



INFLATION

REPORT



DECEMBER

2017

‘... wise is the man who can put purpose to his desires.’

Miklós Zrínyi: The Life of Matthias Corvinus



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Pursuant to Act CXXXIX of 2013 on the Magyar Nemzeti Bank, the primary objective of Hungary's central bank is to achieve and maintain price stability. Low inflation ensures higher long-term economic growth and a more predictable economic environment, and moderates the cyclical fluctuations that impact both households and companies.

In the inflation targeting system in use since August 2005, the Bank has sought to attain price stability by ensuring an inflation rate near the 3 percent medium-term target. The Monetary Council, the supreme decision-making body of the Magyar Nemzeti Bank, performs a comprehensive review of expected developments in inflation every three months, in order to establish the monetary conditions consistent with achieving the inflation target. The Council's decision is the result of careful consideration of a wide range of factors, including an assessment of prospective economic developments, the inflation outlook, financial and capital market trends and risks to stability.

In order to provide the public with a clear insight into how monetary policy works and to enhance transparency, the Bank publishes the information available at the time of making its monetary policy decisions. The Report presents the inflation forecasts prepared by the Directorate Economic Forecast and Analysis, the Directorate Monetary Policy and Financial Market Analysis, the Directorate for Fiscal and Competitiveness Analysis and the Directorate Financial System Analysis, as well as the macroeconomic developments underlying these forecasts. The forecast is based on the assumption of endogenous monetary policy. In respect of economic variables exogenous to monetary policy, the forecasting rules used in previous issues of the Report are applied.

The analyses in this Report were prepared under the direction of Barnabás Virág, Executive Director for Monetary Policy and Economic Analysis. The Report was prepared by staff at the MNB's Directorate Economic Forecast and Analysis, Directorate Monetary Policy and Financial Market Analysis, Directorate for Fiscal and Competitiveness Analysis and Directorate Financial System Analysis. The Report was approved for publication by Márton Nagy, Deputy Governor.

The Report incorporates valuable input from other areas of the MNB and the Monetary Council's comments.

The projections are based on information available for the period ending 14 December 2017.

CONTENTS

1. Inflation and real economy outlook	11
1.1. Inflation forecast	11
1.2. Real economy forecast	15
1.3. Labour market forecast	19
2. Effects of alternative scenarios on our forecast	24
3. Macroeconomic overview	26
3.1. Evaluation of international macroeconomic developments	26
3.2. Analysis of the production and expenditure side of GDP	32
3.3. Labour market	35
3.4. Cyclical position of the economy	38
3.5. Costs and inflation	41
4. Financial markets and interest rates	44
4.1. Domestic financial market developments	44
4.2. Credit conditions of the financial intermediary system	46
5. Balance position of the economy	48
5.1. External balance and financing	48
5.2. Forecast for Hungary's net lending position	53
5.3. Fiscal developments	55
6. Special topic	59
6.1. Direct and spillover effects of EU funds targeting economic development	59
7. Breakdown of the average consumer price index for 2017 and 2018	62
List of charts and tables	63

LIST OF BOXES

Box 1-1: Assumptions applied in our forecast	13
Box 1-2: Demography and other determinants in the forecasting of activity	21
Box 3-1: Connection between wage growth and productivity in the past period	36
Box 3-2: Efficiency of R&D&I expenditures in Hungary	39
Box 5-1: Changes in the difference between GDP and GNI	50

THE MONETARY COUNCIL'S KEY FINDINGS RELATED TO THE INFLATION REPORT

In the Council's assessment, in parallel with the pick-up in domestic demand, Hungarian economic output is close to its potential level. Growth of the Hungarian economy will continue to be dynamic in 2018, then it will slow down based on our current assumptions. The inflation target is expected to be achieved in a sustainable manner by the middle of 2019.

Global economic growth continued in recent months. The rise in global inflation, observed at the beginning of the year, came to a halt and it remained moderate in the autumn months as well. Growth rates of the price level were below inflation targets in most of the countries. International investor sentiment was favourable in the past quarter.

Growth in the global economy, and particularly in the euro area, continued in the third quarter of 2017. Looking ahead, global economic activity is expected to strengthen further. Economic activity developments in the euro area were favourable during the period under review, mostly contributed to by cyclical factors. However, risks still exist with respect to the economic growth of the euro area in the longer run. GDP growth in the United States is expected to pick up in 2018, while the Chinese economy continues to grow dynamically. Global oil prices increased considerably in recent months, but the underlying global inflation developments remained subdued.

In the fourth quarter, money and capital markets were characterised by high risk appetite. Market developments were influenced by decisions of the world's leading central banks, European political events, as well as country-specific developments related to certain emerging markets. Major stock indices reached new historical highs, while risk indicators remained low. The minor faltering in the risk appetite, observed in the first half of November, proved to be temporary. The depreciation of the euro, which characterised the first half of the past quarter, reversed somewhat in the second half of the period. The appreciation of the euro may have been mostly attributable to the favourable macro figures published in the euro area.

In line with the moderate inflation expectations, persistently loose monetary policy environment may remain in place in the euro area. The European Central Bank announced that it would continue asset purchases in reduced volume until September 2018. Market participants expect the first interest rate hike to take place later, in mid-2019. The Fed's interest rate path suggested by market prices did not change significantly after the interest rate increase by the Fed in December 2017.

The Central and Eastern European regions once again proved to be the growth centre of the European Union. Inflation typically increased in the countries of the region in the past months, but still remained within the tolerance bands. Of the central banks of the region, the Czech central bank decided to raise the base rate again, while the Romanian central bank narrowed the interest rate corridor in two steps. The Polish central bank did not change the monetary conditions.

In line with our September expectation, in a sustainable manner, inflation will reach the 3 percent level consistent with price stability, by the middle of 2019.

In the past period, inflation essentially corresponded to the projection of the September Inflation Report. Core inflation fell short of the projection, which was mainly caused by the more moderate than expected increase in the price of market services.

According to our current forecast, after the temporary rise observed in November, by the end of 2017 inflation will once again decline close to 2 percent, while in the first months of next year it will level off at the bottom edge of the tolerance band. On the forecast horizon, we expect core inflation to rise gradually, the rate of which, however, may be more moderate than projected in September. Over the medium term the second-round effects resulting from buoyant domestic demand, increase in wage costs, as well as higher commodity prices will point to the increase in domestic core inflation. At the same time, underlying inflation trends in the euro area are persistently subdued, which curbs the rate of price increase in Hungary. In addition, households' inflation expectations stabilising at historically low levels, subsequent reductions in employers' social contributions, as well as the VAT rate cuts, announced for next year, are slowing inflation.

As a result of the higher crude oil prices, compared to our September assumptions, the price developments of non-core goods are higher in the short run than in our previous forecast. Based on the projection in the December Inflation Report,

the inflation target will be achieved in line with our previous expectation. Accordingly, in a sustainable manner, inflation will reach the 3 percent level consistent with price stability, by the middle of 2019.

According to the current projection, we anticipate dynamic economic growth in 2017 and 2018, followed by a slowdown from 2019 based on our current assumptions. The role of productivity and competitiveness in terms of growth will become increasingly important.

The data received since the September Inflation Report reflect more favourable investment processes, as a result of which we count on a higher growth path compared to the September Inflation Report.

In 2018, we expect economic growth to have a similar rate as this year, followed by a slowdown based on our current assumptions. Looking ahead, growth is still supported by the expansion in domestic demand. The growth in consumption is supported by the dynamic increase in real wages, the high net financial worth, the pick-up in household lending and the second-round effects of the upturn on the housing market. The rise in household consumption is also backed by strengthening consumer confidence. In the first half of the forecast horizon, investments are expected to increase dynamically, supported by the strengthening of the underlying corporate investment trends, the pick-up of the housing market, the low interest rate environment, the central bank programmes, the major rise in loans to SMEs, as well as by the soar in the absorption of EU funds. In the second half of the forecast horizon, the fading of the large corporate investments, the decrease in the effective drawdown of EU funds and, according to the operative tax regulations, the faltering of the housing market cycle resulting from the resetting of the VAT rate related to the new housing transactions, will lead to a decrease in whole-economy investments, resulting in the deceleration of growth. The favourable outlook for international economic activity projects a more buoyant growth in external demand on the forecast horizon, as a result of which our expectations with regard to the rise in Hungarian exports were also adjusted upwards.

In the Council's assessment, GDP growth will approach 4 percent in 2017 and in 2018, then it will slow down from 2019 onwards based on our current assumptions. In line with economic growth, the unemployment rate will also continue to decrease. In parallel with the pick-up in domestic demand economic output is close to its potential level. Since output does not materially deviate from the potential level, in terms of economic growth, productivity and competitiveness gain increasing importance.

A reversal took place both in corporate and household lending in the former years, and lending to both sectors is expanding steadily.

In the past years growth in both corporate and household lending reached a turnaround. Under the buoyant economic growth and persistently negative real interest rate environment, a continued rise in lending is expected to take place. The Hungarian economy is still in the early, ascending phase of the new lending cycle. The growth in the outstanding borrowing of SMEs continues to be steadily in the targeted band of 5-10 percent, even after the phase out of the Funding for Growth Scheme. With the strengthening of lending to large corporations, the entire corporate sector is characterised by dynamic credit growth. The pick-up in household lending takes place in a sound structure, also guaranteed by the MNB's debt cap regulation. The largest part of the outstanding retail housing loans are still variable rate loans or loans with interest fixed for less than one year. The measures of the MNB, announced in November – the interest rate swap facilities and the mortgage bond purchase programme – point to a decrease in the steepness of the yield curve. These measures facilitate growth in the ratio of loans with interest fixed for longer than one year, contributing to the improvement in financial stability.

The current account balance shows a surplus over the entire forecast horizon. Under the pick-up in domestic demand, the Hungarian economy's net lending will decrease in 2017-2018. Expansion in domestic absorption decelerates from 2019, as a result of which Hungary's external surplus will increase again. Hungary's external vulnerability continues to decrease.

The current account surplus slightly decreased in the first half of 2017, which is mostly attributable to the decline in trade surplus. On the other hand, the rising absorption of EU funds entailed an increase in net lending in the second quarter. Looking ahead, the higher domestic absorption will continue to reduce the trade surplus, while the absorption of EU transfers may gradually increase. Thus, the net lending position in 2018 will be around the level recorded in 2017, i.e.

4 percent of GDP. From 2019 the expansion in domestic absorption will slow down and thus the decline in the balance of payments will halt. Accordingly, the net lending of the economy will continue to steadily support the decrease in external liability and the external vulnerability of the economy. Based on the incoming data and the latest measures, the general government deficit in 2017 may be around 2 percent, which is lower than the statutory appropriation of 2.4 percent of GDP. According to our forecast, the ESA balance in 2018 may correspond to the deficit target stipulated in the Budget Act (2.4 percent), once again followed by a deficit of roughly 2 percent in 2019 and 2020. As a result of economic growth, the decrease in the government debt ratio will continue over the entire forecast horizon, which complies with the provisions of the Fundamental Law and the EU legislation.

The money market trends of the Central and Eastern European region were mostly determined by the measures taken by the central banks of the region and the events in the developed markets. The yields of Polish long-term government securities have not changed materially, while Czech long-term yields rose. Meanwhile, the Hungarian long-term interbank and government securities market yields substantially declined as a result of the central bank's decisions and communication.

In the Hungarian uncollateralised interbank market, in line with the MNB's measures, the BUBOR fixings declined by 4-12 basis points since mid-September, while the medium and longer section of the interbank forward yield curve shifted materially downwards. The steepness of the government securities market yield curve substantially decreased as well, primarily due to the decline of 30-70 basis points in long-term yields. Government securities auctions were characterised by strong demand; similarly to the secondary market trends, auction yields materially decreased on the longer maturities, while no significant change occurred on the short-term maturities. During the period, the exchange rate of the forint against the euro slightly depreciated. According to market forecasts, Euro-area monetary conditions – the key determinants of domestic monetary policy – are expected to remain steadily accommodative.

The macroeconomic outlook is surrounded by both upside and downside risks.

In addition to the baseline projection in the December Inflation Report, the Monetary Council highlighted two alternative scenarios. The alternative scenario that assumes more moderate global inflation represents an inflation path below the baseline scenario, without having a material impact on GDP growth. As a result of the scenario assuming faster wage growth, economic growth will be more robust and inflation will be higher than the forecast of the baseline scenario. In addition to the key scenarios, in terms of other possible risks the Monetary Council discussed scenarios which assume divergence in the monetary policy of the central banks of the region, stronger than expected slowdown in the investment cycle and more favourable international economic activity.

The inflation target is expected to be achieved in a sustainable manner by the middle of 2019. In the Council's assessment, maintaining the base rate and the loose monetary conditions at both short and long ends for an extended period is necessary to achieve the inflation target in a sustainable manner.

SUMMARY TABLE OF THE BASELINE SCENARIO

(Forecast based on endogenous monetary policy)

	2016	2017	2018	2019	2020
	Actual		Projection		
Inflation (annual average)					
Core inflation	1.4	2.3	2.5	2.8	2.9
Core inflation excluding indirect tax effects	1.3	2.1	2.5	2.8	2.9
Inflation	0.4	2.3	2.5	2.9	3.0
Economic growth					
Household consumption expenditure	4.2	4.6	3.8	3.0	3.0
Government final consumption expenditure	1.3	-0.1	0.7	0.8	0.7
Gross fixed capital formation ⁶	-10.6	22.7	12.0	4.1	-2.0
Domestic absorption	1.5	6.1	4.7	2.8	1.2
Exports	3.4	6.8	7.8	7.3	6.6
Imports ⁶	2.9	9.6	8.9	7.2	5.4
GDP ⁶	2.2	3.9	3.9	3.2	2.7
Labour productivity ⁵	-0.4	2.0	3.2	2.9	2.5
External balance ¹					
Current account balance	6.1	2.9	1.4	1.8	2.8
External financing capacity	6.2	5.0	3.9	4.6	4.9
Government balance ^{1,4}					
ESA balance	-1.9	(-1.9) – (-2.0)	(-2.2) – (-2.4)	(-1.9) – (-2.1)	(-1.7) – (-2.1)
Labour market					
Whole-economy gross average earnings ²	6.2	12.5	9.6	6.5	6.4
Whole-economy employment	3.4	1.6	0.6	0.3	0.2
Private sector gross average earnings ²	5.4	11.5	8.7	6.9	7.1
Private sector employment	3.4	2.2	1.6	0.6	0.3
Unemployment rate	5.1	4.2	4.0	3.9	3.7
Unit labour costs in the private sector	3.4	5.5	3.4	3.5	3.0
Household real income ³	4.1	5.3	4.1	2.5	2.3

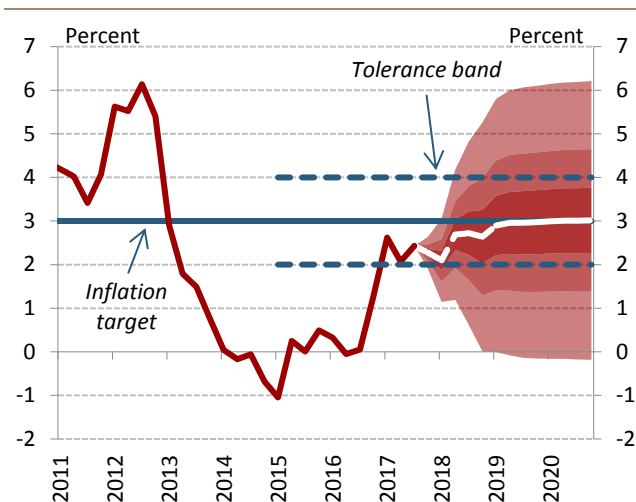
¹ As a percentage of GDP.² According to the original HCSO data for full-time employees.³ MNB estimate.⁴ The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used while the higher value shows the ESA balance if the Country Protection Fund is not used.⁵ Total economy, based on national accounts data.⁶ The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions.

1. INFLATION AND REAL ECONOMY OUTLOOK

1.1. Inflation forecast

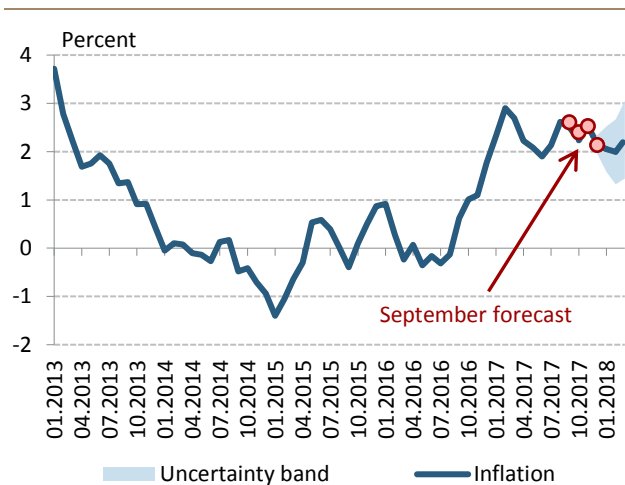
In line with our September expectations, inflation will reach the 3 percent level consistent with price stability in 2019 Q2 in a sustainable manner. Compared to the September projection, incoming data point to more moderate underlying developments in the short run. Following a temporary increase in November, inflation is expected to be close to the lower bound of the tolerance band at the end of the year again, remaining at a similar level in the first months of next year as well. More moderate underlying developments will be offset by higher commodity prices according to our expectations. Therefore, on the whole, we expect an unchanged future inflation path compared to our previous forecast. In the medium term, due to buoyant domestic demand and dynamic wage increases we expect a gradual increase in domestic core inflation excluding indirect taxes. Nevertheless, the moderate underlying inflation developments in the euro area, the stabilisation of households' inflation expectations at a historical low and the gradual reduction of the employer's contribution are restraining the rate of price increases.

Chart 1-1: Fan chart of the inflation forecast



Source: HCSO, MNB

Chart 1-2: Monthly evolution of the near-term inflation forecast



Note: Annual change. The uncertainty band shows the root mean squared error of previous years' near-term forecasts.

Source: HCSO, MNB

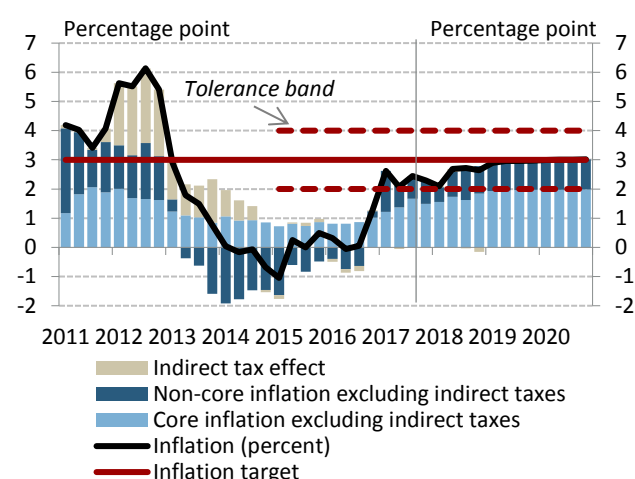
Looking ahead, we expect an inflation path that is practically identical with our previous forecast. Compared to our September projection, based on incoming data inflation of market services was lower, which points to more moderate underlying trends in the short run. Thus, our expectations for core inflation excluding indirect taxes is lower for this year and for next year as well, compared to September. However, at the level of headline inflation all these factors are offset by price increases for fuels, caused by the recent strong rise in oil prices. In line with our earlier forecast, inflation is expected to reach the **central bank's inflation target of 3 percent in a sustainable manner from 2019 Q2** (Chart 1-1).

According to our current forecast, following a temporary increase in November, **inflation will be close to the lower bound of the tolerance band at the end of the year again, remaining at a similar level in the first months of next year as well** (Chart 1-2).

Inflation in the euro area will not reach the ECB's inflation target in the coming years. According to the latest ECB forecast, expectations for 2018 increased, partly owing to higher oil prices. At the same time, the underlying developments of inflation continue to be subdued, reducing the dynamics of domestic price increases.

Over the forecast horizon, core inflation excluding indirect taxes is expected to increase gradually (Chart 1-3). The expansion of household income and consumption increases the pricing power of firms, but its inflationary effect is more moderate compared to pre-crisis experiences, partly due to the structure of the consumption increase. The most dynamic growth was registered in the case of durable consumption goods, and the quickly expanding demand in this product range might have a subdued price effect. Nominal wages in the private sector may increase significantly in the coming years as well. **Nevertheless,**

Chart 1-3: Decomposition of the inflation forecast



Source: HCSO, MNB

Table 1-1: Details of the inflation forecast

		2017	2018	2019	2020
Core inflation		2.3	2.5	2.8	2.9
Contribution to inflation		1.6	1.7	1.9	2.0
Non-core inflation	Unprocessed food	0.8	4.9	4.8	6.3
	Fuel and market energy	7.2	4.5	4.6	3.3
	Regulated prices	0.3	0.7	1.9	2.3
	Total	2.5	2.5	3.2	3.3
Contribution to inflation		0.7	0.8	1.0	1.0
Inflation		2.3	2.5	2.9	3.0

Note: The sum of contributions may differ from the aggregated value because of the rounding.

Source: MNB

inflationary effects from the labour market may remain moderate. This is partly attributable to the reduction of the social contribution tax and the corporate tax, which reduces the effect of wage cost growth by the high nominal wages. Furthermore, the correlation between wages and inflation has weakened since the crisis. The stabilisation of inflation expectations at historical lows reduces inflationary effects from the labour market as well. **The moderate impact of wages on inflation is corroborated by the fact that for the year to date the effects of wage increases have only affected prices in the case of certain labour-intensive services** and cannot be considered general in the field of services.

Looking ahead, the price dynamics of non-core inflation items will be higher than in our September forecast (Table 1-1). Oil prices, which fundamentally influence fuel prices, significantly exceed our September projection, but looking ahead futures prices point to a gradually declining path. **Prices of refined products**, which are key in terms of the development of domestic fuel prices, **indicates more moderate changes than the rise in crude oil prices.** Consequently, **the impact of oil price changes on consumer prices may be weaker than experienced in the past.** The price dynamics of unprocessed food increases in the short run, with a major contribution from the rising price of eggs. According to our assumptions, regulated energy prices will not change until the end of the forecast horizon, and only minor price changes are expected in the case of non-energy regulated prices.

In 2018, at the level of headline inflation, base effects stemming from the previous increases in excise duty will gradually fade out of the annual indicator. **The additional VAT cuts which become effective at the beginning of 2018** – for fish, pork offal, restaurant services and internet services – will have a downward impact on prices. On the whole, **developments in the tax content will practically not change inflation.**

Box 1-1: Assumptions applied in our forecast

Hungary is a small, open economy, and as such our forecasts for the most important macroeconomic variables are fundamentally influenced by developments in external factors and changes in the assumptions related to them. The purpose of this brief presentation of the changes in the external assumptions is to make our forecasts more transparent (Table 1-2).

Table 1-2: Main external assumptions of our forecast

Technical Assumptions	2017		2018		2019		2020	Change		
	September	Actual	September	Actual	September	Actual	Actual	2017	2018	2019
EUR/USD	1.13	1.13	1.20	1.19	1.20	1.19	1.19	0.0%	-0.8%	-0.8%
Oil (USD/barrel)	52.3	54.2	53.9	61.7	54.4	59.0	57.4	3.6%	14.5%	8.5%
Food prices										
Wheat (USD/bushel)	4.42	4.37	5.01	4.63	5.41	5.24	5.55	-1.1%	-7.6%	-3.1%
Maize (USD/bushel)	3.64	3.59	3.89	3.69	4.14	4.03	4.17	-1.4%	-5.1%	-2.7%
Euro area inflation (%)	1.5	1.5	1.2	1.4	1.5	1.5	1.7	0.0 pp.	0.2 pp.	0.0 pp.
GDP growth of Hungary's main trading partners *(%)	2.3	2.7	2.4	2.6	2.5	2.5	2.4	0.4 pp.	0.2 pp.	0.0 pp.

Note: Annual average in the case of oil prices. *Growth rate of Hungary's 21 most important export partners, weighted by share in exports.

Sources: CBT, Bloomberg, OECD, Consensus Economics, MNB, ECB

In the past period, the price per barrel of Brent crude oil gradually rose from around USD 55 to a two-year high of nearly USD 65. This increase was attributable to the tensions in the Middle East and the dynamic expansion in demand, mainly in Asia. In addition, positive market expectations related to the end-November **OPEC meeting** in Vienna also contributed to the price increase. **In line with analysts' earlier expectations, the currently valid production cap agreement was extended until end-2018** at the meeting, **although the degree of the limitation** (1.8 million barrels per day) **remained unchanged**. The agreement did not result in any further change in the world market price of Brent crude oil, as the market had already priced in this decision. According to the communiqué issued by OPEC, at the next meeting in Vienna (in June 2018) the agreement may be suspended, depending on the market situation. The November report of the International Energy Agency (IEA) suggests that there will be oversupply in the oil market at the end of the year and in 2018 Q1 as well. One of the underlying reasons is that global demand may be more subdued than expected as a result of the anticipated milder than usual winter weather, while global supply is increasing in view of the rising production in the United States. **On the whole, based on futures quotes, oil prices expressed in US dollars significantly exceed our September assumption, but looking ahead they point to a gradually declining path.** Our current assumption of the EUR/USD exchange rate compared to the September Inflation Report did not change significantly.

In the latest forecast of the ECB, expectations for inflation of the euro area for 2018 were increased. Nevertheless, underlying inflation developments in the euro area remain subdued and are lower than in the assumptions of the September forecast. According to the ECB, the upward revision in inflation forecast for 2018 is owing to higher oil prices and stronger food price dynamics. At the same time, core inflation forecast was downward revised in 2017 and in 2018 as well, partly due to continued low nominal wage dynamics and lower-than expected price changes of market services in recent months. **Inflation in the euro area will remain below the target in the coming years.** Inflation is expected to be 1.7 percent in 2020, mostly as a result of the recovery in economic activity and the rise in expenditure-side effects generated by the increasingly tight labour market (strengthening nominal wage dynamics and tightening labour supply in some countries). Core inflation increases slightly over the forecast horizon owing to the strengthening in stronger global inflationary developments, the indirect effects of increasing oil prices and the expected increases in non-energy commodity prices.

As a result of favourable prospects for international economic activity, we expect a more buoyant expansion in Hungary's external demand compared to our September assumptions. On the whole, forecasts for global economic performance were revised upwards in the past period, and they suggest a stronger international economic activity. European economic activity is also expected to have a favourable impact on external demand in 2017. Nevertheless, it is mainly cyclical factors that play a role in the favourable economic growth in the euro area, and thus looking ahead growth in Europe is surrounded by increased uncertainty. On the whole, as a result of favourable prospects for economic activity, we expect a more buoyant increase in Hungary's external demand compared to our September assumptions.

