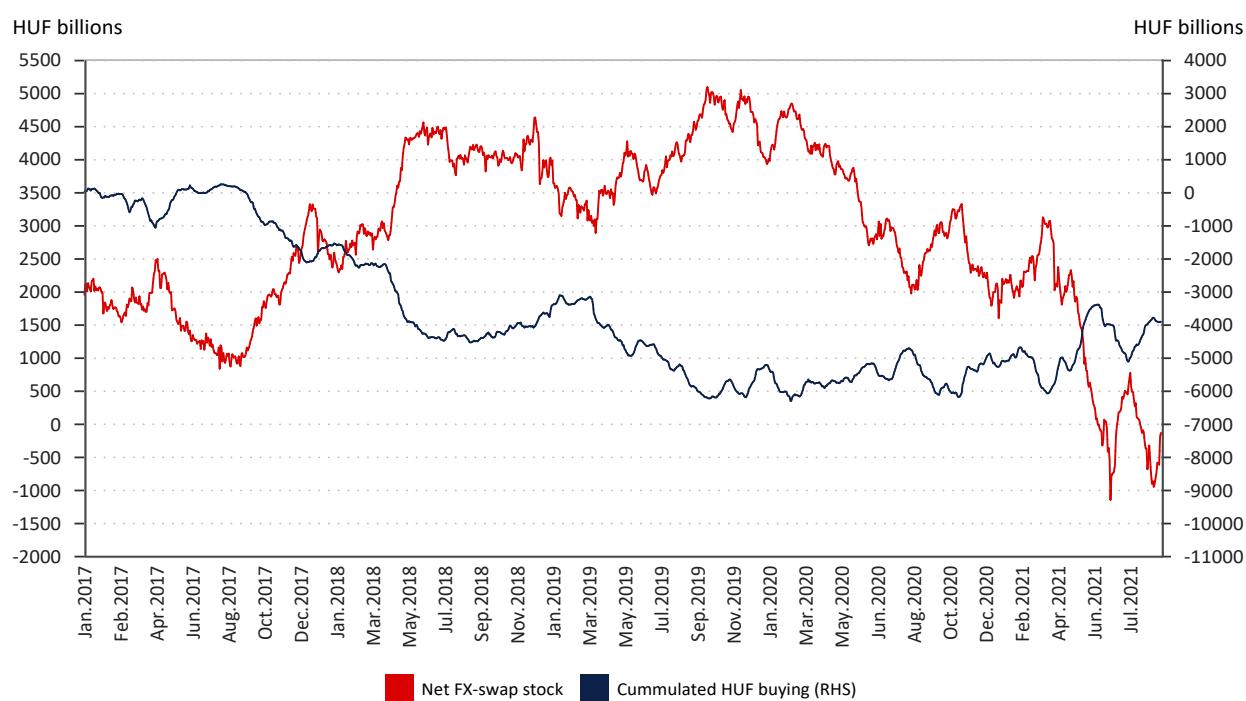
Note: 20-day moving averages.

**59. Implied HUF rates on FX-swap market****60. Implied yield curve on FX-swap markets****61. Difference between short-term interbank yields and FX-swap market implied yields****62. Development of the EUR/HUF basis swap spread**

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

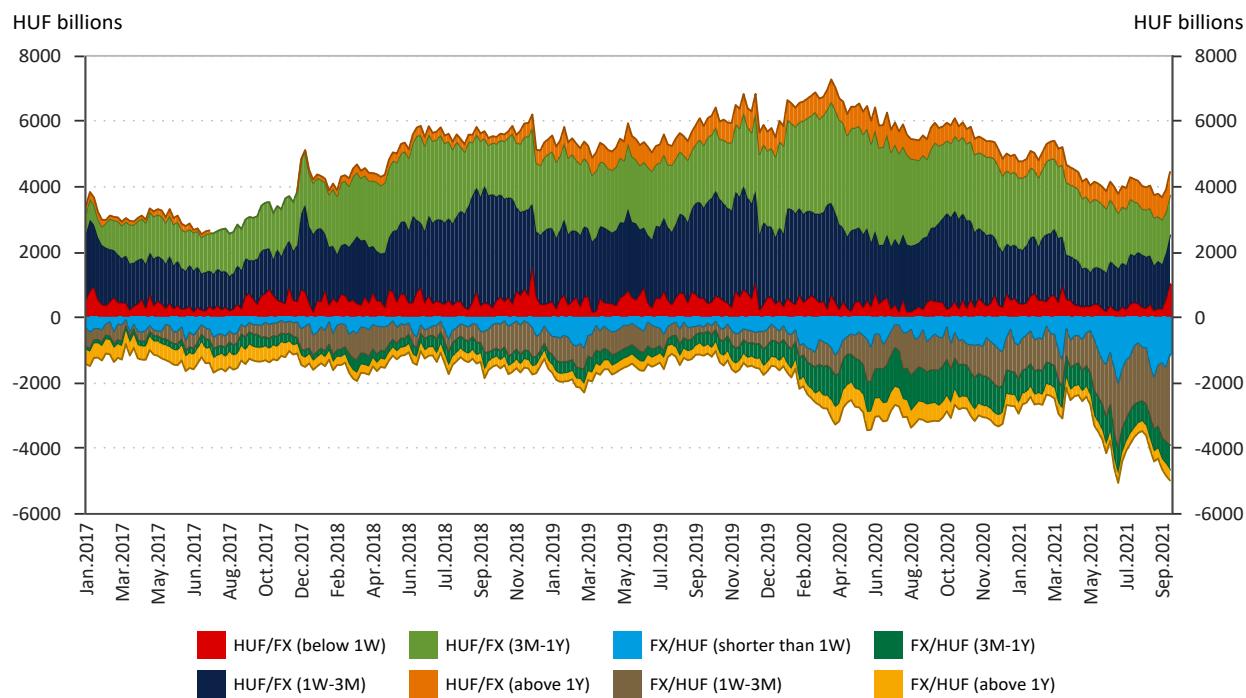
Source: MNB

Note: net FX-swap stock is defined as a difference of HUF-buying and FX-buying transactions.

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

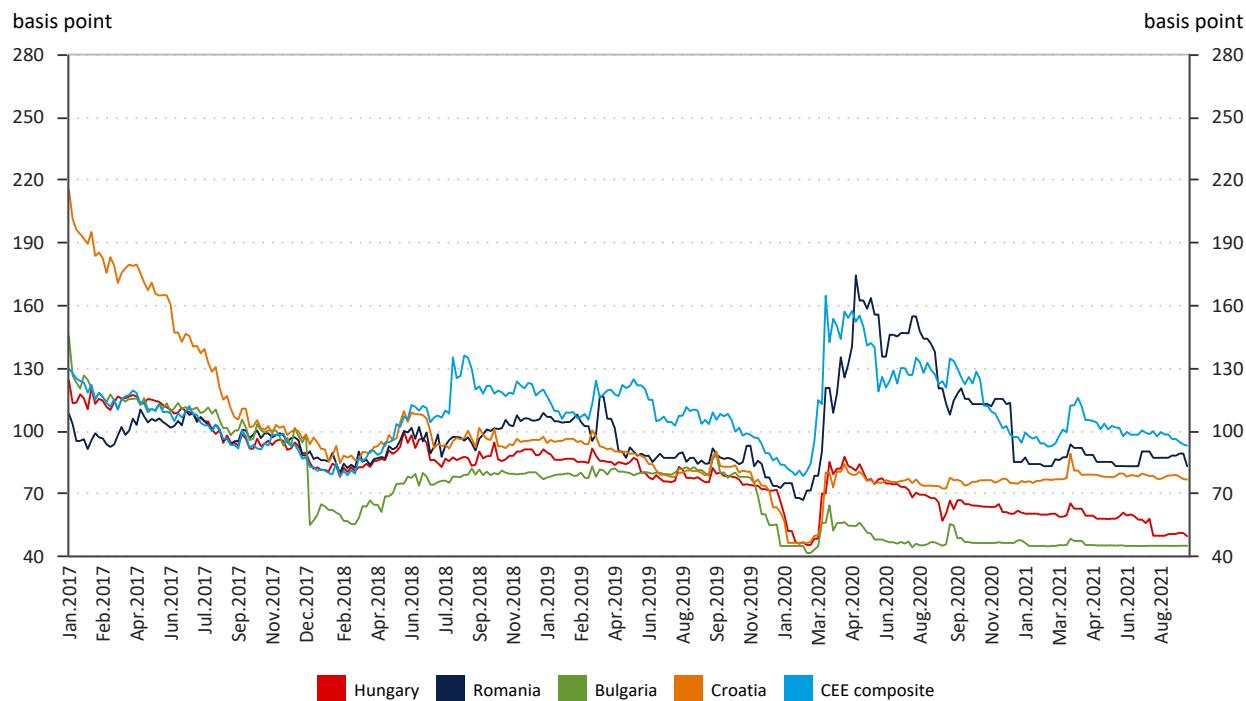
Source: MNB

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

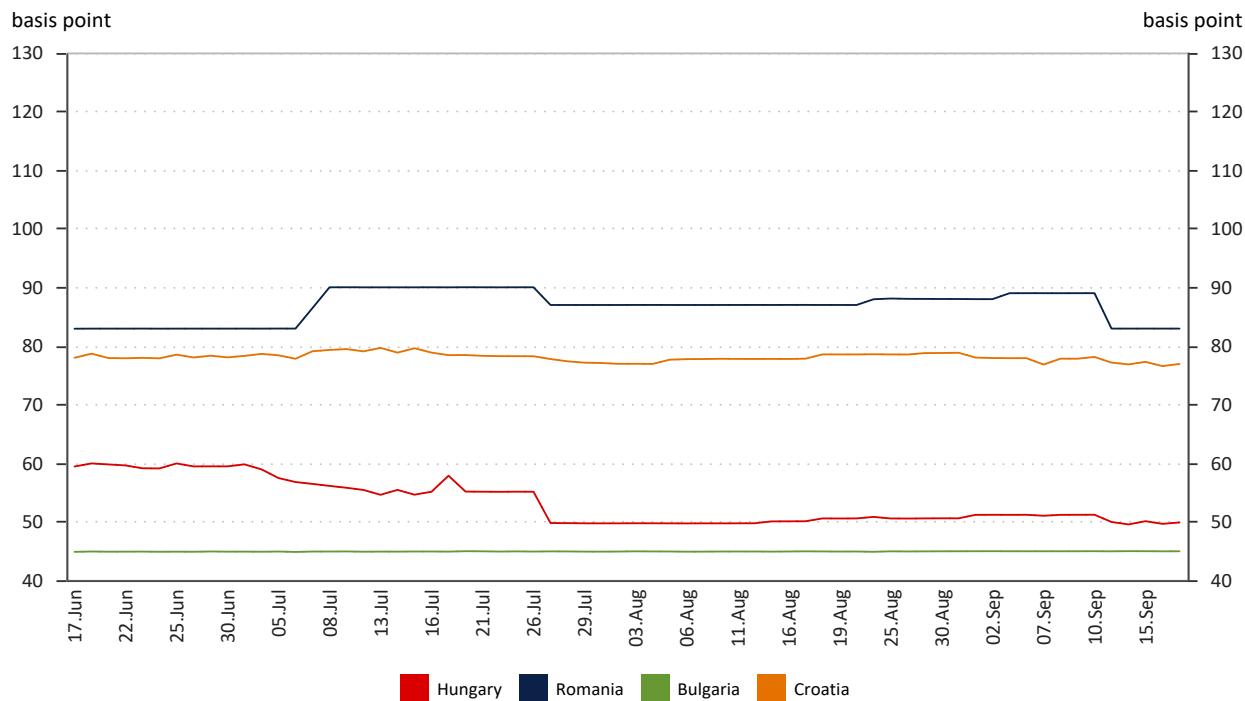
**65. Gross FX-swap stocks of foreign investors by maturity**

Source: MNB

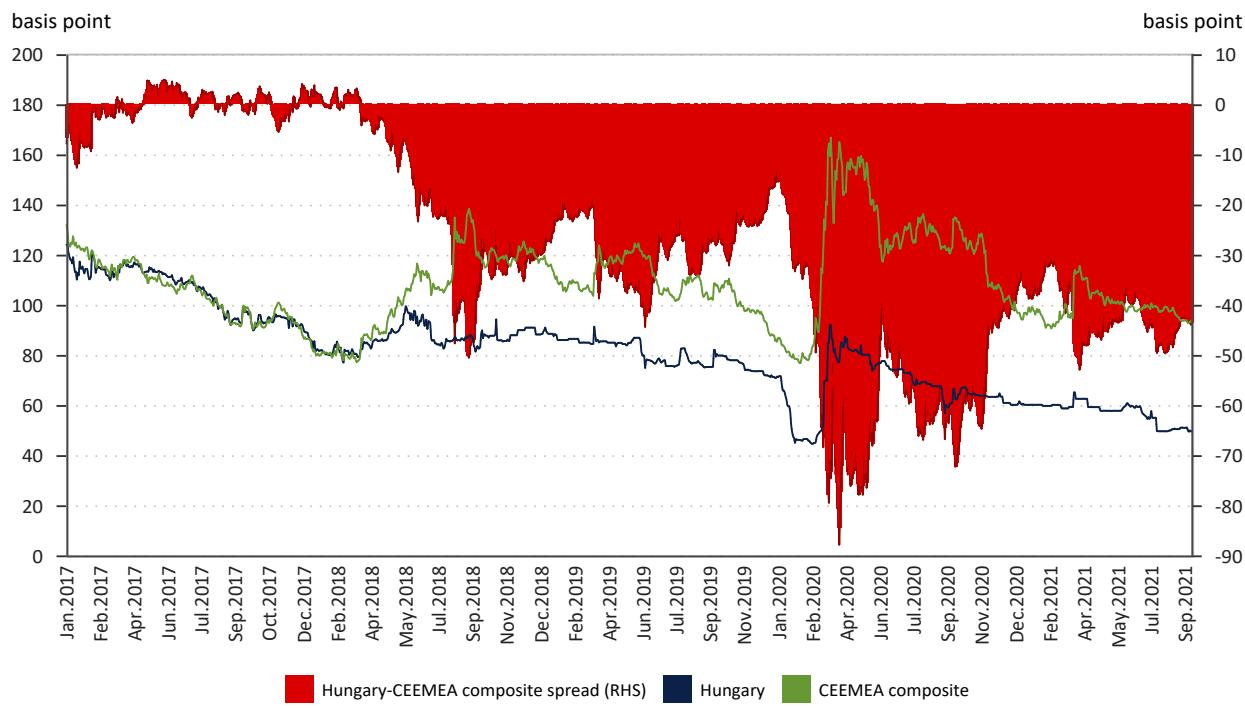
Note: Based on the daily FX reports of the transactions with non-residents of credit institutions. Positive values stand for swap stock with long forint spot leg, while negative values stand for swap stock with short forint spot leg.

**66. 5 year sovereign CDS spreads in CEE**

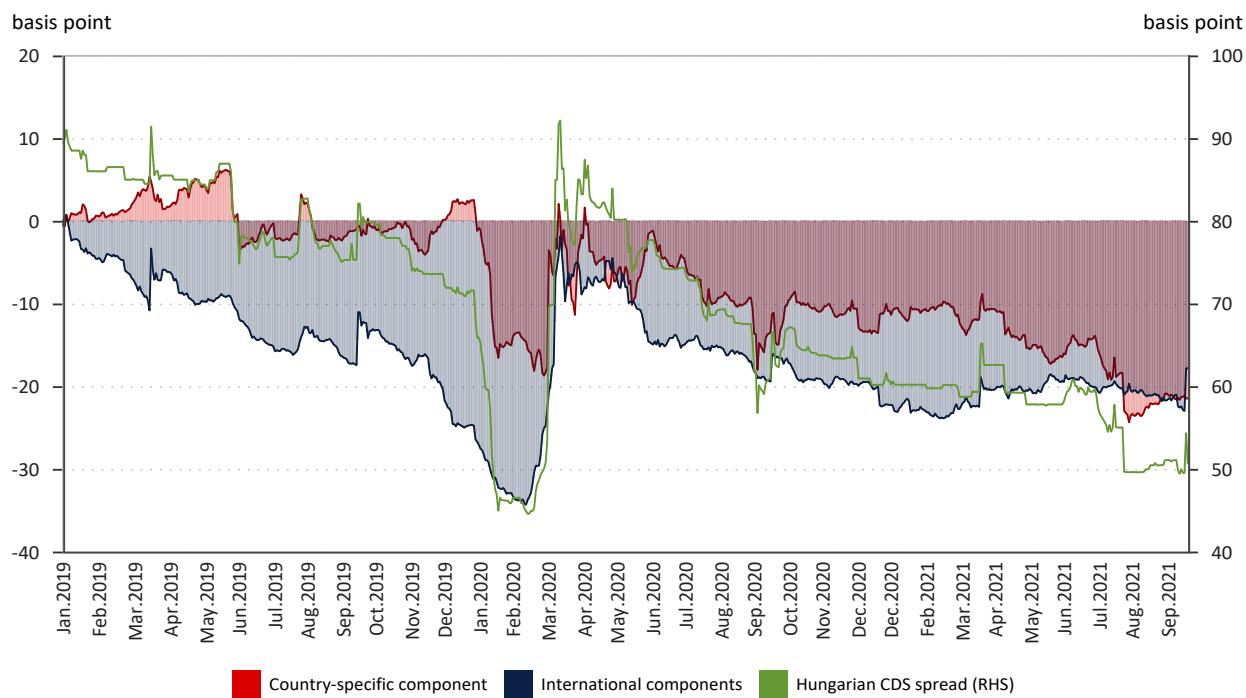
Source: Refinitiv.

