



CENTRAL BANK OF HUNGARY

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

26 January 2016

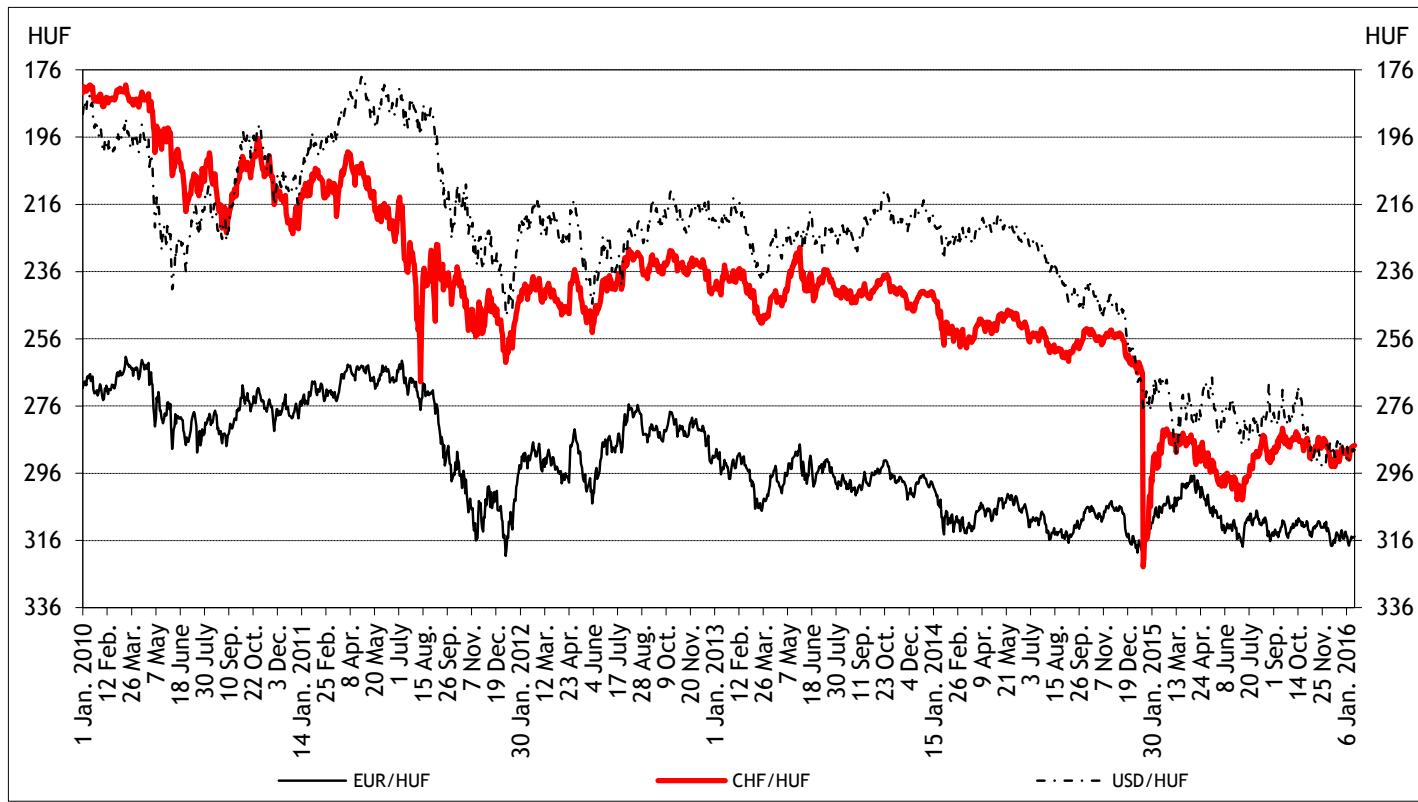
As of the 30th of June, 2005 the Magyar Nemzeti Bank (the central bank of Hungary) publishes a comprehensive chart-pack about the latest information in financial markets and the macro-economy. Our aim is to provide analysts and the public with a frequently updated, easy-to-use, clear-cut data set, in 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>

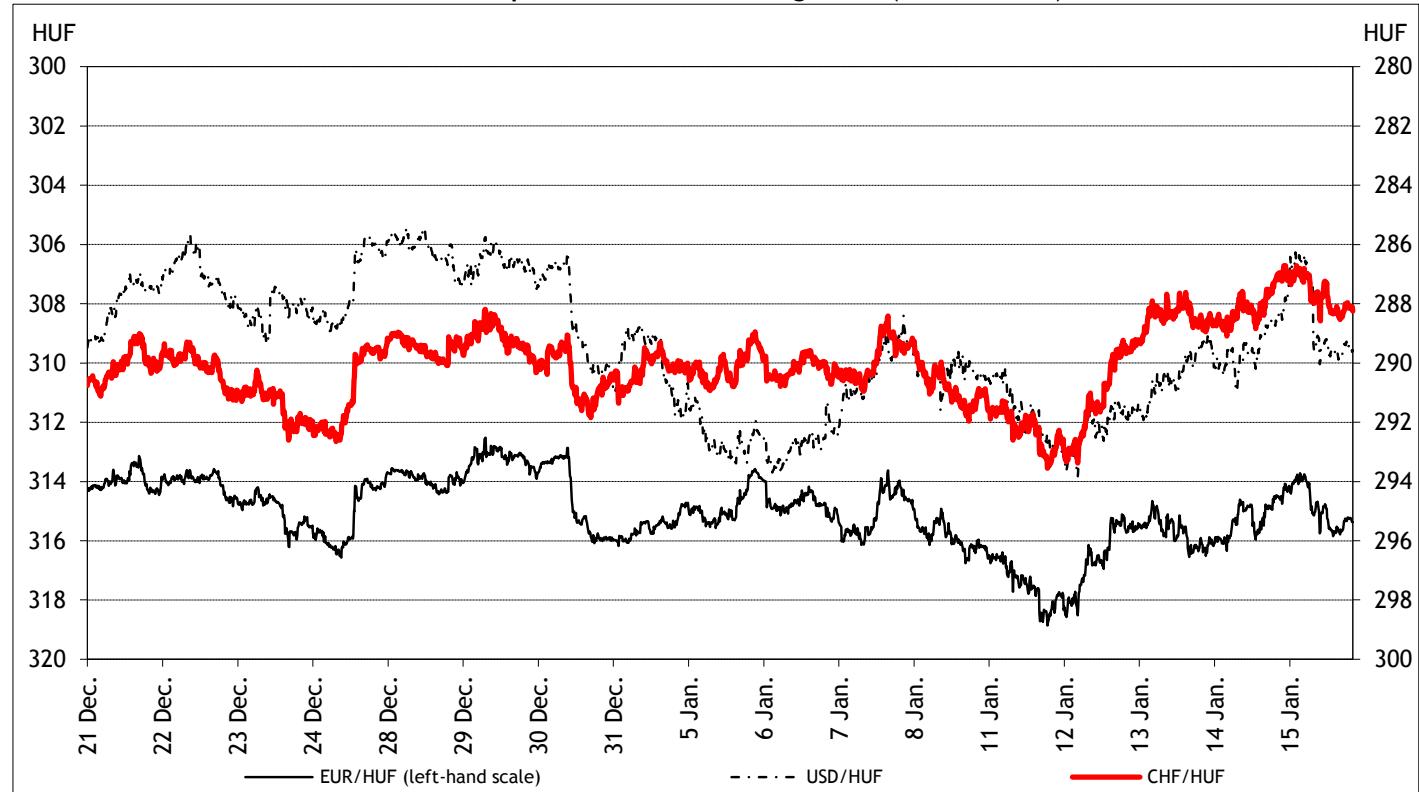
Questions and comments are welcome, and should be addressed to [info@mnb.hu](mailto:info@mnb.hu).

\* 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. Developments in HUF exchange rate**

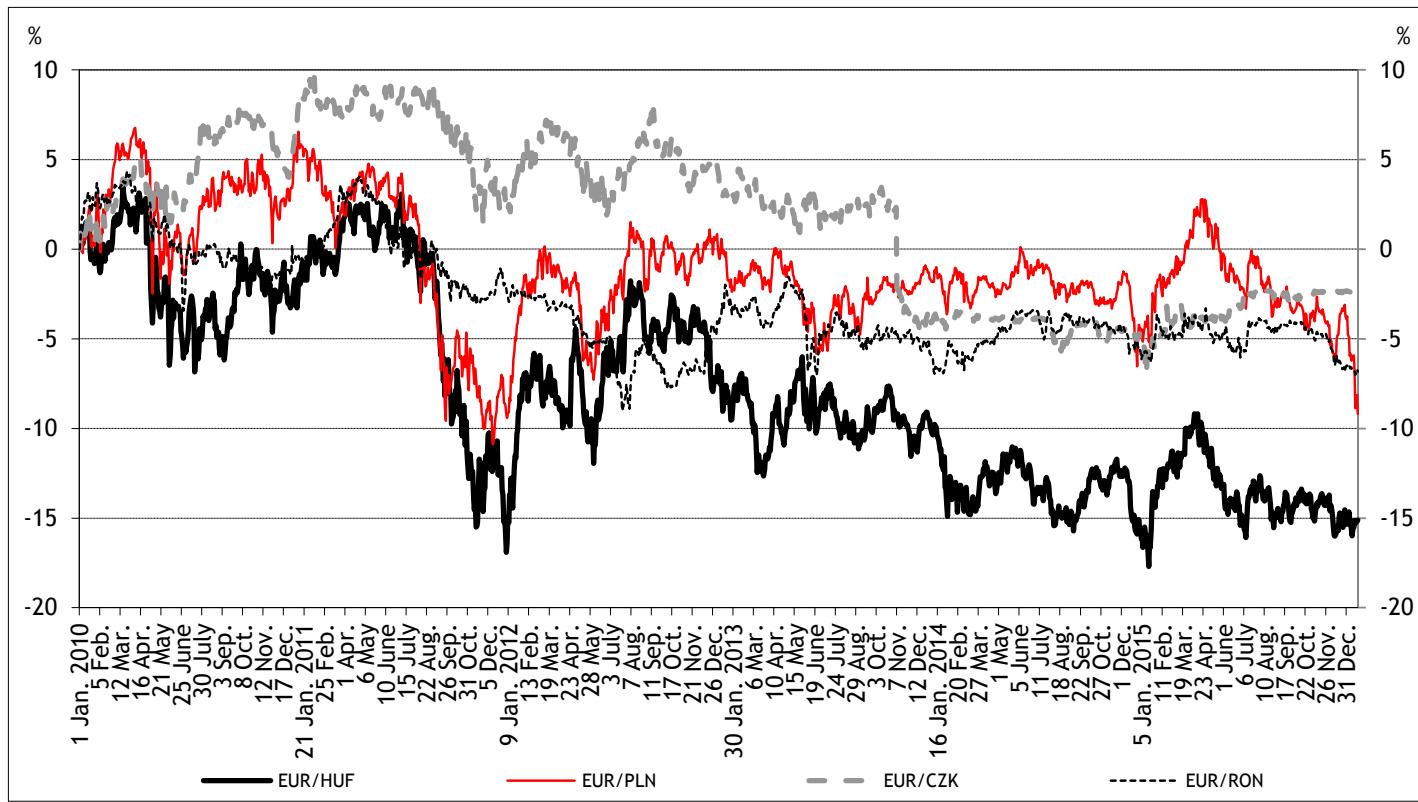
Source: Thomson Reuters.

Notes: reverse scale, daily observations.

**2. Developments in HUF exchange rate (last 1 month)**

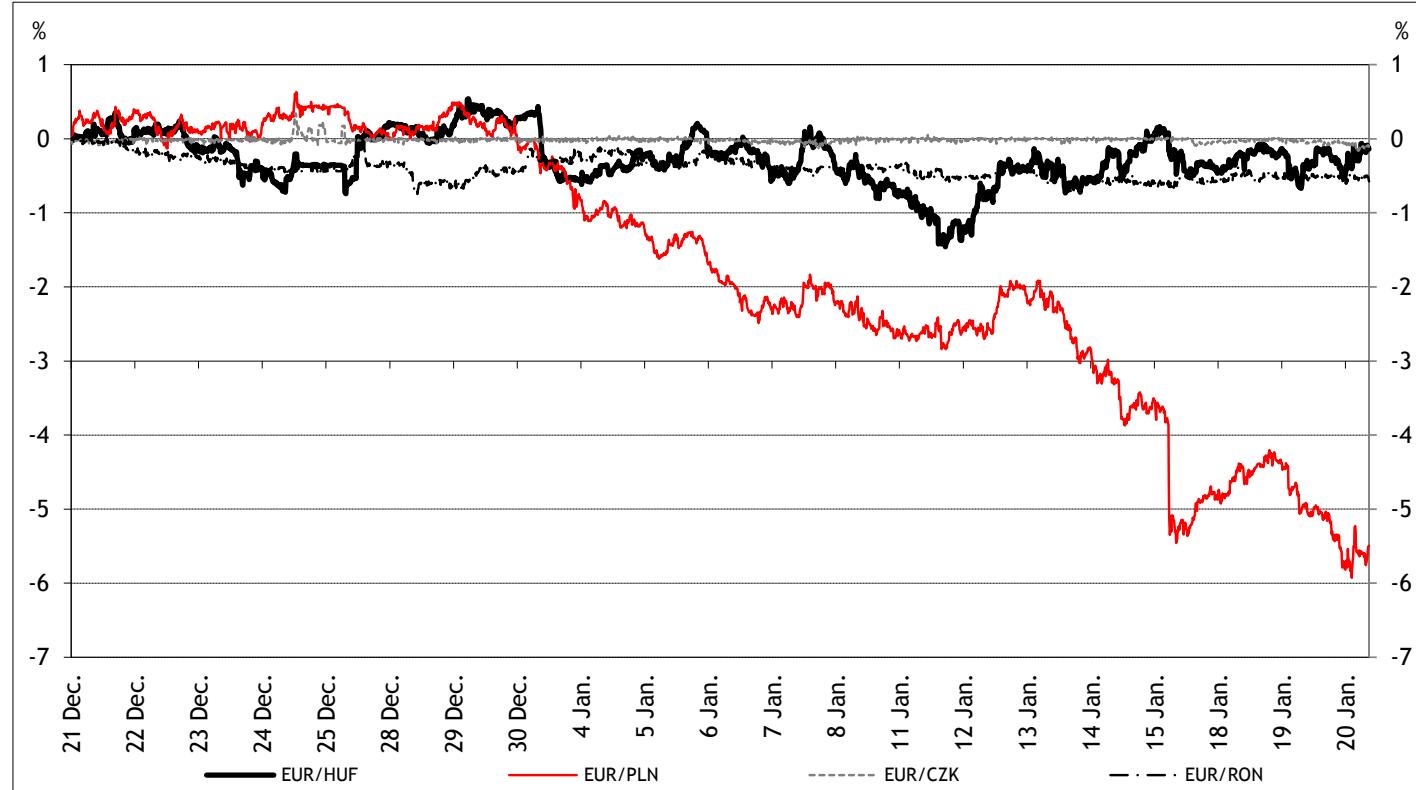
Source: Thomson Reuters.

Notes: reverse scale.

**3. Emerging markets exchange rates**

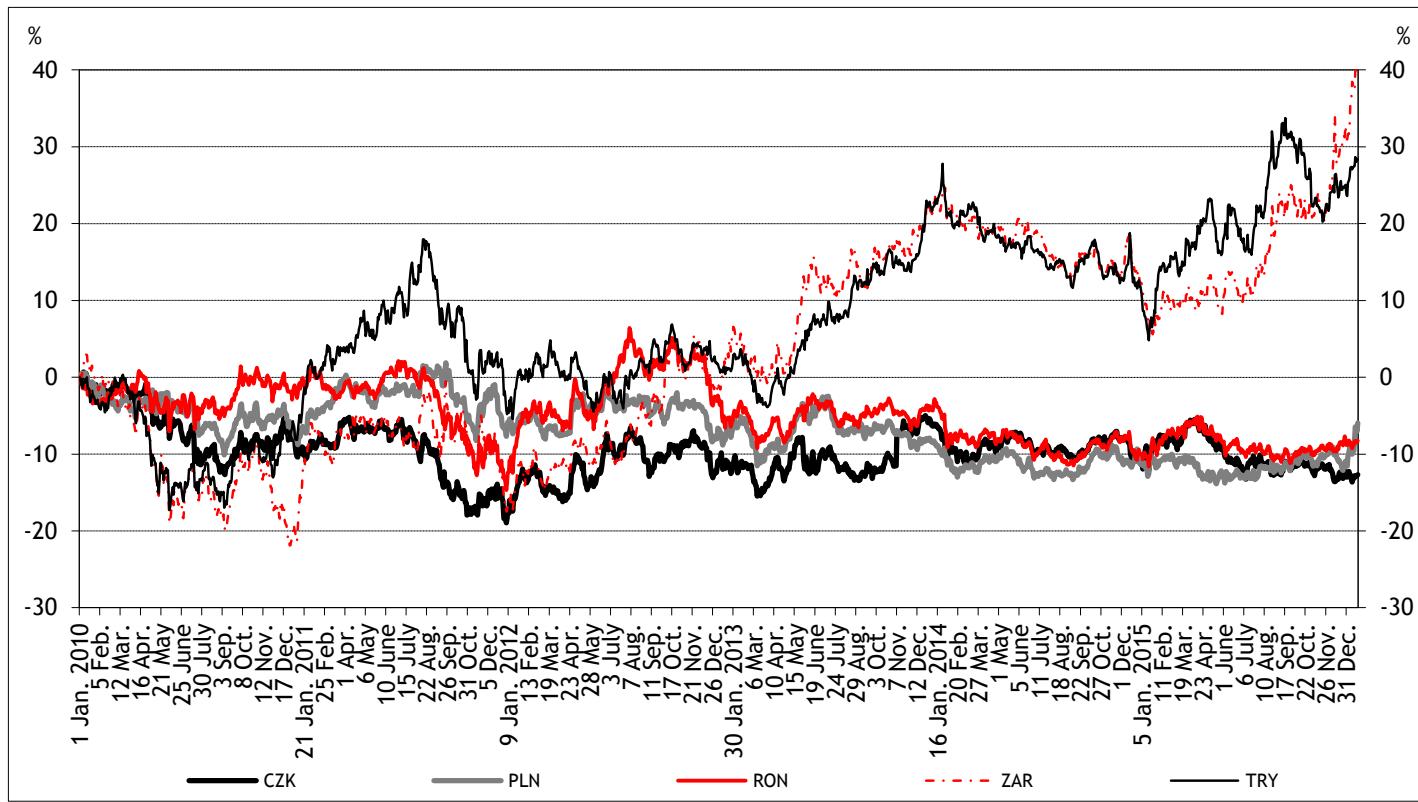
Source: Thomson Reuters.

Notes: 1 January 2010 = 0; cumulative change. Positive values mean appreciation.

**4. Emerging markets exchange rates (last 1 month)**

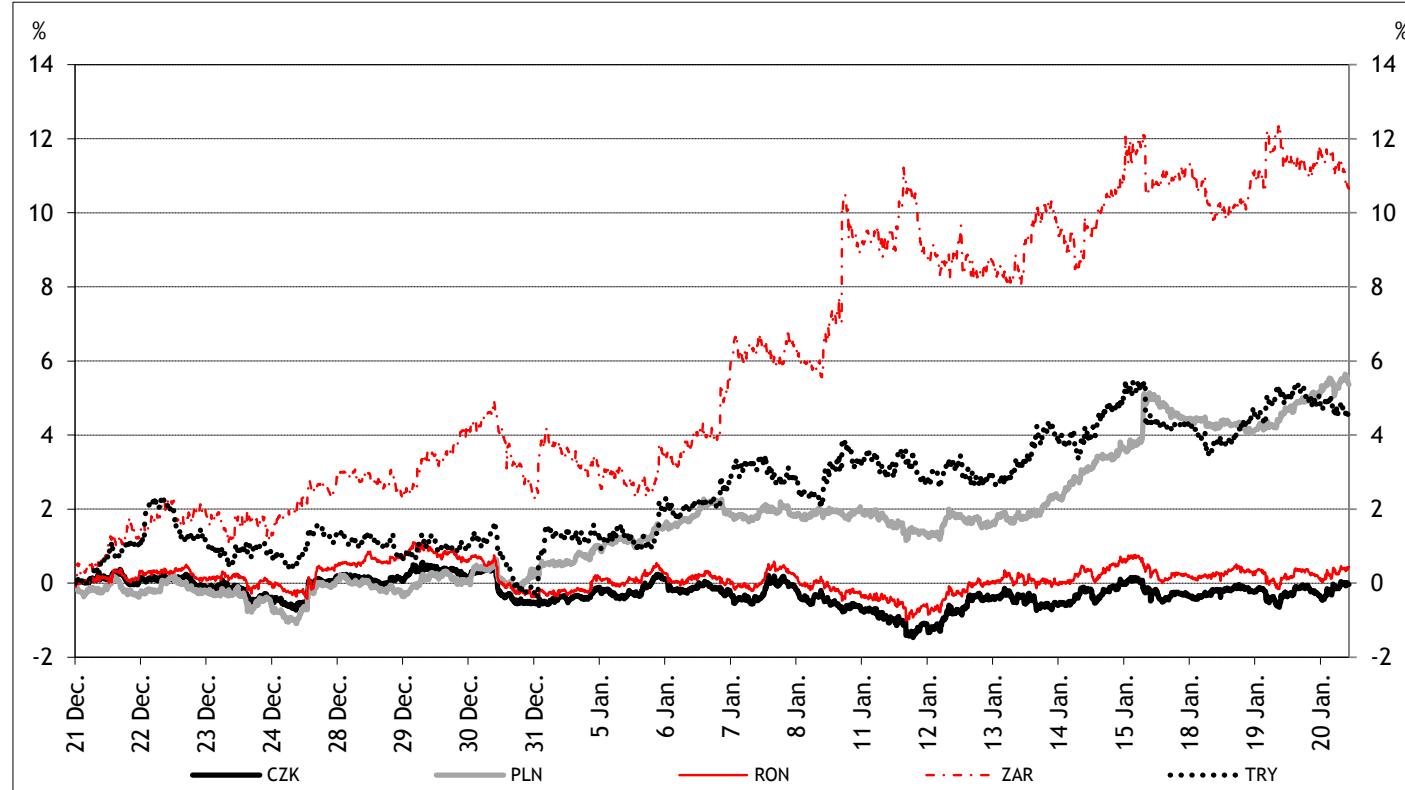
Source: Thomson Reuters.

Notes: cumulative change, 5-minute frequency. Positive values mean appreciation.

**5. HUF vis-à-vis emerging market exchange rates**

Source: Thomson Reuters.

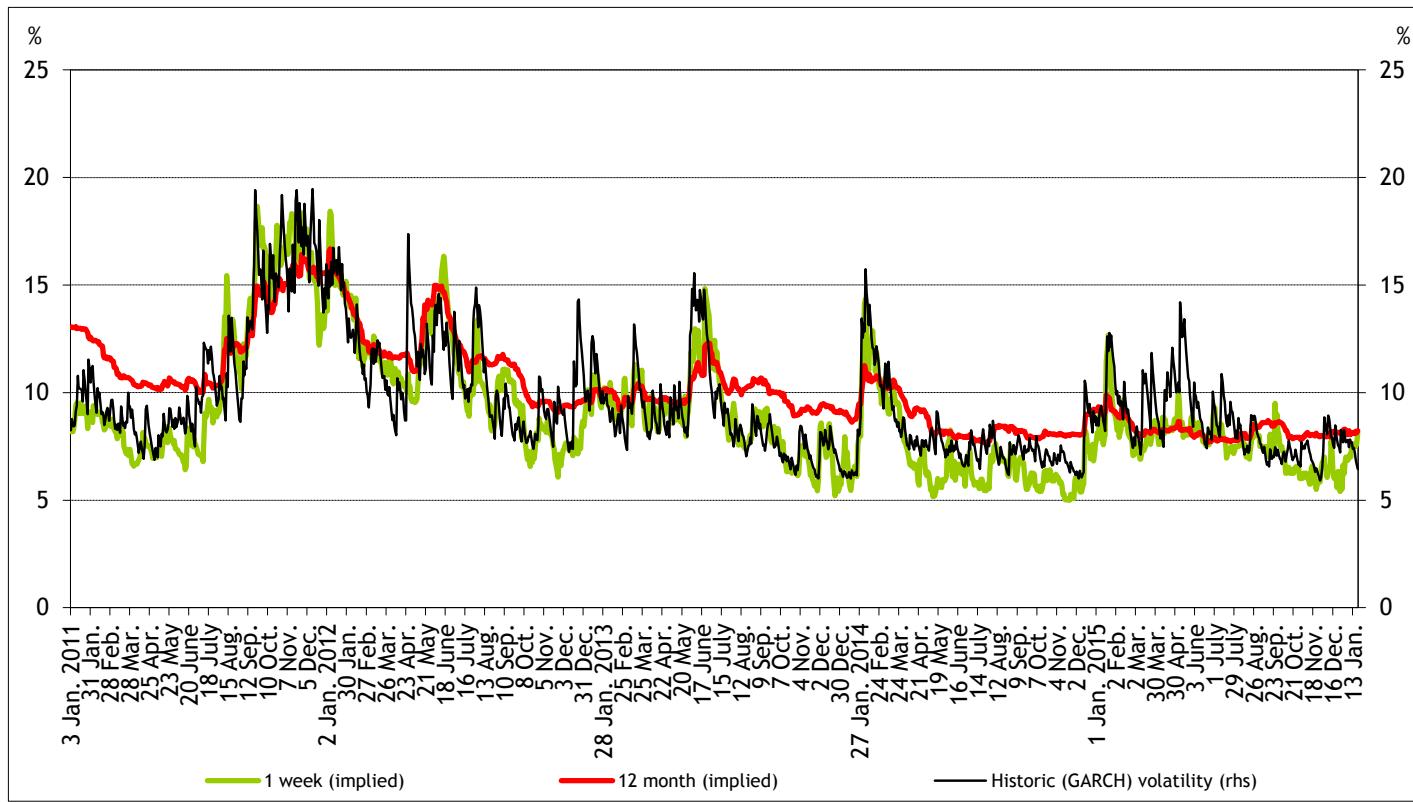
Notes: 1 January 2010 = 0; cumulative change. Positive values mean HUF appreciation.

**6. HUF vis-à-vis emerging market exchange rates (last 1 month)**

Source: Thomson Reuters.

Notes: cumulative change, 5-minute frequency. Positive values mean HUF appreciation.

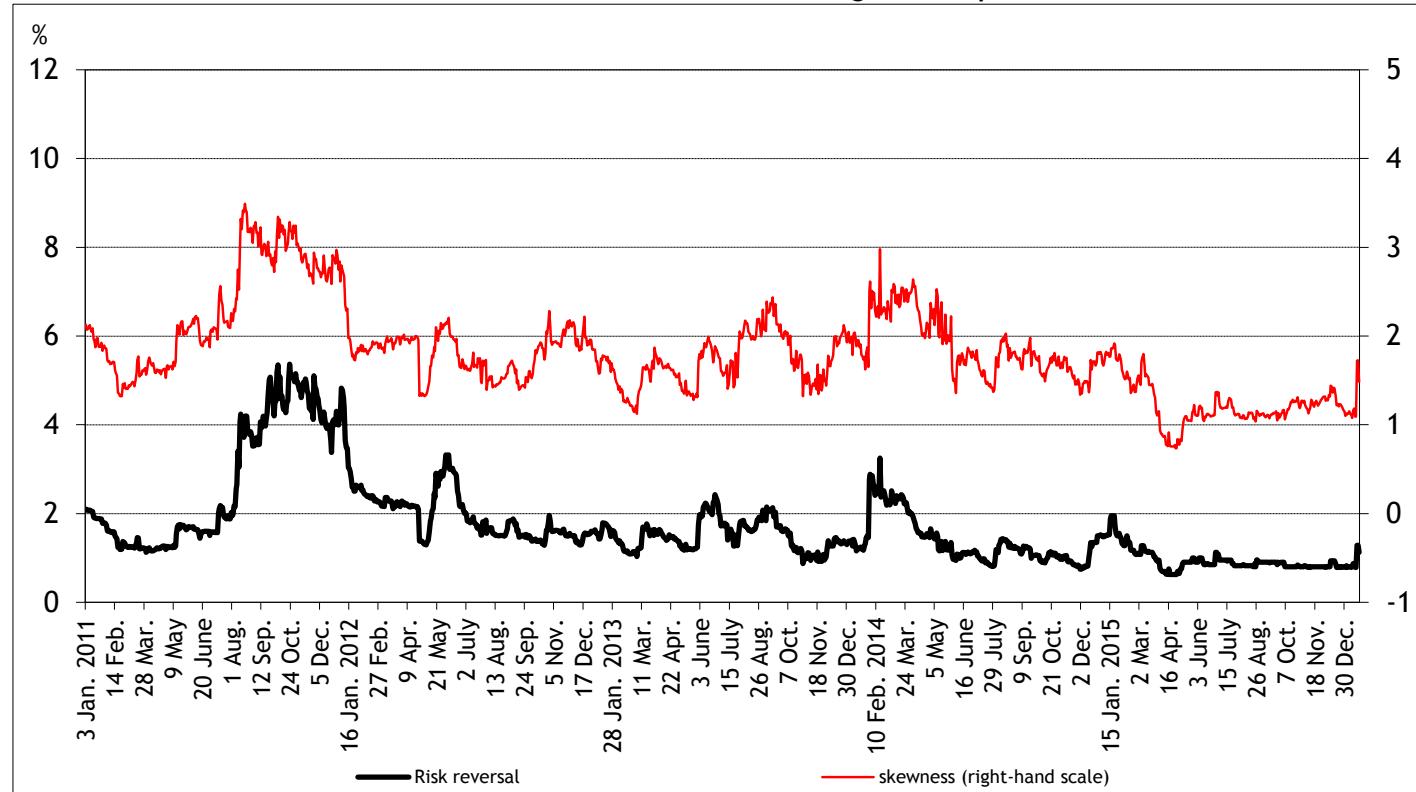
### 7. Implied and historical volatilities of the forint-euro exchange rate



Source: Bloomberg.

Notes: GARCH is weighted volatility calculated using historical data; implied volatility (based on foreign exchange option quotes) can be interpreted as an indicator of risk perceived by the market.

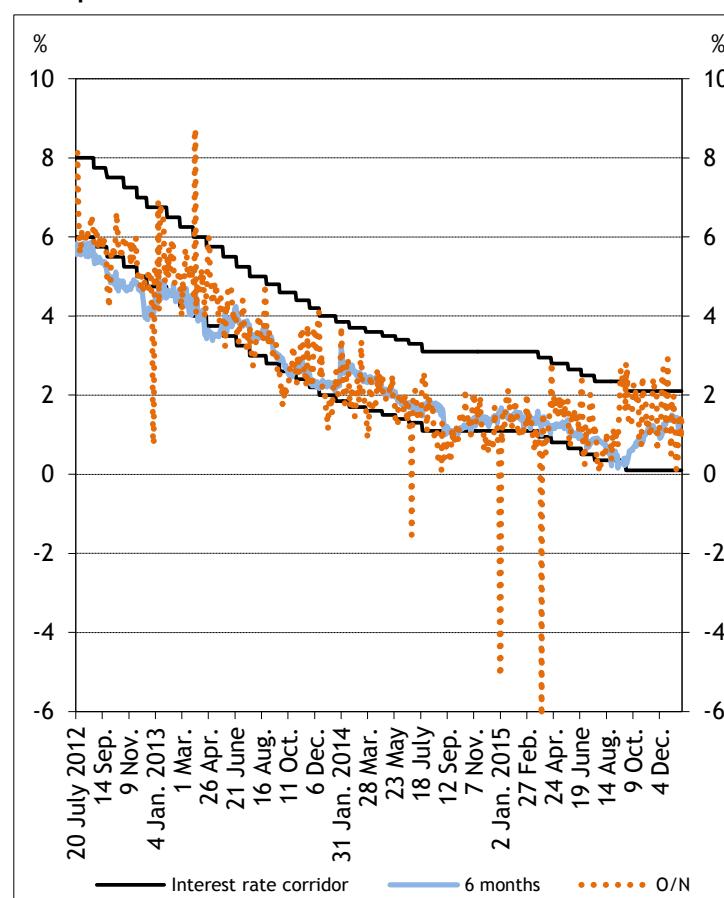
### 8. Risk reversal and skewness of exchange rate expectations



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.

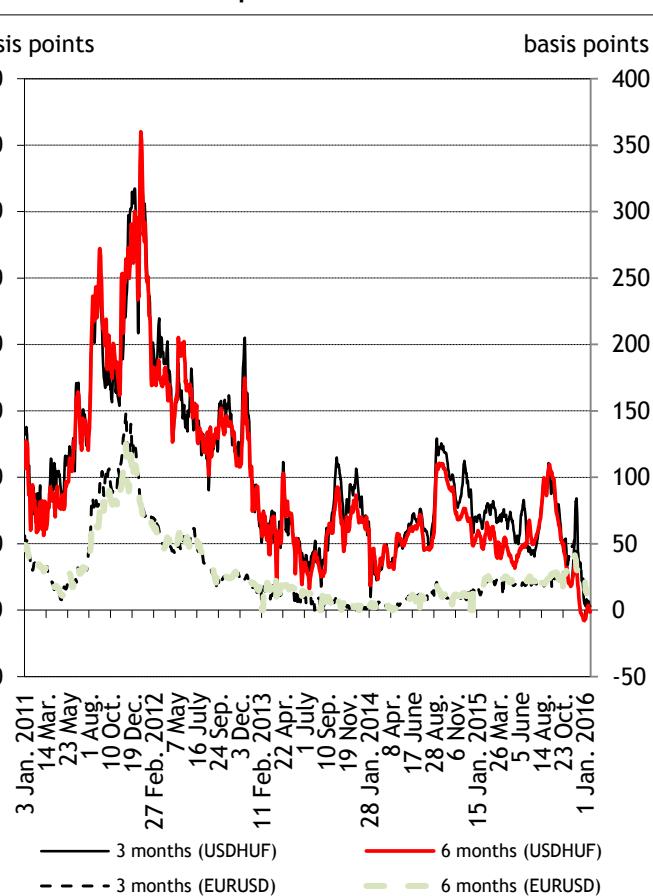
**9. Implied HUF yields based on FX-swap market trades and quotes**



Source: MNB, Thomson Reuters.

Notes: implied forint yields based on USDHUF FX-swap trades in the case of O/N maturity, and based on USDHUF FX-swap quotes provided by Thomson Reuters in the cases of 6-month maturity.

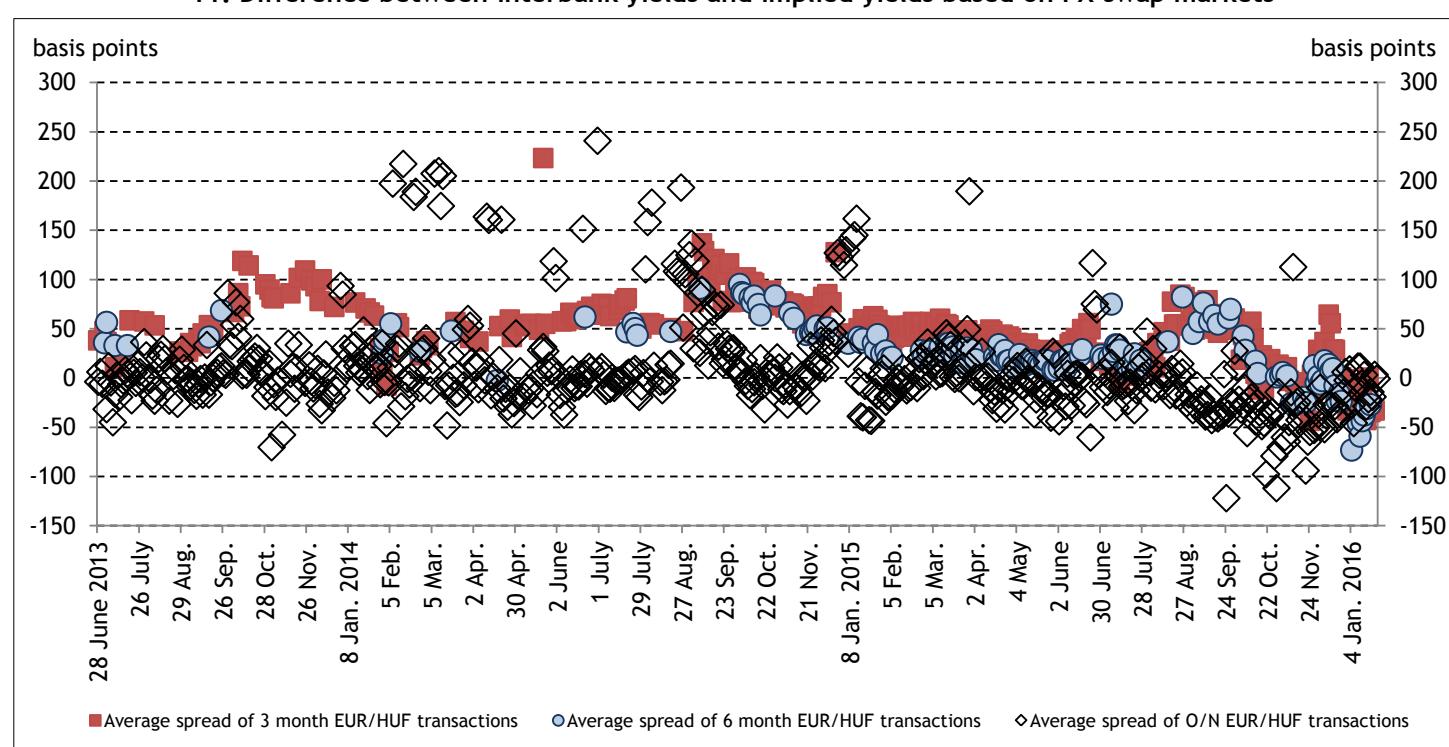
**10. Difference between interbank yields and implied yields based on FX-swap markets**



Source: MNB, Thomson Reuters, Bloomberg.

Notes: implied yields based on USDHUF and EURUSD FX-swap quotes provided by Thomson Reuters; interbank HUF yields are estimated via spline method based on BUBOR, FRA, IRS data.

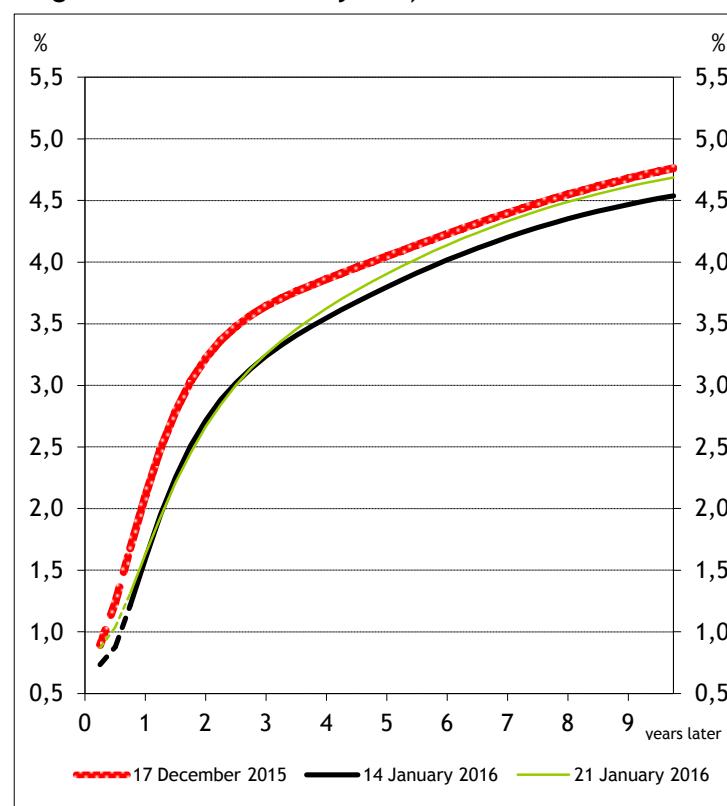
**11. Difference between interbank yields and implied yields based on FX-swap markets**



Source: MNB, Thomson Reuters.

Notes: implied forint yields based on EURHUF FX-swap quotes provided by Thomson Reuters; interbank yields are estimated via spline method based on BUBOR, FRA, IRS data.

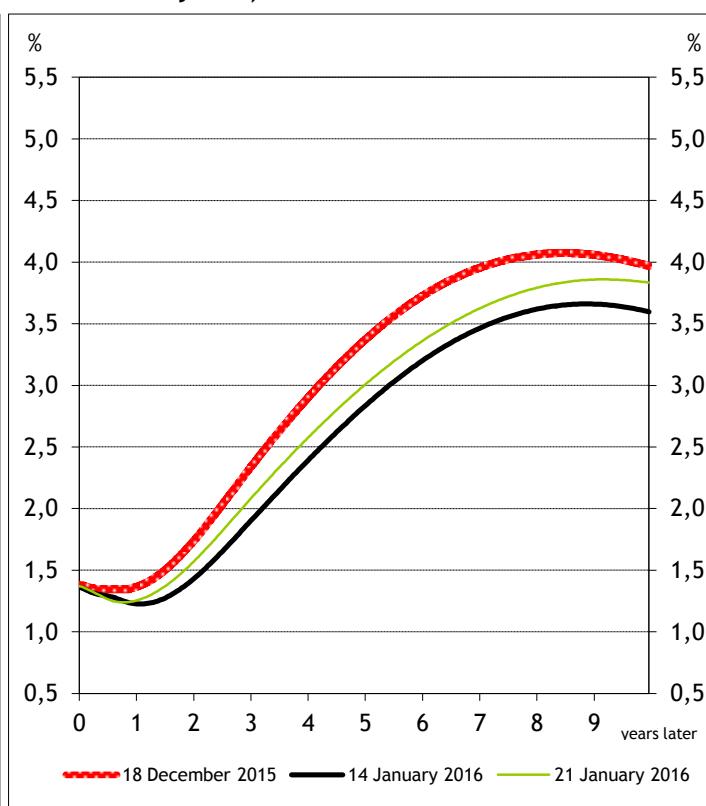
**12. Implied 3 month forward interest rate curves (based on government securities yields)**



Source: MNB, ÁKK.

Notes: estimated by the MNB using the Svensson-technique.

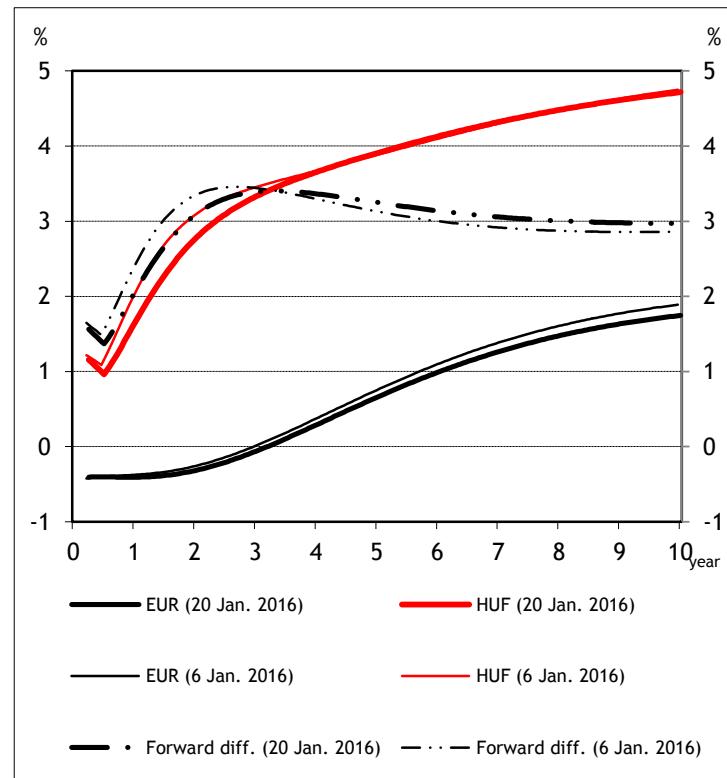
**13. Implied 3 month forward interest rate curve (based on interbank yields)**



Source: MNB, Thomson Reuters.

Notes: estimated by the MNB from interbank money market (FRA) and interest rate swap quotes using the spline technique.

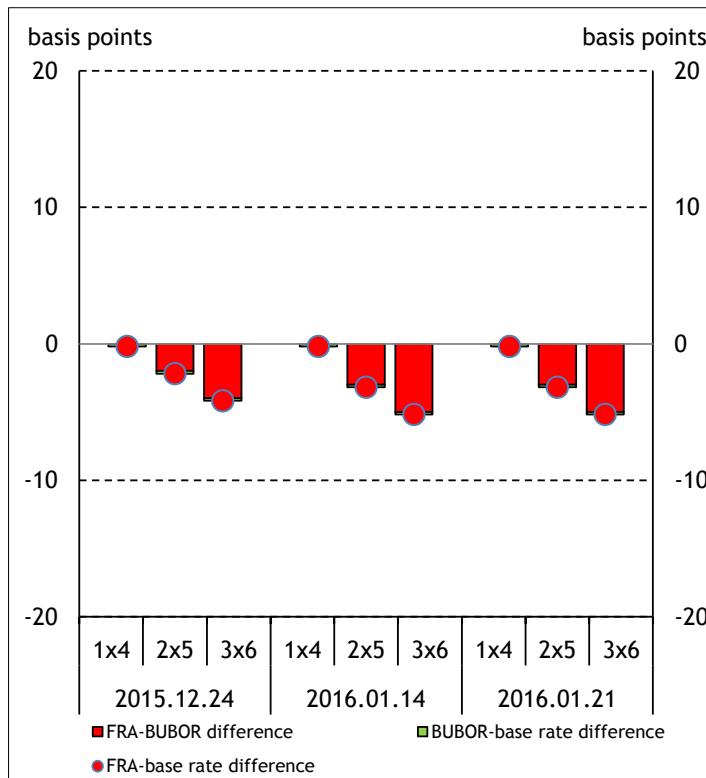
**14. Spread between 3-month forward yields in EUR and HUF**



Source: ÁKK, ECB, MNB.

Notes: estimated by the ECB using the Svensson-technique, based on AAA-rated euro area central government bonds.