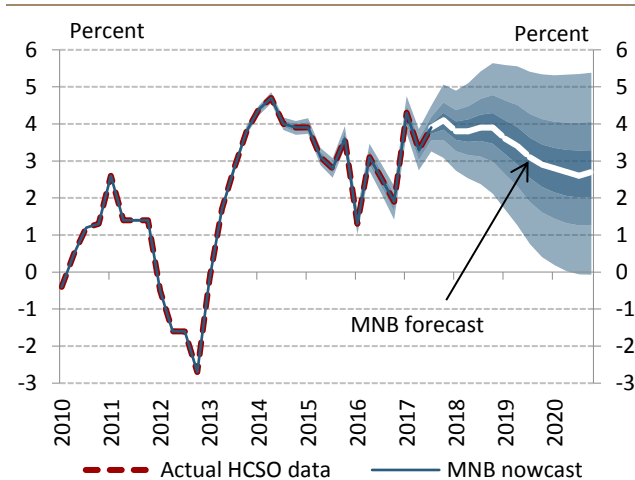
On the basis of futures prices, the price increases of wheat and corn are expected to be more restrained compared to the assumptions used in the September Inflation Report.

Incoming data and new measures suggest that the deficit in 2017 may be slightly higher than our forecast published in the September Inflation Report, which is, however still lower than the 2.4 deficit target as a proportion of GDP set out in the law. This year the pension premium, which is higher than in our September forecast, the one-off Erzsébet voucher granted to pensioners and the also higher than previously expected effective use of EU funds all indicate a deficit that exceeds our earlier expectation. Our forecast for 2018 and 2019 has remained practically unchanged compared to the September Inflation Report.

1.2. Real economy forecast

Growth is projected at around 4 percent this year and next year, and based on our current assumptions with gradual deceleration starting from 2019. Economic growth is expected to accelerate further at the end of the year, but at the same time the working day effect and the correction in agricultural output has a negative impact on the development of the annual index. Investment is expected to expand dynamically over the short run, with contributions from stronger underlying trends in investment, the historically low interest rate environment, a pick-up in the housing market and an increase in the absorption of EU funds. Household consumption growth is supported by the robust increase in real wages, the high net financial wealth, the expansion of household lending and the second-round effects of the upturn on the housing market. Due to the import demand fuelled by rising domestic demand, net exports will restrain economic growth over the short run. In the second half of the forecast horizon, based on our current assumptions in parallel with the fading out of the cyclical factors, economic growth is expected to decelerate gradually. At the end of the forecast horizon, the completion of large corporate investment projects, the decline in public investment implemented from external funds and the interruption of the housing market cycle as a result of the restoration of the VAT on housing, in accordance with the tax regulations in force, will result in a decline in investment, contributing to slower economic growth. The budget will stimulate economic growth in the coming years. The effects of government measures supporting growth will fade by the end of the forecast horizon, and simultaneously the demand-tightening effect of fiscal policy will dominate, which will restrain economic growth. In parallel with the increase in new domestic capacities and their start of production, growth in industrial exports will gain new momentum from 2018, while the favourable global economic outlook suggests a strong expansion of external demand. Based on the above, we expect a more dynamic export growth and an increase in Hungary's export market share. In parallel with the pick-up in domestic demand, output will be close to its potential level. Looking ahead, in parallel with the closing of the output gap, productivity and competitiveness will play an increasingly important role in terms of economic growth.

Chart 1-4: Fan chart of the GDP forecast



Note: The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions. The expected routine revision is below 0.1 percentage point in the first three quarters of 2017.

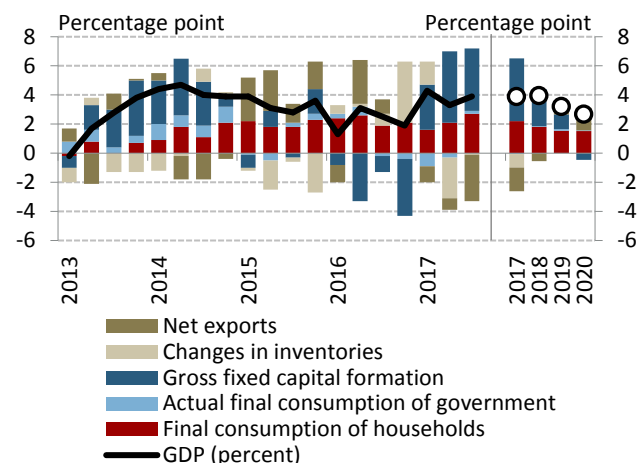
Source: HCSO, MNB

According to our forecast, growth will be **close to 4 percent** in the coming years **and based on our current assumptions then gradually decelerate from 2019**. In 2017, the Hungarian economy is expected to expand by 3.9 percent, which may potentially contain an upward revision of 0.1 percentage point. We project economic growth of 3.9 percent in 2018, 3.2 percent in 2019 and 2.7 percent in 2020 (Chart 1-4). In the first half of the forecast horizon, **stronger domestic demand will continue to play a major role** in growth, with investment and household consumption as key factors (Chart 1-5).

The expansion in investment is projected to last until 2019. In addition to public investment implemented from EU funds, the private sector's stronger investment activity is also a driving force behind the upturn in investment. Looking ahead, the whole-economy investment rate may consistently exceed 20 percent. **At the end of the forecast horizon, in parallel with a cyclical deceleration in investment, investment activity is expected to decline** (Chart 1-6).

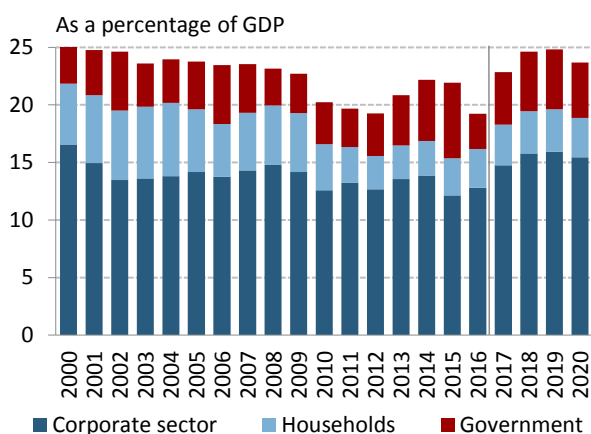
Corporate investment is expected to continue expanding over the short run. **Underlying investment trends in the corporate sector will strengthen considerably**, in line with the changes in domestic demand, the low interest rate environment, supportive central bank programmes and a major expansion in SME loans (Chart 1-7). According to our forecast, the increase in SME loans will be in the sustainable

Chart 1-5: Contributions to annual changes in GDP



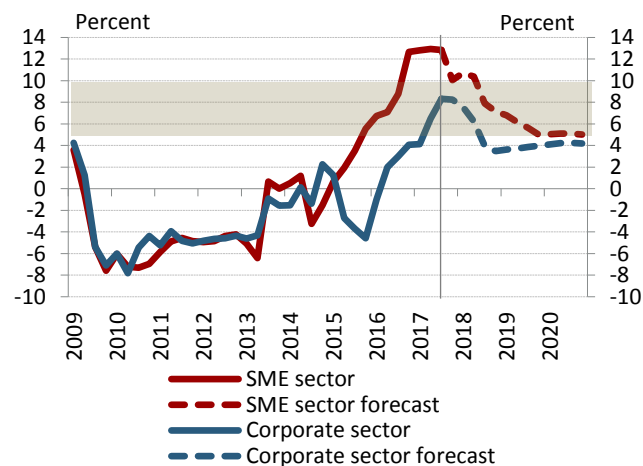
Note: The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions. The expected routine revision is below 0.1 percentage point in the first three quarters of 2017
Source: HCSO, MNB

Chart 1-6: Evolution of investment rate by sectors



Note: Expected routine revisions were taken into consideration.
Source: HCSO, MNB

Chart 1-7: Annual changes in lending to non-financial corporates and SMEs



Note: Transaction-based, year-on-year data. Source: MNB

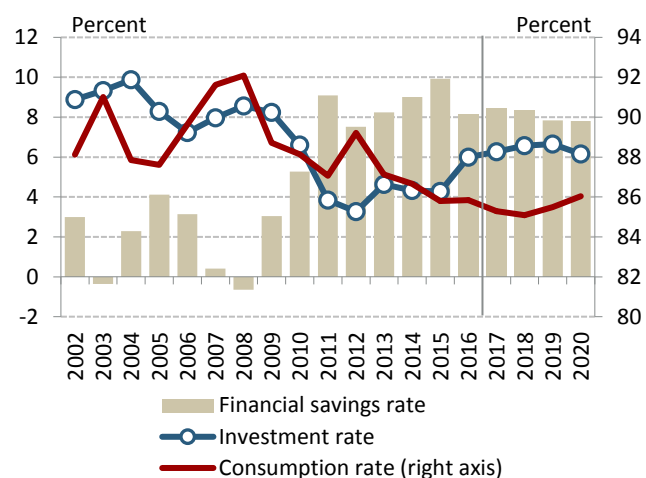
range of 5–10 percent. In addition to capacity expansion projects in the vehicle industry and at MOL, the establishment of battery production capacities will foster corporate investments in the coming years as well. Looking ahead, major investment projects will support Hungarian economic growth not only directly, but also through second-round effects. **Due to the base effect of large investment projects and the fading of EU funding available for companies, an adjustment in corporate investment is expected in 2020.**

At the beginning of the forecast horizon, we expect growth in public investment implemented from EU funds, partly as a consequence of the decrease in the proportion of advance payments and partly due to the use of earlier advance payments. In 2019, the effective use of EU funds will not continue to rise significantly. Public investments financed from own funds will not change substantially over the forecast horizon. Work on the large-scale investment at the Paks nuclear power plant is accompanied by a rescaling of funds for public investments, and therefore will not result in additional real economic effects. The use of EU funds is concentrated at the beginning of the forecast horizon, which contributes significantly to growth. From 2020, the actual absorption of EU funds is expected to decline on the whole, which will result in the deceleration of public investment at the end of the forecast horizon.

In line with the upturn in the housing market, household investment is expected to increase also supported by government programmes. The significant increase in the number of building permits and the gradual rise in home constructions also indicate a pick-up in households' investment activity (Chart 1-8). According to the current tax regulations, the VAT related to the purchase of homes will return to its original level after 2019. Consequently, housing prices are expected to increase and the upturn in the housing market is expected to come to a halt. **In line with the slowdown of the housing market in 2020, household investment will decline at the end of the forecast horizon.**

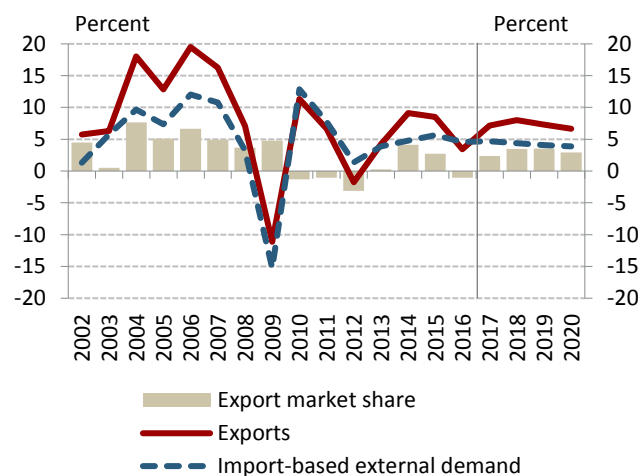
We anticipate continued growth in household consumption over the forecast horizon. The favourable underlying income trends related to the strong wage outflow and the continued expansion in employment, as well as the high net financial wealth accumulated in the previous years, will also contribute significantly to the upturn in household consumption expenditures. Consumption growth is also supported by stronger **consumer confidence** and **second-round effects from the upswing in the housing market.** The **potential of correction** for consumption postponed during and after the crisis also

Chart 1-8: Evolution of households' consumption, investment and financial savings rates as a percentage of disposable income



Source: HCSO, MNB

Chart 1-9: Changes in export market share



Note: Annual change.

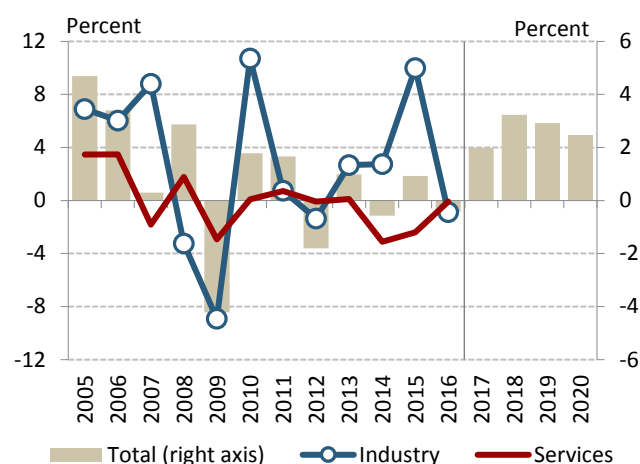
Source: HCSO, MNB

suggests an increase in consumption, which is additionally supported by the moderate consumption rate in historical terms and the low level of consumer durables purchases. Looking ahead, as a result of the central bank's debt cap rules, a sustained upturn in lending in a sound structure is expected in the household sector, but the development of the borrowing activity of households is neutral to the change in the volume of consumption over the forecast horizon. Looking ahead, **as a consequence of demographic developments the expansion in employment will no longer contribute to the expansion in income at the end of the forecast horizon**, thus resulting in a slowdown in the dynamics of real income and consumption.

In parallel with income developments, households are expected to expand their consumption and thus **the consumption rate will be stable next year. From 2019, in addition to the slowdown in real income developments and in parallel with the sustained increase in consumer confidence, the consumption rate will increase during the more mature phase of the credit cycle.** With the continuation of the housing market cycle, **households' investment rate will increase further until 2019.** However, according to the current tax regulations the VAT on housing will return to its original level in 2020 which will cause the housing investment rate to decrease. According to our assumptions, as a result of favourable income trends, households will accumulate higher savings, thus facilitating future house purchases. Accordingly, our current projection incorporates a higher savings rate compared to the previous forecast. Looking ahead, in line with an increase in the propensity to consume, the household savings rate will decline from its currently high level, and then, in 2020 – in parallel with the downturn in household investment – it will stabilise at a rate lower than the current level (Chart 1-8).

On the whole, forecasts for global economic performance were revised upwards in the past period, and **they point to robust international economic activity.** Growth in the region also continued at a fast pace, primarily driven by domestic demand factors. On the whole, as a result of the favourable outlook for economic activity, **we expect stronger expansion in external demand** compared to our September assumptions. In 2017, favourable developments in European business activity are also bolstering the pick-up in external demand. **Nevertheless, it is mainly cyclical factors that play a role in the favourable economic growth in the euro area.** The role of China in Hungarian exports is strengthening gradually. As a result, Chinese economic growth has an increasing impact on Hungary's export demand and thus on changes in exports as well. In line with

Chart 1-10: Annual change in labour productivity



Note: Employment for production of GDP, national accounts data.

Source: HCSO, MNB

the improvement in international economic activity and the more favourable external demand conditions, **expansion is expected to continue in industrial value added and Hungary's exports** in the coming quarters. In parallel with the increase in new domestic capacities and their start of production, growth in industrial exports is expected to gain new momentum in 2018 and a significant increase in exports is expected over the forecast horizon. The growth rate of exports consistently exceeds the rate of increase in Hungary's external demand, and thus **Hungary's export market share will improve further** (Chart 1-9). The upswing in domestic demand factors (consumption, investment) will significantly boost import growth, as a result of which the **contribution of net exports to economic growth is expected to be negative over the short run**. At the end of the forecast period, import growth will taper off as a result of a slowdown in household consumption and a decline in investment, and thus **at the end of the forecast horizon the contribution of net exports to economic growth will be positive**.

In accordance with last year's outstanding agricultural performance, we expect a correction in the sector this year. According to the currently available data, the harvest of the most important field crops (corn, wheat) is lower than last year's high base. According to our expectations, the performance of the sector **may reduce this year's economic growth by nearly 0.4 percentage points**.

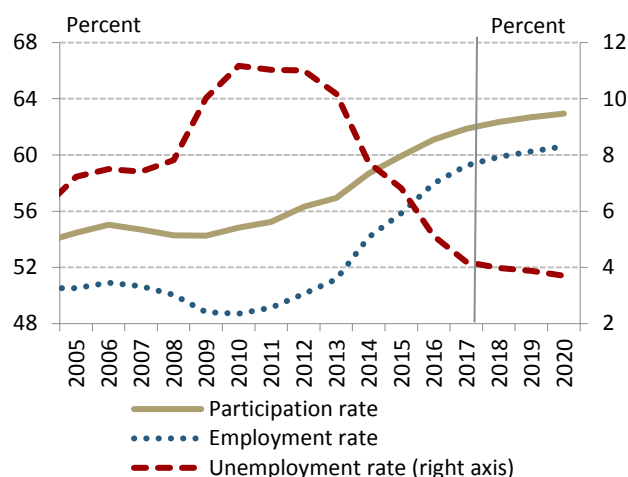
Potential growth will pick up in the first half of the forecast horizon, primarily due to the expansion of private sector investment and a rising trend in labour market activity. At the same time, demographic developments are a constraint which will become increasingly relevant for the expansion of employment. Thus, at the end of the forecast horizon activity will not contribute to the potential growth of the economy.

Our forecast points to an improvement in labour productivity (Chart 1-10). The recovery in private investment raises productivity not only by putting advanced equipment into service and the construction of modern industrial facilities, but also through the adoption of the knowledge necessary for the production of higher value added. The announced large-scale investment projects and the capacity expansion of the supplier network generate positive feedback in the market services of higher value added, resulting in a further improvement in productivity. Looking ahead, improving competitiveness will play an increasingly crucial role, which may be supported by boosting productivity and improving the human resources and innovation capacity of SMEs.

1.3. Labour market forecast

Over the forecast horizon, employment in both the national economy and the private sector will continue to rise at a slowing pace, and thus the unemployment rate – which is already at a historical low level – will continue to decline at a moderate pace. At the same time, demographic developments will represent increasingly effective constraints to employment growth. Over the forecast horizon, the underlying wage trend will strengthen in parallel with the decline in free labour capacity. However, the increase in the minimum wage and the guaranteed wage minimum in 2018 will be lower than the rise in 2017, and consequently the growth of the wage index will slow.

Chart 1-11: Employment, participation and unemployment in the national economy

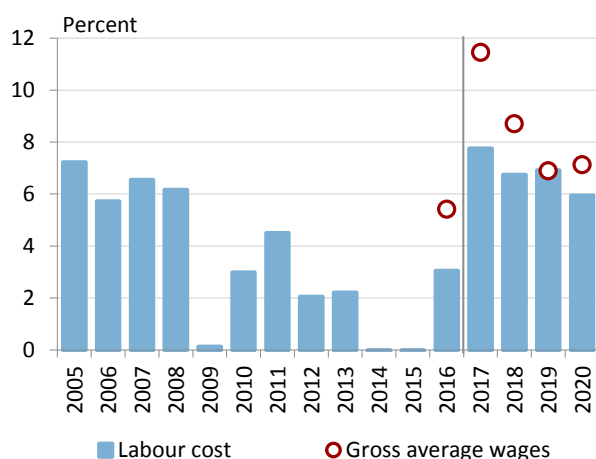


Source: HCSO, MNB

The growth rate of activity is expected to decline gradually in the coming years. Demographic developments represent increasingly effective constraints. Consequently, labour supply is not expected to continue expanding in 2020 (Chart 1-11).

As a result of government measures reducing public work programmes coming into effect in 2018 and the reduction of the budgetary limit planned for 2018, **the number of public workers will drop by 30,000 by the end of the forecast period.** Some of those exiting the public work programme may gradually return to the primary labour market. As a result of the substantial wage growth, the widening gap between wages in the public work schemes and the wages available in the private sector may represent a stronger stimulus for public workers to appear in market-based employment. Employment in the public sector excluding public work will remain practically unchanged over the forecast horizon.

Chart 1-12: Annual changes in labour cost and gross average wages in the private sector

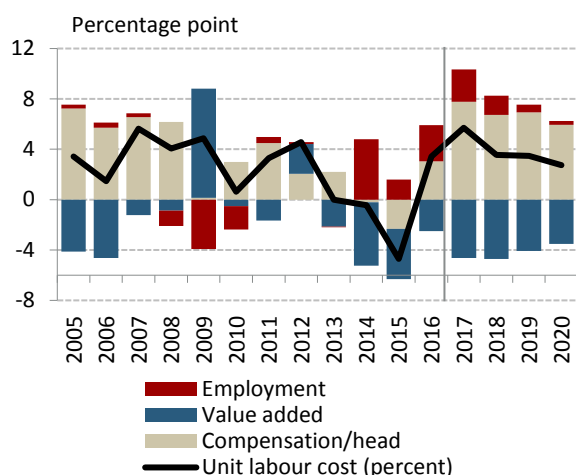


Source: HCSO, MNB

In parallel with economic growth, the persistently high labour demand of the private sector will contribute to the expansion of employment. At the same time, corporate efforts to expand staff levels are significantly hindered by the limits of the declining labour reserves in terms of quality and mobility. On the whole, the number of people employed in the private sector will **continue to rise at a slower rate** compared to the robust increase observed in recent years. With a continued increase in employment, **the decline in the unemployment rate – which is currently at a historical low – will continue at a slower pace.**

Over the forecast horizon, the underlying wage trend will strengthen in parallel with the decline in free labour capacity. However, the increase in the minimum wage and the guaranteed wage minimum in 2018 will be lower than the rise in 2017, and consequently the growth of wage index will slow down. According to our estimate, administrative measures – taking into account direct and feed-through effects as well – contribute to wage developments by nearly 5 percentage points and 2 percentage points this year and next year, respectively. Real wages will then develop in line with productivity.

Chart 1-13: Decomposition of nominal unit labour cost growth in the private sector



Source: HCSO, MNB

We forecast that wage growth will correspond to the September projection.

The impact of the dynamic wage growth on labour cost will be mitigated by the reduction of contributions set forth in the wage agreement. The social contribution tax paid by companies will decline by 5 percentage points this year and another 2.5 percentage points next year. Accordingly, **the inflationary effect of the higher wage growth from the cost side may remain moderate.** In line with the wage agreement, after 2018 the social contribution tax will decline in four more steps by 2 percentage points each time, depending on the rise in real wages. According to our forecast, in 2019 Q4 real wages in the private sector will increase by more than 6 percent compared to 2018 Q1. Consequently, the next contribution reduction may take place in 2020 Q2 (Chart 1-12).

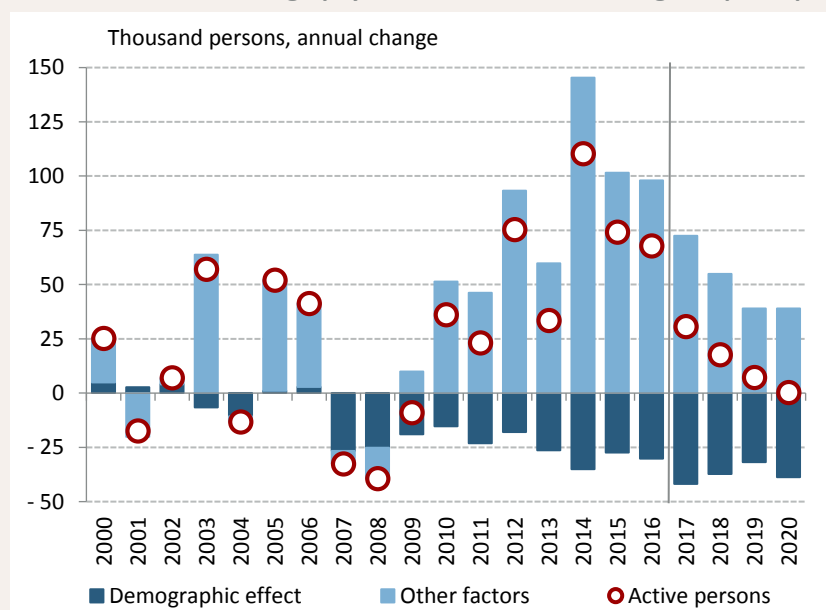
In the coming years, unit labour cost in the private sector will only increase at a more moderate pace, in line with the improvement in economic performance and the slower growth in the number of persons employed in the private sector (Chart 1-13).

Box 1-2: Demography and other determinants in the forecasting of activity

After 2010, the government took various measures which contributed to the faster recovery of the labour market from the recession caused by the crisis and also increased the willingness to participate in the labour market over the longer term. While the demand for labour was supported by the reduction of the tax wedge, the Job Protection Action Plan and public work programmes, **labour supply increased mainly as a result of the restructuring of welfare transfers**. By tightening the eligibility conditions for early retirement and disability pensions and gradually raising the retirement age, the government reduced the number of those becoming inactive, and by rationalising the amount and duration of transfers related to the absence from employment it discouraged people from leaving the labour market. Looking ahead, **the impact of the measures taken in the previous years will gradually fade**, and thus demographic developments will represent increasingly effective constraints to the expansion of activity and employment. **In 2020, owing to the negative impact of demographic developments, the increase in the number of the active is not expected to continue** (Chart 1-14).

The demographic effect on activity can be divided into two factors: changes in the total number of the working-age population and changes in its demographic composition (by age and sex). **The decline in the working-age population has accelerated in the past 20 years**. Between 2000 and 2010, the number of persons aged 15–74 decreased by an average of 0.15 percent every year, and – also taking account of the forecast period – the average annual decline may amount to around 0.4 percent between 2010 and 2020. Due to the heterogeneity of the activity rate in terms of age and sex, in the previous decade **the change in demographic composition only reduced the activity rate of the 15–74 age group** by a total 0.2 percentage point, while **in the current decade it reduces the activity rate by 1.7 percentage points in total**.

Chart 1-14: Effects of demography and other factors on changes in participation



Note: The demographic effect stems from the decline in working-age population and from the change in its composition by age and sex. The other factors contain the effect of transfers, education and the time spent at school as well as the residual.

Sources: HCSO, MNB calculation based on Kátay–Nobilis (2009) methodology¹

On the whole, the negative demographic trend is expected to last over the entire forecast horizon, which may still be offset by further improvement in the activity rate in the coming years. **In the historically tight labour market environment, a reversal of the rising trend of labour supply may represent an increasingly effective constraint to the continued expansion of employment towards the end of the forecast horizon.**

¹ Gábor Kátay – Benedek Nobilis (2009): “Driving Forces Behind Changes in the Aggregate Labour Force Participation in Hungary”, MNB Working Papers 2009/5

Table 1-3: Changes in projections compared to the previous Inflation Report

	2016	2017		2018		2019		2020
	Actual	Projection						
		September	Current	September	Current	September	Current	Current
Inflation (annual average)								
Core inflation	1.4	2.4	2.3	2.7	2.5	2.8	2.8	2.9
Core inflation excl. indirect tax effects	1.3	2.2	2.1	2.7	2.5	2.8	2.8	2.9
Inflation	0.4	2.4	2.3	2.5	2.5	2.9	2.9	3.0
Economic growth								
Household consumer expenditure	4.2	4.6	4.6	3.8	3.8	3.0	3.0	3.0
Government final cons. expenditure	1.3	-0.1	-0.1	0.8	0.7	0.8	0.8	0.7
Gross fixed capital formation ⁶	-10.6	16.2	22.7	11.1	12.0	4.3	4.1	-2.0
Domestic absorption	1.5	4.8	6.1	4.5	4.7	2.8	2.8	1.2
Exports	3.4	6.5	6.8	7.7	7.8	7.3	7.3	6.6
Imports ⁶	2.9	8.2	9.6	8.8	8.9	7.2	7.2	5.4
GDP ⁶	2.2	3.6	3.9	3.7	3.9	3.2	3.2	2.7
Labour productivity ⁵	-0.4	1.5	2.0	2.9	3.2	2.9	2.9	2.5
External balance ¹								
Current account balance	6.1	3.5	2.9	2.5	1.4	3.1	1.8	2.8
External financing capacity	6.2	5.0	5.0	4.8	3.9	6.2	4.6	4.9
Government balance ^{1,4}								
ESA balance	-1.9	(-1.6)-(-1.8)	(-1.9)-(-2.0)	(-2.2)-(-2.4)	(-2.2)-(-2.4)	(-1.8)-(-2.0)	(-1.9)-(-2.1)	(-1.7)-(-2.1)
Labour market								
Whole-economy gross average earnings ²	6.2	12.0	12.5	9.5	9.6	6.5	6.5	6.4
Whole-economy employment	3.4	1.7	1.6	0.8	0.6	0.3	0.3	0.2
Private sector gross average earnings ²	5.4	11.5	11.5	8.7	8.7	6.9	6.9	7.1
Private sector employment	3.4	2.2	2.2	1.6	1.6	0.6	0.6	0.3
Unemployment rate	5.1	4.2	4.2	3.9	4.0	3.9	3.9	3.7
Private sector unit labour cost	3.4	5.6	5.5	3.8	3.4	3.9	3.5	3.0
Household real income ³	4.1	5.2	5.3	4.1	4.1	2.5	2.5	2.3

¹ As a percentage of GDP.² According to the HCSO data for full-time employees.³ MNB estimate.⁴ The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used while the higher value shows the ESA balance if the Country Protection Fund is not used.⁵ Total economy, based on national accounts data.⁶ The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions.

