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EUROSYSTEM



MEDIUM-TERM FORECAST

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1 OVERVIEW

The Slovak economy expanded in the second quarter of 2017 by 0.8%, quarter on quarter, and so matched its growth rate in the first three months. The main driver of GDP growth was domestic demand, within which private consumption recorded the strongest growth and investment demand fell. Export growth fell in the second quarter on the back of production line retooling in the car industry, but its decline is expected to be short-lived. This forecast envisages that automotive output will pick up and accelerate and that export growth will consequently rebound.

Given that recent developments have been in line with NBS's June 2017 projection exercise and that the foreign demand outlook has remained unchanged, it has not been necessary in this forecast to revise the principal trend projections. **Slovakia's economy is expected to grow, year on year, by 3.3% in 2017** (0.1 percentage point higher than projected in the previous forecast), **4.2% in 2018** (unchanged) **and 4.6% in 2019** (unchanged). GDP growth will continue to be driven mainly by export growth (reflecting the coming on stream of new car production) and by private consumption underpinned by a favourable labour market situation. The economy's improving cyclical position is expected to be

supported by increasing demand-driven price pressures.

The expanding economy will stimulate job creation, but owing to the mismatch between labour supply and demand, employment growth is expected to slow over the forecast period. In the context of a historically low unemployment rate, it is expected that new job vacancies will be filled to an increasing extent by foreign workers and that the labour participation rate will rise moderately. The tightening labour market will support wage growth and should thus translate into inflationary pressures.

Headline inflation is expected to accelerate up to 2% and remain at around that level over the rest of the projection period. Demand-side pressures, along with increasing imported inflation, are expected to account for most of the upward pressure on prices. In the short term, it is expected that energy prices and exchange appreciation will weigh on headline inflation and that their impact will be partially offset by increasing demand-pull pressures and rising food prices.

Both the real GDP and inflation outlooks are subject to balanced risks.

Table 1 GDP and inflation projections (annual percentage changes)

	MTF-2017Q3			Difference vis-à-vis MTF-2017Q2		
	2017	2018	2019	2017	2018	2019
GDP	3.3	4.2	4.6	0.1	0.0	0.0
HICP	1.3	2.0	2.0	0.1	0.1	0.0
Demand-pull inflation ¹⁾	1.5	2.1	2.7	-0.1	-0.3	-0.1

Sources: SO SR and NBS.

1) The HICP inflation rate excluding food, energy and administered prices. It better reflects domestic price pressures than does the overall HICP and, when external shocks fade, it is a more accurate indicator of the future inflation path.



2 CURRENT DEVELOPMENTS IN THE EXTERNAL ENVIRONMENT AND IN SLOVAKIA

EURO AREA GDP GROWTH ACCELERATED SLIGHTLY IN THE SECOND QUARTER¹

The euro area economy expanded in the second quarter of 2017 by 0.6%, quarter on quarter, improving slightly on a growth rate of 0.5% in the first quarter. Domestic demand was the main driver of GDP growth. Among the domestic demand components, private consumption made the strongest positive contribution, and both government consumption and gross fixed investment also had a positive impact owing to the increase in their growth rates. Net exports contributed positively to GDP growth, albeit more moderately compared with the previous quarter. By contrast, changes in inventories had a negative impact. Economic activity growth across the principal euro area economies was heterogeneous, with the Netherlands reporting the strongest growth (0.9 percentage point higher compared with the first quarter), ahead of Spain (0.1 percentage point higher), France (unchanged) and Italy (also unchanged). Germany's economic growth slowed (to 0.6%), but nevertheless continued to contribute positively to the euro area's overall growth. Incoming leading indicator data now suggest that economic growth will remain relatively robust in the third quarter. According to the flash estimate, headline HICP inflation accelerated to 1.5% in August (from 1.3% in June and July). After increasing in July following its downward trend of previous months, energy inflation accelerated further in August.

SLOVAK ECONOMIC GROWTH DRIVEN BY PRIVATE CONSUMPTION²

Slovakia's economy grew by 0.8%, quarter on quarter, in the second quarter of 2017, in line

with the projection of the June 2017 forecast. Domestic demand accounted for the largest share of that growth, with consumer demand again increasing significantly as a result of favourable labour market developments. Overall GDP growth remained unchanged, however, since domestic demand also included the impact of declines in both public and private investment. Export growth slowed, reflecting falls in production in the chemical and automotive industries. Since these declines were of a temporary nature, export growth is projected to pick up again.

The economy continued to support job creation in the second quarter, and employment growth, at 0.6%, was slightly higher than projected in the June forecast. From a sectoral perspective, services and industries reported the strongest job creation. Despite the ongoing tightening of the labour market in certain sectors, an increasing number of job seekers are finding employment, and the unemployment rate has therefore fallen to an all-time low. On the other hand, this development is putting slight upward pressure on wage growth, which registered 4.8% in the second quarter, its highest rate in the post-crisis period.

The pass-through of wage growth to inflation has so far been limited. Headline inflation's acceleration in August, to 1.6%, was caused mainly by rising prices of food and automotive fuel. Demand-pull pressures have emerged mainly in the services sector and, to a lesser extent, in non-energy industrial goods, prices of which have come under upward pressure from exchange rate appreciation.

¹ For further details, see the "Report on the International Economy – September 2017".

² For further details, see the "Report on the Slovak Economy – September 2017".



3 TECHNICAL ASSUMPTIONS³

3.1 COMMODITIES AND THE EXCHANGE RATE

At the cut-off date for this projection exercise (MTF-2017Q3), the **exchange rate**⁴ of the euro against the US dollar was substantially stronger than at the cut-off date for the June 2017 exercise (MTF-2017Q2), with its appreciation reflecting improved economic growth outlooks for the euro area as well as expectations for tightening of the ECB's monetary policy stance. This projection exercise therefore assumes that the average exchange rate over the forecast period will be USD 1.20 per euro, almost 10% stronger than the corresponding assumption in the June exercise. Despite the substantial appreciation of the EUR/USD bilateral exchange rate, Slovakia's nominal effective exchange rate (NEER), calculated with respect to the country's 15 most significant trading partners, was only 1.1% stronger at the cut-off date for this exercise than at the cut-off date for the previous exercise, while the euro area NEER had strengthened by 4.4%. This difference stems from the differences in the respective sets of trading partners and in the weights of those partners in the NEER indices.⁵

The price per barrel of Brent crude oil was on a downward trend from mid-May (the cut-off date for the previous projection exercise) until almost the end of June. This reflected increased oil production in the United States, as well as in Libya and Nigeria, all of which entrenched the excess of supply over demand. At the same time, there were increasing doubts about whether the OPEC and non-OPEC members' agreement on production restraint would be effective in dra-

ining oil inventories. The oil price then turned upward, until the cut-off date for this forecast, in response to reports of falling oil inventories in the United States. Therefore, compared with the previous forecast, the assumption for the average oil price in 2019 has been revised up slightly, to USD 53.7. Owing to the exchange rate appreciation, however, the assumptions for the oil price in euro have been revised down, by 3.6% in 2017, 5.8% in 2018 and 4.9% in 2019.

3.2 FOREIGN DEMAND

The ECB's September 2017 projection exercise⁶ assumes that the euro area's economic expansion will continue over the forecast period, at a pace of 2.2% in 2017, 1.8% in 2018 and 1.7% in 2019. Domestic demand is expected to be supported by the accommodative monetary policy stance, favourable financing conditions and strong domestic consumption, as well as by progress made in deleveraging across sectors and a continued improvement in the labour market. At the same time, despite the recent appreciation of the euro, the global recovery is expected to support euro area exports.

Based on the current favourable trends in external demand, and with euro area leading indicators pointing to their continuation, the assumption for Slovakia's foreign demand growth in 2017 has been revised up from the previous forecast, by 1.4 percentage points, to 5.6%, as has the figure for 2018, by 0.1 percentage point, to 4.4%. The assumption for 2019 remains unchanged, at 4.1%.