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

Source: Refinitiv.

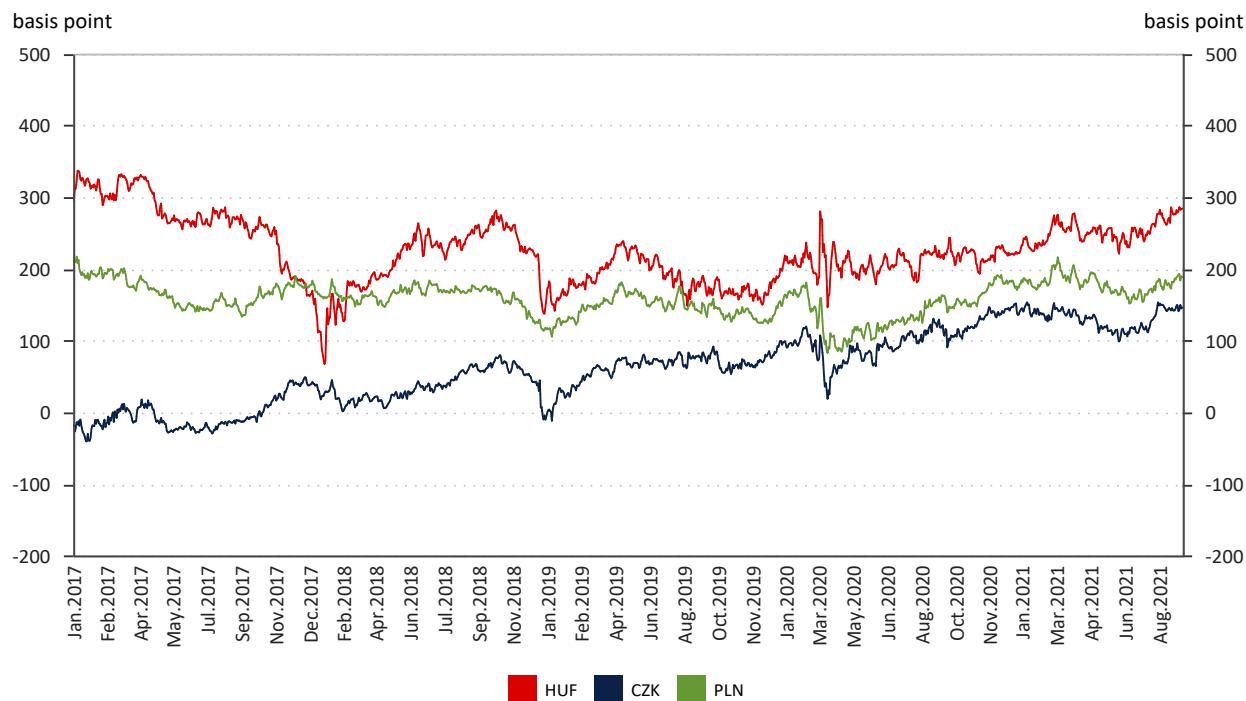
**68. 5 year sovereign CDS spread in Hungary versus CEEMEA composite index**

Source: Refinitiv.

**69. Components of Hungarian 5 year sovereign CDS**

Source: Bloomberg

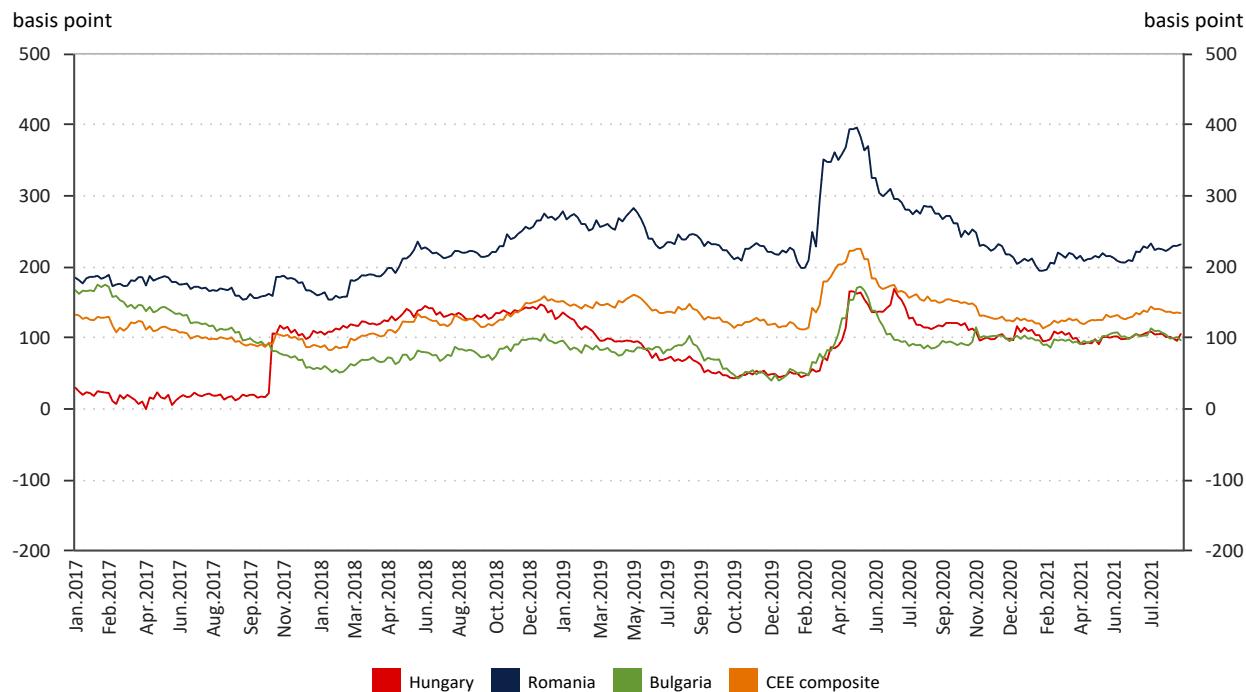
Note: based on factor analysis on daily CDS spread changes with volatility calculated on half-year windows. Cumulated series. Increases/decreases of component time series denote contributions to CDS spread increases/decreases.

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

Source: Refinitiv.

Note: Based on swap rates by Refinitiv

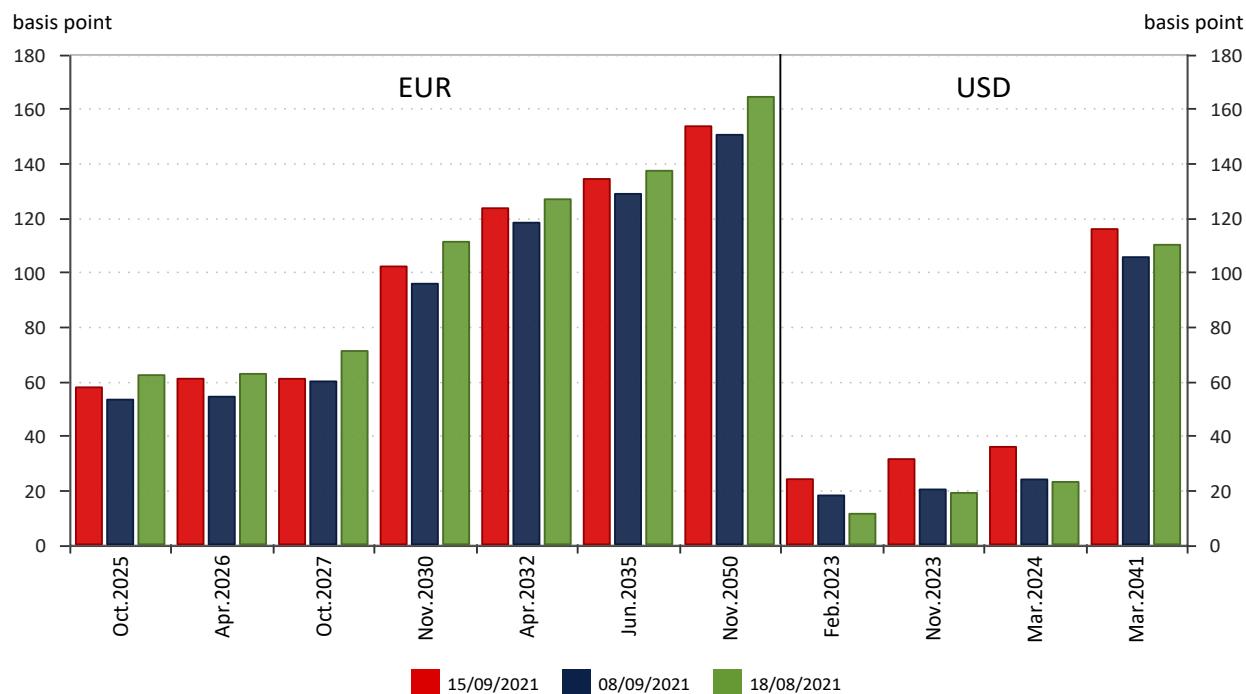
### 71. Emerging markets FX denominated government bond spreads



Source: Refinitiv, Bloomberg.

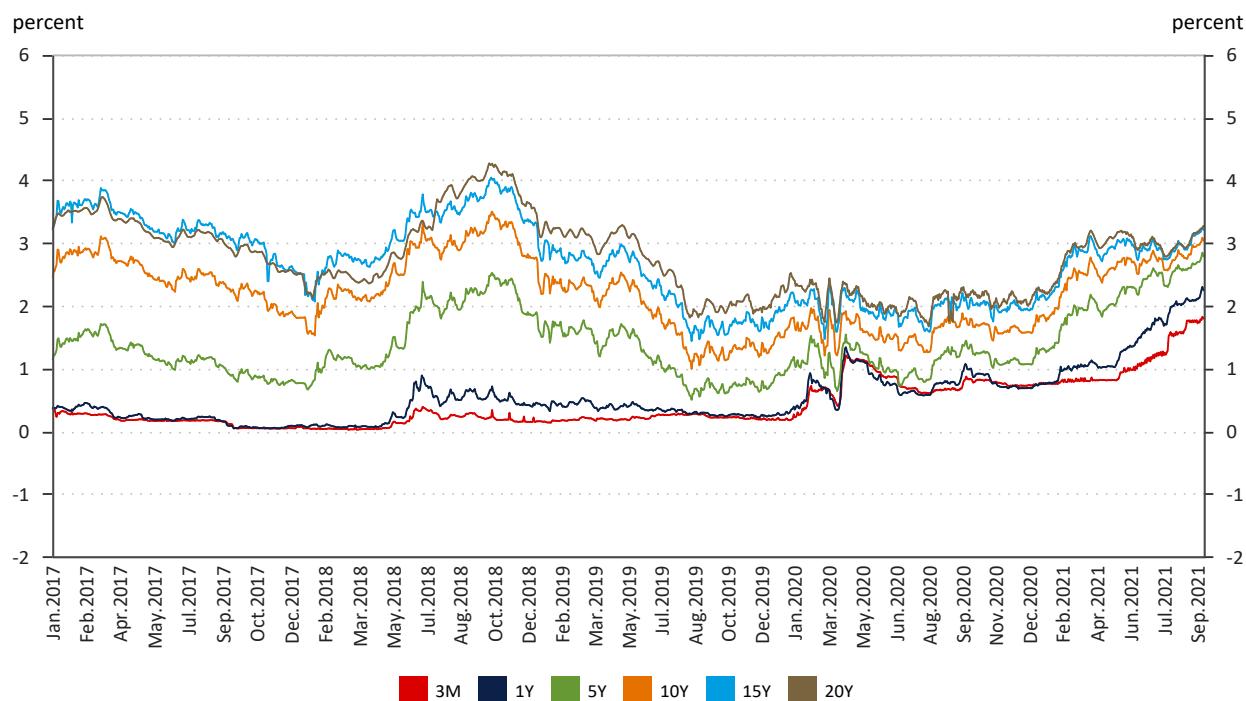
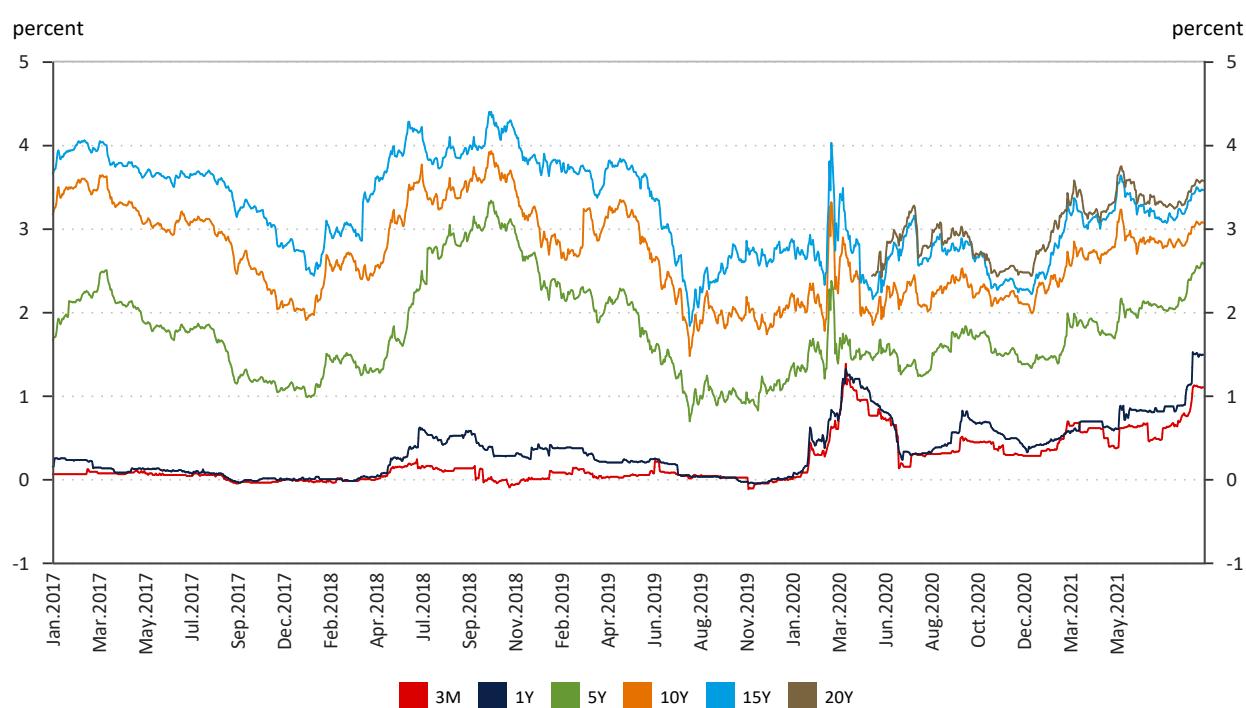
Notes: calculated from JP Morgan Euro EMBI data. The series are differences between euro denominated (liquid) foreign currency bond yields and euro zero coupon yields of the corresponding maturities. Different durations may result in significant difference in the level of spreads.

### 72. Domestic FX-government bond

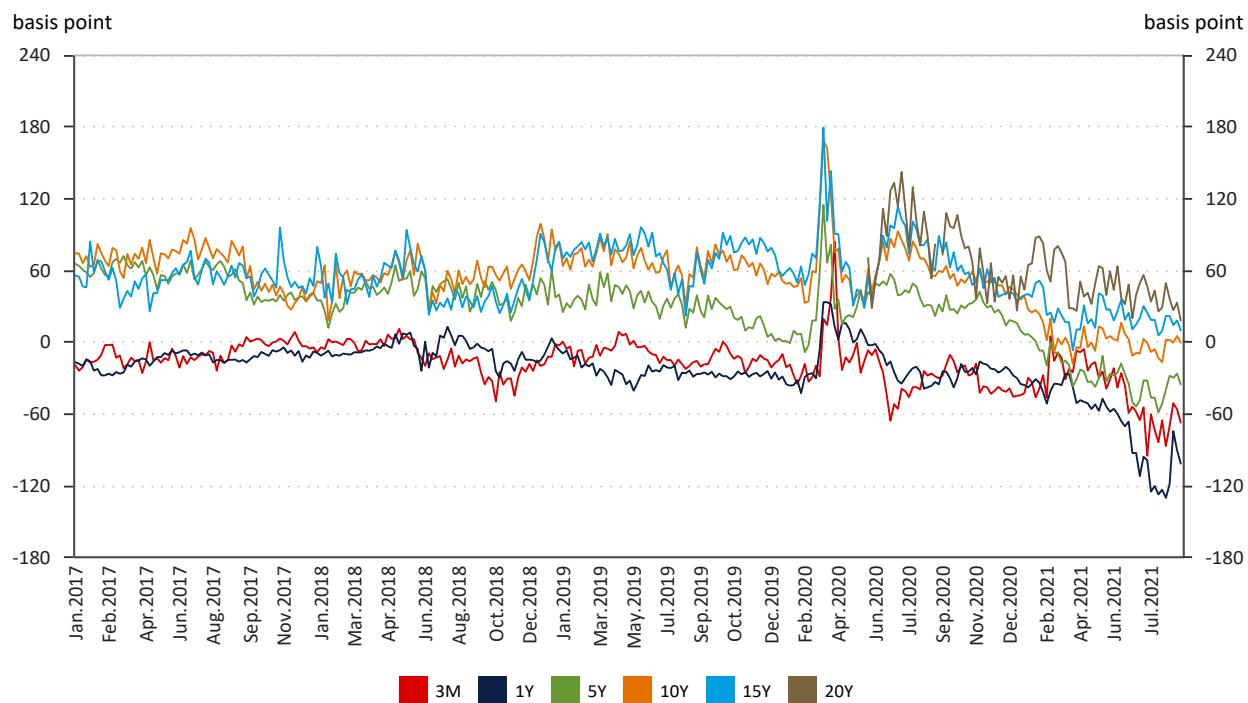


Source: Bloomberg.