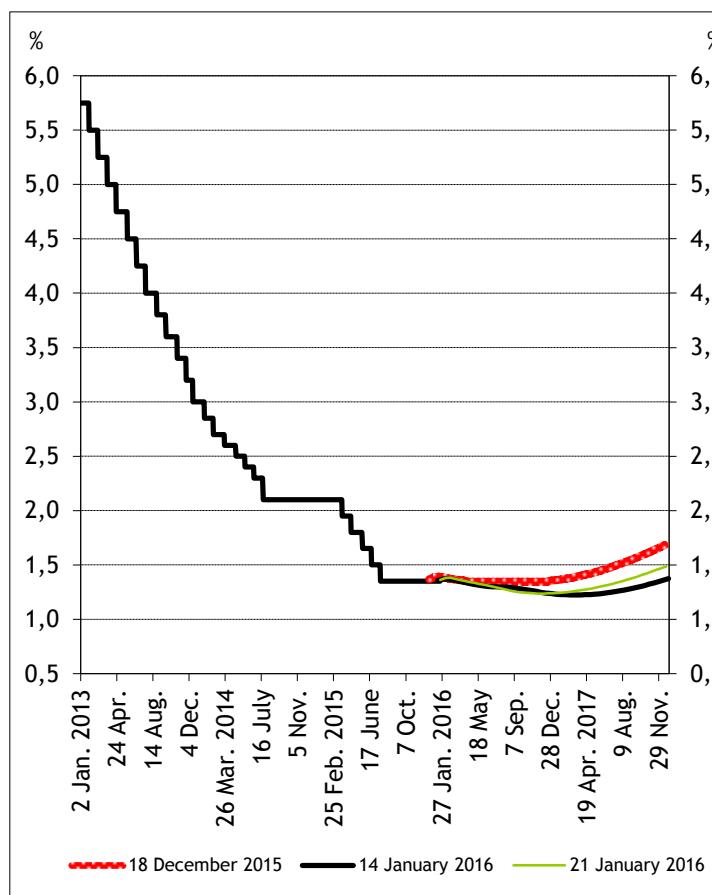
**15. Segmentation of the difference between the quoted rate of the 3 month FRA and the current base rate**



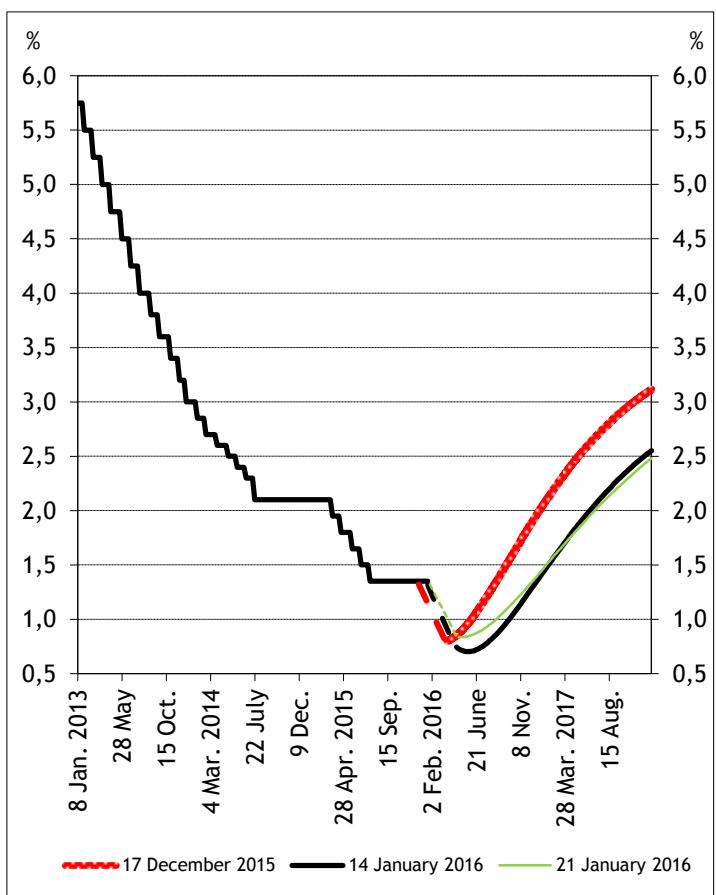
Source: Thomson Reuters.

Notes: based on FRA quotes provided by Tullett & Tokio Liberty on Reuters. Columns represent the difference between the quoted rate of the 3 month forward rate agreement starting from the given date and the base rate.

**16. 2-week rate expectations derived from money market rates**



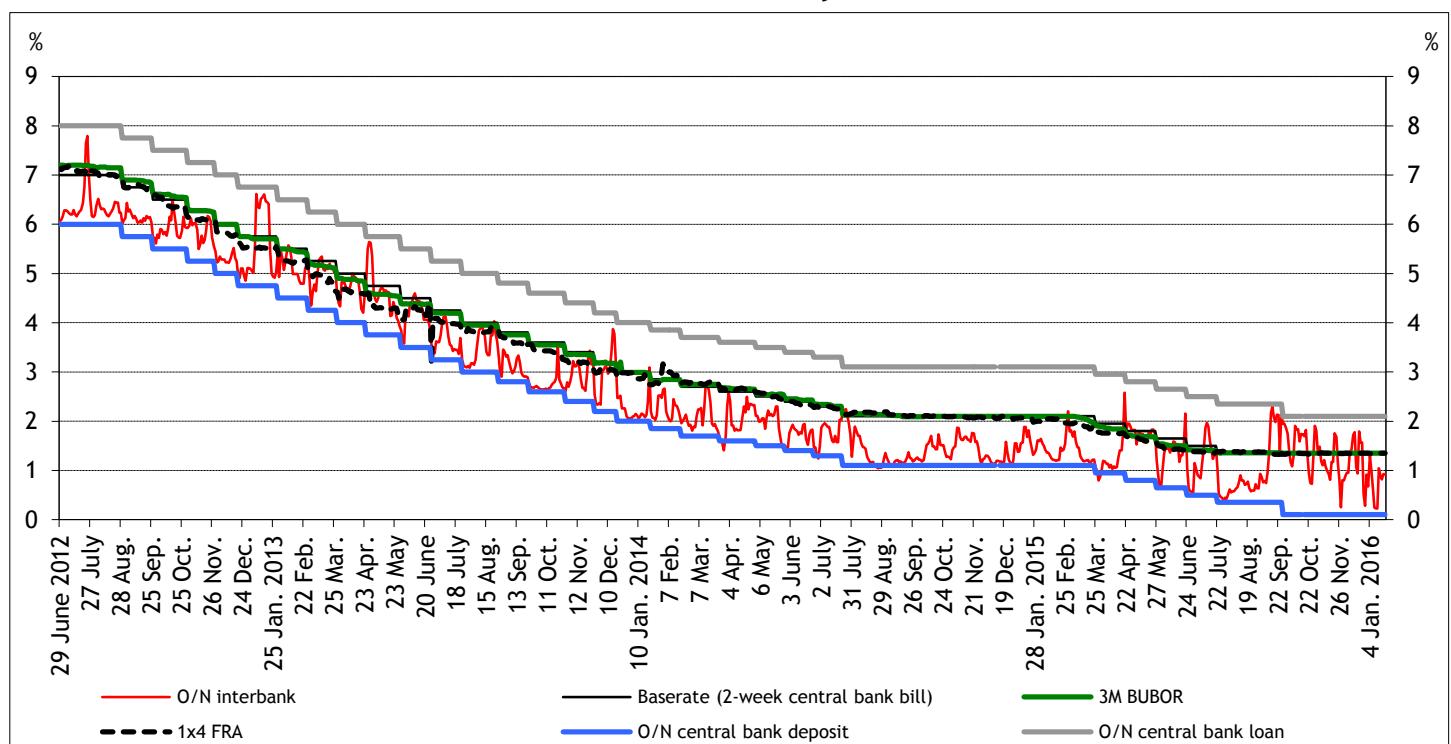
**17. 2-week rate expectations derived from government bond yields**



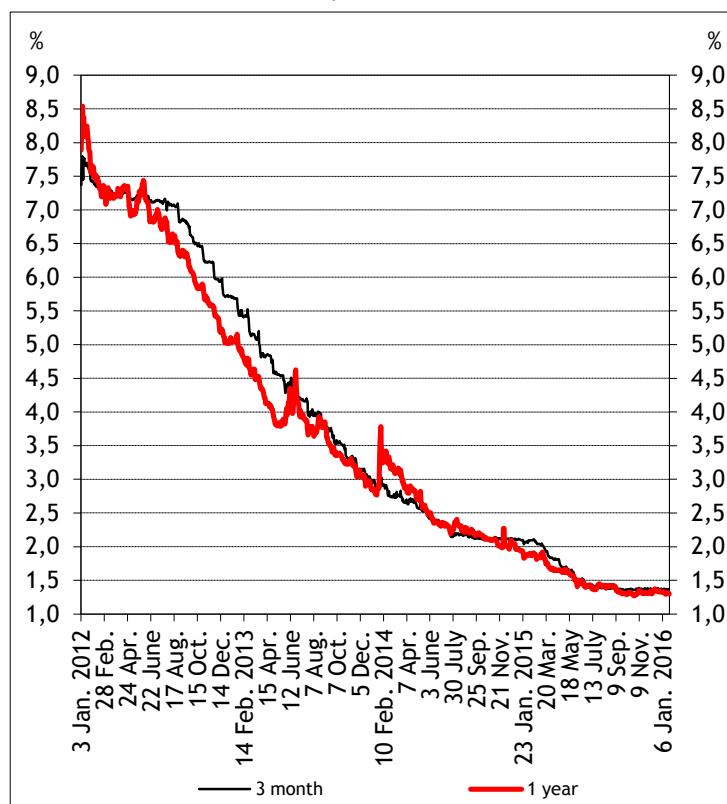
Notes: estimated by the MNB from interbank interest rates using the spline-technique.

Notes: estimated by the MNB using the Svensson-technique.

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

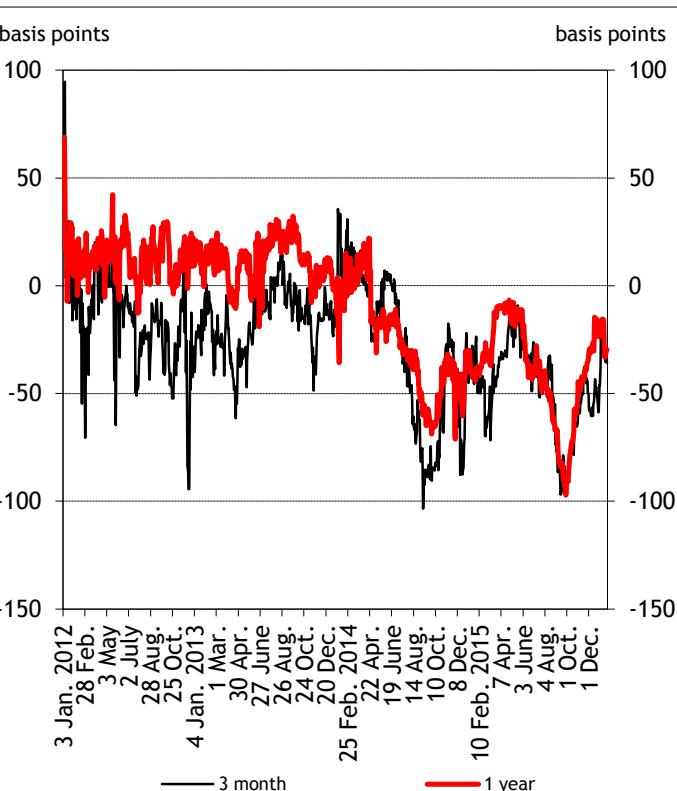


Notes: O/N interbank yield is the calculated average yield weighted by turnover data, FRA yield is the close mid-quote provided by Thomson Reuters.

**19. Short-term interbank yields**

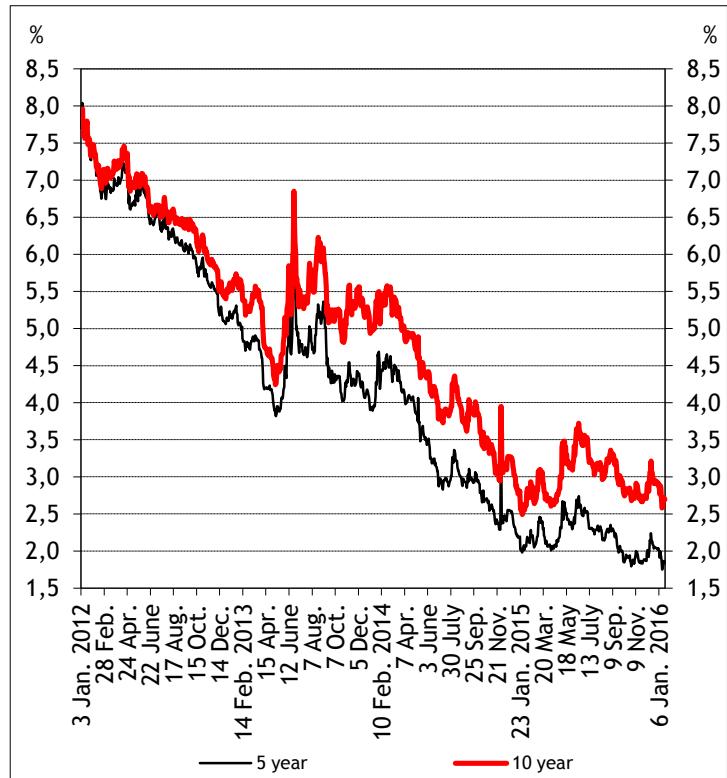
Source: MNB, Thomson Reuters.

Notes: swap yields are estimated via spline method based on BUBOR, FRA, IRS data.

**20. Short-term government securities - interbank yield spreads**

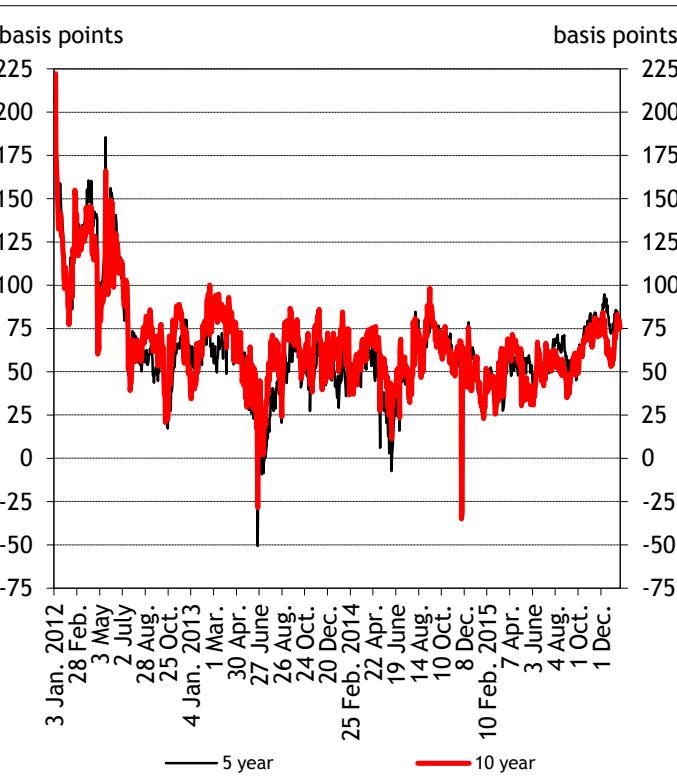
Source: ÁKK, Thomson Reuters.

Notes: the bond yields are estimated via Svensson-, swap yields via spline method.

**21. Long-term interbank yields**

Source: MNB, Thomson Reuters.

Notes: swap yields are estimated via spline method based on BUBOR, FRA, IRS data.

**22. Long-term government security - interbank yield spreads**

Source: ÁKK, Thomson Reuters.

Notes: the bond yields are estimated via Svensson-, swap yields via spline method.

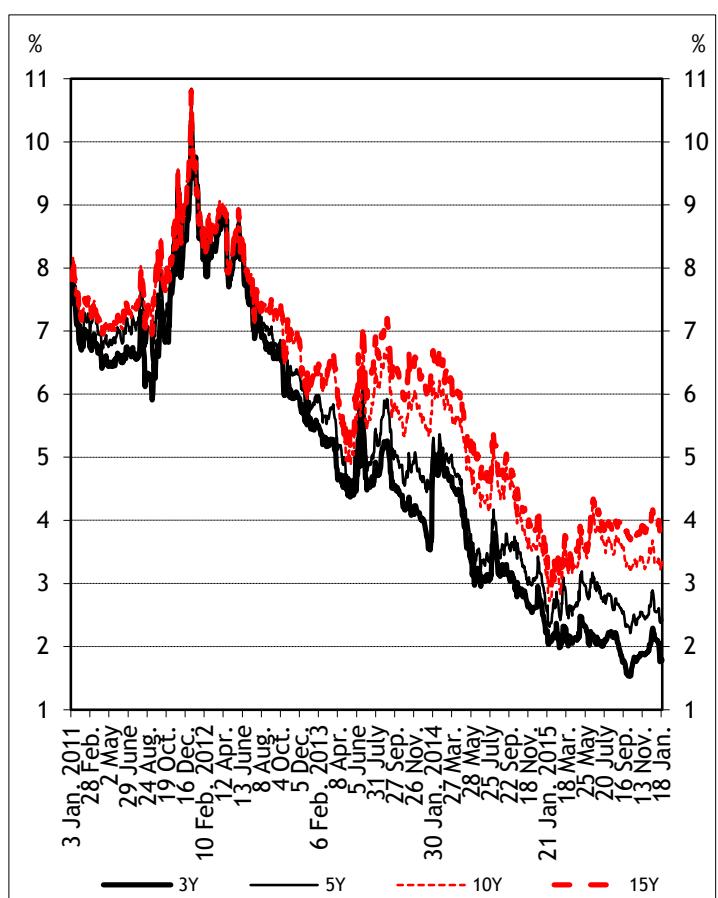
**23. Short-term yields of benchmark government securities**



Source: ÁKK.

Notes: daily reference yields provided by Government Debt Agency.

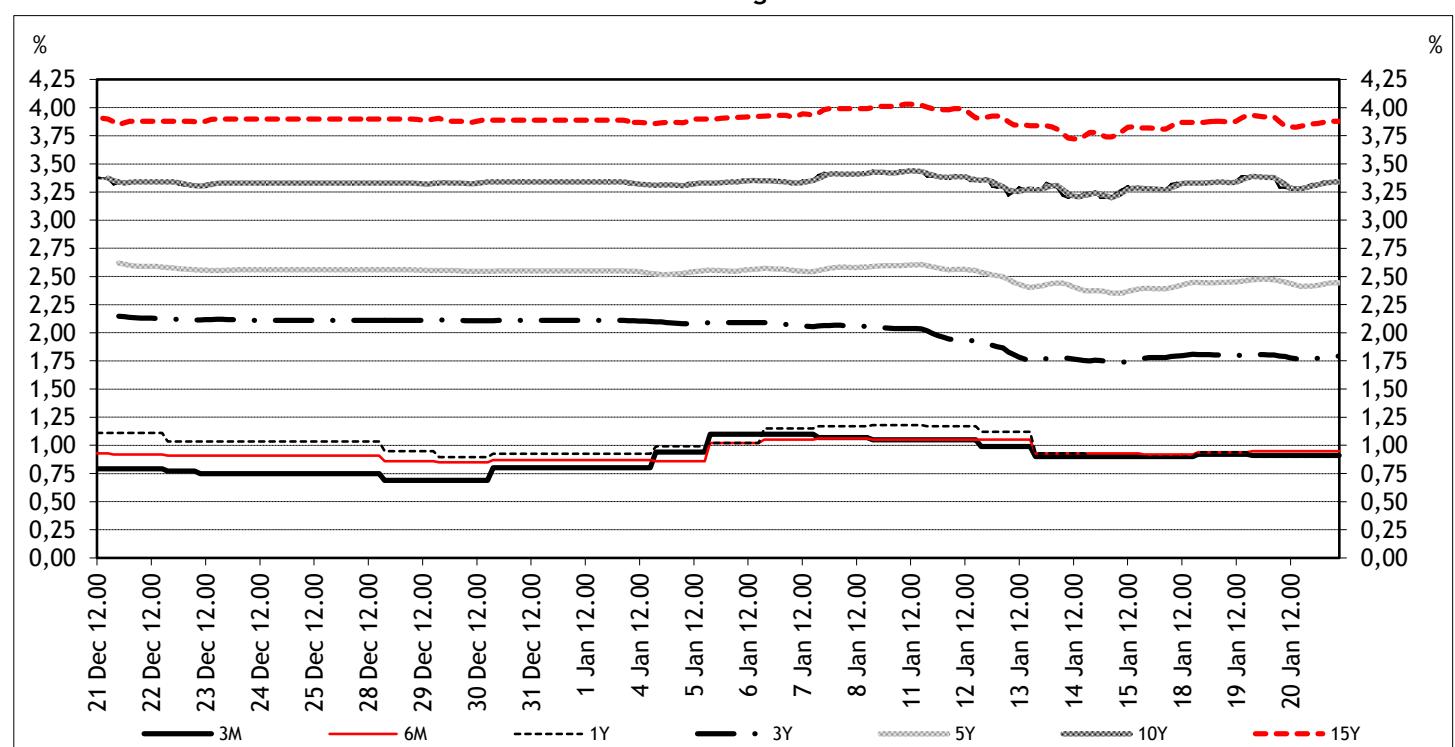
**24. Long-term yields of benchmark government securities**



Source: ÁKK.

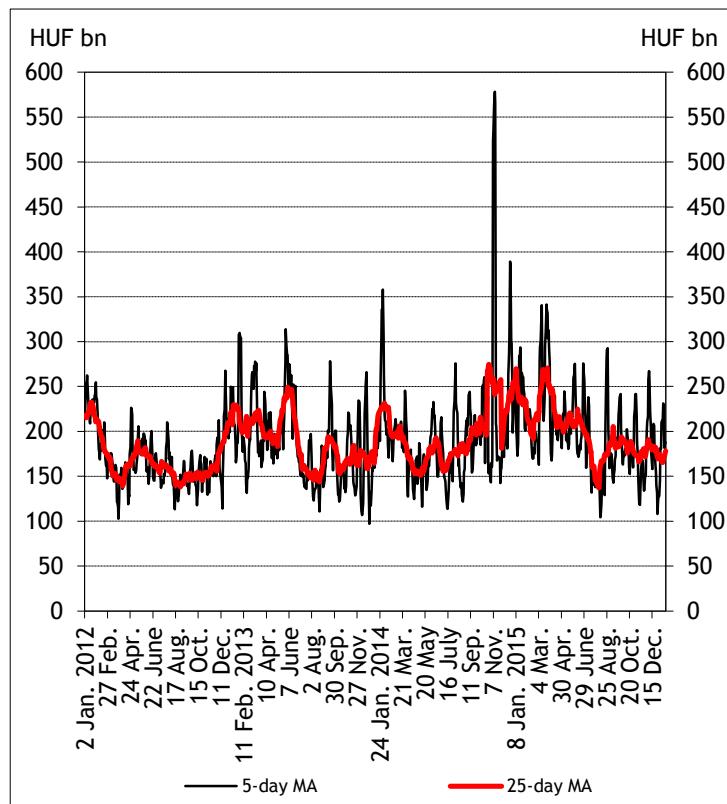
Notes: daily reference yields provided by Government Debt Agency.

**25. Yields of benchmark government securities**



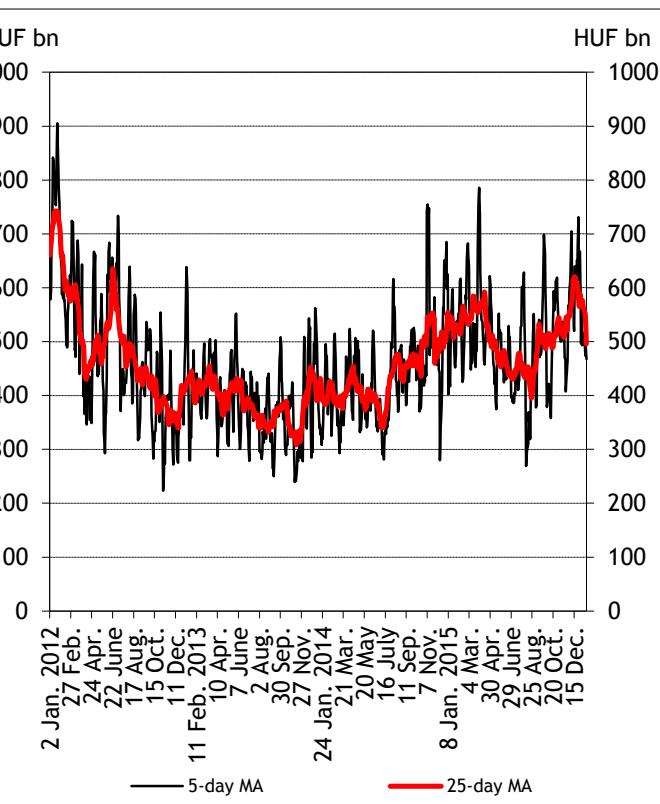
Source: Thomson Reuters, FTSE.

Notes: intraday 15-minute frequency data.

**26. Spot turnover on the forint currency market**

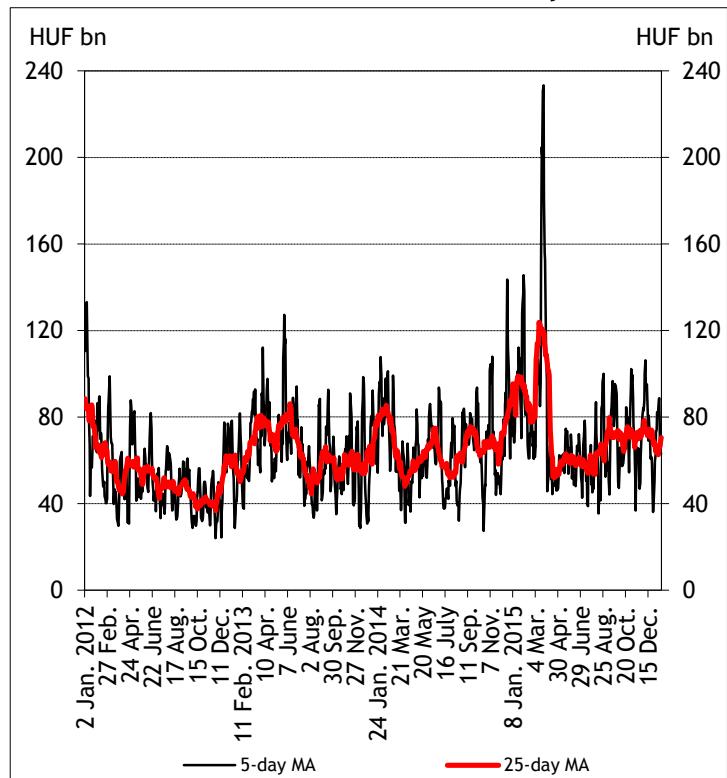
Source: MNB.

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

**27. Swap turnover on the forint currency market**

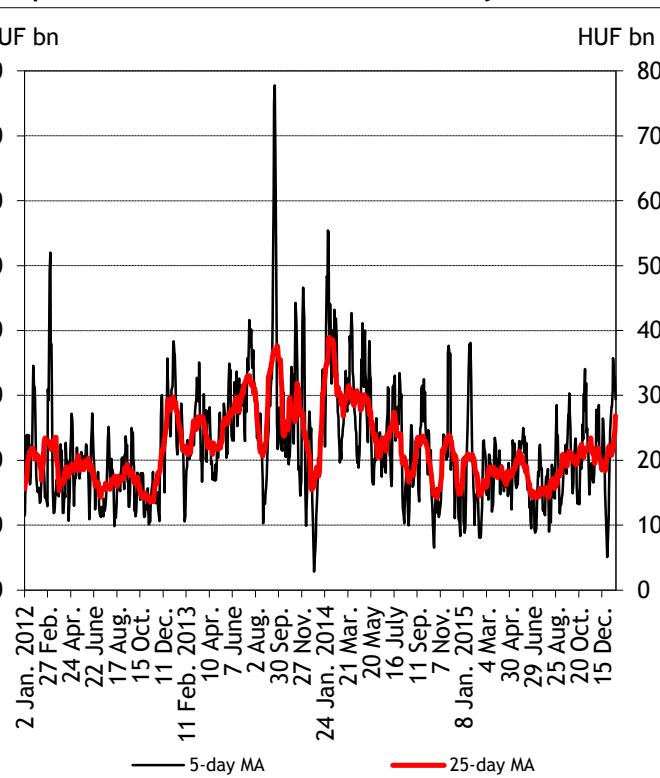
Source: MNB.

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

**28. Forward turnover on the forint currency market**

Source: MNB.

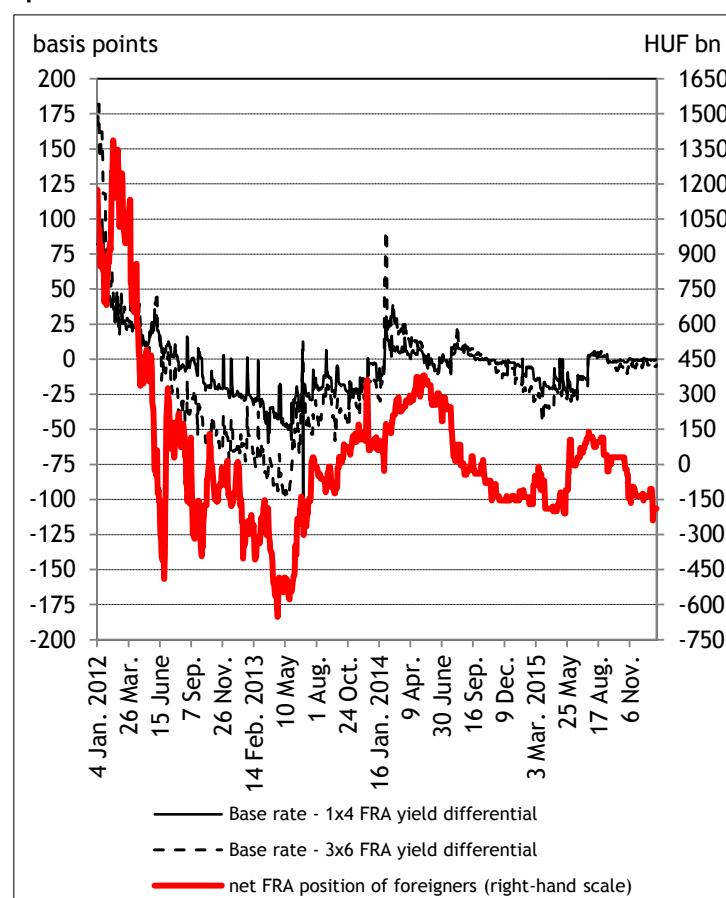
Notes: forint against foreign exchange deals by domestic banks; moving averages calculated based on deal date data.

**29. Option turnover on the forint currency market**

Source: MNB.

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

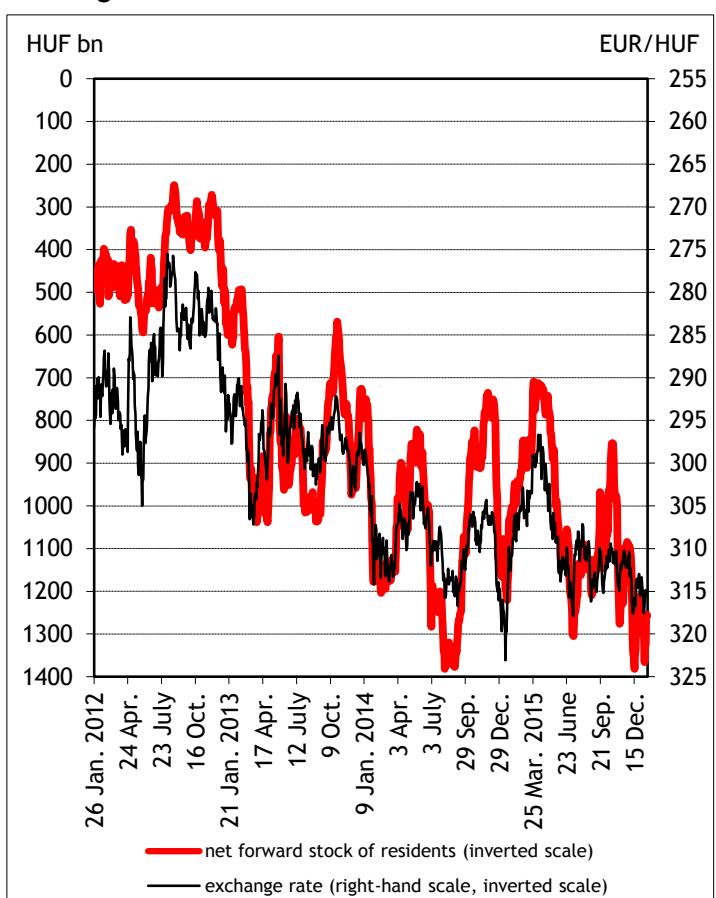
### 30. Net FRA position of non-residents and FRA-base rate spreads



Source: MNB, Thomson Reuters.

Notes: Based on FRA yield quotes provided by Tullett & Tokio Liberty on Reuters and daily reporting by domestic banks on interest rate derivatives transactions. The net FRA position aggregates non-residents' FRA-payer (long) and FRA-receiver (short) transactions (at par values). Positive values (long positions) indicate more transactions, where non-residents are paying the fixed FRA yields and receiving the floating rates; the long position has a positive pay off when market yields eventually exceed the FRA-yield.

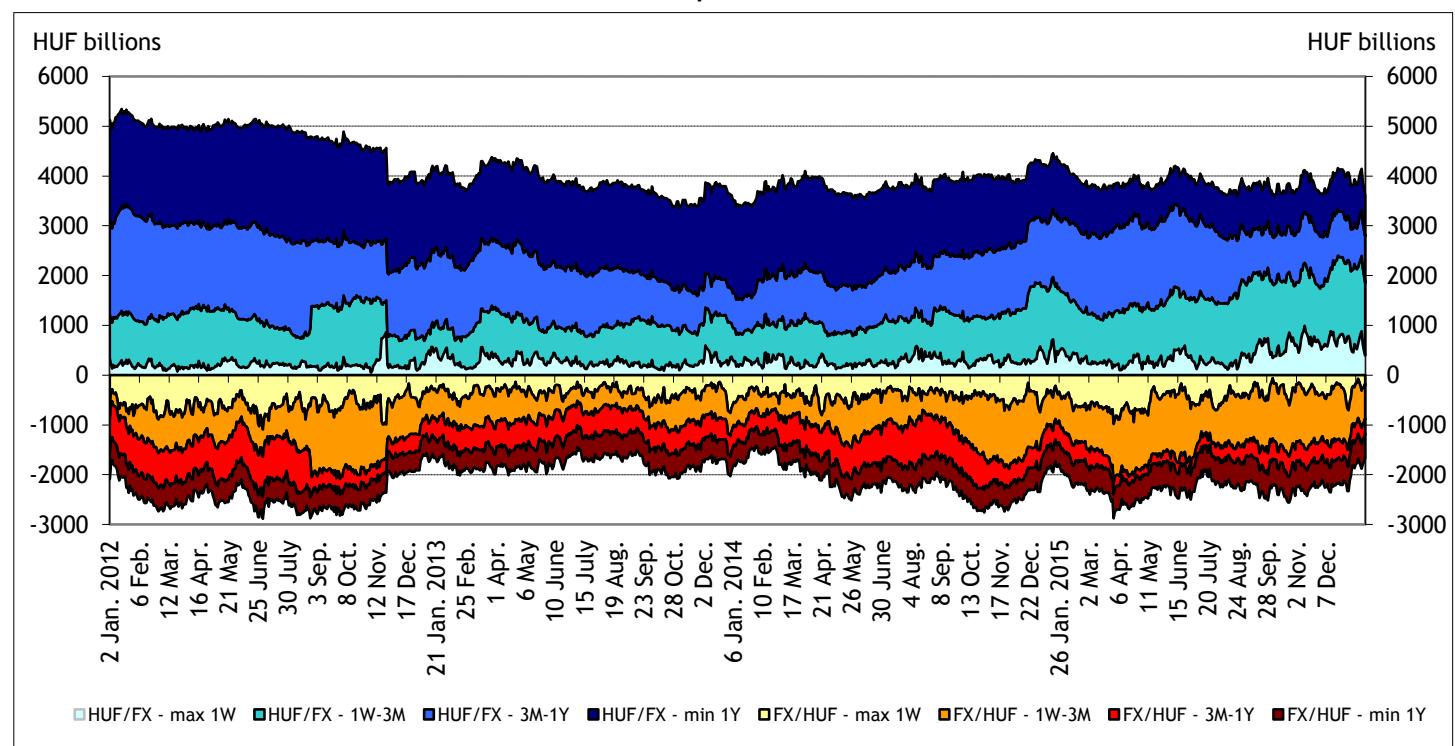
### 31. Net Forint forward stock of residents and the exchange rate



Source: MNB.

Notes: Based on the daily fx-reports of credit institutions. Due to the nature of the banks' daily report on FX transactions, the components of the statistic do not close to zero. As a result, the information contained in the data series is relevant mainly to evaluate the direction of short-term fluctuations. The MNB does not hold responsibility for the accuracy of the data. Revisions due to reporting errors and non-standard transactions might lead to significant subsequent modifications of the data series.

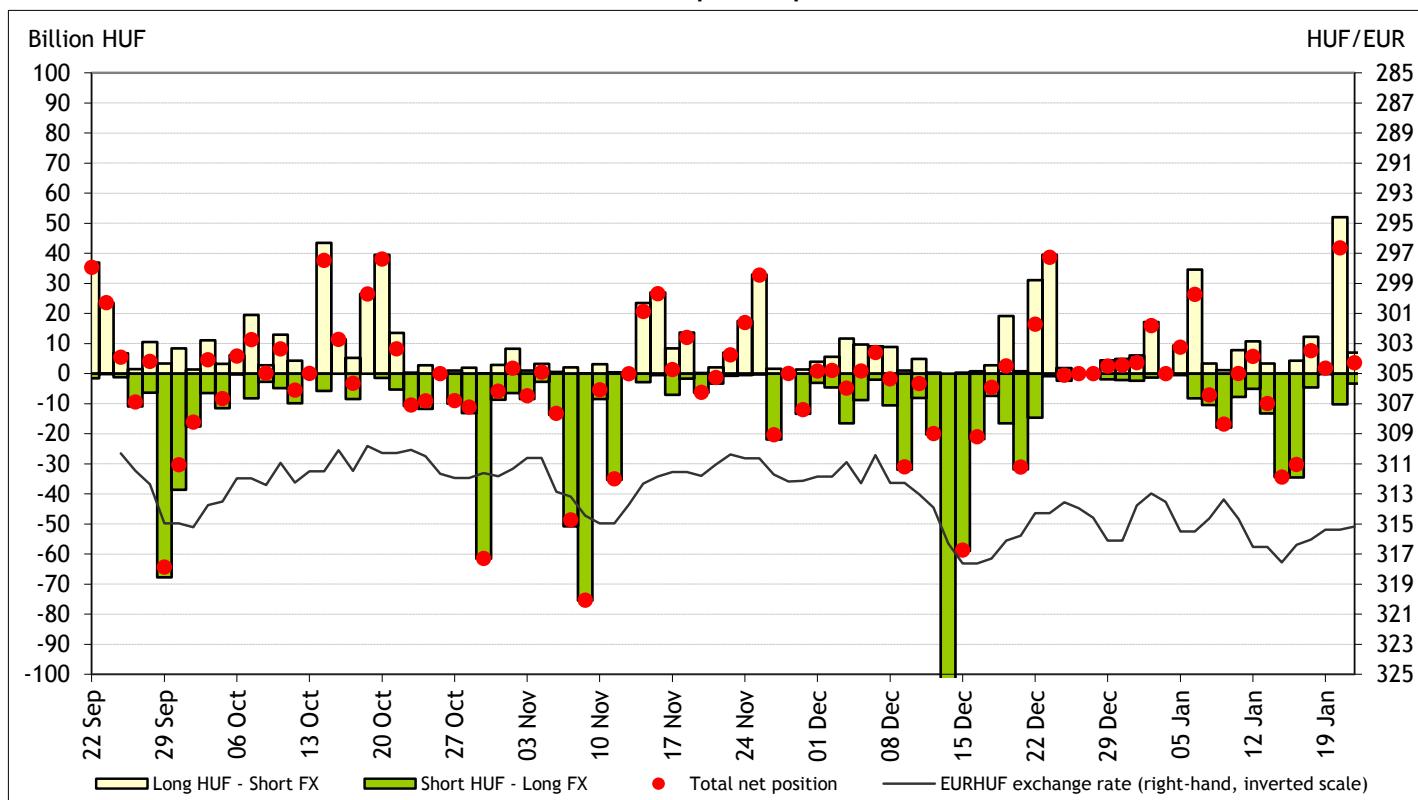
### 32. Forint FX Swap stock of non-residents



Source: MNB.

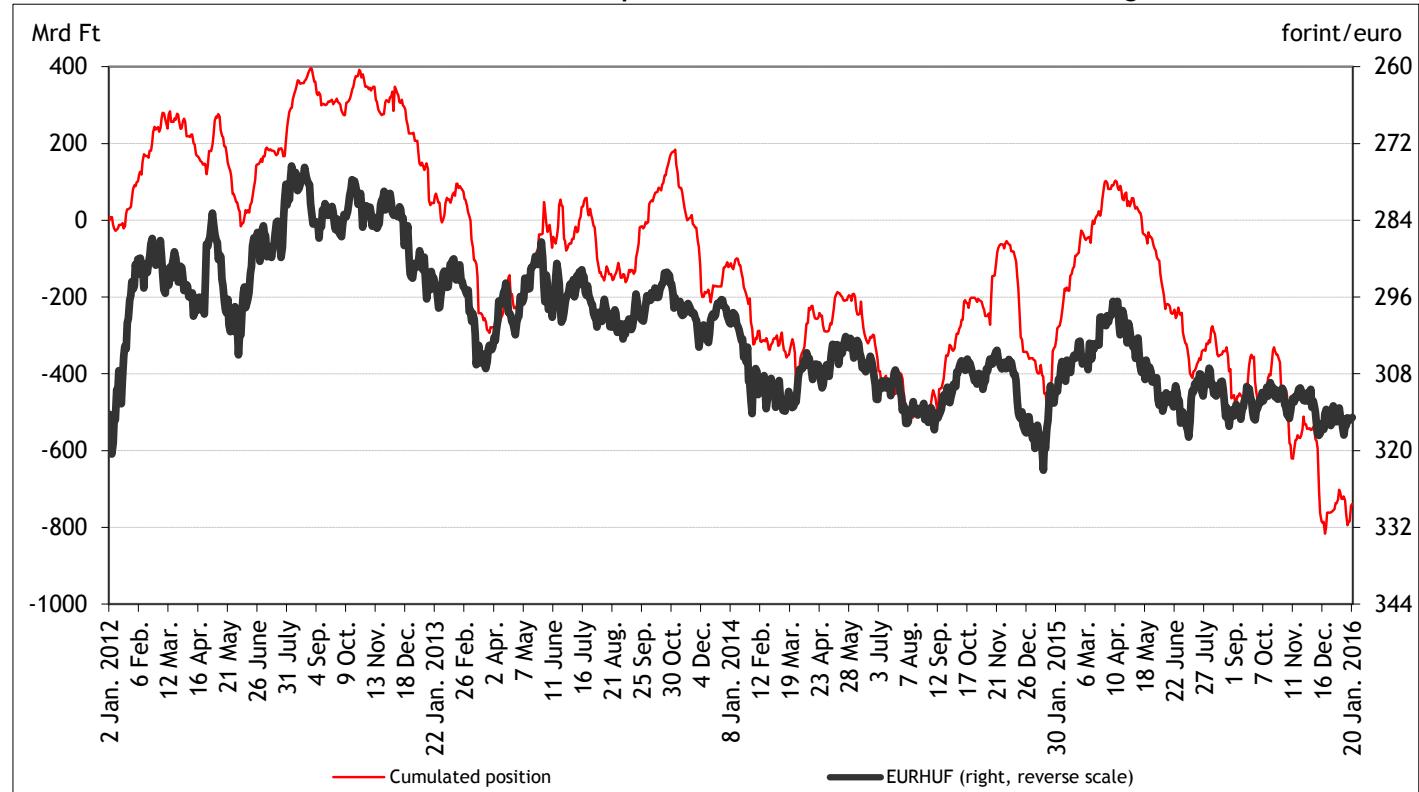
Notes: due to the nature of the banks' daily report on FX transactions, the components of the FX transactions statistic do not close to zero. As a result, the information contained in the data series on net forint purchase of non-resident investors - and its components - is relevant mainly to evaluate the direction of short-term fluctuations. An increase in the swap stock stands for swaps with a long forint spot leg. Based on the daily fx-reports of credit institutions. Calculated from swap transactions between credit institutions and non-resident investors. The MNB does not hold responsibility for the accuracy of the data. Revisions due to reporting errors and non-standard transactions might lead to significant subsequent modifications of the data series.