Table 1-4: MNB baseline forecast compared to other forecasts

	2017	2018	2019	2020
Consumer Price Index (annual average growth rate, %)				
MNB (December 2017)	2.3	2.5	2.9	3.0
Consensus Economics (December 2017) ¹	2.3 – 2.4 – 2.6	1.7 – 2.8 – 3.8		
European Commission (November 2017)	2.3	2.6	3.0	
IMF (October 2017)	2.5	3.2	3.0	3.0
OECD (November 2017)	2.3	2.7	3.4	
Reuters survey (December 2017) ¹	2.2 – 2.3 – 2.4	2.2 – 2.7 – 3.2	2.5 – 3.0 – 3.5	
GDP (annual growth rate, %)				
MNB (December 2017) ⁵	3.9	3.9	3.2	2.7
Consensus Economics (December 2017) ¹	3.6 – 3.8 – 4.0	2.7 – 3.5 – 4.2		
European Commission (November 2017)	3.7	3.6	3.1	
IMF (October 2017)	3.2	3.4	2.8	2.6
OECD (November 2017)	3.9	3.6	2.8	
Reuters survey (December 2017) ¹	3.7 – 3.9 – 4.0	3.2 – 3.6 – 4.2		
Current account balance³				
MNB (December 2017)	2.9	1.4	1.8	2.8
European Commission (November 2017)	4.3	3.3	3.2	
IMF (October 2017)	4.8	4.2	3.2	2.3
OECD (November 2017)	4.0	2.5	0.8	
Budget balance (ESA 2010 method)^{3,4}				
MNB (December 2017)	(-1.9) – (-2.0)	(-2.2) – (-2.4)	(-1.9) – (-2.1)	(-1.7) – (-2.1)
Consensus Economics (December 2017) ¹	(-0.5) – (-2.1) – (-3.0)	(-1.8) – (-2.5) – (-3.0)		
European Commission (November 2017)	-2.1	-2.6	-2.3	
IMF (October 2017)	-2.8	-2.9	-2.7	-2.7
OECD (November 2017)	-2.4	-2.7	-2.4	
Reuters survey (December 2017) ¹	(-1.4) – (-2.2) – (-2.7)	(-2.1) – (-2.5) – (-3.0)		
Forecasts on the size of Hungary's export markets (annual growth rate, %)				
MNB (December 2017)	4.7	4.4	4.0	3.9
European Commission (November 2017) ²	5.4	5.2	4.8	
IMF (October 2017) ²	5.0	4.9	4.6	4.4
OECD (November 2017) ²	5.3	4.8	4.5	
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)				
MNB (December 2017)	2.7	2.6	2.5	2.4
Consensus Economics (December 2017) ²	2.9	2.6		
European Commission (November 2017) ²	2.8	2.6	2.4	
IMF (October 2017) ²	2.7	2.4	2.1	2.1
OECD (November 2017) ²	2.8	2.6	2.2	

¹ For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies, we also indicate the lowest and the highest values to illustrate the distribution of the data.

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

³ As a percentage of GDP.

⁴ The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used while the higher value shows the ESA balance if the Country Protection Fund is not used.

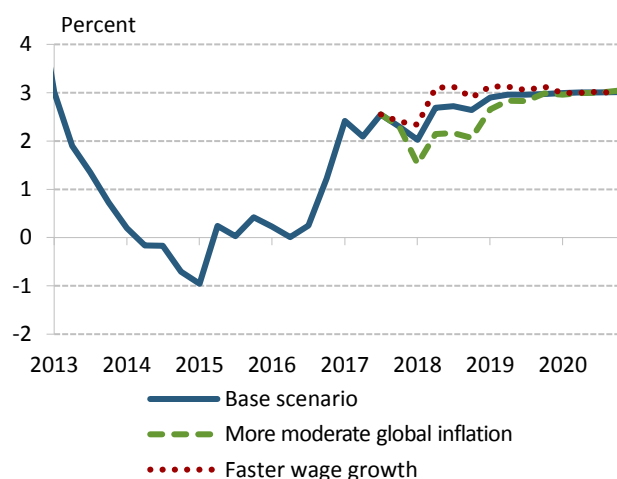
⁵ The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions.

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

2. EFFECTS OF ALTERNATIVE SCENARIOS ON OUR FORECAST

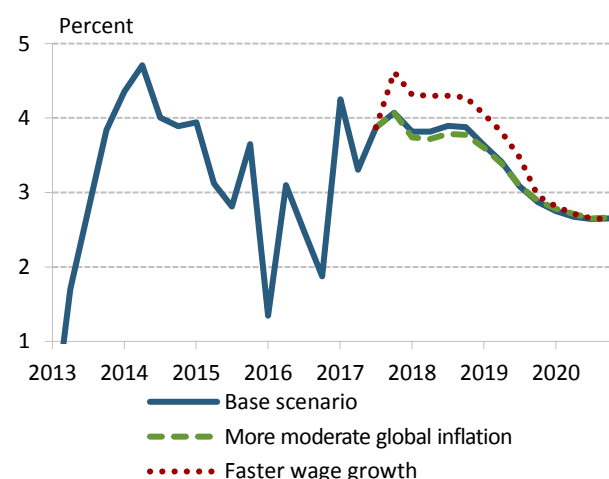
In addition to the baseline projection in the December Inflation Report, the Monetary Council highlighted two alternative scenarios. The alternative scenario based on more moderate global inflation features an inflation path lower than the baseline scenario, without a material impact on GDP growth. As a result of the scenario based on faster wage growth, domestic economic growth will be more robust and inflation will be higher than the forecast in the baseline scenario. In addition to the key scenarios, in terms of other possible risks the Monetary Council discussed scenarios which assume divergence in the monetary policy of the regional central banks, a stronger-than-expected slowdown in the investment cycle and more favourable international economic activity.

Chart 2-1: Impact of alternative scenarios on the inflation forecast



Source: MNB

Chart 2-2: Impact of alternative scenarios on the GDP forecast



Note: The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions.

Source: MNB

More moderate global inflation

In the past period, in the **communications** of the world's leading central banks **the risks of steadily low inflation were increasingly emphasised by both the European Central Bank and the Federal Reserve**. Despite the development of the real economy, this may result in continued, persistently low growth in international prices and wages.

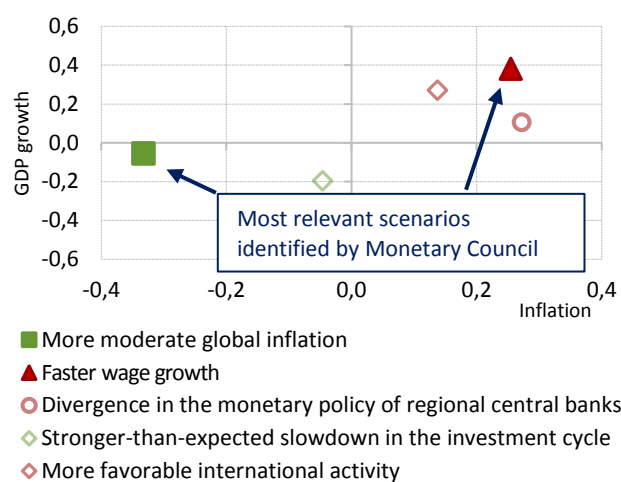
According to the assumption in our alternative scenario, due to the persistently slow increase in international prices, **the Fed reduces the pace of interest rate hikes, and the ECB's first interest rate increase is postponed compared to the date assumed in the baseline scenario**. As a result of the delayed tightening measures, reallocation may take place in the financial markets due to changes in market expectations. Owing to this process, domestic asset prices may increase, due to capital inflows. All of this will slightly reduce net exports, which will be offset by the growth in Hungary's export markets, and will thus have **no substantial impact on the growth of the Hungarian economy**. The reallocation in assets and more moderate **external inflation leads to lower domestic inflation** (Charts 2-1, 2-2 and 2-3). According to the assumption, **due to the slower increase in the consumer price index, achieving the inflation target is ensured by looser monetary conditions**.

Faster wage growth

In our baseline scenario, we expect wage setting to be similar as in the September projection over the entire forecast horizon. The wage-setting processes support growth in consumption via an increase in disposable income. Despite the strong wage outflow, the wage share still falls short of the long-term average, and hence the impact of faster wage growth on inflation remains moderate.

In this alternative scenario, in the tight labour market environment corporations increase wages to a larger degree than expected. The number of unemployed persons, representing the primary source of unutilised capacity on the labour market, has fallen by one half in

Chart 2-3: Risk map: effect of alternative scenarios on the baseline forecast



Note: The risk map presents the average difference between the inflation and growth path of the alternative scenarios and the baseline forecast on the monetary policy horizon. The red marker means tighter and the green markers mean looser monetary policy than the baseline forecast.

Source: MNB

recent years. Robust corporate labour demand was able to absorb a large part of the labour force reserve which was expanded by additional groups; it was mostly inactive persons linked more tightly to the labour market who entered the primary labour market. As a result of the aforementioned labour market developments, the rise in the labour force participation rate continues to slow. In the historically tight labour market environment, corporations pursue stronger wage competition with a view to retaining and hiring labour force. **Due to the vigorous wage competition, the dynamics of wage outflow increase at a faster rate than assumed in the baseline scenario**, which results – via disposable income – in stronger-than-expected growth in household consumption and investment. **Domestic demand factors foster stronger economic growth, which results in stronger price increases than assumed in the baseline scenario** (Charts 2-1, 2-2 and 2-3). **The achievement of the inflation target is ensured by a monetary policy that is tighter than the baseline scenario.**

Other risks

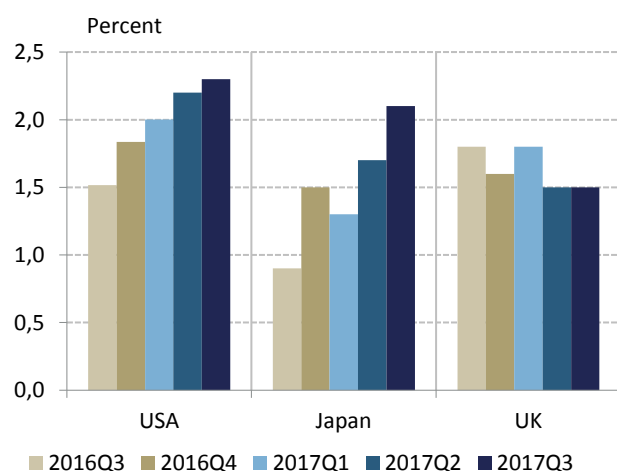
Along with the key alternative scenarios, the Monetary Council also considered three additional risks. The risk scenario that assumes divergence in the monetary policy of the regional central banks, points to higher inflation without a substantial impact on economic growth. Owing to a stronger-than-expected slowdown in the investment cycle, growth may be more restrained than assumed in the baseline scenario, with a moderate effect on inflation. As a result of favourable international economic activity, domestic economic growth is more robust than assumed in the baseline scenario, but this has no major impact on inflation.

3. MACROECONOMIC OVERVIEW

3.1. Evaluation of international macroeconomic developments

Global economic growth continued in 2017 Q3, and developments in international economic activity were favourable during the period. The dynamic growth of the Central and Eastern European region was outstanding among European countries. Global oil prices increased considerably in the past months, but the underlying global inflation developments remain subdued. In line with improving prospects for economic activity, core inflation rose to some extent in certain developed countries, although a decline was observed in the euro area. Some central banks shifted towards a tighter monetary policy stance in the Central and Eastern European region. The divergence in monetary policy between the world's leading central banks may remain in place in the coming period as well. The Fed may continue with gradual interest rate hikes, while monetary conditions in the euro area may remain loose for an extended period of time.

Chart 3-1: Annual changes in GDP in certain key global economies



Note: Seasonally adjusted series.

Source: OECD

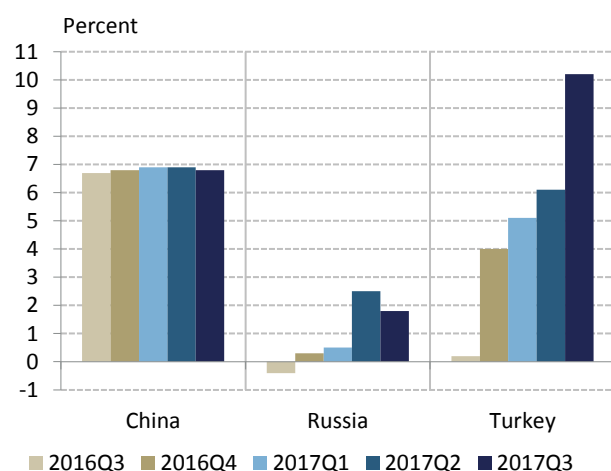
3.1.1. Developments in key global economies

In 2017 Q3, the expansion of US economic output exceeded both analysts' and market expectations. Despite the natural disasters that hit the country, annualised growth compared to the previous quarter amounted to 3.3 percent. The contribution of household consumption and fixed investment to economic expansion continued to be positive. In addition, as a result of a major decline in imports, net exports also contributed significantly to growth, while government expenditures were restrained. The growth prospects of the US economy improved to some extent in the past quarter.

Similarly to previous quarters, subdued growth was observed in the United Kingdom (Chart 3-1). Economic expansion was primarily supported by an increase in consumption and investment, while net exports made a negative contribution to growth. Brexit and the unclear circumstances of the process have an unfavourable impact on medium-term growth prospects. **In Q3, the Japanese economy grew by 2.1 percent year on year and by 0.6 percent compared to the previous quarter.** Net exports were the main contributors to growth, while consumption declined significantly and its contribution to GDP expansion was negative.

Of the major emerging countries, the Chinese economy expanded at a rate of 6.8 percent in 2017 Q3 (Chart 3-2). Incoming data were in line with expectations. The increase in fixed investment decelerated, while consumption growth remained buoyant. In parallel with a steep rise in exports, the expansion of imports was also significant, exceeding expectations. Growth prospects of the Chinese economy improved to some extent in the past months. In Russia, following weak growth figures in previous years, considerable growth has been observed in the economy for two consecutive quarters now. The increase in output in Turkey exceeded analysts' expectations.

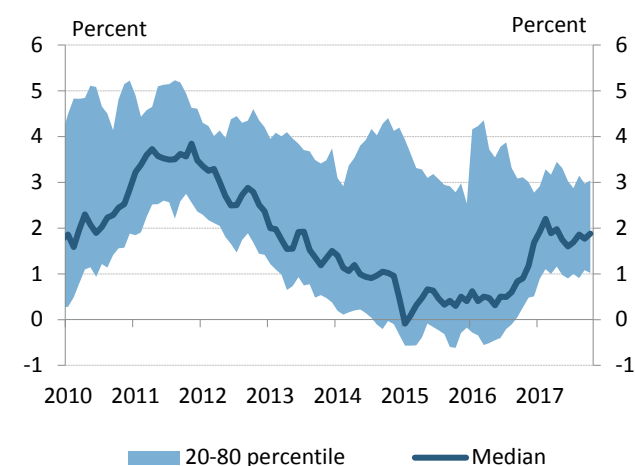
Chart 3-2: Annual changes in GDP in some emerging economies



Note: In the case of China and Turkey seasonally adjusted series.

Source: OECD, Trading Economics

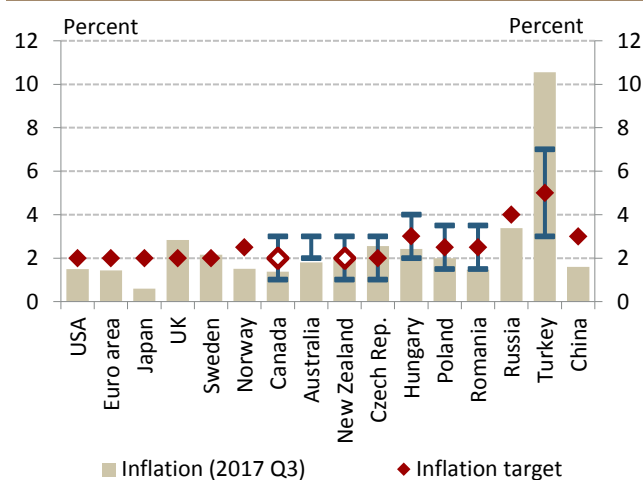
Chart 3-3: Global inflation developments



Note: Percentage change on the same period of the previous year, based on data from 43 developed and emerging countries.

Source: OECD

Chart 3-4: Inflation targets of central banks and actual inflation



Note: The blue lines represent the inflation control range in Australia, Canada and New Zealand, while in other countries they mark a permissible fluctuation band. In Canada and New Zealand the mid-point of the target band is actual, which is marked by empty diamond.

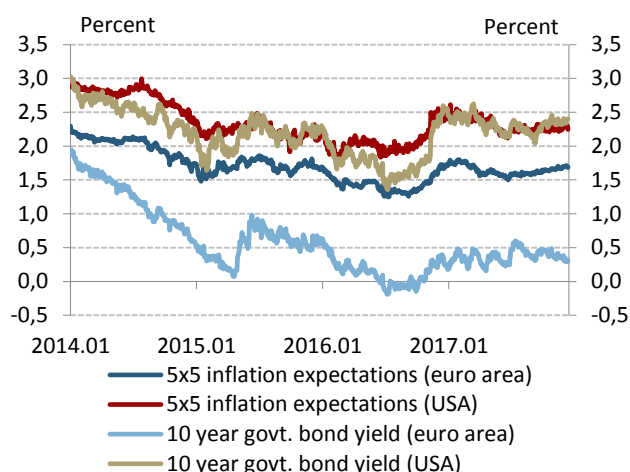
Source: OECD, FRED, National Institute of Statistics Romania

Global inflation came to a halt following an increase late last year and early this year, and was at subdued levels in the past months (Chart 3-3). In line with that, inflation was below the central bank target in most developed countries (Chart 3-4). In accordance with the improving prospects for economic activity, core inflation rose to some extent in certain developed countries, although a decline was observed in the euro area. Oil prices have increased in the recent months, but underlying global inflation developments remain subdued.

At their September and November meetings, the decision-makers of the US Fed left the policy rate unchanged, before raising it by 25 basis points to the band of 1.25–1.50 percent in December. In addition, the balance sheet reduction programme of the Fed started in October 2017. The paragraph in the December announcement concerning the monetary policy stance remained unchanged: decision-makers continue to hold the opinion that economic developments will justify a gradual increase in interest rates. In October, the FOMC started to limit the reinvestment of assets maturing in the central bank balance sheet, as announced simultaneously with the June decision. On 2 November, US President Donald Trump nominated Jerome H. Powell to chair the Fed in the next 4-year cycle. According to market expectations, the Fed may continue to increase interest rates in March 2018. **In the past quarter, the Bank of Japan did not change monetary conditions and continues to adjust its Quantitative and Qualitative Easing Programme to the 0 percent long-term yields.** The central bank maintained its annual purchase rate target amounting to a total JPY 80,000 billion necessary to reach the yield target, and continues to pay minus 0.1 percent interest on commercial banks' excess reserves. The commitment to overshoot the inflation target has remained a part of the central bank communication.

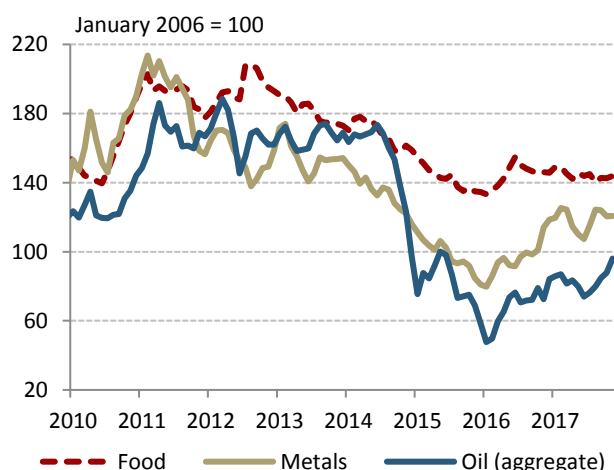
In November, the decision-makers of the Bank of England raised the policy rate by 25 basis points to 0.5 percent for the sustainable achievement of the inflation target. Decision-makers left the base rate unchanged at their meeting in December. They expect inflation to peak above 3 percent this year, before gradually declining next year and approaching the 2 percent target by the end of the forecast period. According to the central bank's forward guidance, any further interest rate hikes will take place gradually and to a limited extent. The prospects are surrounded by high uncertainty due to Brexit, and therefore the central bank will react to developments depending on how they affect the behaviour of economic agents and the inflation outlook.

Chart 3-5: Inflation expectations and long-term yields in the euro area and the US



Source: Bloomberg

Chart 3-6: Major commodity price indices



Note: Calculated from prices in USD.

Source: World Bank

The central banks of the other developed economies under review did not change monetary conditions in the past quarter. Of the central banks in emerging countries, following a 50 basis point interest rate cut in September, **the Russian central bank reduced its policy rate by a further 25 basis points in October.**

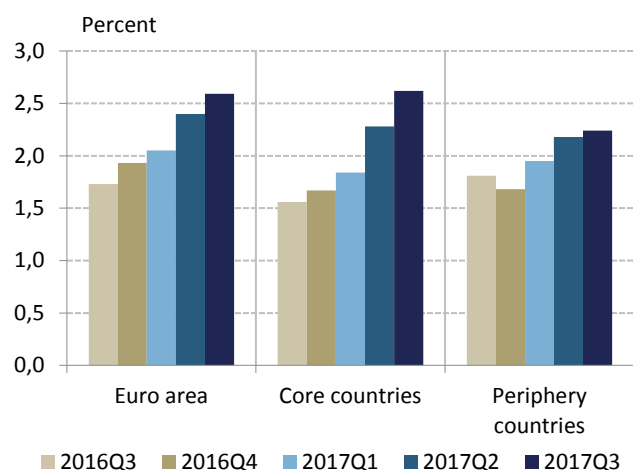
On the whole, financial markets were characterised by strong risk appetite in the past quarter. Market developments were mainly influenced by the decisions of the world's leading central banks, political events in Europe as well as country-specific developments related to certain emerging markets. Major stock exchange price indices reached new historical highs during the period, while the volatility of risk indicators was low. In the first half of November, a slight correction was experienced in the favourable atmosphere, although sentiment later recovered. The magnitude of stock market gains varied from country to country: while the Japanese stock exchange, which was supported by the weakening of the yen, and US indices showed major rises, the leading stock exchange price indices in Germany and the UK increased to a lesser extent. Changes in developed countries' long-term bond yields varied: US long-term yields rose, the Japanese and British yields stagnated, while German yields declined (Chart 3-5).

As a result of the ECB's announcement on continuing asset purchases at least until September 2018, market expectations concerning the date of the first interest rate hike in the euro area shifted to a later date, i.e. mid-2019. The depreciation of the euro typical of the first half of the past quarter partially corrected in the second half of the period, which may have been primarily attributable to the favourable macroeconomic data for the euro area. Movements of the currencies in the CEE region against the euro varied: while the forint and the Romanian leu depreciated, the Czech koruna and the Polish zloty appreciated. Oil prices increased considerably (Chart 3-6), which was attributable to the decline in US crude oil reserves in the first half of the period, the domestic tensions in Saudi Arabia and the extension of the production cap, as decided at the end-November OPEC meeting.

3.1.2. Developments in the euro area

In 2017 Q3, the upturn in the euro area economy continued (Chart 3-7). The economy of Germany, which is Hungary's most important trading partner, expanded by 2.8 percent year on year. Corporate investment activity, exports and stable household consumption were the main contributors to growth. The growth of euro area **core**

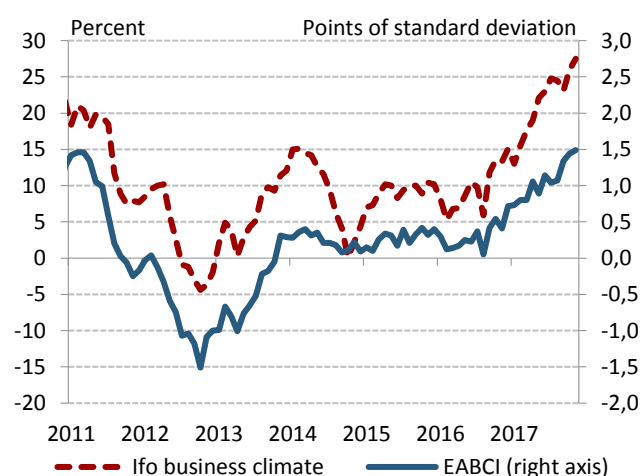
Chart 3-7: Annual changes in euro area GDP



Note: Seasonally and calendar adjusted series. Periphery countries: Portugal, Italy, Greece, Spain. Core countries: Belgium, Germany, France, Netherlands, Austria.

Source: Eurostat

Chart 3-8: Business climate indices for Germany and the euro area



Source: European Commission, Ifo

countries was primarily supported by the still dynamic expansion of the Dutch and Austrian economies, in addition to the German economy. Growth not only accelerated in the core countries, but also in the **periphery countries**. In addition to the upswing in the Italian economy, dynamic expansion was still observed in Spain. Nevertheless, the domestic political events of the past period may have an unfavourable impact on growth in Spain.

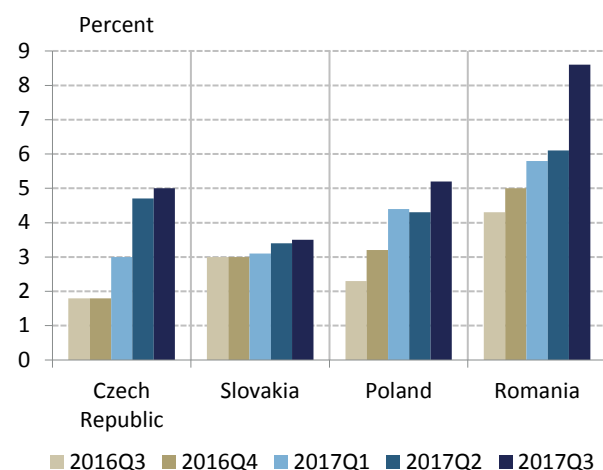
Forward-looking economic indicators continued to increase in the period under review (Chart 3-8). The business confidence index capturing the prospects of the euro area (EABCI) rose sharply during Q3, and, in parallel with that, expectations for the German economy (Ifo) also strengthened further. **Cyclical factors also play a role in the buoyant economic growth of the euro area**, although the economic prospects of the continent are surrounded by high uncertainty over the long term.