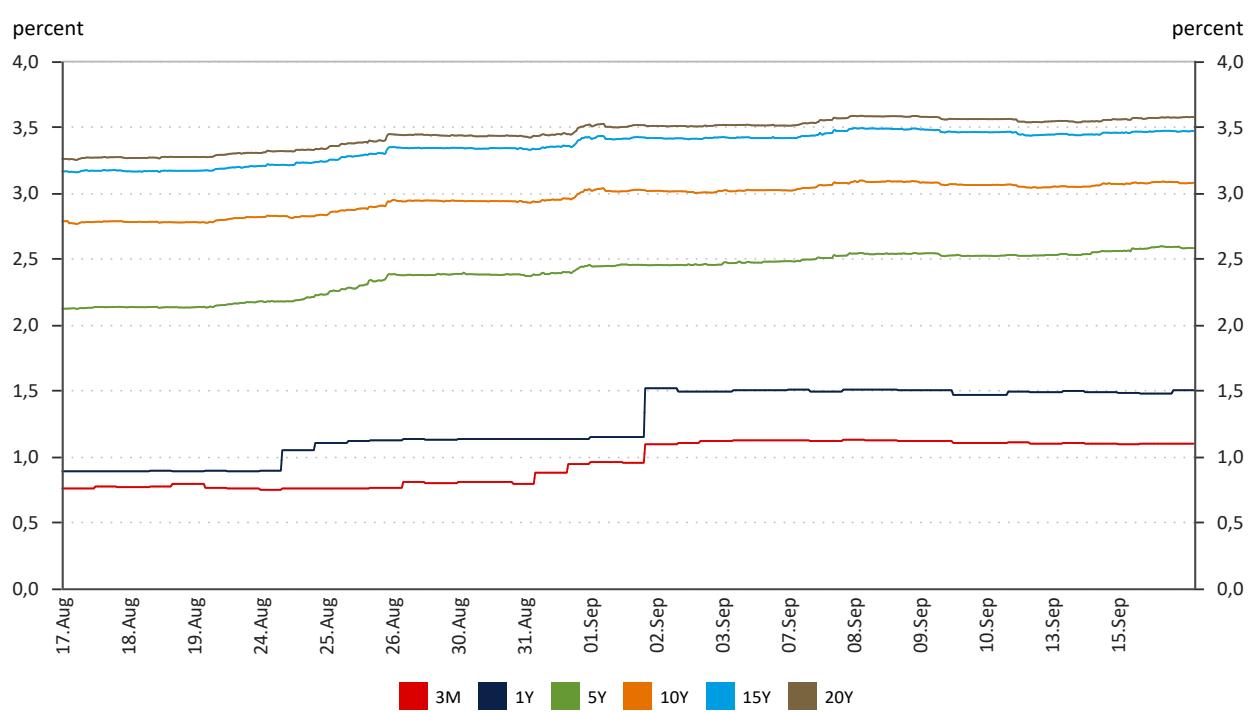
Notes: Spread between EUR and USD denominated FX-bonds and the equivalent US T-bond or euro yields chosen by Bloomberg. We present bonds grouped by currency in order of maturity.

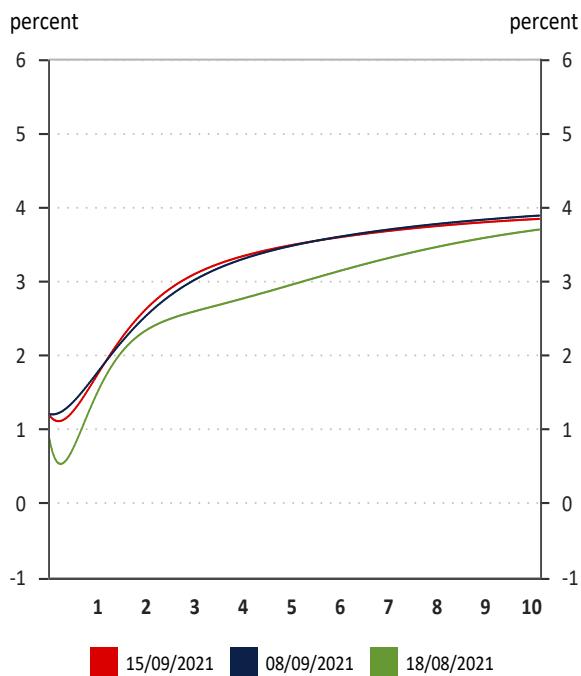
**73. Interbank yields****74. Yields of benchmark government securities**

### 75. Government securities - interbank yield spreads

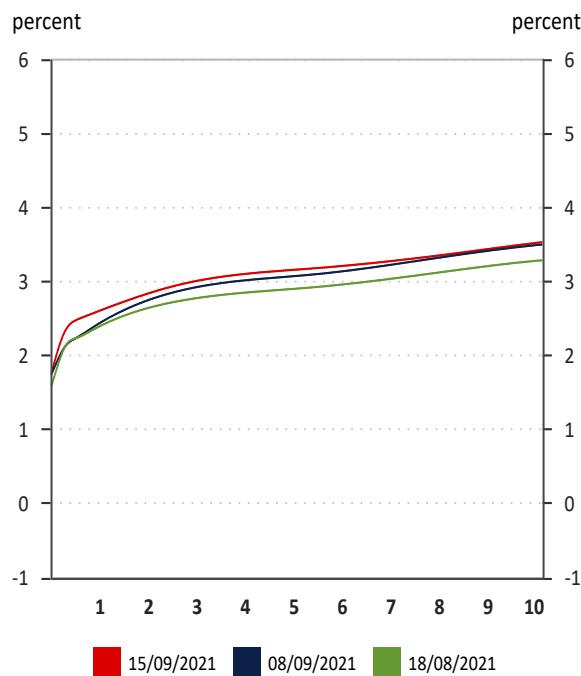


### 76. Yields of benchmark government securities (last month)

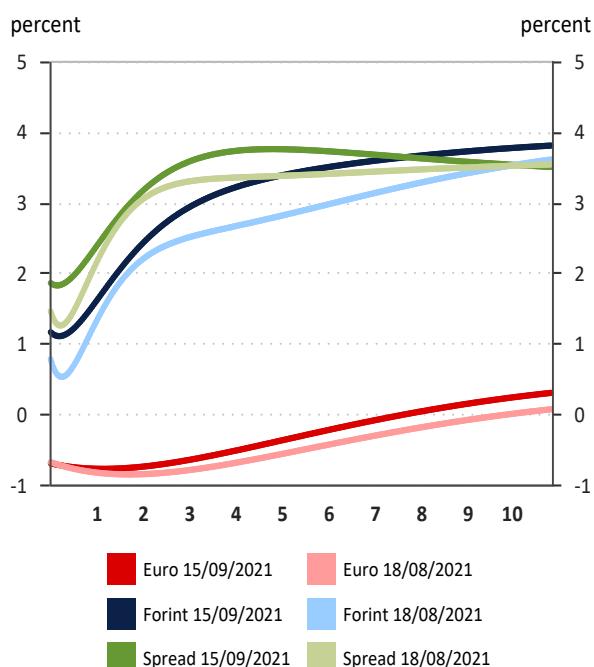


**77. Implied 3 month forward interest rate yield curve  
(based on government securities yields)**


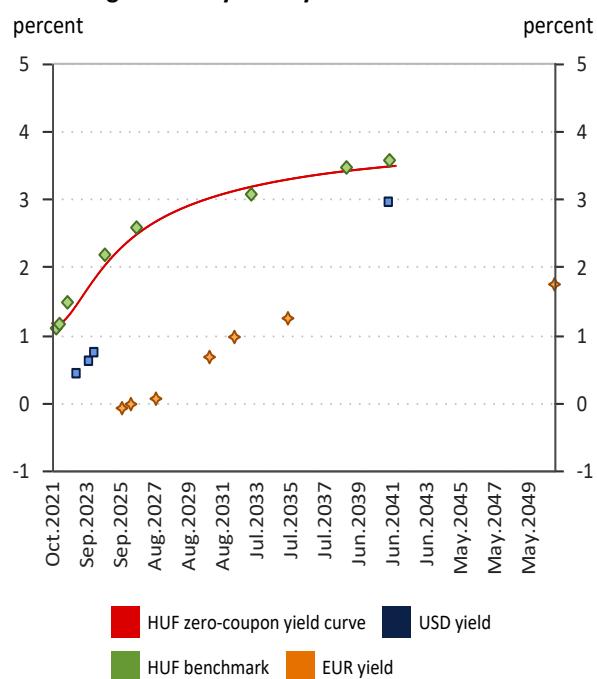
Source: MNB, ÁKK. Note: calculated by Svensson method by MNB. X axis shows maturities, in years.

**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.

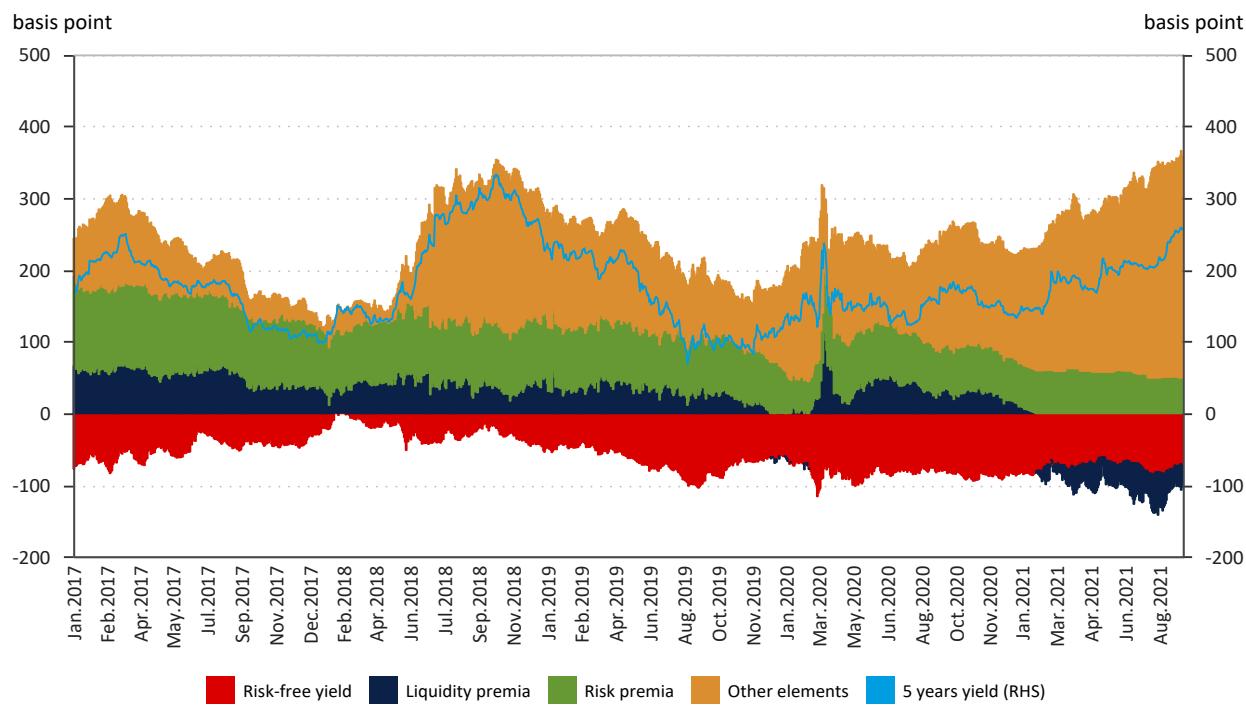
**79. Spread between 3-month forward yields in EUR and HUF**


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.

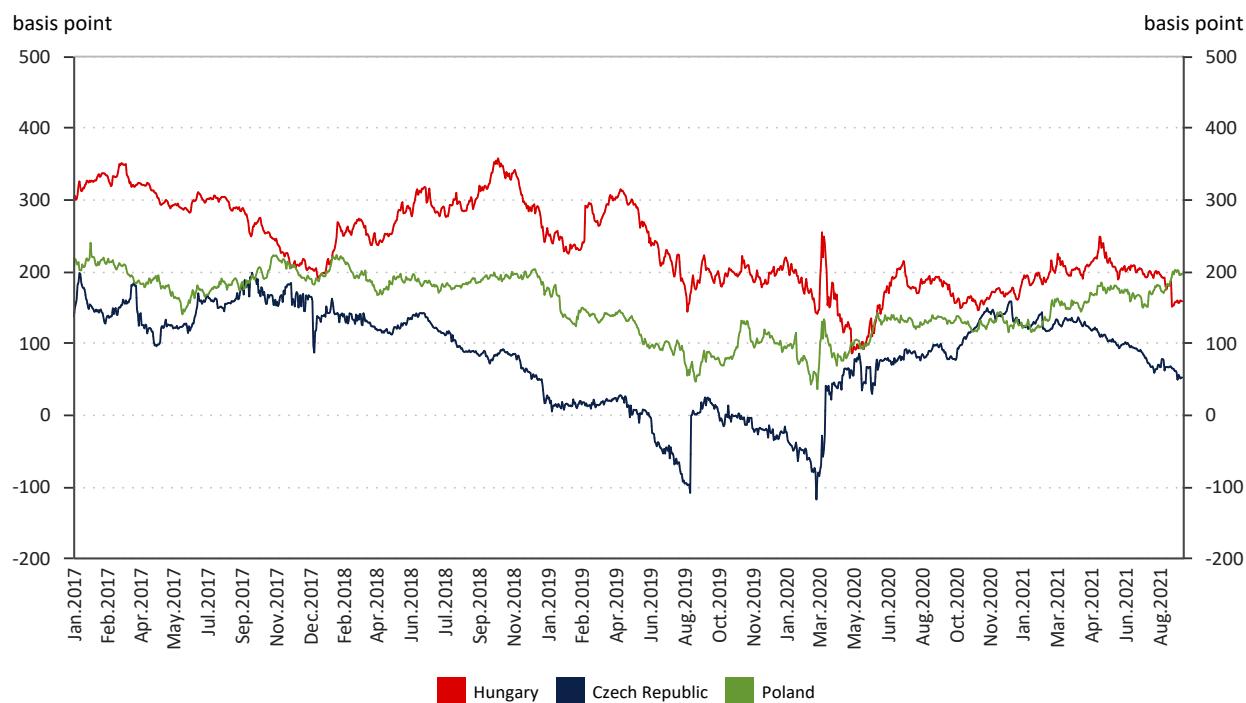
**80. Hungarian government bond yield curve and foreign currency bond yields**


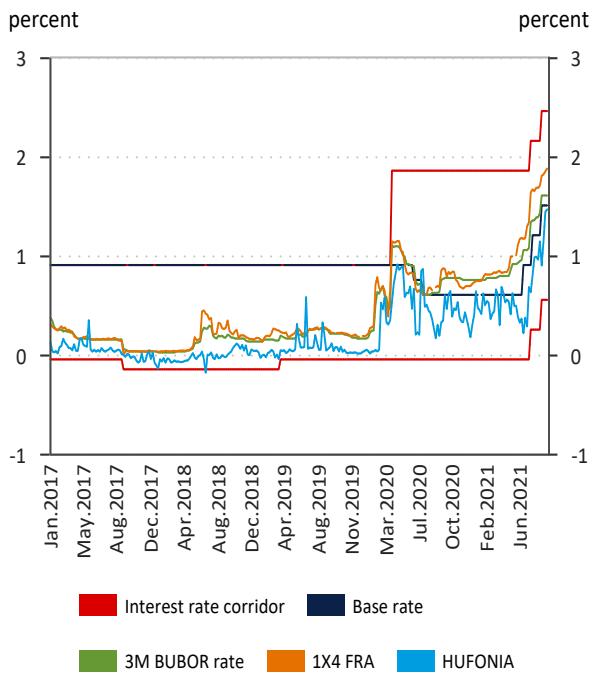
Source: MNB, Bloomberg.

