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More jobs, better pay

Macroeconomic forecast 2017 – 2020

Branislav Žúdel, Roman Vasiľ

The Slovak economy is projected to confirm last year's performance at 3.3 per cent this year. Growth will be driven mainly by household consumption, owing to the favourable labour market developments. In fact, household consumption is expected to post the strongest performance since 2008. The economy will add over 47 thousand new jobs, creating upward pressure on wages, and supressing unemployment rate to record lows. In addition to domestic demand, exports will support growth at the further end of the forecast horizon, as automotive investments kick in. Pace of real economic expansion is projected to reach its peak in 2019.

Central banks face a dilemma

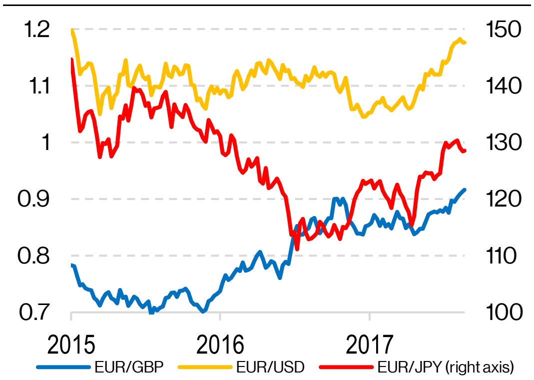
The central banks of the two largest economies are faced with an uneasy choice, as the intended tightening of monetary policy clashes with the subdued price developments. The US Federal Reserve has slowed down on plans to pursue interest rate hikes, expected at the close of this year. Currently, markets expect the next Fed interest rate increase in the first half of 2018. Despite the soft inflation readings, the Fed is to pursue monetary policy normalisation via unwinding of its quantitative easing programme, and a gradual reduction of its balance sheet already this year. **In the meantime, the recent volatility of the euro exchange rate constitutes a new source of uncertainty for the inflation projections of the European Central Bank (ECB).** At its last meeting, the ECB pledged to leave the conditions of its asset purchase programme unchanged at least until the end of 2017. Due to subdued inflation developments, markets do not expect the ECB to raise its key interest rates this or next year.

The sharp appreciation of the euro exchange rate against major currencies have caught markets off guard. The euro appreciation owes mostly to the improvements in the euro area fundamentals and favourable expectations about euro area economy. To the contrary, the British pound has depreciated against the euro and other currencies, on the back of this year's marked slow-down of the UK economy. In fact, the British pound has in August reached the weakest level against the euro since 2009 (Chart 1).

Expected record US production neutralizes OPEC's efforts

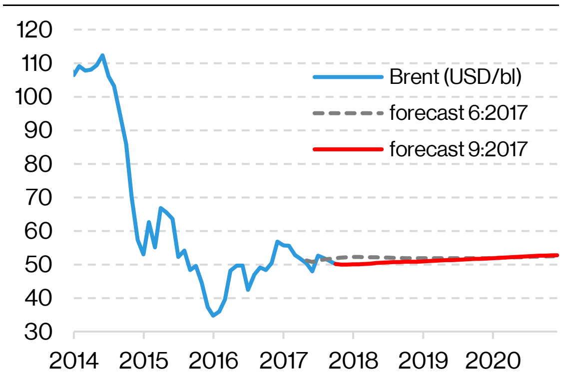
Oil price is back to 50 USD/b as the US oil production spurs to new highs. Record US production neutralizes the upward pressure of the rising global demand as well as of the 9-month extension of the OPEC production cut.

Chart 1: EUR appreciation



Source: Bloomberg

Chart 2: Brent crude oil price developments



Source: Bloomberg

Global economy expands

The global economy has maintained a steady pace of expansion. In the euro area, the ongoing recovery is palpable across both, sectors and countries. After having posted a weak first quarter, the US economy has regained its steam in the second quarter, underpinned by a broad-based structure. In the meantime, the Chinese economy is benefitting from a revitalised momentum of global trade, while Russia continues on it upward growth trajectory.

Euro area driven by both domestic and external demand

The euro area has upheld a fast pace of growth when it advanced by 0.6 per cent in the second quarter, driven by domestic demand and with a mild positive contribution from the external sector. The broad-based recovery is buttressed by firming fundamentals, including improving labour market conditions, favourable sentiment indicators, as well as intensified global activity.

