



## Slovakia

### 1) What is behind low inflation in Slovakia?

Since mid-2013 Slovakia's inflation rate has been lower than the euro area (EA) average. The **services and food** components are the prime causes of the lower Slovak inflation, while impacts of energy and fuel on the difference, with one offsetting the other, have been only minor.

Chart 1 - SK-EA difference in HICP and its contributions (p.p.)

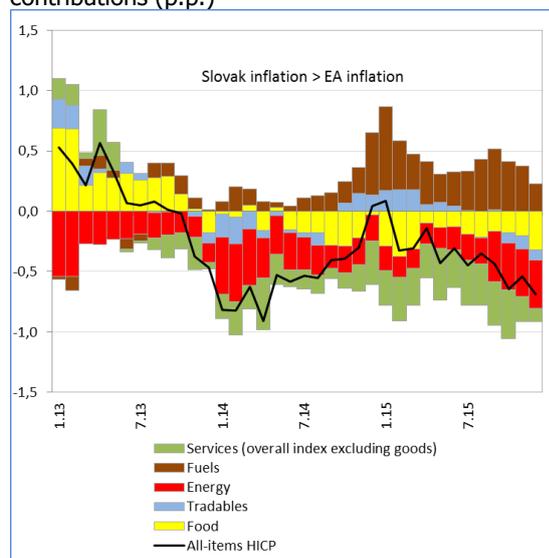
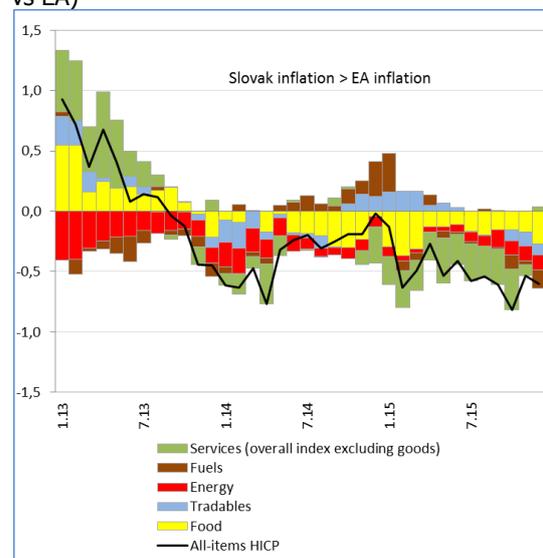


Chart 2 - Effect of different price developments (SK vs EA)



The low inflation is not primarily caused by the different weightings, i.e. the weighting of food and energy being higher than that of fuel, but rather by the **divergence between developments in services price and food prices**.

Chart 3 - Effect of different weights

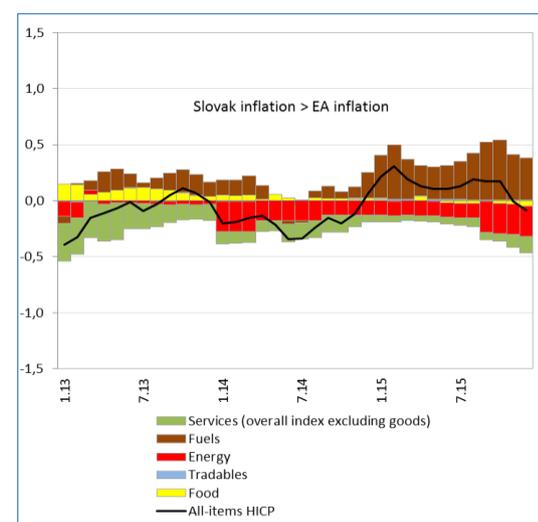


Chart 4 - SK HICP development compared to EA HICP

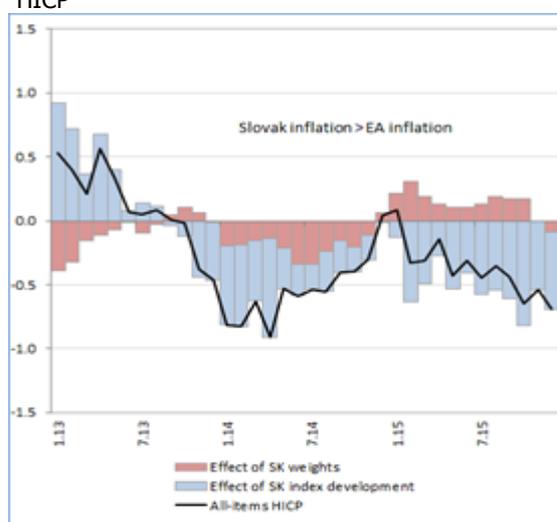


Chart 5 - ULC and HICP core (EU countries, 2013 to 2015 average)