³ The technical assumptions of this Medium-Term Forecast are based on the „September 2017 ECB staff macroeconomic projections for the euro area“, with a cut-off date of 14 August 2017. The assumptions for the EUR/USD exchange rate, Brent oil prices and Slovakia's external demand were, however, updated as at 8 September 2017.

⁴ The bilateral EUR/USD exchange rate is assumed to remain unchanged over the forecast period at the average level prevailing in the ten-working day period ending on the cut-off date.

⁵ Further details are provided in Box 3.

⁶ September 2017 ECB staff macroeconomic projections for the euro area.

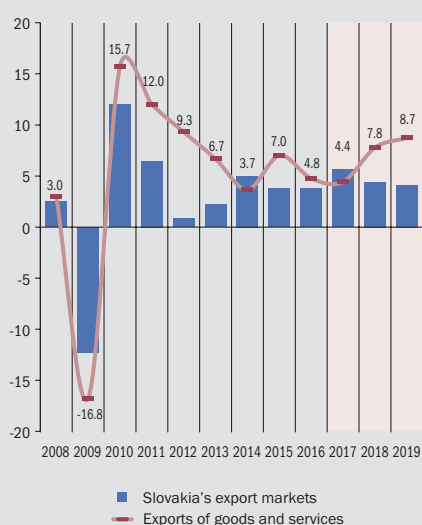
4 MACROECONOMIC FORECAST FOR SLOVAKIA

4.1 ECONOMIC GROWTH

EXPORT GROWTH TO DIP THIS YEAR AND THEREAFTER TO ACCELERATE

Export growth in 2017 is expected to be dampened by temporary declines in production in the automotive and petrochemical industries (caused by plant production being shut down for technological reasons). It is assumed that once the production of new car models comes on stream and production capacities have been expanded, export growth will begin to pick up and the economy will again be gaining market shares.

Chart 1 Slovakia's foreign demand and exports of goods and services – trend and forecast (annual percentage changes; constant prices)



Sources: SO SR, ECB and NBS calculations.

WEAK INVESTMENT GROWTH, PARTICULARLY IN THE PUBLIC SECTOR

In line with data for the second quarter, total investment in 2017 is expected to increase only slightly, with stronger growth prevented by the surprising continuation of the downward trend in government investment. Large infrastructure construction slowed and the absorption of EU funds remained subdued. On the other hand, there was an increase in inventories that may reflect unfinished private investment projects. The coming years should see a notable increase in investment in the automotive industry, amid greater absorption of EU funds and the launch of infrastructure projects.

PRIVATE CONSUMPTION TO REMAIN A MAJOR CONTRIBUTOR TO ECONOMIC GROWTH

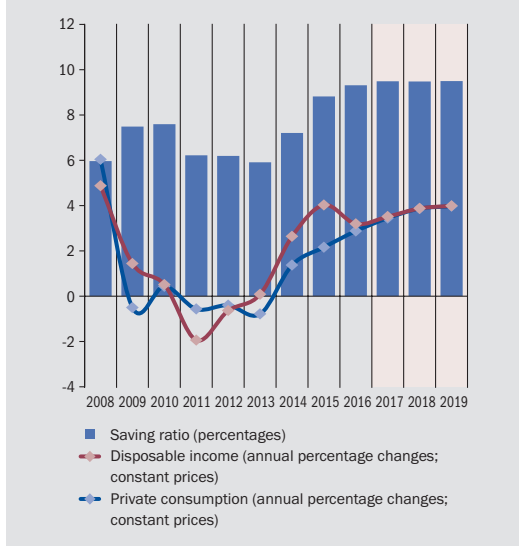
Private consumption is expected to remain a stable contributor to economic growth over the medium term. The labour market situation is expected to improve and, amid strengthening consumer sentiment, to support conditions for continuing growth in private consumption. Increasing labour productivity and tightening of the labour market are expected to boost nominal wage growth in the private sector. In the public sector, too, wage growth is expected to remain relatively strong. Overall, therefore, given also the projected moderate increase in headline inflation, real disposable income growth is expected to accelerate and support consumer demand without any significant impact on the saving ratio.

Table 2 Investment (annual percentage changes; constant prices)

	2016	2017	2018	2019
Gross fixed capital formation in total	-9.3	1.1	6.9	4.5
– private sector	3.9	2.0	4.5	4.3
– public sector	-44.4	-3.8	19.8	5.2
– public sector including PPP projects	-44.4	-1.8	23.1	4.8

Sources: SO SR and NBS calculations.

Chart 2 Household income, household consumption and the household saving ratio – trend and forecast

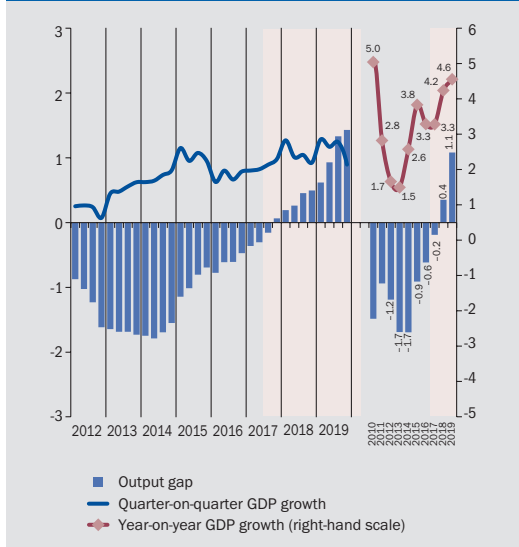


Sources: SO SR and NBS.

ACTIVITY GROWTH TO ACCELERATE OVER THE FORECAST PERIOD

Despite its temporary slowdown in 2017, export growth is expected to remain the main driver of Slovakia's economic growth over the forecast pe-

Chart 3 GDP and the output gap – trend and forecast (percentages)



Sources: SO SR and NBS.

riod. In coming years foreign demand growth is set to be surpassed by export growth, which will reflect the coming on stream of new production in the automotive industry. The domestic side of the economy is also envisaged to support GDP growth, most significantly through consumer demand growth and investment recovery. **GDP is projected to growth by 3.3% in 2017, 4.2% in 2018 and 4.6% in 2019.** The economy is expected to achieve equilibrium by the end of this year and then to enter a cyclical upswing on the back of robust growth and an improving labour market situation. These developments should begin having a gradual impact on the inflation rate.

4.2 THE LABOUR MARKET

LABOUR MARKET TIGHTENING TO BECOME MORE PRONOUNCED OVER THE FORECAST PERIOD

Labour market indicators showed a favourable trend in the first half of the year and that is expected to continue in the next period. Employers' improving expectations and the increasing number of job vacancies in the economy are expected to support employment growth in the short term. The economy's cyclical position is expected to continue underpinning job growth, although that growth will be softer owing to a drop in the job-filling rate. The unemployment rate is projected to reach new historical lows (down to around 7% at the projection horizon), which may weigh on employment growth.

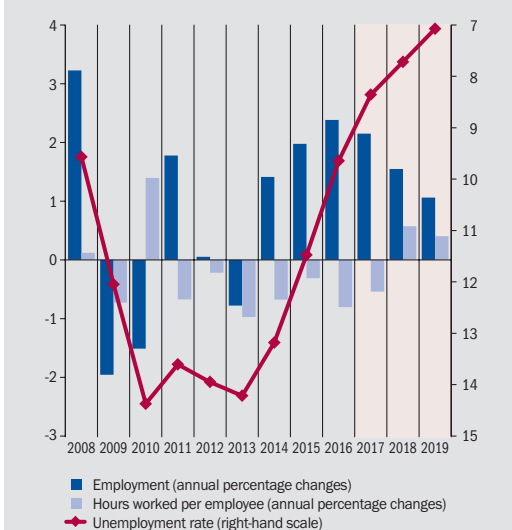
In this projection exercise, it is assumed that labour supply pressures will be partly eased by increasing labour participation (mainly the increasing employment of pensioners), increasing inflows of foreign workers and of Slovaks returning from employment abroad, and a rising number of hours worked.

