Development Scenarios and Convergence of Slovak Economy towards the European Uion Average

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Introduction

The ongoing integration process accompanied by several crucial changes in the performance of concerned economic subjects deserves the attention to be paid to analyse and project the future development. This paper is aimed at describing possible trends of Slovak economy's development after joining the European Union. In the first part, we present a brief comparison of four alternative scenarios of future Slovak economic performance in the crucial areas of real economy – the labour market, prices, international trade, domestic demand and gross domestic product. The prognosis covers the period of next eight years, ending with 2010. In the second part, we describe the process of Slovak economy converging towards the EU ave-rage, both in the sense of real and nominal convergence.

1. Future Economic Development – Alternative Scenarios

Resulting from the need to assess the economic consequences of joining the EU as accurately as possible, we thought of four alternative scenarios of future Slovak economic development. Basic characteristics of these scenarios are presented in the Table 1. Based on such presumptions, four alternative sets of exogenous parameters were figured which entered the econometric model of Slovak economy based on quarterly data.

Non-entering reference scenario S0 is the one that describes a theoretical prosecution of the current situation. Here we presume a postponed EU enlargement, which means that no applicant country would join the EU within the prognosis horizon. The mechanisms of the admission process would nevertheless not cease to function either in Slovakia or in the other applicant countries. The results of this scenario serve as a benchmark against which the impacts of joining the EU can be quantified.

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Table 1

Basic Characteristics of the Alternative Scenarios

<u> </u>	Non-entering reference scenario S0	Entering pessimistic scenario S1	Entering optimistic scenario S2	Non-entering catastrophic scenario S3
Joining the EU	Postponed	Realised in 2004	Realised in 2004	Not realised
Foreign investments	In heretofore amount	Raised because of joining the EU	Raised ¹ because of joining the EU	Seriously cut down
World economy ²	6.1 %	5.6 %	6.1 %	6.1 %
Weight of the election cycle	Standard	Significant	Moderate	Significant
Public finance deficit / GDP ³	4	3	2.5	5
Real interest rate4	1.0	1.7	1.9	1.0
Exchange rate SKK/EUR ⁵	36.1	36.0	35.5	?
Regional development	Recent trend	Less successful	Successful	Recent trend

¹ Foreign investment inflow is presumed to be higher in the optimistic scenario compared to the pessimistic one.

The so-named *entering scenarios (pessimistic* S1 *and optimistic* S2) presume the process of EU enlargement resulting in the formation of the new European Union consisting of 25 member countries. Scenarios S1 and S2 differ in the assumptions concerning the success of the EU entering, international demand development and applied domestic institutional policies.

Non-entering catastrophic scenario S3 introduces a hypothetical possibility of SR terminating the admission process. As follows, SR would not join the EU and it would at the same time lose all the benefits it enjoys now which stem from the process of integration (e. g. resources from the pre-accession funds). As for the other applicant countries, they are thought to enter the EU successfully. Scenarios S3 would in fact represent a catastrophy for the Slovak economy. Yet, at a theoretical level, it can serve as another benchmark to quantify the effects of joining the EU against.

Comparing the results of the above-described scenarios, it is possible to assess the impacts EU enlargement could have on SR. The detailed results of the scenarios are presented in the Appendix (Tables I - IV) and discussed in the following part.

1.1. Comparing the Alternative Scenarios

The major difference between the entering and non-entering scenarios is due to several crucial positive consequences joining the EU would bring – inflow of the foreign investment, abolishment of the export (mainly non-tariff) barriers. Future

Average yearly growth rate of the world imports (2004 – 2010).

³ Value corresponding to the year 2010.

⁴ Average real interest rate on the deposit accounts (2004 – 2010).

⁵ Value corresponding to the year 2010 (euro introduction is presumed in S1 and S2).

economic development would be also influenced by promoting the conditions of domestic business environment (lowering of tax and other payments). The labour market situation would be of importance, too.