## 33. Non-residents' open FX-position in HUF



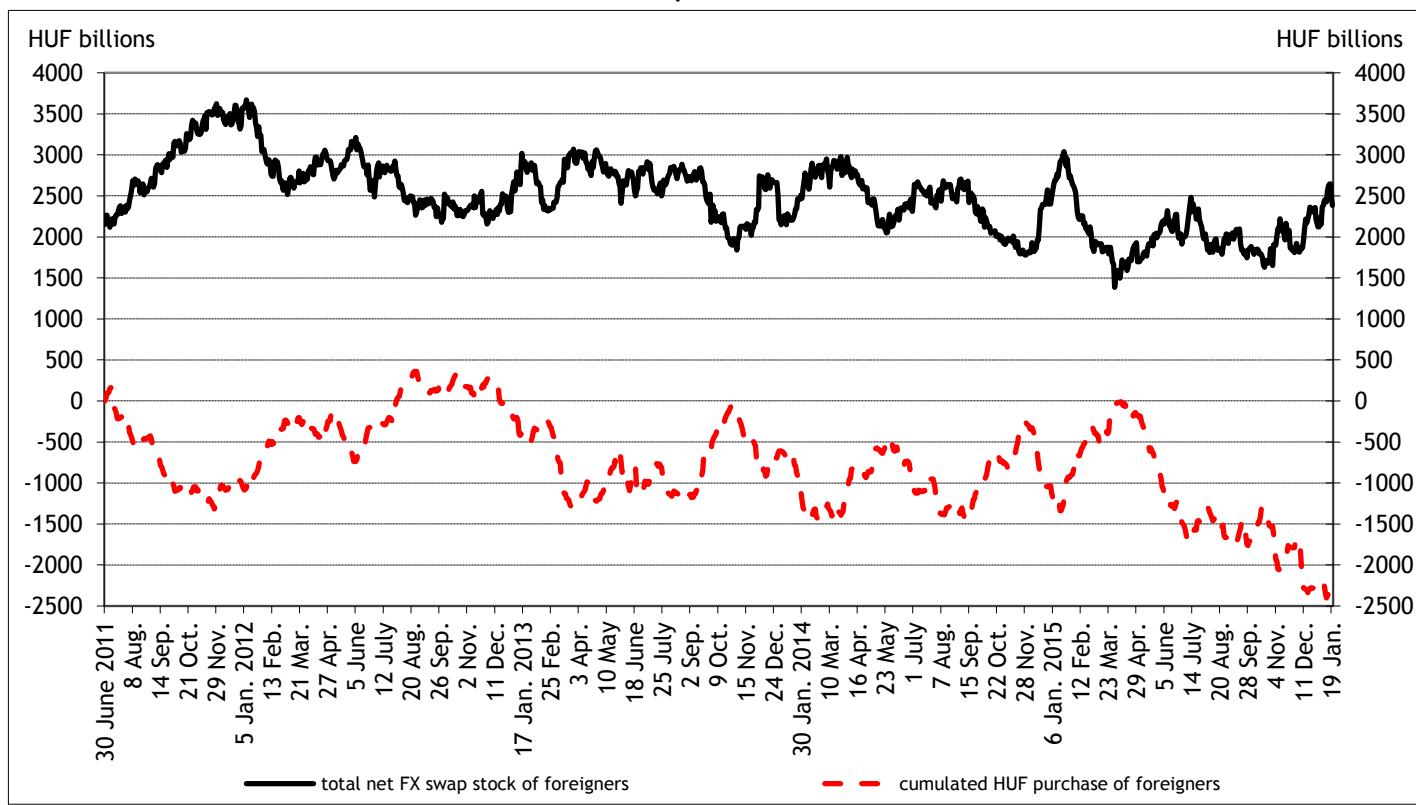
Source: MNB.

## 34. Non-residents' cumulated position in HUF and the EURHUF exchange rate



Source: MNB.

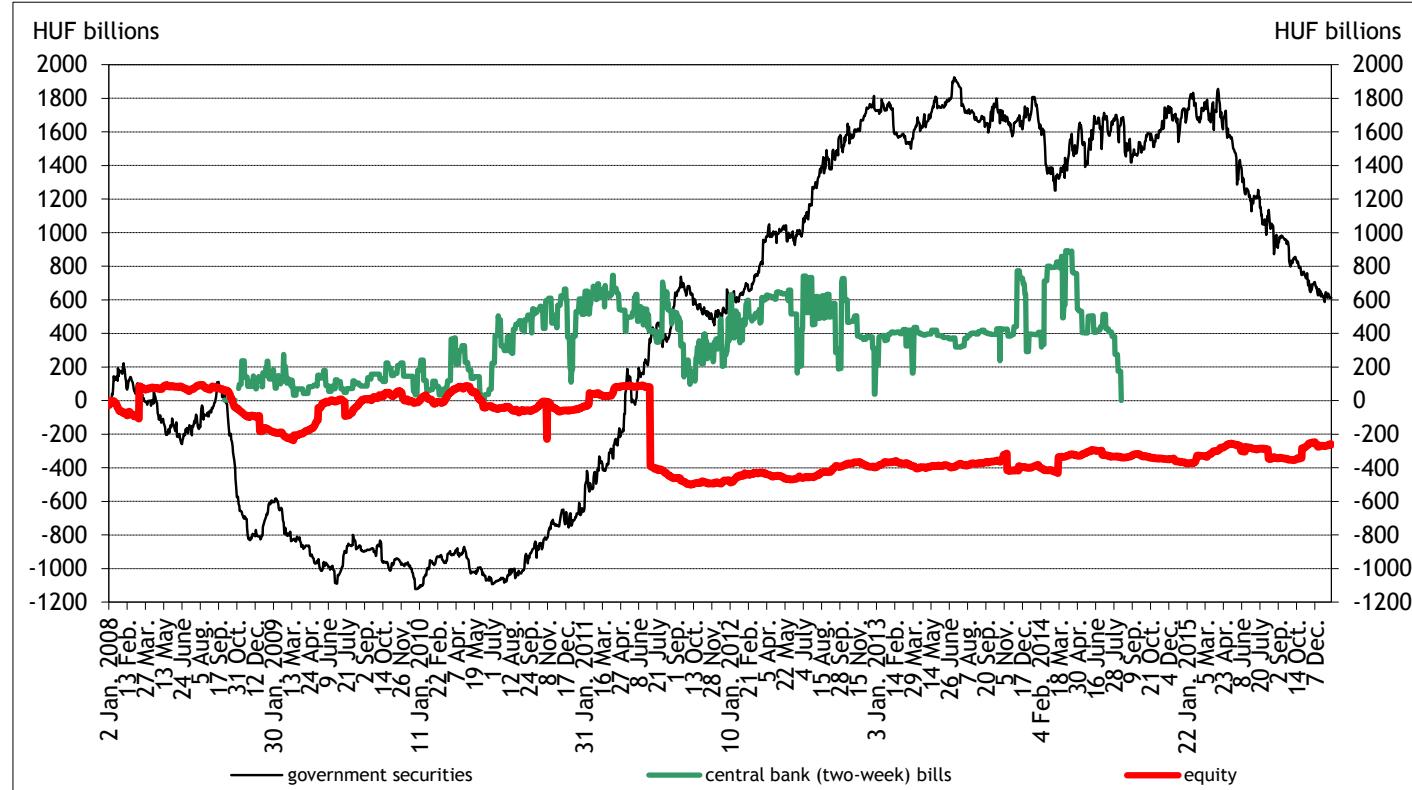
## 35. Forint FX Swap stock of non-residents



Source: MNB.

Notes: due to the nature of the banks' daily report on FX transactions, the components of the FX transactions statistic do not close to zero. As a result, the information contained in the data series on net forint purchase of non-resident investors - and its components - is relevant mainly to evaluate the direction of short-term fluctuations. An increase in the swap stock stands for swaps with a long forint spot leg. Based on the daily fx-reports of credit institutions. Calculated from swap transactions between credit institutions and non-resident investors. The MNB does not hold responsibility for the accuracy of the data. Revisions due to reporting errors and non-standard transactions might lead to significant subsequent modifications of the data series.

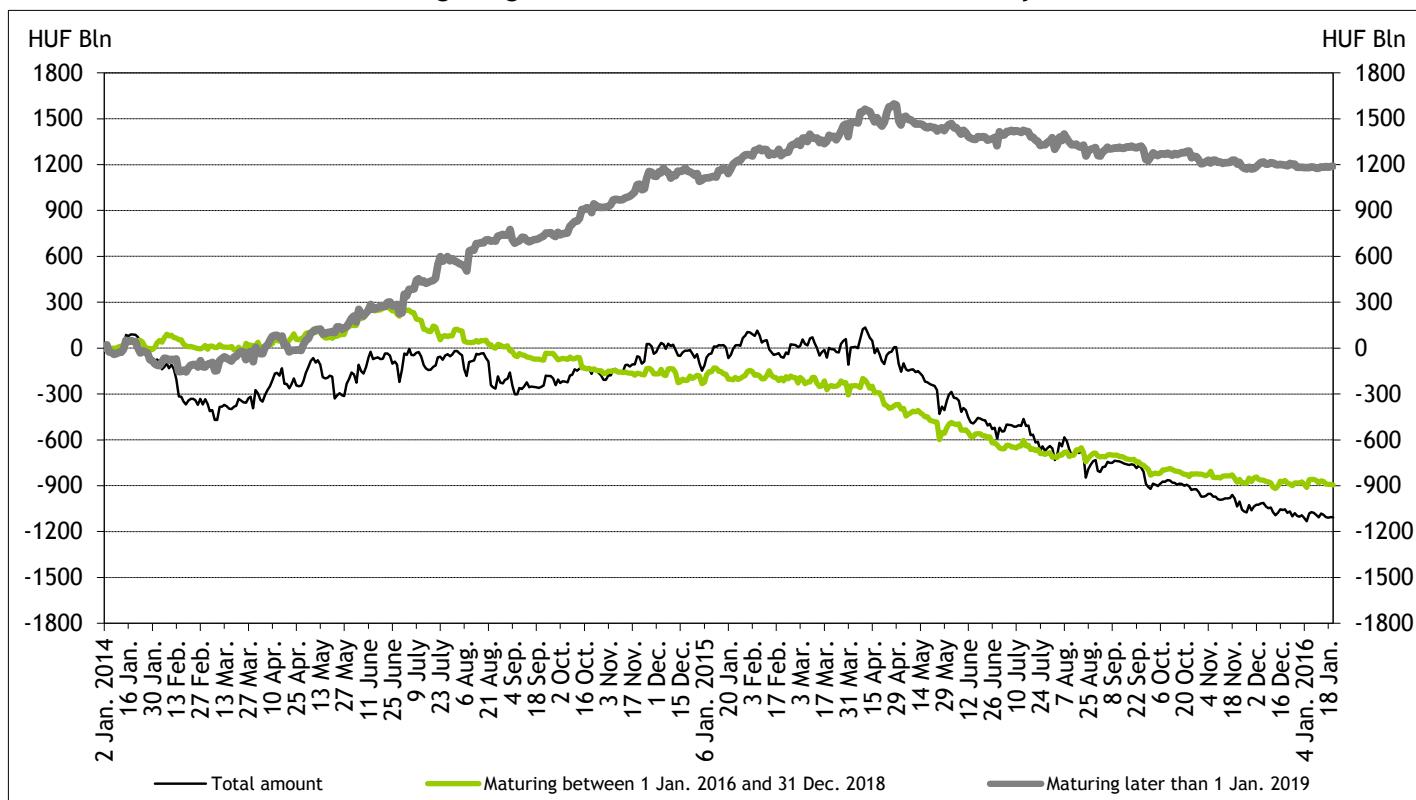
## 36. Forint financial assets held by non-residents



Source: MNB, KELER.

Notes: 2 January 2008 = 0; cumulative change. Equity data are not comprehensive, it contains data for large- and mid-cap stocks quoted on the Budapest Stock Exchange.

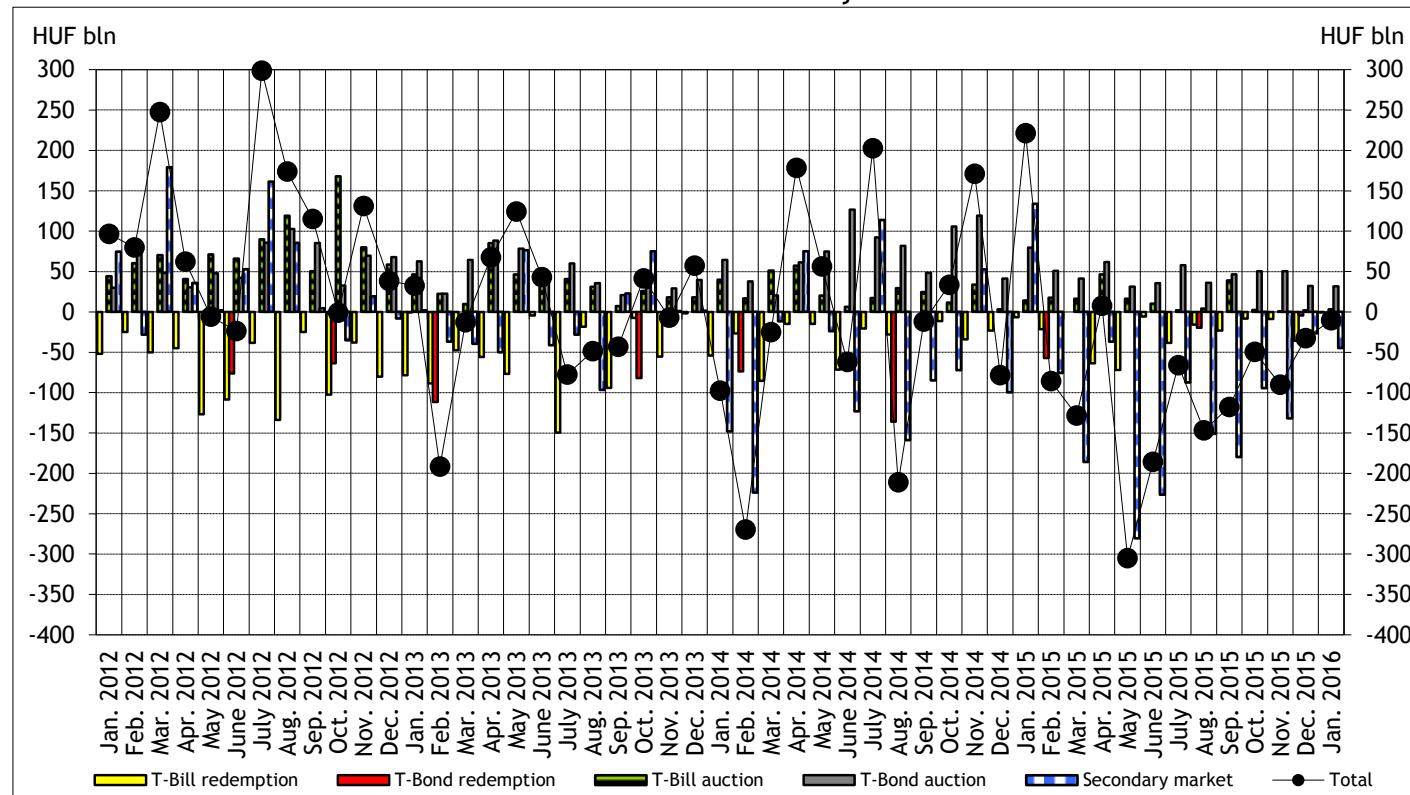
### 37. Change in government securities of non-residents by tenor



Source: MNB.

Notes: 2 January 2014 = 0; cumulative change without central bank bills.

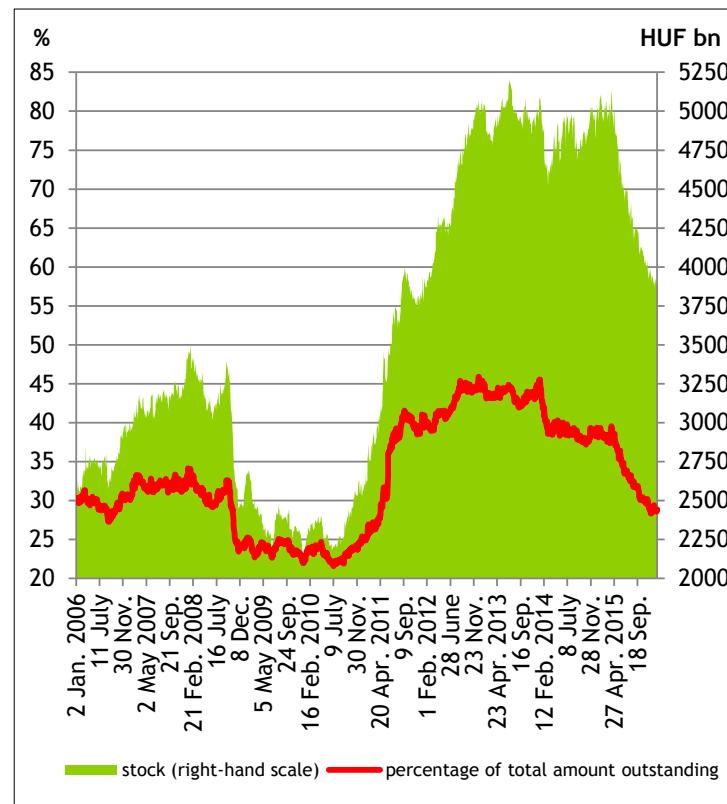
### 38. Government securities held by non-residents



Source: MNB.

Notes: monthly change. The last month contains information on available data.

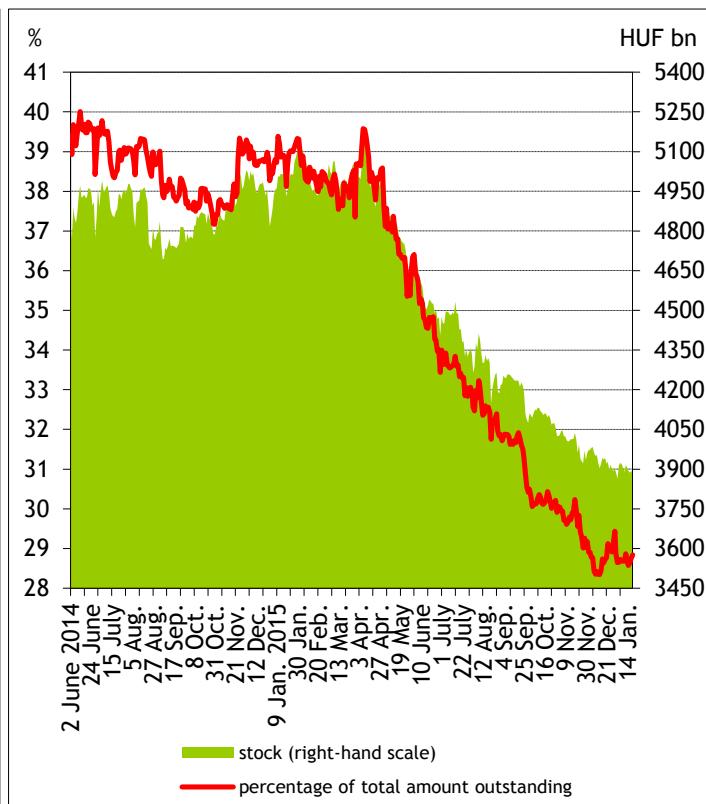
**39. Government securities held by non-residents and the proportion to the total amount outstanding**



Source: MNB.

Notes: MNB calculations excluding central bank bills.

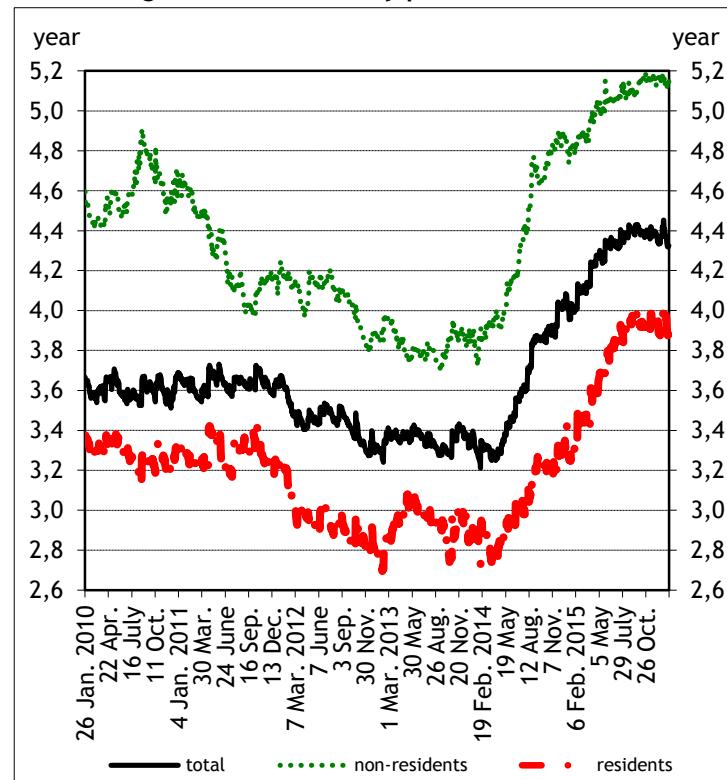
**40. Government securities held by non-residents and the proportion to the total amount outstanding**



Source: MNB.

Notes: MNB calculations excluding central bank bills.

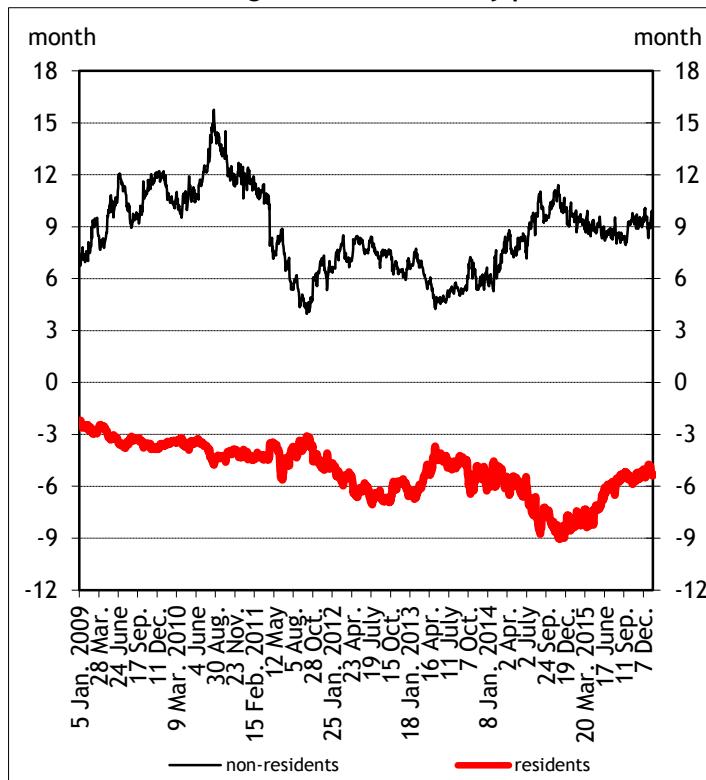
**41. The average time to maturity of residents' and non-residents' government security portfolio**



Source: MNB.

Notes: MNB calculations including T-Bonds and T-Bills and excluding central bank (two-week) bills.

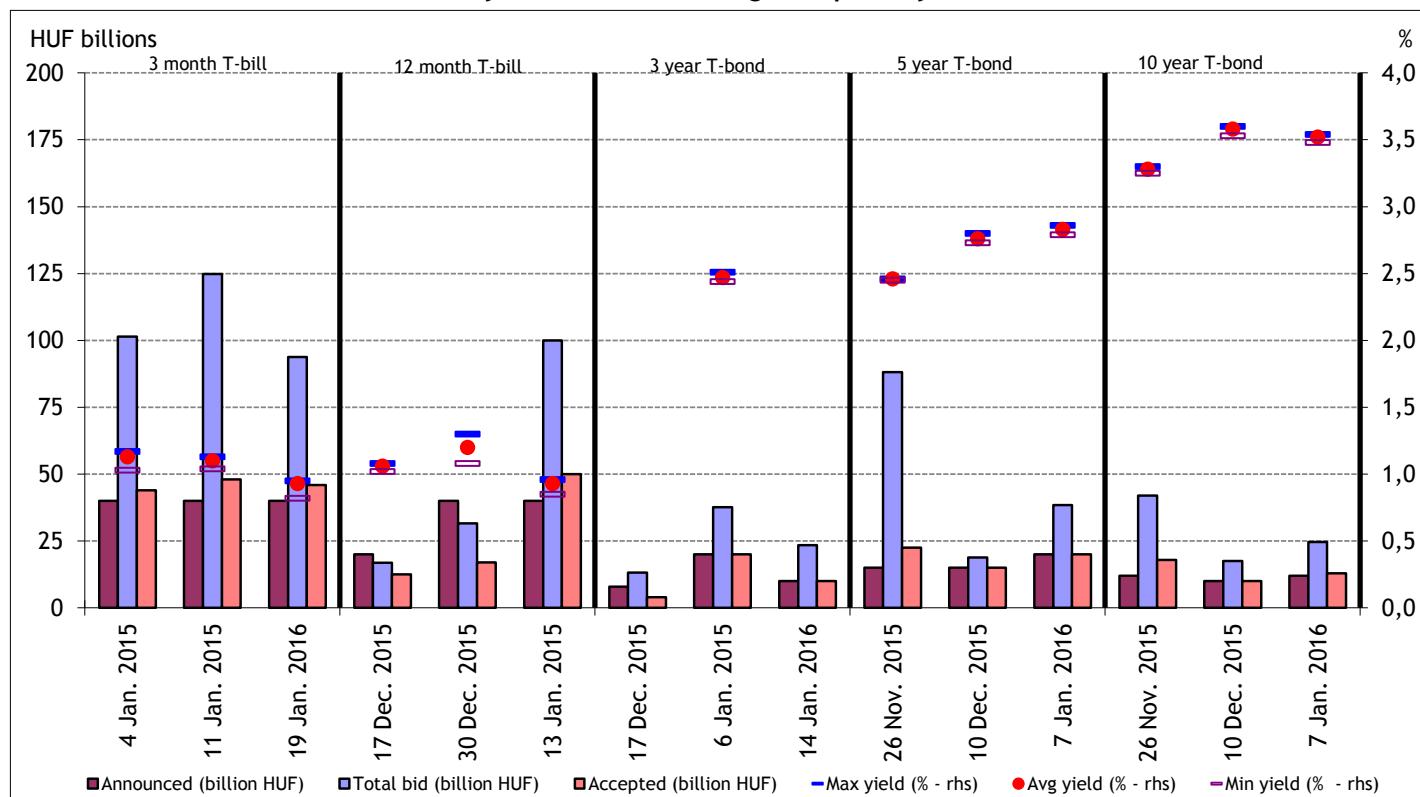
**42. The relative average time to maturity of residents' and non-residents' government security portfolio**



Source: MNB.

Notes: MNB calculations; including T-Bonds and T-Bills, and excluding central bank (two week) bills.

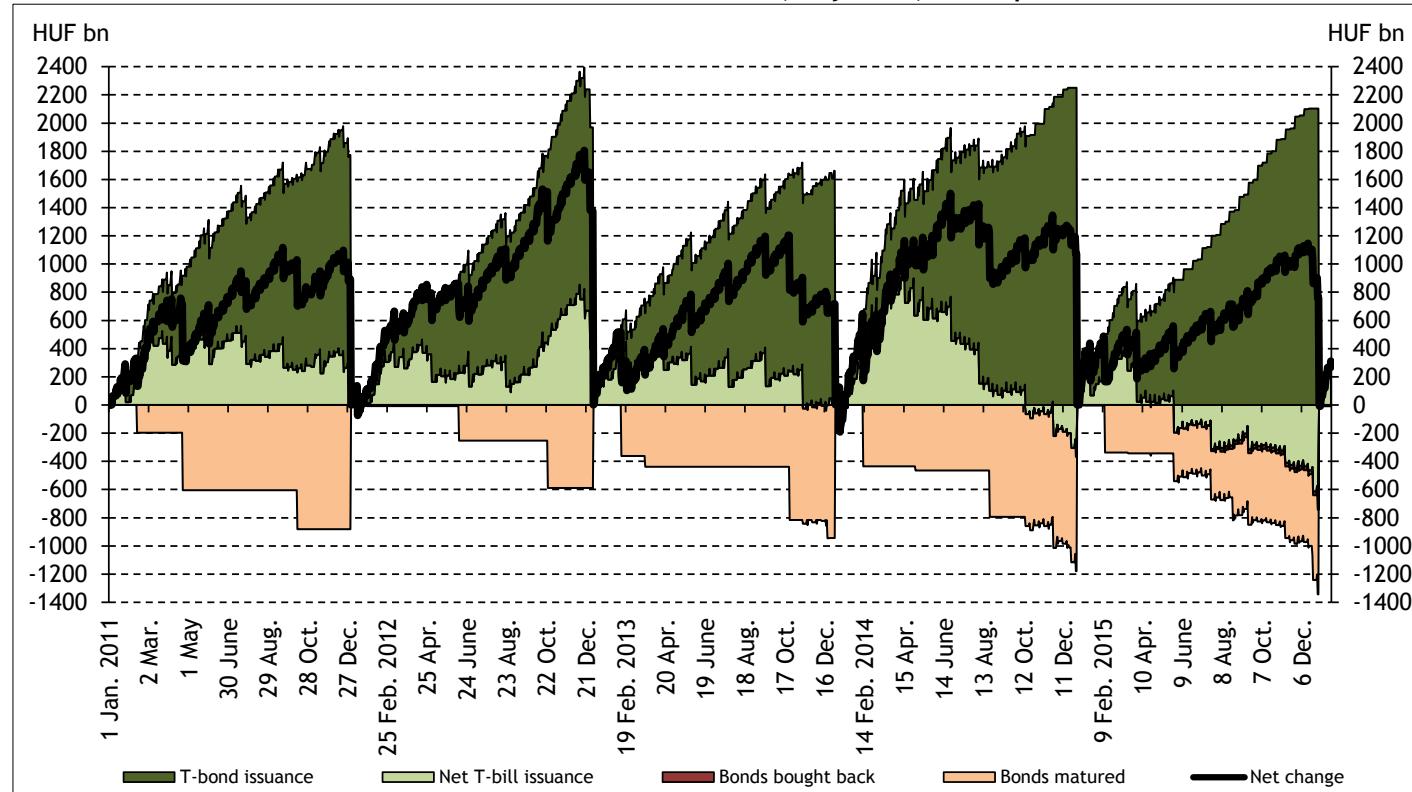
### 43. The turnover and yield data of the Hungarian primary t-bill and t-bond issues



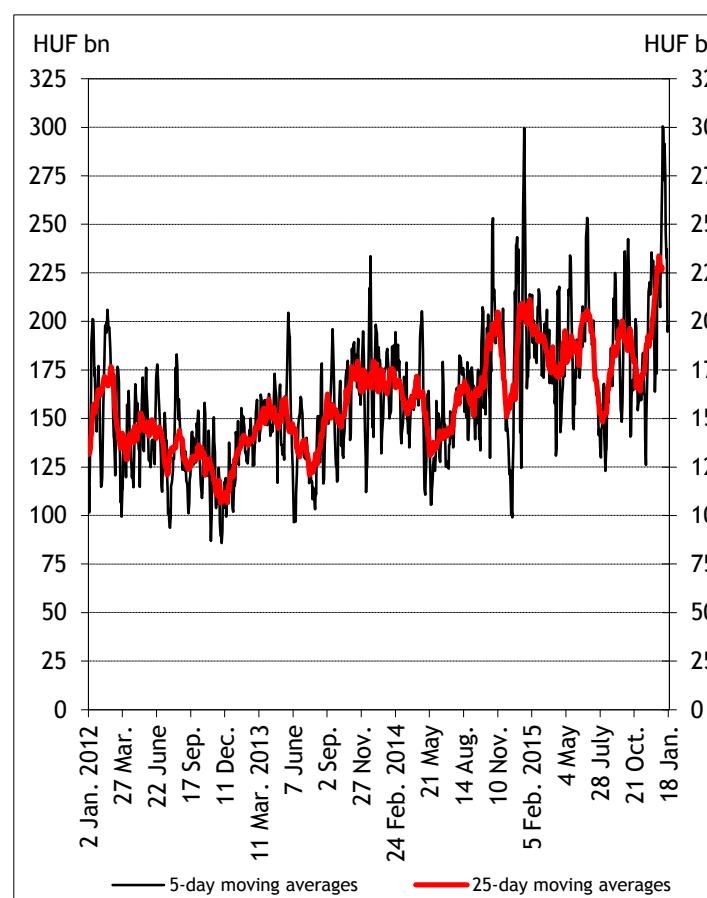
Source: ÁKK.

Notes: the turnover and yield data of the Hungarian primary t-bill and t-bond issues. In case of floating rate bonds the yield data are not be plotted.

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

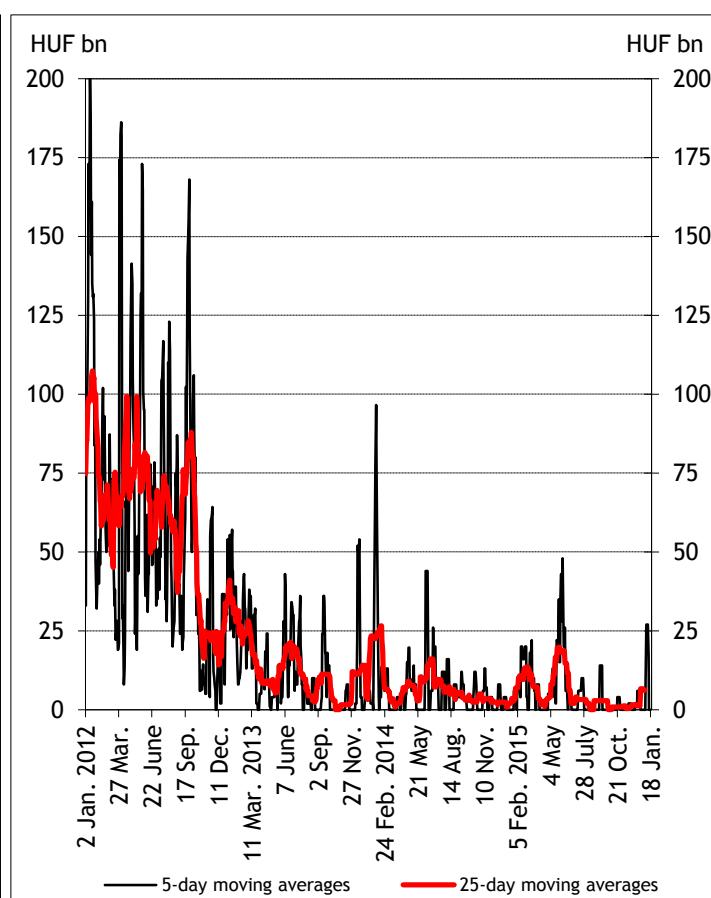


Source: ÁKK.

**45. Turnover on the forint unsecured interbank market**

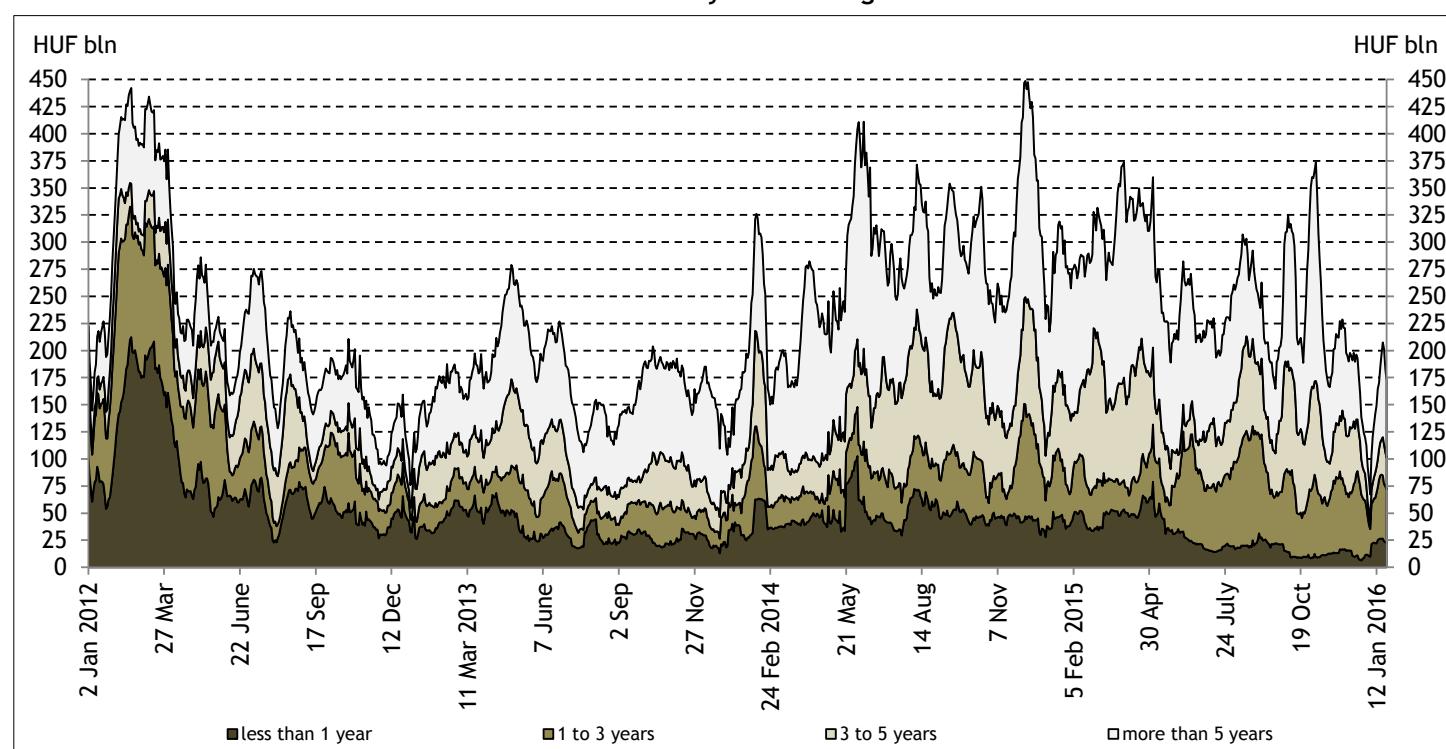
Source: MNB.

Notes: deal dates, based on reporting by domestic banks; central moving averages.

**46. Turnover on the forint FRA market**

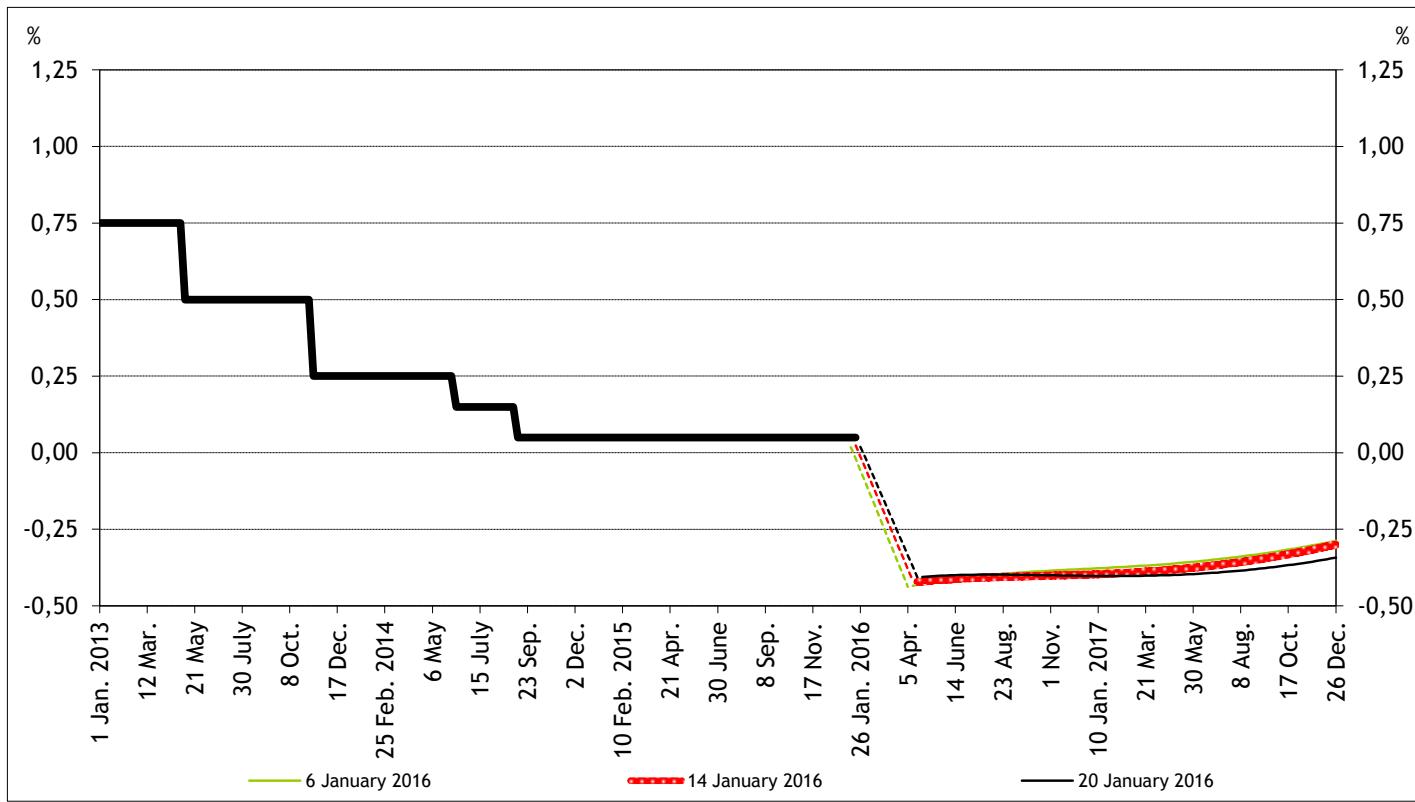
Source: MNB.

Notes: deal dates, based on reporting by domestic banks; central moving averages.

**47. Turnover on the secondary market of government securities**

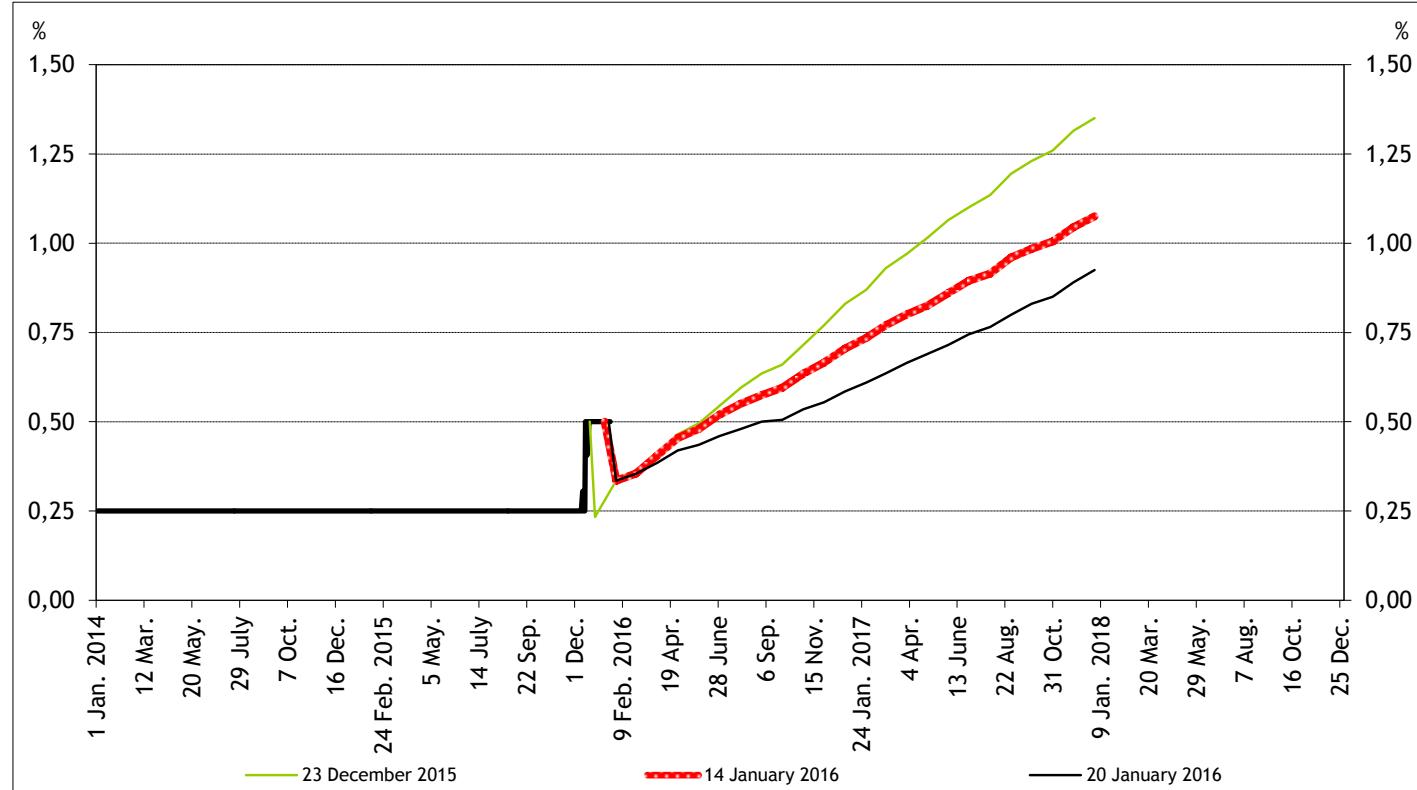
Source: KELER

Notes: 10-day moving averages.