Growth forecasts were typically revised upwards. At the same time, euro area growth continues to be surrounded by risks, which are related to, inter alia, the United Kingdom's exit from the EU, the uncertainties concerning the elections in Germany and global factors.

Similarly to global trends, inflation remained moderate in the euro area as well in the past quarter. On the whole, there was no major change in inflation, while a decline was observed in core inflation. As a result, inflation remains below the central bank target in most Member States. The 5-year inflation expectations 5 years forward increased somewhat in the euro area, although they still fall short of the ECB's inflation target (Chart 3-5).

The Governing Council of the European Central Bank left the key interest rates unchanged in December. In October, the central bank reduced the monthly amount of asset purchases from the current level of EUR 60 billion to EUR 30 billion, starting from January 2018. The principal payments from maturing assets purchased within the framework of the programmes will be reinvested well beyond the time horizon of asset purchases. At the press conference following the decision, President Mario Draghi said that if the outlook becomes less favourable, the Governing Council stands ready to expand the programme in terms of size and/or time horizon. The Governing Council - after their December decision - still expects, that the ECB's policy rates will remain at the current levels permanently and much longer than the horizon of net asset purchases.

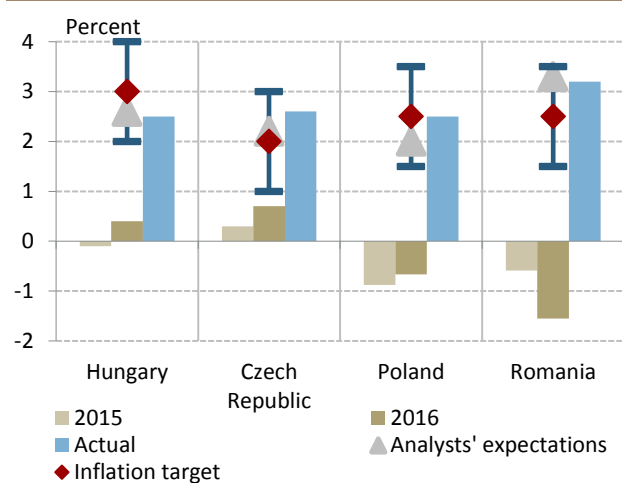
Chart 3-9: Annual changes in GDP in CEE countries



Note: Seasonally and calendar adjusted series. In the case of Slovakia, only seasonal adjustment.

Source: Eurostat

Chart 3-10: Inflation targets of central banks, inflation, and economic agents' expectations



Note: Analyst's expectations relate to March 2018, in case of Romania to 2018 Q1.

Source: OECD, National Institute of Statistics Romania, Consensus Economics

3.1.3. Developments in the CEE region

The Central and Eastern European region continued to be the European Union's growth centre, with the GDP growth rate accelerating compared to the previous period (Chart 3-9). In Poland, strengthening consumption continued to be the main driving force behind growth, which was also supported by increases in employment and wages as well as favourable household confidence. In Romania, strong domestic demand continued to be the main contributor to the outstanding economic performance. Looking ahead, however, the economy may return to a more sustainable growth path, and thus the growth rate may decelerate. Buoyant growth was mainly supported by strong household consumption in the Czech Republic as well. In Slovakia, more than 3 percent annual expansion was observed in Q3 as well.

Inflation typically increased in the countries of the region in the past months, developing within the tolerance bands around the various inflation targets (Chart 3-10). The largest rise was observed in Romania. Inflation was above the central bank target in the Czech Republic and in Romania in November 2017. Core inflation was at moderate levels in Poland and Romania, but looking ahead – in parallel with the expected increase in inflation – core inflation may also rise significantly in Romania. Core inflation exceeded the inflation target in Slovakia and the Czech Republic.

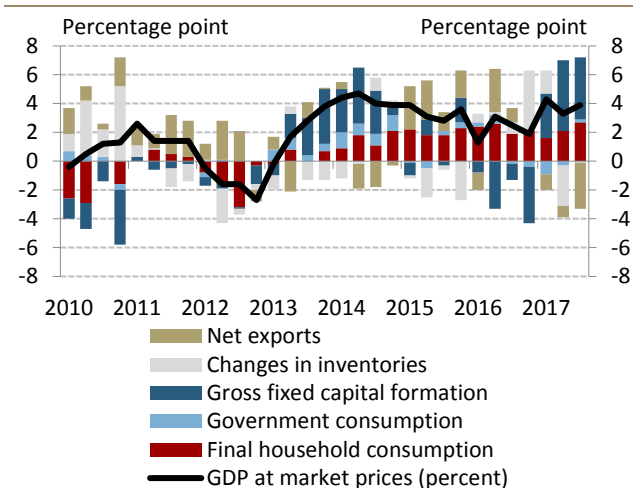
Of the central banks of the Central and Eastern European region, the decision-makers of the Czech central bank decided to raise the base rate again, while the Romanian central bank narrowed the interest rate corridor in two steps. The central banks of the other countries of the region maintained loose monetary conditions. Following a 20 basis point interest rate hike in August, the decision-makers of the **Czech central bank** raised the policy rate by 25 basis points to 0.5 percent in November. In addition, they increased the overnight lending rate, which sets the upper bound of the interest rate corridor, by 50 basis points to 1 percent, while the overnight deposit rate remained unchanged at 0.05 percent. According to the forecast of the central bank, inflation in 2018 will mostly be above the 2 percent target, but within the tolerance band, before returning to the target over the monetary policy horizon. In the decision-makers' assessment, the forecast is mostly surrounded by upside risks to inflation. The timing of further interest rate hikes depends on changes in the main economic variables. In both October and November, the decision-makers of the **Romanian central bank** decided to narrow the two bounds of the interest rate corridor by

25 basis points each. These steps resulted in a tightening of monetary conditions. According to the central bank's forecast, inflation may increase significantly over the short run and decelerate from end-2018. Compared to the previous forecast, the inflation path rose considerably over the short term, and was revised downwards to some extent in the second half of the forecast horizon. The **Polish central bank** did not change the monetary conditions during the past quarter. According to the November forecast, inflation may be slightly higher than the July projection over the forecast horizon. In the decision-makers' assessment, inflation may be close to the inflation target in the coming years. As a result, the current level of the base rate contributes to sustainable growth and to macroeconomic balance.

3.2. Analysis of the production and expenditure side of GDP

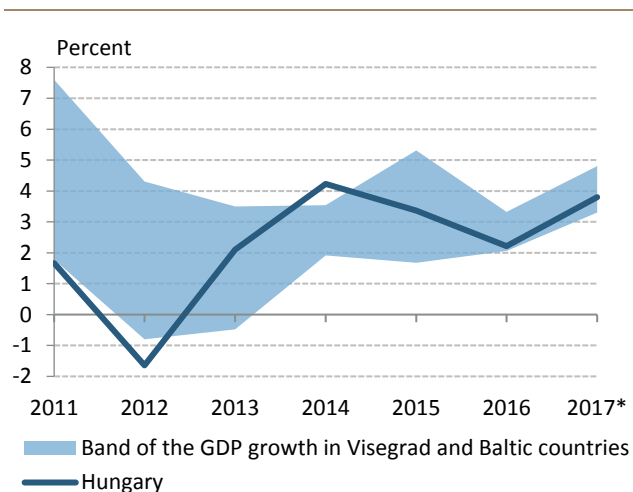
According to the HCSO, in 2017 Q3, the gross domestic product increased by 3.9 percent year on year, while compared to the previous quarter the volume of GDP rose by 0.9 percent. Economic growth continued to be supported mainly by domestic demand, which was mainly attributable to the increase in investment and consumption. On the production side, the performance of services, construction and industry contributed to the GDP expansion. The higher growth rate compared to Q2 is primarily attributable to the more favourable performance of the services sectors, while investment and consumption were the main contributors on the expenditure side.

Chart 3-11: Contribution to annual changes in GDP



Source: HCSO

Chart 3-12: Economic growth in the region and the Baltic countries



Note: * Data for 2017 based on Q1-Q3 economic growth.

Source: Eurostat

According to the HCSO, in 2017 Q3, gross domestic product increased by 3.9 percent year on year, and expanded at a rate of 0.9 percent compared to the previous quarter. As before, economic growth was primarily supported by domestic demand through a considerable expansion in investment and the continued rise in consumption. In parallel with the increase in import demand stemming from the expansion in domestic demand, the contribution of net exports to growth was negative (Chart 3-11).

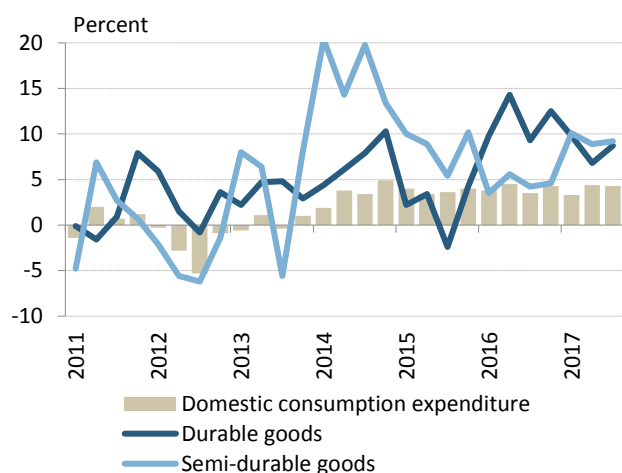
In spite of this year's GDP expansion, economic growth in the past period **was below the average growth rate of the countries of the region and of the Baltic countries** (Chart 3-12).

Household consumption continued to expand steadily in 2017 Q3. The rise in households' consumption expenditure was supported by the **improvement in underlying income trends resulting from pay rises** as well as by historically high household confidence and net financial wealth. **The rise in expenditures on purchasing durable and semi-durable goods, which have a high recovery potential, continued to exceed the aggregate expansion in consumption.** Consumption of durable products was 8.7 percent up, while expenditure on less durable products expanded by 9.2 percent in Q3 (Chart 3-13). The continued increase in consumption is also corroborated by the buoyant **expansion in retail sales.** According to preliminary data, year-on-year growth in turnover amounted to 6.3 percent in October.

Households' financial wealth at current prices increased further in Q3, while their net financial savings remained unchanged compared to the previous quarter. The increase in households' willingness to build or purchase homes resulted in higher savings. Accordingly, the net financial savings rate rose compared to the beginning of the year (Chart 3-14). The **net financial wealth** of households amounts to around 100 percent of GDP, significantly exceeding the average of the countries of the region.

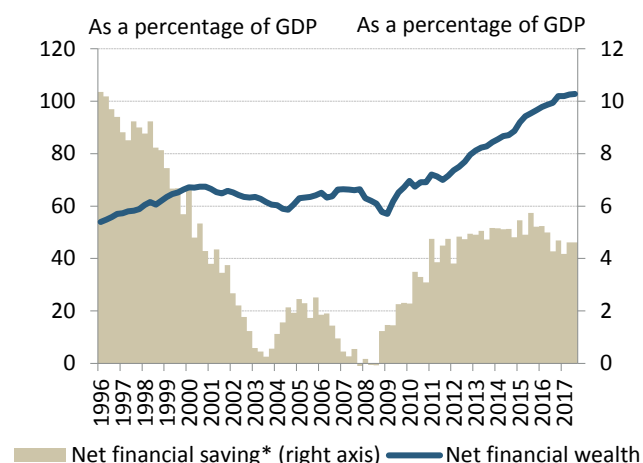
Household loans outstanding expanded at an annual rate of 4 percent; the value of loan transactions amounted to HUF 70 billion in Q3. **The annual average increase in the volume of new loans was 43 percent.** Within that, the

Chart 3-13: Development of consumption components, annual changes



Source: HCSO

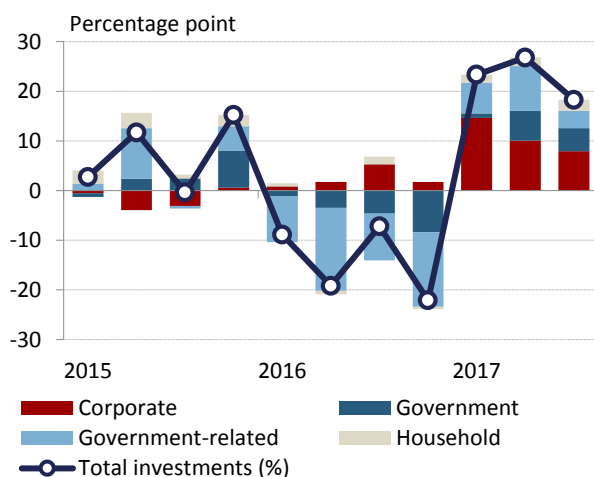
Chart 3-14: Savings and assets of households



Note: *Seasonally adjusted and corrected data.

Source: MNB calculation

Chart 3-15: Decomposition of the annual change in investment



Source: HCSO

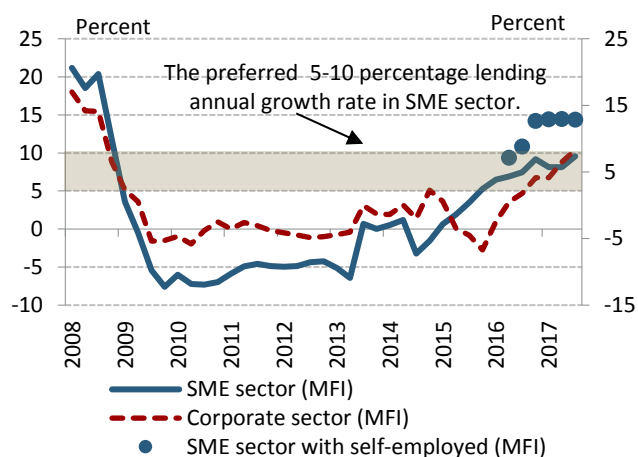
extension of new housing loans and personal loans amounted to 29 percent and 46 percent up, respectively. The Home Purchase Subsidy Scheme for Families also plays an important role in the increase in demand, 17 percent of new housing loans are related to the scheme.

In line with rising domestic demand, market services contributed significantly to economic growth in Q3. Value added increased in each of the market services sectors, while government-related services declined slightly compared to the same period of last year. Along with trade, accommodation services and catering, administrative services made the strongest growth contribution, but the contribution of the IT and communications and transportation and storage sectors were also significant. **The increase in the number of guest nights was lower than the average of the past period,** amounting to 2.9 percent year on year in Q3. The expansion was mainly attributable to a rise in the number of nights spent by foreign guests, but domestic tourism demand also increased.

In contrast to the developments seen in H1, both public consumption and in-kind social benefits received from the government rose in Q3.

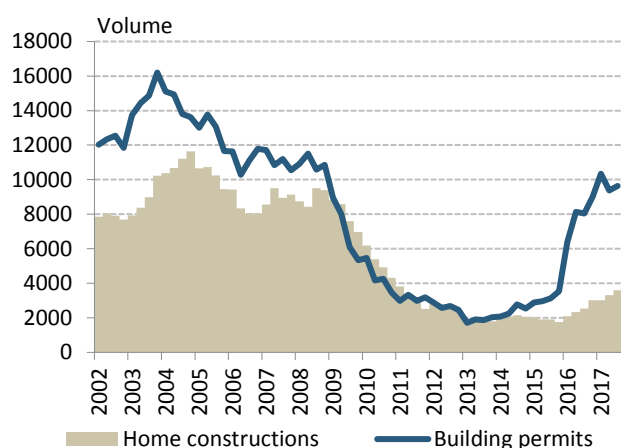
In 2017 Q3, whole-economy investment expanded by 18.3 percent, with contributions from growth in a wide range of sectors (Chart 3-15). The strong increase in corporate investment activity continued. In the case of companies producing for and providing services to the domestic market, the main contribution to expansion came primarily from the increase in investment in the trade and vehicle repair subsector, which had already been expanding for nearly two years, but investment activity picked up in other sectors as well. Manufacturing, which has a high weight, was the main contributor to the growth in investment of the companies producing for external markets, with support from a wide range of subsectors. Investment in the public sector (healthcare, administration, education) and sectors closely related to the public sector (energy, transportation) also expanded considerably; in addition to the low base, this was supported by contributions from the upswing in projects implemented from the 2014–2020 EU cycle as well as investment implemented from own funds. In line with the buoyant investment activity, the strong increase in construction output continued in Q3.

In 2017 Q3, total corporate lending rose by 8 percent year on year. Non-financial corporations' loans outstanding expanded by HUF 221 billion during the quarter, as a result of disbursements and repayments, while they increased by HUF 464 billion on a transaction basis in year-on-year

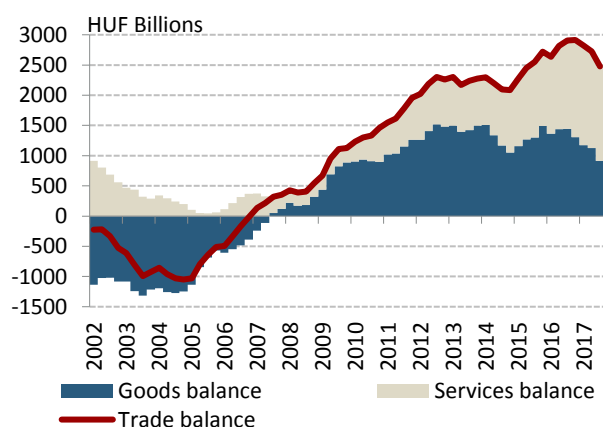
Chart 3-16: Annual changes in lending to non-financial corporates and SMEs

Note: Data for corporate loans total are based on transactions. For SME loans, estimated transactions are applied from 2013 Q4.

Source: MNB

Chart 3-17: Evolution of home constructions and building permits

Note: Seasonally adjusted data. Source: HCSO

Chart 3-18: Evolution of the trade balance

Note: Seasonally adjusted, 4-quarter cumulated values, in 2005 prices. Source: HCSO

terms. Accordingly, the annual expansion in corporate lending has already been in the band deemed sustainable over the long term by the MNB for two consecutive quarters. Growth amounted to 10 percent and 13 percent in the case of the SME sector in a narrow sense and including the self-employed, respectively (Chart 3-16). Higher-than-expected demand for commercial real estate loans also contributed to the growth in corporate lending.

Household investment activity increased further in Q3; dynamic expansion in home-building continued in parallel with the favourable demand conditions. In line with the building permits issued earlier, the number of completions increased sharply, with a year-on-year increase of over 60 percent. In parallel with that, the increase in the number of building permits issued was also higher than in the previous quarter (Chart 3-17). **As a result of the buoyant demand, the rise in housing prices continued** in the period under review, the markets of both preowned and new homes made positive contributions to the increase in housing prices.

Net exports reduced the growth of the Hungarian economy in Q3. In line with the developments in industrial production, the increase in goods exports decelerated in Q3 (Chart 3-18). The slowdown observed in Hungarian industry and exports may be attributable on the one hand to model changes in the vehicle industry and temporary reductions of production due to capacity expansions, on the other hand to different schedule of summer factory stoppages compared to previous year. Services exports expanded moderately year on year, while services imports increased significantly in Q3. **As a result, the annual growth in total exports was exceeded by import growth**, also supported by the expansion in domestic demand (household consumption, investment). In 2017 Q3, the terms of trade stopped deteriorating compared to the same period of last year, which is mainly explained by the change in the relative price of machinery and means of transport.

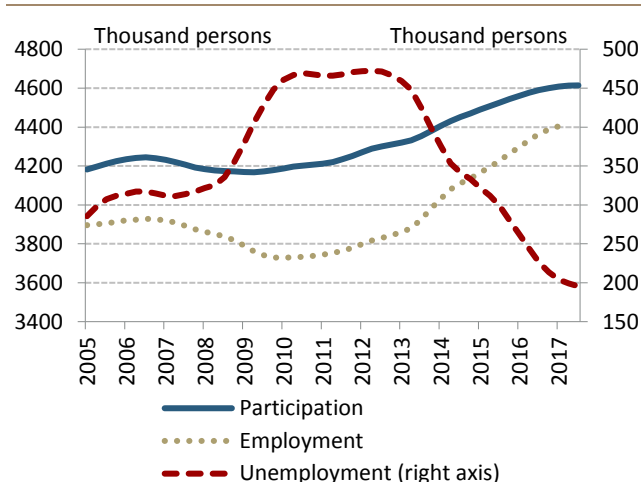
According to preliminary data, the performance of agriculture is below last year's historically favourable level. Based on the preliminary data, the output of both crop production and livestock production was lower than last year's results. Among the main field crops, yields of corn and barley were significantly reduced, and yields of wheat decreased slightly compared to last year.

As a result of the lower agricultural performance compared to last year and the high base from the previous year, the change in inventories lowered economic growth slightly in Q3.

3.3. Labour market

Employment in the private sector continued to increase in 2017 Q3, with the strongest contributions coming from employment growth in the construction and the energy industry. In line with this, the unemployment rate declined to 4.1 percent.

Chart 3-19: Participation, employment and unemployment in the total economy



Note: Seasonal moving averages.

Source: HCSO

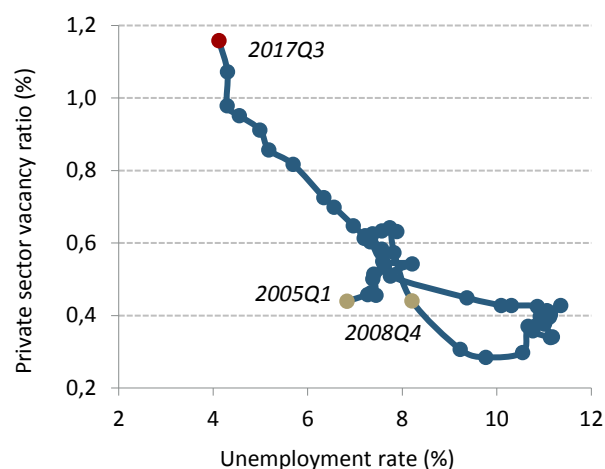
In 2017 Q3, the number of economically active people continued to increase moderately (Chart 3-19). The activity rate of the 15–74 age group stood at 62.3 percent, while the proportion of active people was 71.7 percent in the population aged 15–64.

As a result of dynamic employment growth in the private sector, whole-economy employment increased further. The number of persons working in the public sector continued to decline, due to a gradual decrease in public work programmes.

In line with the robust growth in construction output, the increase in the number of people employed in construction contributed to the employment growth in the private sector, along with the increase in the number of people employed in the energy industry (mining, electricity, utilities). Employment in manufacturing and the market services sector remained practically unchanged. **The number of people working abroad was stagnant.** The full-time equivalent number of employees adjusted for the number of hours worked increased faster than the number of employees, reflecting further intensive side adjustment by firms.

Unemployment declined further, with the unemployment rate at 4.1 percent. Based on the number of vacancies, corporate labour demand rose in a wide range of sectors in the private sphere. The Beveridge curve continues to indicate the historical tightness of the labour market (Chart 3-20).

Chart 3-20: Development of the Beveridge curve



Note: The private sector vacancy ratio indicates the ratio of private sector vacancies to active workers in the quarter.

Source: MNB calculation based on HCSO data

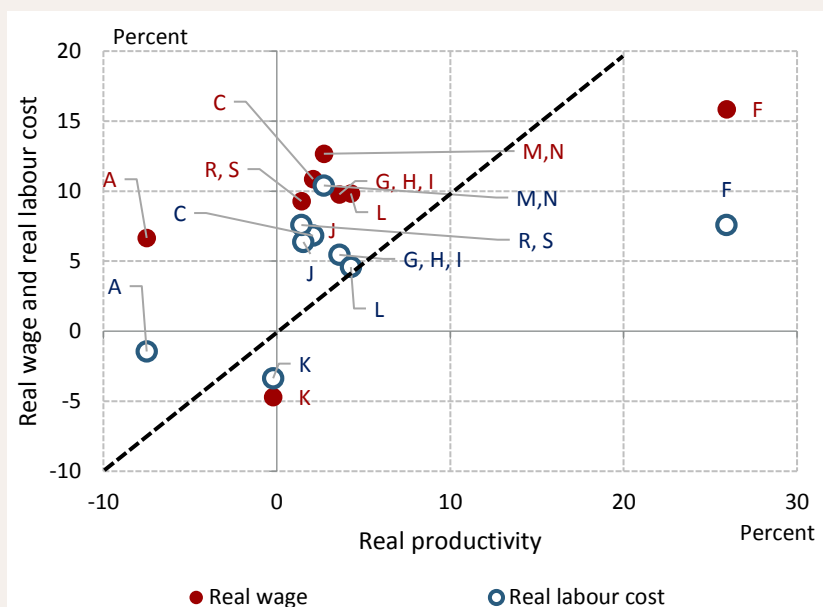
Box 3-1: Connection between wage growth and productivity in the past period

In the past period, a double-digit increase in wages was observed in Hungary. Over the long run, wage increases must be in line with the improvement in labour productivity; therefore, it is important to examine the correlation between the two variables. **The increase in real wages exceeded productivity**, with financial and insurance activities and construction as the only exceptions (Chart 3-21). However, the comparison of real wages and productivity does not provide a precise picture of the burden that the rise in wage costs means for enterprises. Many factors need to be taken into account in the calculations:

- The degrees of the rise in wages and the change in labour costs were different in the past quarters. The 5 percentage point reduction of the social contribution strongly mitigated the cost-increasing effect of wage increases in 2017.
- From the corporate side, for the calculation of the so-called producer's real labour cost it is expedient to use the deflator for the given sector and not the consumer price index. As the deflators are typically higher than the consumer price index, this also reduces the growth rate of real labour cost.

Chart 3-21 presents the calculation that controls for the change in the employer's burdens and also takes into account the difference between the consumer price index and the sectoral deflators. It is clear that in this case the change in real labour cost was much closer to the change in productivity, i.e. to the dashed line.

Chart 3-21: Annual percentage changes in labour cost, wages and productivity in the first three quarters of 2017

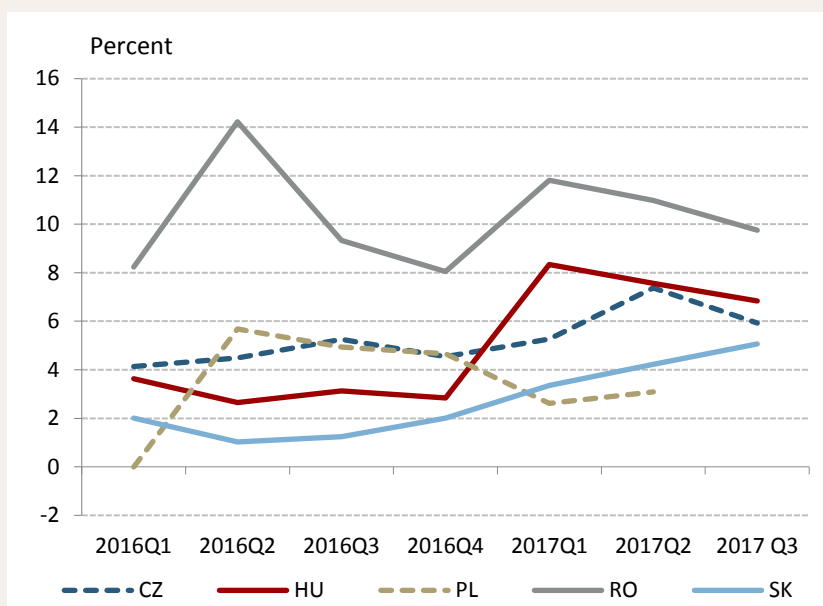


Note: The deflator for real labour cost is the sectoral deflator, while the deflator for the real wage is the consumer price index. The straight line is included as a 45 degree point of reference for comparison. Abbreviations: A – agriculture, forestry, fishing; C – manufacturing; F – construction; G – trade; H – transport; J – information and communication; K – finance and insurance activities; L – real estate activities; M, N – professional, scientific and administrative activities; R, S: art, entertainment and other services.