Recovery is tangible across countries

The recovery is tangible not merely across sectors but also across euro area countries. Besides the usual powerhouses that the euro area have relied for growth in the recent quarters (Germany, Spain), the pace of growth has picked up also in France and Italy (Chart 3). In addition to the stable contribution of domestic demand, Germany and Spain have been more significantly aided by the external sector, thereby widening their growth base. A rebound in foreign demand for heavy transport equipment has supported the French economy in the second quarter.

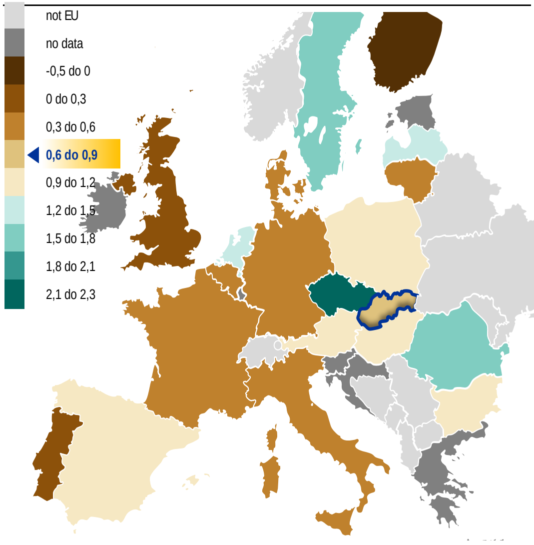
Impact of Brexit according to expectations

The broad-based recovery underway in the euro area continues to contrast with the economic slow-down in the UK. The external sector of the British economy has been a drag on growth since the beginning of the year, as expected post Brexit vote. Additionally, price developments, stagnating wages and low consumer confidence are adversely weighing on the domestic sector of the economy as well.

Soft indicators down from New Year's euphoria

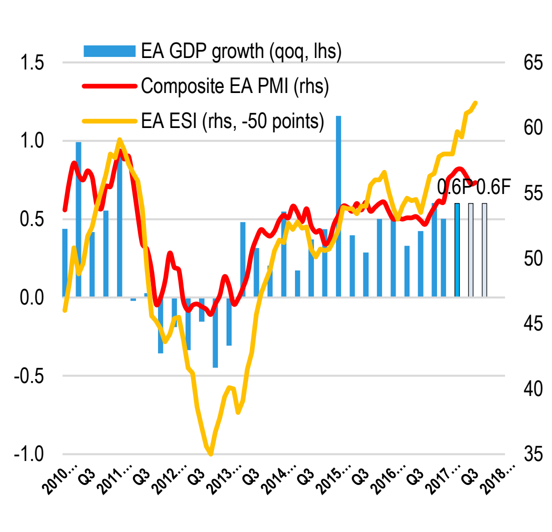
Most confidence indicators for the euro area and Germany – albeit down from their multiple-year highs – **remain at elevated levels**, signalling a sustained momentum of growth (Chart 4).

Chart 3: EU economic performance in the second quarter of 2017



Source: Eurostat, IFP

Chart 4: Leading indicators and short-term IFP forecast



Source: Eurostat, IFP

Exceptional performance of the V3 countries in the first half of the year

The Visegrad 3 economies have recorded a second consecutive quarter of strong expansion (Chart 3), with the Czech economy at the forefront posting 2.5 per cent on quarter. The favourable developments were underpinned mainly by domestic demand, but external demand added to growth in Hungary and the Czech Republic.

Euro area maintains current pace of growth

The September forecast assumes the current pace of growth in the euro area over the medium term to sustain. The euro area aggregate will benefit from the stable pace of expansion in Germany, a dynamic activity in Spain, and to a lesser extent from the recovery underway in France and Italy. The Visegrad 3 region is set to grow at around 4 per cent annually this year (in the case of the Czech Republic over the 4 per cent threshold), and 3 per cent next year.

Upwards revision due to euro area and V3 performance

The weighted GDP indicator for the external environment has been revised up for both, this and next year, owing to a better-than-expected performance of the V3 region, and a more favourable outlook for Germany and the euro area as a whole, based on the data available to-the-date. **The upward revision to the weighted indicator of foreign demand has resulted from a combination of three factors: (i) the upturn in global trade, (ii) the high import-intensity of public investments in the V3 region, as well as (iii) its buoyant household consumption.** Consequently, the foreign demand indicator has been revised up by 0.8 percentage points in 2017 and 0.2 percentage point next year. The cut-off date for selected external environment assumptions, including interest rates and commodity prices is August 21, 2017.