As the results of the non-entering reference scenario suggest, the situation on the labour market would show just a slight improvement. The labour demand would still be expected to decrease because of the need to raise the labour productivity in the major enterprises. The newly-built companies, however, would be able to counteract this diminution. It is therefore projected for the period of years 2004 – 2006 that the labour demand would grow at the average yearly growth rate of 1.4 %. By the end of the prognosis (2010), we expect a greater dynamics in the labour demand – due to the positive factors on the labour market. We project the employment in the economy of SR grow at the rate of 2.2 % in 2010. Because of the specific trends in the area of labour supply (raising the retirement age, army professionalization, decreasing number of women staying home with children) we expect neither speedy nor easy or straightforward solution to the unemployment problem.

According to the entering optimistic scenario, it is suggested that the upswing of the world economy would have a positive impact on the labour demand in Slovakia. Because of that, the number of employed people would grow faster compared to the non-entering reference scenario. The average yearly growth rate would reach 1.7 % in the years 2004 - 2006. In the following three years (2007 - 2009) the employment growth rate would surmount 2 %, resulting in the 2.9 % labour demand growth rate in 2010. As follows, the average yearly labour demand growth rate would reach 2.1 % during the years following joining the EU (2004 - 2010). This would mean an employment of 2.35 mil. persons in 2010, which would represent 81 thousand more compared to the reference scenario.

According to the entering pessimistic scenario, the suggested negative trends in the international demand development would influence the domestic labour market situation mostly in the first years of the prognosis (2004 – 2006). In these years the labour demand would grow only at the rate of 1.5 %. However, in the years of 2007 – 2009, the positive integration effects would manifest themselves in the average yearly labour demand growth rate of 2 %. The main force driving the raising labour demand would consist of the comparative advantage of low labour costs, diminishing non-tariff export barriers and lowering transaction costs. In 2010, the number of employed persons would exceed the reference scenario value by 34 thousand.

In the non-entering catastrophic scenario, neither significant inflow of foreign investment nor export-driven raising employment could be expected due to serious economic isolation of SR. The labour demand would not receive any crucial growth stimulation. Therefore, the average yearly labour demand growth rate would amount just to 1.5% in the years 2004 - 2010.

Figure 1
Employment Development

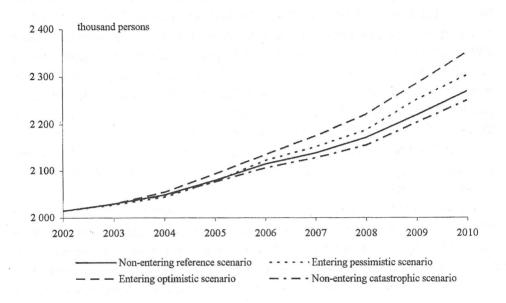
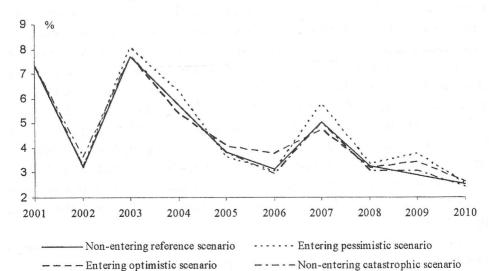


Figure 2
Consumer Prices Development



As far as inflation is concerned, we believe in a successful anti-inflationary policy of the Central Bank. However, the indirect-tax reform, adjustment of price control policies and persisting influence of political cycle would create a pressure resulting in the increasing price level. It is suggested that for all the scenarios within the prognosis horizon the average inflation rate would be approximately the same. The deviations from the reference scenario would not exceed 0.5 percentage point. The little distinctions would be accounted for by different administrative interventions influencing the inflation. It is still believed that the election cycle would matter (mostly in the case of S3), even though its weight would continually fall. The average inflation rate for the years 2004 – 2010 would reach the highest values in the case of entering pessimistic scenario – it would amount to 4.1 %. The lowest value would be attained in the case of SR not joining the EU, due to no need to reconcile different price levels and tax policies.

Labour market development aiming at raising labour productivity and prices mechanisms functioning to keep the inflation down would lead to stabilization of the nominal wage growth rate at such a level which would ensure the real wage growth rate does not exceed the labour productivity growth rate. According to the non-entering reference scenario, the nominal wage would reach the value of 21, 792 SKK in 2010.