Source: HCSO, MNB

In a regional comparison, the increase in per capita labour cost in Hungary was not extremely high (Chart 3-22). The indicator for Romania considerably exceeds the figures for its peers in the region, **while the index for Hungary roughly corresponds to the figure recorded for the Czech Republic**. Overall, the Hungarian wage cost index does not significantly differ from the regional trends.

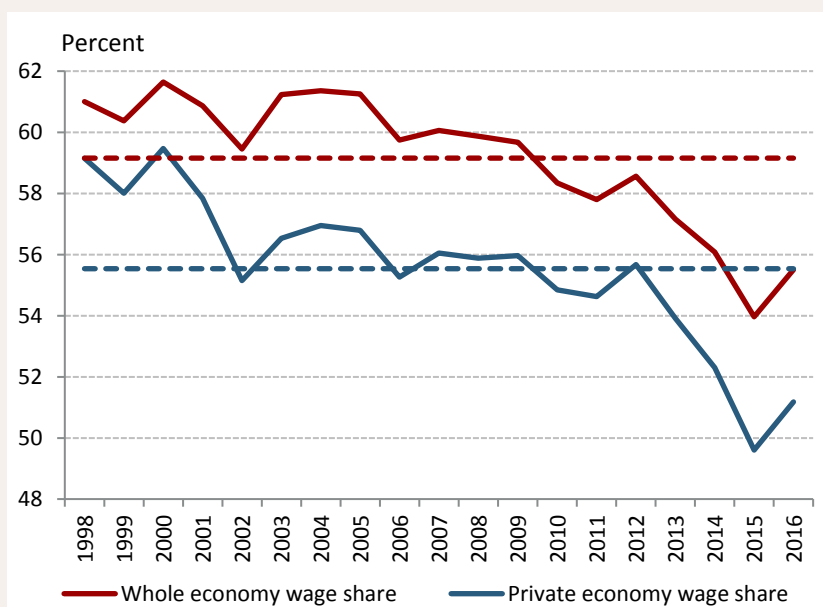
Chart 3-22: Changes in per employee labour cost in the private sector of the economies of the CEE region



Source: Eurostat, MNB

Nevertheless, in addition to growth rates it is important to also take into account the levels of productivity and wage costs during analyses. If the level of wage costs is lower than productivity, this is reflected in a low wage share indicator as well. A general observation in the past decades was that wages increased more slowly than productivity in most developing and developed countries, and thus the wage share declined.² In the period after the crisis, **the wage share decreased considerably in Hungary as well, sinking to its historical low in 2015. As the rise in wage cost exceeds the improvement in productivity (albeit not significantly), an increase is observed in the indicator, although it is still well below its long-term average** (Chart 3-23). Accordingly, as the current level of the wage share supports the rise in wages exceeding the rise in labour productivity, wage costs may temporarily exceed the increase in productivity.

Chart 3-23: Evolution of wage share in Hungary



Note: The dashed line indicates the average of the period.

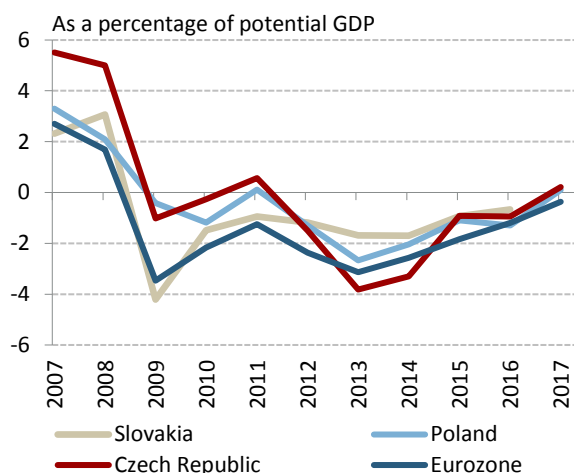
Source: HCSO, MNB

² For more details on the causes see: MNB, Growth Report (2017).

3.4. Cyclical position of the economy

According to our estimates, the output gap was near its potential level in 2017 Q3. The output gap of the euro area will close in 2018. According to estimates of central banks in the region, the output gaps of the neighbouring countries may close this year. In addition, the closing of the domestic output gap is reflected by the fact that the indicators capturing corporate business sentiment and capacity utilisation increased further in the past period.

Chart 3-24: Evolution of the output gap in the euro area and the region

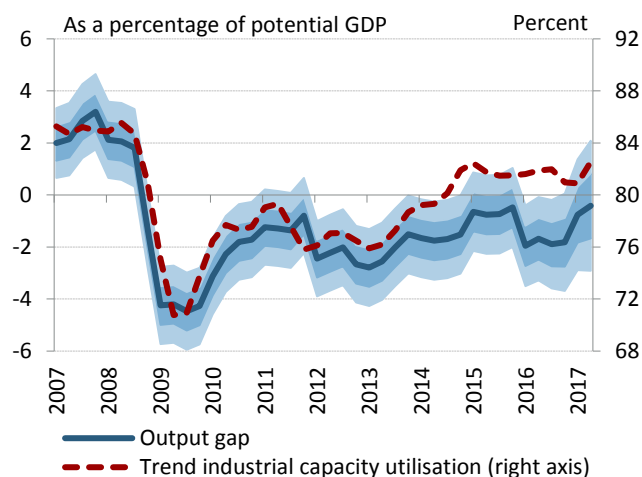


Note: For Slovakia data are available until 2016.

Source: European Commission, national banks

According to our estimate, the output gap was around its potential level in 2017 Q3. Robust domestic demand has played a role in the gradual closing of the output gap observed this year. In addition, the level and changes in the domestic output gap are also influenced by the cyclical position of Hungary's key trading partners. **The output gap of the euro area is still in negative territory, although only slightly** (Chart 3-24). According to estimates of central banks in the region, **the output gaps of the neighbouring countries may close this year** (Chart 3-24). In the case of Poland, in addition to the fiscal impulse, the renewed pick-up in the absorption of EU funds also contributes to the positive output gap, while in the Czech Republic the increase in domestic and external demand as well as loose monetary policy play a role in the changes in the gap. In Romania, the positive output gap also results from households' improving income position, fiscal easing and loose monetary policy conditions.

Chart 3-25: Uncertainty band of the output gap



Note: The edge of the uncertainty band shows one standard deviation.

Source: MNB

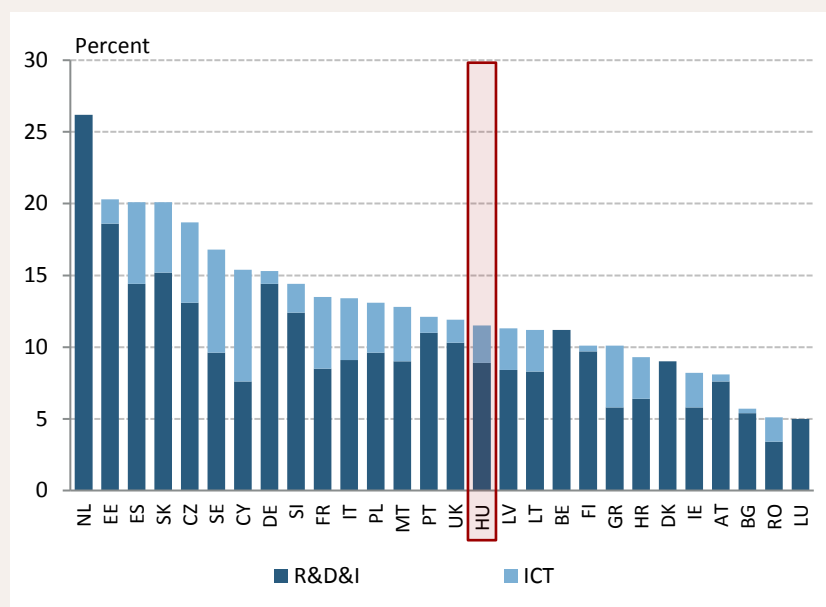
The closing of the domestic output gap is indicated by the fact that **the majority of survey results capturing corporate business sentiment and capacity utilisation have continued to rise, similarly to the past period**. As in the previous quarters, based on companies' responses, **labour was a bottleneck**. The proportion of companies that cited labour as a factor hindering production increased to a historical high in construction and was close to historical highs in the case of industry and services.

The historically low unemployment rate also corroborates that the **utilisation of the labour factor increased considerably in the past period**. The significant expansion in employment and, in parallel with this, the decline in the unemployment rate contributed to stronger capacity utilisation in the past years (Chart 3-25).

Box 3-2: Efficiency of R&D&I expenditures in Hungary

Looking ahead, improving productivity is becoming increasingly important in terms of sustainable growth. Innovation and technological progress achieved through research and development may contribute to this to a great extent. Boosting R&D&I expenditures may also help to improve competitiveness. Therefore, higher amounts are already allocated from EU funds to support research, development and innovation (Chart 3-26).

Chart 3-26: Planned EU financing in innovative sectors in the programming period 2014–2020 as a percentage of total funding



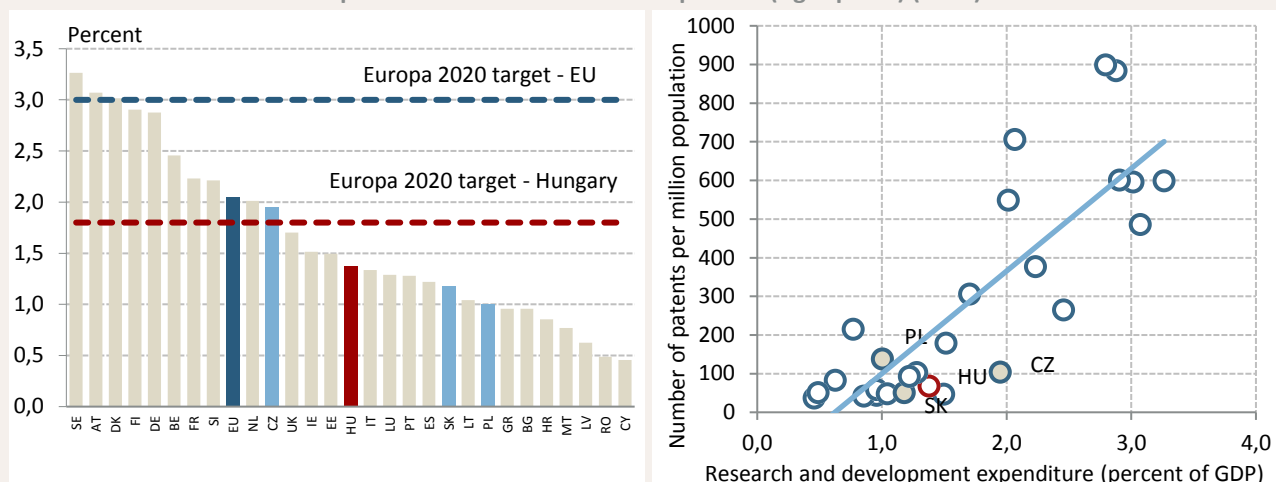
Note: ICT: Information and communication technology.

Source: European Commission

Consequently, it is worth examining changes in expenditures on R&D activity as a proportion of GDP. European leaders include the Scandinavian countries and Hungary's western neighbour, Austria. Following the turn of the millennium, Hungary started to catch up with the EU average. As in the previous two years, **whole-economy R&D expenditures amounted to 1.4 percent of GDP in 2015**. In a regional comparison, after the Czech Republic, R&D expenditures as a percentage of GDP were the second highest in Hungary, although **they were well below the 2 percent average recorded for the European Union** (Chart 3-27, left panel).

In addition to expenditures on R&D, their efficiency is important as well, which is also reflected in the number of patents. A **positive correlation** can be identified **between R&D expenditures and the number of patents** (Chart 3-27, right panel). In a European comparison, Germany, the Netherlands and the Scandinavian countries are the leaders in terms of per capita patents. At the regional level, despite having the lowest R&D expenditure as a percentage of GDP, Poland's performance is better than Hungary's in terms of the number of patents. In addition to more efficient innovation activity, the place of registration of patents may also have an impact. Irrespective of the location of the research activity, multinational companies may have their patents registered in another country.

Chart 3-27: R&D expenditures as a percentage of GDP in the European Union (left panel) and correlation between R&D expenditures and the number of patents (right panel) (2015)

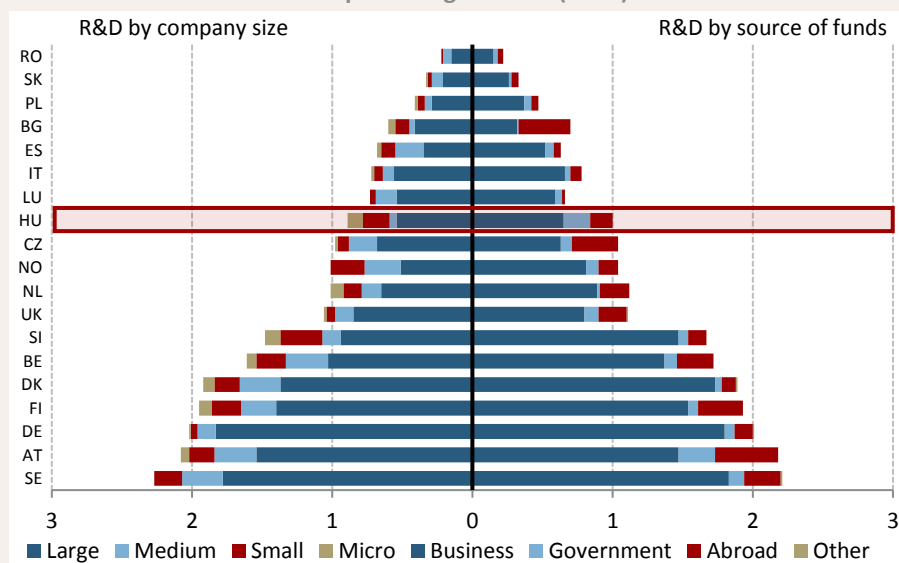


Source: World Bank, World Intellectual Property Organization, MNB

In the assessment of innovation activity, the structure of R&D expenditures is also important. Compared to the developed European countries, **Hungary's lag in R&D activity can primarily be identified at large and medium-sized companies**. In a regional comparison, the performance of Czech medium-sized and large companies is better than that of Hungary in terms of R&D expenditures as a percentage of GDP, while such companies' contribution to R&D expenditures is lower in Slovakia and Poland. In addition, **corporate duality is also significant** in Hungary; a smaller percentage of Hungarian SMEs are engaged in innovative activities compared to larger firms.

Looking at the financing side, **the lag of Hungarian research and development expenditures is mainly seen in the business sector** compared to developed countries, while technological efficiency can primarily be improved by increasing the activity of the business sector (Chart 3-28). In addition to the involvement of the business sector, the involvement of the state and cooperation between the actors are also important. **Efficient cooperation may also facilitate the development of general purpose technologies**, which – spreading over various sectors of the economy – may result in more cost-effective innovation, renewing from time to time and inducing new discoveries.³

Chart 3-28: Business R&D expenditures in a breakdown by company size and source of funds as a percentage of GDP (2015)



Source: Eurostat, MNB

³ For more details on the importance of general purposes technologies, see Chapter 5.2 of the Growth Report (2017).

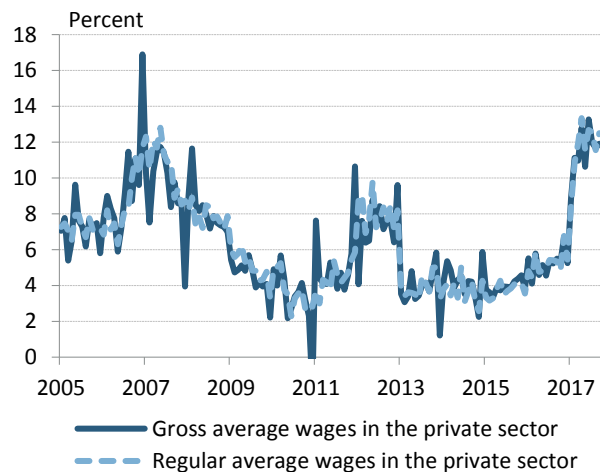
On the financing side, **the appearance of EU funds opened up new opportunities to stimulate innovative development and research. In the 2007–2013 EU programming period, Hungary’s competitiveness deteriorated compared to the countries of the region, despite the high level of per capita fund allocation**, underlining that it is worthwhile to allocate funds to areas that focus on long-term structural problems. In the previous programming period, the research and development activities of companies, higher education institutions and research institutions as well as their cooperation were supported from EU funds. **In the case of companies**, however, the distribution of R&D activity, which increased as a result of funding, was uneven, and **the positive impacts weakened with declining company size**.

As a result of Hungary’s economic openness, its production has become organically integrated **into global value chains**, but **the production of higher value added**, which contributes to progress, **requires innovation**, which is also indispensable for long-term sustainable economic growth. At the whole-economy level, boosting R&D expenditures and encouraging the participation of the business sector are of key importance, which is verified by the Europe 2020 strategy as well. Strategic objectives include increasing research and development expenditures (Chart 3-27, left panel). **In the new EU programming period between 2014 and 2020, more emphasis is put on improving the competitiveness of SMEs**, together with research and development as well as information and communication technology research. Directing EU funds into innovative sectors and building up an efficient state support system may also reduce corporate duality.

3.5. Costs and inflation

On the whole, inflation ranged around 2.5 percent in the past months. After the gradual increase since the beginning of the year, core inflation has decelerated in recent months, which is attributable to slower growth in the price dynamics of market services. Underlying inflation indicators, which capture longer-term trends in inflation, remain well below the level of core inflation. As a result of the tight labour market environment and the wage agreement, gross average wages rose by 11.9 percent in the private sector in Q3.

Chart 3-29: Annual change in gross average wages in the private sector



Note: Seasonally adjusted data.

Source: MNB calculation based on HCSO data

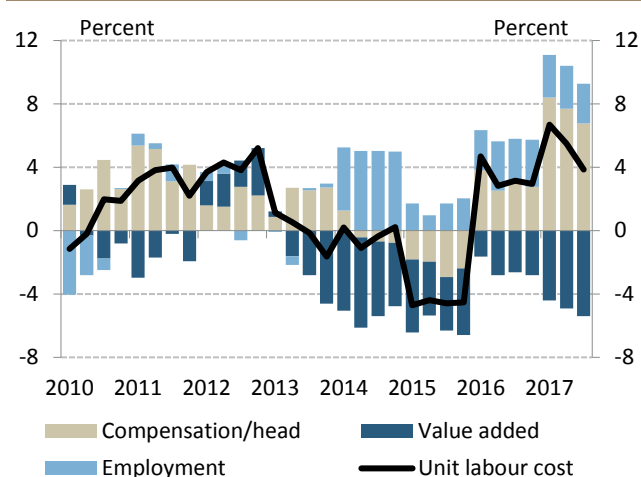
3.5.1. Wages

In 2017 Q3, gross average wages in the private sector rose 11.9 percent year on year (Chart 3-29). The direct and spillover effects of the large increase in the minimum wage and the guaranteed wage minimum this year contributed considerably to the strong wage growth. The strengthening of the underlying wage trend was supported by the historically tight labour market environment as well as increases in earnings at state-owned companies. Major, double-digit increases in wages were observed in the sectors belonging to the salary categories below the average wage. **The cost-increasing effect of strong wage growth was offset by the decrease in social contributions and corporation tax.**

The annual growth rate of unit labour cost fell gradually in the last two quarters as a result of the weakening dynamics of average labour costs and labour productivity gains in parallel with favourable economic activity (Chart 3-30).

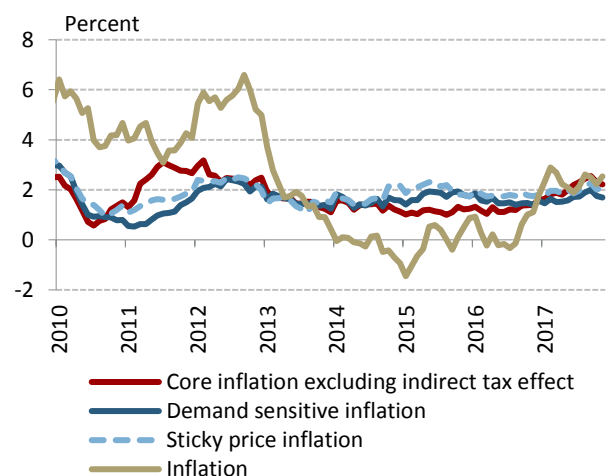
3.5.2. Producer prices

In 2017 Q3, agricultural producer prices increased in year-on-year terms. Compared to last year, the increase in the producer price of milk is still around 30 percent. However, in line with global market trends, slightly slower growth is observed in the price rises. The slower price rises for milk and dairy products in the world market is attributable to the

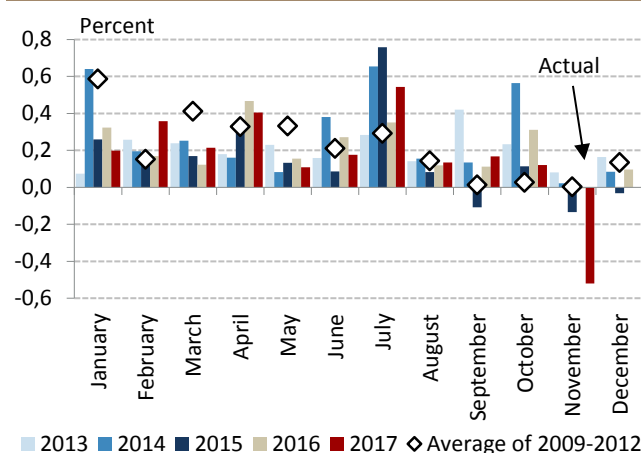
Chart 3-30: Decomposition of annual change of unit labour cost in private sector

Note: Seasonally adjusted data.

Source: MNB calculation based on HCSO data

Chart 3-31: Inflation and underlying inflation indicators

Source: MNB calculation based on HCSO data

Chart 3-32: Inflation of market services

Note: Seasonally unadjusted, tax-adjusted monthly percentage changes.

Source: MNB calculation based on HCSO data

higher expected global supply due to the start of the milk production season in Oceania. On the whole, the prices of seasonal products fell; the decrease in the price of potatoes was only partly offset by the slight price increases for fresh vegetables and fruits. Producer prices for cereals rose slightly, mainly due to quality problems concerning this year's harvest.

Domestic industrial sales prices and the prices of consumer goods rose year on year.

3.5.3. Consumer prices

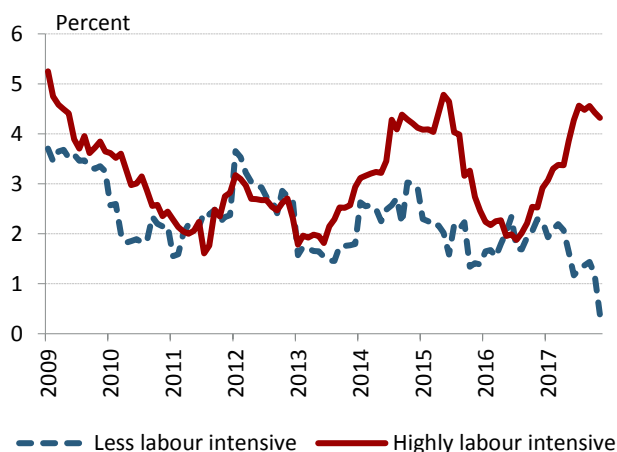
On the whole, inflation was around 2.5 percent in the past months. In November, the rise in inflation reflected an increase in the price index for fuel (Chart 3-31). Core inflation has increased gradually since the beginning of the year, mainly owing to price increases for processed foods (primarily milk and dairy products) as well as the rise in excise duty on tobacco products in January and July. **In recent months, however core inflation has decelerated, owing to a slower growth in the price dynamics of market services.**

Indicators capturing longer-term inflation trends (inflation of demand sensitive and sticky price products and services) decreased and were around 2 percent, still significantly below the level of core inflation.

Increases in the prices of industrial goods were restrained in the past months. Within this product group, the – seasonally adjusted – prices of durables fell slightly, while there was a small rise in the prices of non-durable goods. Prices of industrial goods continue to be influenced by the mutually opposing effects of moderate import prices and the steady pick-up in domestic demand.

Market services inflation decreased in the past months and it was around 2 percent in November. Disregarding the effects of tax changes, services prices declined significantly by historical standards in November (Chart 3-32). The different price dynamics compared to previous years were mainly explained by changes in the prices of cable TV, mobile phone and internet charges. Despite the robust wage growth seen this year, consumer prices in this sector still did not accelerate significantly. Higher price increases compared to previous years were only observed in the case of some highly labour-intensive services, such as accommodation and restaurant services. The price dynamics of these services did not change significantly in the past months (Chart 3-33). Based on the pricing practices of enterprises, developments early next year may be a key factor shaping future movements in market services inflation.

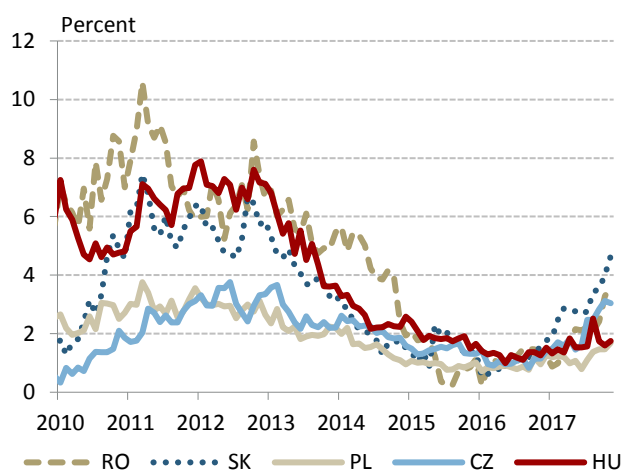
Chart 3-33: Inflation of market services



Note: Highly labour-intensive market services include accommodation, catering, education, healthcare and personal care services.

Source: MNB calculation based on HCSO data

Chart 3-34: Inflation expectations in the region



Source: MNB calculations based on data of the European Commission

In the case of food, seasonally and tax-adjusted **prices of processed food rose slightly in recent months**, mainly due to the continued price increases for **milk and dairy products**. Nevertheless, following the strong rise observed in the previous months and in parallel with the changes in produces prices, **the rate of price increase decelerated** in the case of this product group. **Unprocessed food prices increased**, mainly as a result of higher **vegetable and egg prices**.