Table 1: External environment forecast 2017 – 2020

	GDP (% growth)					Difference vs. last					Import (% growth)					Difference vs. last				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Most important trade partners	2,0	2,9	2,3	1,9	1,8	0,0	0,7	0,1	0,0	0,0	4,4	5,8	5,0	4,5	4,5	0,1	0,8	0,2	0,0	0,0
Euro area*	1,7	2,1	1,9			0,0	0,3	0,1			3,8	4,7	4,3			0,1	0,3	0,1		
Germany	1,8	2,0	1,9			0,0	0,2	0,2			3,7	4,6	4,4			0,0	0,0	0,0		
Czech rep.	2,5	4,2	2,7			0,2	1,6	0,1			3,1	6,0	5,6			0,1	0,7	0,2		
Poland	2,7	3,9	3,1			0,1	0,6	0,0			8,9	8,7	6,3			0,0	2,2	0,6		
Hungary	1,9	3,6	3,1			0,1	0,6	0,0			5,7	7,4	6,0			0,0	1,6	0,5		

*Export-weighted euro area indicator

Source: European Commission, IFP

Significant private consumption growth

The Slovak economy is projected to rise by 3.3 per cent this year, driven mainly by household consumption. Thanks to the ongoing improvements in the labour market, consumption of households is set to grow at the fastest pace since the crisis. Moreover, household spending has outpaced disposable income dynamics for the first time in four years, against the backdrop of upbeat household expectations. At the same time, export activity is expected to grow at a subdued pace despite strong foreign demand fundamentals, as a result of several temporary factors, including ending life cycles of some car models produced domestically. Investment growth will be fuelled mostly by private investment, as public investment is restrained by the slow onset of EU funds utilisation.

Acceleration of growth owing to car exports

Next year the economy is forecasted to accelerate to 4.2 per cent, benefiting from a broad growth structure. The vigorous contribution of household consumption will be aided by export, the latter fuelled by new automotive capacities (Volkswagen (VW) and Jaguar Land Rover (JLR)). Like this year, investment is anticipated to be driven mainly by private investments. The completion of the large new VW capacity will be compensated by the onset of the D4/R7 ring road construction, and further buttressed by the ongoing JLR investment.

Post-crisis peak and return to potential

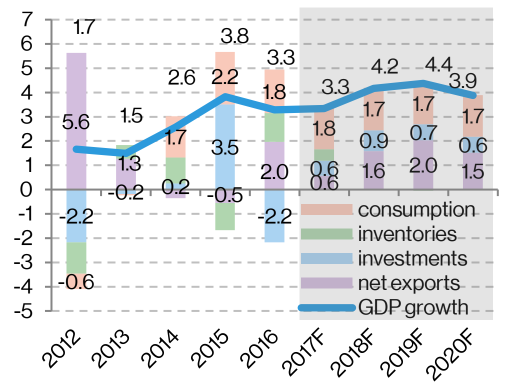
The economy is foreseen to gather speed further to 4.4 per cent in 2019, easing closer to its potential at 3.9 per cent in 2020. Economic growth in 2019 will be driven mostly by the contribution of new production in the automotive industry to exports. In the meantime, domestic demand will support growth at a steady pace, while investments will decelerate as JLR plant construction is completed. The economy will return closer to its potential at the end of the medium term.

MF SR FORECAST - MAIN ECONOMIC INDICATORS (September 2017)