### 81. Decomposition of 5 year government bond yield

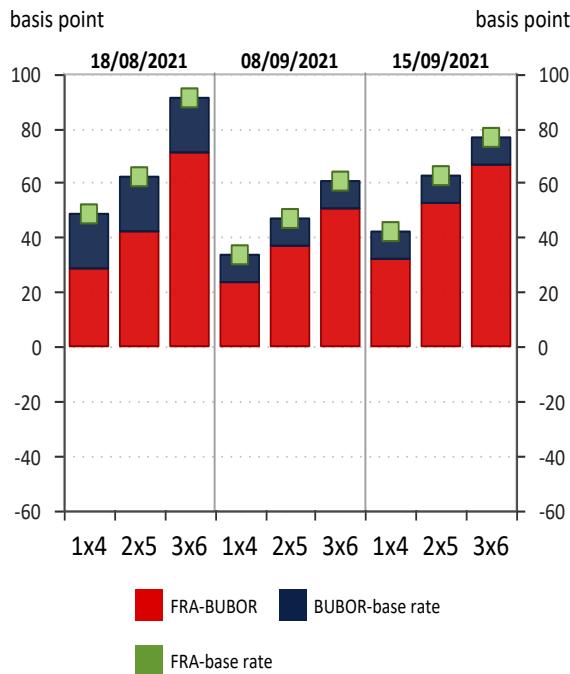


### 82. Slope of yield curve in CEE

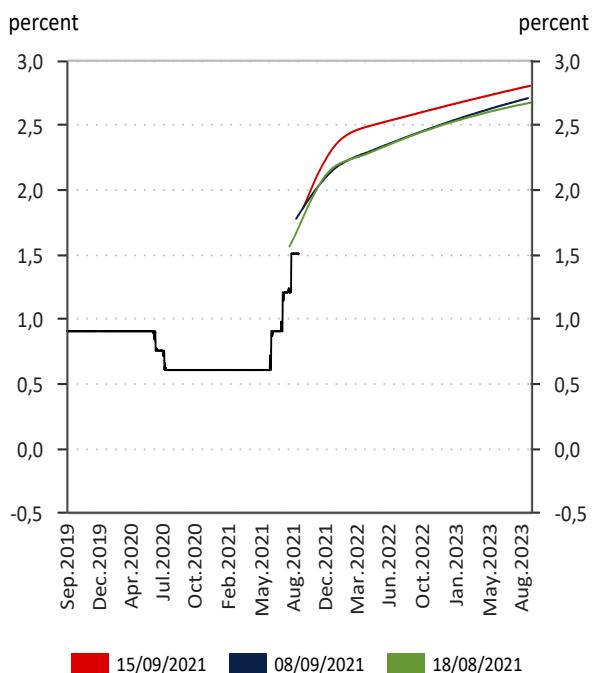


**83. MNB base rate and money market rates**

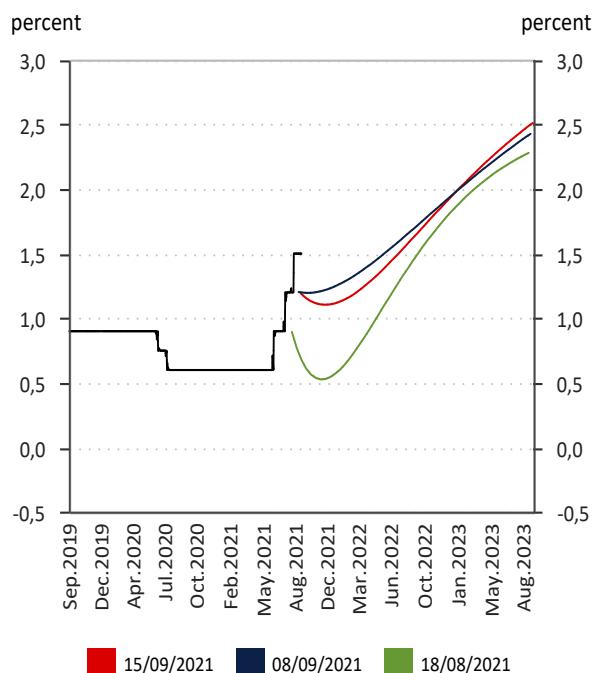
Source: Refinitiv, MNB

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

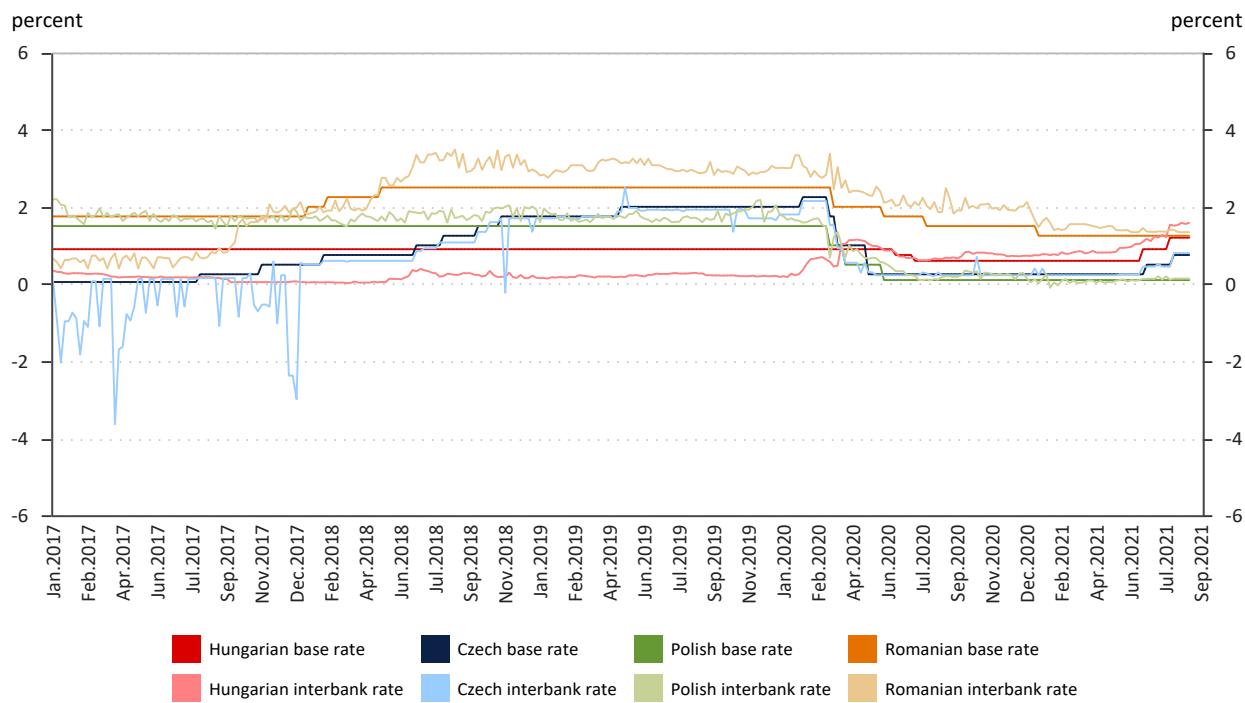
Source: Refinitiv, MNB.

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

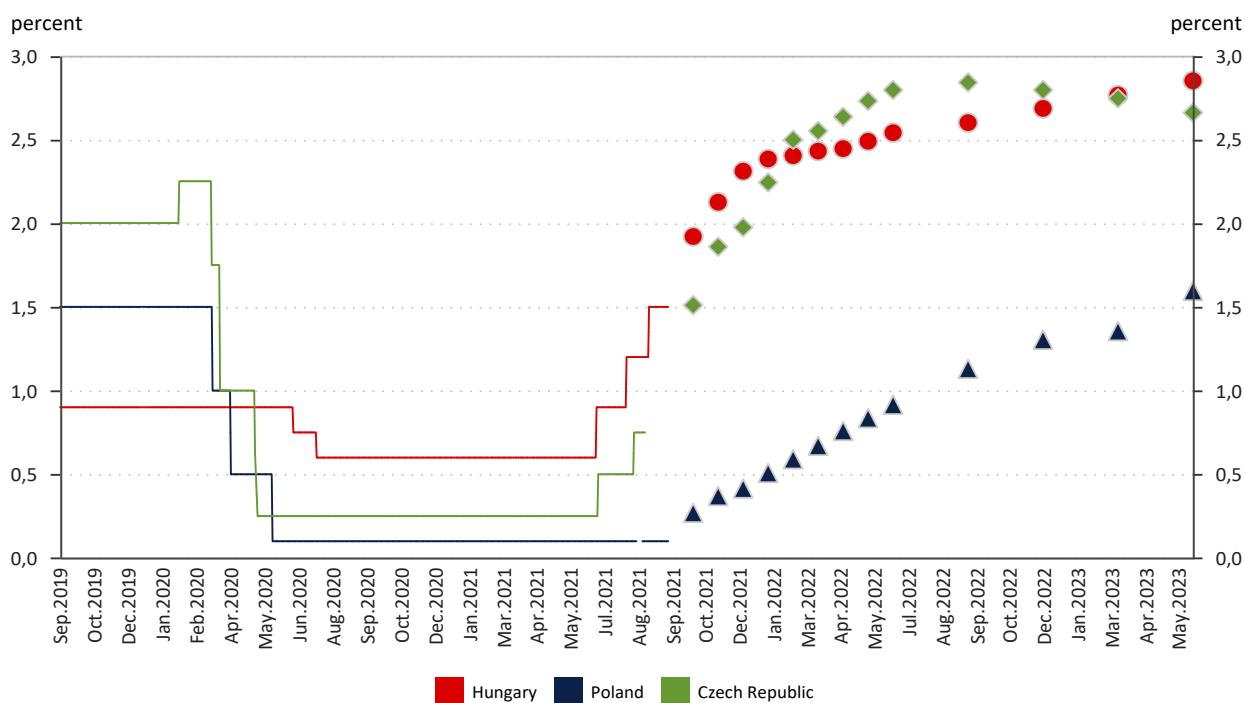
Source: MNB.

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

Source: MNB.

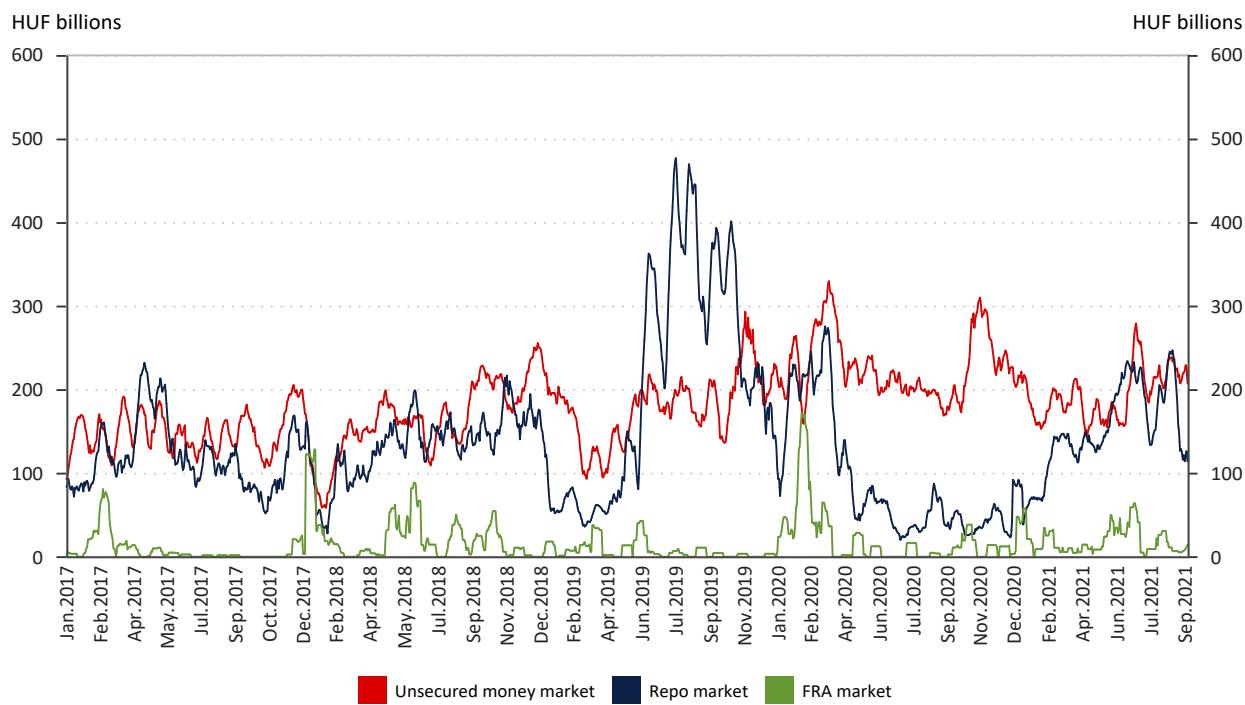
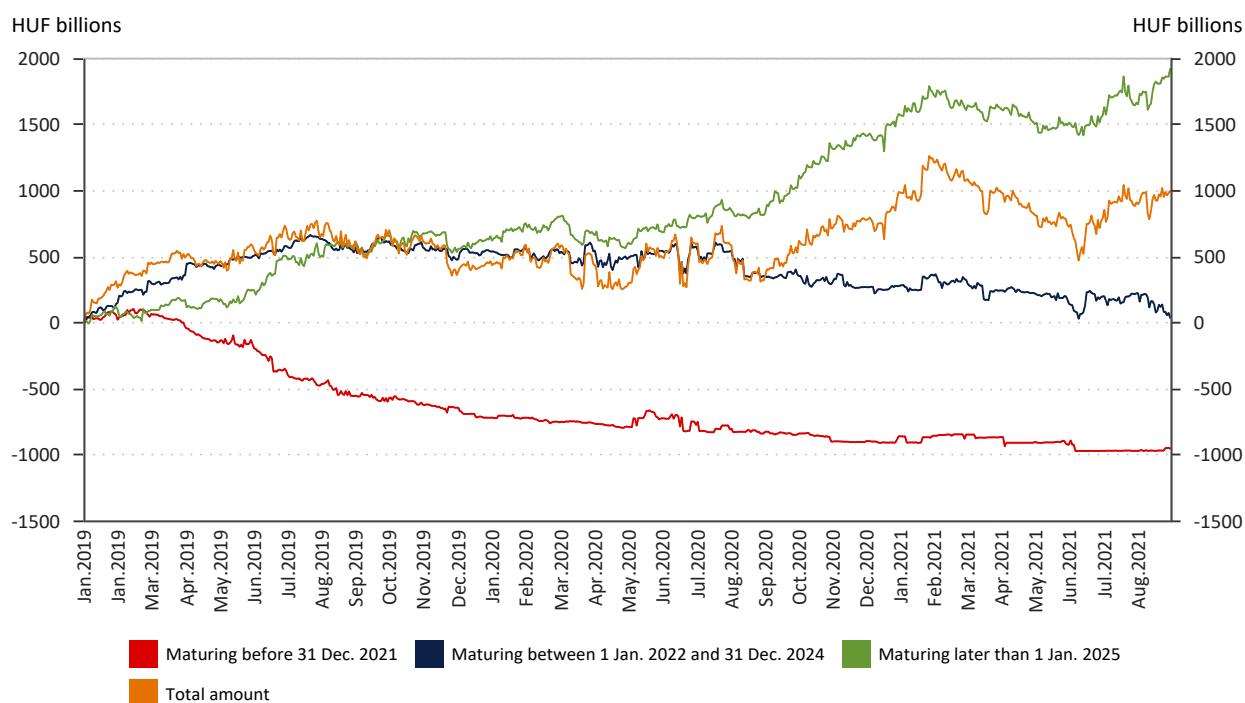
**87. Base rates and short term interbank rates in the region**

Source: Refinitiv.

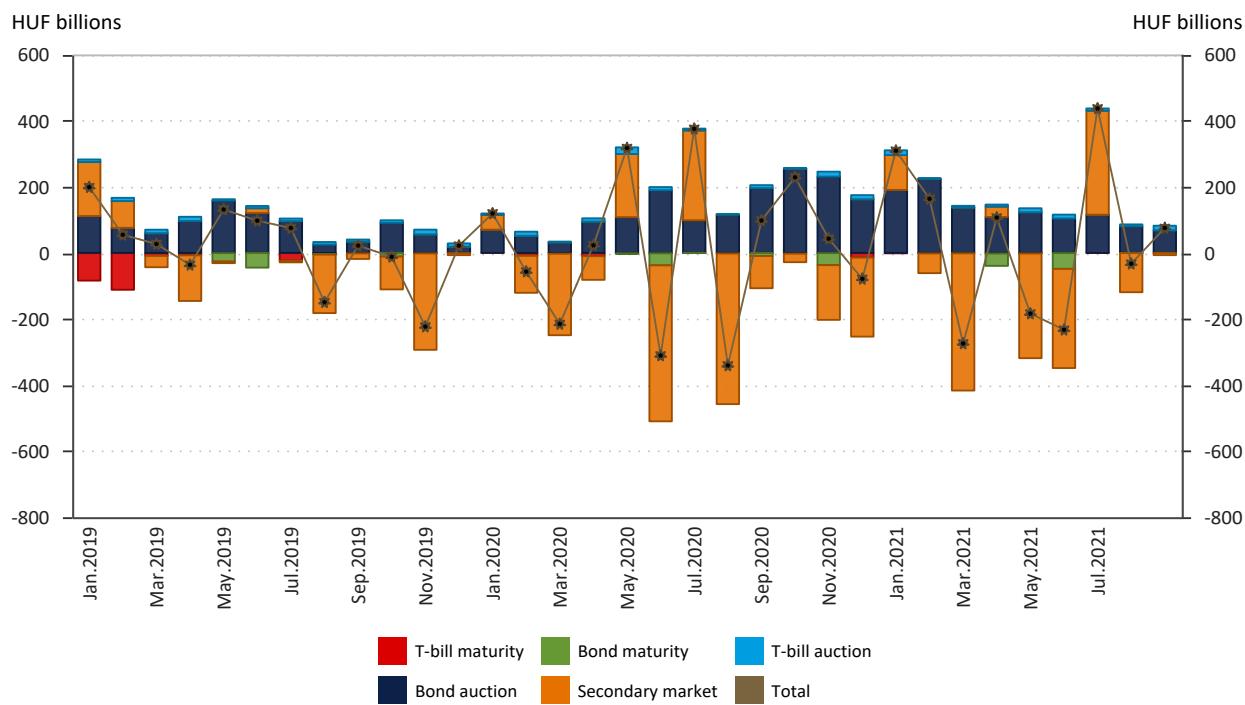
**88. CEE base rates and forward rate agreements**

Source: Bloomberg

Note: Based on FRA transactions. Last update: (16/09/2021).