**48. ECB policy rate expectations**

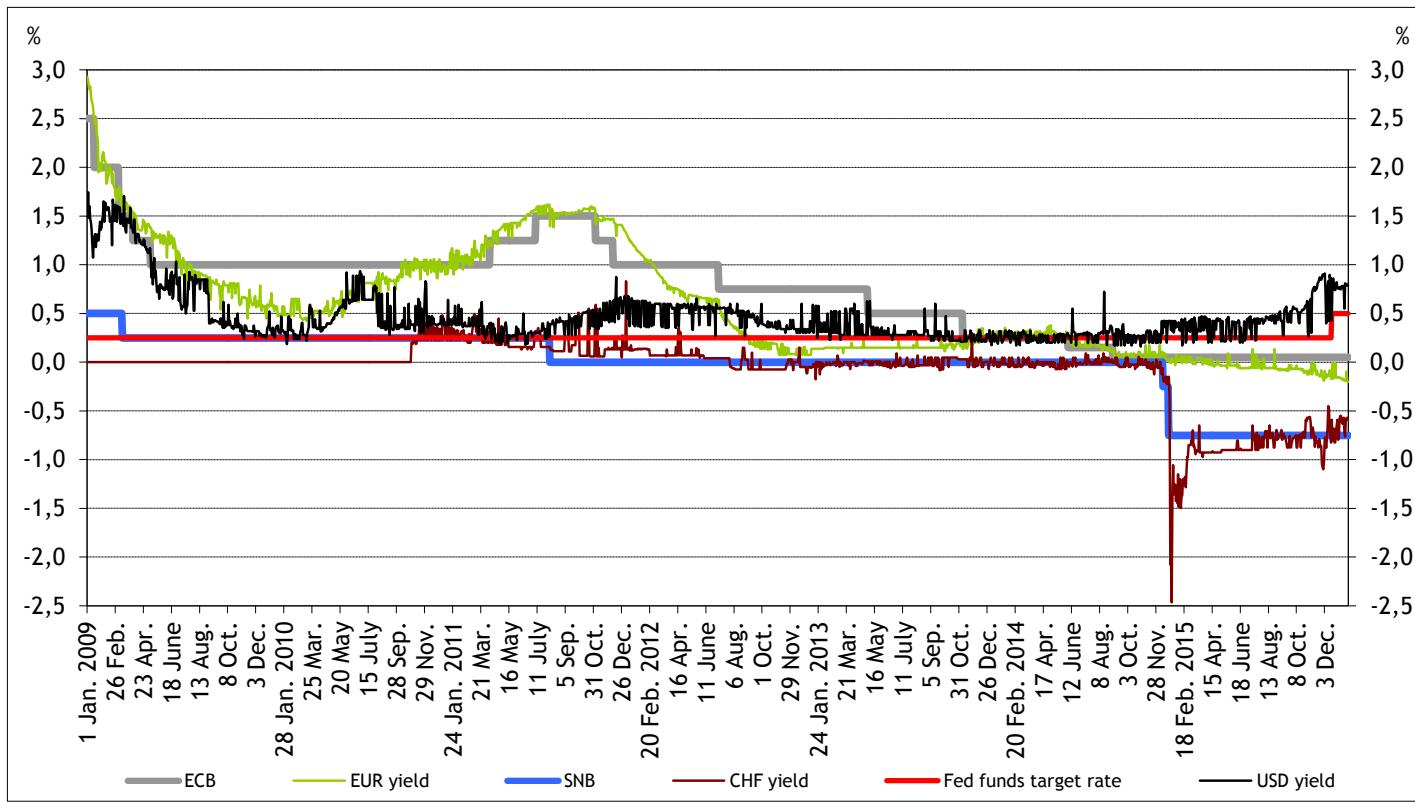
Source: ECB.

Notes: estimated by the ECB using the Svensson-technique, based on AAA-rated euro area central government bonds.

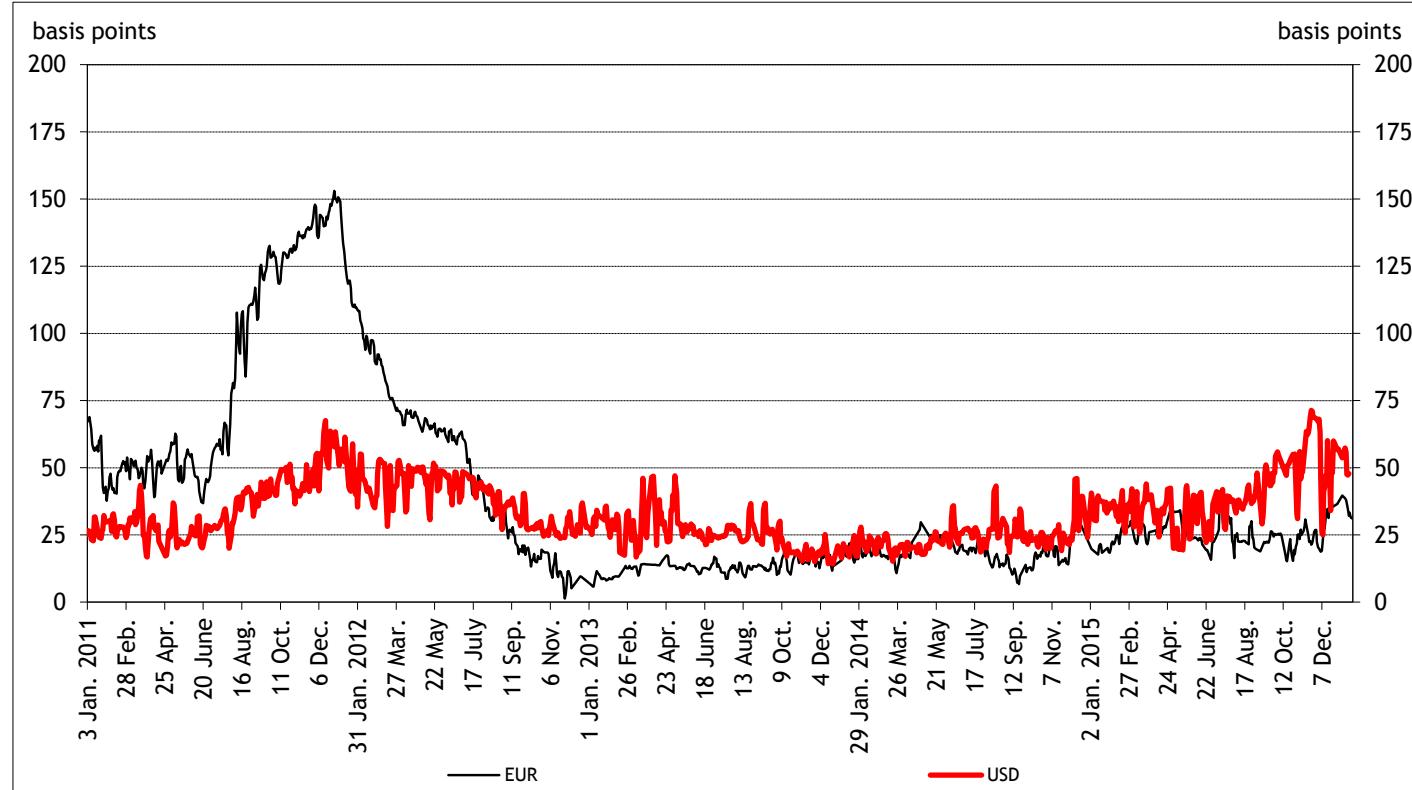
**49. Fed policy rate expectations**

Source: Thomson Reuters.

Notes: derived from Fed funds futures contracts.

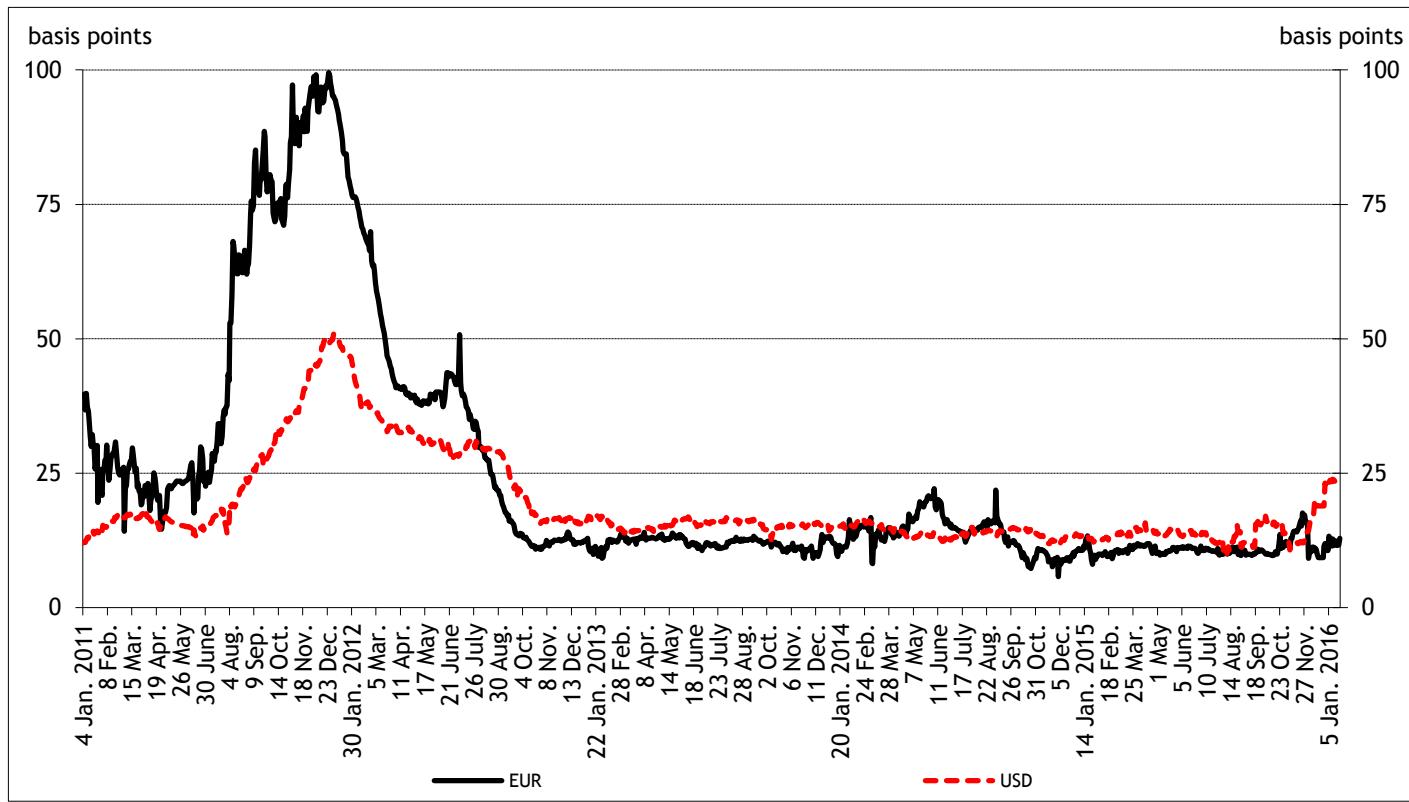
**50. Policy rates of the ECB, Fed, Swiss National Bank and the 3-month money market interest rates**

Source: Thomson Reuters.

**51. 3 month interbank and treasury yield spreads**

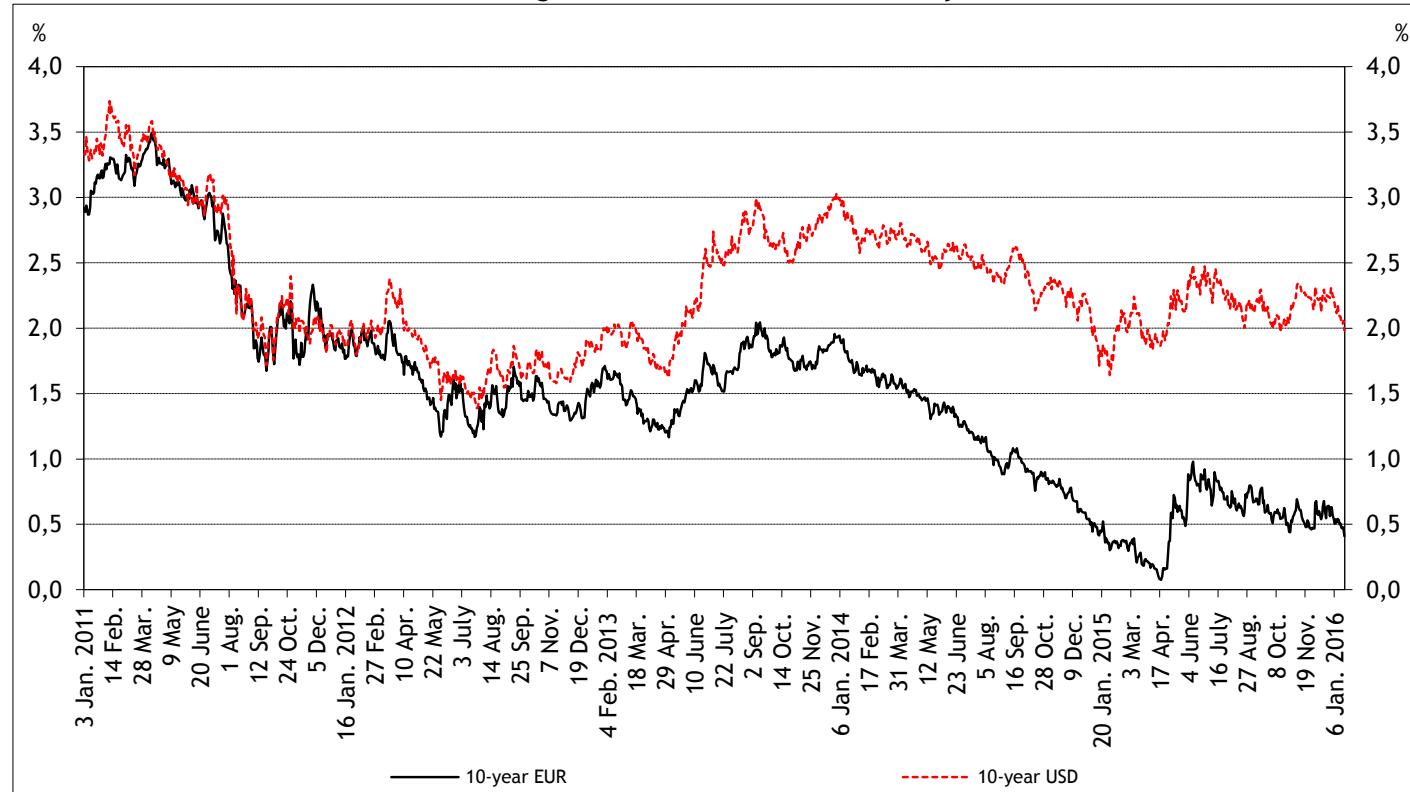
Source: Thomson Reuters.

## 52. 3 month LIBOR - OIS spreads



Source: Thomson Reuters.

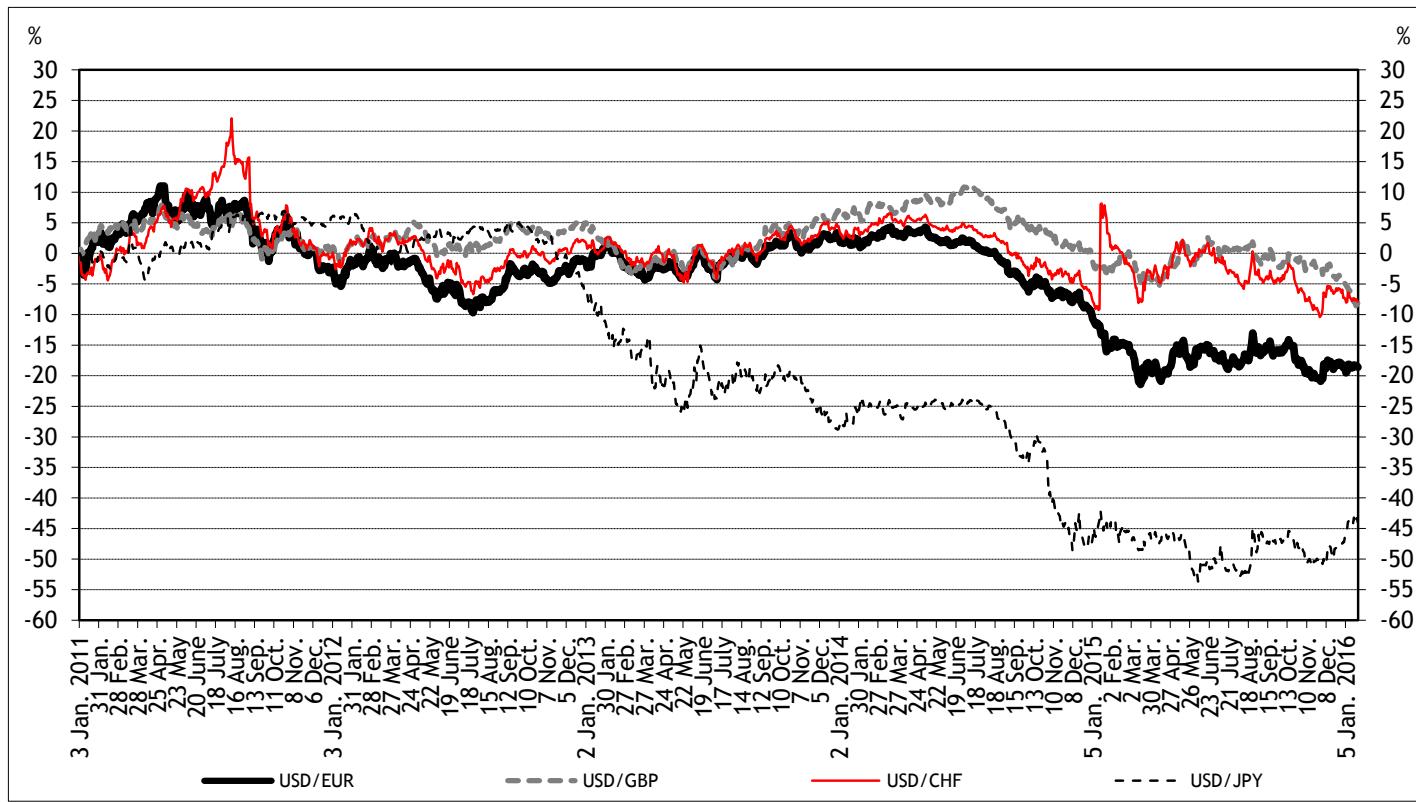
## 53. Long-term EUR and USD benchmark yields



Source: Thomson Reuters.

Notes: based on benchmark yield data provided by Thomson Reuters.

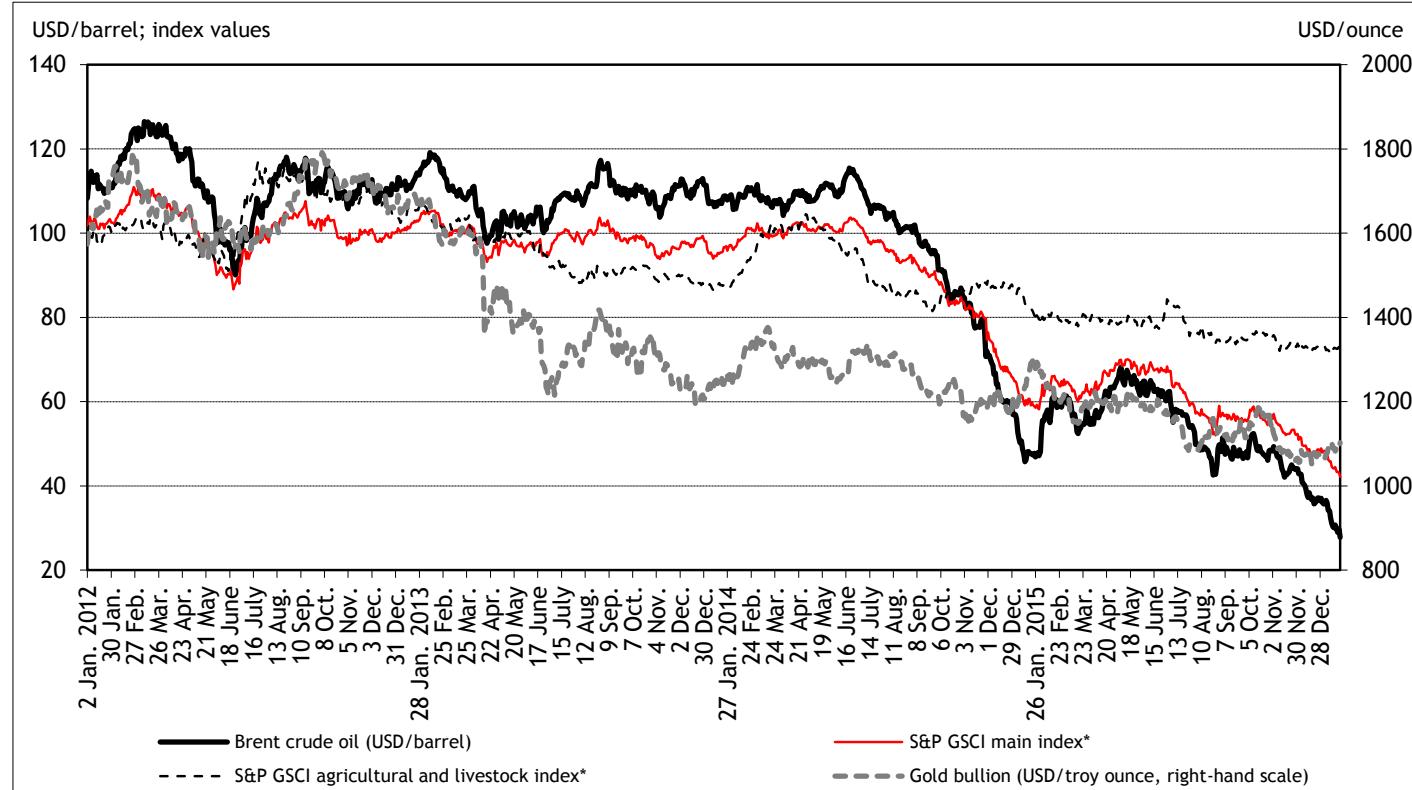
#### 54. Major currencies versus the dollar



Source: Thomson Reuters.

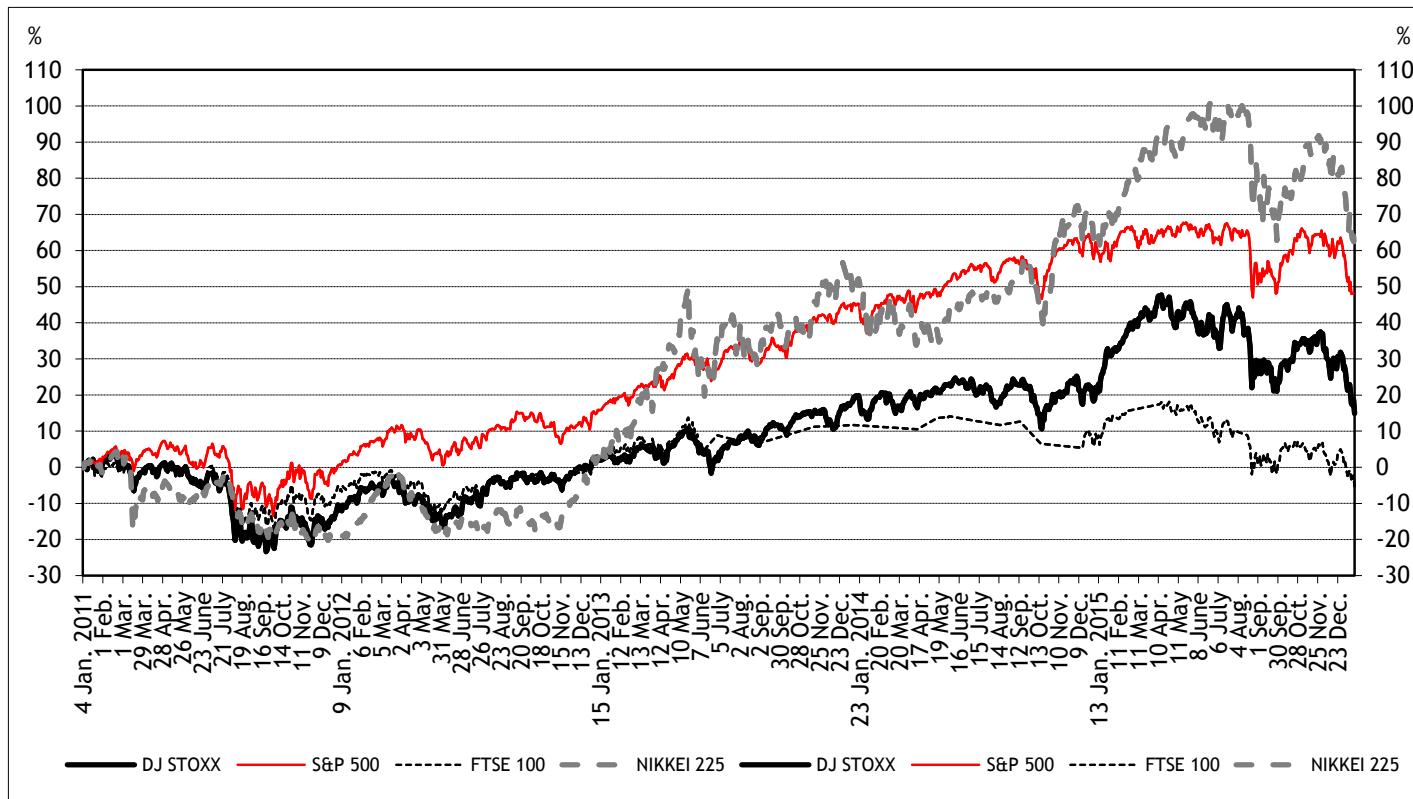
Notes: 3 January 2011 = 0; cumulative change. Positive values indicate USD depreciation.

#### 55. Commodity benchmarks



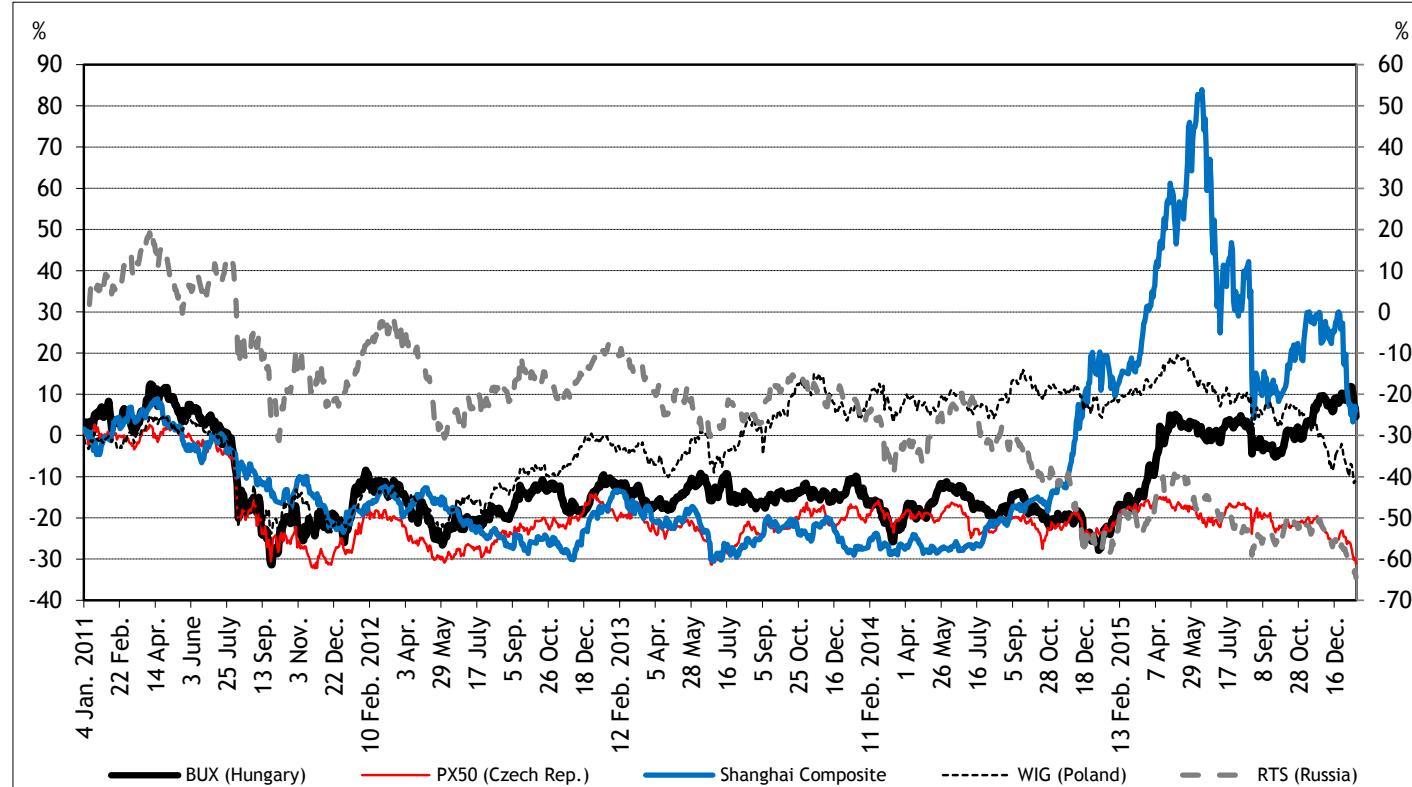
Source: Thomson Reuters.

Notes: Brent crude oil and gold bullion: nominal values, \*Standard&Poor's Goldman Sachs Commodity index: 2 January 2012=100.

**56. Developed market stock indices**

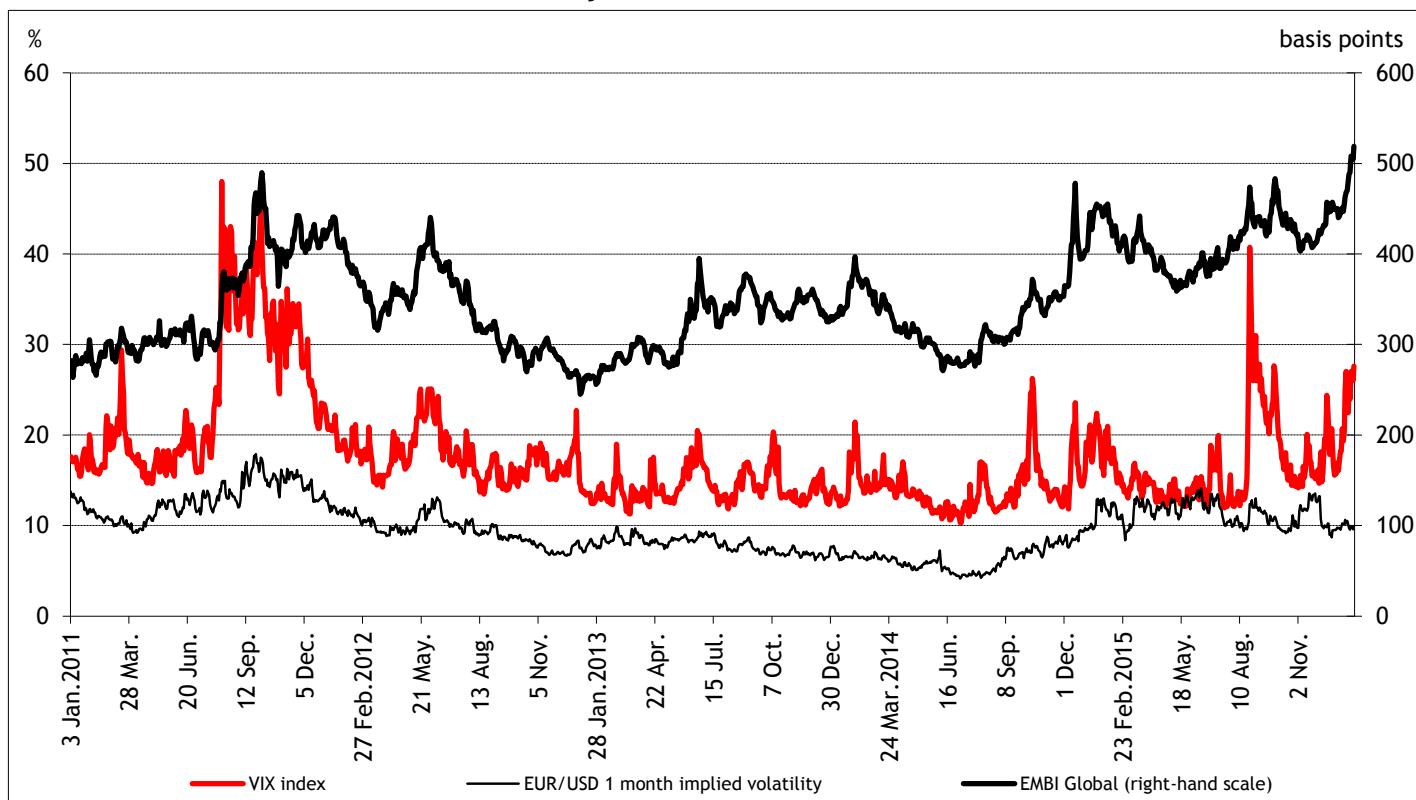
Source: Thomson Reuters.

Notes: 4 January 2011 = 0; cumulative change.

**57. Emerging market stock indices**

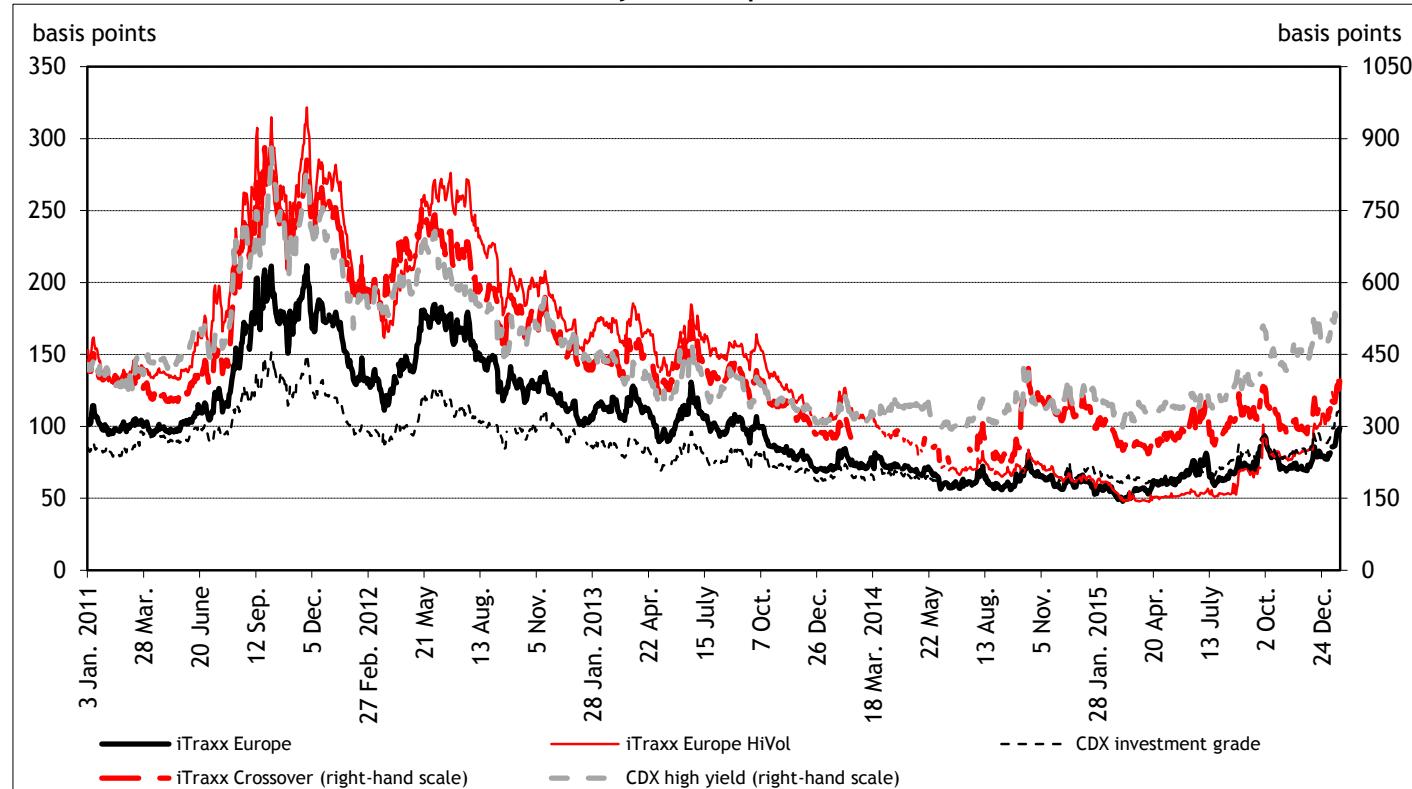
Source: Thomson Reuters.

Notes: 4 January 2011 = 0; cumulative change.

**58. Major risk aversion indicators**

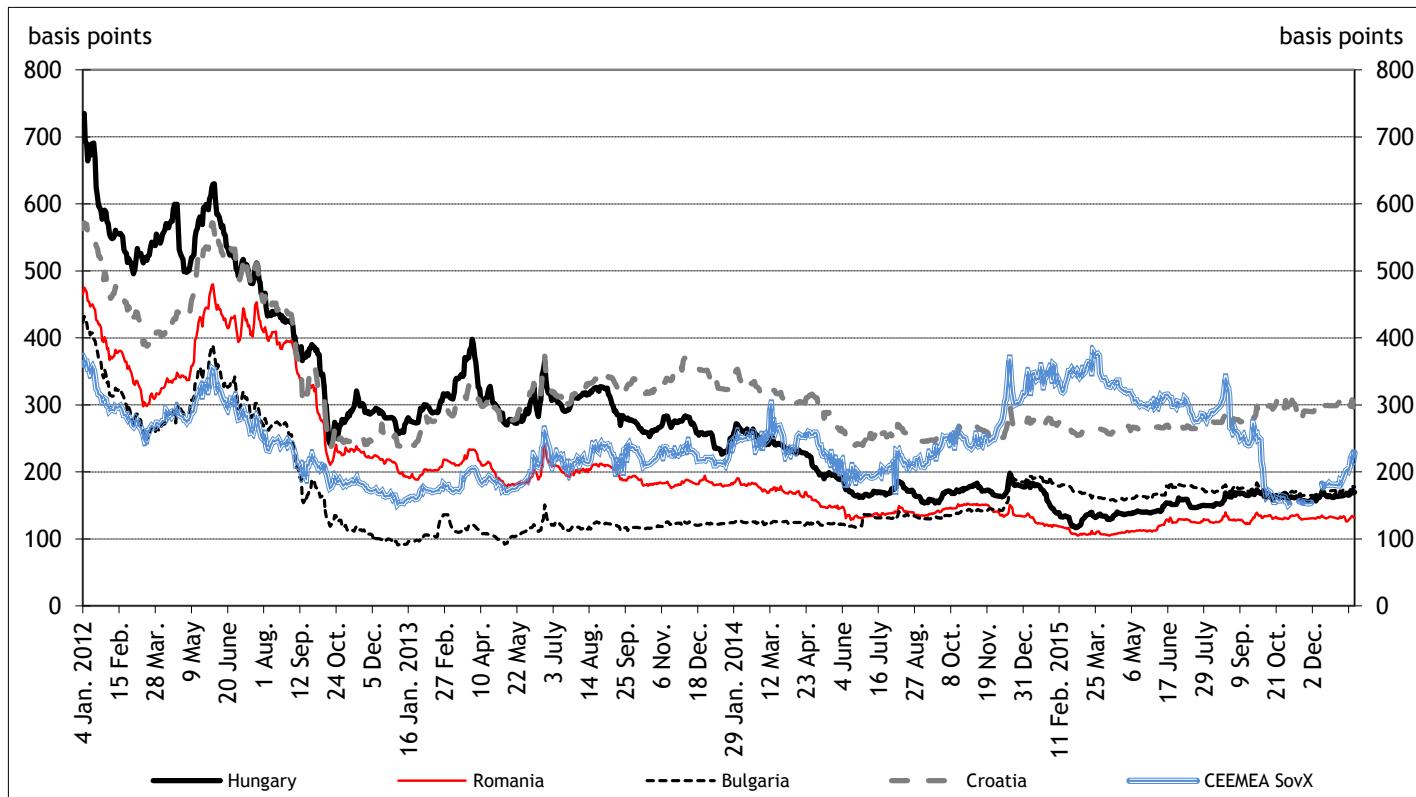
Source: Thomson Reuters; JP Morgan.

Notes: increases indicate declining risk appetite or increasing risk aversion. VIX is the implied volatility of S&P500 index.

**59. Key CDS composite indices**

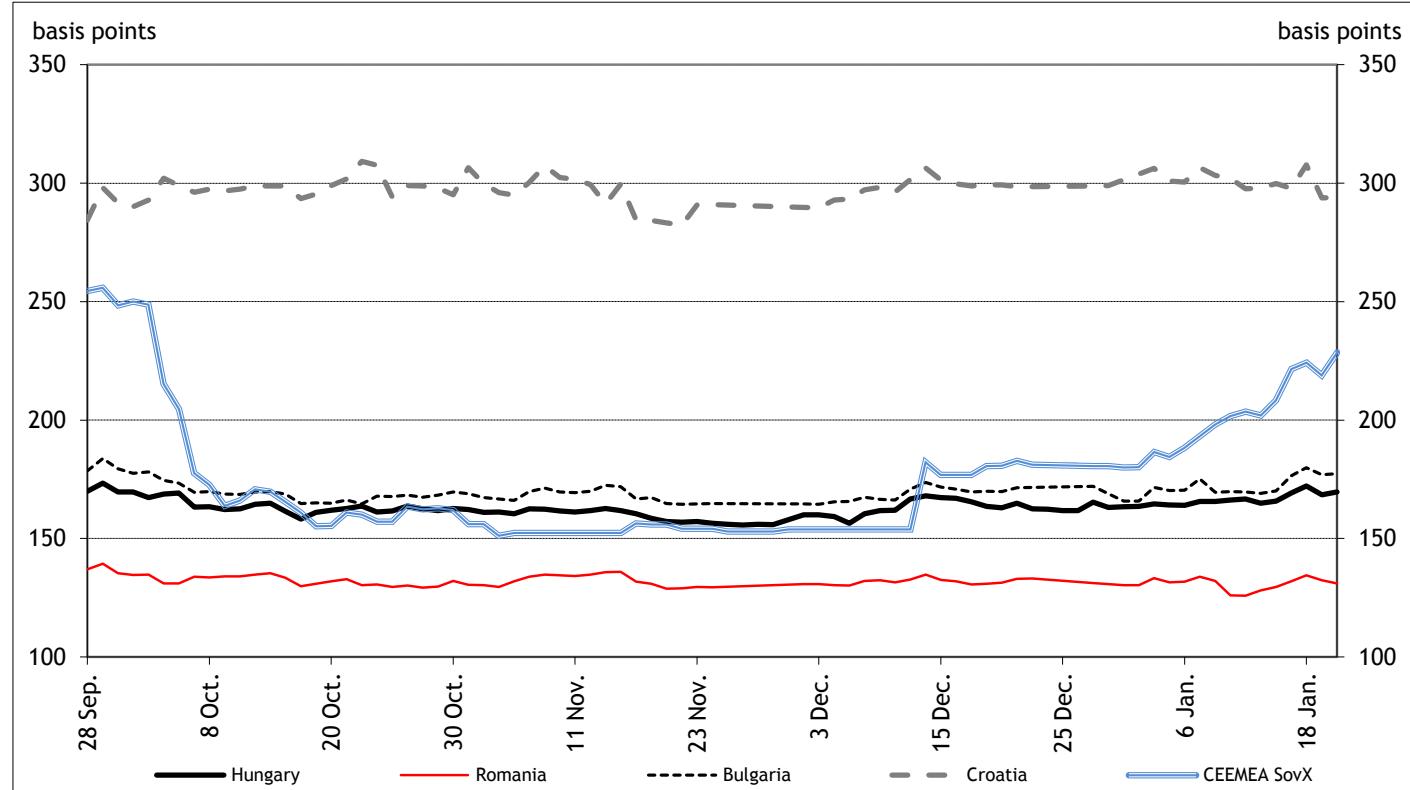
Source: Thomson Reuters.

Notes: iTraxx Europe index is composed of the most liquid 125 CDS referencing European investment grade names. iTraxx HiVol is a subset of the main index consisting of the 30 most risky constituents. Crossover index comprises the 45 most liquid sub-investment grade entities. CDX North American Investment Grade index consists of 125 names, CDX North American High Yield index comprises 100 names.

**60. 5 year sovereign CDS spreads in emerging markets**

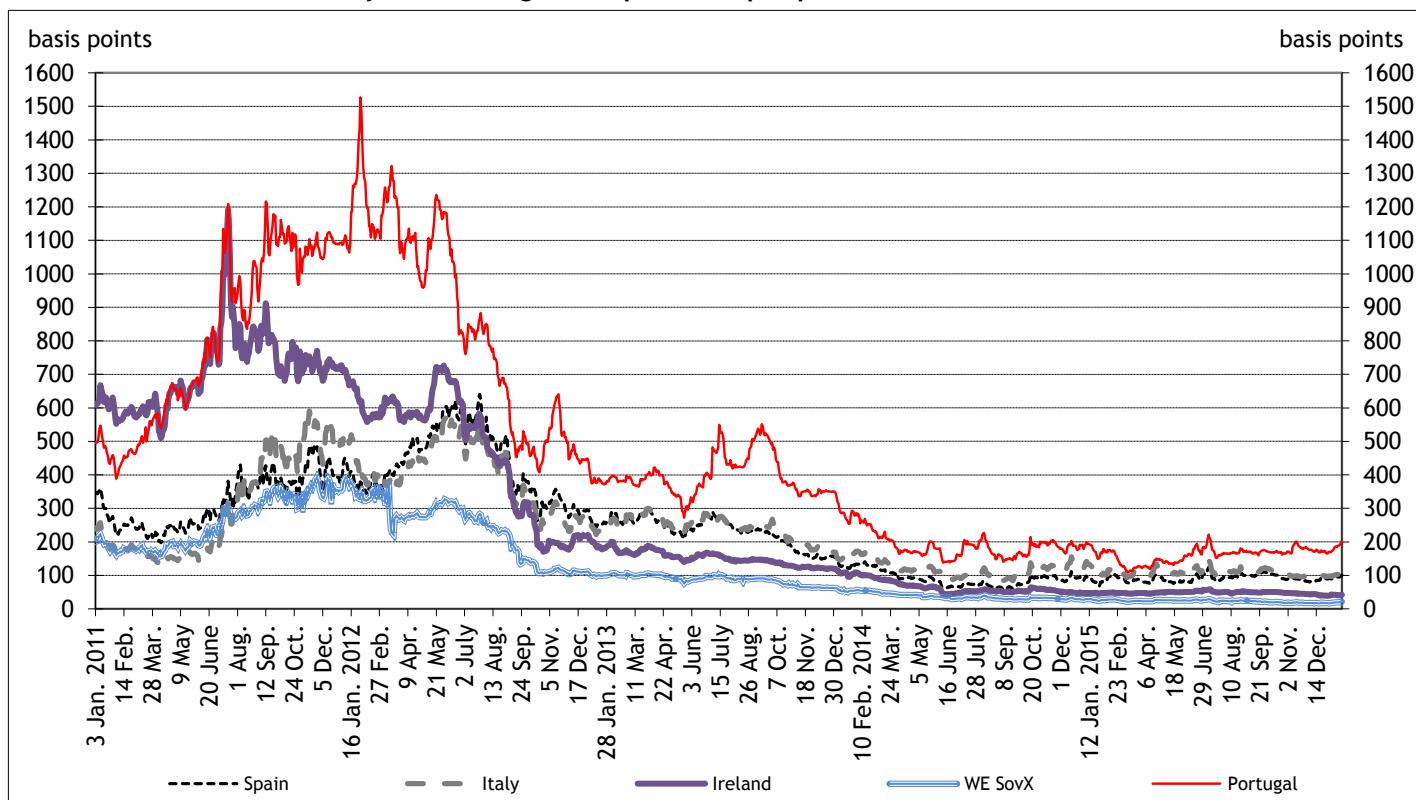
Source: Thomson Reuters, Bloomberg.