indicator (growth in % unless otherwise noted)	actual 2016	forecast 2017	2018	2019	2020	diff. from Jun 2017 2017	2018	2019	2020
Gross domestic product									
GDP, real	3,3	3,3	4,2	4,4	3,9	0,0	0,0	0,0	0,0
GDP, nominal (bn €)	81,0	84,6	89,5	95,3	101,0	0,0	-0,1	0,0	-0,1
Private consumption, real	2,9	3,4	2,9	2,9	2,9	0,3	0,1	0,0	0,0
Private consumption, nominal	2,5	4,8	4,6	4,8	5,0	0,3	0,1	0,0	-0,1
Public consumption	1,6	0,4	1,3	1,6	1,6	-1,0	-0,7	-0,3	-0,2
Fixed investments	-9,3	3,0	4,2	3,2	3,2	-1,2	0,4	0,1	0,0
Export of goods and services	4,8	5,0	7,8	7,7	6,3	-1,0	0,1	0,0	0,0
Import of goods and services	2,9	4,8	6,8	6,3	5,4	-1,3	0,0	0,0	0,0
Labor market									
Employment (registered)	2,5	1,9	1,4	1,0	1,0	0,2	0,2	0,0	0,0
Wages, nominal	3,3	3,9	4,6	4,8	5,2	0,3	0,0	0,0	0,0
Wages, real	3,8	2,6	2,9	2,9	3,1	0,4	0,0	0,1	0,1
Unemployment rate	9,6	8,2	7,3	6,7	6,1	0,0	-0,2	-0,2	-0,1
Inflation									
CPI	-0,5	1,3	1,7	1,9	2,1	0,0	0,0	0,0	0,0

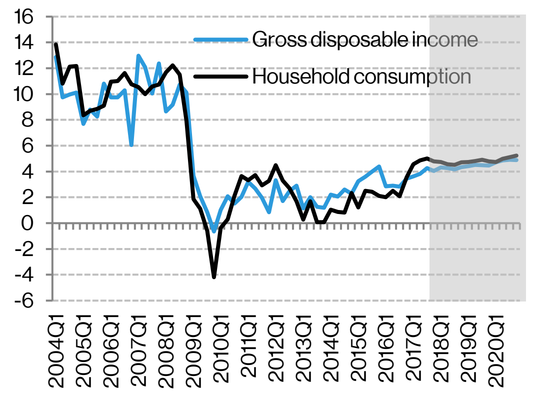
Source: SO SR, IFP

Chart 5: Contributions to GDP (p.p.)



Source: IFP

Chart 6: Gross disposable income vs. private consumption (current prices, %)



Source: IFP

Employment growth drives unemployment to new lows

The employment will increase by an estimated 2 per cent, corresponding to about 47 thousand additional jobs (according to the ESA methodology). In terms of structure, job creation will be dominated by industry and market services, jointly adding 40 thousand new jobs. Given the shortage of available workforce, we expect slower employment gains close to 1 per cent in the upcoming years, and at the expense of productivity growth. New positions are to be filled not only by domestic workers, but also foreign workers and Slovak nationals returning home. **The unemployment rate (according to the LFS methodology) is projected to fall to a historical low at 8.2 per cent this year,** and drop to 6 per cent by 2020.

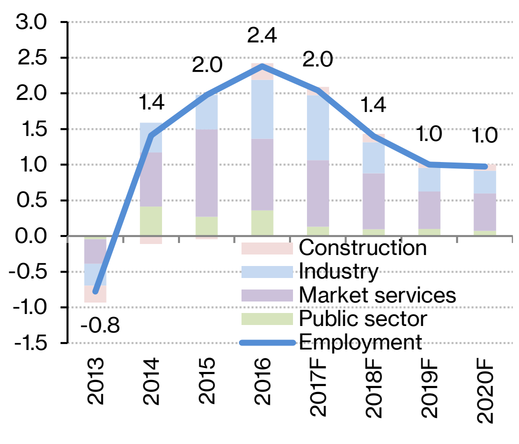
Average wage growth will approach 4 %

Turning to nominal developments, **the average nominal wage is projected to grow by 3.9 per cent this year, and accelerate further in the years to follow.** Wage growth would advance most rapidly in industry, where the shortage of workers is most intense. **Real wage growth is forecasted to reach 2.6 per cent this year, and to be tamed by the pick-up in inflation.** Real wage growth is anticipated to gradually gain traction towards 3 per cent in the years to come.