Under the conditions of entering optimistic scenario, growing labour supply and stable inflation rate would bring about positive effects on the wage development. The dilemma between the wage convergence and striving to keep the wage labour costs down would prove crucial. We consider that the employment growth would be preffered to the wage growth. Therefore, in the entering optimistic scenario, the wages would increase additionally just by 0.7 percentage point in average, compared to the reference scenario. As follows, the nominal wage in 2010 would reach a value 966 SKK greater than the reference prognosis. On the other hand, according to the entering pessimistic scenario, the nominal wage in 2010 would exceed the reference value by 917 SKK. The most unfavourable wage development would be reported in the non-entering catastrophic scenario, in which the nominal wage would grow at the average yearly rate of 5.5 % (the reference value amounts to 5.7 %).

Table 2

The Growth Rates of Nominal Wage, Consumer Prices and Employment (in %)

Period	Y and	Nomina	al Wage		Inflation				Employment			
a a	S0	S1	S2	S3	S 0	S1	S2	S3	S0	S1	S2	S3
2001 – 2003	8.7	8.7	8.7	8.7	6.1	6.2	6.1	6.1	0.9	0.9	0.9	0.9
2004 – 2006	6.7	6.9	7.3	6.4	4.2	4.3	4.4	4.2	1.4	1.5	1.7	1.2
2007 – 2009	5.3	6.4	6.0	5.2	3.7	4.3	3.8	3.7	1.6	2.0	2.3	1.5
2010	4.3	4.0	4.9	4.0	2.5	2.5	2.6	2.4	2.2	2.3	2.9	2.1
2004 - 2010	5.7	6.3	6.4	5.5	3.8	4.1	3.9	3.7	1.6	1.8	2.1	1.5

Due to the fact that Slovak economy is open to a great degree, the export and import development matters substantially in the final dynamics of GDP. The prognosis of the export of goods and services relies mostly on the expectations about the world trade development. The dynamics of the international demand and the prices of the domestic exporters determine the export performance. The exporters' prices are derived from the prices of primary inputs, the prices of production and the SKK exchange rate.

The international trade of SR would be under great influence of the consequences of joining the EU. Raising credibility of Slovak products abroad and abolishment of the export barriers in the form of transaction costs would promote export capacities. Relatively low labour costs would encourage the production benefiting from the comparative advantage. As follows, according to the entering pessimistic scenario, the export in 2004 – 2010 would grow 1 percentage point faster compared to the reference scenario. Moreover, in the entering optimistic scenario, the export would increase additionally by 1.8 percentage point. In the case of non-entering catastrophic scenario, the average export growth rate would be less by 0.5 percentage point compared to the reference scenario.

The import side of the SR international trade is influenced by the domestic demand dynamics and the export. It is obvious that to export even half-products, Slovak economy is dependent – in most cases – on importing the raw materials beforehand. The import prices indirectly influence the export prices, due to the import-demanding character of Slovak export. The koruna appreciation would not act against the increase in imports.

The expected growth of the domestic demand coupled with the increasing export would encourage the growth of import. As follows, the average yearly growth rate in 2004 – 2010 would reach 6.1 % in the entering optimistic scenario. Comparing with the reference scenario, it is a value 1.6 percentage point higher. According to the entering pessimistic scenario (which counts with a slow-down of the international demand), the average yearly import growth rate would amount to 5.5 %. In the case of non-entering catastrophic scenario, the deviation from the reference prognosis would be minimal.

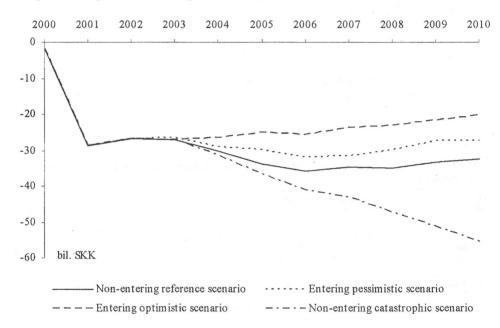
Table 3
The Growth Rates of Export and Import of Goods and Services (in %)

Period		Exp	ort ¹		Import ¹					
	S0	S1	S2	S3	S0	S1	S2	S3		
2001 - 2003	5.5	5.5	5.5	5.5	7.0	7.0	7.0	7.0		
2004 - 2006	4.3	5.1	5.7	3.8	4.6	5.1	5.4	4.3		
2007 - 2009	4.7	6.0	6.7	4.2	4.4	5.6	6.3	4.4		
2010	5.2	6.6	7.5	4.5	4.8	6.4	7.1	4.8		
2004 - 2010	4.6	5.7	6.4	4.1	4.5	5.5	6.1	4.4		

¹ In constant 1995 prices.