Notes: CEEMEA is a composite index calculated from the 15 most liquid sovereign CDS-spreads in the CEEMEA region.

**61. 5 year sovereign CDS spreads in emerging markets (last months)**

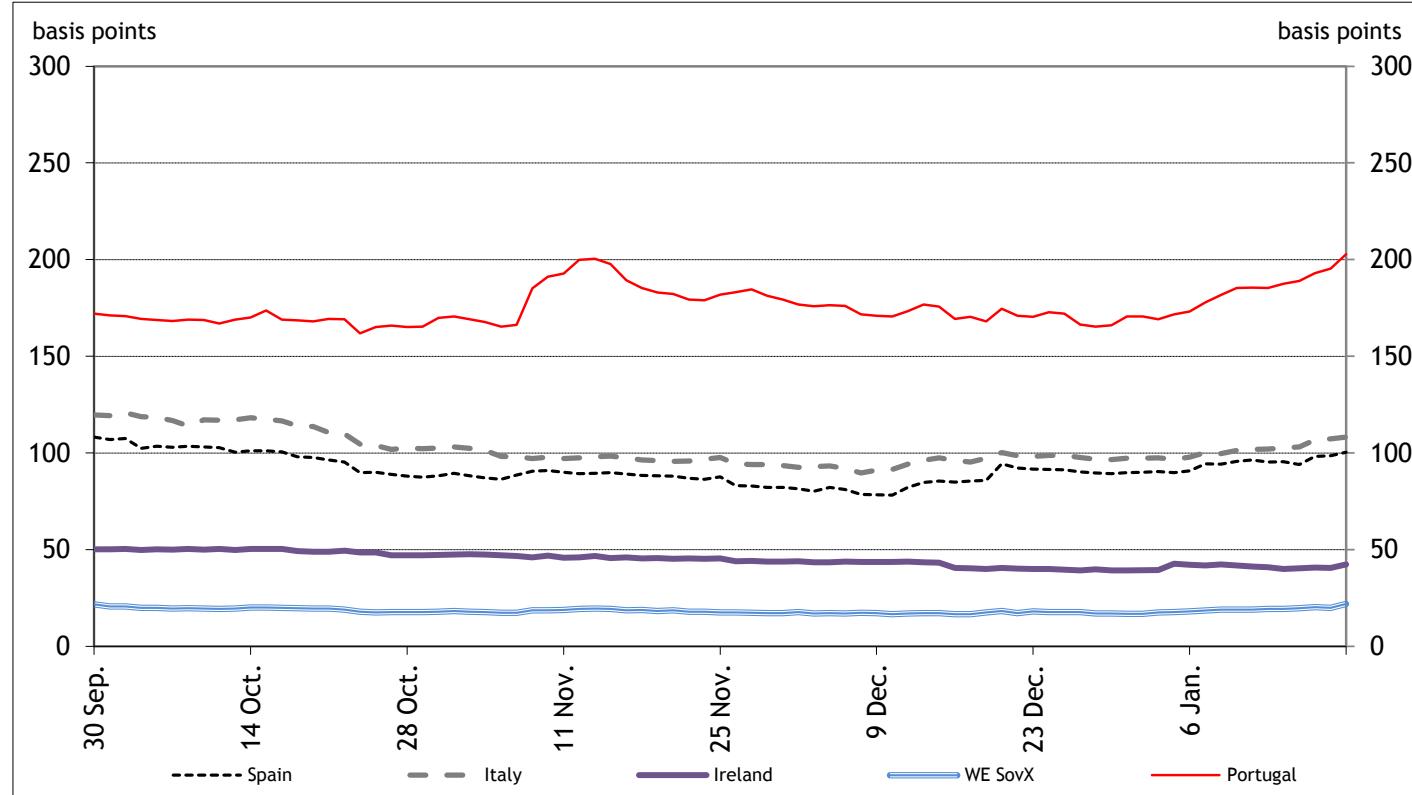
Source: Thomson Reuters, Bloomberg.

Notes: CEEMEA is a composite index calculated from the 15 most liquid sovereign CDS-spreads in the CEEMEA region.

**62. 5 year sovereign CDS spreads in peripheral eurozone countries**

Source: Thomson Reuters, Bloomberg.

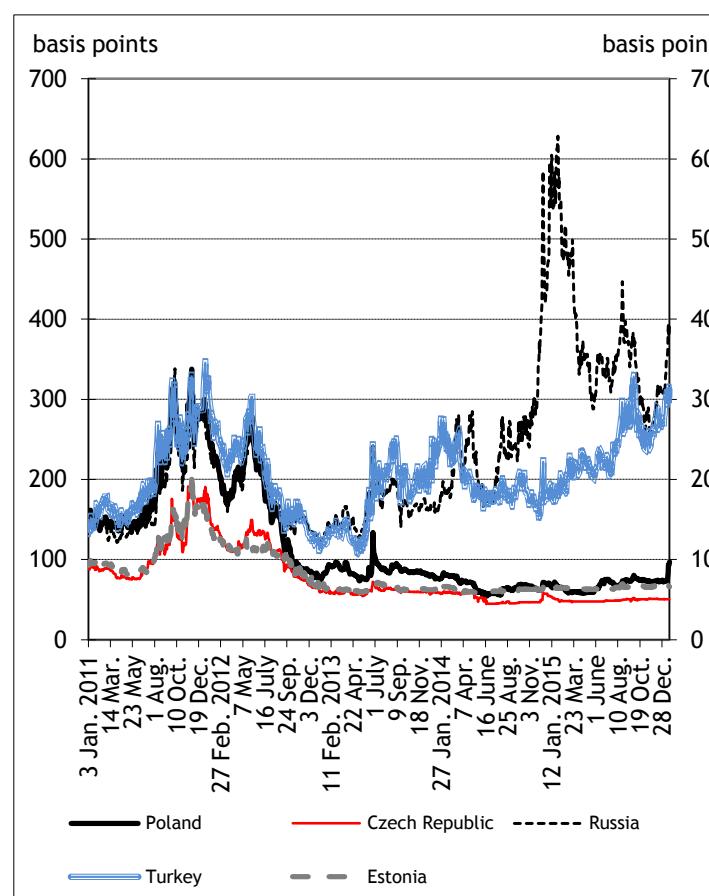
WE SovX is a composite index calculated from the 15 most liquid sovereign CDS-spreads in the Western European region.

**63. 5 year sovereign CDS spreads in peripheral eurozone countries (last months)**

Source: Thomson Reuters, Bloomberg.

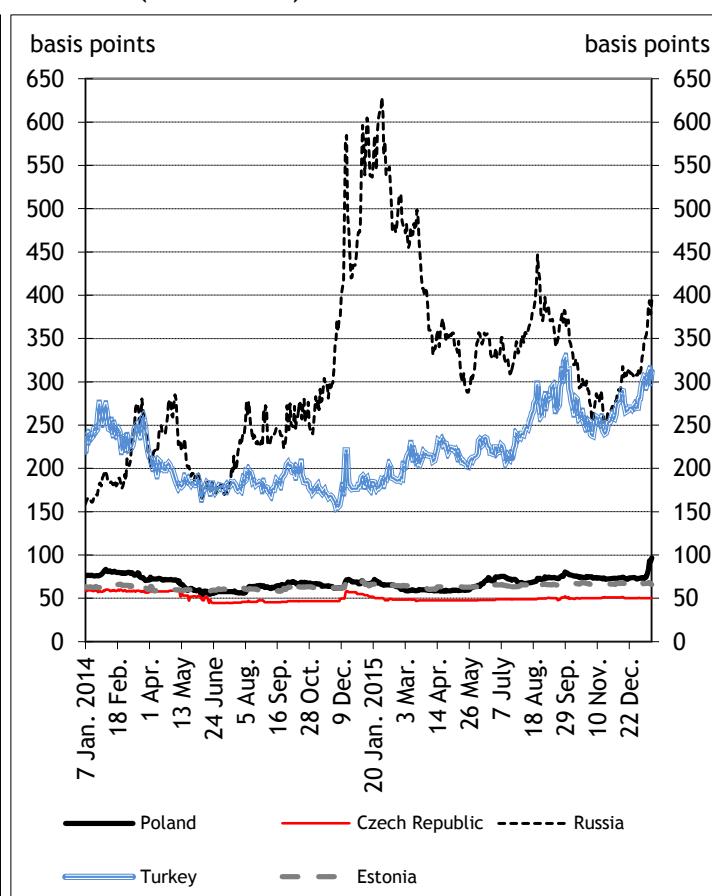
WE SovX is a composite index calculated from the 15 most liquid sovereign CDS-spreads in the Western European region.

**64. 5 year sovereign CDS spreads in emerging European countries**



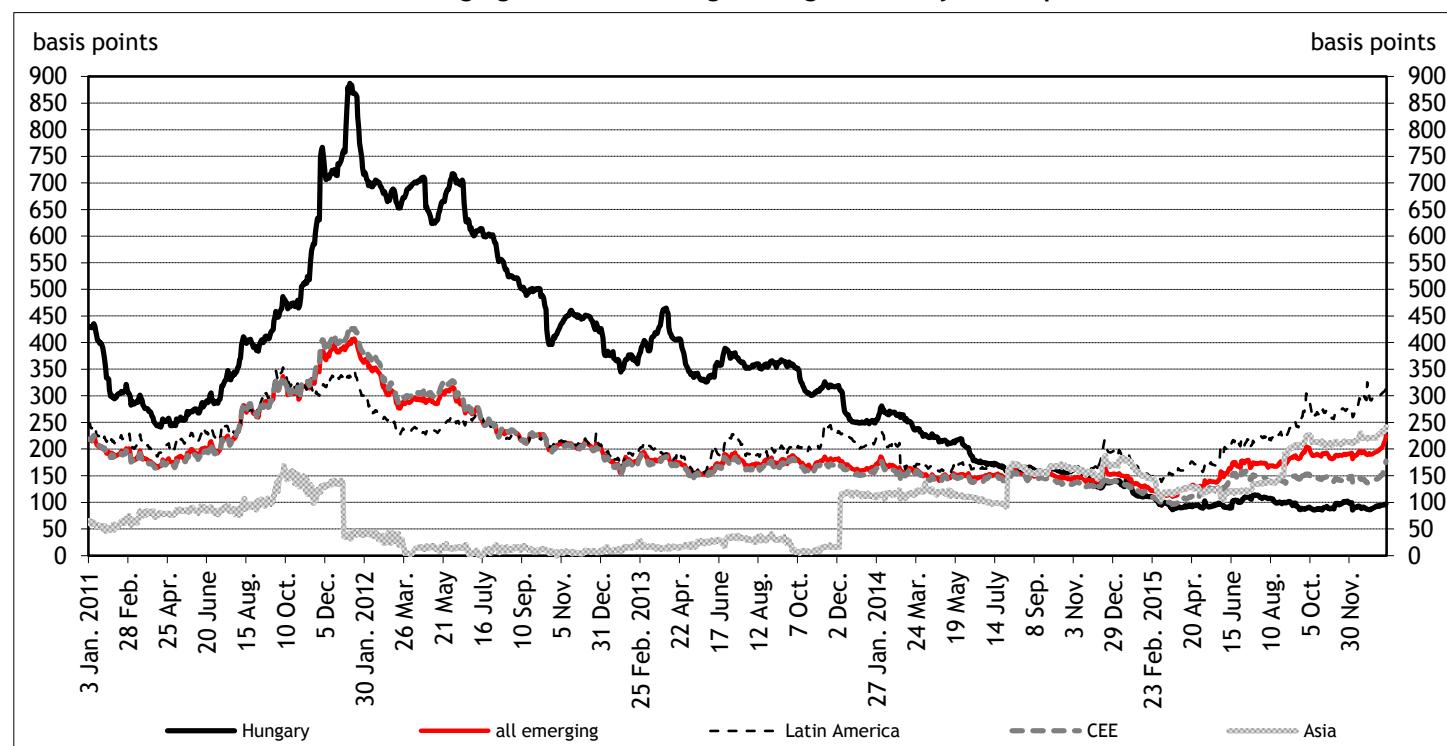
Source: Thomson Reuters.

**65. 5 year sovereign CDS spreads in emerging European countries (last months)**



Source: Thomson Reuters.

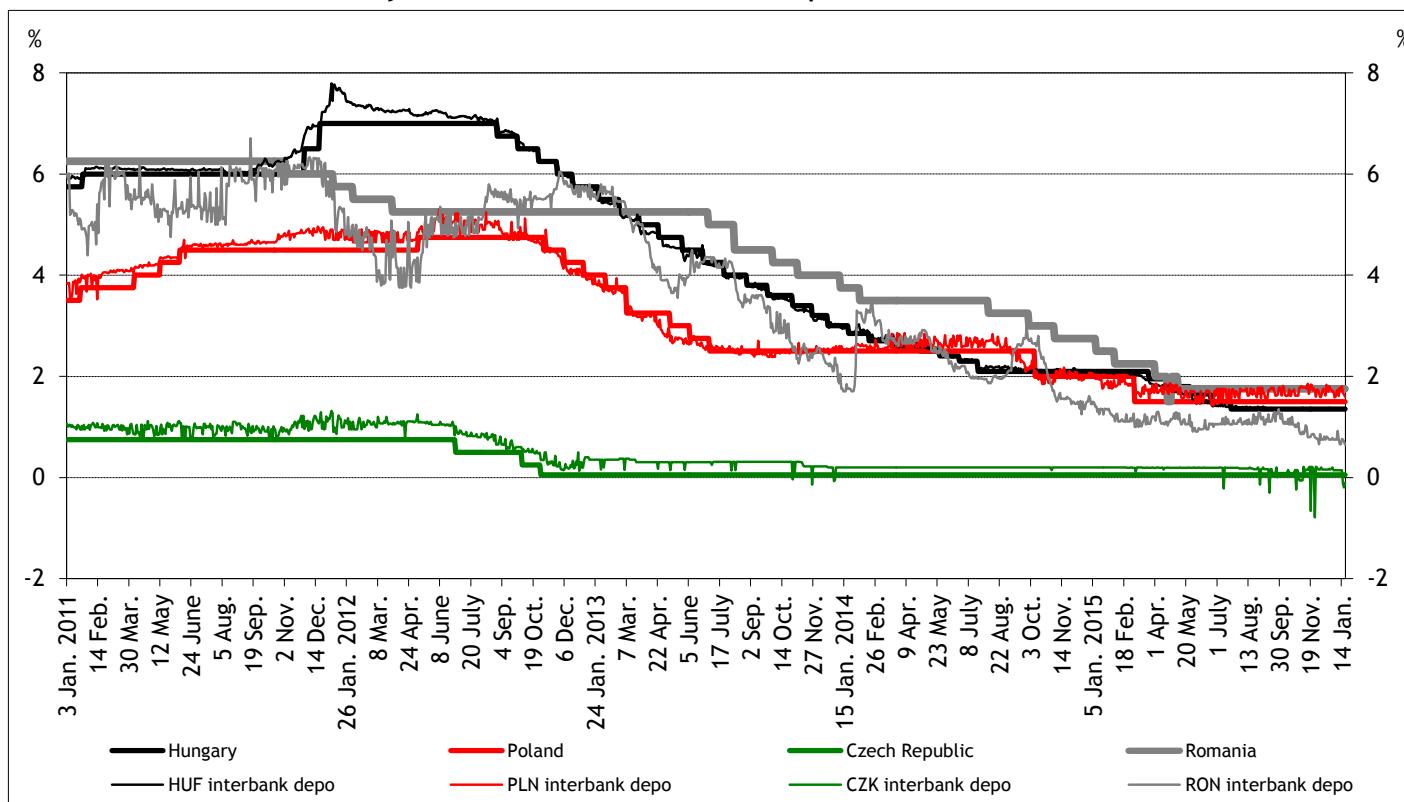
**66. Emerging market sovereign foreign currency bond spreads**



Source: Thomson Reuters.

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.

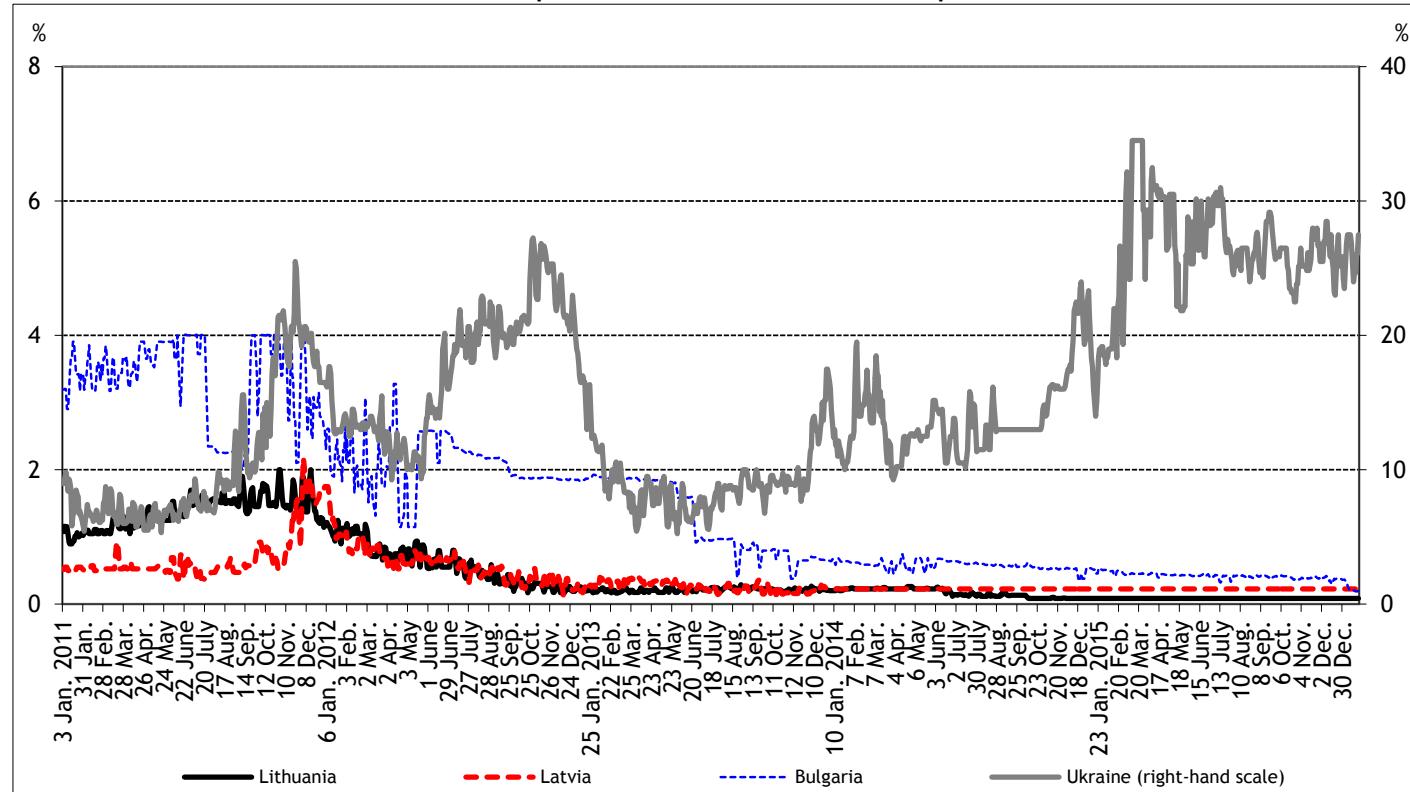
### 67. Policy rates and 3-month interbank deposit rates in CEE countries



Source: Thomson Reuters.

Notes: interbank deposit rates based on Reuters quotes.

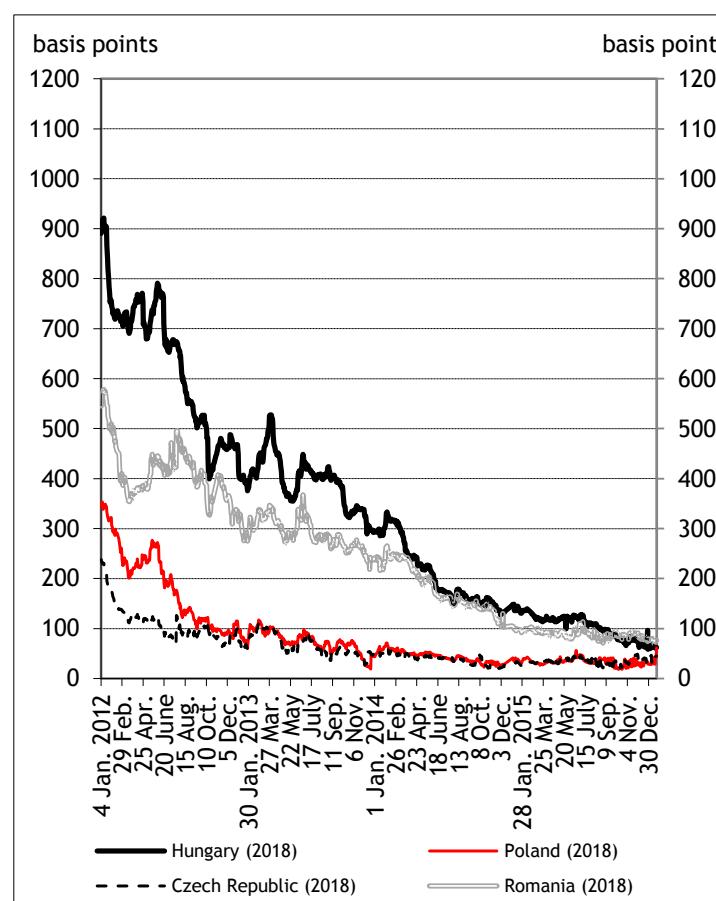
### 68. 3-month interbank deposit rates in some Central European and Baltic counties



Source: Thomson Reuters.

Notes: 3-day moving averages.

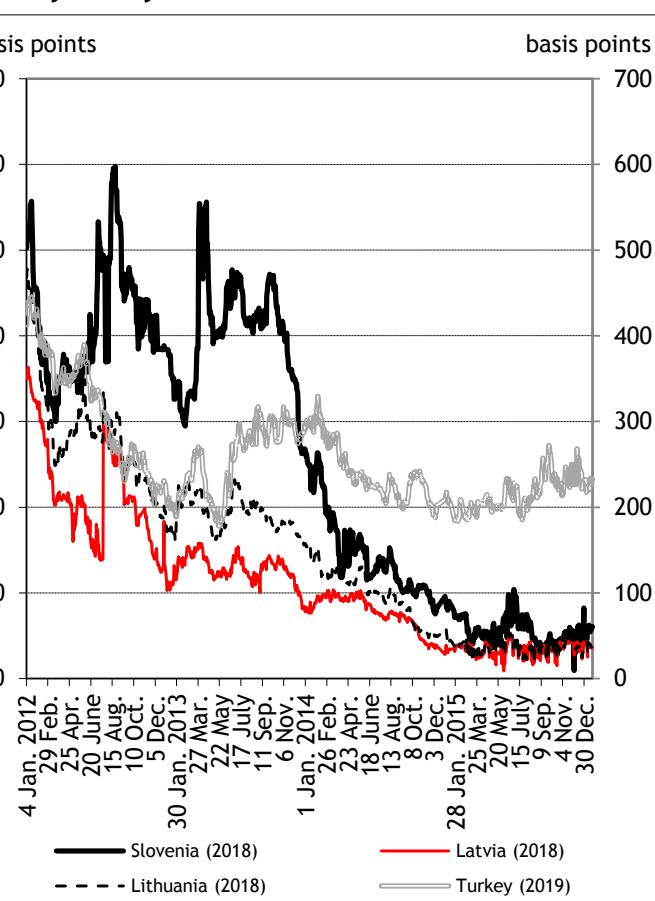
**69. Spreads of CEE foreign currency bond yields over benchmarks**



Source: Thomson Reuters.

Notes: spreads of Eastern European foreign currency bond yields over the appropriate German benchmark yields.

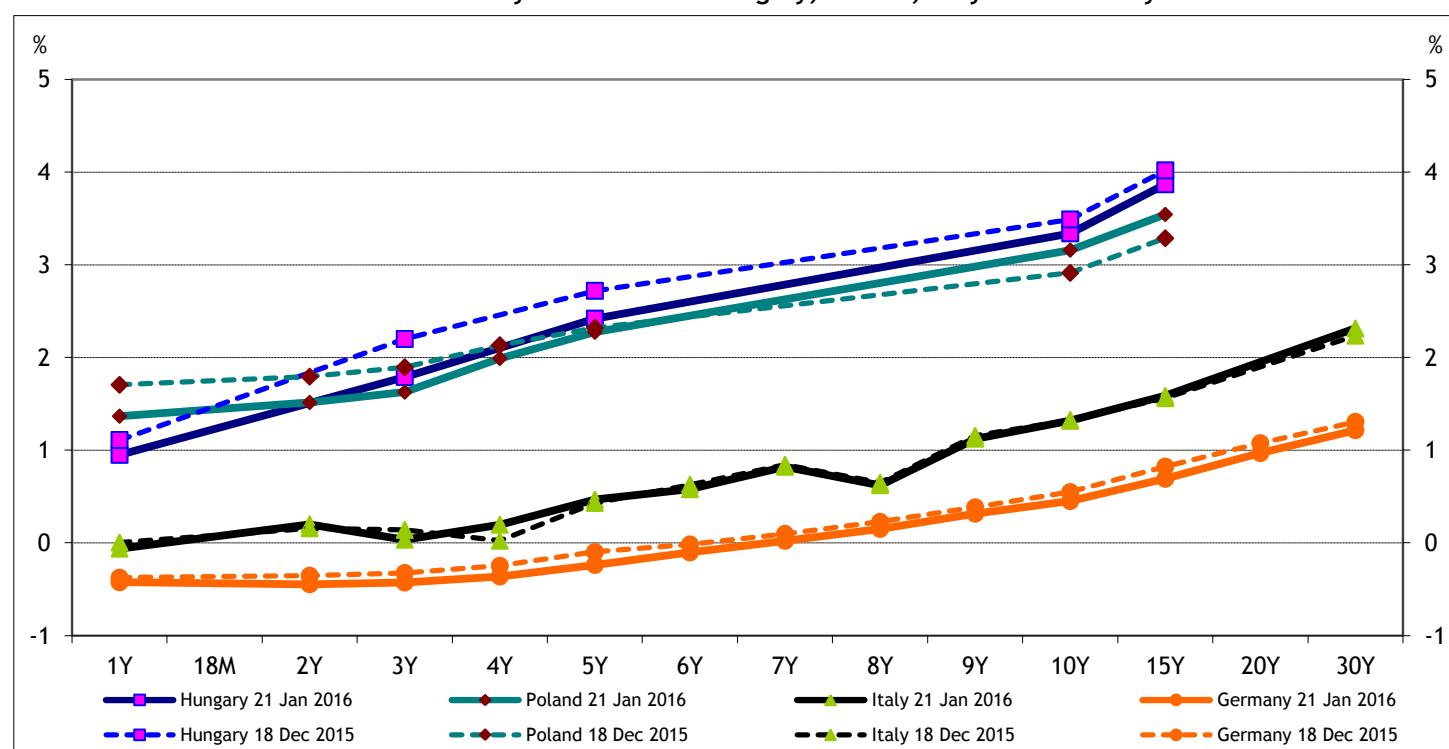
**70. Spreads of Baltic and Eastern European foreign currency bond yields over benchmarks**



Source: Thomson Reuters.

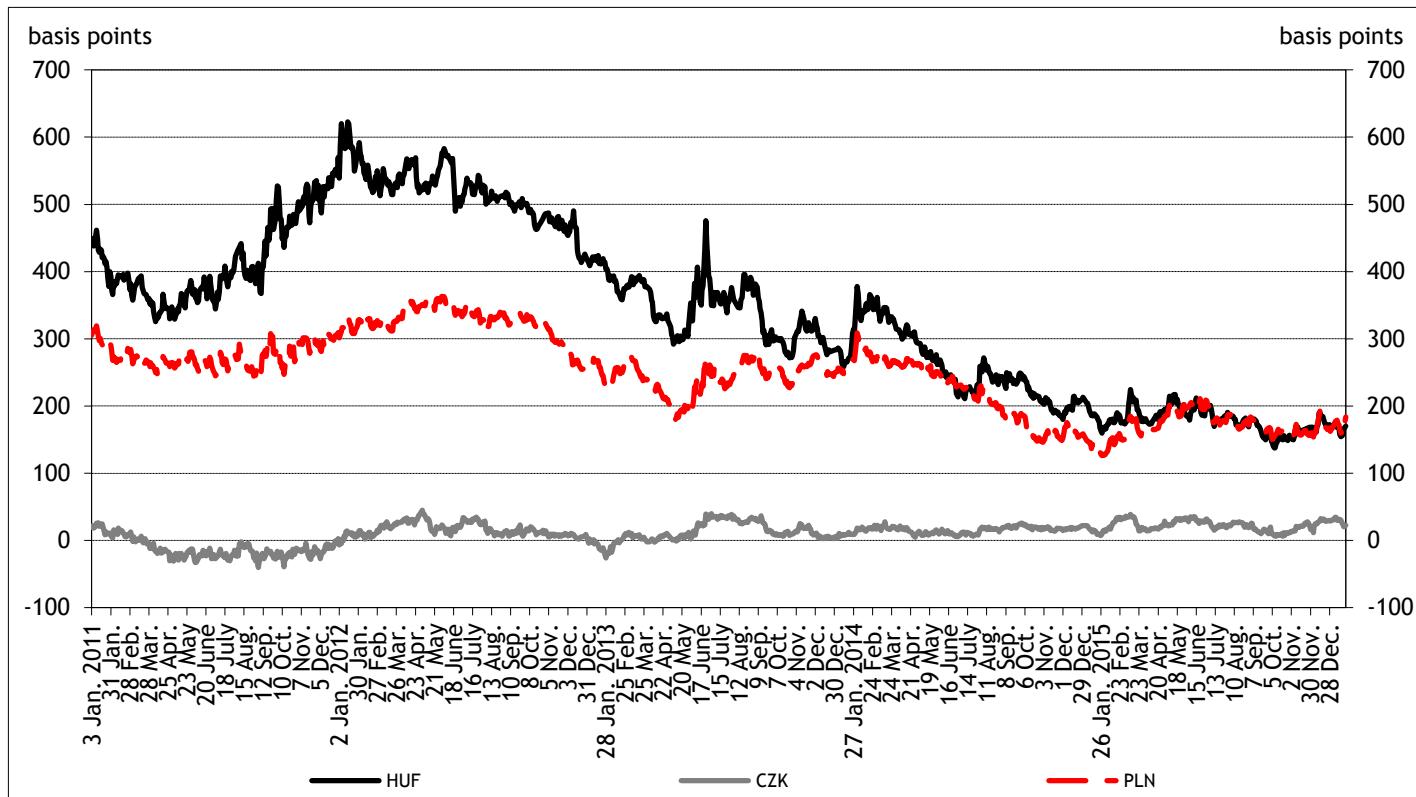
Notes: spreads of Eastern European foreign currency bond yields over the appropriate German benchmark yields.

**71. Benchmark yield curves of Hungary, Poland, Italy and Germany**



Source: Thomson Reuters.

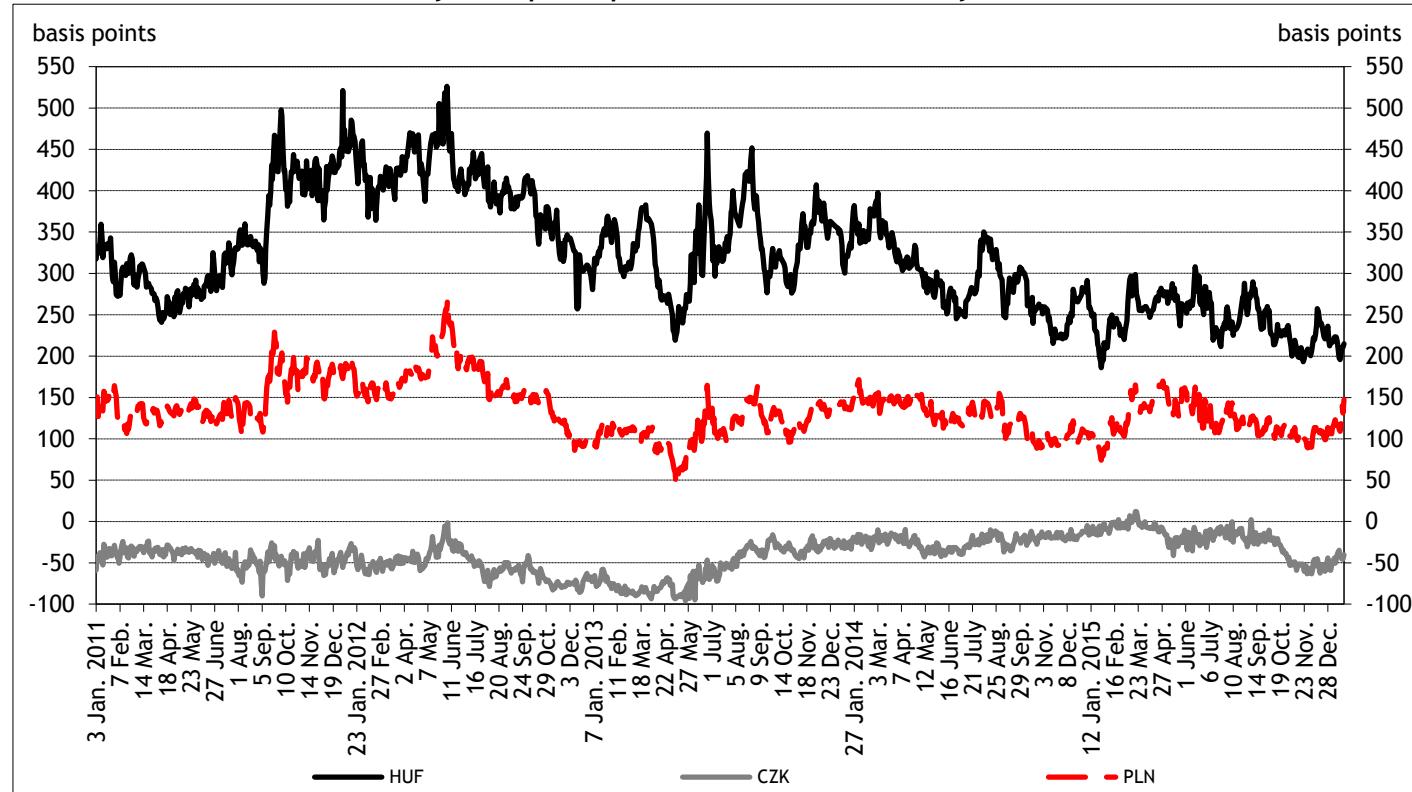
## 72. Spreads over 5 year euro spot zero coupon yields



Source: Thomson Reuters.

Notes: zero-coupon yields provided by Reuters.

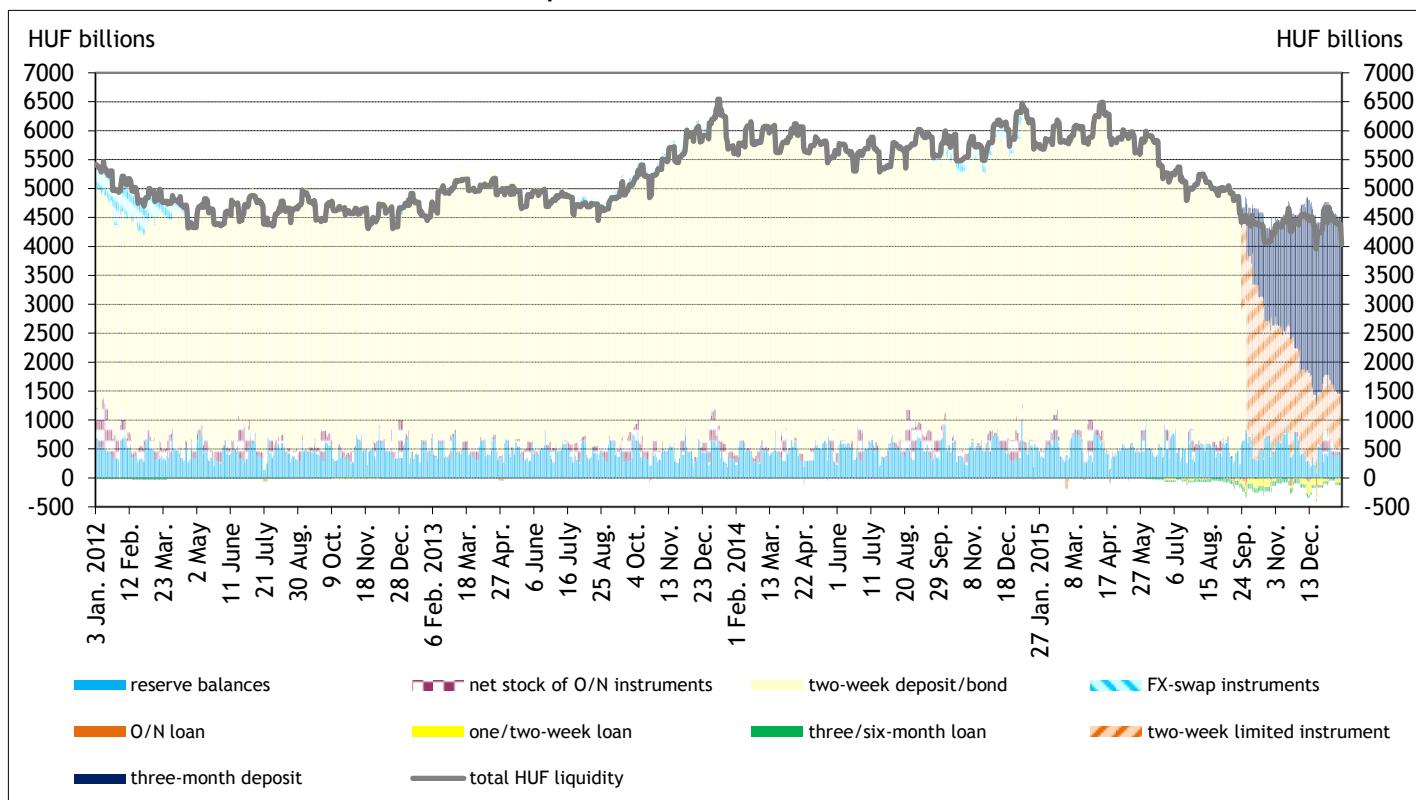
## 73. 5 year implied spreads over euro rates in 5 year's time



Source: Thomson Reuters.

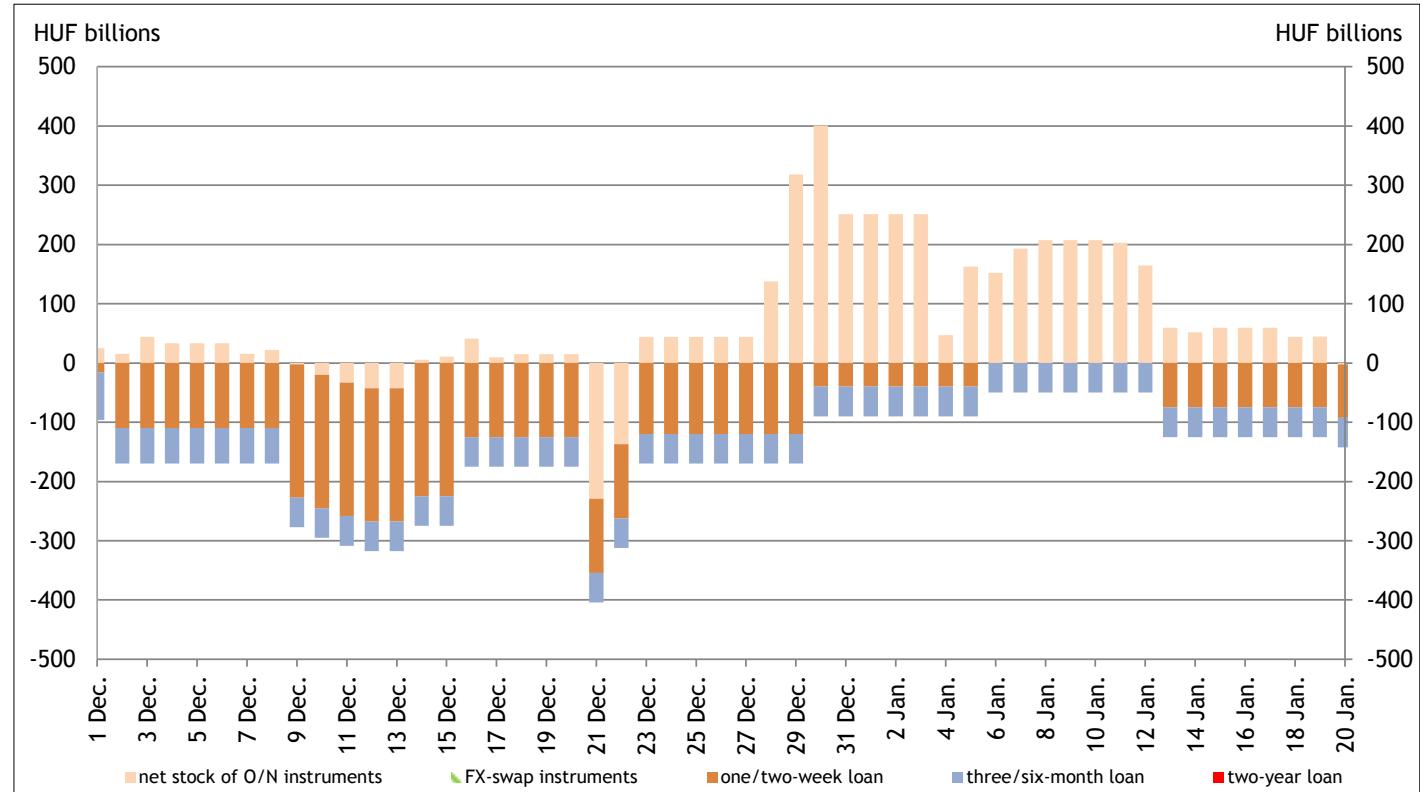
Notes: based on swap rates provided by Reuters.

## 74. Developments in central bank balance sheet



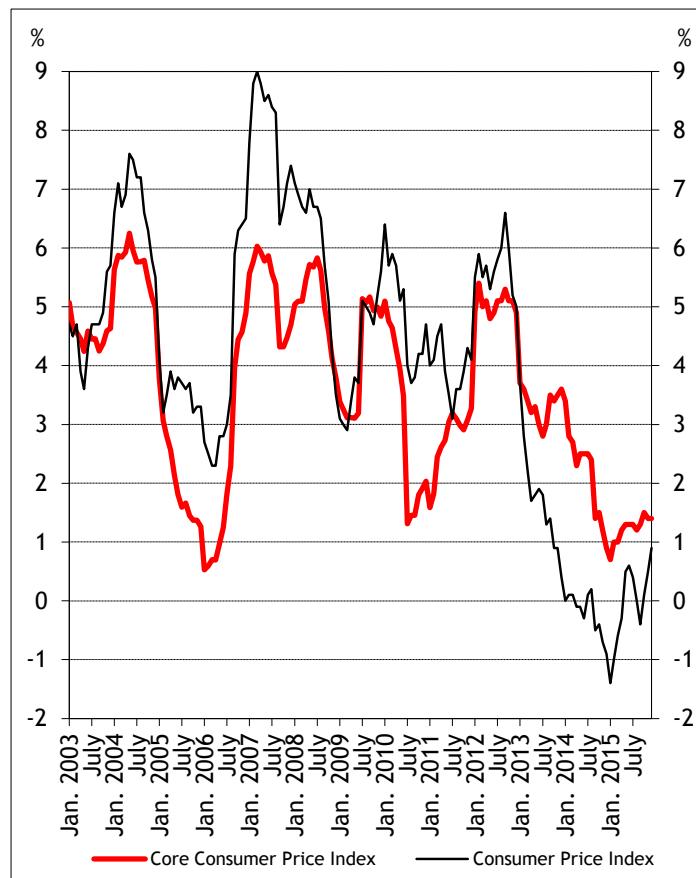
Source: MNB.

## 75. Recourse to central bank instruments



Source: MNB.

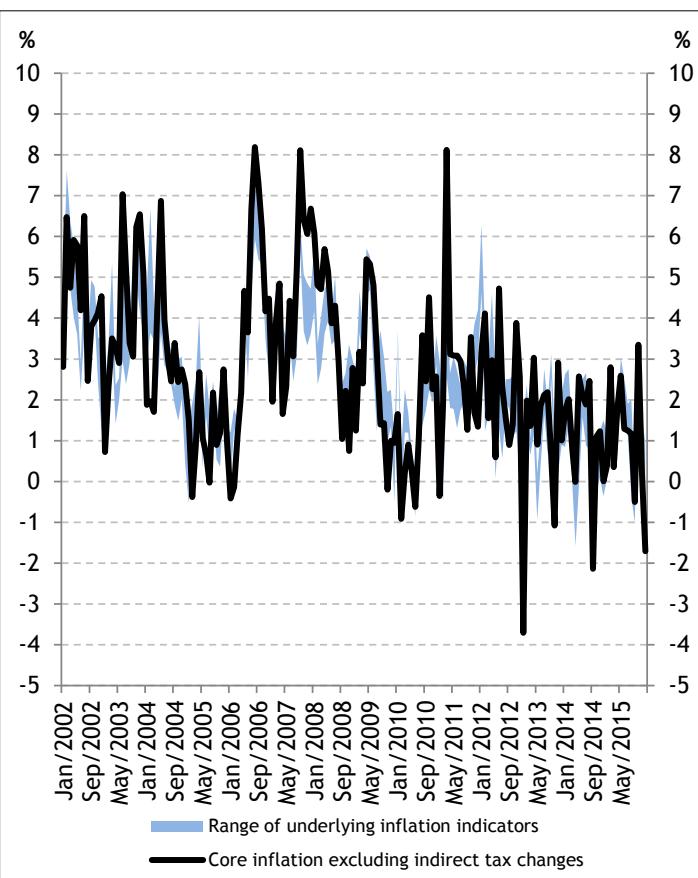
### 76. The CPI and the Core CPI



Source: HCSO, MNB

Notes: seasonally adjusted year-on-year growth rates (HCSO adjustments); The time series of core inflation have changed due to the change in the calculation method.