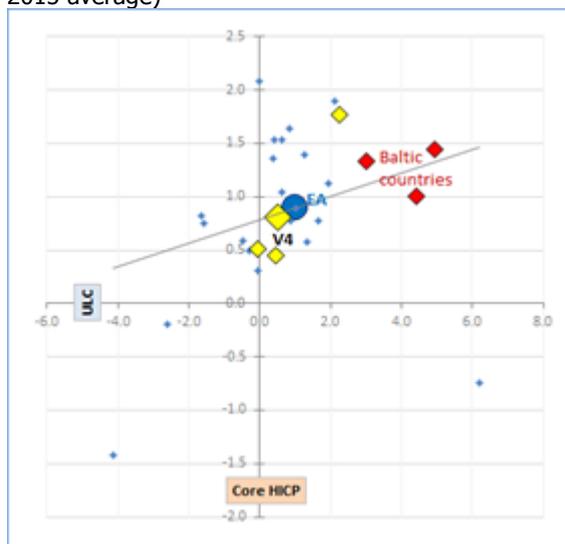
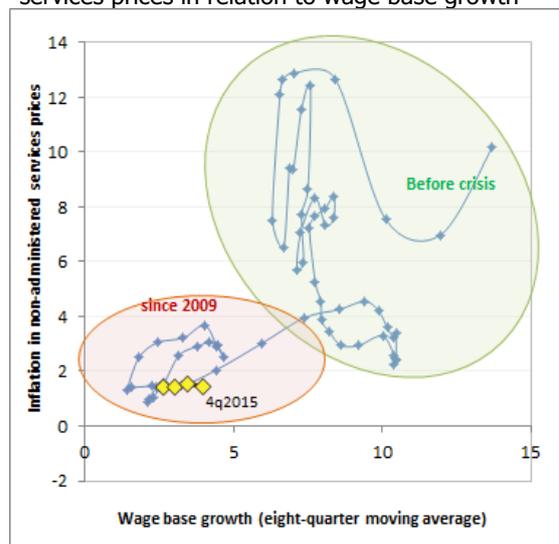


Chart 6 – Slovak Inflation in non-administered services prices in relation to wage base growth



**The CE4 countries, except for Hungary, have experienced very benign ULC development, while the Baltics have faced the opposite.** Hence, fundamental labour cost pressures in the CE4 (excluding Hungary) have been lower than the EA/EU average (Chart 5). Chart 6 shows only **limited wage growth in the recent period, and not even that was reflected in services prices last year.**

In addition, **labour costs** are usually the **mitigating factor** in changes in total costs. In lower-income countries including Slovakia, however, the absolute **level of labour costs is low** and therefore the current **deflationary impact of external price pressures** has been **more pronounced.**

Chart 7 – Share of wages in total costs (%) \*

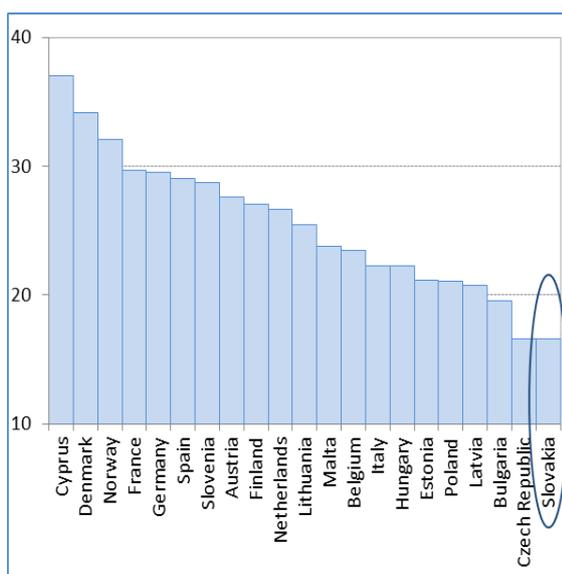
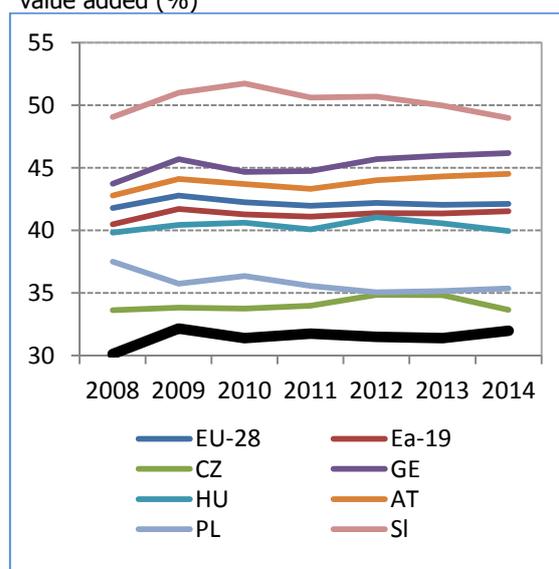