Table 3 Wages (annual percentage changes)

	2016	2017	2018	2019
Nominal labour productivity	0.4	2.7	4.7	6.0
Whole economy – nominal	3.3	4.4	4.9	5.0
Whole economy – real	3.8	3.2	2.9	2.8
Private sector – nominal	2.6	4.4	4.8	5.0
Private sector – real	3.1	3.2	2.8	2.8
Public administration, education and health care – nominal	5.6	4.3	5.6	5.1
Public administration, education and health care – real	6.2	3.1	3.6	2.9

Source: SO SR and NBS calculations.

Note: Deflated by the CPI. The sector 'Public administration, education and health care' corresponds to sections O, P and Q of the SK NACE Rev. 2 statistical classification of economic activities. Nominal average wage growth in the general government sector (ESA S.13) is projected to be 4.6% in 2017, 5.6% in 2018 and 5.1% in 2019.

Chart 4 Employment, hours worked per employee, and the unemployment rate – trend and forecast (percentages)


Sources: SO SR and NBS.

4.3 PRICE DEVELOPMENTS

INFLATION TO STABILISE AT 2% DURING THE FORECAST HORIZON

After three years of deflation, the headline inflation rate returned to positive territory this year thanks to both supply-side and demand-side factors. Increasing commodity prices had an upward impact on food inflation (especially processed food prices) and on automotive fuel prices. These effects are expected to continue into early next year and then to moderate. Increasing demand-pull pressures will gradually be reflected in services prices and, to a lesser extent, in non-energy industrial goods prices. In the context of strong pressures from the labour market, demand-pull inflation is expected to accelerate significantly over the forecast period and reach its highest levels of the post-crisis period. As a result, headline inflation is projected to stabilise at around 2% during the forecast period.

Table 4 Inflation components (annual percentage changes)

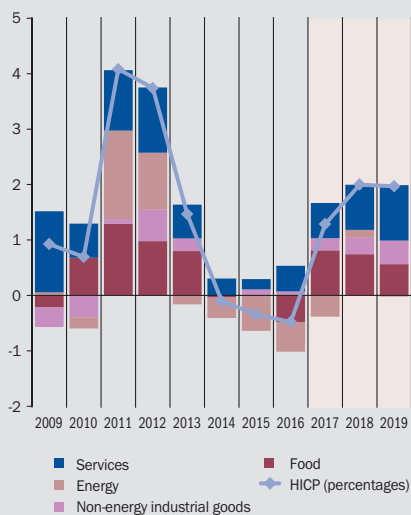
	Average 2004-2008 (pre-crisis period)	Average 2010-2014 (post-crisis period)	2015	2016	2017	2018	2019
HICP	4.1	2.0	-0.3	-0.5	1.3	2.0	2.0
Food	3.6	3.1	-0.1	-2.0	3.1	2.9	2.2
Non-energy industrial goods	0.2	0.3	0.4	0.2	0.8	1.1	1.5
Energy	8.3	2.3	-3.9	-3.5	-2.7	1.0	-0.1
Services	5.3	2.5	0.6	1.5	2.0	2.6	3.2
Demand-pull inflation	1.8	1.0	0.9	0.9	1.5	2.1	2.7

Sources: SO SR and NBS calculations.

Note: The 'neutral level' of price growth (i.e. beta-convergence) for Slovakia is estimated to be around 2.6%.

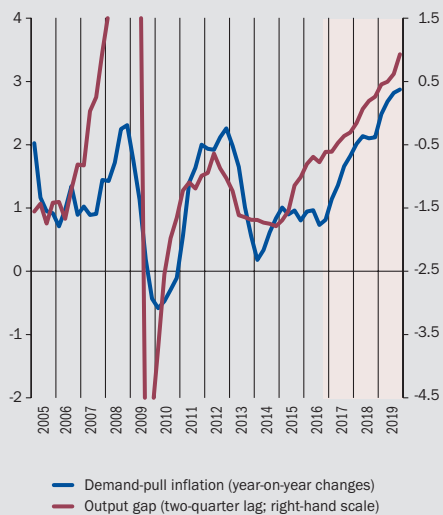


Chart 5 Annual HICP inflation and its components (percentages; percentage point contributions)



Sources: SO SR and NBS.

Chart 6 Demand-pull inflation and the output gap (percentages)



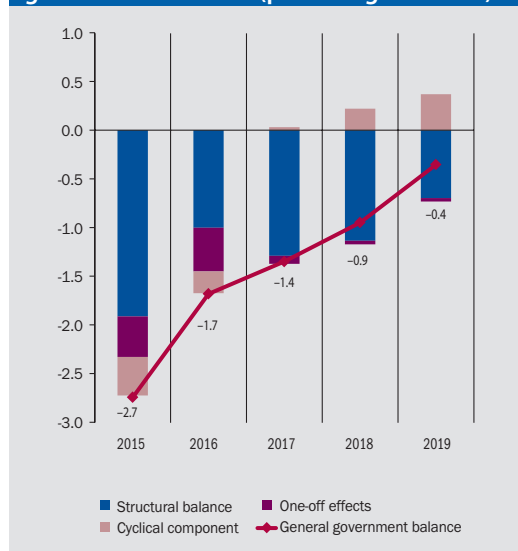
Sources: SO SR and NBS calculations.

5 FISCAL OUTLOOK

FAVOURABLE LABOUR MARKET DEVELOPMENTS ARE EXPECTED TO CONTINUE SUPPORTING AN IMPROVEMENT IN FISCAL PERFORMANCE

Slovakia's general government budget deficit is projected to fall to 1.4% of GDP in 2017, from 1.7% in the previous year. This deficit reduction is largely attributable to an improving labour market situation, a slowdown in health spending growth, and a low inflation environment that is curbing growth in social benefits and is reflected in lower interest costs. These trends are expected to continue in coming years, bringing the fiscal deficit down to a projected 0.9% of GDP in 2018 and 0.4% of GDP in 2019. On the revenue side, the improvement in fiscal performance over the projection period is also expected to be supported by certain measures, such as changes in contribution ceilings for health insurance and social insurance, dividend taxation, the prolongation of the special levy in regulated industries, and an increase in the special levy on financial institutions. By contrast, the scrapping of tax licences and this year's reduction in the corporate income tax rate are expected to dent revenues.

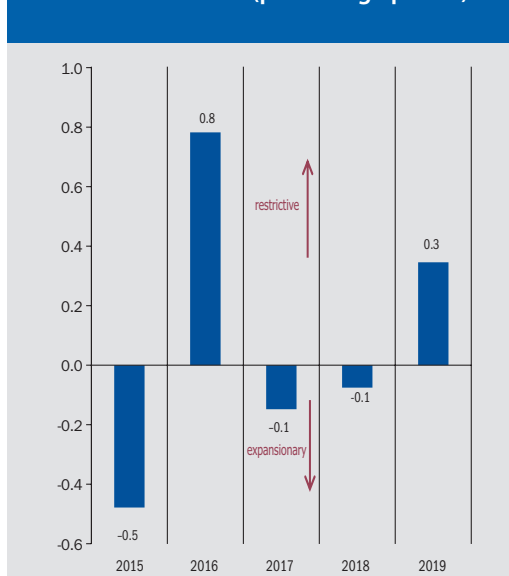
Chart 7 Breakdown of the general government balance (percentages of GDP)



Sources: SO SR and NBS.

Note: One-off effects include non-cyclical effects that have a temporary impact on the general government balance and should be eliminated in the future.