### 77. Developments in underlying inflation indicators



Source: HCSO, MNB.

Notes: The range is constructed of the median, weighted median, trimmed mean and Edgeworth-index indicators.

### 78. Decomposition of the Consumer Price Index

	Weight - 2015	Sept 2015	Oct 2015	Nov 2015	Dec 2015
Consumer Price Index	100,0	-0,4	0,1	0,5	0,9
thereof					
Unprocessed food	6,1	5,9	7,0	8,6	8,8
Processed food	13,2	-2,2	-1,2	-1,2	-0,8
Manufactured goods	21,9	0,9	1,6	1,4	1,3
Market services	22,1	2,6	2,1	1,9	1,8
Non-regulated household energy	1,0	-2,0	-2,1	-1,4	-1,3
Alcohol, tobacco	9,7	3,8	3,7	3,7	3,8
Gasoline prices	8,2	-17,0	-16,4	-12,6	-8,9
Regulated prices	17,8	-0,6	0,7	0,6	0,7
Core Consumer Price Index	66,8	1,3	1,5	1,4	1,4
CPI without Tax Changes	100,0	-0,5	0,0	0,4	0,8

Source: HCSO, MNB decomposition

Notes: annual growth rates (%); The time series of industrial products, market services, regulated prices have changed because the method of the core inflation developed by the CSO and the NBH has broken down several items (like pharmaceutical products, the telephone, the other travels, the TV fee) from 2009.

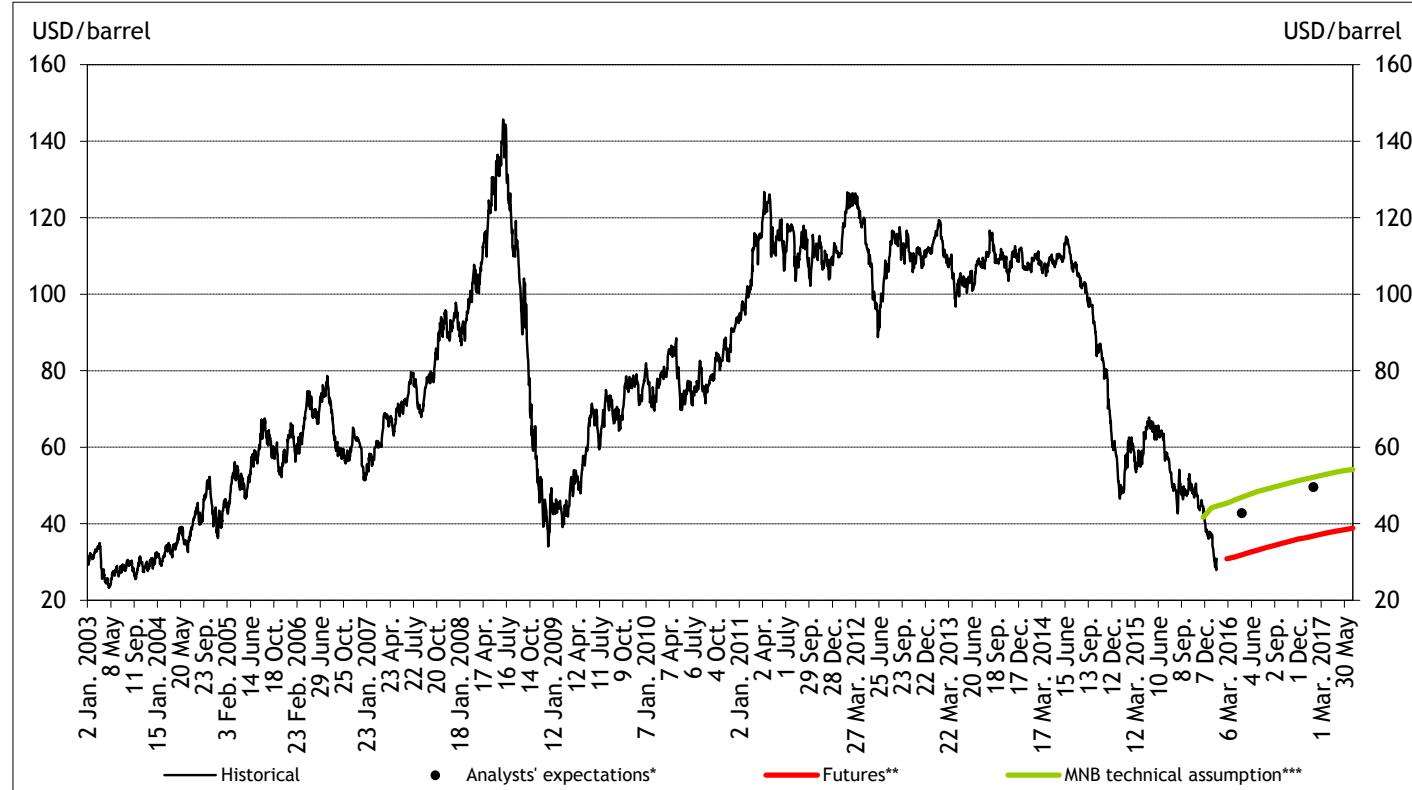
### 79. The HUF/EUR exchange rate and the analysts' expectations



Source: Thomson Reuters, MNB.

Notes: inverted scale, projected band with a central exchange rate taken to be fixed at 276,1 from October 1 2001, and at 282,36 from June 4 2003. The thin continuous line represents analysts' average exchange rate expectations according to the most recent Reuters CEE FX Poll.

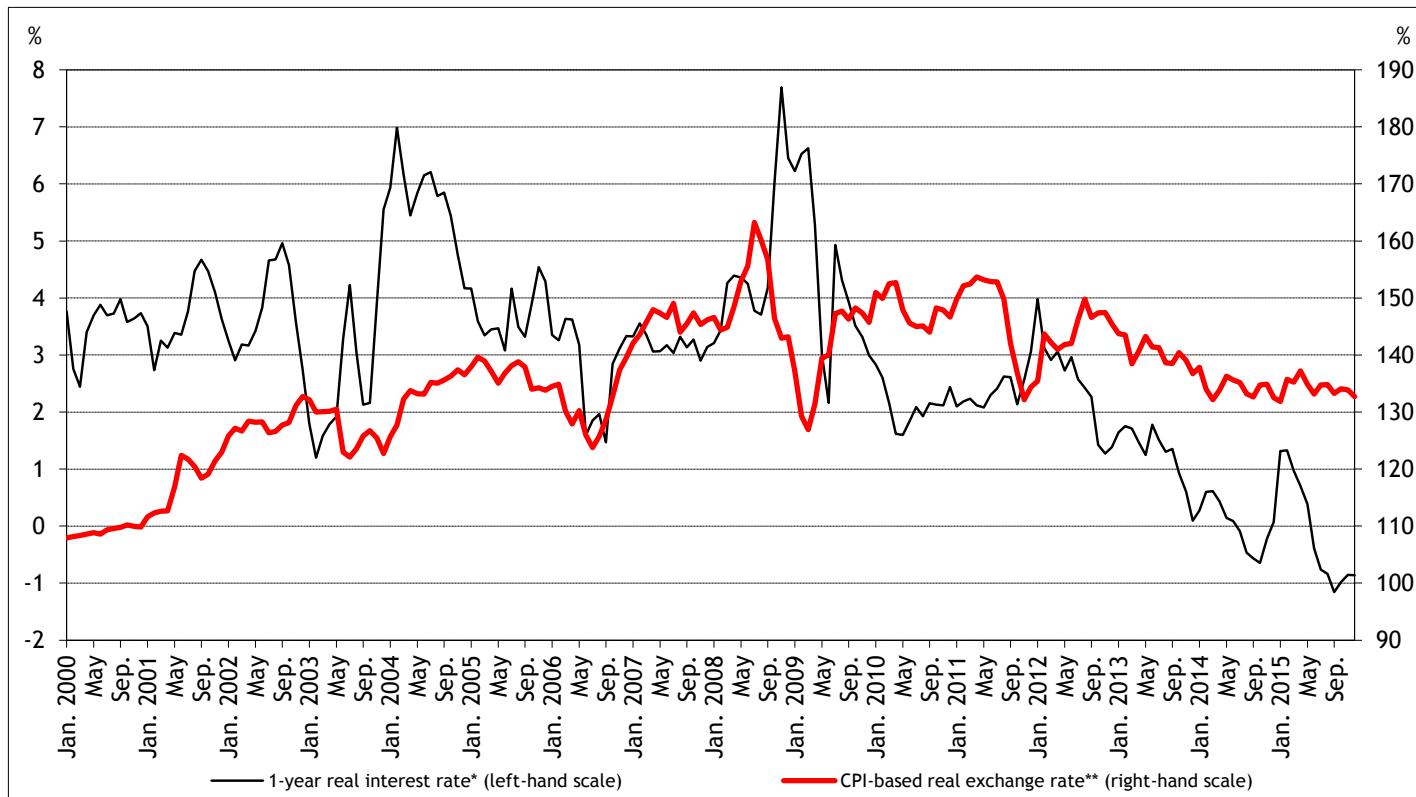
### 80. The Brent crude oil price and market expectations



Source: Bloomberg, Consensus Economics.

Notes: Consensus Economics Forecast (latest survey); \*\* Based on the latest available futures prices \*\*\*Technical assumption underlying the MNB's inflation forecast published in the most recent Quarterly Report on Inflation.

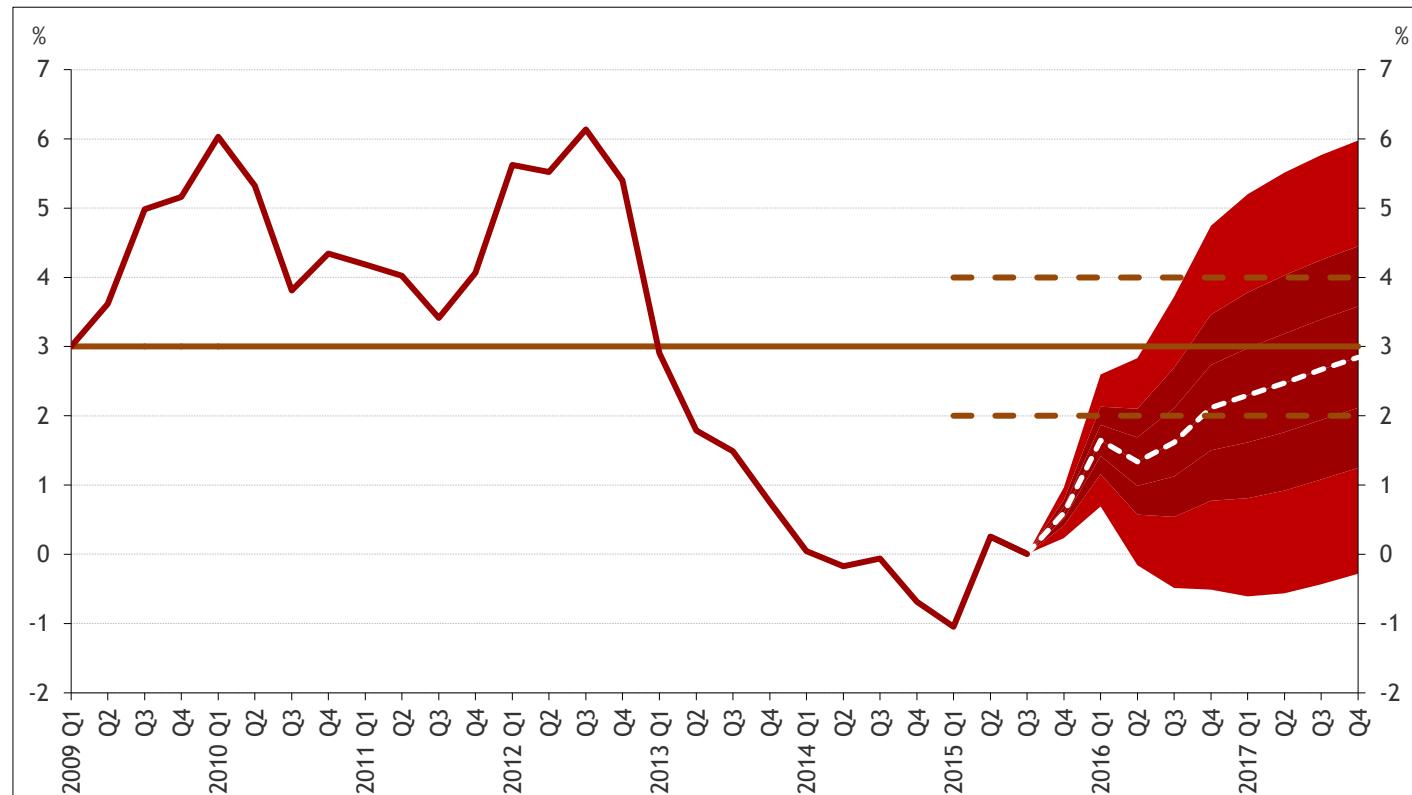
### 81. Monetary conditions



Source: Reuters, KSH, Eurostat, ÁKK, MNB.

Notes: \* calculated from the 1-year zero-coupon yield and analysts' corresponding 1-year forward inflation expectations derived from the Reuters-poll by the MNB. \*\* Monthly depreciation of the forint relative to the euro (until April 2001 the pre-announced rate of devaluation), adjusted by the corresponding Hungarian CPI and the EMU's HICP (1 January 1997 = 100%; increase represents appreciation).

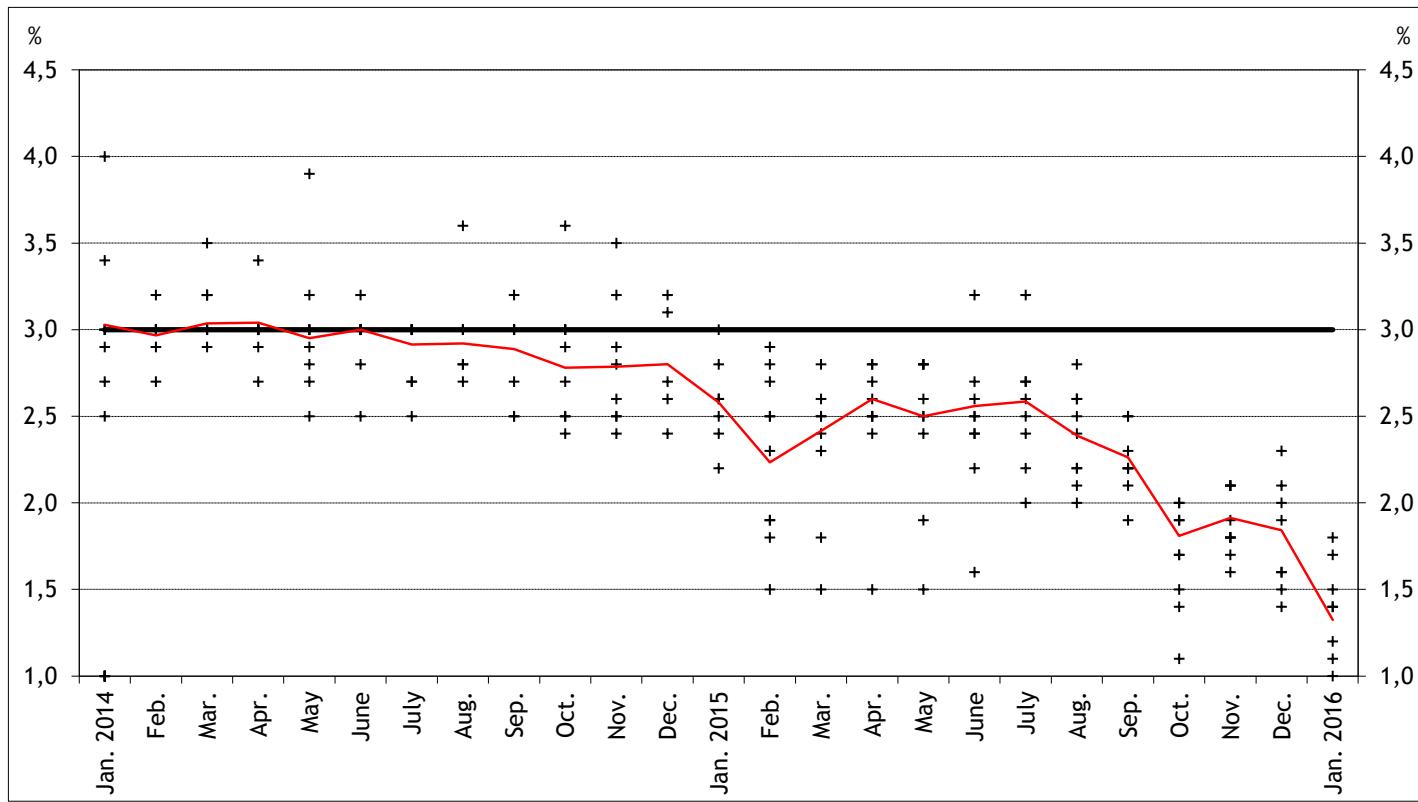
### 82. Fan chart of the inflation forecast



Source: MNB, HCSO.

Notes: the fan chart represents the uncertainty around the central projection. Overall, the coloured area represents a 90 per cent probability. The central area containing the central projection for the consumer price index illustrated by the dotted line (as the mode of distribution) refers to 30 per cent of the probability. The horizontal lines show the value of the announced inflation target and the tolerance band.

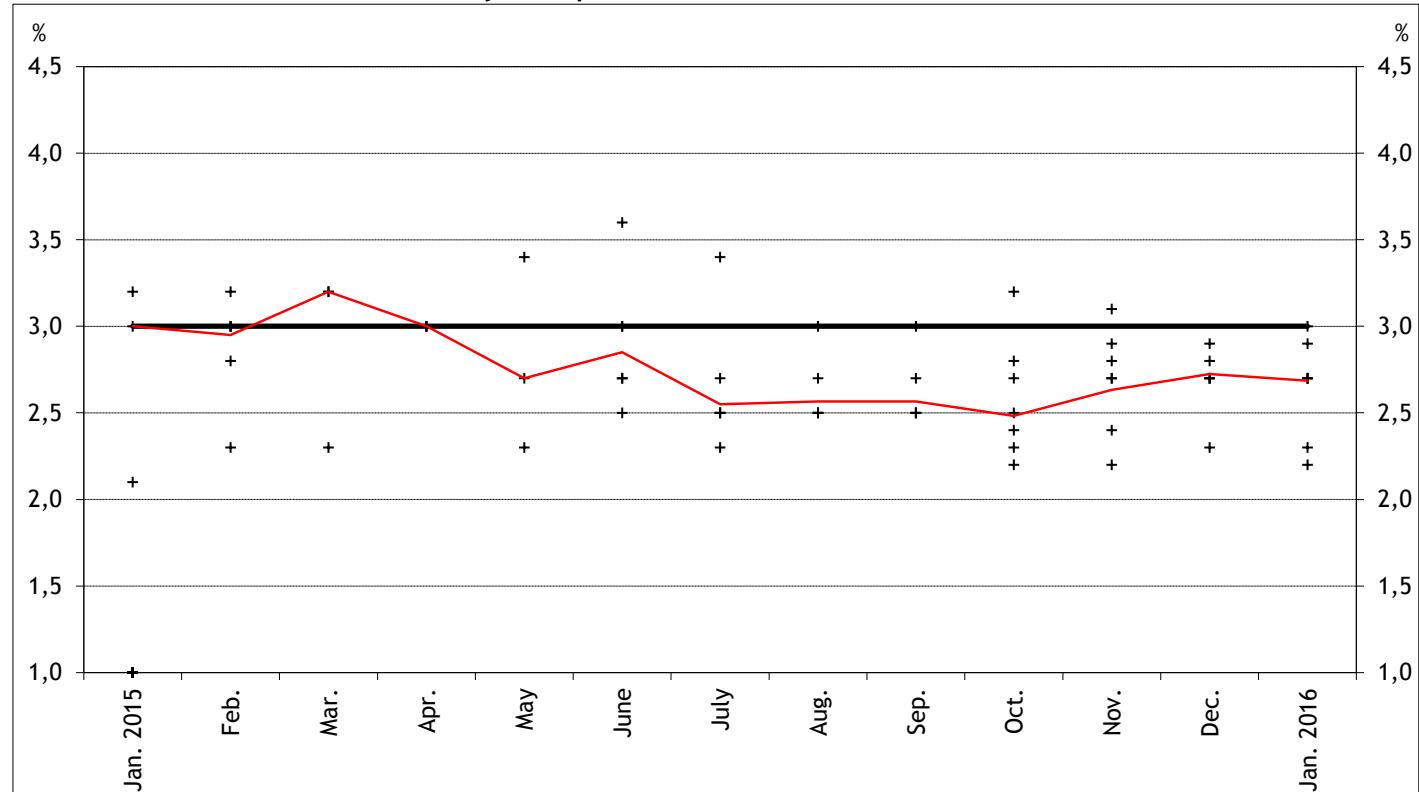
### 83. Analysts' expectations for the inflation rate in 2016



Source: Thomson Reuters.

Notes: the thin continuous line represents the trimmed mean calculated by cutting off the lowest and the highest value. The flat line indicates the medium-term inflation target.

### 84. Analysts' expectations for the inflation rate in 2017



Source: Thomson Reuters.

Notes: the thin continuous line represents the trimmed mean calculated by cutting off the lowest and the highest value. The flat line indicates the medium-term inflation target.

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

	2014	2015	2016	2017
<b>Consumer Price Index (annual average growth rate, %)</b>				
MNB (December 2015)	-0,2	0,0	1,7	2,6
Consensus Economics (December 2015) <sup>1</sup>	-0,2	(-0,2) - 0,0 - 0,3	0,9 - 1,9 - 2,9	
European Commission (October 2015)	0,0	0,1	1,9	2,5
IMF (October 2015)	-0,3	0,3	2,3	2,9
OECD (November 2015)	-0,2	0,1	2,2	2,7
Reuters survey (January 2016) <sup>1</sup>	-0,2	0,0	0,5 - 1,3 - 1,8	2,2 - 2,7 - 3,0
<b>GDP (annual growth rate, %)</b>				
MNB (December 2015)	3,7	3,0	2,5	3,0
Consensus Economics (December 2015) <sup>1</sup>	3,6	2,5 - 2,7 - 3,0	1,9 - 2,3 - 2,6	
European Commission (October 2015)	3,6	2,9	2,2	2,5
IMF (October 2015)	3,6	3,0	2,5	2,3
OECD (November 2015)	3,6	3,0	2,4	3,1
Reuters survey (January 2016) <sup>1</sup>	3,6	0,0	2,0 - 2,35 - 2,6	2,1 - 2,6 - 3,0
<b>Current account balance<sup>3</sup></b>				
MNB (December 2015)	2,3	5,3	5,6	6,0
European Commission (October 2015)	4,4	4,3	5,5	6,1
IMF (October 2015)	4,2	5,0	4,3	3,7
OECD (November 2015)	4,1	4,3	5,5	6,4
<b>Budget deficit (ESA-95 method)<sup>3,4</sup></b>				
MNB (December 2015)	2,5	2,0	2,0	1,7
Consensus Economics (December 2015) <sup>1</sup>	2,6	1,4 - 2,3 - 2,7	1,2 - 2,2 - 2,7	
European Commission (May 2015)	2,5	2,3	2,1	2,0
IMF (October 2015)	2,6	2,7	2,3	
OECD (November 2015)	2,5	2,3	1,9	1,5
Reuters survey (January 2016) <sup>1</sup>	2,6	0,0	1,6 - 2,0 - 2,3	1,4 - 1,9 - 2,3
<b>Forecasts on the size of Hungary's export markets (annual growth rate, %)<sup>2</sup></b>				
MNB (December 2015)	2,2	1,8	3,4	3,8
European Commission (October 2015)	3,6	4,2	4,8	5,5
IMF (October 2015)	3,2	3,2	4,9	5,3
OECD (November 2015)	3,7	4,6	4,2	5,0
<b>Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)<sup>2</sup></b>				
MNB (December 2015)	1,5	1,8	2,1	2,3
European Commission (October 2015)	1,7	2,0	2,2	2,3
IMF (October 2015)	1,4	1,6	2,1	2,2
OECD (November 2015)	1,7	1,8	2,1	2,3

<sup>1</sup> For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies (i.e. the median value), we also indicate the lowest and the highest values to illustrate the

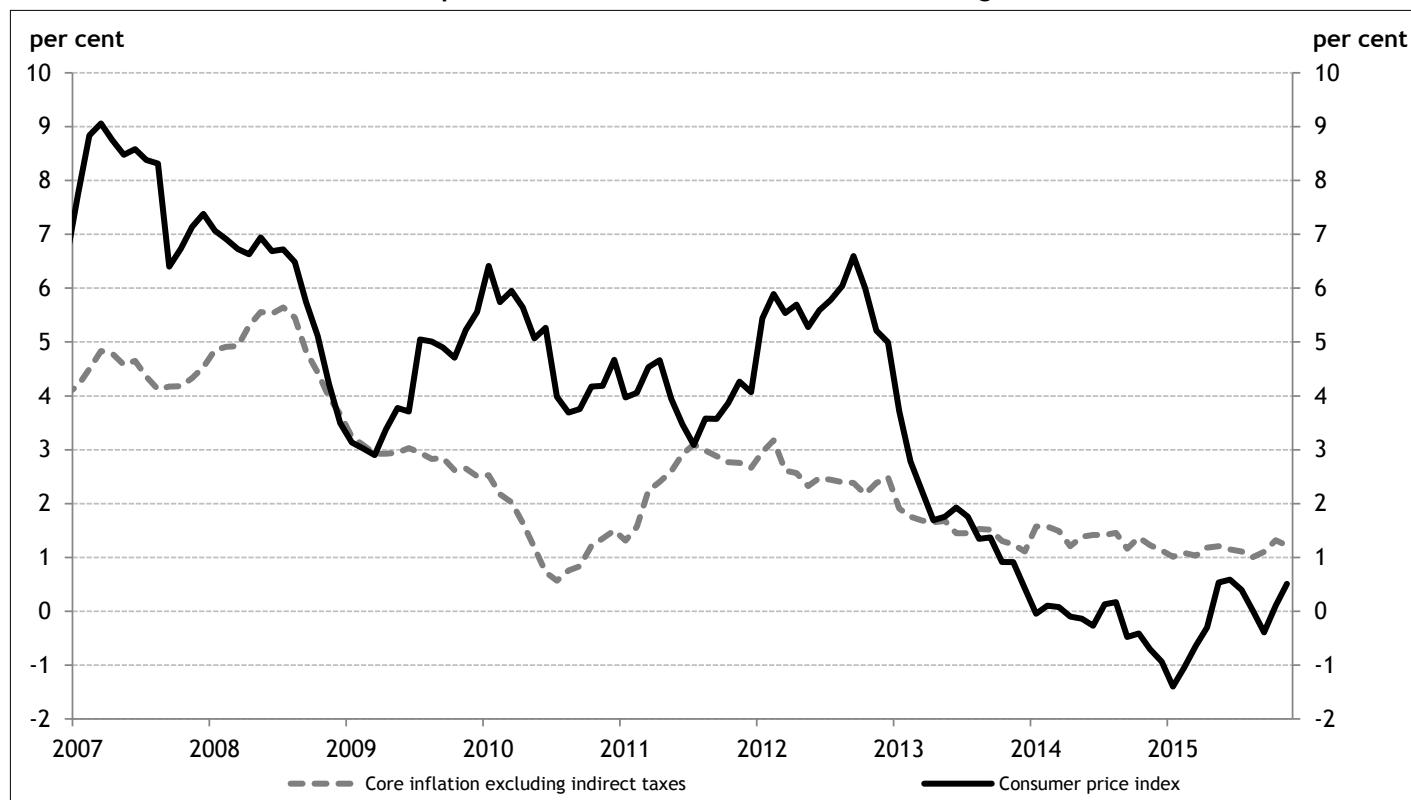
<sup>2</sup> Values calculated by the MNB; the projections of the named institutions for the relevant countries are adjusted with the weighting system of the MNB, which is also used for the calculation of the bank's own external demand indices. Certain institutions do not prepare forecast for all partner

<sup>3</sup> As a percentage of GDP.

<sup>4</sup> With complete cancellation of free reserves.

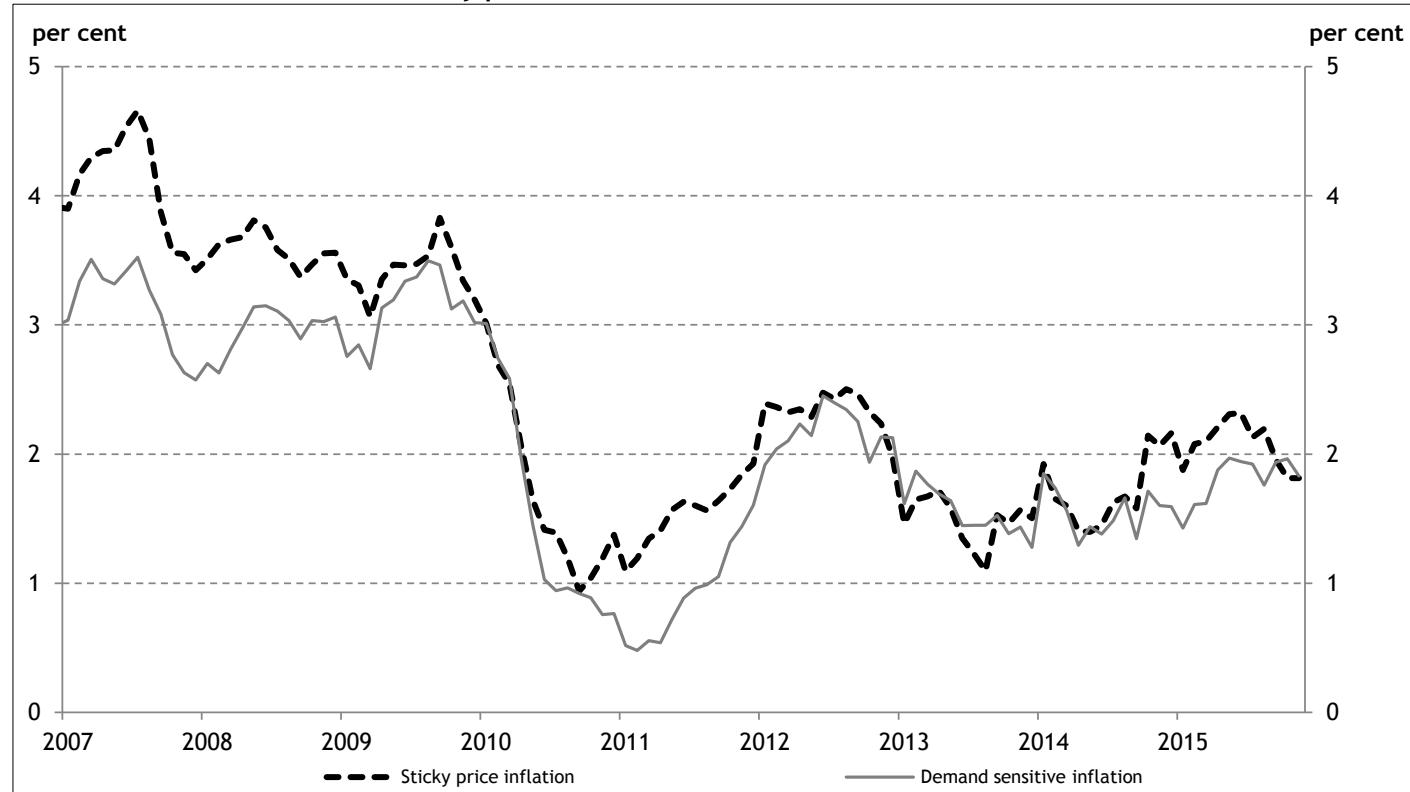
Source: Consensus Economics, European Commission, IMF, OECD, Reuters poll

### 86. Consumer price index and the core inflation excluding indirect taxes

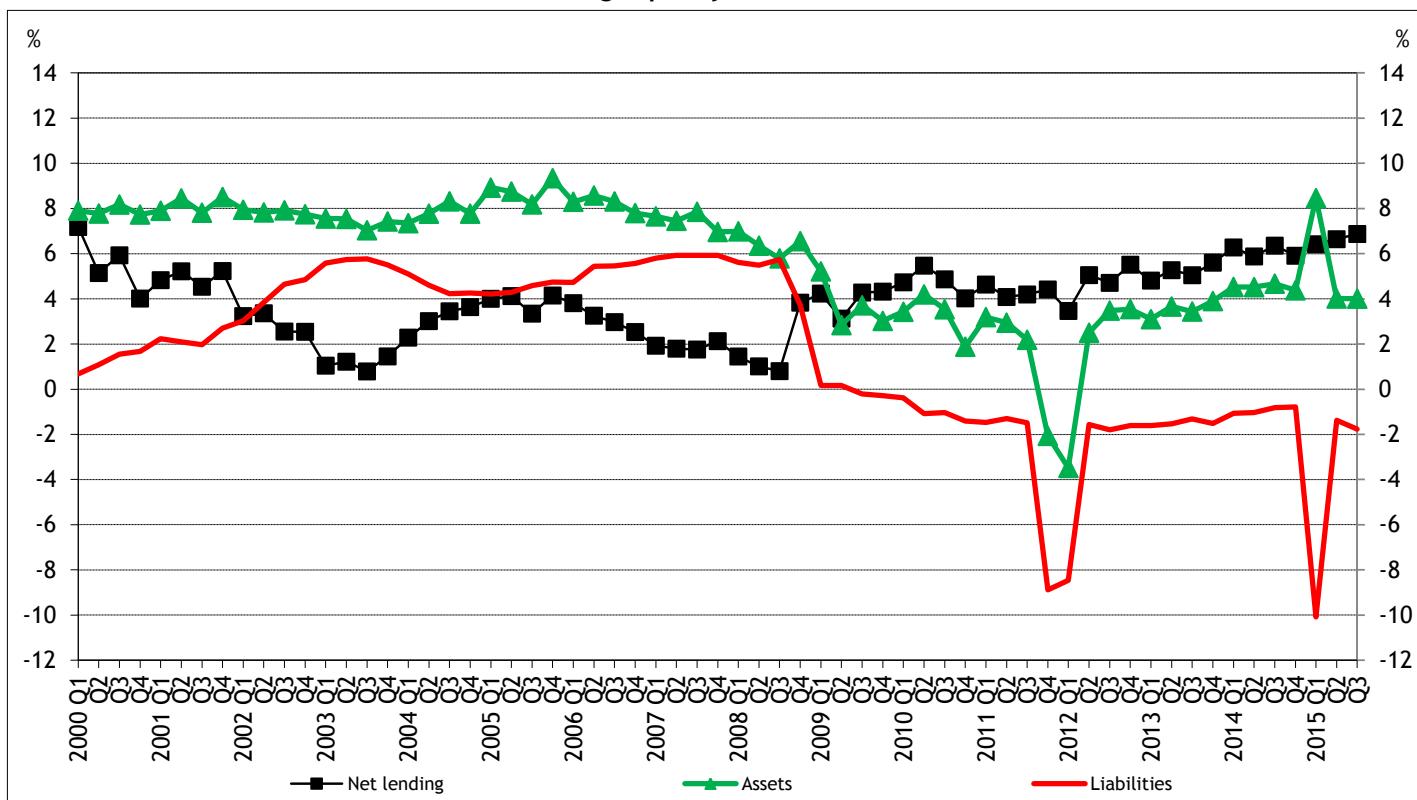


Source: HCSO and MNB calculation

### 87. Sticky price inflation and the demand sensitive inflation

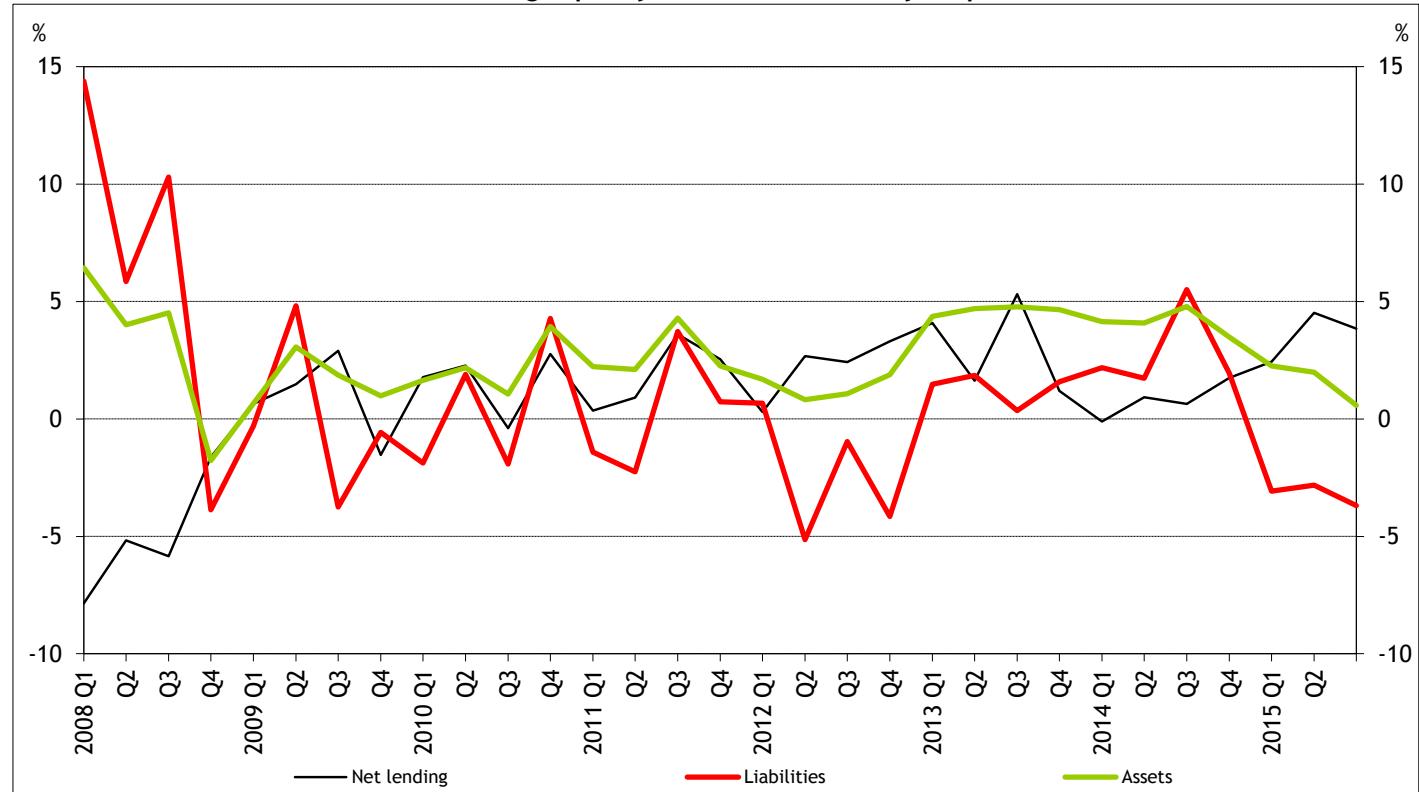


Source: HCSO and MNB calculation

**88. Net financing capacity of the household sector**

Source: MNB.

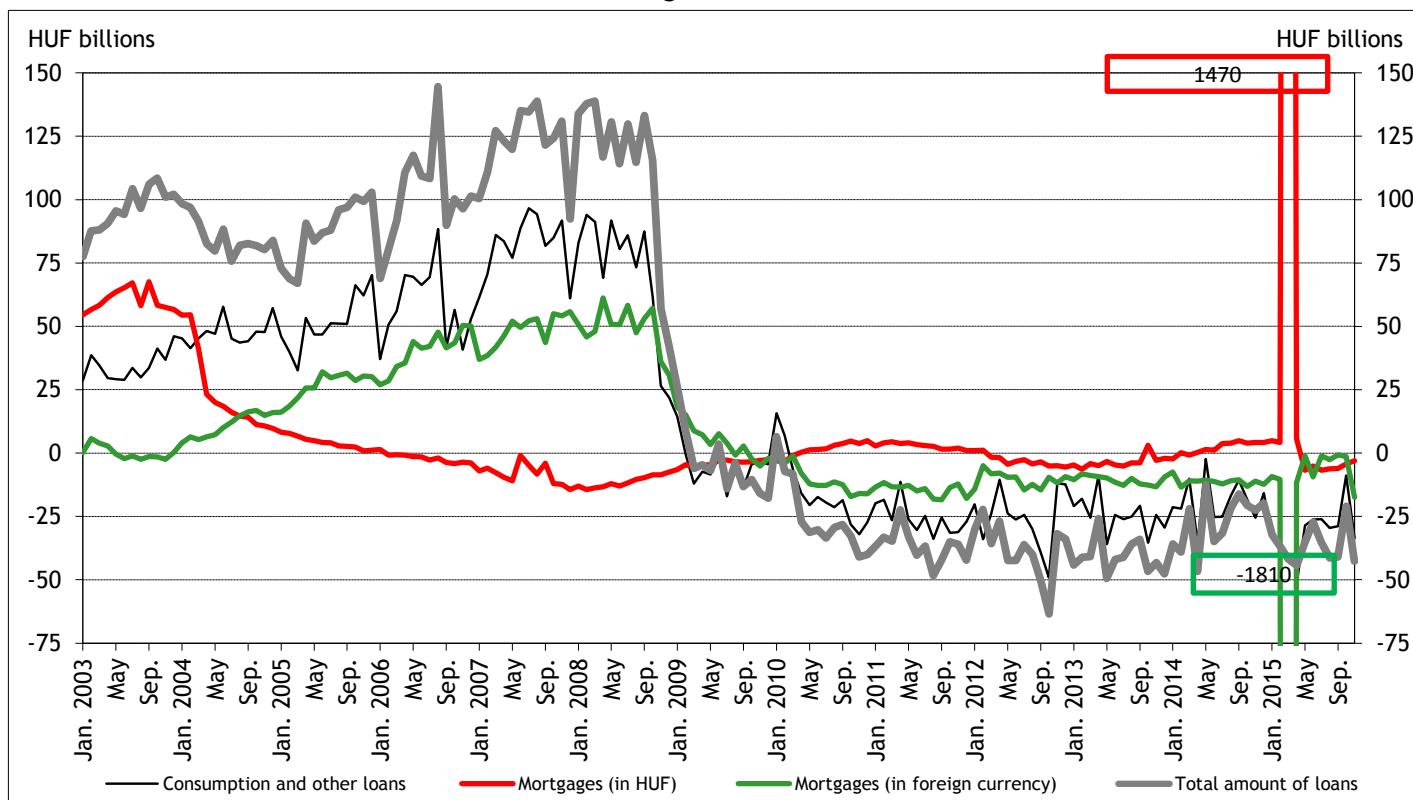
Seasonally adjusted, as a percentage of GDP. Time series data displayed above are seasonally adjusted using direct alignment methodology therefore the difference of assets and liabilities is not necessarily equal to the seasonally adjusted value of net savings.

**89. Net financing capacity of the non-monetary corporate sector**

Source: MNB.

Notes: seasonally adjusted; as a percentage of GDP.

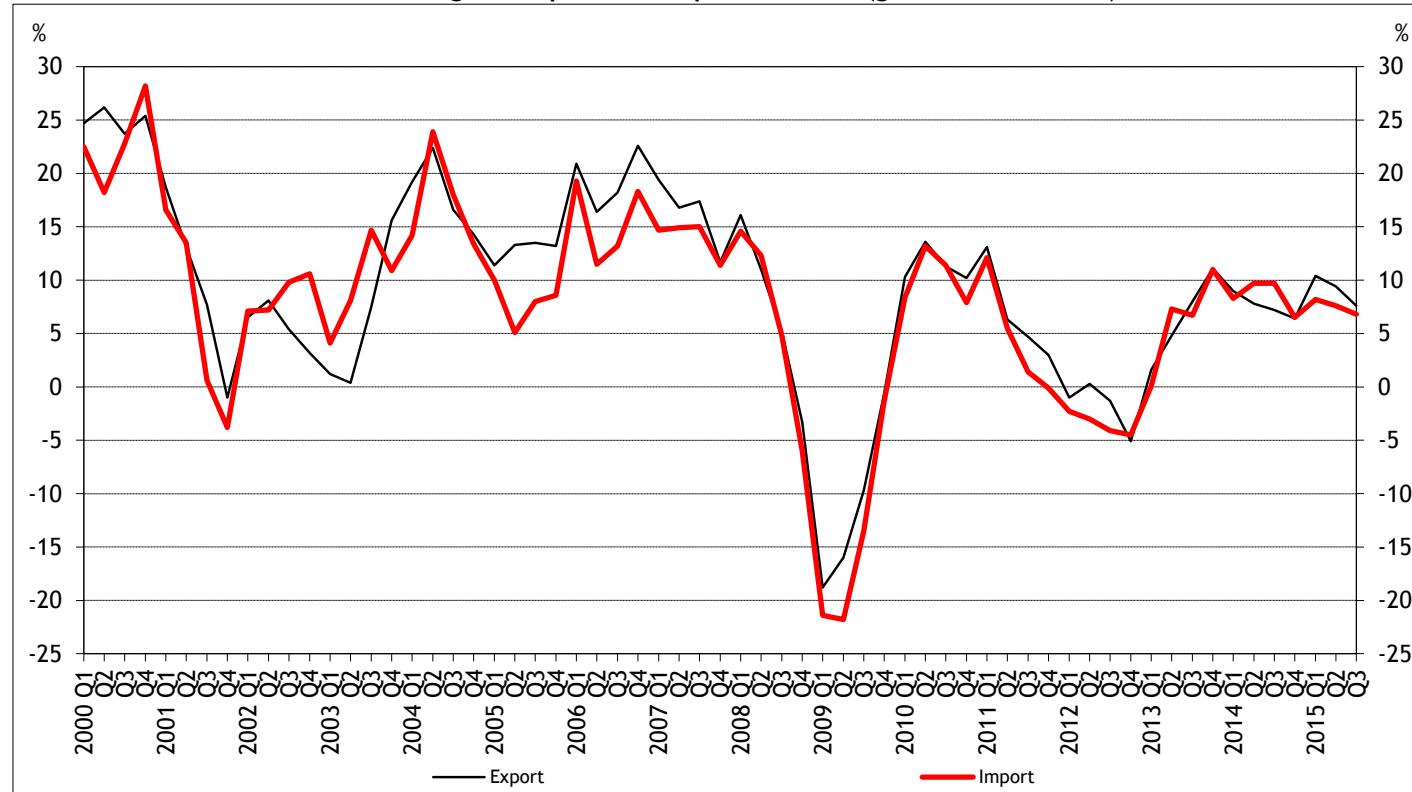
## 90. Net borrowing of the household sector



Source: MNB.