Return of price growth

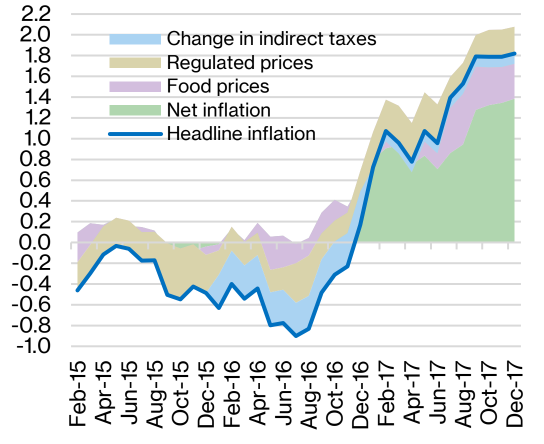
Owing to the recent pick-up in consumer price growth, inflation is expected to reach 1.3 per cent this year. The acceleration of prices of services in the first half of the year indicates a renewed link between prices and wages in the economy. Food prices will rise more substantially, thereby tardily reflecting the developments in the global food markets. Importantly, the strong exchange rate of the euro as well as falling oil prices tame price growth of tradable goods. Domestic Regulatory Office energy price policy introduced in January this year additionally puts a downward pressure on inflation.

Chart 7: Contribution to employment growth (p. p.)



Source: STATISTICAL OFFICE, IFP

Chart 8: **Inflation and contributions of individual components (p.p.)**



Source: STATISTICAL OFFICE, IFP

Inflation acceleration above 2 % due to economic activity

We expect inflation to be driven by growing demand-pull pressures in the foreseeable future. Across sectors, prices of market services will expand at the fastest pace. Expected rise in the energy commodity prices in the world markets and also based on European commodity futures, will prop up regulated energy prices next year. Owing to the brisk pace of expansion of the Slovak economy, inflation will exceed the 2 per cent towards the end of the medium term forecast horizon.

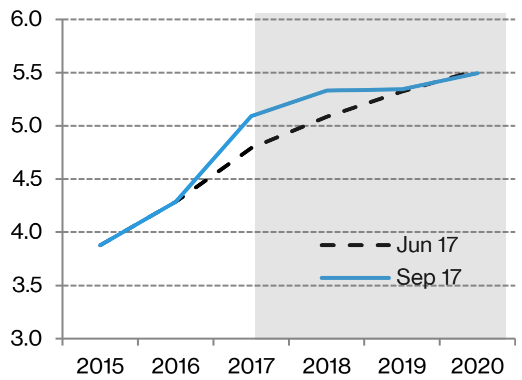
Risks to the forecast are balanced

The risks to the current forecast are broadly balanced. The threat of global trade protectionism and the fragility of the Italian banking sector continue posing downside risks to our forecast, as well as the more recent threat of geopolitical conflict and the ongoing volatility of the euro exchange rate[1]. On the upside, a smoother-then-expected Brexit proceedings and a positive spill over from the US fiscal stimulus could favourably weigh on our baseline forecast. In terms of domestic risks, a more pronounced wage acceleration as the labour market overheats amid shortage of workers poses an upside risk. However, the qualified workforce shortage may limit firm profitability, which, according to this year's information from the Statistical Office, has already slowed down. In the recent quarters, the performance of the Slovak economy has been divorced from the performance of its largest trading partners. A renewal of such link poses an additional domestic upside risk to our forecast.

Labour market helps tax base growth

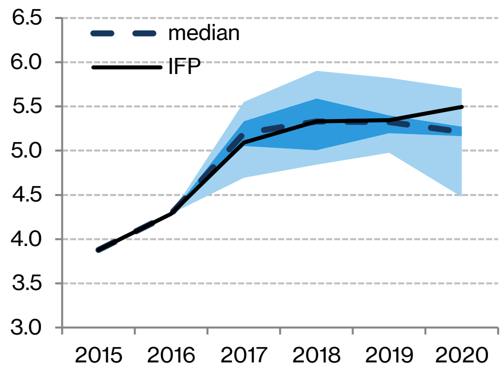
The overall impact of the macroeconomic forecast update on tax bases is favourable, owing to the stronger labour market in 2017 and 2018. The favourable impact of a higher household spending is counteracted by slower public investment growth. Withholding tax base and bank levy, as well as CIT have been affected only marginally. The overall impact of the present macroeconomic forecast on the tax and social contributions will be subjected to further scrutiny at the Tax Forecast Committee meeting held on September 21, 2017.

Chart 9: **Macroeconomic tax bases growth compared to previous forecast**



Source: IFP

Chart 10: **Comparison of forecasts of macroeconomic bases[2] with the members of the Macroeconomic Forecasts Committee**



Source: IFP

Forecast evaluated as realistic by all members of the Committee

The medium-term forecast prepared by the MF SR was discussed at the Macroeconomic Forecasts Committee on September 13, 2017. **The medium-term forecast was evaluated as realistic by all members of the Committee** (NBS, ČSOB, Infostat, SAV, SLSP, Tatrabanka, Unicredit, VÚB). The detailed macroeconomic forecast, as well as the minutes from the meeting and supporting materials are available at the IFP website.