Chart 8 Fiscal stance (percentage points)



Sources: SO SR and NBS.

Note: Annual rate of change in the cyclically adjusted primary balance, adjusted for the impact of extra-budgetary PPP projects and excluding the impact of EU funds.

On the expenditure side of the budget, there will be upward pressure on spending from increased payments to social facilities, the minimum indexing of pensions, changes in the unemployment insurance system, the still relatively elevated indexing of public sector wages, and, later on, higher investment. The structural deficit at the forecast horizon is projected to be 0.7% of GDP.

After having a restrictive impact last year, the fiscal stance is expected to be neutral or moderately expansionary in 2017 and 2018, as the fiscal space created by cyclical developments and falling interest costs are failing fully to translate into fiscal deficit reduction. In 2019, however, the domestic fiscal stance is projected to be restrictive again, mainly due to lower growth in social spending.

PRIMARY SURPLUS AND ECONOMIC GROWTH TO ACCELERATE PUBLIC DEBT REDUCTION

Slovakia's public debt in 2017 is expected to decline by 0.1 percentage point, to 51.8% of GDP. An improving general government primary ba-

**Table 5 Fiscal developments (annual percentage changes at constant prices, unless otherwise stated)**

	2016	2017	2018	2019
General government final consumption	1.6	0.6	1.5	1.7
Government investment	-44.4	-3.8	19.8	5.2
General government balance (percentage of GDP)	-1.7	-1.4	-0.9	-0.4
Fiscal stance (year-on-year change in percentage points) ¹⁾	0.8	-0.1	-0.1	0.3
Demand impulse (p.p.) ²⁾	2.4	0.0	-0.2	0.0
Gross debt (percentage of GDP)	51.9	51.8	50.3	48.6

Sources: SO SR and NBS calculations.

1) The annual rate of change in the cyclically adjusted primary balance adjusted for the impact of extra-budgetary PPP projects and excluding the impact of EU funds. A negative value denotes expansion.

2) Including the impact of extra-budgetary EU funds and PPP projects treated off the general government balance sheet. A positive value denotes a restrictive impact.

lance and falling interest costs are expected to result in the public debt falling further over the forecast period, to 50.3% of GDP in 2018 and 48.6% of GDP in 2019.

HEALTH INSURERS' SPENDING IS SLOWING GOVERNMENT FINAL CONSUMPTION GROWTH

Final consumption growth is expected to fall in 2017 owing mainly to higher inflation growth and the consequent moderation of expenditure growth in real terms. Government consumption

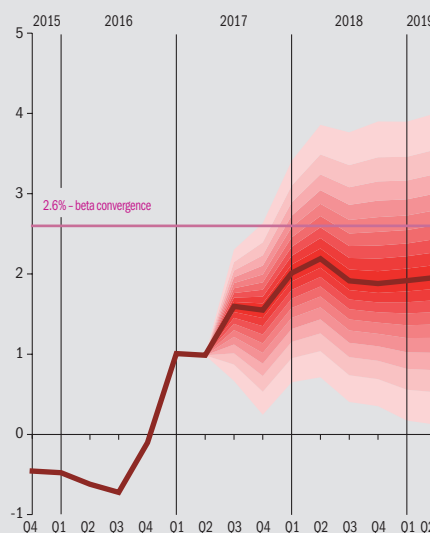
growth is also being curbed by the activity of health insurers, as the rate of increase in their health care payments slowed considerably in the first half of the year. Final consumption is envisaged to be accelerating again at the projection horizon, amid stronger growth in health spending as well as in goods and services purchases.

Since investment activity remained highly subdued in the first half of this year, its recovery is now not expected to take place until next year.

6 RISKS TO THE FORECAST

The risks to the real GDP growth outlook are balanced, and so are the risks to the inflation outlook. Downside risks include continuing appreciation of the euro exchange rate and its stronger than expected pass-through to the economy and prices. Prices of commodities, including food, represent an upward risk to the inflation outlook, as does higher than projected wage growth. Among the risks to the outlook for economic growth are the currently weak domestic monthly data, while the signals from foreign sentiment developments remain highly favourable.

Chart 9 HICP inflation forecast (percentages)



Sources: SO SR and NBS.

Note: The chart is calculated using historical inflation prediction errors and a risk survey. The chart's construction is described in more detail at: http://www.nbs.sk/_img/Documents/PUBLIK/MU/pris_04.pdf, or http://www.nbs.sk/_img/Documents/PUBLIK/MU/Hucek_Gavura09-07-Biatec.pdf

Table 6 Risks to the forecast

	2017	2018	2019
GDP	Balanced	Balanced	Balanced
Inflation	Balanced	Balanced	Balanced

Source: NBS.

7 COMPARISON WITH THE PREVIOUS FORECAST

THE ECONOMIC GROWTH OUTLOOK REMAINS UNCHANGED

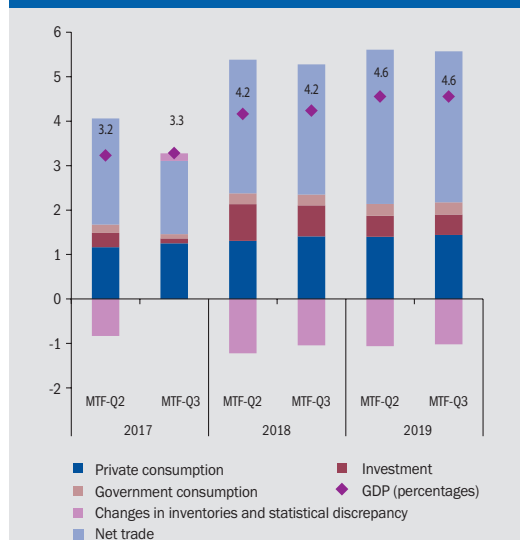
Slovakia's economic growth in the first half of 2017 was in line with expectations and therefore the overall GDP outlook for the whole forecast period remains largely unchanged. The composition of GDP differed from that envisaged in the previous forecast. The impact of this year's weaker than projected investment (stemming from a slowdown in infrastructure construction and a decline in other public investment) has been offset by stronger consumer demand reflecting favourable labour market developments and by restocking that probably represents future investment. Although the decline in export growth in the second quarter was temporary, it has resulted in a downward revision of the export growth outlook for this year. Export growth projections for subsequent years did not need to be revised, given that there were no changes in the foreign demand outlook over the forecast period (its adjustment in 2017 was a historical

revision) and that the appreciation of Slovakia's nominal effective exchange rate has so far been only moderate.

SLIGHT IMPROVEMENT IN LABOUR MARKET OUTLOOK

Current trends support the assumption that the softening of employment growth at the beginning of the year was temporary. Job growth in the second quarter was slightly stronger than projected and, along with employers' favourable expectations, translated into an upward revision of the employment growth projection for both this year and next year. The unemployment rate is not expected to correspond fully to the revised level of employment growth, since the next period should see an increase in labour participation and an inflow of foreign workers. Wage growth has developed in line with projections, while its average rate for next year should reflect an increase in the minimum wage that is due to take effect in January 2018.

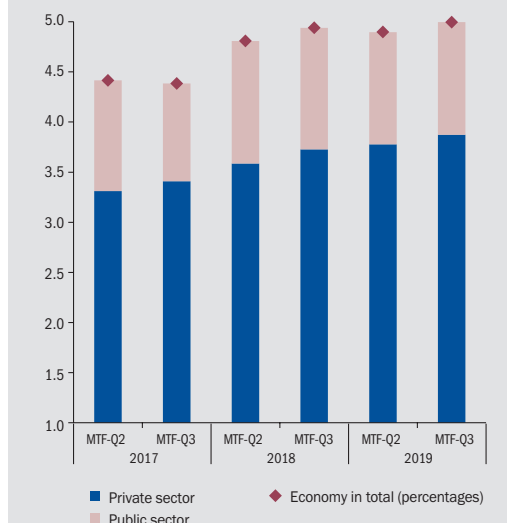
Chart 10 GDP and its components⁷ (annual percentage changes; percentage point contributions)



Sources: SO SR and NBS.