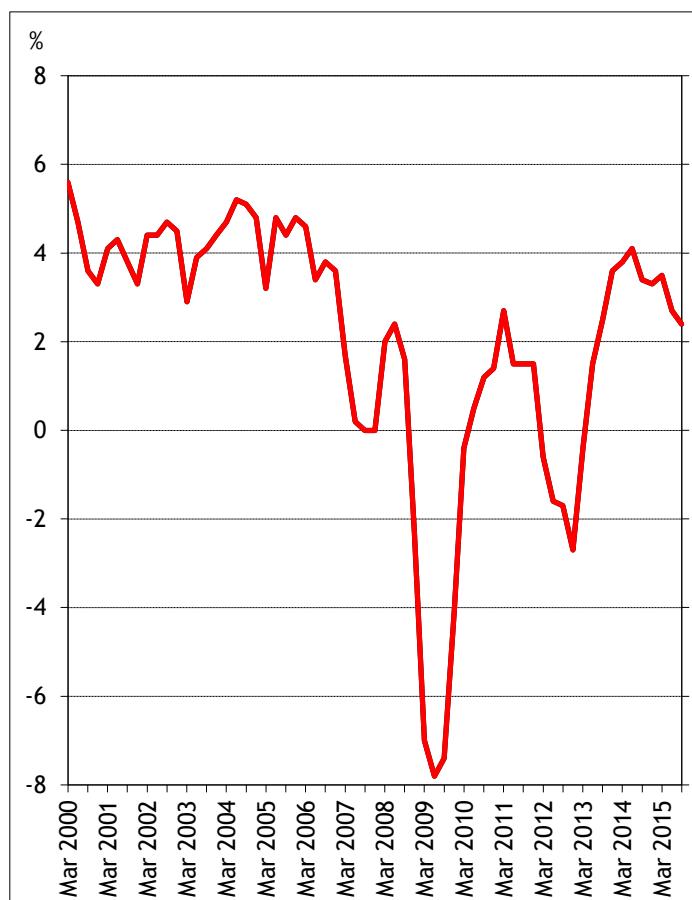
Notes: monthly change, seasonally adjusted data. Data in march 2015 is significantly influenced by settlement and conversion of fx-loans.

## 91. Change in export and import volumes (goods and services)



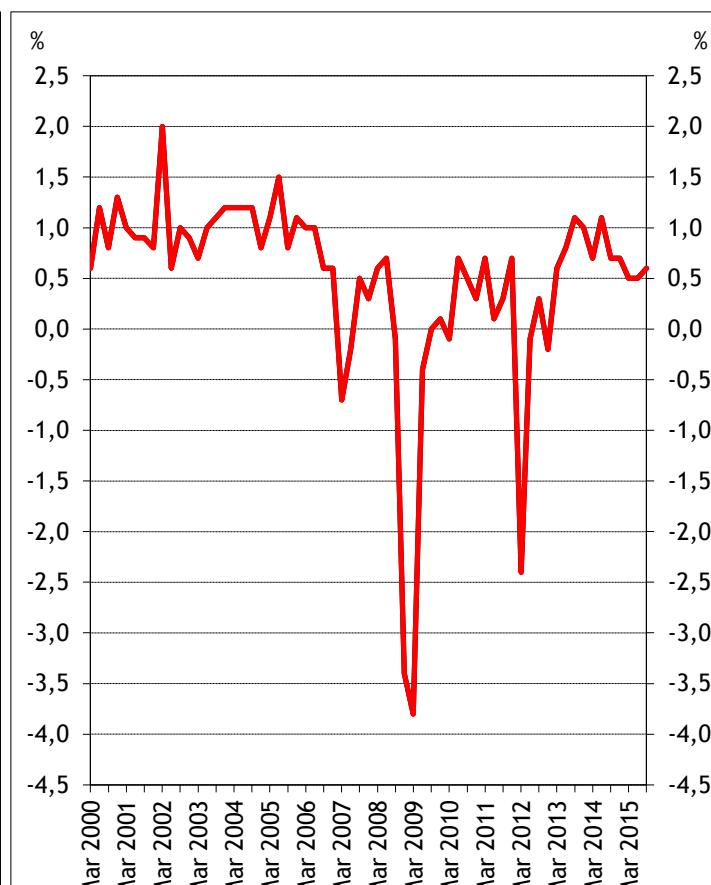
Source: MNB.

Notes: annual growth rate.

**92. Annual GDP growth rate**

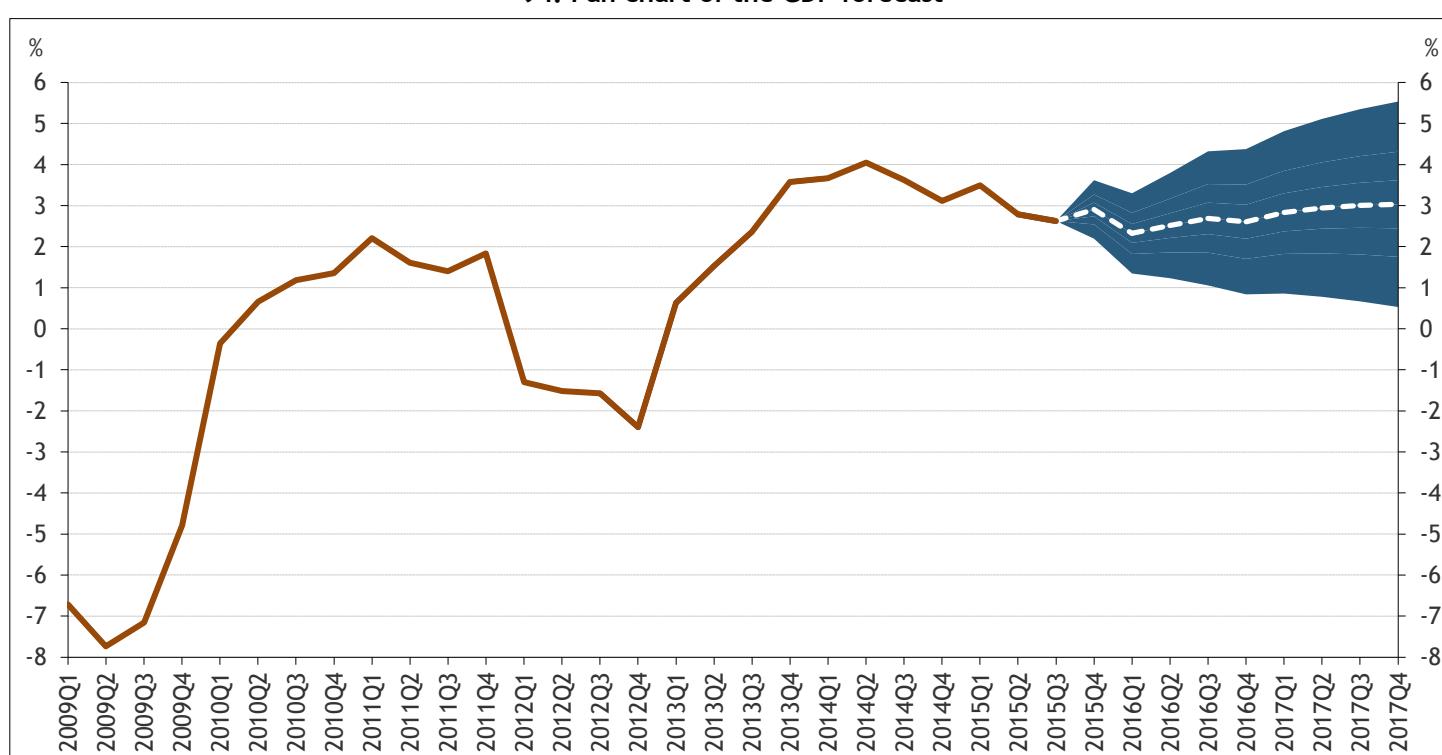
Source: HCSO.

Notes: annual growth rate.

**93. Quarterly GDP growth rate**

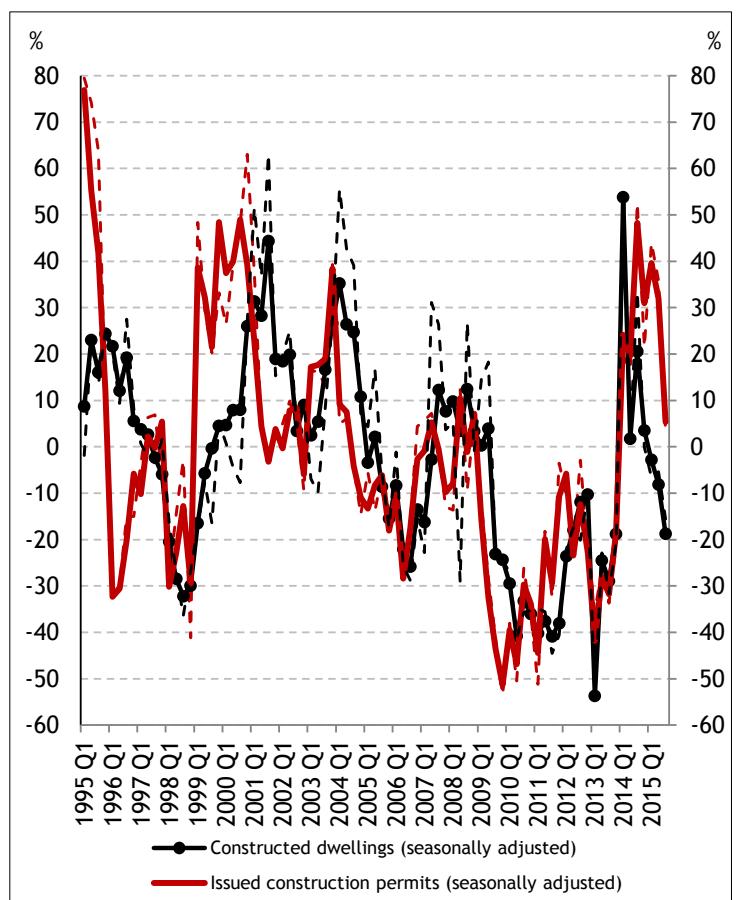
Source: HCSO.

Notes: seasonally adjusted quarterly growth rate.

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

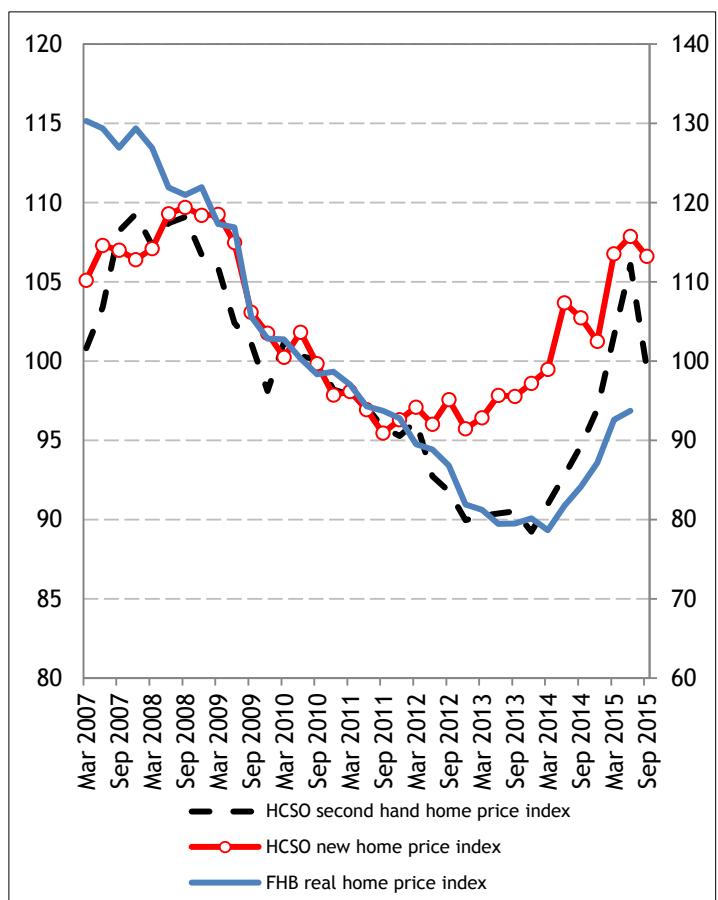
Source: MNB, HCSO.

Notes: the fan chart represents the uncertainty around the central projection. Overall, the coloured area represents a 90 per cent probability. The central area containing the central projection for the GDP illustrated by the dotted line (as the mode of distribution) refers to 30 per cent of the probability.

**95. New dwelling trends**

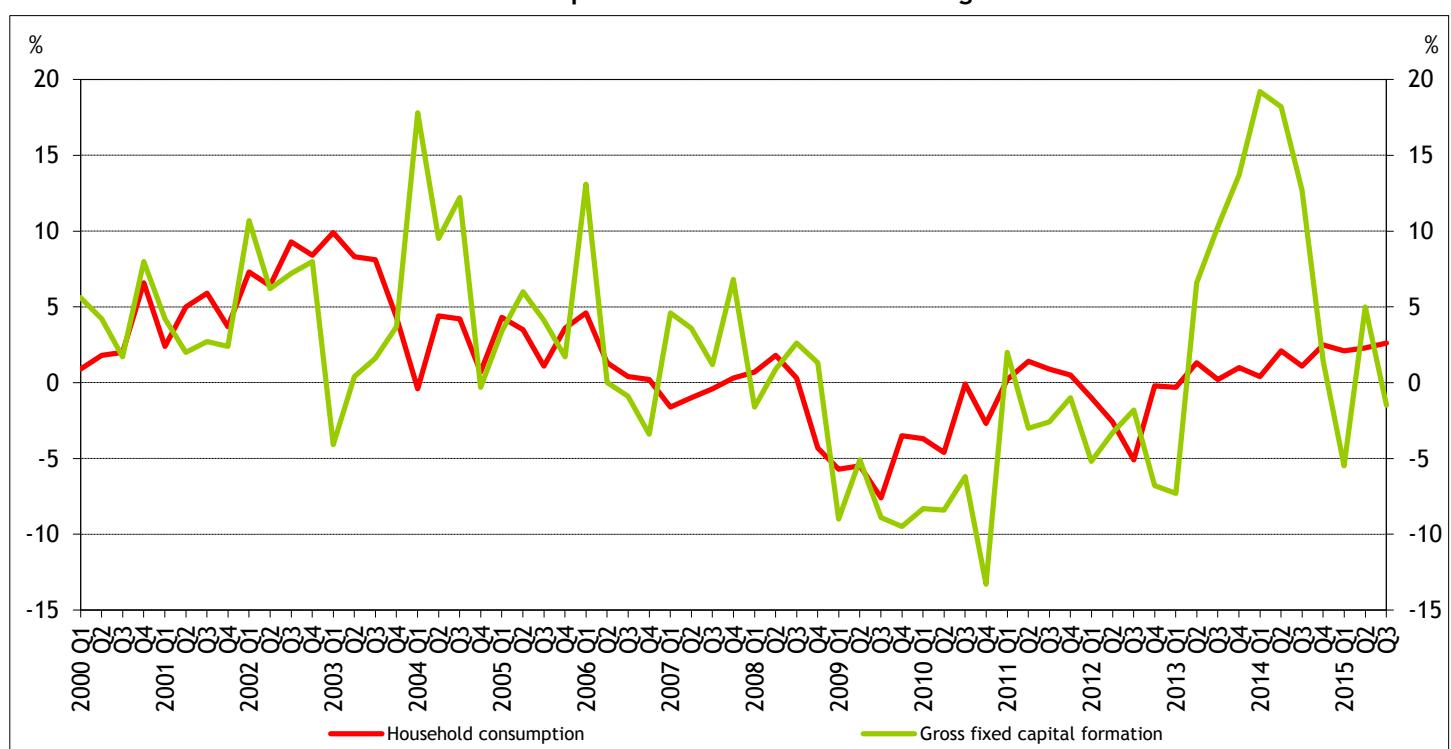
Source: HCSO.

Notes: year-on-year volume indices of trend-estimates.

**96. Developments in home prices**

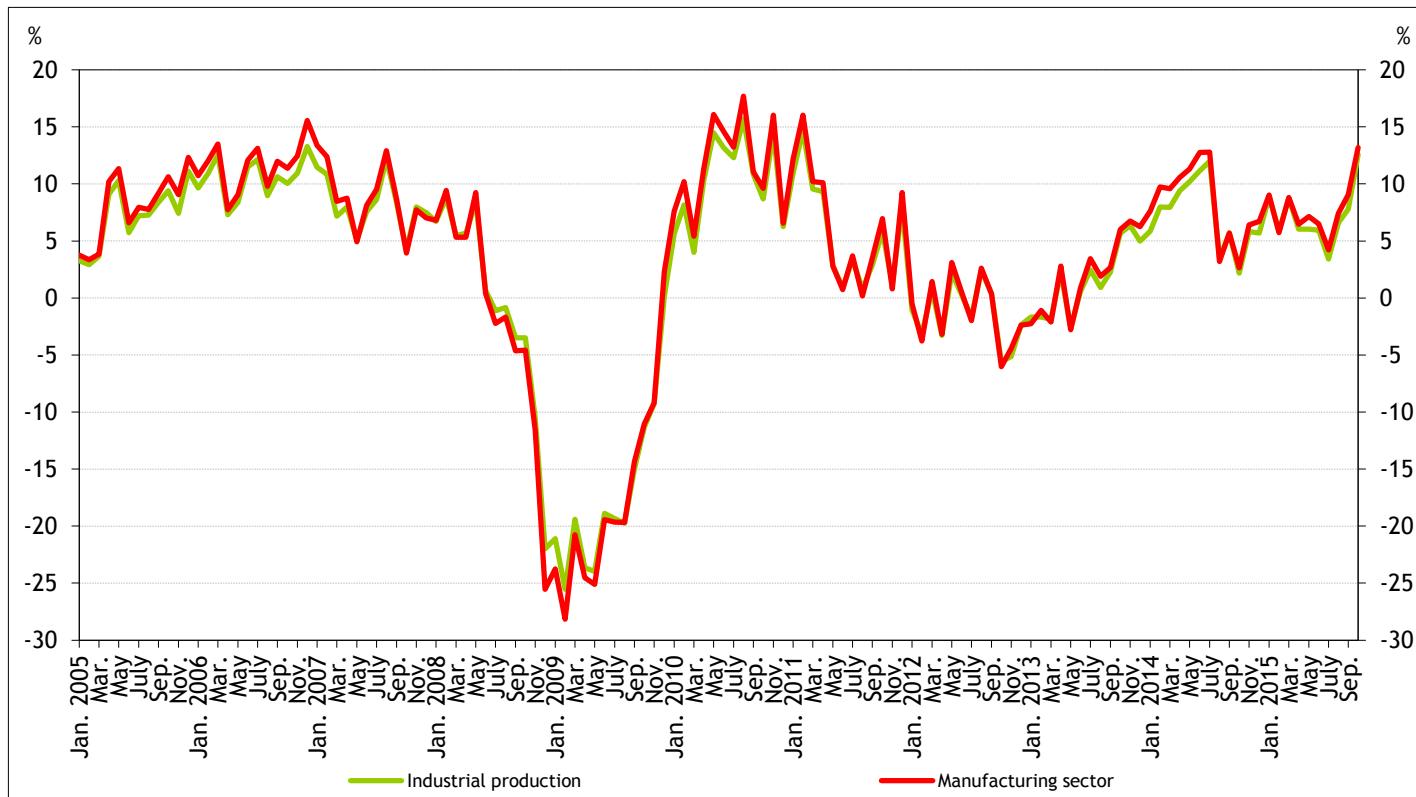
Source: KSH, FHN.

Notes: 2010=100, real home price indices; CPI deflated.

**97. Household consumption and the accumulation of gross fixed assets**

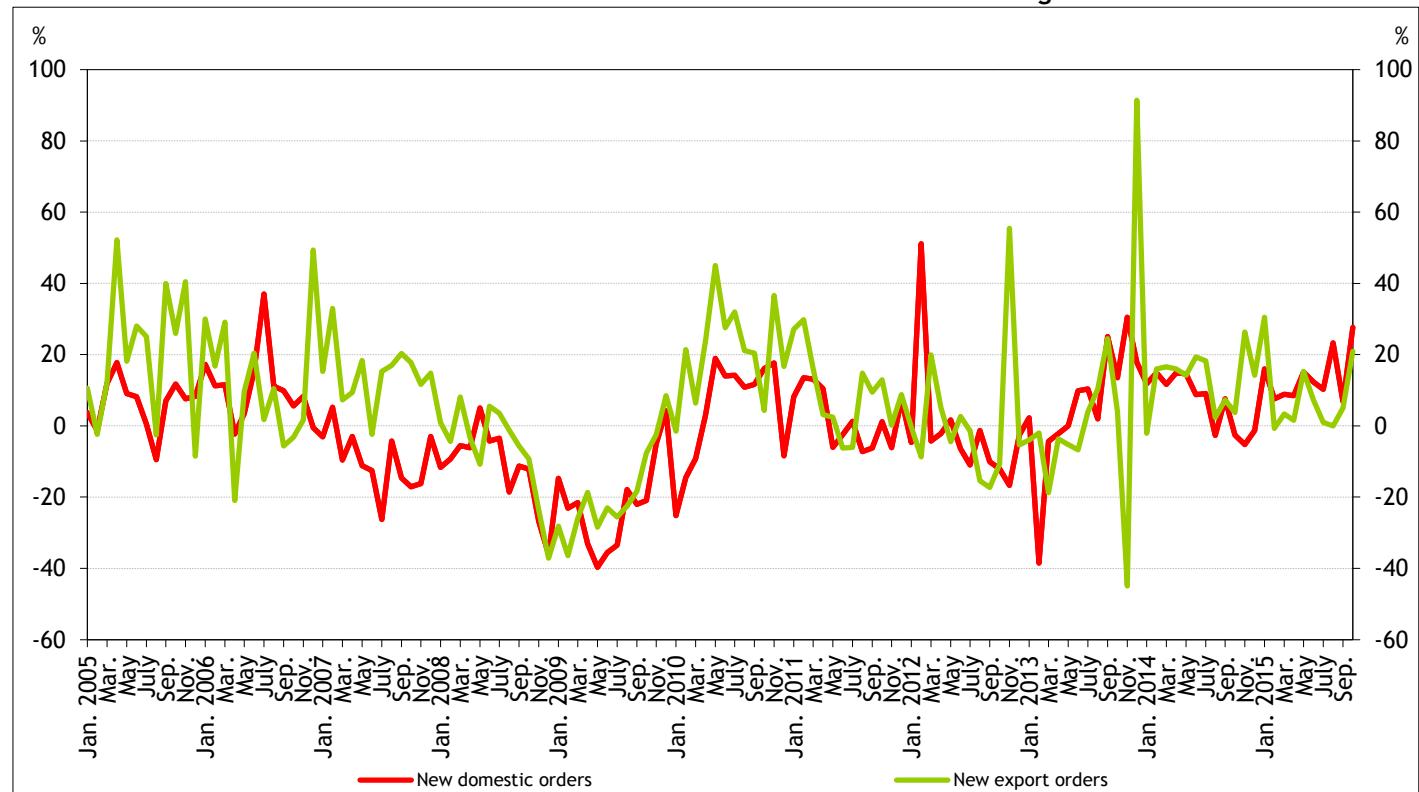
Source: HCSO.

Notes: annual growth rates.

**98. Industrial production and the output of the manufacturing sector**

Source: HCSO.

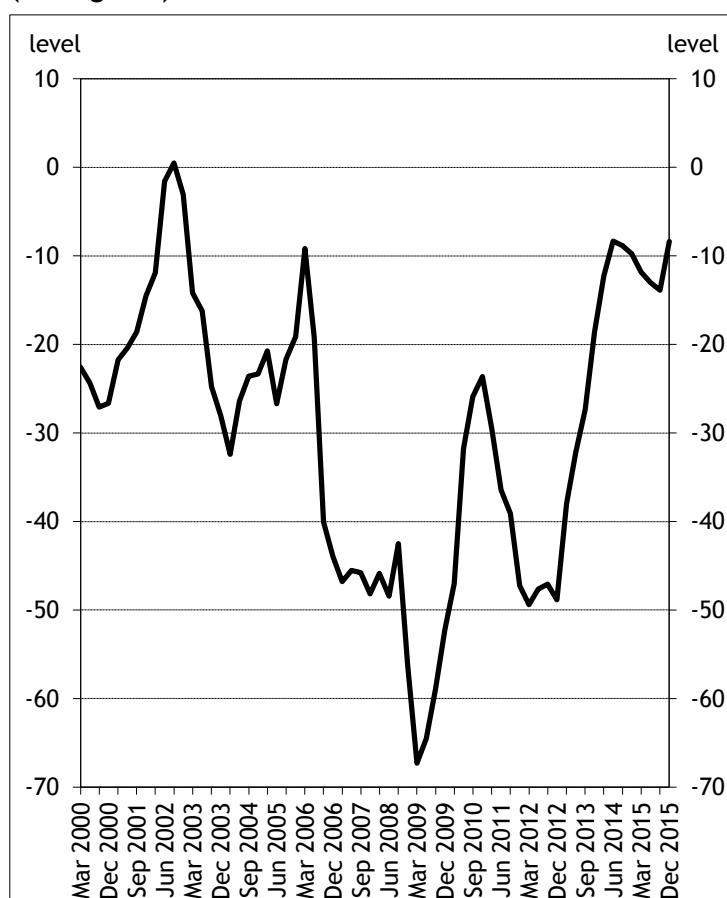
Notes: year-on-year volume indices of seasonally adjusted data.

**99. New orders in selected branches of the manufacturing sector**

Source: HCSO, MNB.

Notes: year-on-year volume indices of seasonally adjusted data.

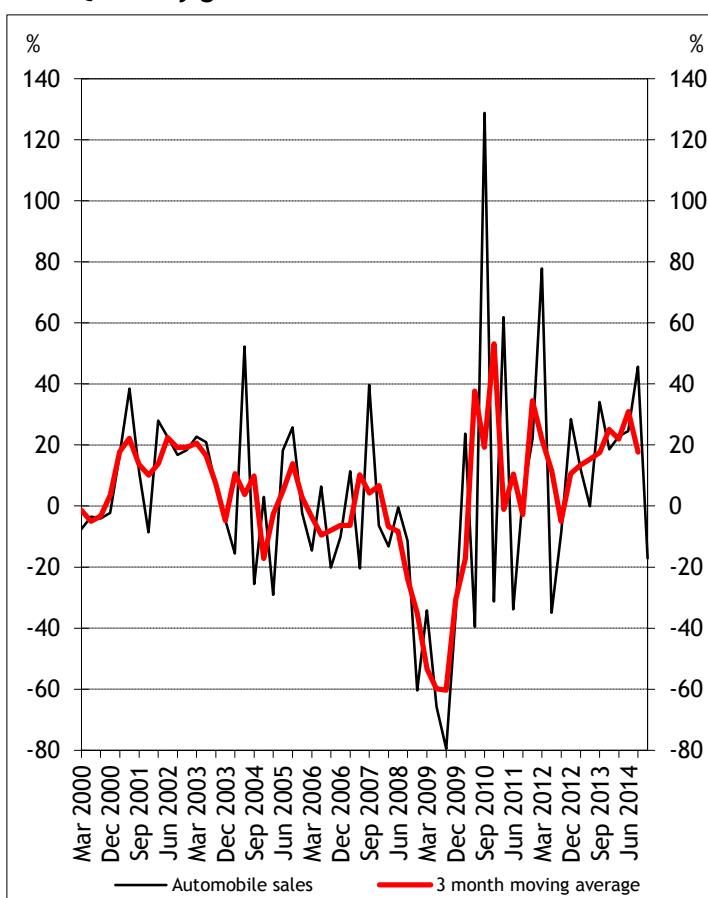
**100. European Commission household confidence index  
(reweighted)**



Source: European Commission

Notes: the re-weighted consumer confidence index takes into account those sub-indices of the European Commission survey which are the most highly correlated with the time series of household consumption expenditure. (For more details see: MNB Background Studies 2001/2)

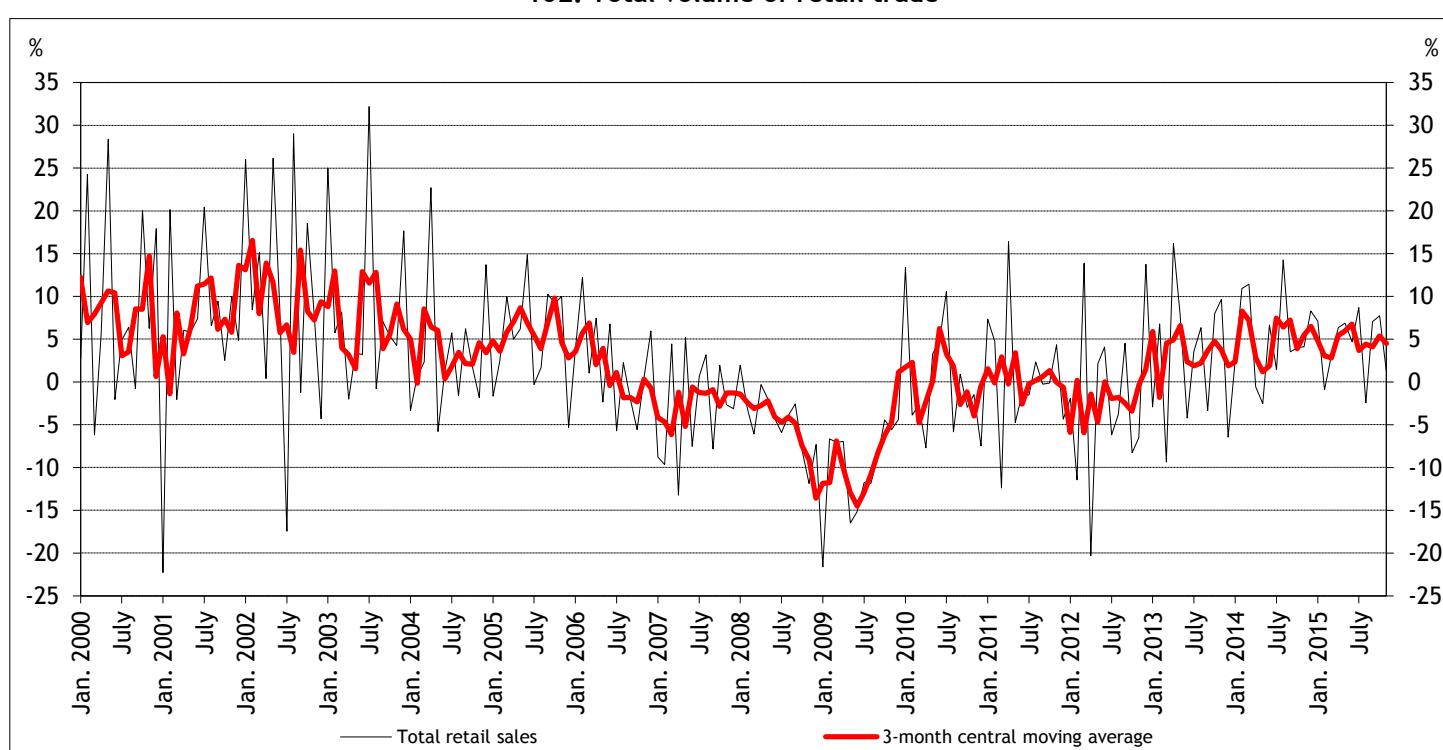
**101. Quarterly growth rates of automobile sales**



Source: Association of Hungarian Motor Vehicle Importers.

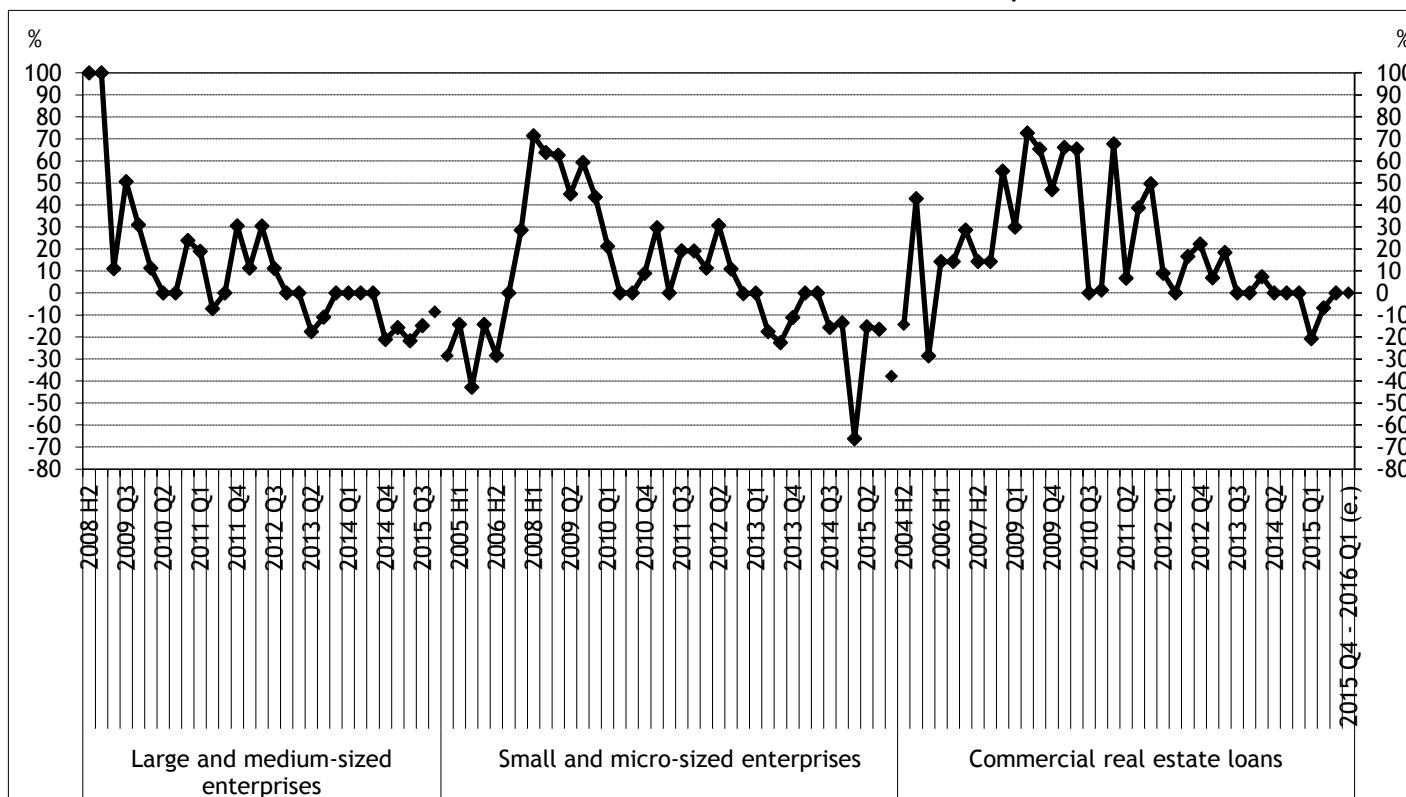
Data publication has ended in 2014.

**102. Total volume of retail trade**



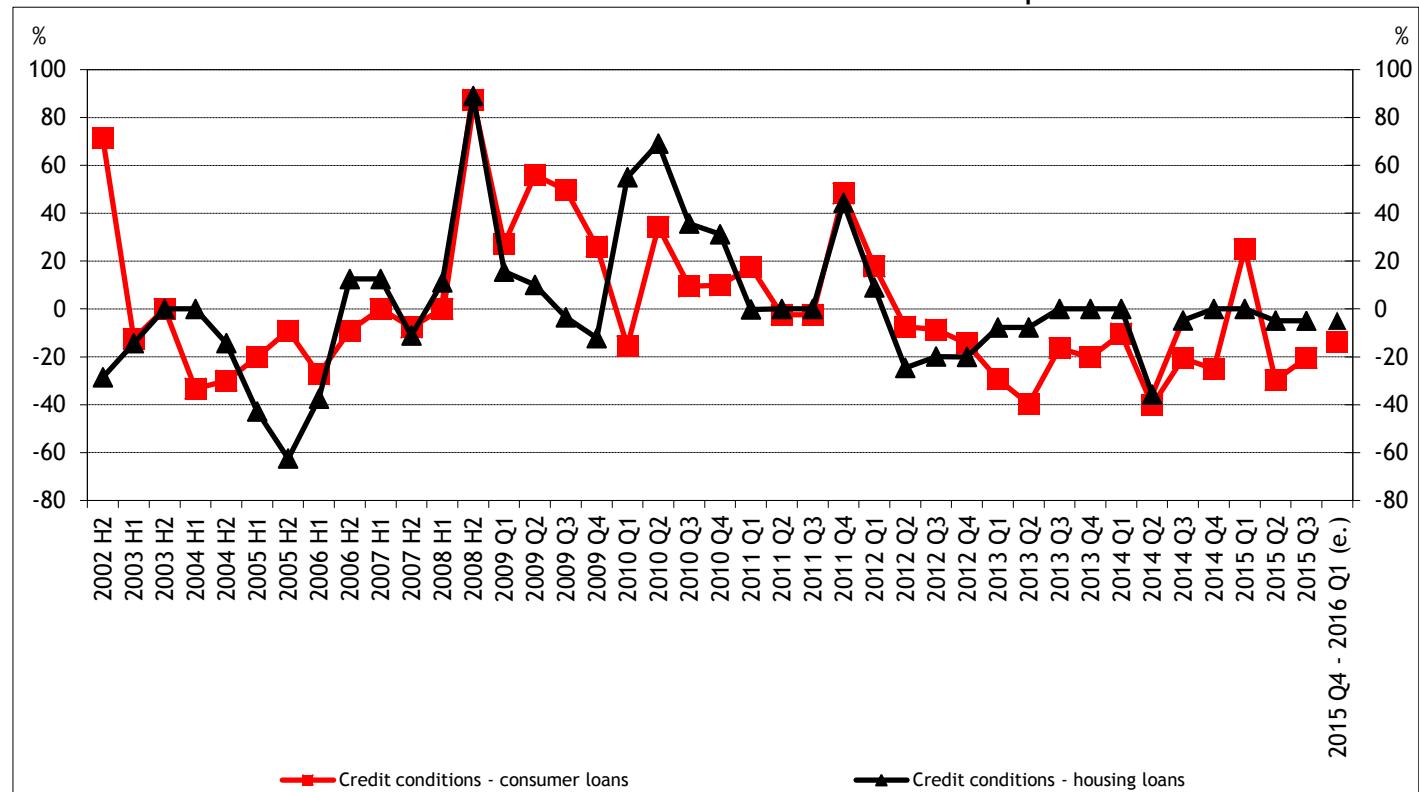
Source: HCSO.

Notes: 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.

**103. Creditworthiness standards and credit conditions in corporate sector**

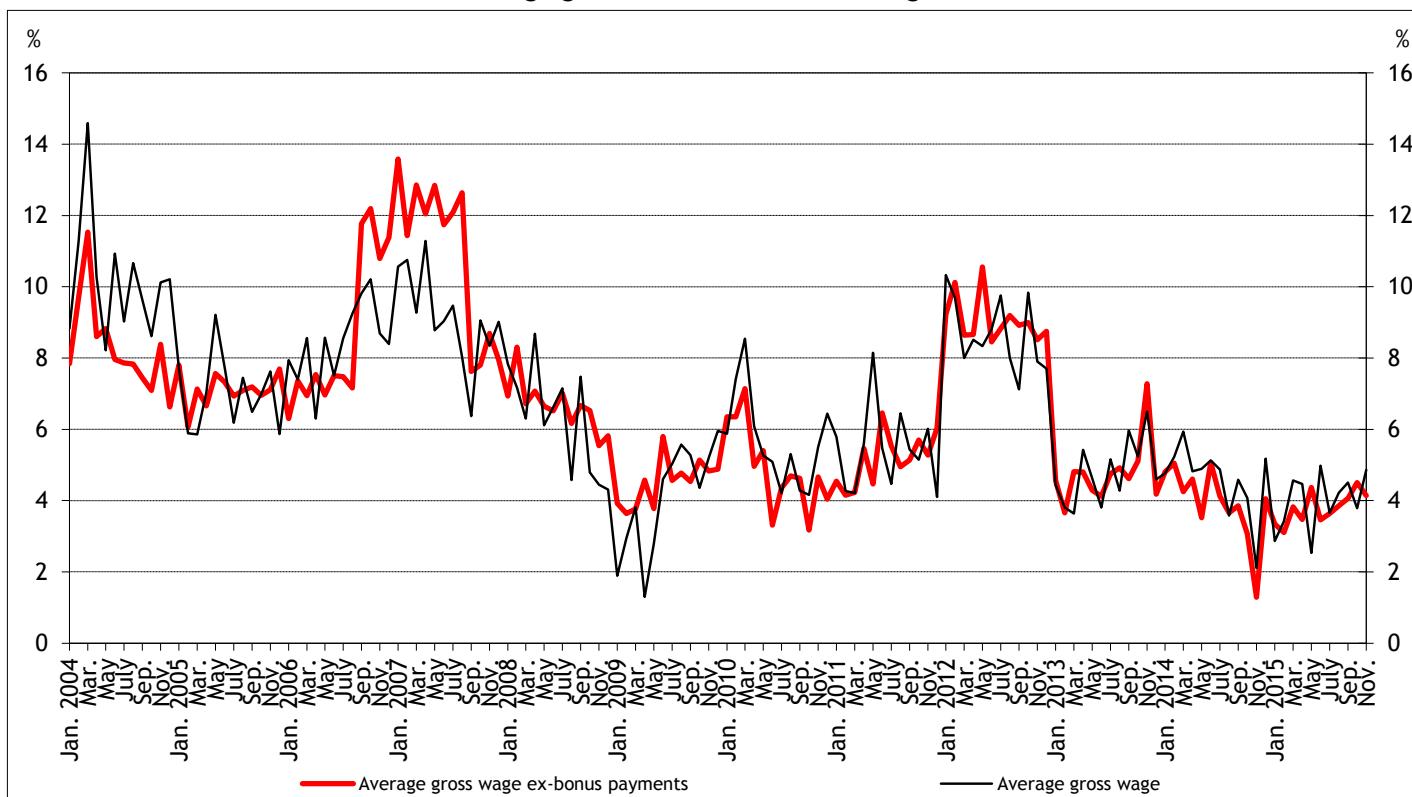
Source: MNB.

Notes: 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).

**104. Creditworthiness standards and credit conditions in corporate sector**

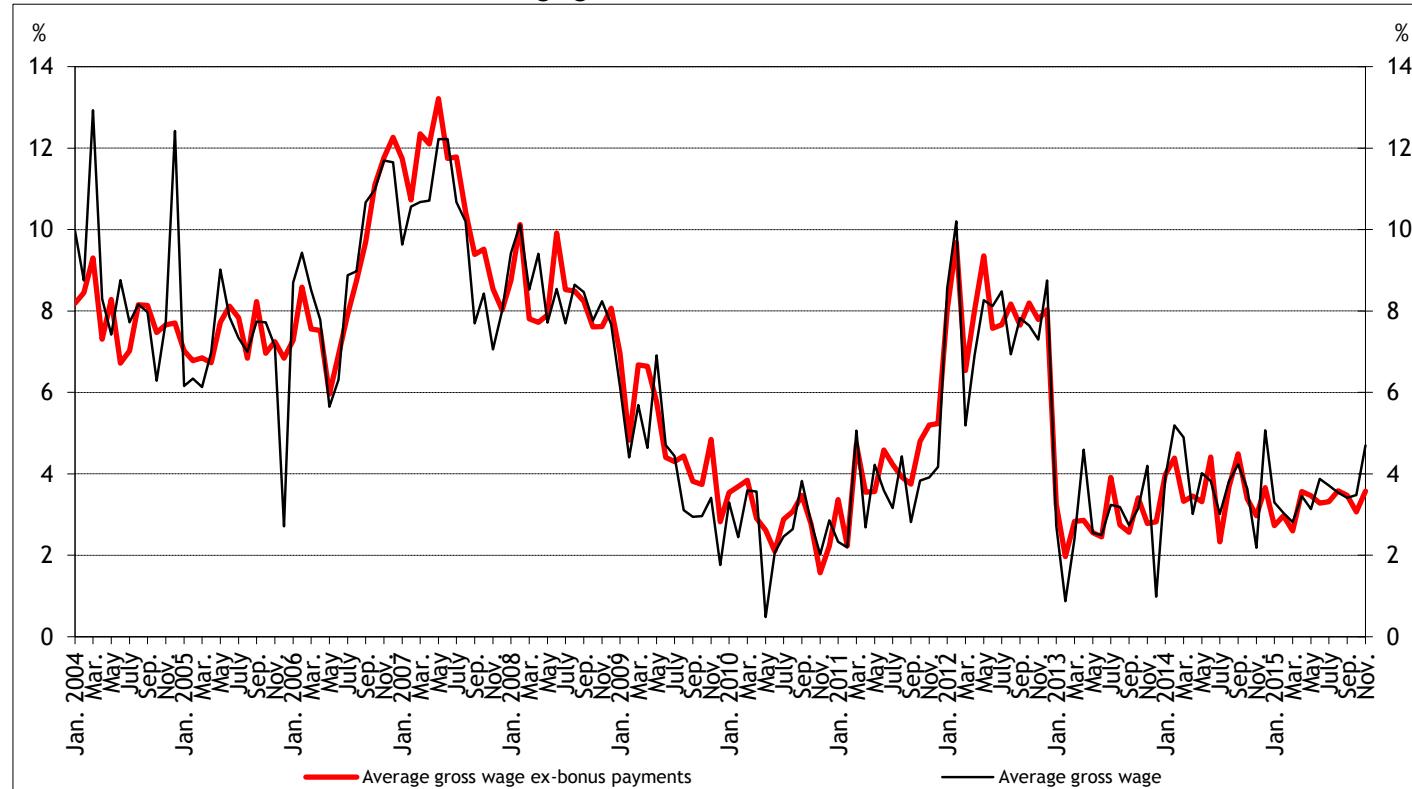
Source: MNB.