**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.

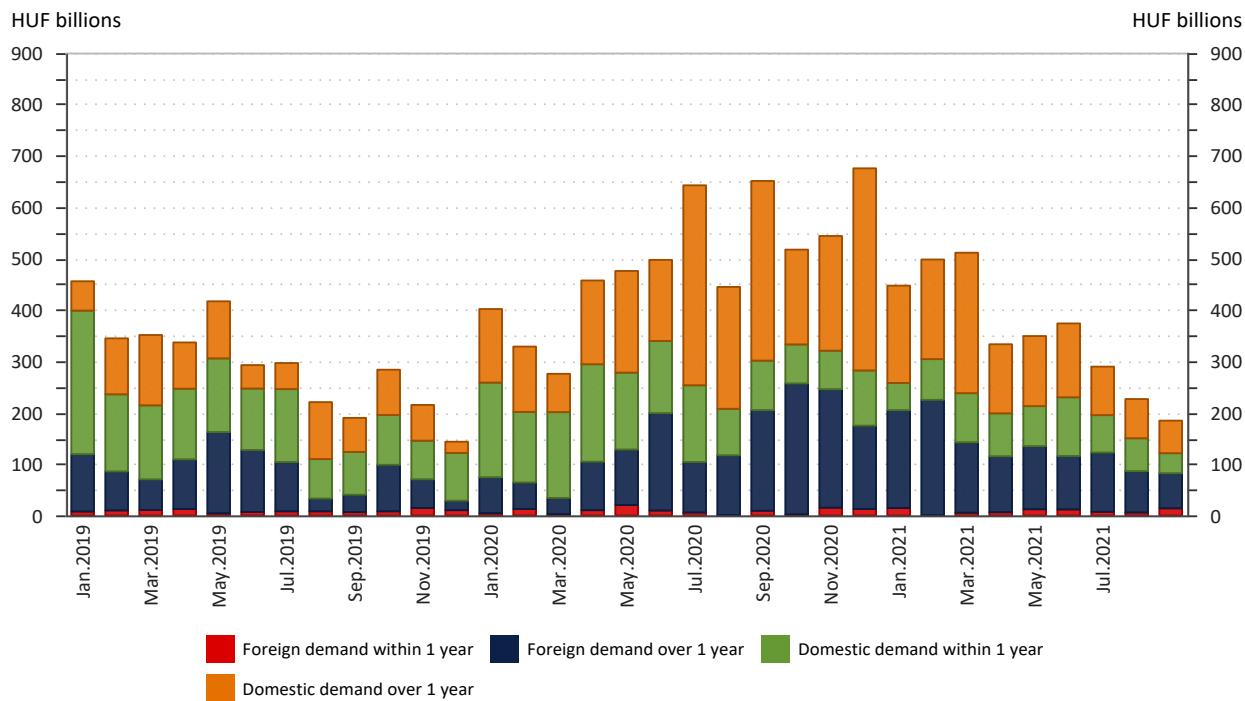
### 92. Forint financial assets held by non-residents



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.

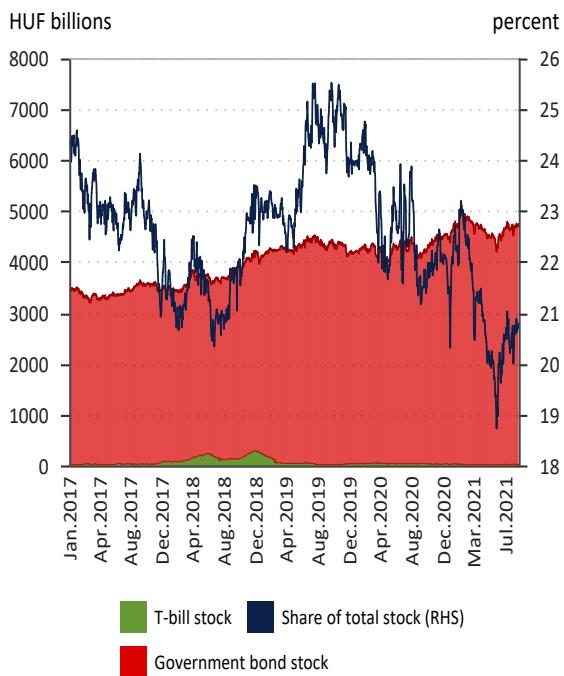
### 93. Primary market government security purchase of domestic and non-resident investors



Source: MNB

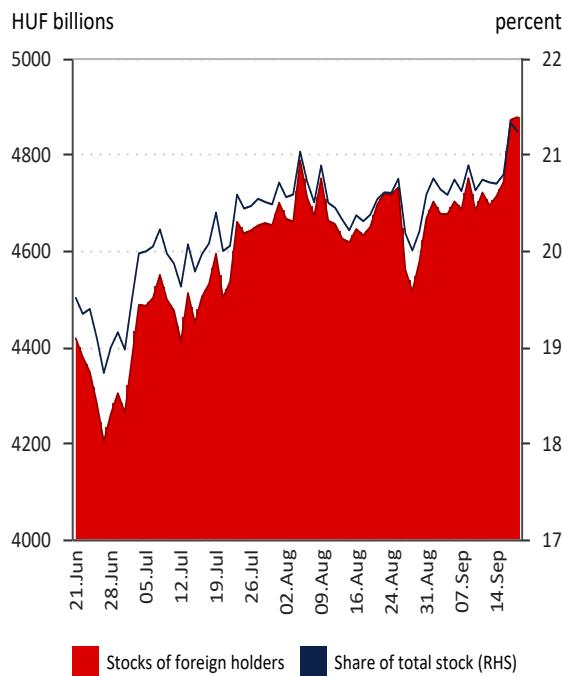
Note: Last month is incomplete.

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

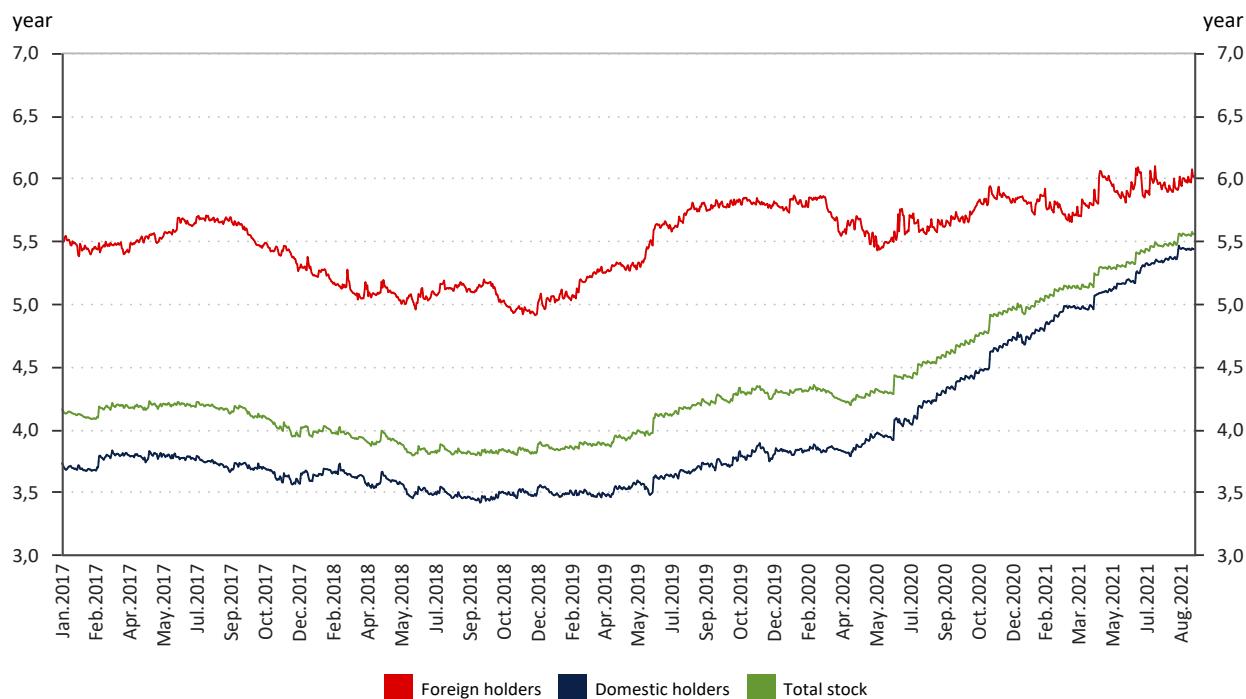
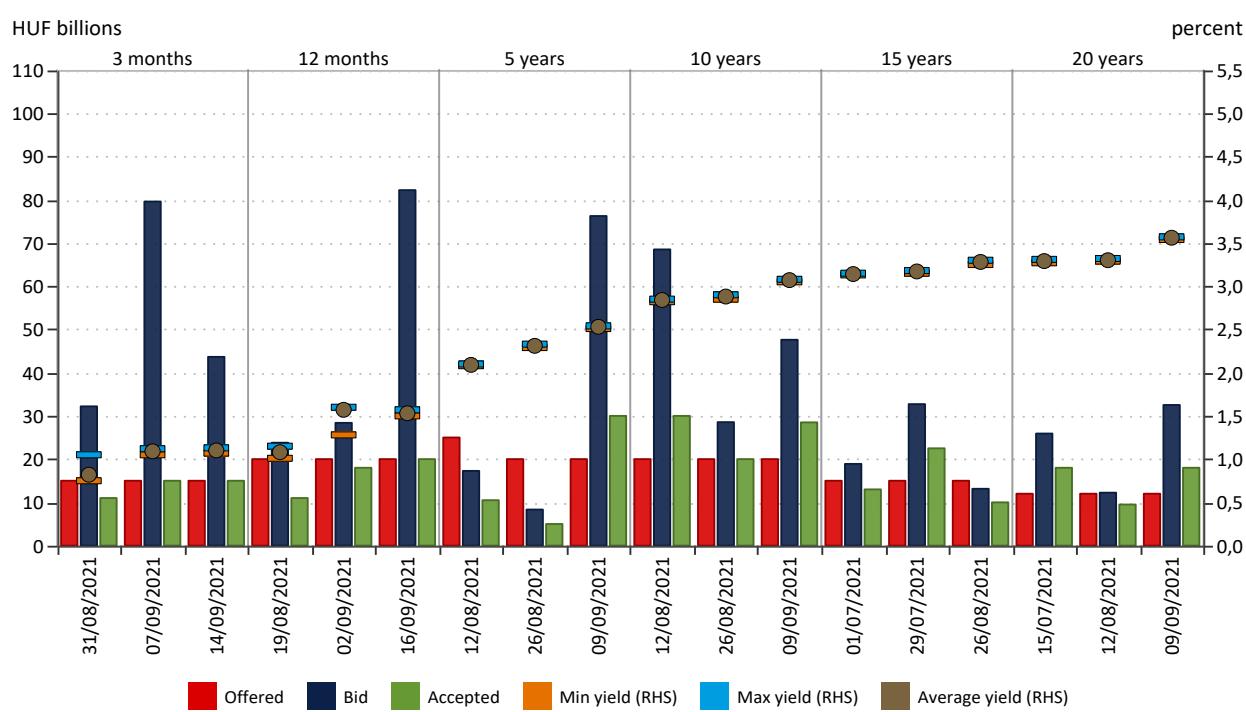


Source: MNB.

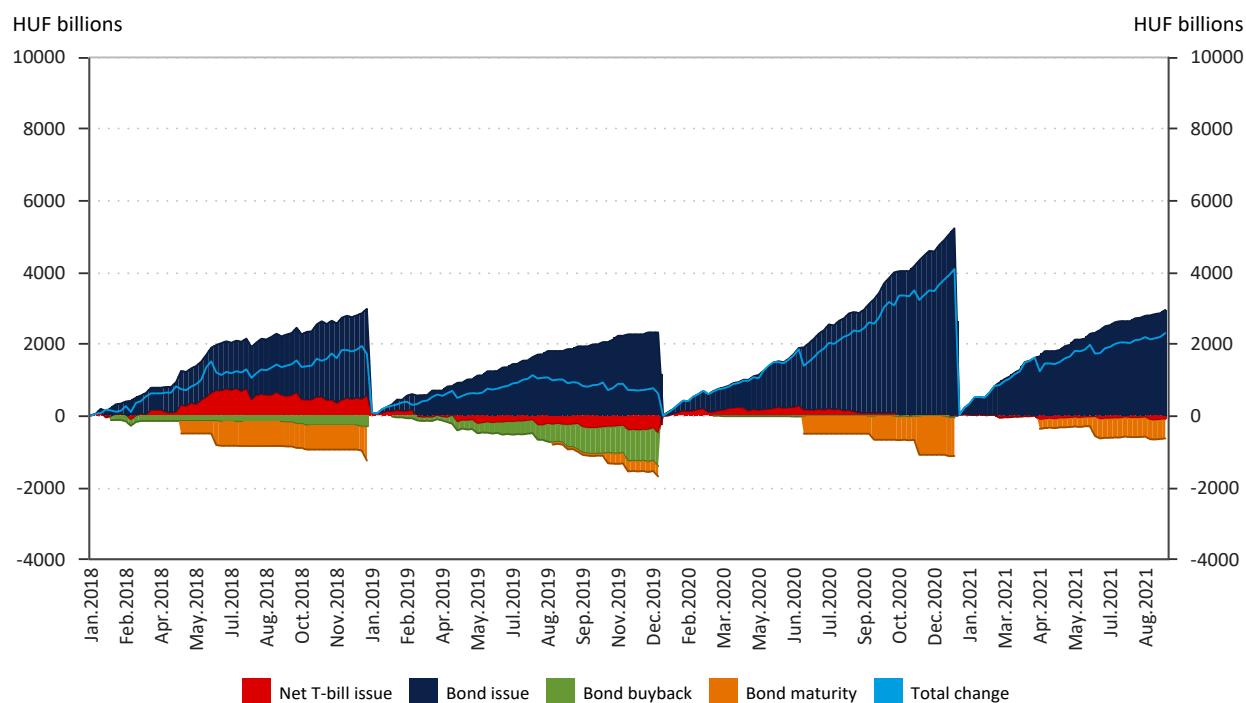
### 95. Government securities held by non-residents and the share of the total amount (last months)



Source: MNB.