Note: The item 'Changes in inventories and statistical discrepancy' includes uncategorised imports that remained after the calculation of import intensity.

Chart 11 Average wage broken down by public sector and private sector contributions to its rate of change (annual percentage changes; percentage points)

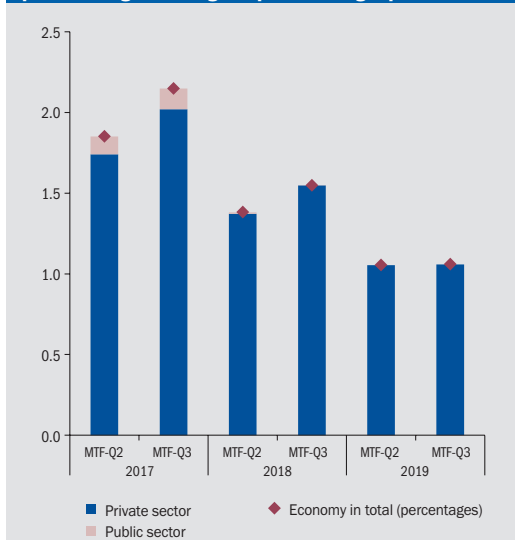


Sources: SO SR and NBS.

Note: The public sector comprises sections O, P and Q of the SK NACE Rev. 2 statistical classification of economic activities.

⁷ The composition of GDP growth is calculated as the contributions of components to GDP growth after deducting their import intensity. In this case the calculation uses the constant import intensity of the different GDP components (household final consumption – 30%, government consumption – 7%, investment – 50%, and exports – 62.5%). Remaining imports were included under changes in inventories and the statistical discrepancy.

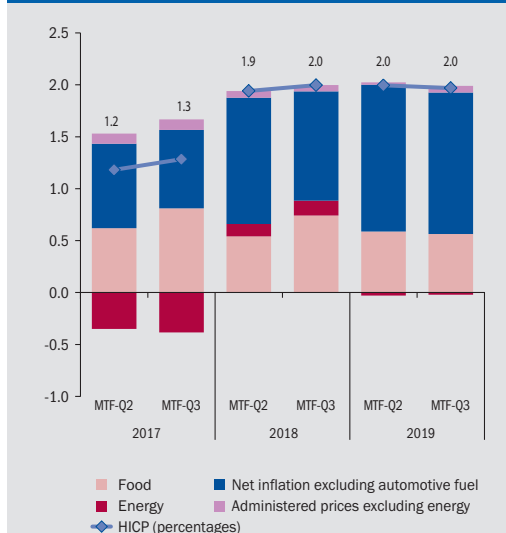
Chart 12 Employment broken down by public sector and private sector contributions to its rate of change (annual percentage changes; percentage points)



Sources: SO SR and NBS.

Note: The public sector comprises sections O, P and Q of the SK NACE Rev. 2 statistical classification of economic activities.

Chart 13 HICP inflation and its components (annual percentage changes; percentage point contributions)



Sources: SO SR and NBS.

INFLATION PROJECTION MODERATELY HIGHER OWING TO RISING FOOD PRICES

Inflation is currently slightly higher than forecast, owing to strong growth in food prices and especially in processed food prices. This, together with agricultural commodity price movements, has resulted in the inflation projections for both

this year and next year being revised up marginally. The projected contribution of net inflation excluding automotive fuel to next year's headline rate has been revised down in response to weaker growth in non-energy industrial goods prices, stemming from a lower rate of increase in import prices (reflecting exchange rate appreciation).

Box 1

REFLATION EXPECTATIONS ARE BEING FULFILLED

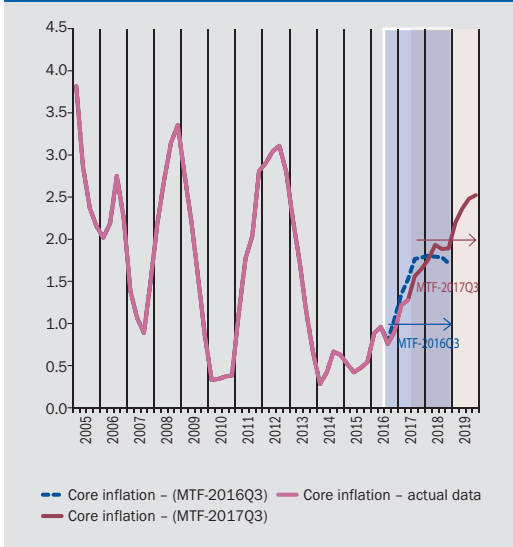
HICP inflation has been at historically low levels during the past three years, during which time core inflation and net (i.e. demand-pull) inflation have also fallen to all-time lows. Via its accommodative monetary policy stance, the European Central Bank (ECB) has sought to prevent inflation expectations from being anchored at low levels over the long term. At the same time, however, the recovery in domestic demand has been sluggish with only a limited impact on prices. Forecasting tools nevertheless suggest that the Slovak econo-

my is reaching the end of its current cycle and that the strengthening labour market will be reflected in accelerating demand-pull inflation over the period from 2017 to 2019. Among the factors supporting wage growth, apart from the recovery of productivity in recent years, is a widely perceived shortage of skilled labour stemming from a decline in the working-age population. Employers are therefore forced to compete more strongly for labour by increasing wages. Last year's autumn forecast was already envisaging

a pick-up in wages and inflation (reflation) in 2017, and in particular that core inflation and demand-pull inflation would reflect projected developments in the labour market and wages.

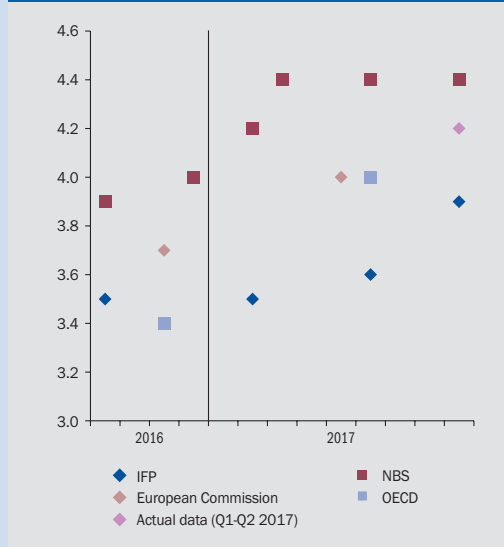
The current price growth is in line with the projections that NBS made a year ago. Demand-pull inflation trends are developing as expected, driven mainly by wages, i.e. by the services sectors. The fulfilment of inflation expectations

Chart A Core inflation (HICP; annual percentage changes)



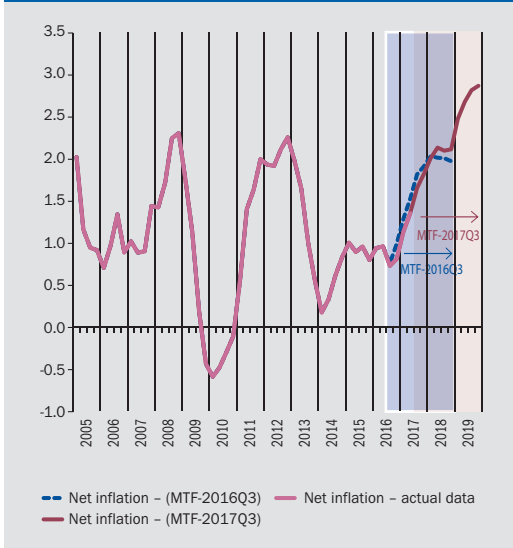
Sources: SO SR and NBS calculations.