Chart 8 – Share of wages and salaries in gross value added (%)



\*wages and salaries / (wages and salaries + intermediate consumption)

Chart 9 - Labour costs vis-à-vis price convergence (2014)

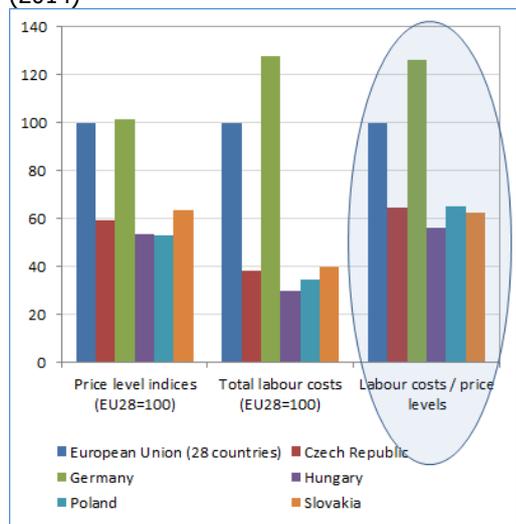
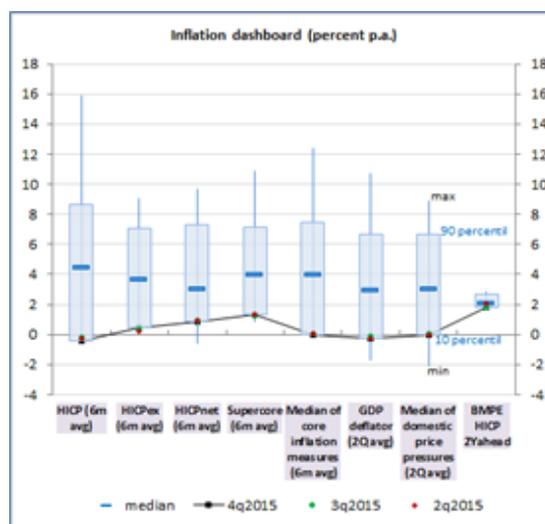


Chart 10 - Slovak inflation dashboard



**Overall, Slovakia's inflation dashboard shows historically low price pressures.** Looking more closely inside the consumer basket, the Slovak environment shows strong signs of **lowflation**, and while the deflationary part of the basket is elevated, it is below the historical highs of late 2009 (Chart 8).

Chart 11 - Distribution of price developments (core inflation, based on various rates of change)

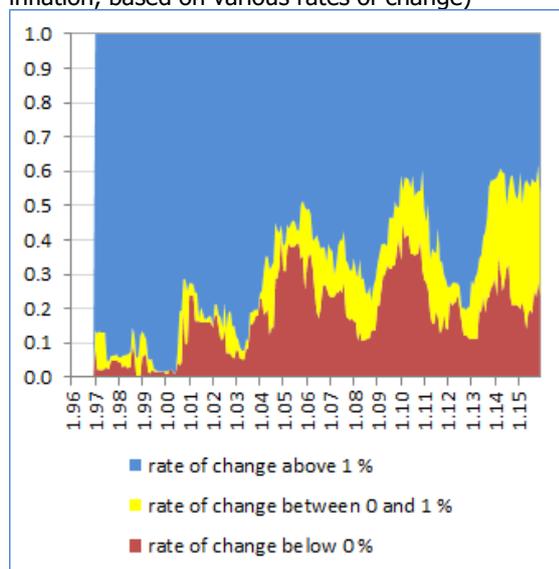
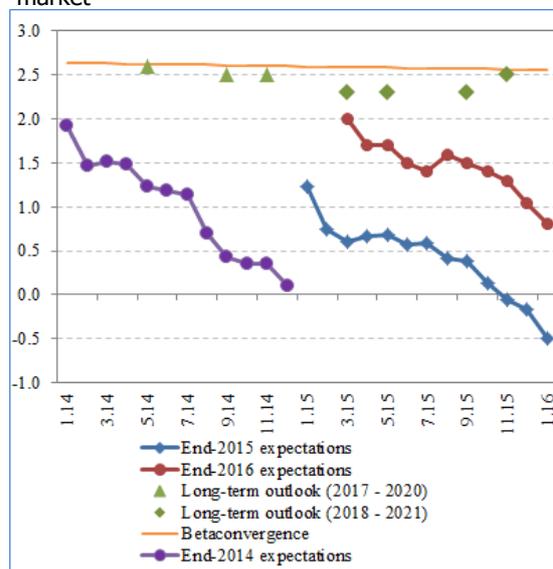