The export and import dynamics would manifest itself in the balance of the Slovak republik international trade. It is projected that the deficit due to export exceeding import would gradually decrease in both entering scenarios. According to the optimistic scenario, the net export in constant prices would be 12 bil. SKK higher in 2010 than the corresponding reference prognosis value. In the case of non-entering catastrophic scenario, the lack of foreign demand for Slovak export would augment the deficit in constant prices by 23 bil. SKK compared to the reference value.

Figure 3
Net export Development (Constant prices of 1995)



Positive labour market situation, inflow of the foreign investment and transformation of public sector of the economy would lead to an increase in domestic demand. The domestic demand would grow in all its components. The major difference between the alternative scenarios lies in the dynamics of the gross fixed capital formation. Its average yearly growth rate (2004 – 2010) would be 4.9 % according to the entering optimistic scenario and 6.2 % according to the entering pessimistic scenario.

The investment growth rate is expected to accelerate in both entering scenarios, mainly because of the inflow of the foreign capital from the structural funds. In the case of non-entering catastrophic scenario, tha average yearly gross fixed capital formation growth rate would amount only to 4.2 %.

Figure 4
The Gross Fixed Capital Formation Growth Rate

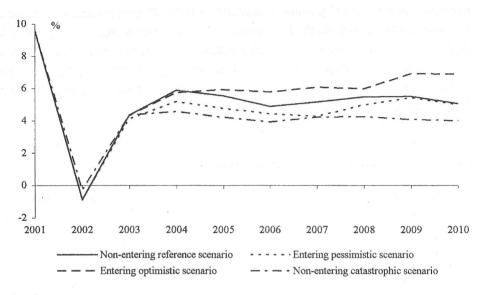


Table 4

The Growth Rate of Private Consumption, Public Consumption and Gross Fixed Capital Formation (in %)

Period	Consumption of Households ¹					Public Consumption ¹				Gross Fixed Capital Formation ¹			
	S0	Sl	S2	S3	S0	S1	S2	S3	S0	S1	S2 -	S3	
2001 – 2003	3.9	3.9	3.9	3.9	3.4	3.4	3.4	3.4	4.4	4.3	4.4	4.4	
2004 - 2006	4.5	4.6	4.7	4.4	2.4	3.2	2.5	2.9	5.4	4.8	5.8	4.2	
2007 - 2009	3.4	3.5	3.8	3.3	2.1	2.0	2.4	2.2	5.4	4.9	6.3	4.2	
2010	4.3	4.2	4.7	4.1	2.3	3.1	2.5	3.2	5.1	5.0	6.9	4.0	
2004 - 2010	4.0	4.1	4.3	3.9	2.3	2.7	2.5	2.7	5.4	4.9	6.2	4.2	

¹ In constant 1995 prices.

Gross domestic product would face the major influence of the domestic demand development and the net export dynamics. According to the non-entering reference scenario, GDP would grow at the yearly rates of $3.5-4.8\,\%$. Under the circumstances of the entering optimistic scenario, the GDP growth rates would exceed the reference prognosis by 0.5-0.9 percentage point. In the case of non-entering catastrophic scenario, GDP growth rates would not amount to $4\,\%$. They would reach values 0.4-1.0 percentage point lower than the reference prognosis.

According to the entering pessimistic scenario, the net impact of the individual factors would show neutral. The average GDP growth rate deviation from the reference projection would be close to zero. We expect the negative factors

influencing the international trade to transform themselves into decreasing domestic demand, which would not induce any import growth.