Chart C Nominal wage projection for 2017 (annual percentage changes)



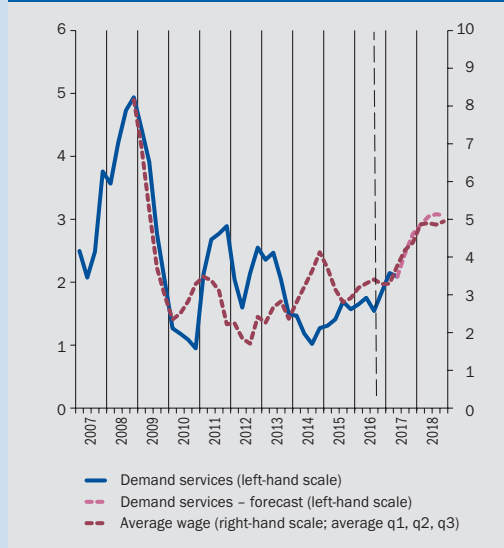
Sources: SO SR, Fiscal Policy Institute (IFP) of the Slovak Finance Ministry (MF SR), NBS, European Commission and OECD.
Note: EC, OECD – compensation per employee.

Chart B Net (demand-pull) inflation (HICP; annual percentage changes)



Sources: SO SR and NBS calculations.

Chart D Demand services (annual percentage changes)

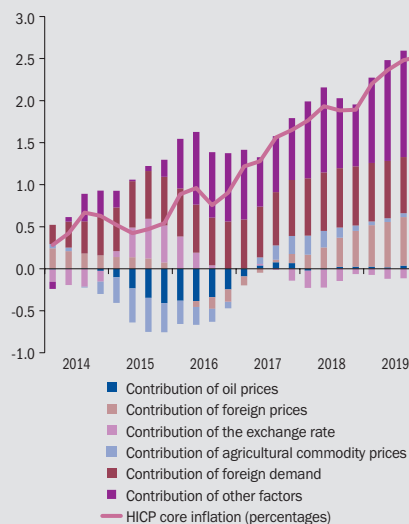


Sources: SO SR and NBS calculations.
Note: Demand services – consumer prices of market services, where price formation is affected by demand that is not influenced by administrative measures.

has been contingent on the accurate forecasting of wage growth and in particular its acceleration. NBS has long been projecting average wage growth of more than 4% in 2017, and while the central bank has not altered this outlook for a prolonged period, the analytical community has only gradually come closer to sharing that view. The current labour market tightening is expected to have an upward impact on inflation, which may be most apparent in an increase in 'demand services'.

The outlook for demand-pull inflation has been revised down slightly in this MTF-2017Q3 forecast, albeit under the impact of an appreciating nominal effective exchange rate (NEER). Looking at the breakdown of inflation, the negative impact of the exchange rate is now (from the second half of 2017) around 0.2 percentage point. Historically, too, the exchange rate has explained that part of the forecast error that NBS could not have envisaged given that the underlying methodology of its projections assumes a constant exchange rate.

Chart E Core inflation and its components – trend and forecast (annual percentage changes; percentage point contributions)



Sources: SO SR, ECB and NBS calculations.

Box 2

A COMPARISON OF ECONOMIC GROWTH IN THE VISEGRAD FOUR COUNTRIES

In the first half of 2017 the economies of the Czech Republic, Hungary and Poland all grew faster than the Slovak economy. In both Poland and Hungary, the sum of the growth rates (quarter-on-quarter) for the first and second quarters was 0.6 percent higher compared with the figure for Slovakia, and in the Czech Republic it was 2.4 percentage points higher. Czech GDP growth, which was particularly strong in the second quarter, was driven mainly by investment demand (both private and government investment) and by private consumption. Wage growth in the Czech Republic was also notable.

Looking at the composition of economic growth, the areas in which the Slovak economy trailed the other V4 economies were export growth, gross fixed capital formation (substantially trailing the Czech Republic and Hungary in terms of the cumulative growth rate for the half year) and, to a lesser extent, private consumption (particularly the Czech Republic and Poland). Slovakia was the only one of the four countries to experience a quarter-on-quarter decline in investment in the second quarter. Compared with the MTF-2017Q2 projections, government investment in the second quarter was lower by around €80 million. On the pro-

**Table A GDP growth and its components (percentages)**

	Q1 2017	Q2 2017	Q1-Q2 2017
GDP	Quarter-on-quarter growth		Cumulative growth
CZ	1.5	2.5	4.0
HU	1.4	0.9	2.2
PL	1.1	1.1	2.2
SK	0.8	0.8	1.6
Gross fixed capital formation			
CZ	1.2	6.3	7.6
HU	6.9	4.3	11.4
PL	0.3	0.5	0.9
SK	5.3	-4.6	0.5
Consumption of households and non-profit institutions serving households			
CZ	0.9	1.8	2.7
HU	0.7	1.2	1.9
PL	1.3	1.3	2.7
SK	0.8	0.9	1.7
General government consumption			
CZ	0.2	0.4	0.6
HU	-0.5	0.3	-0.2
PL	0.1	1.5	1.7
SK	0.1	0.2	0.4

Source: Macrobond and NBS calculations.

Note: Green cells show the highest growth rates, red cells the lowest.

Table B Average nominal wage growth (percentages)

	Q1 2017	Q2 2017
Average nominal wage	Year-on-year growth	
CZ	5.4	7.6
HU	11.0	14.0
PL	4.1	5.0
SK	3.5	4.8

Sources: National statistical offices and NBS calculations.

Note: Green cells show the highest growth rates, red cells the lowest.

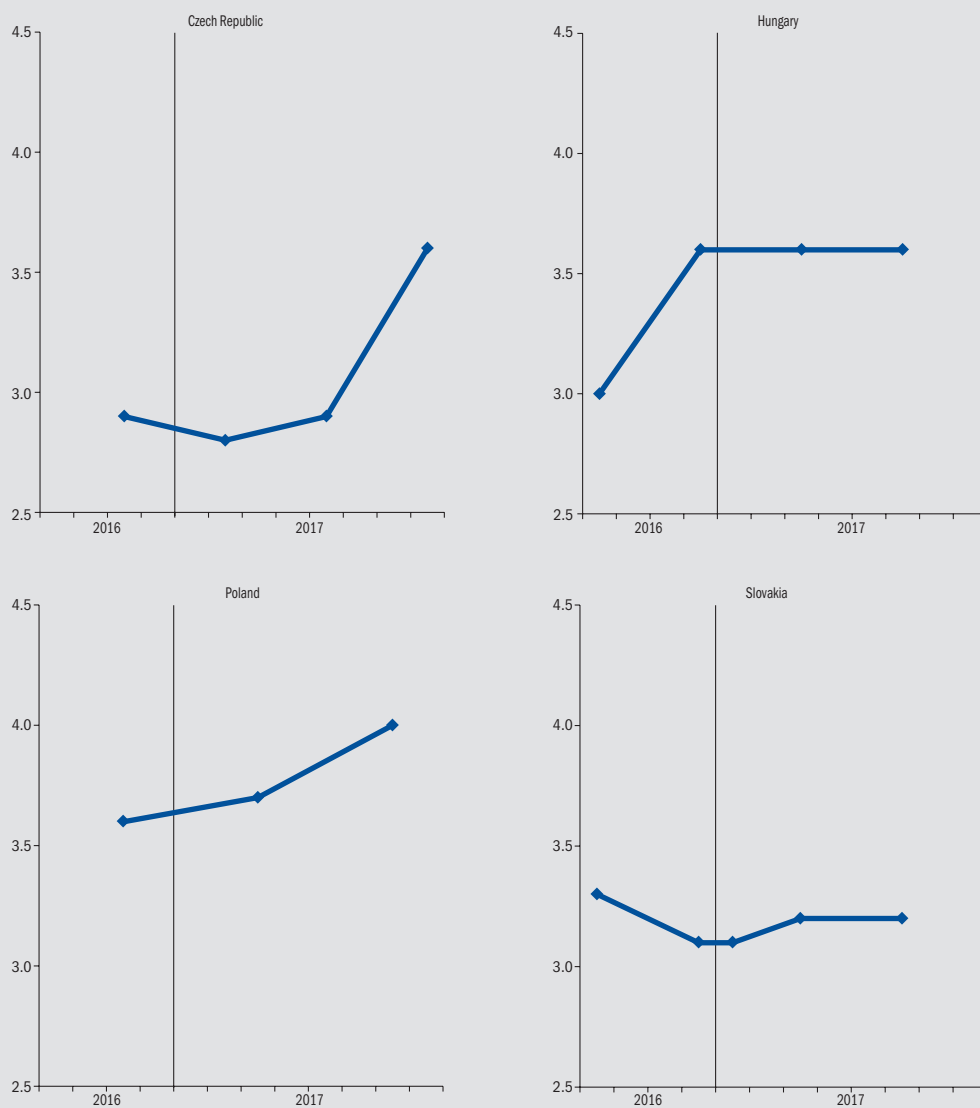
jections of that forecast, average GDP growth over the period 2017–2019 could be higher by 0.1 to 0.2 percentage point.