In line with the changes in oil prices expressed in forints, **the price level of fuels rose in the autumn months**. **Annual inflation of this product group was volatile in the past period**, in accordance with the base effects from last year's price increase and the tangible rise in the prices of oil expressed in forints observed in November. **In September, the decline in regulated prices was mainly attributable to the significant fall in the prices of textbooks**, due to the extension of the free textbook programme to the 5th to 9th grades of primary schools. **Apart from that, there was no major price change within that product group** in the past months.

Inflation in recent months was practically in line with our September forecast. At the same time, as a result of the price dynamics of market services, core inflation was lower than our previous projection.

3.5.4. Inflation expectations

Hungarian households' inflation expectations are still at moderate levels, indicating the anchoredness of expectations. Expectations in Hungary were in line with the expectations observed in the countries of the region, which were characterised by steadily low inflation in the past as well (Chart 3-34).

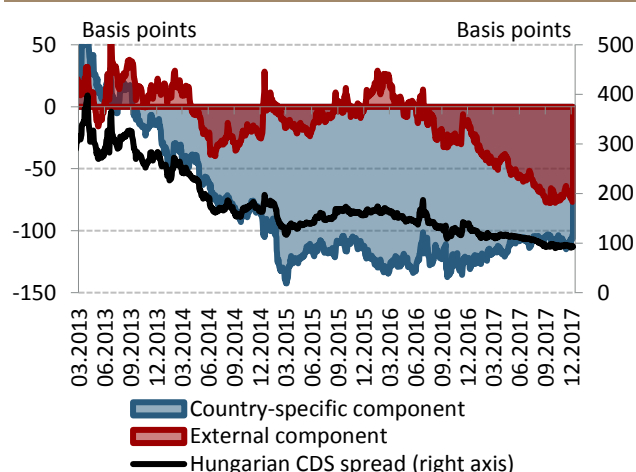
The price expectations of the retail sector did not show any major change in the past period and were similar to those at the beginning of year.

4. FINANCIAL MARKETS AND INTEREST RATES

4.1. Domestic financial market developments

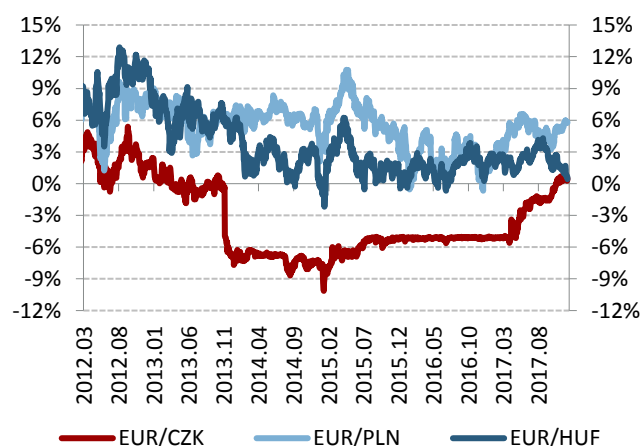
International investor sentiment was favourable in the past quarter. Market developments were mainly influenced by the decisions of the world's leading central banks, domestic political events in Europe and country-specific developments related to certain emerging markets. As a result of the ECB's announcement, market expectations regarding the date of the first euro area interest rate hike shifted further into the future, i.e. to mid-2019. The weakening of the euro typical of the first half of the past quarter reversed partly, perhaps mainly due to the favourable macroeconomic data released in the euro area. Domestic money market developments were primarily determined by the monetary policy divergence of the Central and East European region. As opposed to the sizable decline in Hungarian long-term yields, yields in the region either stagnated or increased. As a result of central bank decisions and communication, interbank and government securities market yields over one year fell significantly by 30–70 basis points, and strong demand was observed at government securities auctions as well. While the currencies of the region appreciated slightly, the forint depreciated against the euro on the whole. The favourable macro data and the outlook upgrade by Fitch essentially did not affect the exchange rate.

Chart 4-1: Components of 5-year Hungarian CDS spread



Note: The decomposition method used can be found in the MNB Bulletin: Variance decomposition of sovereign CDS spreads, Kocsis – Nagy (2011). Source: Bloomberg

Chart 4-2: Exchange rates in the region



Note: Changes compared to beginning of 2012. Positive values mean an appreciation of the currency. Source: Bloomberg

4.1.1. Hungary's risk perception

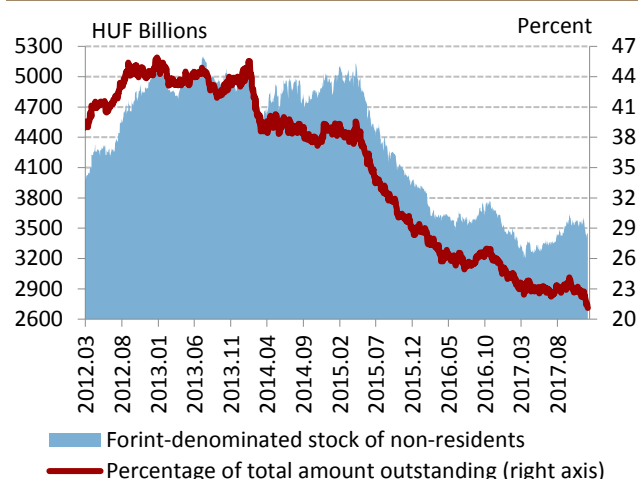
Hungary's risk indicators show a more favourable picture compared to mid-September (Chart 4-1). In a historical comparison, the Hungarian 5-year sovereign CDS spread remained at a low level for most of the period. **Domestic long-term government securities market yields fell considerably, and thus the yield curve became much less steep.** Following some initial depreciation, the domestic currency strengthened together with the zloty in the first third of the period, before declining gradually from the level of EUR/HUF 308 starting from end-October and fluctuating close to 313–315 by the end of the period under review. Fitch examined Hungary's credit rating and raised the previous stable outlook to positive, although neither this decision nor the favourable macro data had any major impact on the market.

Following a brief rise at the start of the period, the Hungarian credit risk spread gradually declined to 91 basis points by mid-December from 93 basis points at the beginning of the period. During the period, the Hungarian spread level evolved as a result of two contrasting influences: while international factors mostly raised it slightly, domestic factors fostered a decline, resulting in the static development on aggregate. Movements in spreads in the region were also similarly moderate during the period.

4.1.2. FX market developments

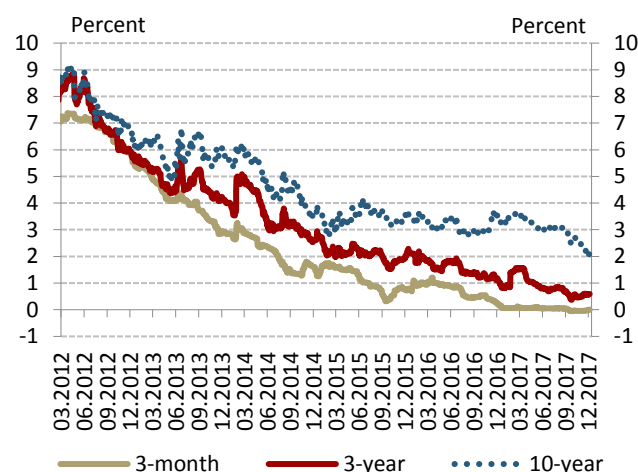
The exchange rate of the forint against the euro weakened by some 2 percent in total, while the Polish zloty and the Czech koruna strengthened by 1.5–2 percent (Chart 4-2). During the period, the exchange rate of the forint moved between the levels of EUR/HUF 307.5 and 315. In the first half of the period, minor appreciation occurred for the zloty and the forint, before the latter started to weaken again from end-October. The depreciation of the forint was

Chart 4-3: Hungarian HUF-denominated government securities held by non-residents



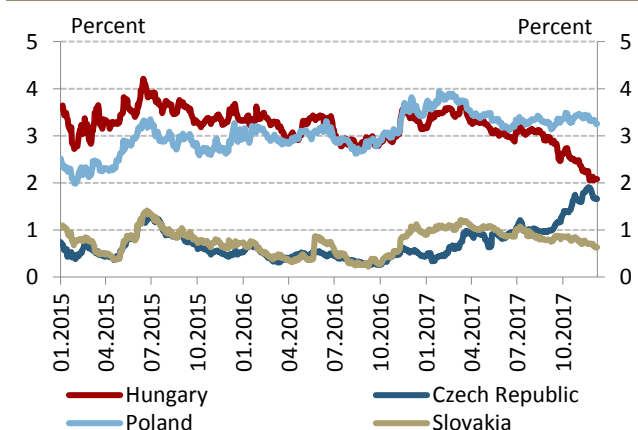
Note: The chart shows the stock of T-bills and T-bonds and the amount of government securities held by non-residents; retail securities are not included. Source: MNB

Chart 4-4: Yields of benchmark government securities



Source: Government Debt Management Agency (GDMA)

Chart 4-5: 10-year government benchmark yields in CEE countries



Source: Bloomberg

attributable to the central bank's communication and decisions that eased monetary conditions in October and November. In addition to favourable growth developments in the region, data and expectations concerning the acceleration of inflation also played a role in the strengthening of the koruna and the zloty.

4.1.3. Government securities market and changes in yields

Non-residents' HUF-denominated government securities holdings fell in the past quarter (Chart 4-3). After declining steadily from 2015, non-residents' HUF-denominated government securities holdings stabilised in mid-2016, followed by a decline again until early 2017 after a temporary increase. Holdings increased again starting from the beginning of 2017, and then fluctuated around HUF 3,500 billion in H2. Since mid-September, holdings have declined again slightly, dropping by some HUF 120 billion, while the ownership ratio of non-residents has decreased to 21 percent.

Demand was strong in the primary market of government securities, although the GDMA increased the announced quantities towards the end of the year. Short-term treasury bill yields remained practically unchanged, while long-term auction yields were down significantly, declining by 35–90 basis points.

The steepness of the government securities secondary market yield curve declined mainly as a result of a significant fall in long-term yields (Chart 4-4). In line with auction yields, short-term secondary market yields changed only slightly, while the longer section of the yield curve shifted downwards by 30–70 basis points as a result of the introduction of the central bank's new instruments and communication regarding the yield curve. The 10-year yield fluctuated around 2.16 percent at the end of the period.

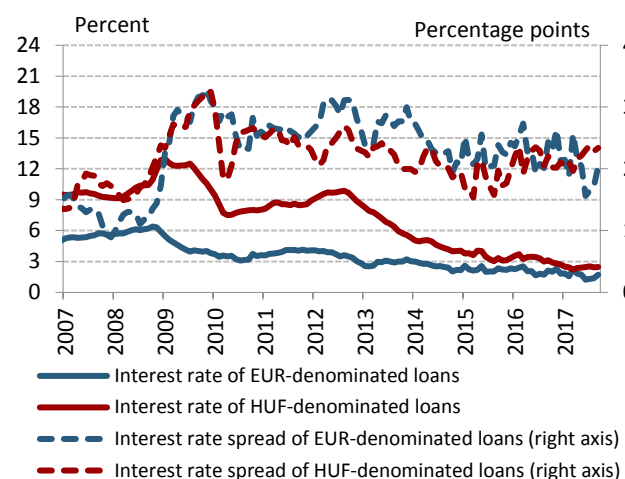
As a result of the central bank's decisions, short-term interbank yields fell slightly, while significant decreases took place in the middle and longer segments, and thus the interbank yield curve became flatter.

Divergence was typical in the region in terms of long-term benchmark yields as well. While the forint 10-year yield sank by 70 basis points, the corresponding Polish yield was stagnant, and the Czech yield rose by 55 basis points. The increase in the Czech yield was mostly a reaction to the expectations of inflation and monetary tightening there, while the Slovak yield declined slightly as a result of a change of benchmarks. By contrast, the Hungarian 10-year yield declined considerably as a result of the introduction of the central bank's further easing measures and the commitment to reduce the steepness of the yield curve.

4.2. Credit conditions of the financial intermediary system

In 2017 Q3, corporate credit conditions eased in all company size categories, while there was no major change in conditions regarding the household lending segments. The financing cost of corporate loans varied by currency, and the average interest rate spread on housing and consumer loans declined in the period under review. The one-year forward-looking real interest rate fell during the quarter.

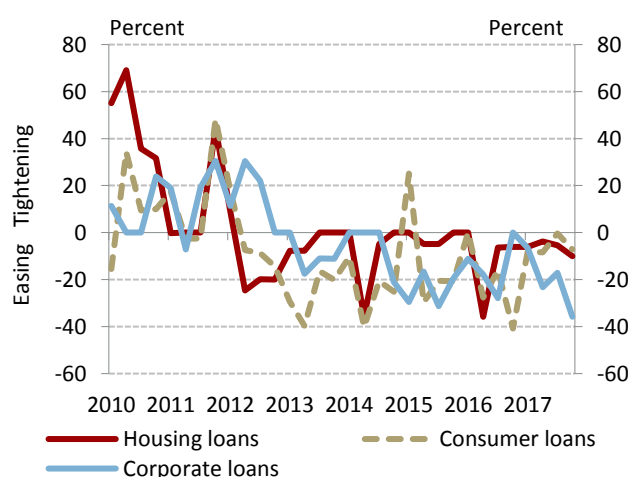
Chart 4-6: Smoothed interest rates and spreads on corporate loans by denomination



Note: Interest rates smoothed by the 3-month moving average. The spread is the 3-month moving average of spreads on the 3-month BUBOR and EURIBOR, respectively. Loans with floating interest rates or with up to 1-year initial rate fixation. Since January 2015, money market transactions are excluded.

Source: MNB

Chart 4-7: Changes in credit conditions in the corporate and household sectors



Note: Net percentage balance of respondents tightening/easing credit conditions weighted by market share. Forecast for 2017 Q4 and 2018 Q1.

Source: MNB based on banks' responses

4.2.1. Corporate credit conditions

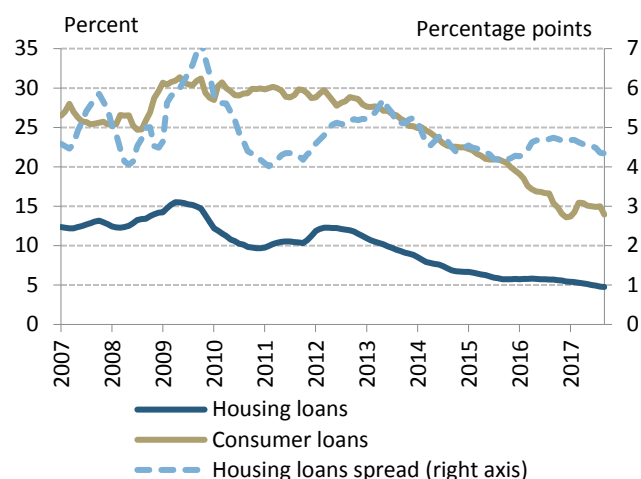
The financing cost of small-amount corporate HUF loans decreased further in 2017 Q3. Excluding money market transactions, the average interest rate on new HUF loans with floating interest rates or with up to 1-year initial rate fixation remained unchanged at 2.5 percent in Q3 (Chart 4-6). Interest rates on high-amount loans remained unchanged, while declining by 4 basis points on small-amount loans. The interest rate spreads were also heterogeneous by the size of loans: the spread on loans exceeding EUR 1 million rose, while the average spread on loans below this amount remained unchanged. Both the interest rate and spread on EUR loans increased by 0.5 percentage point on average, and thus the level of smoothed interest rates amounted to 1.7 percent, while that of spreads stood at 2 percentage points at end-September. In the case of small-amount loans, both interest rates and spreads remained at the level recorded in Q2, but in the case of high-amount loans a 0.5 percentage point rise was observed in the interest rates and spreads alike.

Corporate credit conditions continued to ease, and easing is also expected looking ahead. Based on the responses to the Lending Survey, in net terms, 17 percent of the banks eased corporate loan conditions, with this affecting the conditions of loans to large companies and SMEs (Chart 4-7). Banks justified this easing with an improvement in economic prospects and a further increase in market competition. Easing was mostly reflected in interest rate spreads and premiums on riskier loans. Looking ahead, in net terms, 36 percent of the banks indicated further easing, mainly citing an increase in competition, and they mostly plan to implement this easing in loans to small and micro enterprises.

4.2.2. Household credit conditions

The spread on housing loans declined during the past quarter. The APR on newly granted housing loans declined by 0.2 percentage point to 4.8 percent in the period under review (Chart 4-8). In terms of interest conditions, the APR level of both fixed-rate and variable-rate loans decreased. The average level of spreads was down by 0.2 percentage point, coming in at 4.3 percentage points at end-September. The average APR on consumer loans

Chart 4-8: Smoothed annual percentage rate of charge (APRC) and spreads of housing and consumer loans



Note: For housing loans with floating or up to 1 year interest rate fixation the reference rate is the 3-month interbank rate, for over a year fixation the APR-based smoothed spread over 3-year IRS.

Source: MNB

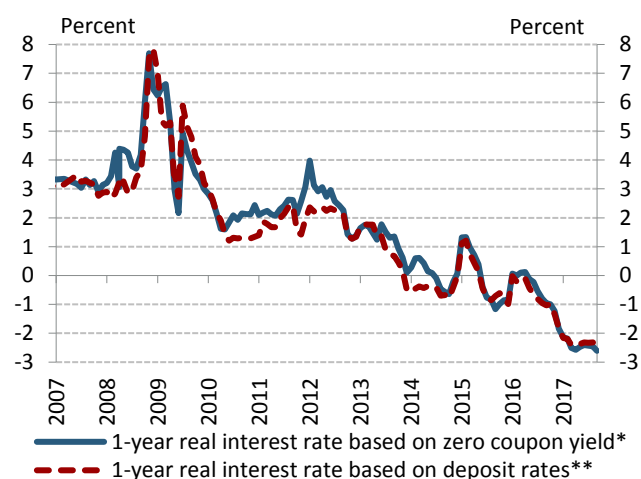
declined by 1 percentage point, to 14 percent in Q3. The annual percentage rate on both home equity loans and unsecured consumer loans declined in the period under review.

The credit conditions of both housing and consumer loans remained practically unchanged. In net terms, 5 percent of the banks responding to the Lending Survey eased their housing loan conditions (Chart 4-7). Regarding partial conditions, however, a considerable portion of institutions indicated changes: a net 76 percent of banks mentioned the reduction of spreads, and the same proportion of respondents forecast further easing in this item, supported by housing market developments and favourable changes in economic prospects. On the whole, banks did not ease the conditions of consumer loans in Q3, although some easing was observed in spreads; in this loan segment 7 percent of banks in net terms plan easing in the next half year.

4.2.3. Changes in real interest rates

The one-year forward-looking real interest rate was at a historical low in Q3. In 2017 Q3, on the basis of the yield estimated from government securities market yields, the real interest rate level reduced by 0.2 percentage point compared to the previous quarter, thus standing at –2.6 percent at the end of the period. The real interest rate calculated on the basis of deposit rates remained unchanged in the past quarter, at a level of –2.3 percent at end-September (Chart 4-9).

Chart 4-9: Forward-looking real interest rates



Note: * Based on the one-year forward-looking inflation expectations of analysts calculated by the MNB using the 1-year zero coupon yield and the Reuters poll. **Based on the one-year forward-looking inflation expectations of analysts calculated by the MNB using deposit rates with maturity up to 1 year and the Reuters poll.

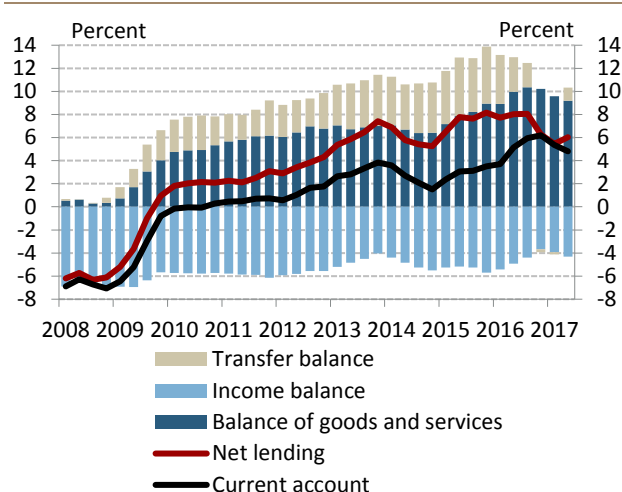
Source: MNB, Reuters poll

5. BALANCE POSITION OF THE ECONOMY

5.1. External balance and financing

The net lending of the economy increased to 6 percent of GDP in Q2, while the current account surplus decreased to 4.8 percent of GDP. The expansion in net lending was due to the improvement in the transfer balance resulting from the increasing absorption of EU transfers, while the moderate decline in the current account surplus was related to the lower balance of goods due to import-intensive investment and a pick-up in consumption. In terms of the financing side, the decline in external debt continued, while the net FDI stock decreased in line with the seasonality. As in the previous quarter, the decline in external debt was mainly related to the consolidated general government and the corporate sector, while the net external debt of the banking sector increased slightly. Accordingly, by mid-2017 the net external debt ratio and gross external debt declined to 16 percent and 67 percent of GDP, respectively, which was supported by GDP growth and the revaluation effect, in addition to the outflow of funds. Based on preliminary monthly data, in parallel with a decline in the trade balance, net lending – which remains very high – decreased in Q3. On the financing side, following a drop in the previous quarter, net FDI inflows increased again in Q3, while debt-type liabilities decreased further.

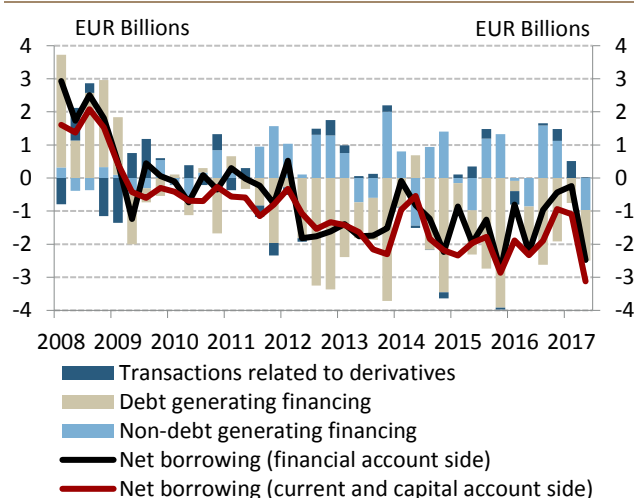
Chart 5-1: Changes in net lending and its components



Note: Cumulated four-quarter values, as a percentage of GDP.

Source: MNB

Chart 5-2: Structure of net lending



Note: The net borrowing calculated by a bottom-up method corresponds to the total of the net borrowing and the BOP balance of net errors and omission.

Source: MNB

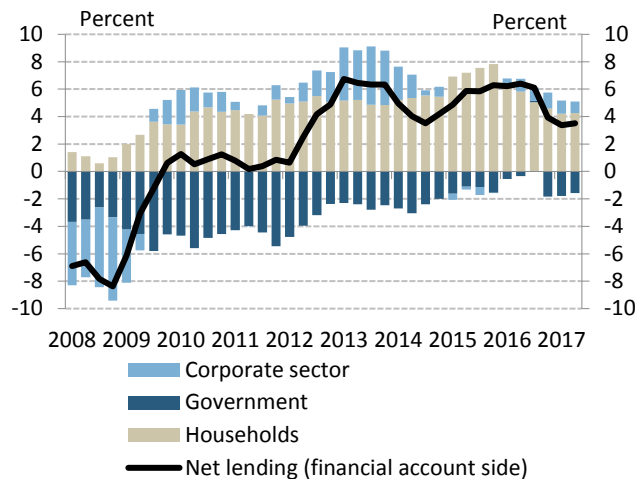
5.1.1. Developments in Hungary's external balance position

In 2017 Q2, the four-quarter net lending of the Hungarian economy rose to 6 percent of GDP, while the current account surplus declined to 4.8 percent of GDP (Chart 5-1). The favourable net lending observed in Q2 was strongly supported by the accelerating absorption of EU funds, which mainly affected the capital account and was partly offset by the declining trade balance as well as an expansion in the deficit on the income account. With goods exports decelerating in parallel with industrial production and an increase in imports due to the expansion in domestic demand, the goods balance declined further, as in the previous quarters. In addition to the goods balance, the developments in the services balance, which had increased dynamically in the previous periods, also resulted in a decline in the trade balance. The **transfer balance** increased significantly in Q2, which was related to the absorption of funds belonging to the new programming period of the EU. The **deficit on the income balance** increased, which was related to a rise in the estimated profits of foreign companies. According to monthly data, the trade surplus declined in Q3 as well, while the absorption of EU funds continued to increase.

5.1.2. Developments in financing

Based on financing side developments, the net FDI stock declined, while Hungary's net external debt decreased further. Fund outflows calculated on the basis of the financial account amounted to some EUR 2.5 billion in Q2, which was the result of a EUR 1 billion outflow of non-debt liabilities, which can be considered seasonally usual, and outflows of debt liabilities amounting to EUR 1.5 billion (Chart 5-2). In Q2, net FDI declined by some EUR 650 million, which was attributable to an expansion in investments abroad and a – seasonal – decrease in non-

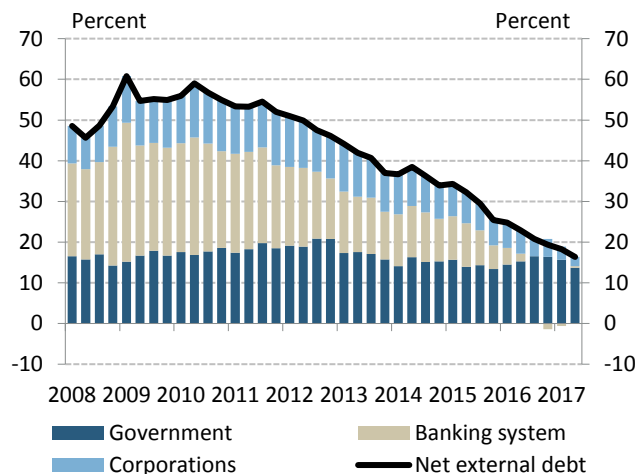
Chart 5-3: Decomposition of net lending by sector



Note: Four-quarter cumulation, as a percentage of GDP.

Source: MNB

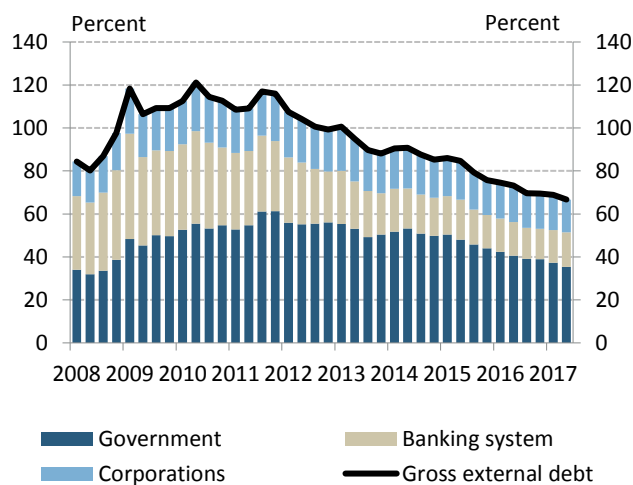
Chart 5-4: Development of net external debt by sector



Note: Excluding intercompany loans, as a percentage of GDP.