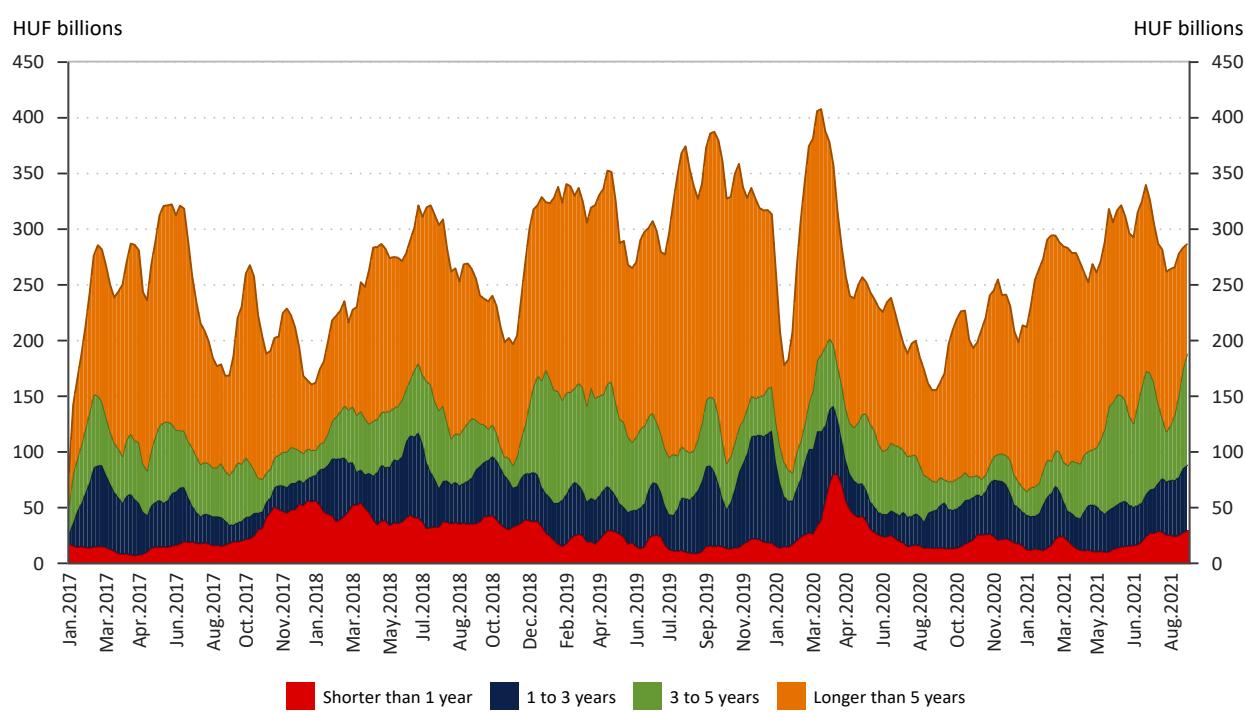
**96. The average time to maturity of government security portfolio of residents and non-residents****97. The turnover and yield data of the Hungarian primary T-bill and T-bond issues**

### 98. Government securities issues, buybacks, redemptions

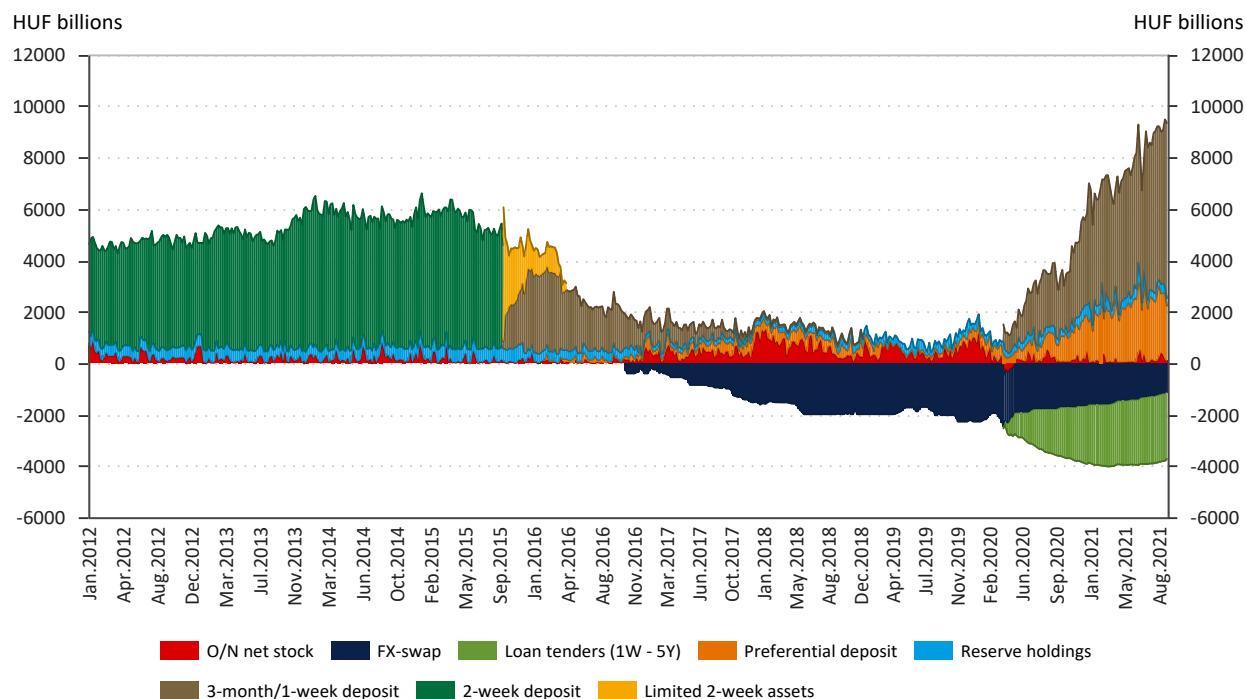


Source: MNB.

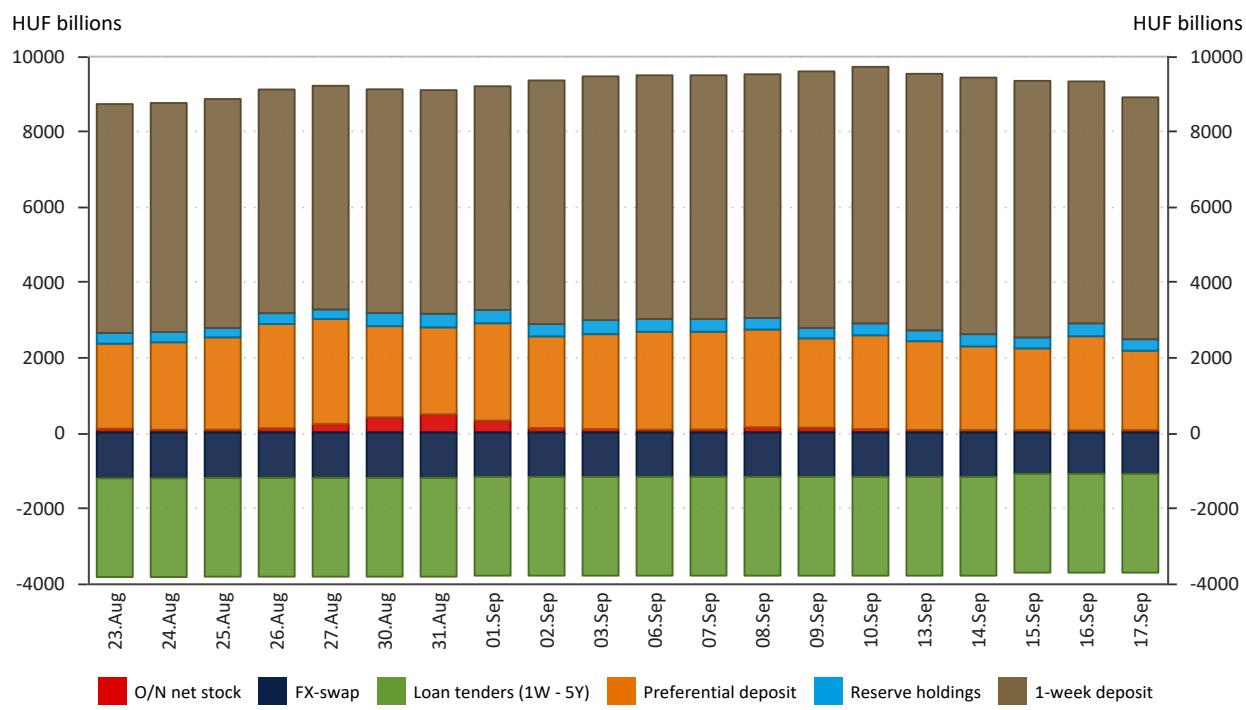
### 99. Turnover on the secondary market of government securities



Source: MNB, KELER.

**100. Selected assets and liabilities of the MNB**

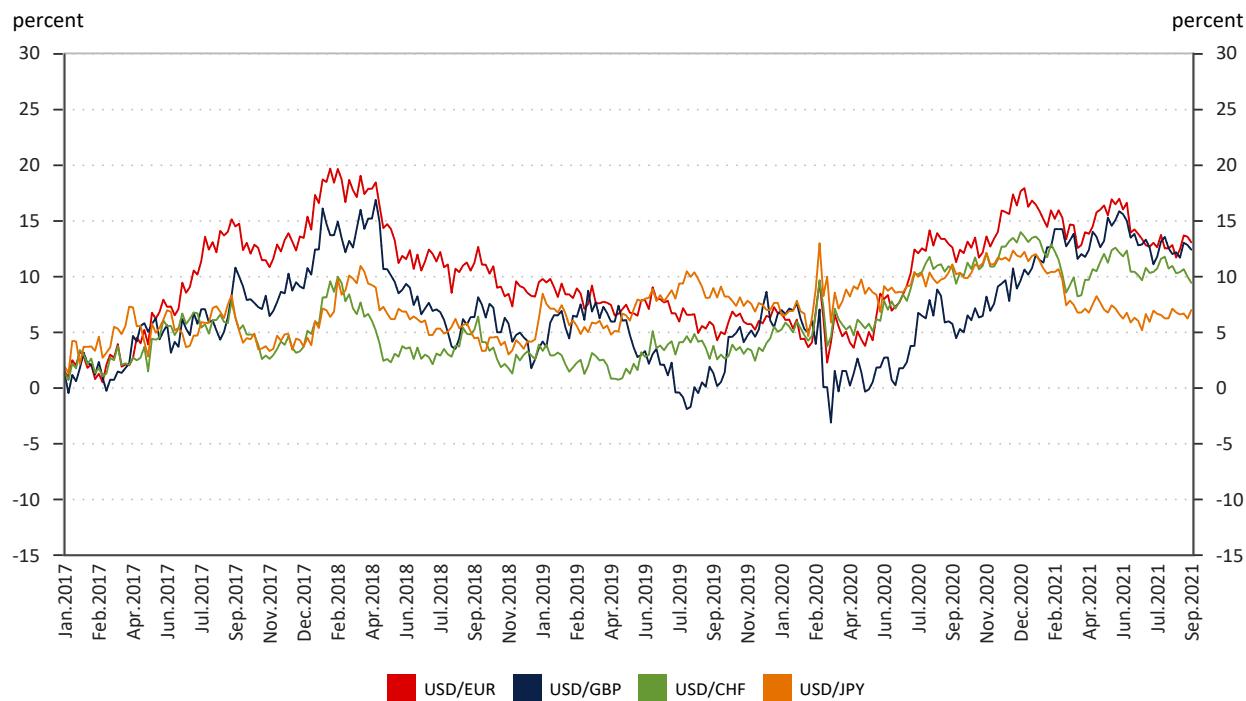
Source: MNB.

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

Source: MNB.

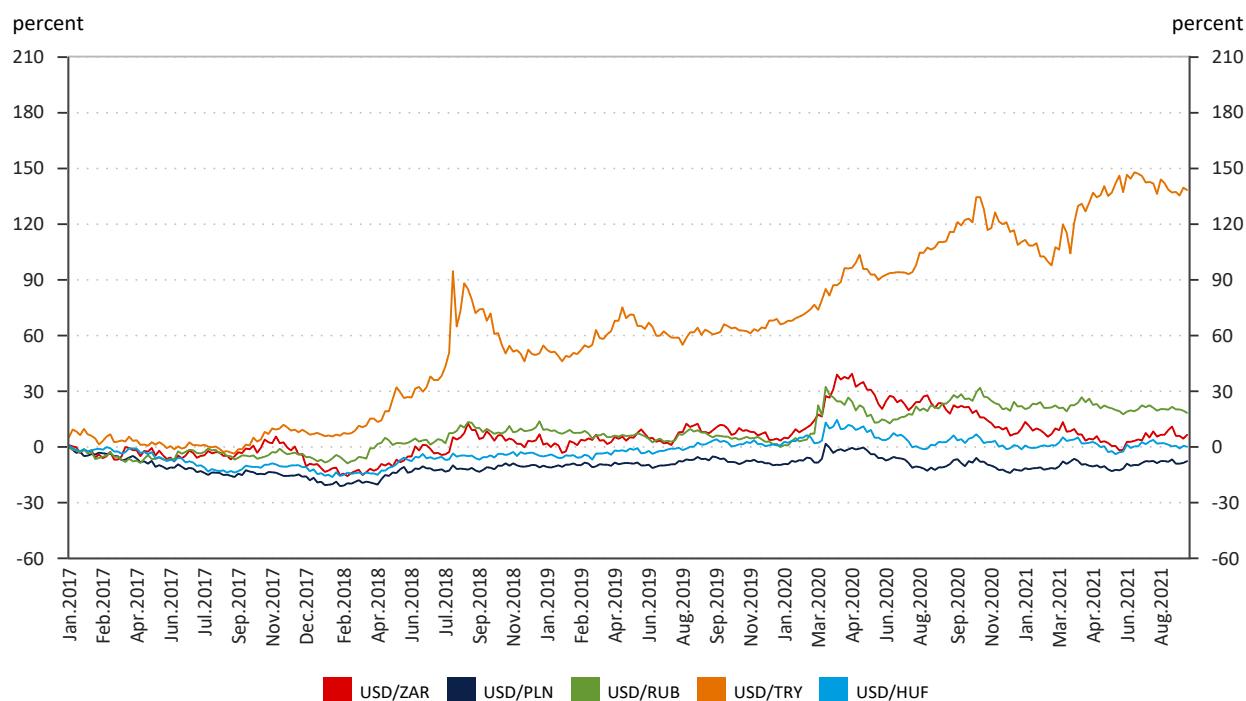
**102. International developments***Overview*

<b>Indicator</b>	<b>1 month ago</b>	<b>1 week ago</b>	<b>Current</b>
Fed base rate (%)	0.25	0.25	0.25
ECB base rate (%)	0.00	0.00	0.00
10-year T-bond yield (%)	1.26	1.34	1.34
10-year euro yield (%)	-0.48	-0.33	-0.30
VIX Index (%)	18.0	17.8	18.3
EMBI Global spread (bp)	323	310	312
SP 500 Index	4400	4459	4481
DAX Index	15966	15610	15652
NIKKEI Index	27424	30008	30512
USD/EUR exchange rate	1.17	1.18	1.18
USD/JPY exchange rate	109.77	109.94	109.72
CHF/EUR exchange rate	1.07	1.08	1.09
Brent oil (USD per barrel)	68.2	72.9	75.7

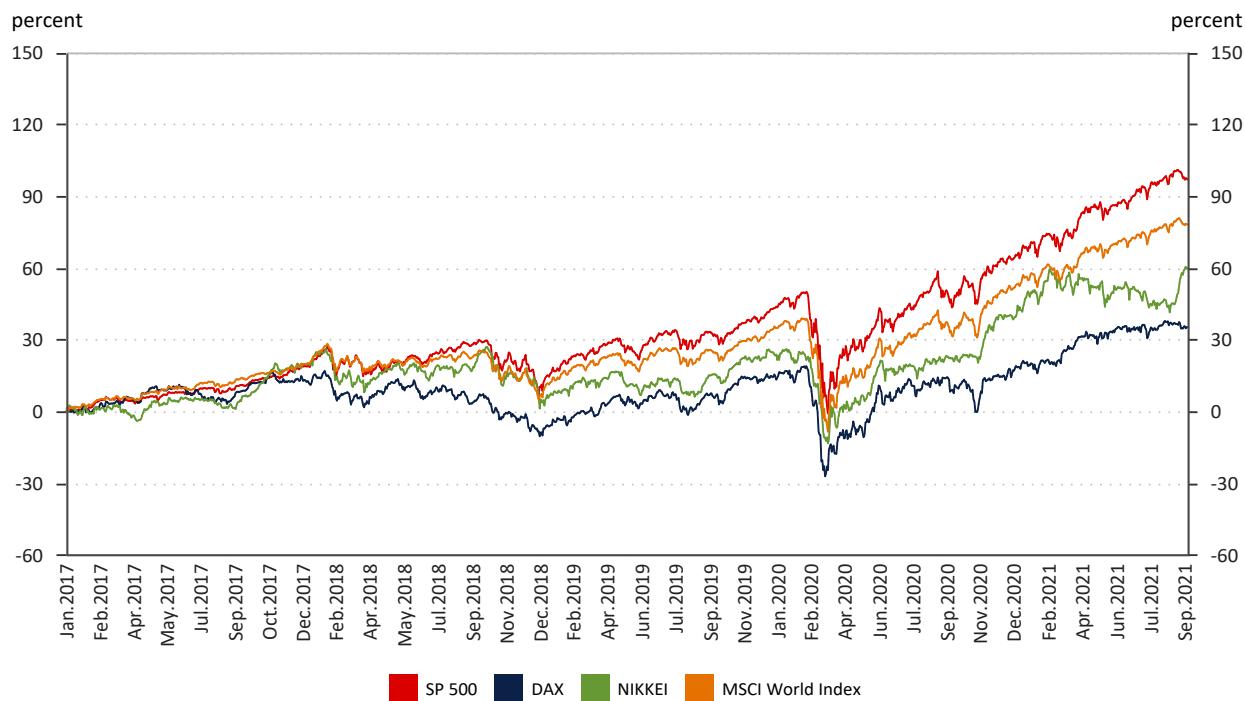
**103. Major currencies versus the dollar**

Source: Refinitiv

Note: cumulative change. Positive values indicate USD depreciation.