A similar picture emerges when comparing the changes to 2017 GDP growth forecasts

over the past year. Whereas the forecast for Slovakia remained unchanged, the forecasts for economic growth in the other countries were revised significantly (in some cases by as much as 0.5 percentage point).



Chart A National central banks' projections over the past year for GDP in 2017 (annual percentage changes)



Sources: ČNB, MNB, NBP and NBS.

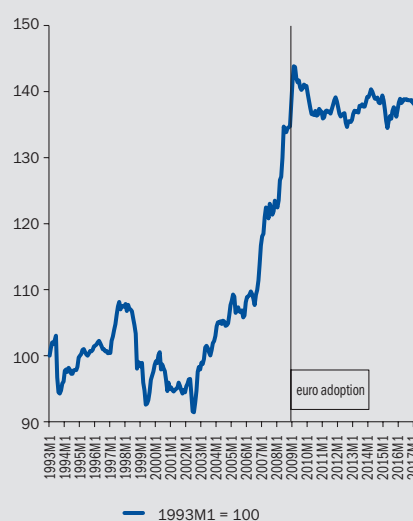
Box 3

THE IMPACT ON THE SLOVAK ECONOMY OF THE EURO'S SUBSTANTIAL EXCHANGE RATE APPRECIATION AGAINST THE US DOLLAR IS LIMITED BY THE STRUCTURE OF SLOVAK TRADE

- At the cut-off date for the technical assumptions underlying NBS's current projection exercise (MTF-2017Q3), the euro's exchange rate against the US dollar was almost 10% stronger than at the cut-off date for the June 2017 exercise (the appreciation was slightly lower when comparing the exchange rate at the cut-off date for the ECB's latest projection exercise, published in early September, with its level at the cut-off date for the ECB's June 2017 exercise).
- In response to this trend, however, the nominal effective exchange rate (NEER) for Slovakia appreciated by only slightly more than 1%, whereas the NEER for the euro area as a whole appreciated by more than 4%.
- This difference is explained by the geographical breakdown of trade. The US dollar's weight in the Slovak NEER index is relatively low, and markedly lower than its weight in the euro area NEER index. At the same time, Slovakia's trading partners are linked far more closely to the euro area, i.e. the euro.
- The correlation between the Slovak NEER and the US dollar is therefore much weaker than that between the euro area NEER and the dollar.

As regards the NEER calculated with respect to Slovakia's 15 most significant trading partners (the Slovak NEER), its trend towards the end of the period when the Slovak koruna was legal tender was largely appreciating. This reflected favourable macroeconomic fundamentals (in particular labour productivity, which was growing faster than in other countries thanks mainly to the stimulus that FDI inflows gave to export performance). Slovakia's adoption of the euro at the beginning of 2009 entailed fixing the exchange rate to the euro, the currency used by around as many as half of the trading partners included in the NEER calculation (the weight of euro area countries in the NEER index reached 52% in 2016), which resulted in significant stabilisation of the NEER.

Chart A Slovak NEER



Source: NBS.

After the rapid depreciation of the neighbouring V4 countries' currencies at the outbreak of the 2009 economic crisis and the fading of the subsequent correction, the annual rate of change of the Slovak NEER oscillated around zero, in contrast to its prevailing appreciation trend (positive figures) in previous periods. Given its relative stability, the NEER has not been a source of significant direct shocks to the domestic economy in the period since Slovakia joined the euro area.⁸ On the other hand, the economy's increasing openness could make it more sensitive to exchange rate movements.

When comparing the Slovak NEER with the NEER for the 19 euro area countries calculated with respect to 38 relevant trading partners (the euro area NEER-38), we observe clear differences stemming from the differing characteristics of the Slovak and euro area economies. These include differing geographic breakdowns of foreign trade turnover on industrial goods (SITC classes 5-8), i.e. the measure used to define the

⁸ The very rigidity of the NEER at the beginning of the crisis resulted, however, in export-oriented industries in Slovakia being harder hit than those in neighbouring countries, where the NEER adjusted to the deteriorating macroeconomic situation.

weights of individual trading partners in the NEER indices. These differences were reflected in the differential impact on the Slovak and euro area NEER indices of the euro's marked strengthening against the US dollar. The euro area NEER was 4.4% stronger at the cut-off date for the ECB's September 2017 projection exercise⁹ than at the cut-off date for the June 2017 exercise, on an 8.3% appreciation of the euro's bilateral exchange rate against the dollar. By contrast, the Slovak NEER was only 1.1%¹⁰ stronger at the cut-off date for NBS's current projection exercise (MTF-2017Q3) than at the cut-off date for the previous forecast (MTF-2017Q2), on an even stronger, 9.7%, appreciation of the euro's bilateral exchange rate against the dollar. The cause of that difference is not only the above-mentioned stabilising effect of a fixed nominal exchange rate vis-à-vis Slovakia's trading partners that are euro area countries, but also the fact that the United States has a weight of only 2.2% in the Slovak NEER index published by NBS, in contrast to a weight of 13.6% in the euro area NEER-38 index (according to ECB data on average weights in the NEER-38 index over the period from 2013 to 2015). Further evidence that the EUR/USD bilateral exchange rate has a weaker impact on the Slovak NEER than on the euro area NEER-38 is provided by the coefficient of the indices' correlations with the EUR/USD exchange rate since 2010 (a more stable period for the Slovak index). Whereas the coefficient for the Slovak-NEER is only 0.04, it is 0.64 for the euro area.¹¹ The Slovak NEER's lower correlation reflects the greater dependence of Slovak trade factors on the euro area. Another factor curbing the Slovak NEER's appreciation is the larger weight of the Czech Republic in the index (13.7%, while its weight in euro area NEER-38 averaged 4.1% between 2013 and 2015), since the Czech koruna appreciated against the euro in the period under review following the removal of the koruna-euro exchange rate floor. Until early April 2017 the Czech central bank was using the floor as an additional instrument for easing monetary policy.

Chart B Slovak NEER and euro area NEER-38 vis-à-vis the EUR/USD exchange rate



Sources: NBS, ECB and the Eurostat.

Note: Index for both Slovak NEER and euro area NEER-38: 1993 M1 = 100.

Over past five years the Slovak NEER was on average around two times less volatile than the euro area NEER-38.

The euro's recent strong appreciation against the US dollar will not have a significant impact on the Slovak NEER and its impact on the Slovak economy will therefore be only modest. The most significant impact of this appreciation is expected to be exerted through oil prices in euro equivalent.