Source: MNB

Chart 5-5: Development of gross external debt by sector



Note: Excluding intercompany loans, as a percentage of GDP.

Source: MNB

residents' equity due to dividend payments. Outflows of debt liabilities accelerated in Q2, which took place in parallel with a decline in the net external debt of the consolidated general government and the corporate sector as well as an expansion in the banking sector's net external debt. The increase in the net external debt of the banking sector was the result of an increase in liabilities. Government debt declined against the background of a decrease in non-residents' government securities holdings and an expansion in EU transfers. In addition, the expansion in the MNB's FX swap holdings that provide forint liquidity also affected the two sectors' net external debt: the roughly EUR 450 million rise in swap holdings reduced the net external debt of the consolidated general government, and increased that of the banking sector. Based on preliminary monthly data, FDI funds increased in Q3, while the sharp decline in debt liabilities continued.

The improvement in position in terms of the savings of sectors was primarily attributable to the decrease in the government's four-quarter net borrowing as a proportion of GDP, which was partly offset by the decline in companies' financial savings (Chart 5-3). In parallel with the increase in fiscal revenues, the state's four-quarter net borrowing fell to 1.6 percent of GDP in Q2, contributing to the rise in Hungary's net lending. This was partly offset by the declining savings of the corporate sector, which was related to the expansion in investment. Households' net financial savings had been declining gradually since the beginning of 2016, but stabilised at 4.3 percent of GDP in 2017 Q2, in parallel with a rise in net borrowing.

In Q2, Hungary's net external debt declined further, falling to 16.4 percent of GDP (Chart 5-4). In addition to outflows of debt generating liabilities, GDP growth and revaluation effects also fostered a decline in the debt indicator. Similarly to net external debt, the gross external debt ratio also declined, amounting to 67 percent of GDP at the end of the quarter (Chart 5-5). In parallel with a decrease in non-residents' government securities holdings, the gross external debt of the general government declined, while that of the private sector remained practically unchanged. Preliminary data suggest that the decline in external debt continued in Q3.

Box 5-1: Changes in the difference between GDP and GNI

Gross domestic product (GDP), the main indicator used for analysing the growth of the economy, measures the income produced on the territory of the given country, but does not show the actual disposable income of individual income owners. GDP takes into account the income of all economic agents in Hungary, including that of foreigners active in Hungary, while it does not contain domestic actors' income from abroad, i.e. it measures the income produced in the given country and not the income of the domestic sectors. Adjusting GDP for the balance of foreign income owners' income from Hungary and domestic players' income from abroad (the balance of primary incomes shown in the balance of payments) results in the gross national income (GNI). Accordingly, GNI shows the amount of the disposable income of a given country's economic agents. Expressed in a formula:

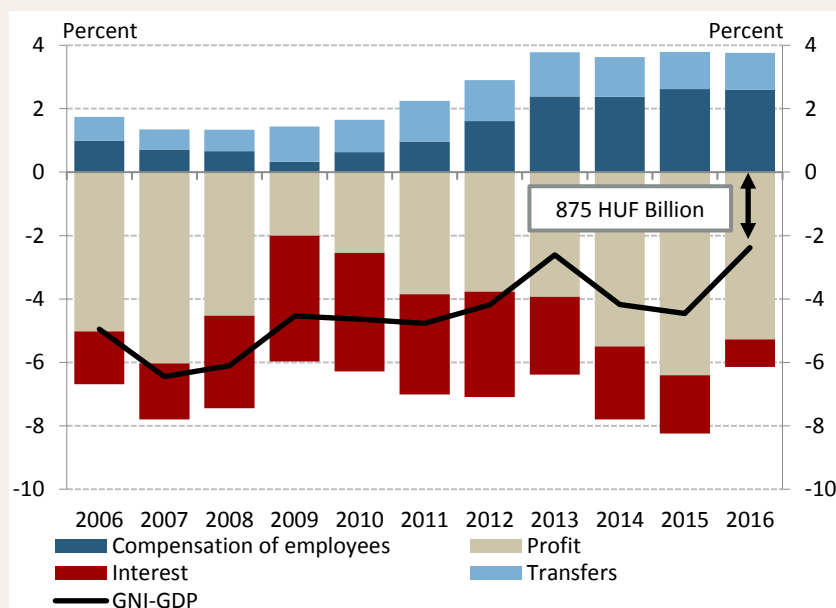
$$\begin{aligned} \text{Gross national income (GNI)} = & \text{Gross domestic product (GDP)} + \\ & + \text{Incomes received from rest of the world (profit, interest, wages, transfers)} - \\ & - \text{Incomes paid to the rest of the world (profit, interest, wages, transfers)} \end{aligned}$$

Changes in the difference between GDP and GNI can be split up into four parts:

1. **Profit:** The difference between the equity-related incomes of foreign actors from Hungary and of Hungarian actors from abroad, which shows the size of the income in net terms that is due to foreign income owners after their direct and portfolio investments.
2. **Interest:** The interest balance is the difference between debt servicing by residents on loans outstanding vis-à-vis non-residents and debt servicing on loans granted by domestic actors to the rest of the world.
3. **Wages:** The balance of compensation of employees is the difference between the incomes of Hungarian employees working temporarily (for less than a year) abroad and the incomes of foreigners working temporarily in Hungary.
4. **Transfer:** Since accession to the EU, the balance of unrequited current transfers from abroad has mainly consisted of the land-based funds received from the EU for agriculture and rural development.

In the case of small, open economies such as Hungary, GNI is typically lower than GDP due to the presence of foreign capital. In the pre-crisis years, the difference between domestic GDP and GNI rose to more than 6 percent of GDP, primarily due to profit outflows related to the gradual expansion in equities as a result of FDI inflows. In addition, net debt servicing due to external indebtedness also resulted in a decline in domestic players' income, and net debt servicing increased considerably in the years of the crisis.

Chart 5-6: Decomposition of the difference between Hungarian GDP and GNI (as a percentage of GDP)

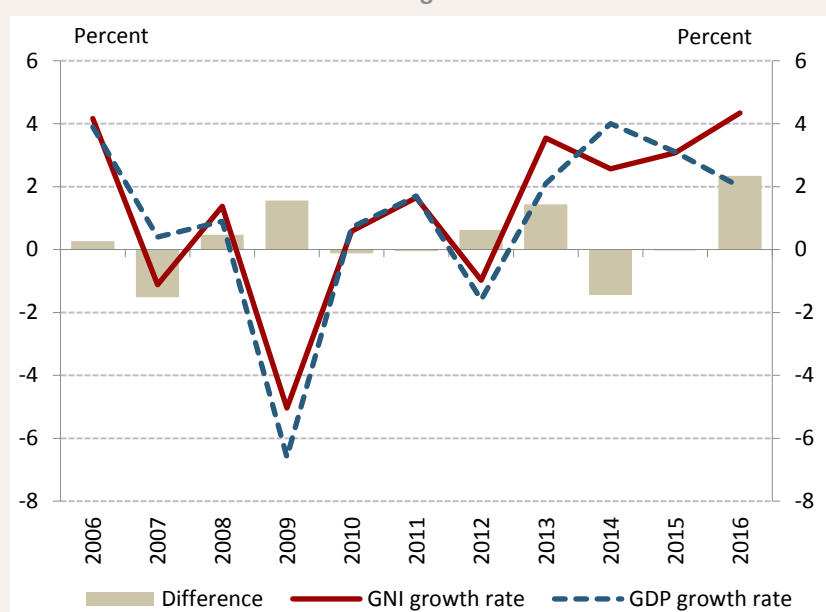


Source: HCSO, MNB

Following the crisis, the gap between GDP and GNI narrowed in Hungary, driven by several factors. In the beginning, as a result of the decline in profits due to the crisis, income outflows related to equities decreased, and then the income of those working temporarily abroad increased significantly, in parallel with the opening of the German labour market. External debt fell considerably due to deleveraging by domestic actors, which – in conjunction with a decline in the yield environment – led to a decrease in interest expenditure on external debt. In addition, unrequited transfers originating from EU transfers rose gradually and steadily improved GNI starting from 2009. In 2014 and 2015, the rise in foreign companies' profits – mainly in connection with the one-off items of one company – temporarily increased the difference between GDP and GNI (Chart 5-6).

In 2016, after ten years, annual real GNI growth exceeded 4 percent again. The increase of 4.3 percent surpassed GDP growth by 2.1 percentage points, which was also attributable to the rising profits of Hungarian companies operating abroad (Chart 5-7). As a result, the GDP–GNI gap also declined to a historical low: the income of domestic players is only 2.4 percent of GDP less, i.e. some HUF 875 billion, than the goods and services produced in Hungary, representing a major fall compared to the differences of HUF 1,200–1,500 billion observed in previous years.

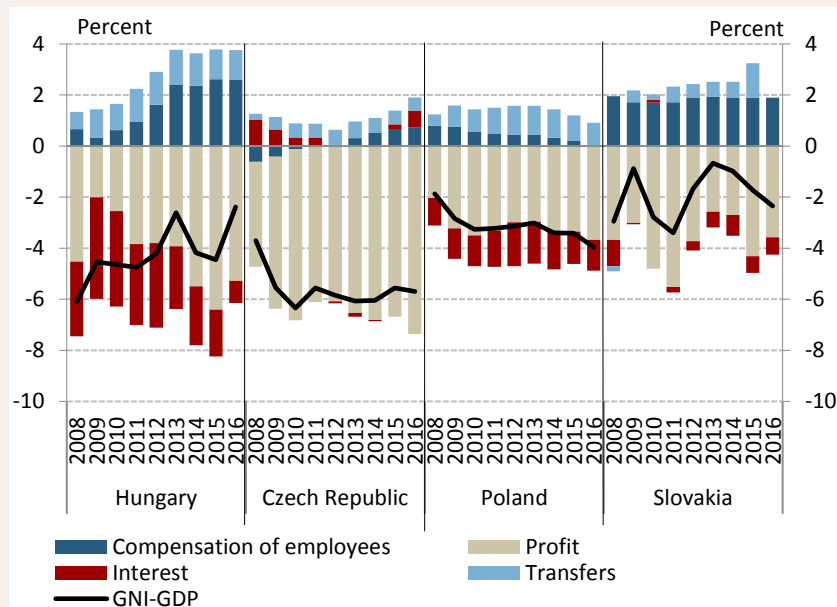
Chart 5-7: Annual real growth of GDP and GNI



Source: HCSO

In the years preceding the crisis, in the countries in the region the GDP–GNI gap was the highest in Hungary, but with the decline observed in the past years the Hungarian GDP–GNI difference declined to a level that is low even in a regional comparison (Chart 5-8). Partly in connection with that, the decrease in net income outflows was also the most significant in Hungary following the crisis. These developments stemmed from the fact that the expansion in compensation of employees and the value of transfer inflows as a proportion of GDP were also the highest in Hungary. In addition, contrary to the decline observed in Hungary, income outflows related to equities increased gradually in the Czech Republic and Poland, as well as in Slovakia after 2013, which was the result of growth in the income of foreign-owned companies. Interest expenditures paid to abroad continue to add to the GDP–GNI gap, but at the same time the extremely high net interest expenditure experienced in Hungary in a regional comparison declined considerably in recent years, and already remained below the level of Poland in 2016 and comes close to the value observed in Slovakia.

Chart 5-8: GDP–GNI difference in the region (as a percentage of GDP)

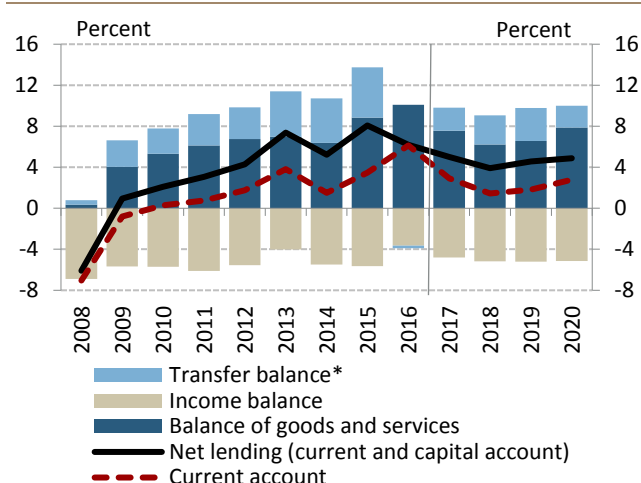


Source: Eurostat

5.2. Forecast for Hungary's net lending position

Looking ahead, as a result of a decline in the trade surplus, both the net lending of the economy and the current account surplus will decrease in 2018, with the former moving to close to 4 percent and the latter falling to below 2 percent. The declining trade balance in 2017–2018 is attributable to the expansion of consumption and investment, but at the same time the high level of the surplus continues to play an important role in the evolution of the significant net lending. The external position is also reduced by the rise in foreign-owned companies' profits. By contrast, the faster absorption of EU transfers results in an increase in net lending. Starting from 2019, as a result of slower domestic absorption and rising industrial production, the trade surplus will rise, and thus the deterioration in the current account balance is expected to stop. Looking at the savings of sectors, in 2017 household savings may still be close to the previous year's level, but starting from 2018, in parallel with a rise in real estate investment and a pick-up in lending, savings may decline slightly, before stabilising in line with a decline in real estate investment from 2020. While the ESA deficit of the state remains low over the forecast horizon, its net borrowing temporarily increases in 2017–2018 due to advance payments related to EU funds. Against the background of a declining corporate tax rate and investment expanding in parallel with EU transfers, corporate savings will remain practically unchanged. External debt indicators continue to decline in line with the net lending position, which is lower than in the previous years, but remains favourable.

Chart 5-9: Evolution of net lending



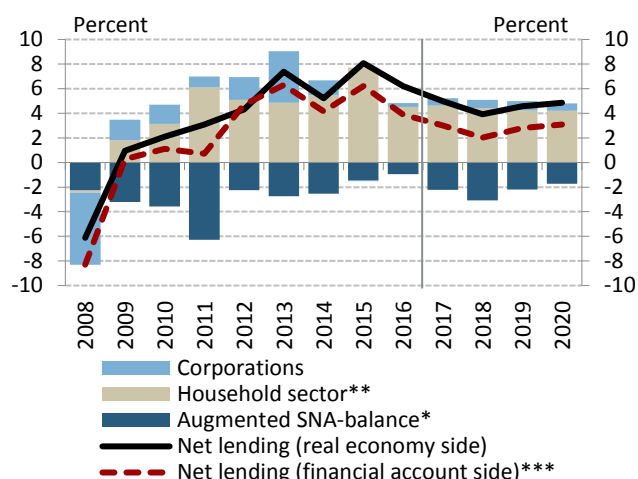
Note: As a percentage of GDP.* Sum of the balance of the current transfers and the capital account balance.

Source: MNB

The net lending of the economy and the current account surplus will decline in 2018, but the deterioration in the external position will end in 2019 (Chart 5-9). In 2017 and 2018, in parallel with a drop in the trade surplus and a higher income account deficit, net lending will decline slightly. The fall in net exports is mainly related to domestic absorption growth, but – to a lesser extent – the deterioration in the terms of trade also contributes to this. As a result of the economic growth and reduction of the corporate tax, the profits of foreign-owned companies are expected to rise in 2017, which will add to the deficit on the income balance, while this effect will be partly offset by the decline in interest expenditures due to the lower external debt. The decline in net lending is partly offset by the expansion in the absorption of EU funds. Starting from 2019, domestic absorption is expected to grow at a slower rate, while industrial production is projected to accelerate in line with new capacities in the vehicle industry. Consequently, the export market share will increase, and the decline in the trade balance will end. As a result of these items, the decline in the current account balance and net lending will stop in 2019.

The financial savings of the private sector may be around the 2016 level, while borrowing by the general government temporarily increases in 2017 (Chart 5-10). In 2017, the strong increase in household consumption resulting from favourable labour market circumstances and improving income trends driven by dynamic wage growth is not yet accompanied by a decline in savings, whereas starting from 2018, the increase in real estate investment and the upswing in lending will slightly reduce households' net financial savings. In 2020, a decline in real estate investment in line with the return of the currently applicable VAT rate on home purchase will be coupled with

Chart 5-10: Changes in the savings of sectors



Note: As a percentage of GDP. * In addition to the central government, the augmented general government includes local governments, MNV Inc., institutions discharging quasi-fiscal duties (MÁV, BKK), and the MNB. The augmented SNA deficit takes into account private pension savings. ** Net financial saving of households consistent with the SNA deficit does not contain the pension savings of those who return to the public pension system. The official net saving is different from the data in the chart. *** We expect that 'Net errors and omissions' (NEO) will return to the historical average.

Source: MNB

stabilising savings. In 2017, the net savings of the corporate sector increases in relation to the reduction of the corporate tax rate, and will then remain practically unchanged over the horizon as a result of investment, which is also expanding in view of the rise in EU transfers. The ESA deficit of the government will not change significantly in 2017, as tax revenues increase in connection with the significant wage growth, and decreasing interest expenditures, which is offset on the expenditure side by the effect of falling tax rates. At the same time, net borrowing increases considerably in 2017 and 2018 in comparison to 2016, mainly due to the advance payments of EU funds, before following a path similar to that of the ESA deficit.

External debt indicators will decline as a result of the net lending, thus contributing to the decrease in the external vulnerability of the economy. The net lending of the economy will decline at the beginning of the forecast horizon, but the deterioration will end in 2019. Accordingly, net lending is coupled with a decline in net external debt over the forecast horizon. In addition, the continued decline in the share of foreign currency in government debt also contributes to further improvement in the external vulnerability of the country.

5.3. Fiscal developments

The general government deficit is low over the entire forecast horizon and remains well below the 3 percent Maastricht deficit target. The ESA deficit is expected to be between 1.9–2.0 percent of GDP in 2017, i.e. below the 2.4 percent of GDP envisaged in the Budget Act. The upward shift in our projection regarding this year's deficit compared to September is mainly caused by the increase in pension payments and other expenditures. In 2018, the budget deficit may correspond to the set target of 2.4 percent, if the Country Protection Fund is used. A strong fiscal impulse is expected for 2017 and 2018; following that, the gradual decline in the budget deficit will contribute to a drop in aggregate demand. The government debt ratio may decline to 72.8 percent by end-2017 and then decrease further to around 68 percent by end-2020, supported by a moderate deficit and economic expansion.

Table 5-1: General government balance indicators

	2017	2018	2019	2020
ESA deficit	(-1.9)–(-2.0)	(-2.2)–(-2.4)	(-1.9)–(-2.1)	(-1.7)–(-2.1)
Primary ESA-balance	0.6–0.7	0.0–0.2	0.2–0.4	0.3–0.7
Fiscal impulse*	1.3–1.4	0.7–0.9	(-0.5)–(-0.7)	(-0.1)–(-0.5)

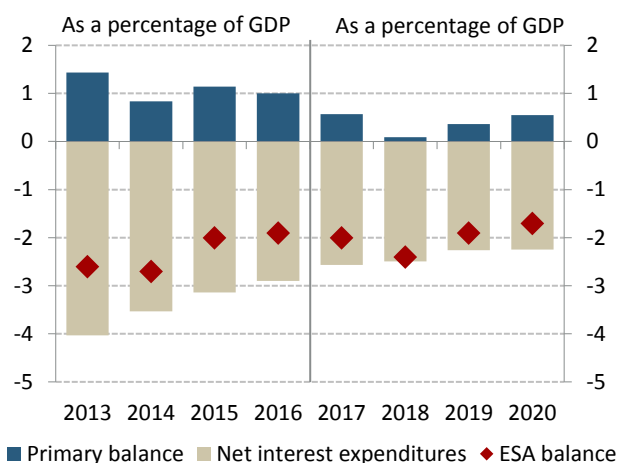
Note: As a percentage of GDP. The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used, while the higher value shows the ESA balance if the Country Protection Fund is not used. *Change in the augmented (SNA) primary balance.

Source: HCSO, MNB

5.3.1. Main balance indicators and the fiscal impulse

Our forecast for 2017 contains an ESA deficit of 1.9–2.0 percent of GDP, whereas in 2018 it will be in line with the 2.4 percent deficit target, if the Country Protection Fund is used. According to our technical projection, the budget deficit may decline to 1.9–2.1 percent of GDP in 2019 and then to 1.7–2.1 percent in 2020. In 2018, a temporary decrease in the primary surplus will be caused by tax reductions, the fading out of one-off revenues from land sales and corporate tax revenues stemming from tax credits for growth. Following that, improvement in the ESA balance will be facilitated by the increase in tax revenues resulting from economic growth, by the slower growth rate of primary expenditures as compared to GDP growth, as well as by declining public interest expenditures due to a steadily low interest rate environment (Chart 5-11).

Chart 5-11: Changes in the fiscal balance and interest expenditures



Note: The point estimation in the chart depicts the cancellation or utilisation of the Country Protection Fund on the basis of which one is closer to the deficit target of the government. The figures do not include the imputed interest expenditures from 2012 related to the reform of the pension system.

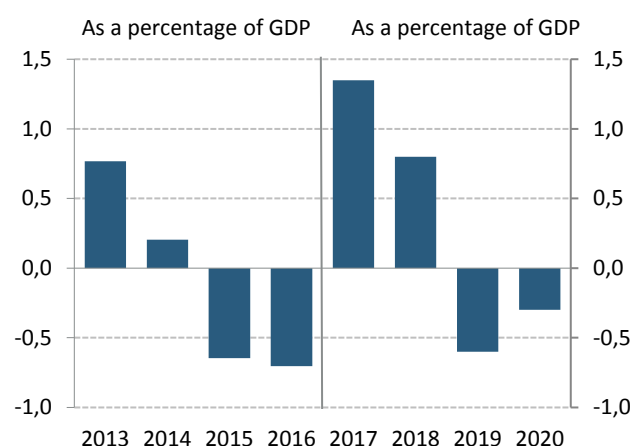
Source: Eurostat, MNB

In 2017 and 2018, the impulse of fiscal policy may be significant, whereas in 2019 and 2020 the budget may already reduce aggregate demand. The reduction of the social contribution tax rate results in an expansion in demand, which is reinforced by the targeted VAT cuts as well as the reduction of the corporate tax and the bank levy and the cancellation of credit institutions' contribution. Households' disposable income will be increased by the extension of the family tax base allowance and, in addition to the fiscal channels, the wage agreement concluded last year. The expansion of the government career path models and the minimum wage increase have an expenditure side demand-increasing effect. The increase in investment from the government's own sources will also generate a pick-up in demand.

5.3.2. Budget balance in 2017

According to our forecast, in 2017 the ESA deficit of the general government will amount to 1.9–2.0 percent of GDP, i.e. 0.2–0.3 percentage point higher than our September projection (Table 5-2). On the whole, our forecast for the revenue side has not changed. On the expenditure side, our pension expenditure projection was increased by the pension premium, which exceeded our

Chart 5-12: The fiscal demand effect



Note: As a percentage of GDP. The fiscal demand effect corresponds to the change in the augmented (SNA) primary balance. The fiscal impulse contains the effect of EU funds only to the extent of the co-financing. A positive prefix indicates demand expansion, while a negative prefix implies demand restraint.

Source: MNB

Table 5-2: Decomposition of the change in the 2017 ESA balance forecast (compared to the previous Inflation Report)

	Economic developments	Measure and other
I. Central government revenues	0.0	0.0
Payment by economic units	0.1	
Taxes on consumption	-0.1	
II. Central government expenditures	0.0	-0.7
Pension expenditures		-0.2
Expenditures related to state property		-0.2
Utilization of EU transfers		-0.2
Hospital debt consolidation		-0.1
III. Other effects	0.0	0.4
Balance of local governments		0.1
Methodological changes		0.2
Other		0.1
Total (I.+II.+III.)	0.0	-0.3

Note: As a percentage of GDP. The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated values because of rounding.

Source: MNB

September expectation, and the one-off pension supplement granted in the form of Erzsébet vouchers. One new measure announced since September was the consolidation of the debt of hospitals, which exceeds the previously estimated amount. The rise in expenditures related to state property is justified by the end-November expenditure level, which exceeded the appropriation. In addition, the absorption of EU funds may also be higher than our earlier expectation.

Looking ahead, the two methodological changes implemented within the framework of the usual autumn statistical revision (distribution of revenues from the sales of the mobile telephony frequency and the effect of the classification of guarantee funds) improve the budget balance by an annual 0.1–0.2 percentage point.

Our deficit projection is 0.4–0.5 percentage point lower than the budget deficit target of 2.4 percent of GDP. This is attributable to four main factors: a significant surplus on the balance of local governments, lower-than-planned START public work scheme utilisation due to the favourable labour market situation, lower effective absorption of EU funding and the effect of the statistical methodological changes carried out in the autumn. By contrast, revenues from consumption taxes are below target, while pension expenditures and expenditures related to state property are higher than envisaged.

According to the preliminary Q3 financial account data, the January–September ESA balance of the government sector shows a surplus. The accrual-based financing need indicator concerning the overall developments in the general government indicates that – similarly to last year's developments – the deficit may emerge in the final quarter of the year.

5.3.3. Budget balance in 2018

According to our forecast, the 2018 balance will be in line with the 2.4 percent deficit target set out in the Budget Act. There are various minor changes behind the deficit, which is comparable with our September projection. The expected increase in tax revenues and the methodological changes implemented this year point to a lower deficit, but next year's expenditures are raised by our higher expectation concerning the pension premium and the actual absorption of EU funds.

Our forecast indicates that the 2.4 percent deficit target set in the bill will be achieved. A part of our lower consumption tax revenue projection compared to the act is justified by the different 2017 base as well as the

Table 5-3: Differences between our forecast and the appropriations set out in the 2017 Budget Act

	Difference from appropriation
I. Central government revenues	-0.3
Payment by economic units	-0.1
Taxes on consumption	-0.3
Labour taxes	0.1
II. Central government expenditures	0.1
Expenditures related to EU subsidies	0.3
START public work scheme	0.2
Pension expenditures	-0.2
Expenditures related to state property	-0.3
III. Other effects	0.6 – 0.7
Cancellation of Country Protection Fund	0.0 – 0.1
Balance of local governments	0.4
Methodological changes	0.2
Other	0.0
Total (I.+II.+III.)	0.4 – 0.5

Note: As a percentage of GDP. The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated values because of rounding.

Source: MNB

Table 5-4: Differences between our forecast and the appropriations set out in the 2018 Budget Act

	Difference from appropriation
I. Central government revenues	-0.6
Taxes on consumption	-0.1
II. Central government expenditures	-0.5
Expenditures of budgetary organisations	-0.1
Pension expenditures	0.6
III. Other effects	0.4
Cancellation of Country Protection Fund	0.2
Methodological changes	0.0 – 0.2
Other	0.0 – 0.2
Total (I.+II.+III.)	0.0 – 0.2

Note: As a percentage of GDP. The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated values because of rounding.

Source: MNB

difference in estimation regarding the effect of reducing the shadow economy. In the case of budgetary institutions, expenditure savings are caused by the lower effective absorption of EU funds compared to the plan.

5.3.4. 2019 and 2020 fiscal balances

Our technical projection is based on a declining deficit path compared to 2018. The deficit may decrease to 1.9–2.1 percent of GDP in 2019 and to 1.7–2.1 percent in 2020. This decline will be facilitated by robust economic growth, resulting in higher tax revenues and contributing to a decrease in expenditures compared to GDP. In addition, the effect of earlier measures in the case of pension expenditures and a decline in yields in the case of interest expenditures contribute to the fall in expenditures as a proportion of GDP. The decline in the deficit is decelerated by the planned major government investment.