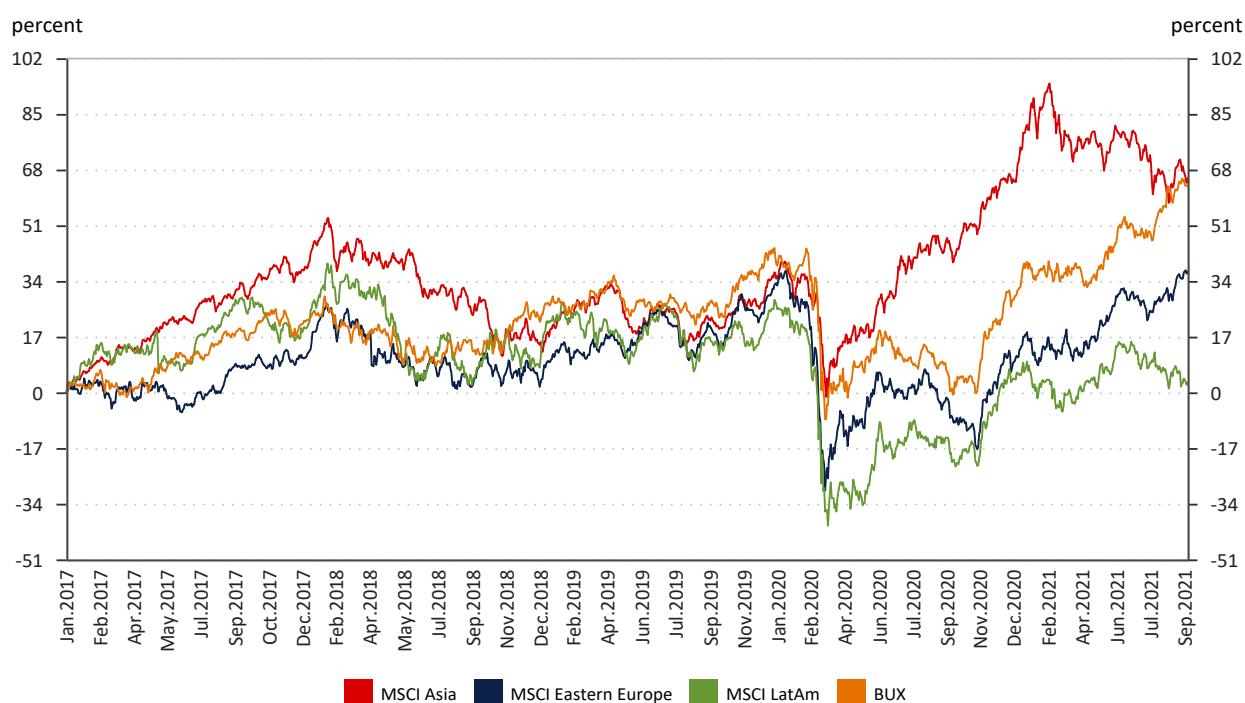
**104. Emerging currencies versus the dollar**

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

**105. Developed market stock indices**

Source: Refinitiv

Notes: cumulative change.

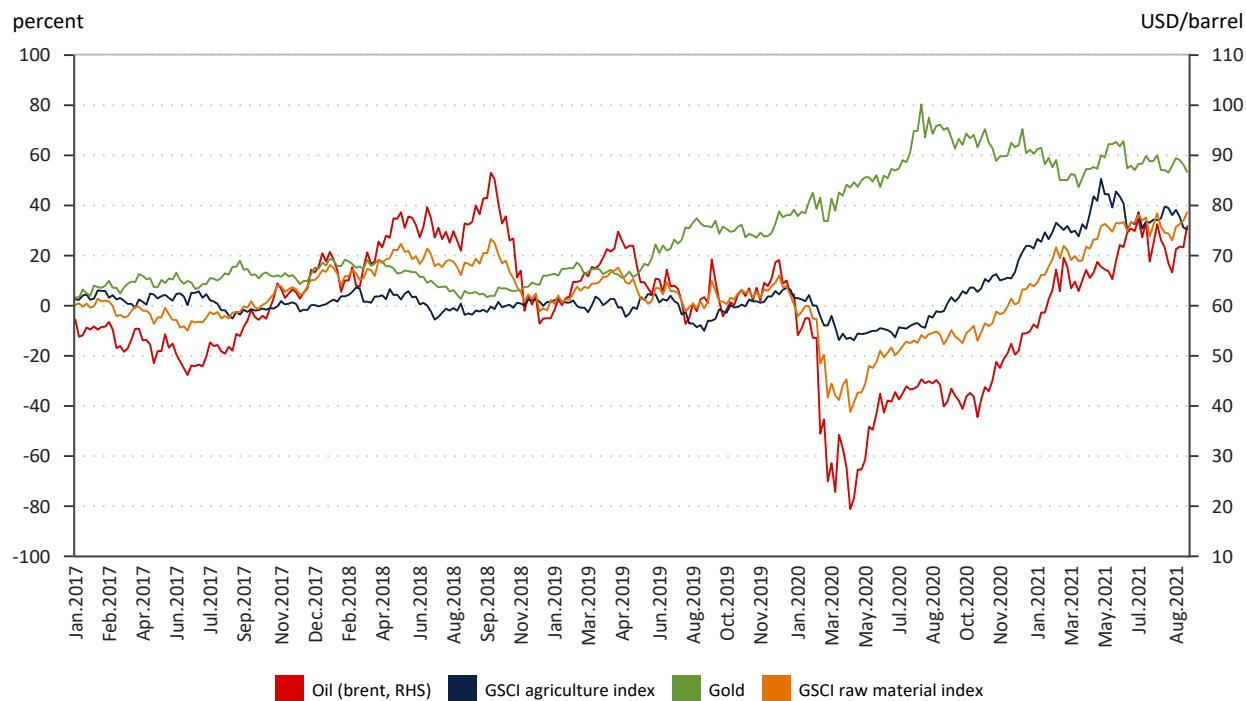
**106. Emerging stock exchange markets**

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

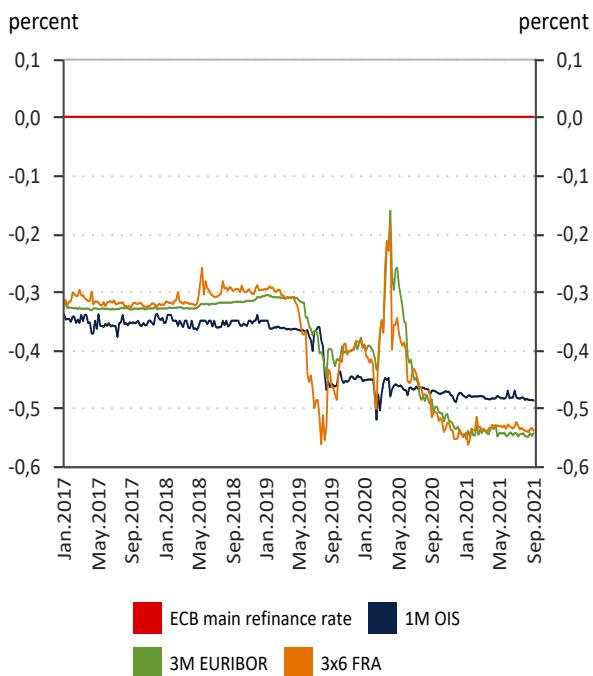
**107. EUR/USD exchange rate and speculative positions**

Source: Bloomberg, CFTC.

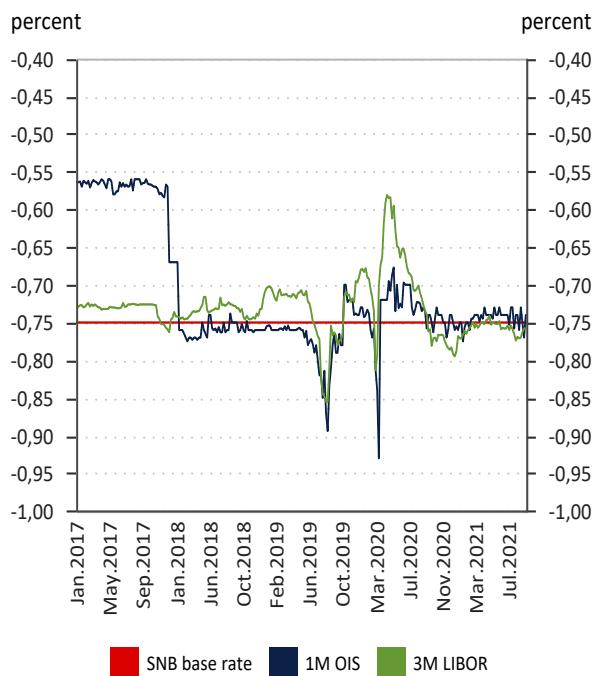
Notes: Speculative position is defined as a net of long and short transactions. Positive value means the majority of open positions on euro strengthening. Weekly data by Commodity Futures Trading Commission.

**108. Price of raw materials**

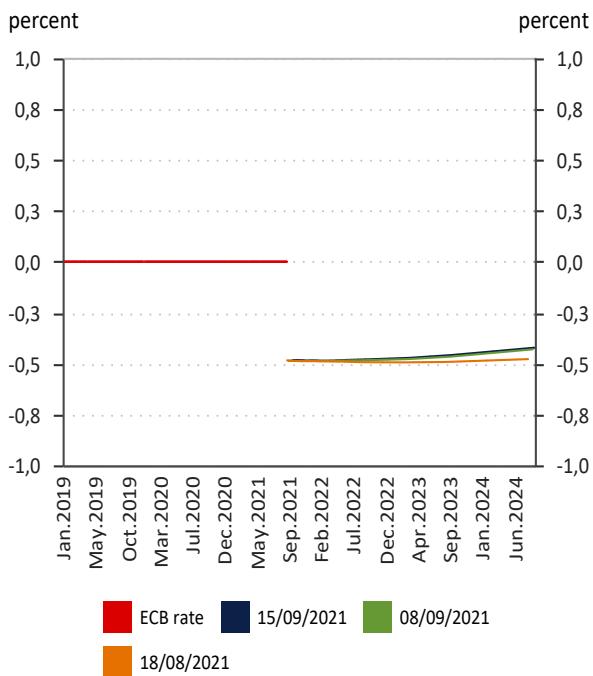
Source: Bloomberg Note: cumulative change except the Brent oil where the scale is nominal.

**109. Short term interbank rates in the eurozone**

Source: Refinitiv.

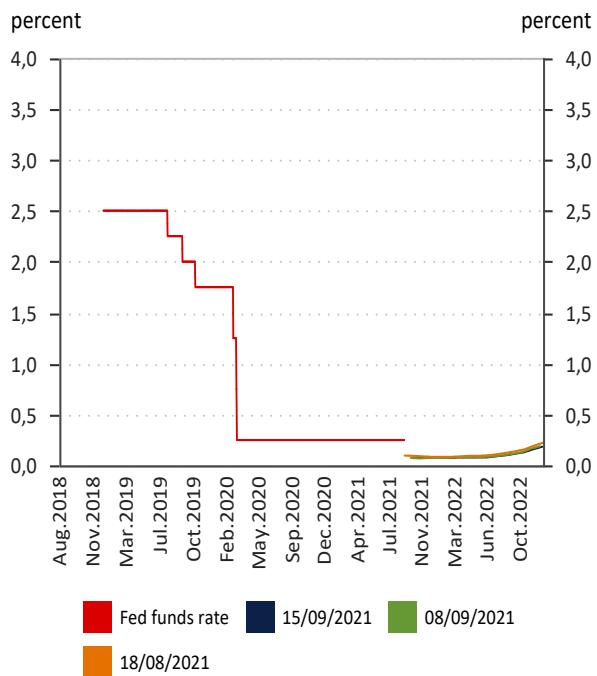
**110. Short term interbank rates in Switzerland**

Source: Refinitiv, Bloomberg.

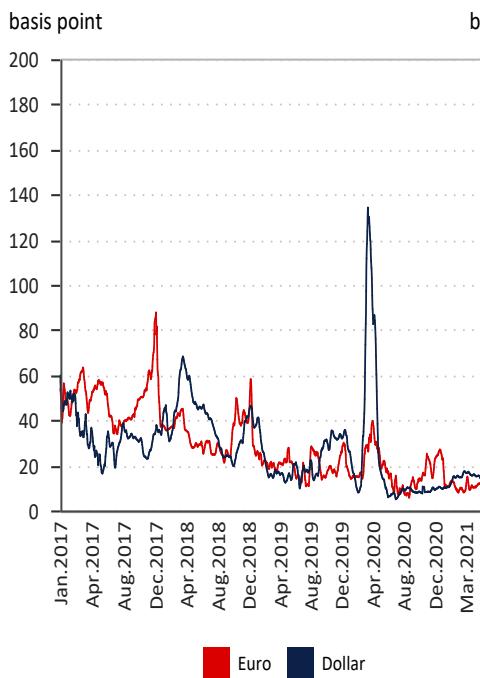
**111. Forecasts on ECB policy rate**

Source: ECB.

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

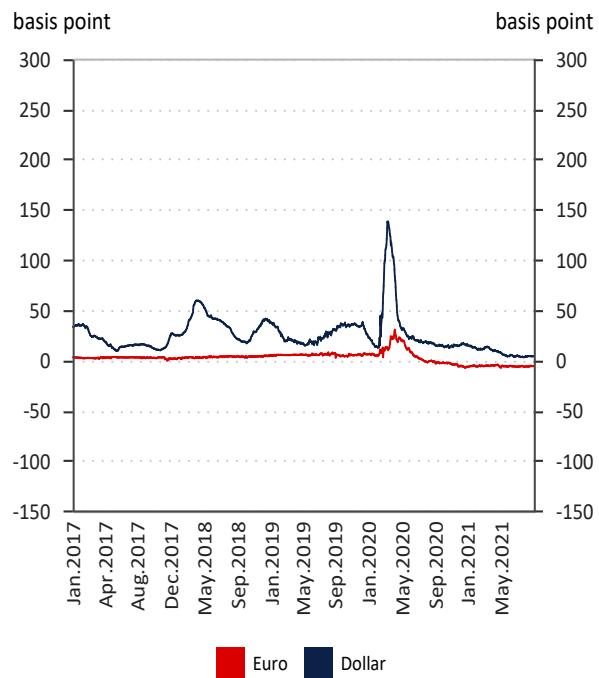
**112. Forecasts on Fed policy rate**

Source: Bloomberg.

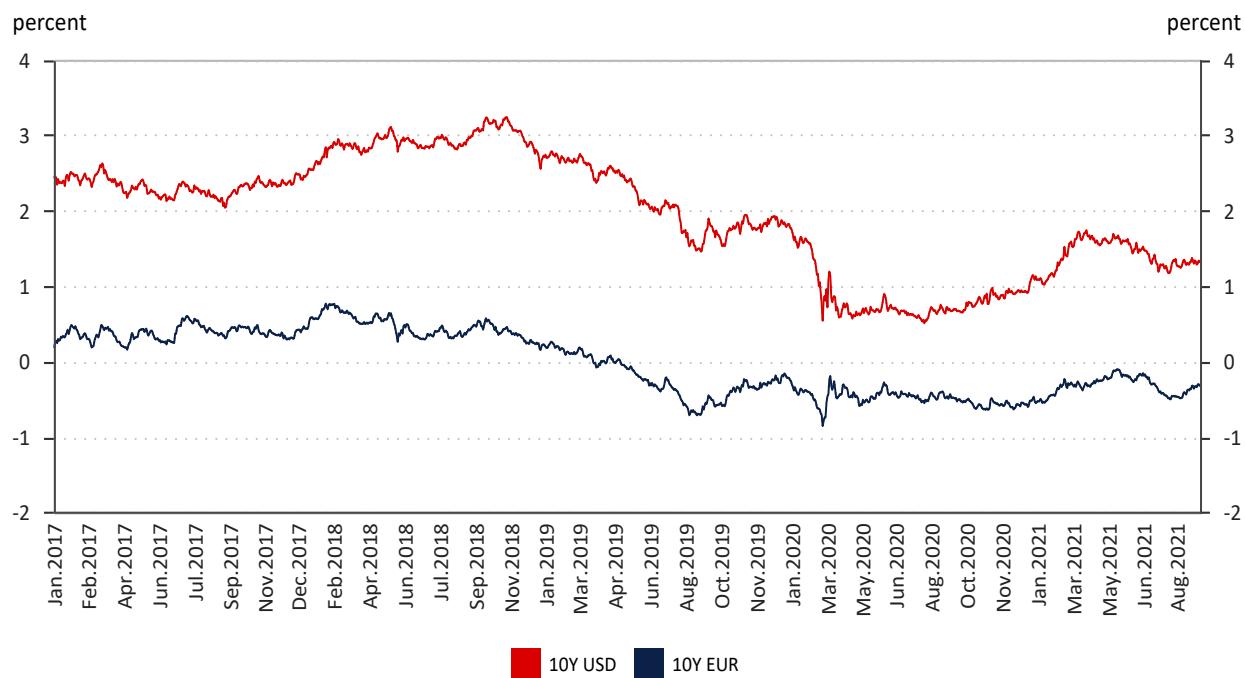
**113. 3M interbank and government bond yield spread**

Source: Refinitiv.