Chart 12 - Long term price development outlook by market



As inflation continued to surprise on the lower side, the Slovak **SPF longer-term expectations<sup>1</sup> have not so far diverged significantly from the estimated beta-convergence** price growth (Chart 9).

<sup>1</sup> The sample of surveyed analysts is very small in Slovakia.



## Slovakia

### 2) Impact of QE on the Slovak economy

In January 2015 the ECB's Governing Council announced that in order to ensure compliance with its price stability mandate, it would be expanding the asset purchase programme (APP) component of its non-standard monetary policy measures. The objective of the **expanded APP**, or what may be termed **euro area QE**, is to further ease monetary policy conditions and, through multiple transmission channels, to support economic activity in the euro area and hence also investment activity and household final consumption. Thus after cutting policy rates from July 2014, down to the then-perceived zero lower bound, the ECB had decided to join other central banks on the QE path.

Euro area QE involves combined **monthly** purchases in public and private securities amounting to **€60 billion**. Under the original terms of programme (**QE1**), these purchases were to be carried out until September 2016 and "in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its aim of achieving inflation rates below, but close to, 2% over the medium term". That represents total purchases of **€1.14 trillion**, equivalent to **11.3%** of the euro area's annualised GDP for 2014Q4.

The decision was recently taken to **extend the monthly purchases** to at least March 2017 and to **re-invest** the principal payments on maturing securities for as long as necessary. This recalibration (**QE2**) will add **€680 billion<sup>2</sup>** – **some 6.8% of the euro area GDP** – in liquidity to the system by 2019<sup>3</sup>. Therefore the **total purchases under QE1 and QE2** combined will represent **18.1% of GDP**.

Non-standard monetary policy measures should have an impact on the Slovak economy both **directly and indirectly**. The impact of QE1 is estimated in more detail below, using model simulations of cumulative changes in relevant variables during a reference period from 4 September 2014 to 10 March 2015. To take into account the impact of QE2, a very simplified approach is adopted.

#### QE1 technical assumptions

**The direct effects** of QE1 are represented by a depreciation of the bilateral USD/EUR exchange rate, depreciation of the Slovak nominal effective exchange rate (NEER SK) and changes in other financial channels, such as interest rates and the easing of credit conditions.

The USD/EUR exchange rate depreciated by approximately 17% during the reference period. Assuming that only part of this depreciation is related to non-standard measures, the QE1-driven depreciation is about 13%. At the same time, based on the historical correlation between the USD/EUR exchange rate and the price of oil per barrel, it is assumed that half of the US dollar's appreciation was "automatically" reflected in a fall in the oil price (see Table 1).

*Table 1 Assumptions for the QE1 impact on exchange rates*

<sup>2</sup> Of which the six-month extension accounts for €360 bn.

<sup>3</sup> Speech by Mario Draghi: <https://www.ecb.europa.eu/press/key/date/2015/html/sp151204.en.html>

Reference period level change (in %)	RX USD/EUR			NEER SK		
	2015	2016	2017	2015	2016	2017
Change in reference period	-15.7	-16.6	-16.6	-2.8	-3.0	-3.0
APP driven	-12.6	-13.2	-13.2	-2.2	-2.4	-2.4
USD/EUR (oil price adjusted)	-6.3	-6.6	-6.6	---	---	---

Note: It is assumed on the basis of historical correlations that 50% of the USD/EUR movement is automatically offset by the oil price movement.

Sources: ECB, NBS.

The NEER SK was relatively stable from October to December. The euro's subsequent sharp depreciation against the currencies of most of our trading partners outside the euro area resulted in the depreciation of Slovakia's effective exchange rate. The NEER SK weakened by 3% during the reference period, with the QE1-driven depreciation of the NEER SK assumed to be about **2.4%**.