5.3.5. Risks surrounding the baseline scenario

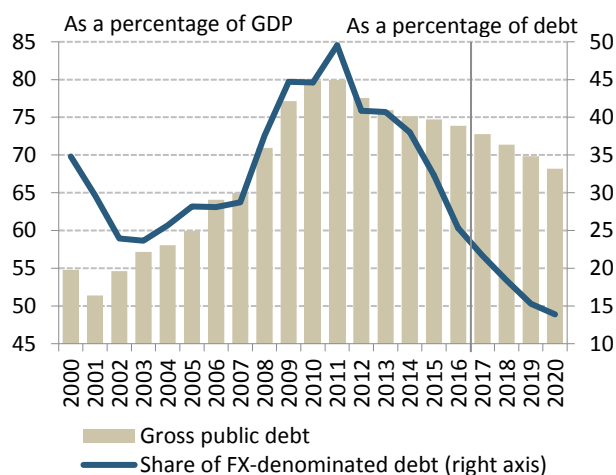
According to preliminary financial account data, the balance of the government sector showed a surplus in the first three quarters of 2017. Accordingly, similarly to last year, a considerable portion of the accrual-based deficit may evolve in the final months, and thus its magnitude is uncertain.

Our projection is still affected by the uncertainty related to EU disbursements and their absorption. Our forecast is based on significant advance payments for 2017 and 2018, the absorption of which will only peak in the coming years, i.e. in 2018 and 2019, followed by an expected downturn in 2020. Therefore, the real economy effect of the disbursements may also be the strongest in 2018 and 2019. If actual absorption accelerates, the economic impact will materialise earlier, which, at the same time, will also add to the deficit through national co-financing.

5.3.6. Expected developments in public debt

As a result of statistical revisions carried out in the autumn of 2017, the government debt-to-GDP ratio for previous years was amended. In the autumn 2017 EDP Report, guarantee funds and the companies owned by them were classified into the government sector. Due to the reclassification, these institutions' debt-type liabilities are retroactively included in gross public debt and will be included in this indicator in the future as well. In addition, within the framework of the usual GDP revision the HCSO considerably raised the value of past nominal GDP as well, which reduced the government debt ratio. As a result of the classification of institutions and the GDP revision, the

Chart 5-13: Gross public debt forecast – calculated with an unchanged (end-of-2016) exchange rate over the forecast horizon



Source: MNB

government debt ratio declined by 0.2 percentage point to 73.9 percent for 2016, while it did not change for 2015 compared to the previously released figures.

According to the MNB's financial account data, at the end of 2017 Q3, the gross public debt ratio stood at 72.7 percent of GDP. Compared to the figure of 73.9 percent observed at the end of last year, the debt ratio declined considerably, and is 1.5 percentage points lower than in the same period of 2016. Within total government debt, foreign ownership declined from 42 percent at end-2016 to below 39 percent by the end of 2017 Q2, while the share of foreign currency within central government debt fell to around 22.5 percent by end-October from 25 percent at the end of last year.

According to our forecast, assuming a constant end-2016 forint exchange rate, the gross government debt ratio may decline to 72.8 percent of GDP by end-2017, i.e. the debt rule of the Fundamental Law is expected to be complied with this year as well. Over the forecast horizon, the underlying trends indicate a dynamic decline in government debt, which will be temporarily mitigated by the pre-financing related to EU funds. Due to economic growth and the moderate deficit, in 2019 the public debt ratio may fall below 70 percent and reach around 68 percent in 2020. As a result of negative net foreign currency issuance, the foreign currency ratio of public debt may fall below 22 percent by end-2017, which may further reduce Hungary's external financial vulnerability.

6. SPECIAL TOPIC

6.1. Direct and spillover effects of EU funds targeting economic development

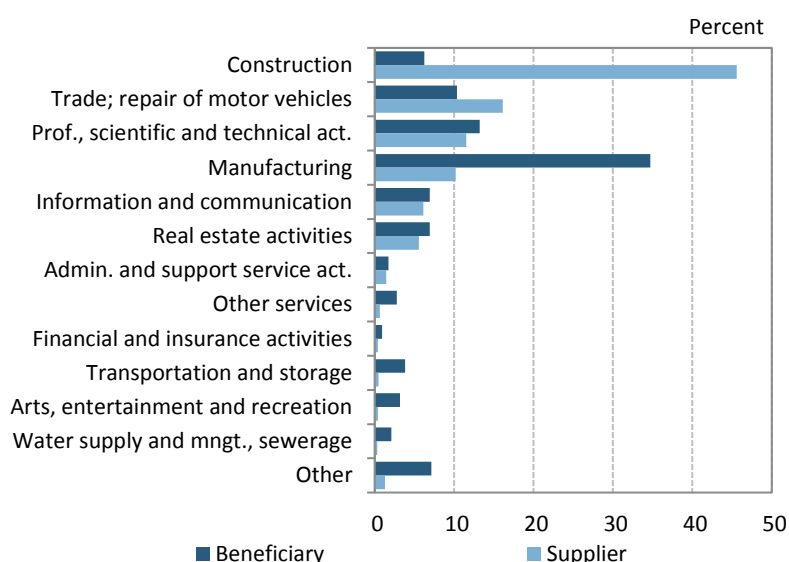
Investments co-financed from EU funds will play a major role in economic growth in the coming years. The efficiency of utilisation and the territorial distribution of funds may fundamentally determine the long-term economic effects of the various development projects. With the completion of the 2007–2013 EU budget cycle, it becomes possible to analyse the use of EU funds distributed during the previous period, which may help in formulating the most adequate expectations concerning the economic impacts of the current 2014–2020 budget period.

The European Union’s structural and cohesion funds play a major role in the funding of Hungarian economic agents. During the last completed – and thus analysable – **2007–2013 programming period**, Hungary received EU funds amounting to HUF 11,000 billion, of which **the funds allocated primarily to corporate beneficiaries, with a direct economic development objective** (i.e. funds distributed within the framework of the Economic Development Operational Programme (EDOP) and the Regional Development Operational Programmes (RDOP)) **accounted for some HUF 1,400 billion**. Our analysis focuses on these funds, as they present an actual alternative in the financing of companies.

Working in cooperation with the Prime Minister’s Office, **for the purposes of this analysis the MNB connected the balance sheet and profit and loss statement data of companies that apply double-entry bookkeeping with the features of the supported projects as well as of the invoices related to the projects implemented from the funding.** Using the micro-level database created in this manner, we first aimed to analyse the impact of the funding on the beneficiaries. The research confirmed⁴ that **the funding has a clearly positive impact on the beneficiary companies**, reflected in an increase in the number of employees, the sales revenue, the value added and, in certain cases, the operating profit as well. Although it does not significantly raise the per capita sales revenue at the company level, it is usually the more productive companies that receive the subsidies, and thus they grow faster, which may result in an improvement in aggregate labour productivity.

Nevertheless, the funds have an impact not only on the beneficiaries, but also on other economic agents as a result of spillover effects. Perhaps the most significant of these is **the effect appearing at the suppliers of the projects** implemented from the funding; the invoice-level information in our database may provide a picture of this effect. Some interesting conclusions concerning the spillover effects of these funds are highlighted below.

Chart 6-1: Distribution of subsidies by the section of beneficiaries and suppliers

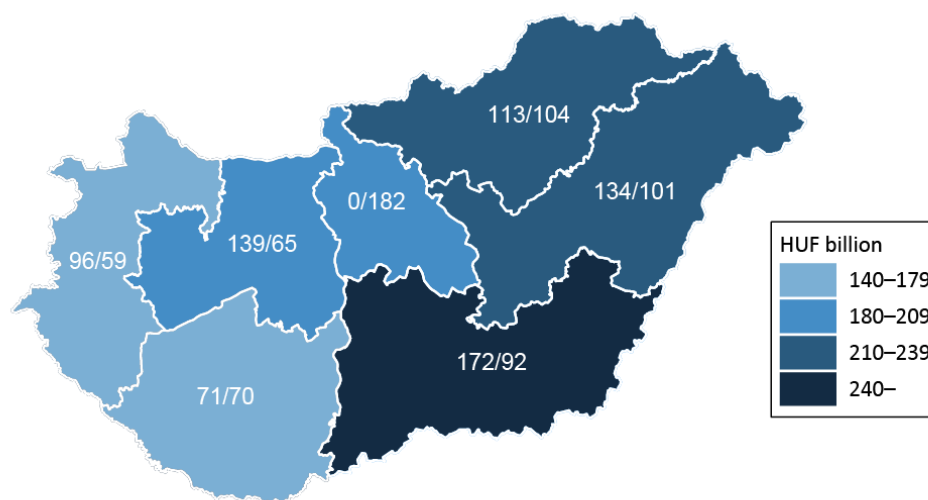


Source: EMIR, NTCA, MNB

⁴ In the analysis, we compared beneficiaries to similar, but non-subsidised companies. Regarding the exact methodology and the detailed results, see: Banai, Á. – Lang, P. – Nagy, G. – Stancsics, M. (2017): "Impact evaluation of EU subsidies for economic development of the Hungarian SME sector", MNB Working Papers No. 2017/8.

The sectoral breakdown of beneficiaries and suppliers reveals **the outstanding share of manufacturing** – which has the highest weight in GDP as well – **in the case of the beneficiaries, as well as the similarly high proportion of construction among the suppliers.** The weight of suppliers active in construction is justified by the fact that the objective of a significant proportion of the subsidies is the development or establishment of premises or facilities.

Chart 6-2: Subsidy content of projects undertaken in a given region (EDOP/RDOP)



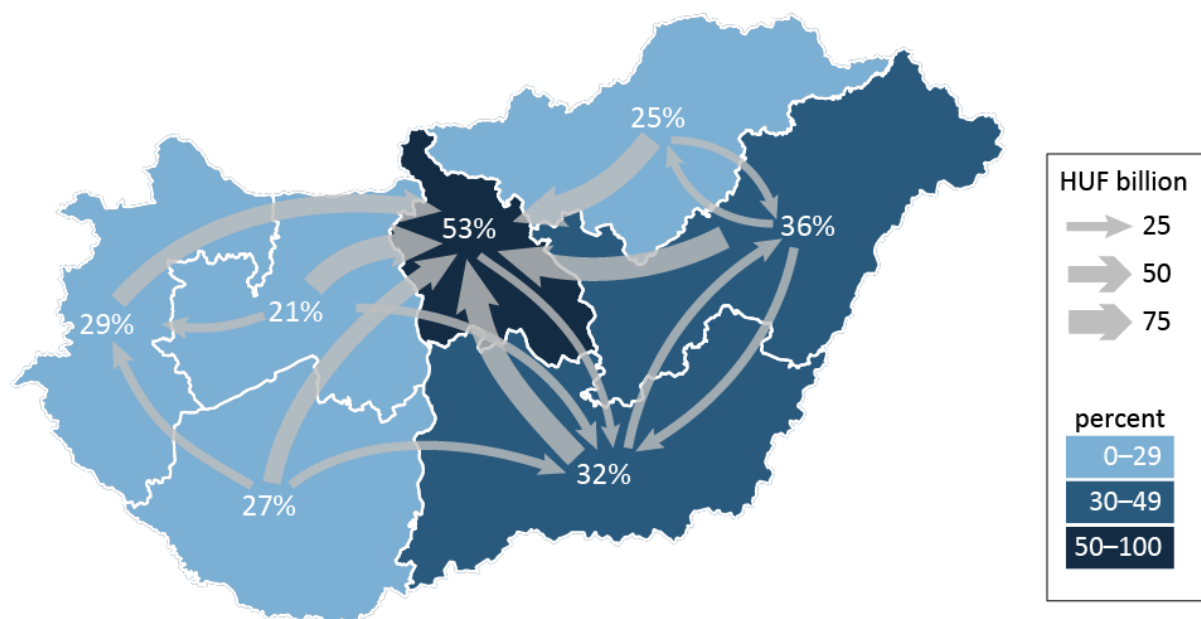
Note: The first number refers to subsidies of the EDOP, the second to those of the RDOP.

Source: EMIR, NTCA, MNB

As one of the most important declared objectives of EU programmes is to facilitate the catching up of less developed regions, it is also of key importance to learn about the territorial distribution of funding. The regional-level distribution of the funds allocated in the two operational programmes under review during the programming period is shown in Chart 6-2, according to project location. In the case of eligibility criteria regarding regional limitations, the location where the project was implemented was the deciding factor, not the headquarters of the company. As these criteria were directly influenced by the Managing Authority through the calls for proposals, it was ensured that the funds have an economic impact according to the intended territorial distribution. As a result, **the territorial distribution of the funding is relatively even**, especially in the case of the regionally delimited RDOPs, but there are no extreme differences in the amounts of funds allocated to individual regions from the EDOP either. Existing differences are caused, inter alia, by the fact that in certain cases priority projects (e.g. a certain share of the funding of the laser centre in Szeged) were announced within the frameworks of the EDOP and RDOPs, in a regionally uneven distribution. Nevertheless, it is observed that in line with the objectives of the development policy, the less developed eastern regions typically received more funding. One of the underlying reasons is that the available maximum funding intensity (determined at the EU level) of investment projects implemented in the more developed Western Transdanubia and Central Transdanubia regions was lower, and it also played a role that EDOP funds were not available in the case of projects implemented in the Central Hungary region.

Comparing the locations of project implementation with the seats of the beneficiaries alters the picture to some extent: according to headquarters, firms operating in the central region dominate. Firms operating in this region received 31 percent of all subsidies. Accordingly, it was typical that companies with seats in Central Hungary applied for funding for projects implemented in their places of business in other regions of the country. Therefore, in terms of the region of the place of implementation, the impact of the funding may be somewhat lower than if a locally registered company had implemented it.

Chart 6-3: Proportion of subsidies spent at local suppliers out of the total amount distributed to projects undertaken in the region; amounts spent at suppliers in other regions



Sources EMIR, NTCA, MNB

The invoice-entry-level database allows an examination of funding not only according to the seat of beneficiaries and the location of project implementation, but also according to the seats of the suppliers of the projects. Firstly, Chart 6-3 shows what proportion of the subsidy content of projects implemented in the given region resulted in orders for local firms (with a seat within the region), and secondly, the other regions for the suppliers of which the projects of the region also induced significant growth in demand. Thus, for example, one third of the subsidy content of projects implemented in the Western Transdanubia region (receiving funds amounting to a total HUF 155 billion) was received by local suppliers, while some HUF 50 billion (also one third of the grants) went to companies domiciled in Central Hungary. (In addition, a significant portion – 17 percent on average – was spent by the beneficiaries directly at foreign suppliers.)

Based on the findings, with the exception of the Central Hungary region, one third of the suppliers of the projects were local enterprises. It was mainly the Central Hungary region where investment projects of other regions induced significant additional demand outside their own region. Evaluating this by taking into account that within the whole range of companies those in Central Hungary predominate, it is seen that the supported projects concluded contracts with local firms with a higher ratio than the proportion of all companies within the region. In any case, the significant demand in the Central Hungary region, which is economically more developed and more diversified in terms of production, indicates that the present production structure of the regions constitutes a natural barrier to the targeted stimulation of the local economy.

7. BREAKDOWN OF THE AVERAGE CONSUMER PRICE INDEX FOR 2017 AND 2018

Table 7-1: Decomposition of inflation to carry-over and incoming effects (percentage points and percent respectively)

	Effect on CPI in 2017			Effect on CPI in 2018		
	Carry-over effect	Incoming effect	Yearly index	Carry-over effect	Incoming effect	Yearly index
Administered prices	0.0	0.1	0.1	0.0	0.1	0.1
Market prices	0.8	1.4	2.2	0.7	1.7	2.4
Indirect taxes and government measures	0.2	-0.2	0.0	0.2	-0.2	0.0
CPI	1.0	1.3	2.3	0.9	1.6	2.5

Note: The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of so-called carry-over and incoming effects. The carry-over effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated the inflationary effects of changes in the indirect taxes, administered prices, and market prices (not administered prices excluding indirect tax effects). The subgroups may not sum to the aggregate figure due to rounding.

Source: MNB

Table 7-2: Detailed decomposition of our inflation forecast into carry-over and incoming effects (percentage points and percent respectively)

	2017					2018				
	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	0.2	0.0	3.5	-1.1	2.6	0.9	0.0	3.3	-0.1	4.1
non-processed	-1.6	0.0	4.9	-2.5	0.8	-0.4	0.0	5.7	-0.4	4.9
processed	1.0	0.0	3.0	-0.5	3.5	1.5	0.0	2.2	0.0	3.7
Traded goods	0.2	0.0	0.5	0.0	0.7	0.4	0.0	0.9	0.0	1.3
durables	-0.4	0.0	0.1	0.0	-0.3	-0.1	0.0	0.3	0.0	0.2
non-durables	0.4	0.0	0.7	0.0	1.1	0.5	0.0	1.2	0.0	1.7
Market services	1.0	0.0	1.5	-0.2	2.3	0.5	0.0	2.2	-0.6	2.1
Market energy	1.0	0.0	5.1	0.0	6.1	6.8	0.0	0.0	0.0	6.8
Alcohol and Tobacco	0.3	0.6	2.2	1.7	4.8	1.3	2.1	1.7	0.0	5.1
Fuel	5.9	1.7	1.2	-1.5	7.3	2.0	-0.5	2.7	0.0	4.2
Administered prices	0.2	0.0	0.1	0.0	0.3	-0.3	0.0	1.0	0.0	0.7
Inflation	0.8	0.2	1.5	-0.2	2.3	0.7	0.2	1.8	-0.2	2.5
Core inflation	0.6	0.1	1.5	0.1	2.3	0.8	0.3	1.6	-0.2	2.5

Note: The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of so-called carry-over and incoming effects. The carry-over effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated their inflationary effects. The subgroups may not sum to the aggregate figure due to rounding.

Source: MNB

LIST OF CHARTS AND TABLES

List of charts

Chart 1-1: Fan chart of the inflation forecast	11
Chart 1-2: Monthly evolution of the near-term inflation forecast	11
Chart 1-3: Decomposition of the inflation forecast	12
Chart 1-4: Fan chart of the GDP forecast	15
Chart 1-5: Contributions to annual changes in GDP	16
Chart 1-6: Evolution of investment rate by sectors	16
Chart 1-7: Annual changes in lending to non-financial corporates and SMEs	16
Chart 1-8: Evolution of households' consumption, investment and financial savings rates as a percentage of disposable income	17
Chart 1-9: Changes in export market share	17
Chart 1-10: Annual change in labour productivity	18
Chart 1-11: Employment, participation and unemployment in the national economy	19
Chart 1-12: Annual changes in labour cost and gross average wages in the private sector	19
Chart 1-13: Decomposition of nominal unit labour cost growth in the private sector	20
Chart 1-14: Effects of demography and other factors on changes in participation	21
Chart 2-1: Impact of alternative scenarios on the inflation forecast	24
Chart 2-2: Impact of alternative scenarios on the GDP forecast	24
Chart 2-3: Risk map: effect of alternative scenarios on the baseline forecast	25
Chart 3-1: Annual changes in GDP in certain key global economies	26
Chart 3-2: Annual changes in GDP in some emerging economies	26
Chart 3-3: Global inflation developments	27
Chart 3-4: Inflation targets of central banks and actual inflation	27
Chart 3-5: Inflation expectations and long-term yields in the euro area and the US	28
Chart 3-6: Major commodity price indices	28
Chart 3-7: Annual changes in euro area GDP	29
Chart 3-8: Business climate indices for Germany and the euro area	29
Chart 3-9: Annual changes in GDP in CEE countries	30
Chart 3-10: Inflation targets of central banks, inflation, and economic agents' expectations	30
Chart 3-11: Contribution to annual changes in GDP	32
Chart 3-12: Economic growth in the region and the Baltic countries	32
Chart 3-13: Development of consumption components, annual changes	33
Chart 3-14: Savings and assets of households	33
Chart 3-15: Decomposition of the annual change in investment	33
Chart 3-16: Annual changes in lending to non-financial corporates and SMEs	34
Chart 3-17: Evolution of home constructions and building permits	34
Chart 3-18: Evolution of the trade balance	34
Chart 3-19: Participation, employment and unemployment in the total economy	35
Chart 3-20: Development of the Beveridge curve	35
Chart 3-21: Annual percentage changes in labour cost, wages and productivity in the first three quarters of 2017	36
Chart 3-22: Changes in per employee labour cost in the private sector of the economies of the CEE region	37
Chart 3-23: Evolution of wage share in Hungary	37
Chart 3-24: Evolution of the output gap in the euro area and the region	38
Chart 3-25: Uncertainty band of the output gap	38
Chart 3-26: Planned EU financing in innovative sectors in the programming period 2014–2020 as a percentage of total funding	39
Chart 3-27: R&D expenditures as a percentage of GDP in the European Union (left panel) and correlation between R&D expenditures and the number of patents (right panel) (2015)	40

Chart 3-28: Business R&D expenditures in a breakdown by company size and source of funds as a percentage of GDP (2015)	40
Chart 3-29: Annual change in gross average wages in the private sector	41
Chart 3-30: Decomposition of annual change of unit labour cost in private sector	42
Chart 3-31: Inflation and underlying inflation indicators	42
Chart 3-32: Inflation of market services	42
Chart 3-33: Inflation of market services	43
Chart 3-34: Inflation expectations in the region	43
Chart 4-1: Components of 5-year Hungarian CDS spread	44
Chart 4-2: Exchange rates in the region	44
Chart 4-3: Hungarian HUF-denominated government securities held by non-residents	45
Chart 4-4: Yields of benchmark government securities	45
Chart 4-5: 10-year government benchmark yields in CEE countries	45
Chart 4-6: Smoothed interest rates and spreads on corporate loans by denomination	46
Chart 4-7: Changes in credit conditions in the corporate and household sectors	46
Chart 4-8: Smoothed annual percentage rate of charge (APRC) and spreads of housing and consumer loans	47
Chart 4-9: Forward-looking real interest rates	47
Chart 5-1: Changes in net lending and its components	48
Chart 5-2: Structure of net lending	48
Chart 5-3: Decomposition of net lending by sector	49
Chart 5-4: Development of net external debt by sector	49
Chart 5-5: Development of gross external debt by sector	49
Chart 5-6: Decomposition of the difference between Hungarian GDP and GNI (as a percentage of GDP)	50
Chart 5-7: Annual real growth of GDP and GNI	51
Chart 5-8: GDP–GNI difference in the region (as a percentage of GDP)	52
Chart 5-9: Evolution of net lending	53
Chart 5-10: Changes in the savings of sectors	54
Chart 5-11: Changes in the fiscal balance and interest expenditures	55
Chart 5-12: The fiscal demand effect	56
Chart 5-13: Gross public debt forecast – calculated with an unchanged (end-of-2016) exchange rate over the forecast horizon	58
Chart 6-1: Distribution of subsidies by the section of beneficiaries and suppliers	59
Chart 6-2: Subsidy content of projects undertaken in a given region (EDOP/RDOP)	60
Chart 6-3: Proportion of subsidies spent at local suppliers out of the total amount distributed to projects undertaken in the region; amounts spent at suppliers in other regions	61

List of tables

Table 1-1: Details of the inflation forecast	12
Table 1-2: Main external assumptions of our forecast	13
Table 1-3: Changes in projections compared to the previous Inflation Report	22
Table 1-4: MNB baseline forecast compared to other forecasts	23
Table 5-1: General government balance indicators	55
Table 5-2: Decomposition of the change in the 2017 ESA balance forecast (compared to the previous Inflation Report)	56
Table 5-3: Differences between our forecast and the appropriations set out in the 2017 Budget Act	57
Table 5-4: Differences between our forecast and the appropriations set out in the 2018 Budget Act	57
Table 7-1: Decomposition of inflation to carry-over and incoming effects (percentage points and percent respectively)	62
Table 7-2: Detailed decomposition of our inflation forecast into carry-over and incoming effects (percentage points and percent respectively)	62

Hunyadi Mátyás

(1443. február 23. – 1490. április 6.)

1458 és 1490 között uralkodott, mint magyar király, 1469-től cseh király, 1486-tól Ausztria hercege. A magyar hagyomány az egyik legnagyobb magyar királyként tartja számon, akinek emlékét sok népmese és monda őrzi. Nevezik Corvin Mátyásnak, igazságos Mátyás királynak, hivatalosan I. Mátyásnak, de a köznyelv egyszerűen csak Mátyás királyként emlegeti.

Apja Hunyadi János kormányzó, a középkori Magyar Királyság egyik legkiemelkedőbb hadvezére, aki győztesen vívta meg az 1456-os nándorfehérvári csatát. Mátyás anyja Szilágyi Erzsébet, testvére pedig Hunyadi László. Hunyadi János kisebbik fiát, a későbbi királyt hatéves koráig anyja és dajkája nevelte, majd tanítók felügyelete alá került. Hunyadi János nem lovagi műveltséget szánt a fiának: előbb Szánoki Gergely lengyel humanista, majd Vitéz János vezette be a gyermeket a tudás birodalmába. Mátyást humanista szellemben, sokoldalú, érdeklődő emberré nevelték, tanították egyház- és államjogra, művészetekre, latinra. A magyar mellett németül és csehül is beszélt.

V. László halála után nagybátyja, Szilágyi Mihály és a Hunyadi-párt fegyveres erejének nyomására 1458. január 24-én Mátyást királlyá választották. Már uralkodásának elején gondja támadt mind a főurakkal, mind pedig III. Frigyes német-római császárral. Mivel a király még kiskorú volt, az országgyűlés Szilágyi Mihályt nevezte ki mellé kormányzónak. Mátyás azonban nem tűrte a gyámkodást és háttérbe szorította nagybátyját, aki erre összeesküvést szőtt a király ellen. A törökkel vívott csatából hazatérő király a pártütőket elfogatta, nagybátyját pedig várfogságra ítélte, amit Szilágyinak Világos várában kellett letöltenie.

Mátyás trónra kerülésekor a kincstár éves bevétele nem sokkal haladhatta meg a 110-120 ezer forintot. Harminckét éves uralkodása alatt a király elérte, hogy az adóbevétel a korábbinak sokszorosára emelkedjen. Az ismert adókvetések átlagát alapul véve, illetve a cseh és osztrák tartományokból származó bevételek nélkül ez az összeg évi 628 ezer forint körül lehetett, a leggazdagabb években pedig elérhette a 900 ezer aranyforintot is. Ez még így is jóval szerényebb összeg volt, mint a kor nyugati nagyhatalmainak éves bevétele. Ahhoz, hogy a kincstár alacsony bevételeit emelhesse, reform jellegű, átfogó pénzügyi intézkedésekre volt szükség. Mátyás felismerte, hogy megoldást csak egy központosított, az egész országra kiterjedő pénzügyi rendszer jelenthet, a királyi jövedelmeknek egy kézbe, a kincstartóhoz kell befutnia. Mátyás reformjait az országgyűlés elfogadta, és rendeleteit 1467. március 25-én ki is hirdették.

A királyi udvarban zajló, az akkori Európa műveltségének legjavát képviselő kulturális életről képet kaphat az utókor a feltárt és részben helyreállított visegrádi palotában. Mátyás ránk maradt művelődéstörténeti hagyatékának legjelentősebb darabjai az egykori királyi könyvtár fennmaradt, gazdagon illusztrált kötetei, a corvinák.

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