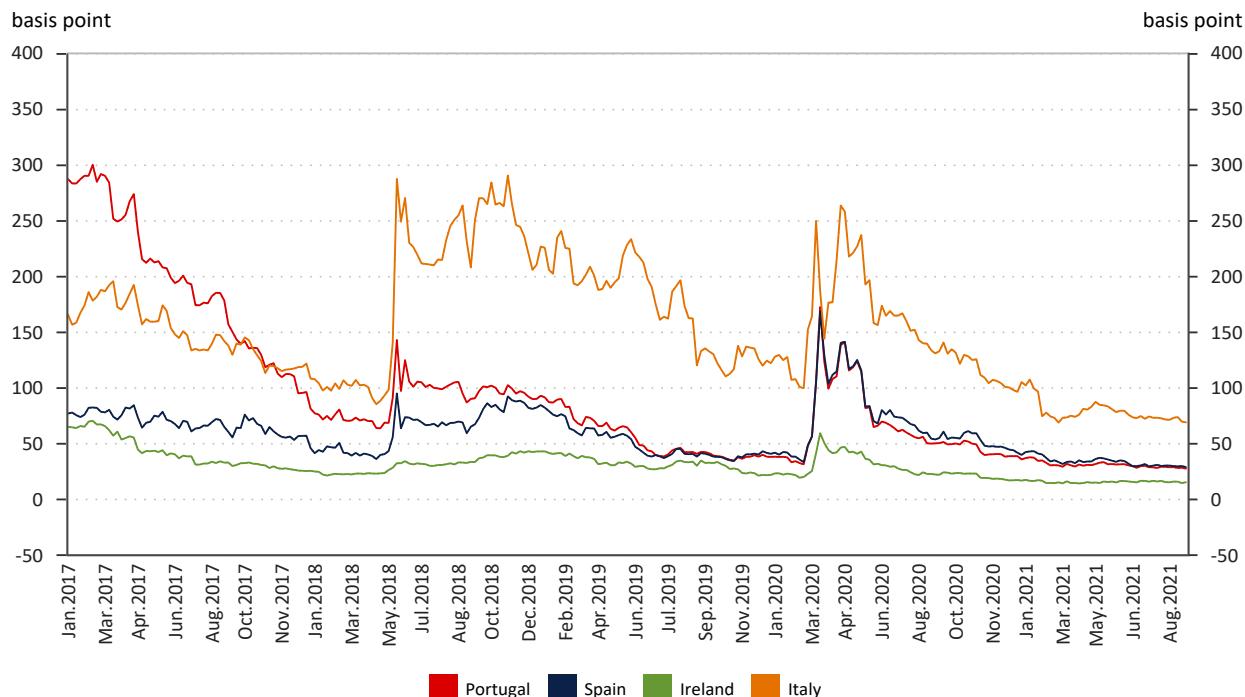
Notes: Spread between 3-month interbank rates and 3-month T-bill yield.

**114. 3M interbank and OIS yield spread**

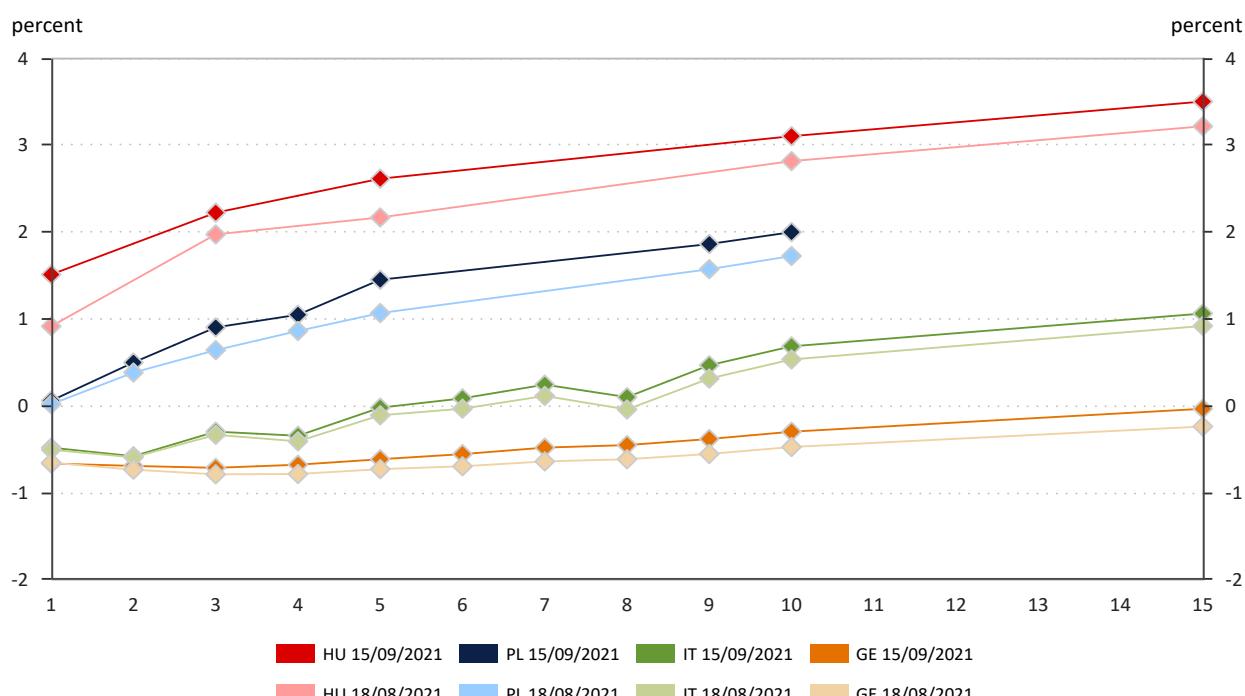
Source: Refinitiv.

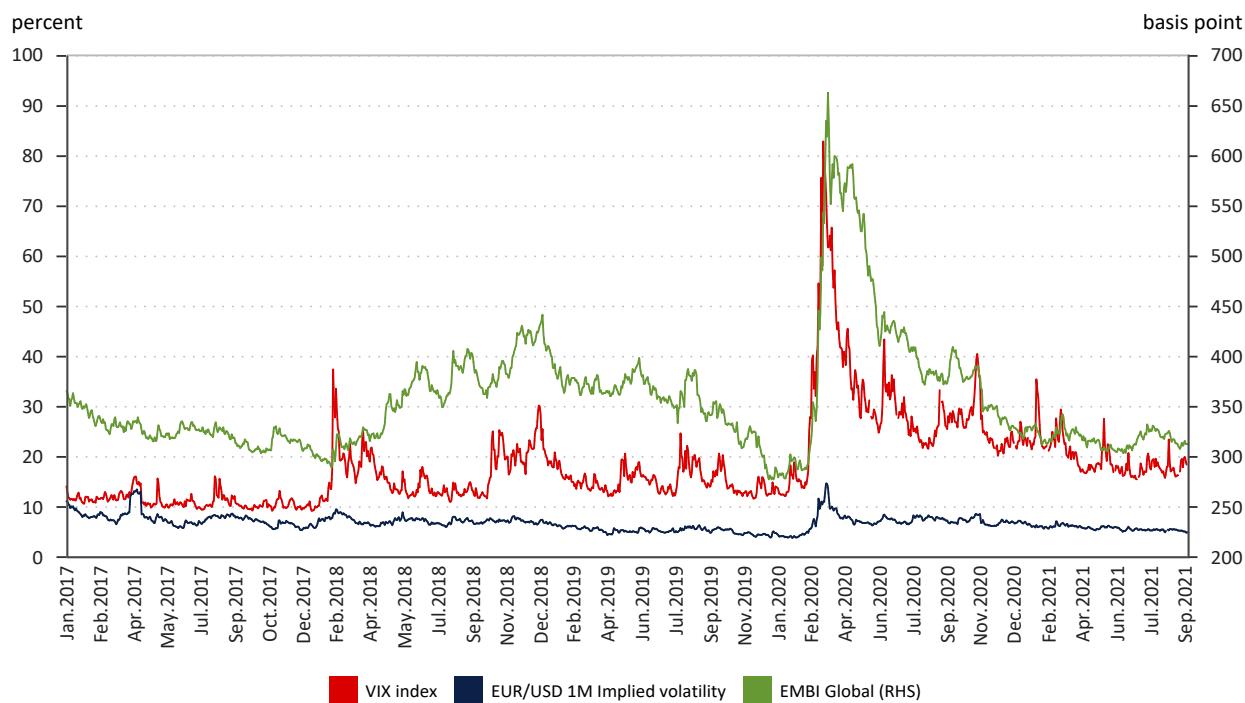
**115. Long term euro and dollar benchmark yields**

Source: Refinitiv.

**116. 5Y sovereign CDS in the eurozone periphery**

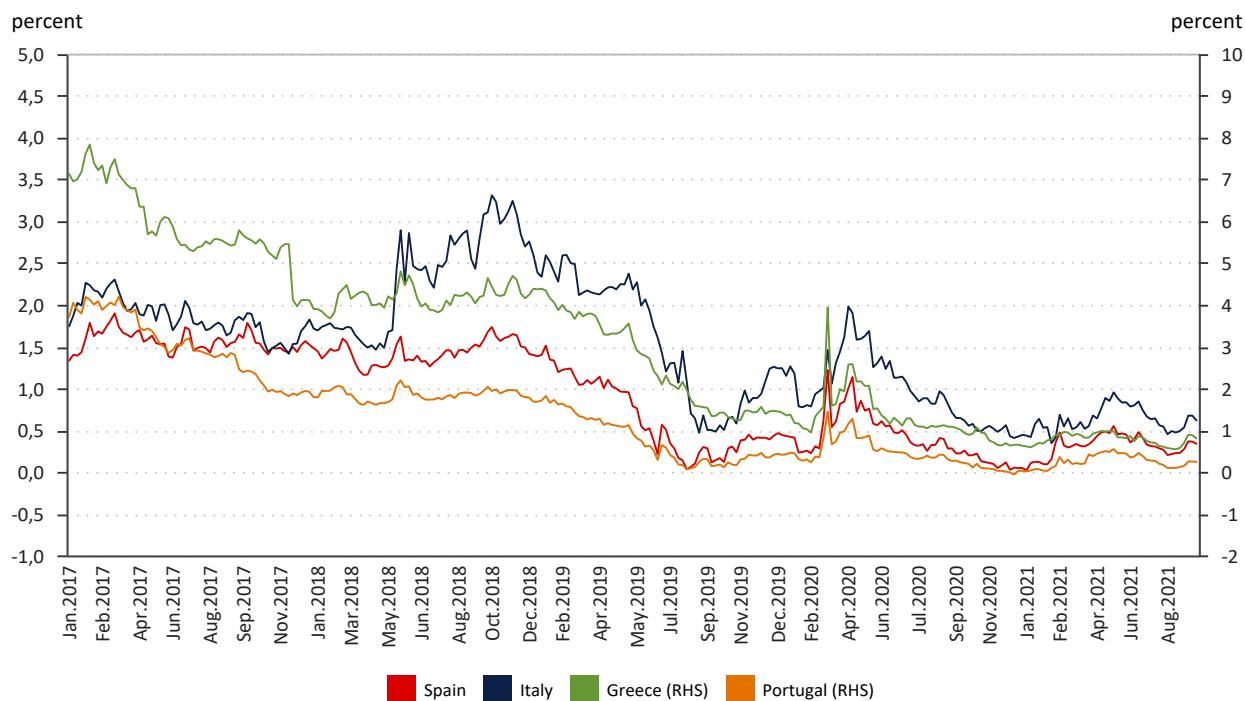
Source: Refinitiv.

**117. Benchmark yield curves of Hungary, Poland, Italy and Germany**Source: Bloomberg  
Note: X axis is displayed in years.

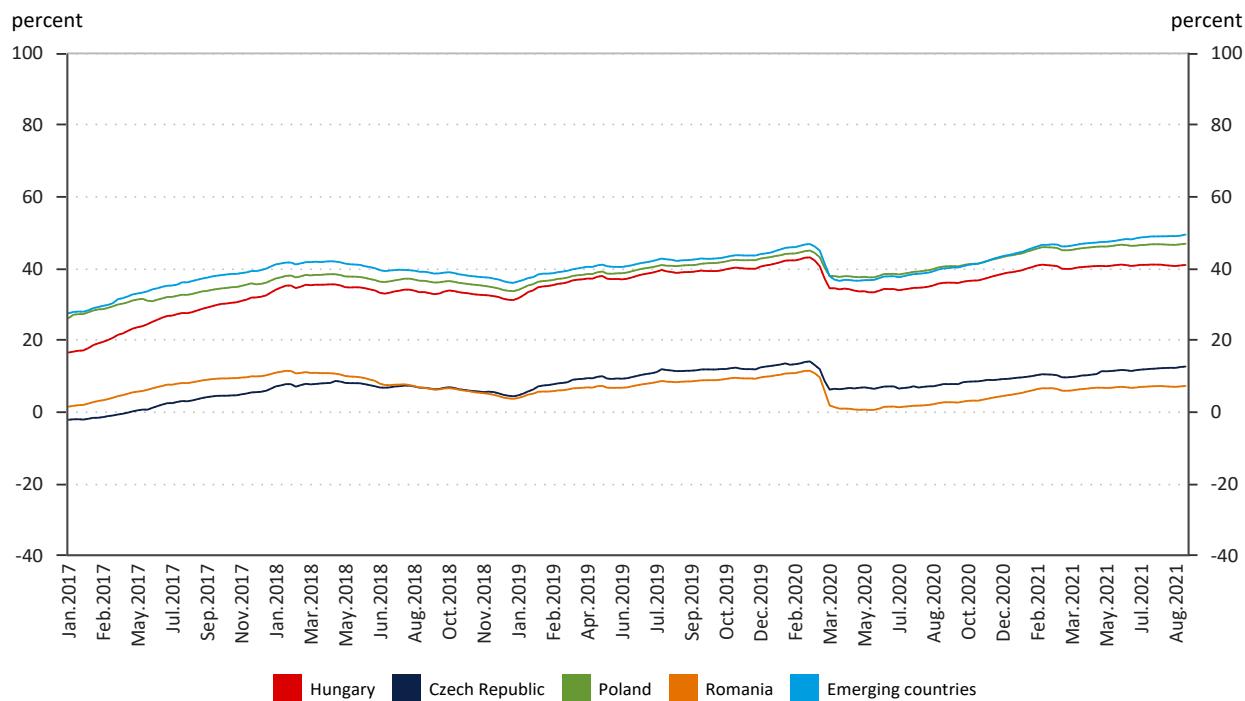
**118. Main risk indicators**

Source: Bloomberg

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

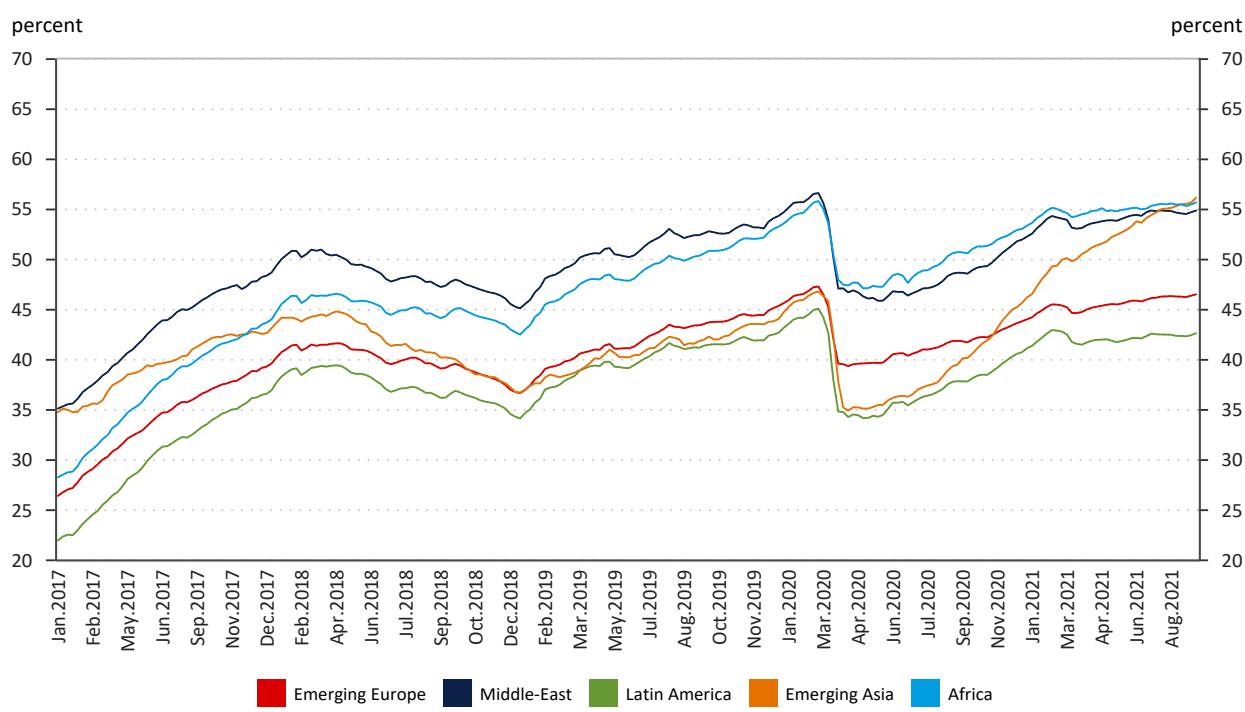
**119. Long term government bond yields in the Eurozone periphery**

Source: Bloomberg.

**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