Notes: 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).

**105. Wage growth in the manufacturing sector**

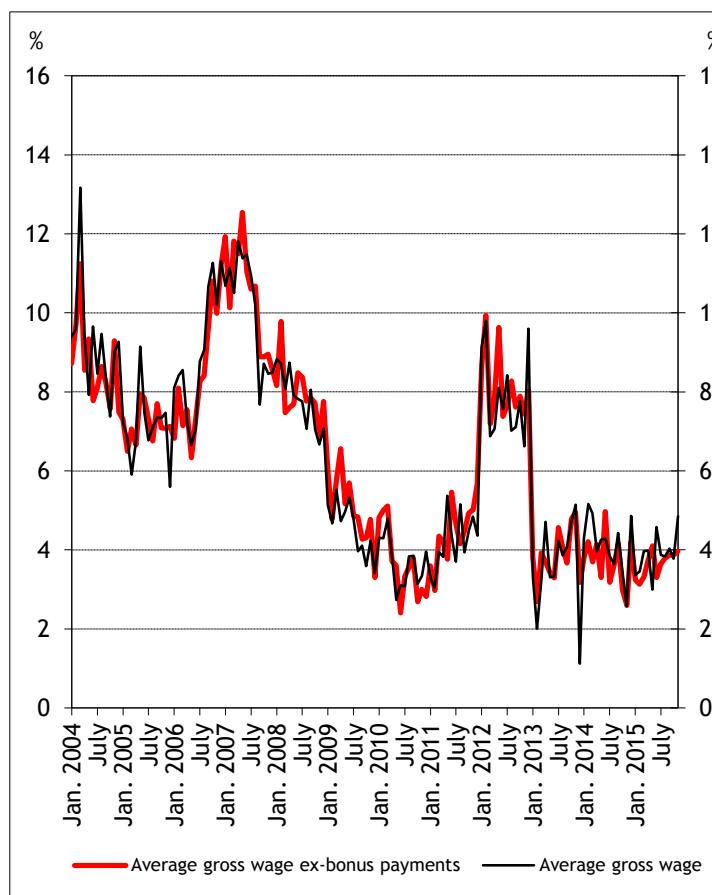
Source: HCSO, seasonally adjusted by NBH

Notes: annual growth rates.

**106. Wage growth in the market service sector**

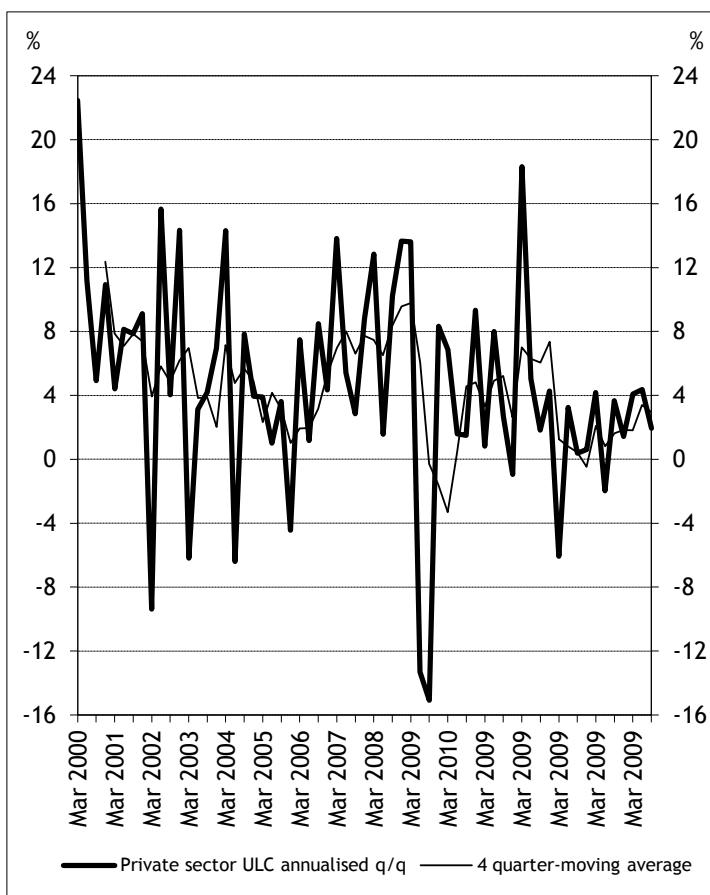
Source: HCSO, seasonally adjusted by NBH.

Notes: annual growth rates.

**107. Wage growth in the private sector**

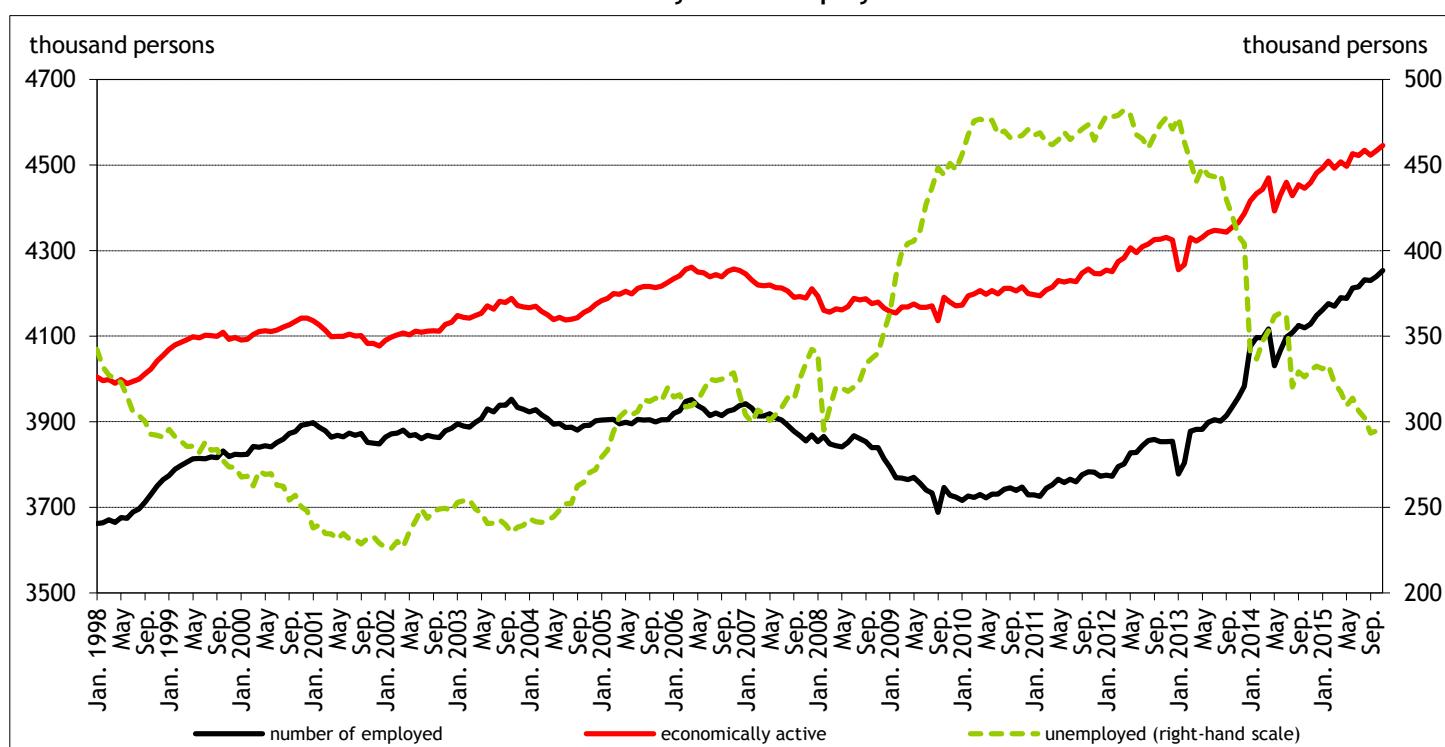
Source: HCSO, seasonally adjusted by NBH.

Notes: annual growth rates.

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

Source: HCSO.

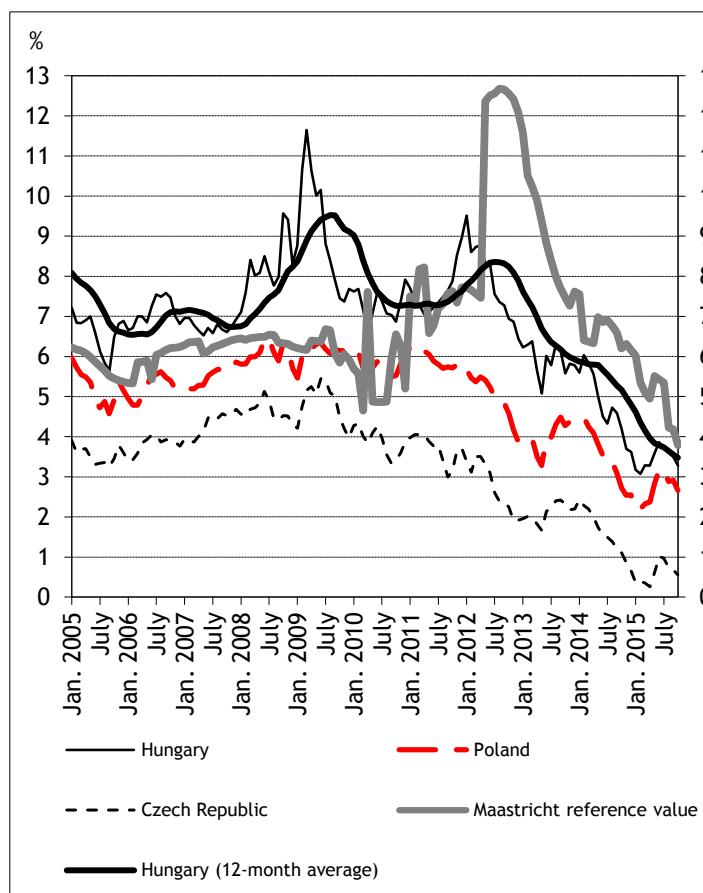
Notes: seasonally adjusted, annualised quarterly growth rates.

**109. Activity and unemployment**

Source: HCSO.

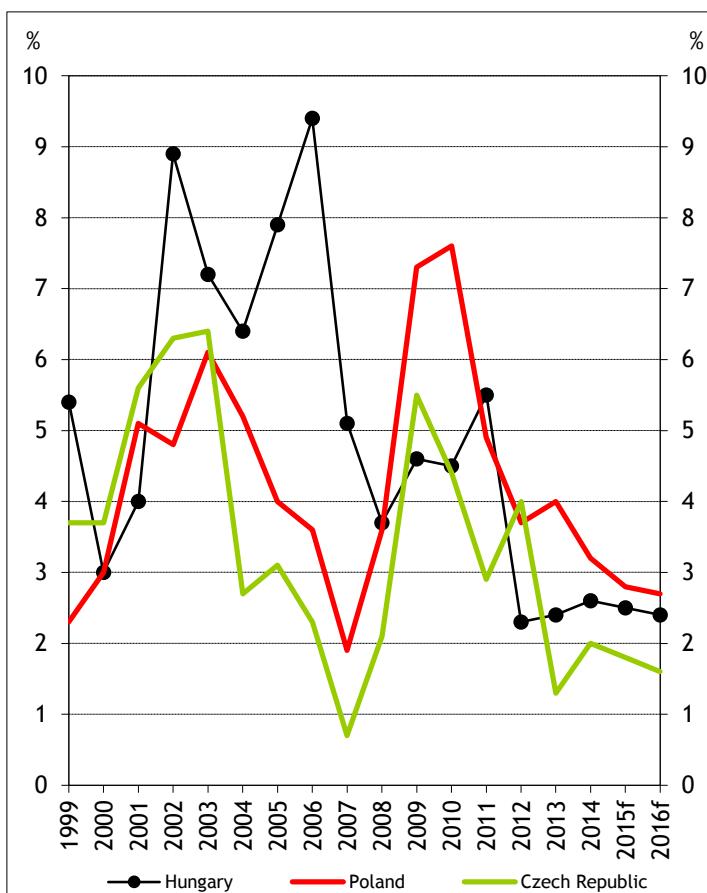
Notes: levels, seasonally adjusted.

**110. 10-year government benchmark yields in CEE countries**



Source: Eurostat.

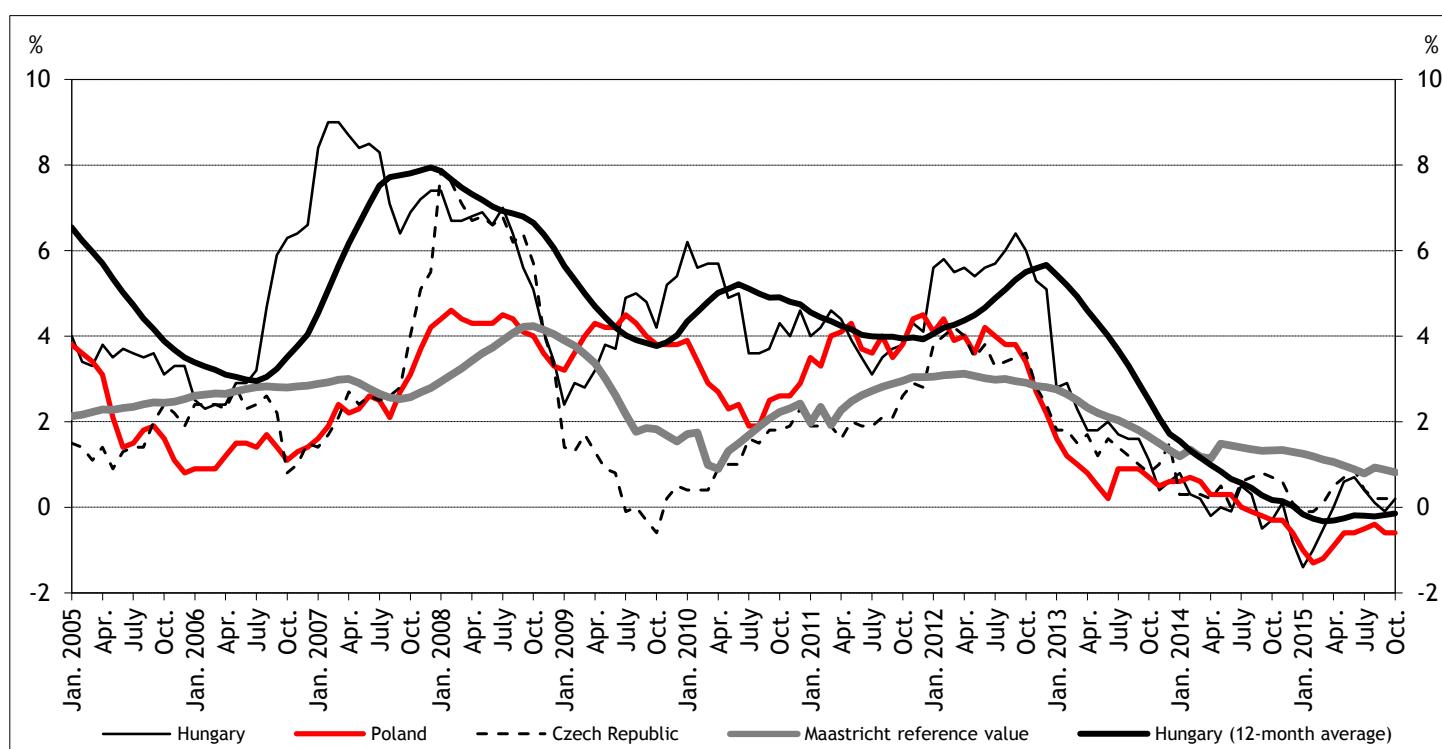
**111. Budget deficit in the CEE countries**



Source: Eurostat, Consensus Economics forecasts.

Notes: as a percentage of GDP. In the case of Poland and the Czech Republic privatisation revenues are not included.

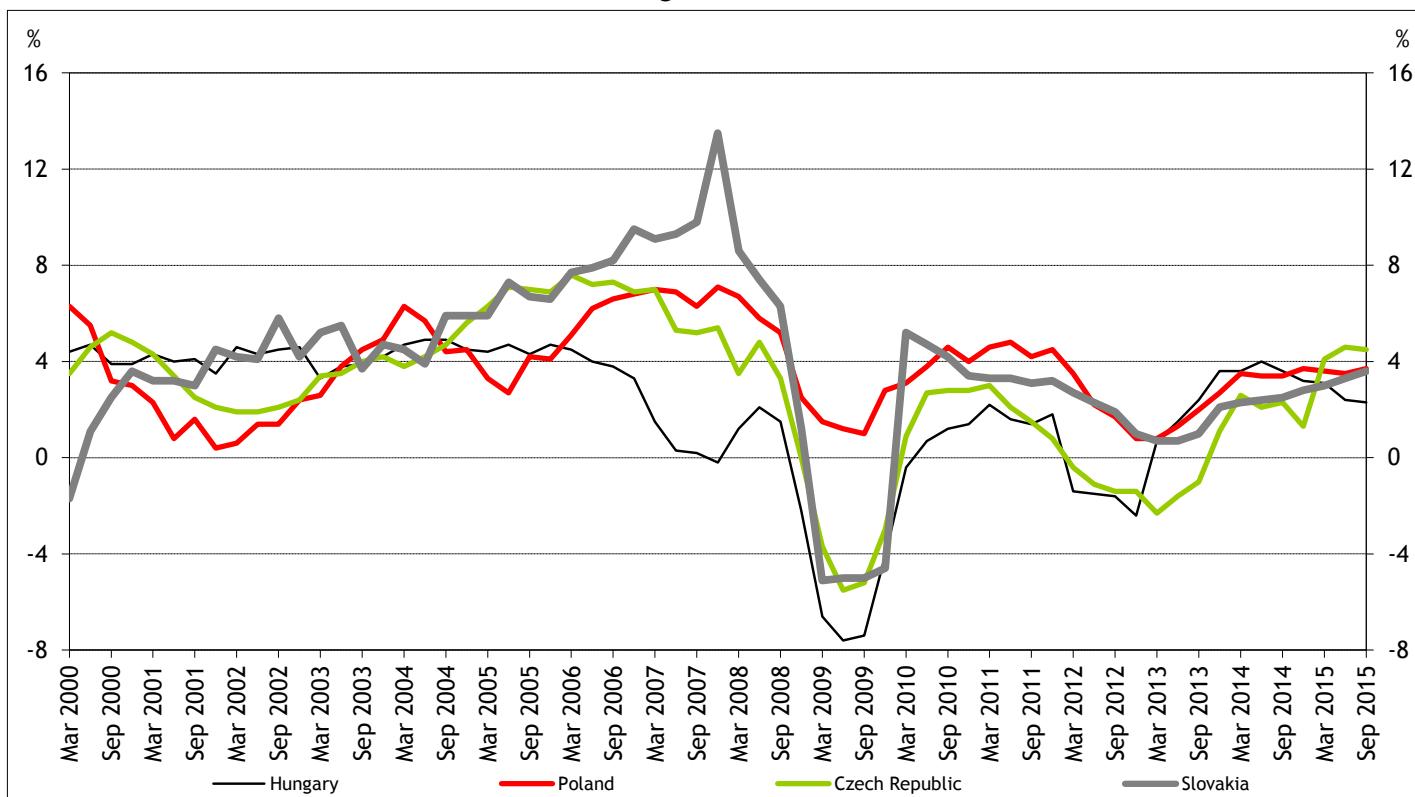
**112. Harmonised Index of Consumer Prices**



Source: Eurostat.

Notes: annual growth rate.

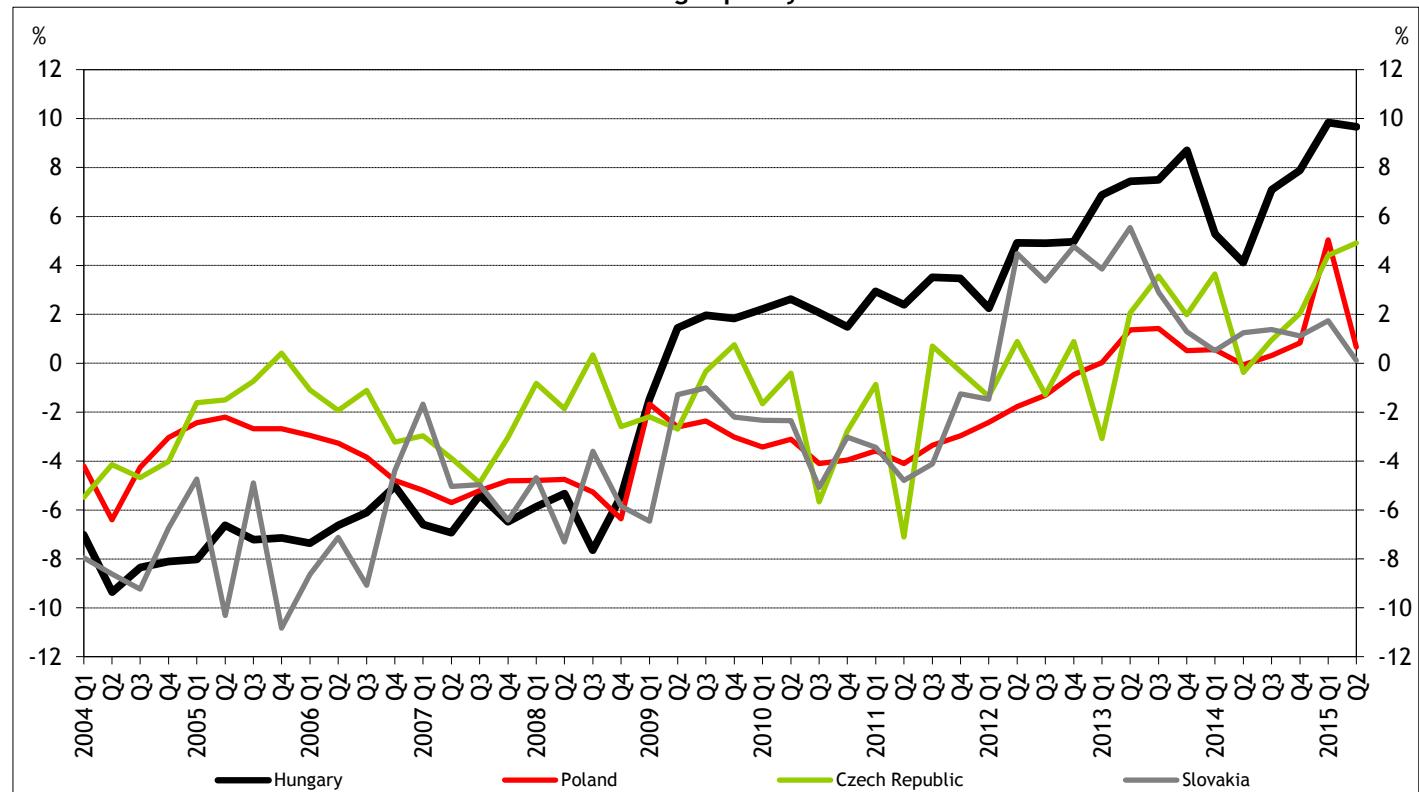
## 113. GDP growth rate in CEE



Source: Eurostat.

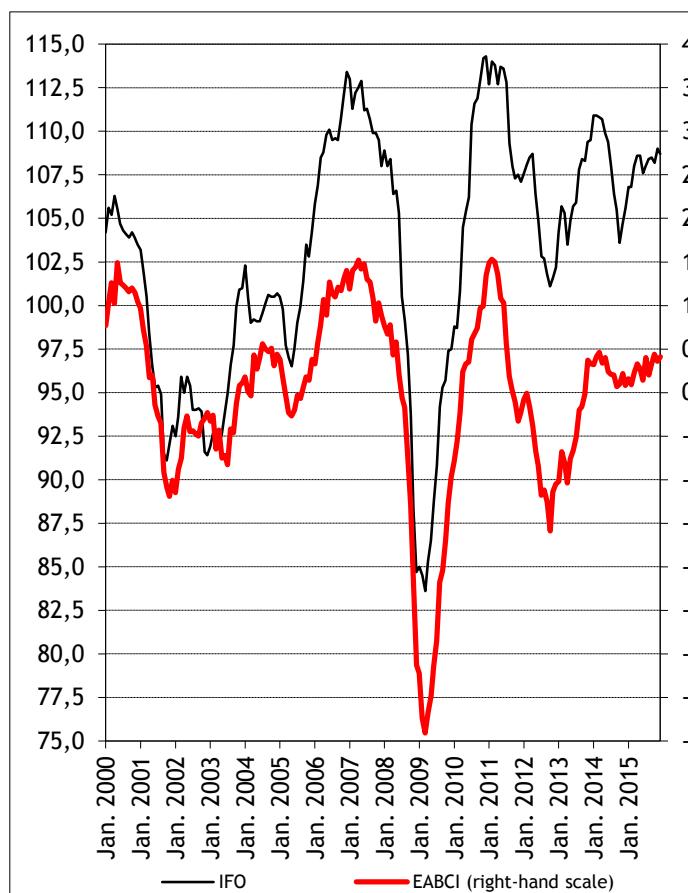
Notes: same period of previous year = 100; seasonally adjusted data.

## 114. External financing capacity in the CEE countries



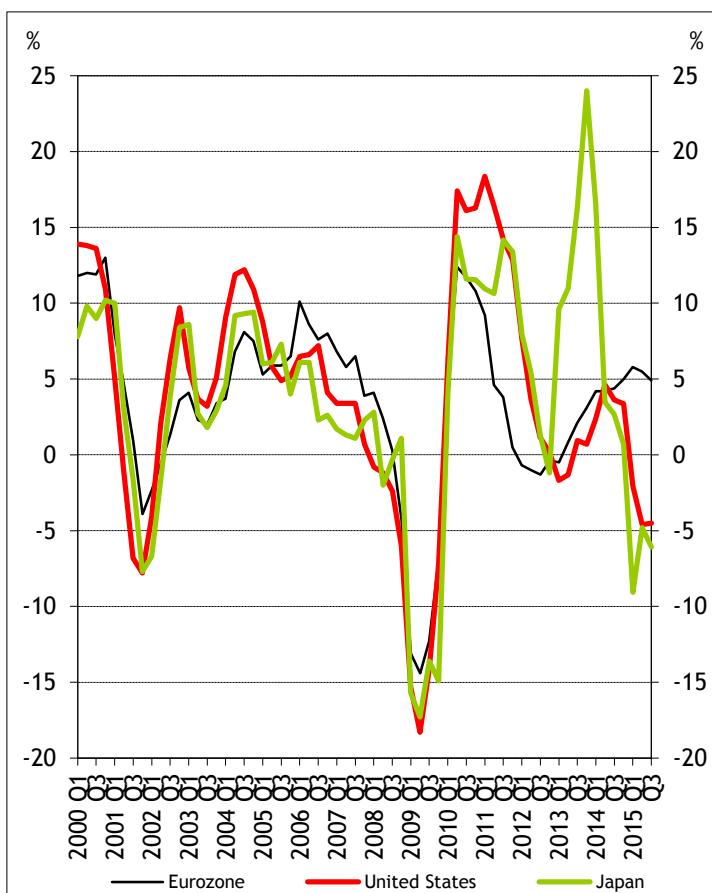
Source: Eurostat, MNB, CNB, NBP.

Notes: seasonally adjusted, as a percentage of GDP.

**115. Business climate indices in the EMU**

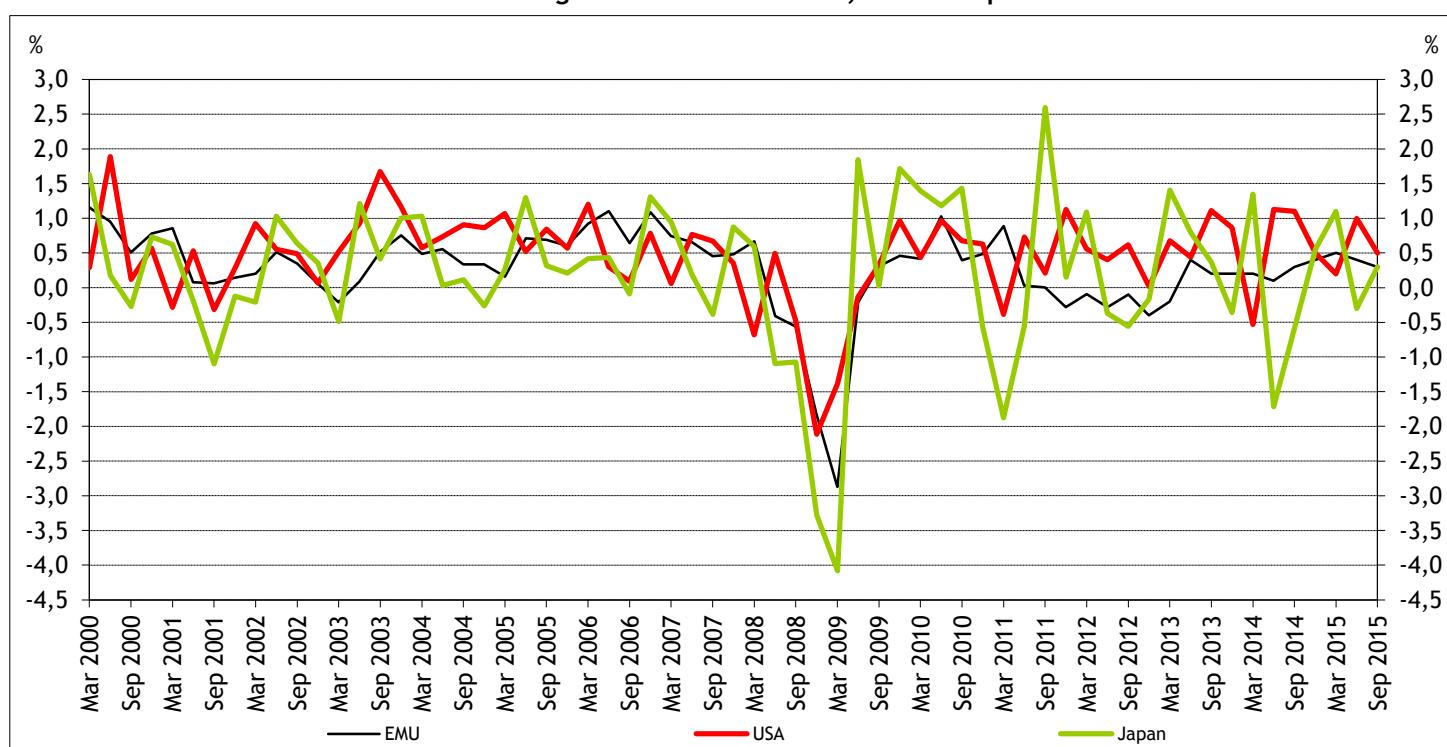
Source: IFO; European Committee.

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

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

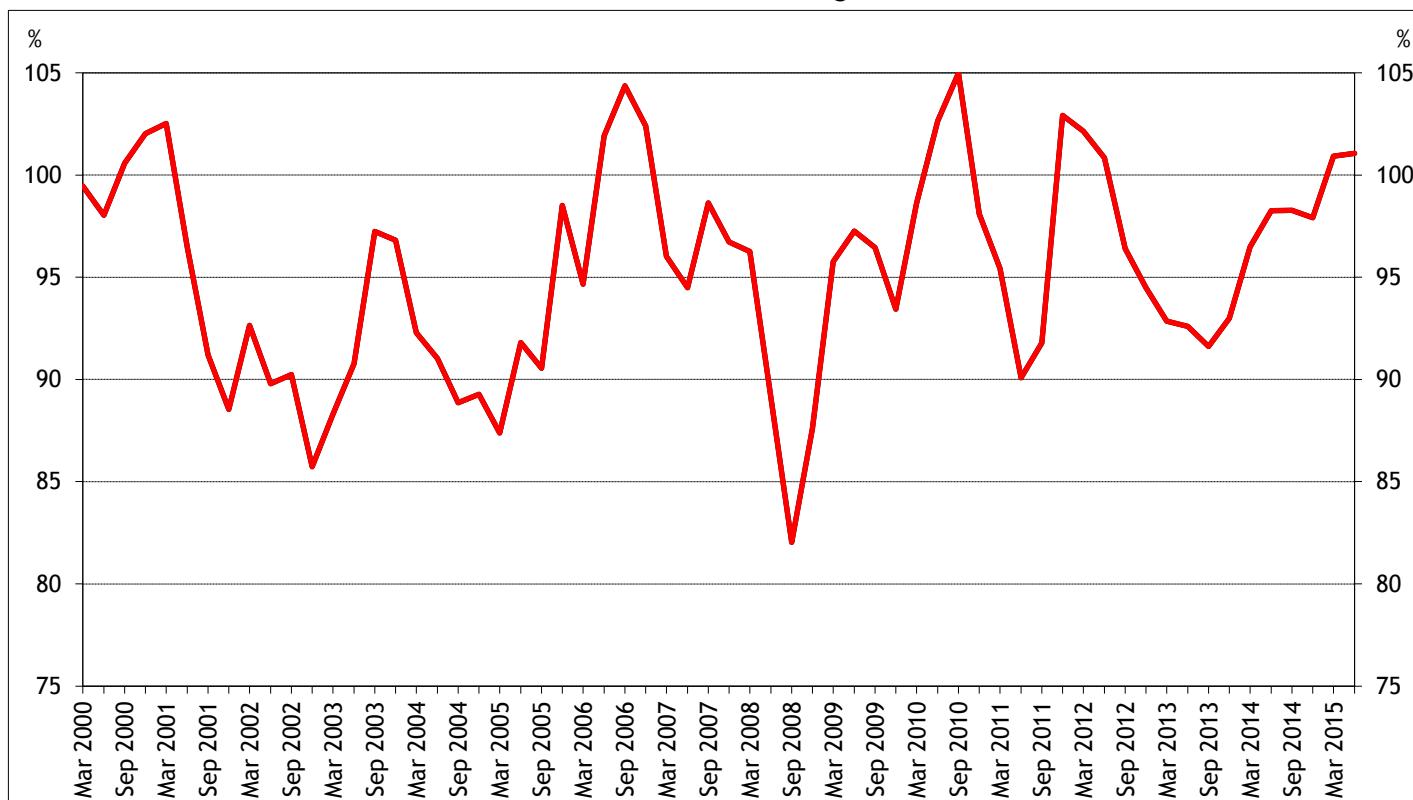
Source: Thomson Reuters.

Notes: seasonally adjusted data.

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

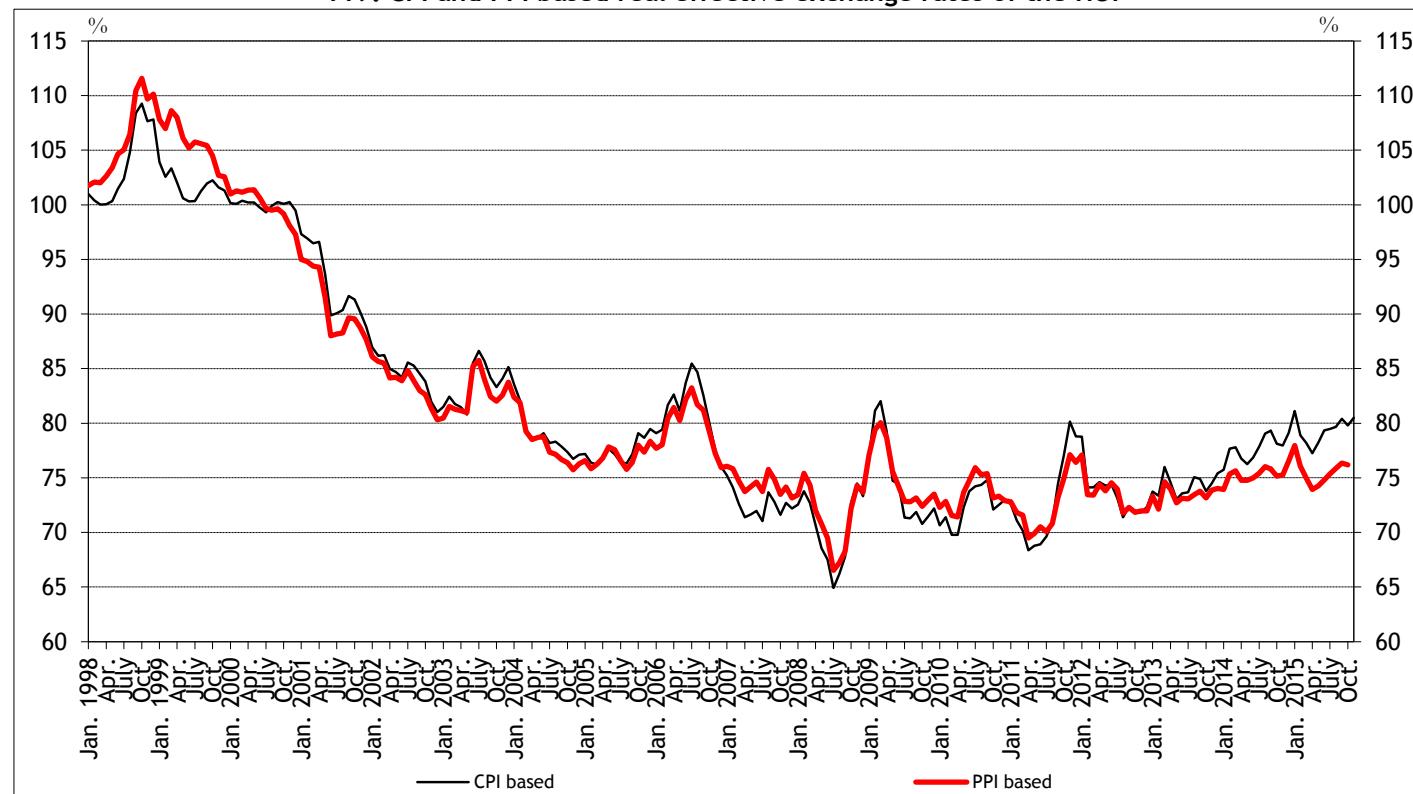
Source: EUROSTAT.

Notes: seasonally adjusted quarterly growth rates

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

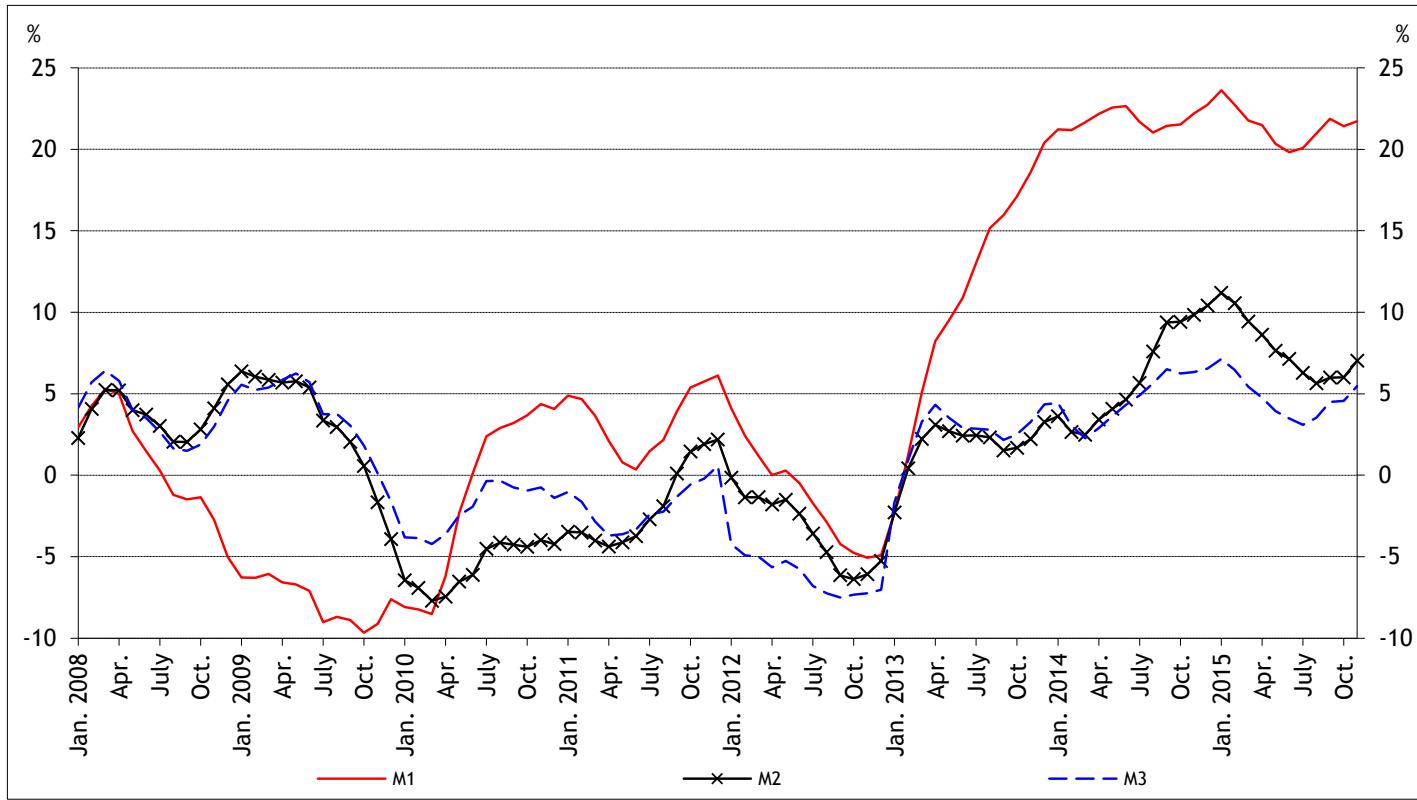
Source: HCSO.

Notes: average of year 2000 = 100%.

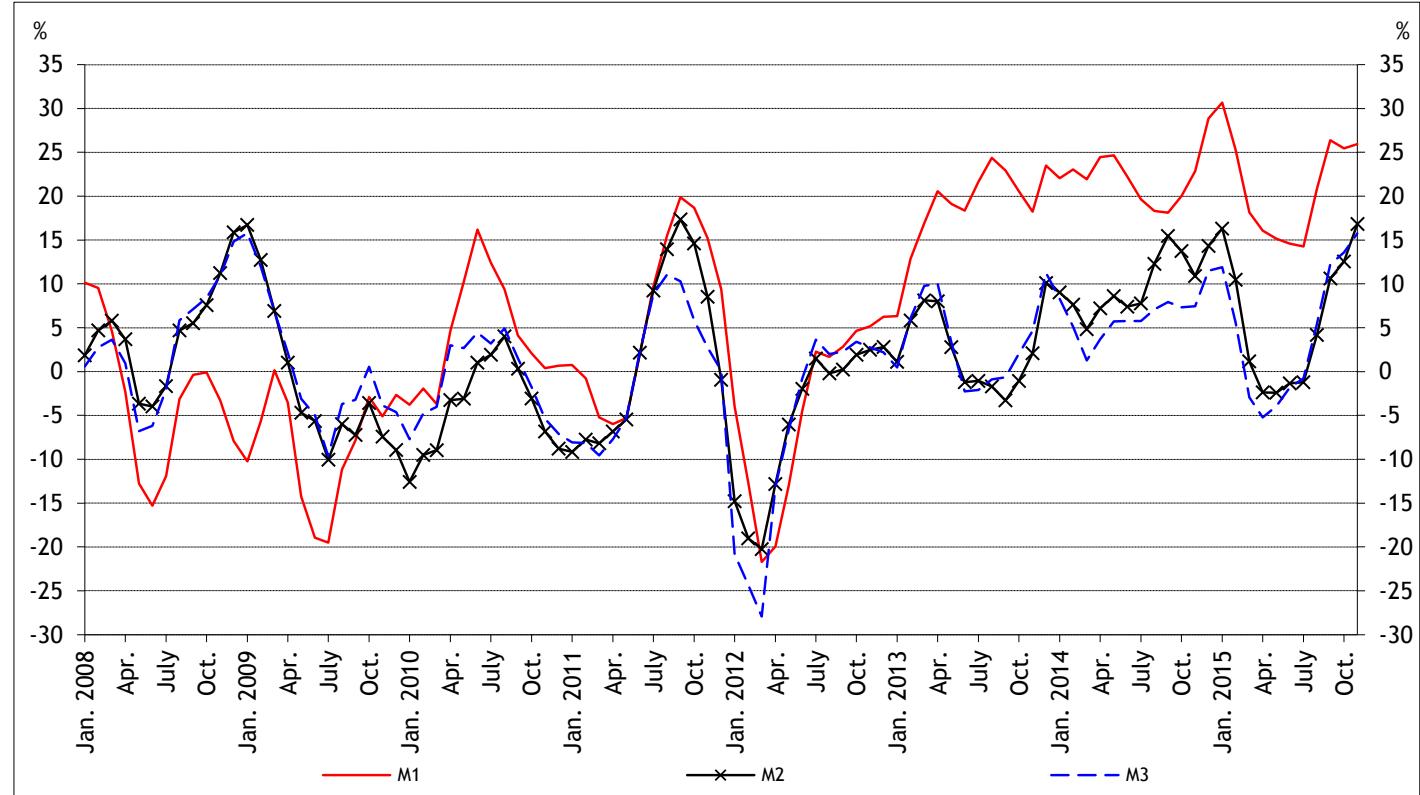
**119. CPI and PPI based real effective exchange rates of the HUF**

Source: HCSO, MNB, ECB

Notes: average of year 2000 = 100.

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

Source: MNB.

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

Source: MNB.