The impact of other financial factors such as interest rates and the easing of credit conditions should also stimulate the economy, but in the case of Slovakia their impact is (at least in our macro model) less significant compared to changes in exchange rates.

*Table 2 Assumptions of the QE1 impact on external demand and interest rates*

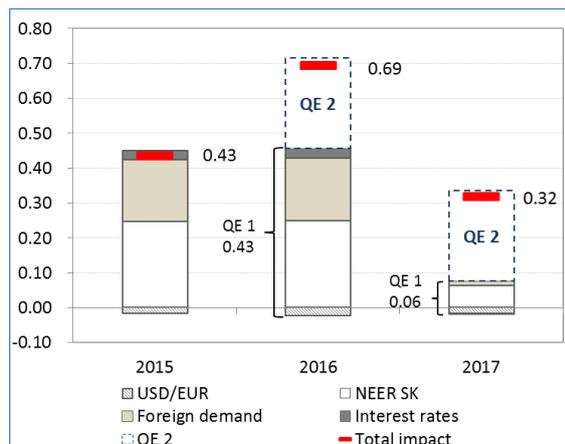
Reference period level change	2015	2016	2017
Export markets of Slovakia (in p.p.)	0.5	0.8	1.0
Short-term rate - APP driven (in bps)	-1.2	-2.0	-2.0
10-Year Bond Yield - APP driven (in bps)	-37.9	-65.0	-65.0

Based also on Altavilla, Carboni, Motto (2015) Source: ECB, NBS

The **indirect effects** of QE1 are represented by the improving development of Slovak export markets, assuming that the effects of quantitative easing should promote economic growth in euro area countries. In fact, President Draghi has suggested that QE1 could amount to almost **1% of extra growth** in the euro area during 2015-2017. Based on the available assumptions, the cumulative impact on external demand is estimated at 1 percentage point (see Table 2).

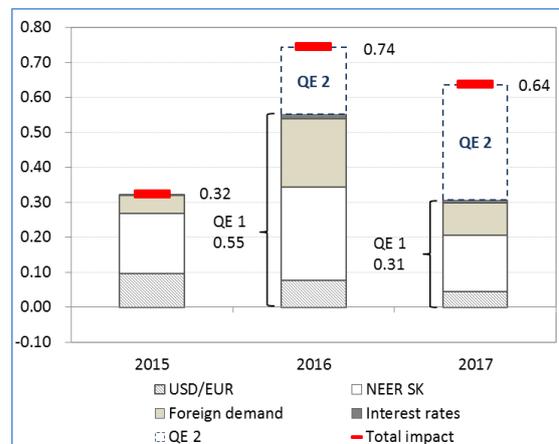
Within the **direct channels**, the most significant impact would be the depreciation of the NEER SK, especially since January and the ECB's decision to introduce QE1. The key factor in this regard was the weakening of the euro vis-à-vis non-dollar currencies. In our estimation, the benefits of the euro's depreciation against the US dollar are cancelled out by the higher energy costs for a strongly industry-oriented Slovakia.

Chart 1 Estimated impact of total QE on GDP growth (p.p.)



Source: NBS

Chart 2 Estimated impact of total QE on HICP inflation (p.p.)



Source: NBS

Charts 1 and 2 show the different channels through which QE1 had an impact on the Slovak economy. The most significant impact by far in our macro model was that of the exchange rate together with higher growth in the euro area.

The impact of QE2 is taken into account by using a very simplified assumption of the same impact per euro of balance sheet spent and then adding on QE1.

Hence, the total **QE impact on annual GDP growth is estimated** in this simplified exercise **to be approximately 0.4 p.p. in 2015, 0.7 p.p. in 2016 and 0.3 p.p. in 2017** (see Chart 1). **The contribution of total QE to HICP inflation could be 0.3 p.p. in 2015, 0.7 p.p. in 2016 and 0.6 p.p. in 2017** (see Chart 2).

Cumulatively, because of QE, the **Slovak output could be higher by 1.4% in total during 2015-2017**, with the price level could increase by 1.7%.

These results should be seen as indicative only, since they are entirely model-based.

Source:

1. Altavilla, Carboni, Motto, *'Asset purchase programmes and financial markets: lessons from the euro area'*, (2015) ECB Working Papers Series No. 1864/November 2015.
2. Speech by Mario Draghi: *Global and domestic inflation*. (2015), Economic Club of New York, 4 December 2015, available online at: <https://www.ecb.europa.eu/press/key/date/2015/html/sp151204.en.html>