It may be concluded that current exchange rate movements stemming largely from the US dollar's substantial weakening affect the Slovak NEER around as quarter as much as they do the euro area NEER. And therefore, despite the openness of the Slovak economy being twice as high as that of the euro area economy, the overall impact of the dollar's depreciation on Slovak GDP is still expected to be lower than its impact on euro area GDP.

9 September 2017 ECB staff macroeconomic projections for the euro area: <http://www.ecb.europa.eu/pub/pdf/other/ecb.ecbstaffprojections201709.en.pdf?54903a0e-77418d98625a1657335bc3bd>

10 The geographic breakdown and weights in the Slovak NEER includes also the most significant trading partners that are euro area countries, while the euro area NEER-38 includes only non-euro area countries. If the Slovak NEER included only non-euro area countries (Slovak NEER extra), the appreciation would be greater, but only half that of the euro area NEER-38.

11 In the "Sensitivity analysis" in Box 4 of the "September 2017 ECB staff macroeconomic projections for the euro area", the ECB estimates that changes in the euro's exchange rate against the US dollar will correspond to changes in the effective exchange rate with an elasticity of around 52%. The text does not, however, state the period for which this estimate applies.



Table 7 Medium-Term Forecast (MTF-2017Q3) for key macroeconomic indicators								
Indicator	Unit	Actual data	MTF-2017Q3			Difference vis-à-vis MTF2017Q2		
		2016	2017	2018	2019	2017	2018	2019
Prices								
HICP inflation	annual percentage change	-0.5	1.3	2.0	2.0	0.1	0.1	0.0
CPI inflation	annual percentage change	-0.5	1.2	2.0	2.1	0.0	0.0	0.0
GDP deflator	annual percentage change	-0.4	1.0	2.0	2.5	-0.1	0.1	0.2
Economic activity								
Gross domestic product	annual percentage change, constant prices	3.3	3.3	4.2	4.6	0.1	0.0	0.0
Private consumption	annual percentage change, constant prices	2.9	3.4	3.9	4.0	0.2	0.3	0.1
Final consumption of general government	annual percentage change, constant prices	1.6	0.6	1.5	1.7	-0.5	0.1	0.1
Gross fixed capital formation	annual percentage change, constant prices	-9.3	1.1	6.9	4.5	-2.0	-1.1	0.1
Exports of goods and services	annual percentage change, constant prices	4.8	4.4	7.8	8.7	-2.0	0.0	0.0
Imports of goods and services	annual percentage change, constant prices	2.9	4.6	7.7	8.1	-2.2	0.0	0.0
Net exports	EUR millions at constant prices	5,790	5,897	6,449	7,534	42.5	51.9	19.1
Output gap	percentage of potential output	-0.6	-0.2	0.4	1.1	0.1	0.1	0.2
Gross domestic product	EUR millions at current prices	80,958	84,470	89,803	96,220	-6.7	109.7	273.0
Labour market								
Employment	thousands of persons, ESA 2010	2,321	2,371	2,408	2,433	6.9	10.9	11.2
Employment	annual percentage change, ESA 2010	2.4	2.1	1.5	1.1	0.2	0.1	0.0
Number of unemployed	thousands of persons ¹⁾	266	231	214	196	-0.1	-0.9	-1.4
Unemployment rate	percentage	9.6	8.4	7.7	7.1	0.0	0.0	0.0
Unemployment gap ²⁾	percentage points	-0.4	0.2	0.5	0.9	0.1	0.2	0.2
Labour productivity ³⁾	annual percentage change	0.9	1.1	2.6	3.5	-0.3	-0.1	0.0
Nominal productivity ⁴⁾	annual percentage change	0.4	2.7	4.7	6.0	0.5	0.0	0.1
Nominal compensation per employee	annual percentage change, ESA 2010	1.8	4.3	4.9	5.0	0.0	0.1	0.1
Nominal wages ⁵⁾	annual percentage change	3.3	4.4	4.9	5.0	0.0	0.1	0.1
Real wages ⁶⁾	annual percentage change	3.8	3.2	2.9	2.8	0.0	0.1	0.1
Households and non-profit institutions serving households								
Disposable income	constant prices	3.2	3.5	3.9	4.0	-0.2	0.5	0.1
Saving ratio ⁷⁾	percentage of disposable income	9.3	9.5	9.5	9.5	-0.3	-0.2	-0.2
General government sector⁸⁾								
Total revenue	percentage of GDP	40.0	39.4	39.4	39.0	-0.5	-0.6	-0.5
Total expenditure	percentage of GDP	41.6	40.8	40.4	39.4	-0.6	-0.5	-0.5
General government balance ⁹⁾	percentage of GDP	-1.7	-1.4	-0.9	-0.4	0.1	0.0	0.0
Cyclical component	percentage of trend GDP	-0.2	0.0	0.2	0.4	0.0	0.0	0.1
Structural balance	percentage of trend GDP	-1.0	-1.3	-1.1	-0.7	0.2	0.0	0.0
Cyclically adjusted primary balance	percentage of trend GDP	0.2	0.2	0.3	0.6	0.2	0.0	0.0
Fiscal stance ¹⁰⁾	year-on-year change in p. p.	0.8	0.0	0.1	0.3	0.1	-0.2	0.1
General government gross debt	percentage of GDP	51.9	51.8	50.3	48.6	-0.1	-0.1	-0.2



Table 7 Medium-Term Forecast (MTF-2017Q3) for key macroeconomic indicators (continuation)

Indicator	Unit	Actual data	MTF-2017Q3				Difference vis-à-vis MTF2017Q2		
		2016	2017	2018	2019	2017	2018	2019	
Balance of Payments									
Trade balance (goods)	percentage of GDP	2.8	3.0	3.3	4.1	0.8	1.1	1.1	
Current account	percentage of GDP	-0.7	0.4	0.9	1.9	0.7	1.0	1.0	
External environment and technical assumptions									
Slovakia's foreign demand	annual percentage change	3.7	5.6	4.4	4.1	1.4	0.1	0.0	
Exchange rate (USD/EUR) ¹¹⁾	level	1.11	1.14	1.20	1.20	4.7	9.7	9.7	
Oil price in USD ¹¹⁾	level	44.0	52.1	53.1	53.7	1.0	3.4	4.3	
Oil price in USD	annual percentage change	-15.9	18.2	2.0	1.2	1.1	2.4	0.9	
Oil price in EUR	annual percentage change	-15.7	15.2	-3.4	1.2	-4.3	-2.3	0.9	
Non-energy commodity prices in USD	annual percentage change	-3.9	9.0	5.4	4.2	2.6	3.4	-0.3	
Three-month EURIBOR	percentage per annum	-0.3	-0.3	-0.3	-0.1	0.0	-0.1	-0.1	
Ten-year Slovak government bond yields	percentage	0.5	0.9	1.0	1.2	-0.2	-0.3	-0.4	

Sources: NBS, ECB and SO SR.

1) Labour Force Survey.

2) Difference between the NAIRU (non-accelerating inflation rate of unemployment) and the unemployment rate. A positive value indicates that the NAIRU is higher than the unemployment rate.

3) GDP at constant prices / employment – ESA 2010.

4) Nominal GDP divided by persons in employment (according to SO SR quarterly statistical reporting).

5) Average monthly wages (according to SO SR statistical reporting).

6) Wages according to SO SR statistical reporting, deflated by CPI inflation.

7) Saving ratio = gross savings / (gross disposable income + adjustments for any pension entitlement change) *100; Gross savings = gross disposable income + adjustments for any pension entitlement change – private consumption.

8) S.13; fiscal outlook.

9) B9n – Net lending (+) / borrowing (-)

10) Year-on-year change in cyclically adjusted primary balance; a positive value denotes tightening.

11) Changes vis-à-vis the previous forecast (percentages).

Time series of selected macroeconomic indicators can be found on the NBS website at:
http://www.nbs.sk/_img/Documents/_Publikacie/PREDIK/2017/protected/P3Q-2017.xls