[1] Especially euro volatility divorced from its fundamentals which would adversely weigh on euro area export performance.

[2] Macroeconomic basis for the budget revenues (weight of indicators depends on the proportional share of the particular tax on the total tax revenues); Wage base (employment x nominal wage) – 51,1 per cent; Nominal private consumption – 25,7 per cent; Real private consumption – 6.6 per cent; Nominal GDP growth – 9.9 per cent; Real GDP growth – 6.7 per cent.

BOX: Second milestone in Value for Money in debt management

Slovakia spends 1.3 bn. EUR annually on debt service[3]. Interest costs, in contrast with other items of general government budget, are set for several years in advance. Debt management strategy[4] based on stochastic model instruments, inspired by other countries, forms a part of the Value for Money project. The second step, after creating and publishing the Slovak yield curve[5], is a reliable forecast of interest rates.

When creating a debt management strategy based on a so called stochastic simulator[6], **it is necessary to use a reliable forecast of interest rate development.** The cornerstone is a model approximation of the interaction between monetary and fiscal policy in relation to expected fluctuation in government bond yields.

Slovak government bond yields and interest costs are affected mainly by two channels. The first channel is the monetary policy of the European Central Bank, which is common for all Eurozone member states. **The second is the credit and liquidity premium,** specific for every member state, reflecting economic fundamentals and fiscal situation of the country as well as its liquidity.

Understanding the effect and interactions of both channels, improves not only the public debt management, but the decisions of firms and households as well. Firms can plan their operative and investment activities more efficiently, and at the same time hey can reduce the risk related to the financing costs following changes in the interest rates. Households, on the other hand, gain more information for decisions concerning saving and consumption.

In the IFP technical paper[7] we analyze the predictive power of models of the Slovak government bond yields and its economic origin. We evaluate the performance of several models applied to a sample of government bond yields from January 2009 to December 2016. The accuracy of forecasts of these models is evaluated in comparison to a naïve random walk forecast.

Key for the purpose of more efficient debt management is the predictive power of the model on the medium term horizon (i.e. 1 to 3 years). These facts determine our modelling choices. Instead of running horse races with a large number of forecasting models, we pre-select a small number of forecasting models that help us locate the source of predictability. We first study the predictability of German government bond yields which serve as a benchmark for pricing Slovak government bonds. Given its widespread use, we start with the dynamic Nelson-Siegel model to forecast German government bond yields. Our second model for forecasting German yields decomposes the term structure into economically interpretable quantities: long-run inflation expectations, ex-ante real rate variation and a term premium factor. This decomposition allows us to forecast each variable separately and also understand the source of predictability. In the next step, we evaluate the predictability of the spreads of Slovak bonds relative to their German counterparts.

Two aspects of results presented in this paper are relevant for government debt management. First, the model combination of the forecast of German government bond yields and the forecast of Slovak credit premiums **outperforms a naive random walk benchmark. Second, the negative correlation of forecast errors of the two models could be reflected in the simulation model for optimizing the**

[3] Expenditures for debt service budgeted for 2017.
[4] Principles of Value for Money will be applied in preparation of Debt Management Strategy for 2018-2022 submitted for goverment negotiation in Autumn 2018.
[5] The yield curve of Slovak government bonds in line with best foreign practices is published by the National Bank of Slovakia on the following website: http://www.nbs.sk/sk/statisticke-udaje/financne-trhy/urokove-sadzby/odhad-vynosovej-krivky
[6] See e.g. Bolder J., Deeley S. (2011): „The Canadian Debt-Strategy Model: An Oveview of the Principal Elements“; Bergstrom P., Holmund A. (2000): „A Simulation Model Framework for Government Debt Analysis“ alebo Pick A., Anthony M. (2006) „A Simulation Model for Analysis of the UK´s Sovereign Debt Strategy“
[7] The entire analysis is available in English on the following link:
http://www.finance.gov.sk/en/Default.aspx?CatID=744

interest rate. The negative correlation is intuitive as rising sovereign credit spreads tend to be offset by monetary policy easing.

Slovak yield curve