Figure 5

GDP Growth Rate Dynamics

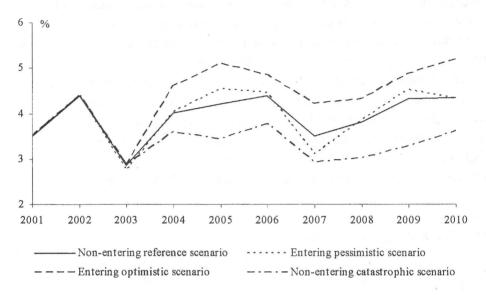


Table 5

Net Export as a % of GDP, Public Finance Deficit as a % of GDP, GDP Growth Rate (in%)

Period	od International Trade Balance				Public Finance Deficit				GDP^2			
	S0	S1	S2	S3	SO.	S1	S2	S3	S0	S1	S2	S3
2001 - 2003	-7.3	-7.3	-7.3	-7.3	4.7	4.7	4.7	4.7	3.5	3.5	3.5	3.5
2004 - 2006	-4.6	-3.8	-3.7	-5.0	3.5	4.0	3.5	4.7	4.2	4.3	4.9	3.6
2007 - 2009	-4.6	-3.4	-3.3	-6.2	2.7	3.1	2.6	4.2	3.9	3.8	4.5	3.1
2010	-3.0	-1.6	-1.5	-5.4	2.4	2.9	2.3	4.1	4.3	4.3	5.2	3.6
2004 - 2010	-4.4	-3.3	-3.2	-5.6	3.0	3.5	2.9	4.4	4.1	4.1	4.7	3.4

¹ In current prices.

To conclude, it can be derived from the results of the above-described alternative scenarios that joining the EU would have positive impacts on the economy of SR. In the case of successful EU admission (entering optimistic scenario), a substantial recovery of domestic economy would be expected. Less successful EU admission being the case, the overall economy development would be characterised by tendencies experienced so far. However, in the case of Slovakia withdrawing from the integration process, the serious international economic isolation would manifest itself in a form of negative impacts thoroughly.

² In constant 1995 prices.

2. Convergence

It is necessary that the ongoing process of integration of the Slovak Republic to the European Union is modelled and evaluated also from the point of view of overcoming the huge differences in economic performance of the two economic subjects. Thus the question of convergence is raised. Convergence can be considered either as a process of closing the gap between two economies' price levels (nominal convergence) or as a process of diminishing the difference in the countries' economic potential to produce (real convergence).

The variant calculations of convergence indicators for the three scenarios of future Slovak economy development (non-entering reference S0, entering optimistic S2, entering pessimistic S1) presume an exchange rate dynamics characterised by both nominal and real appreciation, as can be seen in Table 6. It is proposed that in the entering optimistic scenario the additional real SKK appreciation due to joining the EU would exceed the reference values by 1 percentage point.

Table 6
SKK/EUR Exchange Rate Dynamics

Year	Non-entering Reference Scenario S0	Entering Optimistic Scenario S2	Entering Pessimistic Scenario S1
2002	42.45	42.45	42.45
2003	41.70	41.35	41.65
2004	40.65	40.28	40.60
2005	39.65	39.20	39.60
2006	38.75	38.33	38.70
2007	37.85	37.35	37.80
2008	36.95	36.35	36.90
2009	36.10	35.50	36.00
2010	36.10	35.50	36.00

2.1. Real Convergence

On purpose of international comparisons, the macroeconomic position of different countries is characterised by the indicator of economic performance – per capita GDP in purchasing power parity (PPP). Purchasing power parity is identified in the course of broad statistical processing of data covering the prices of

¹ The term *nominal convergence* is broadly understood to refer to the parameters specified in the Maastricht criteria. Lowering the budget and public finance deficits, keeping the inflation and interest rate within a given range and stabilising the exchange rate – all these measures influence the process of comparable price level (CPL) converging to the EU average. Throughout this article, the CPL development is referred to by *nominal convergence*.

comparable goods and services. The PPP is measured this way every three years (the lattest published data are for the year 1999) by Eurostat in cooperation with OECD. Data for the missing years are approximated, calculated.²

According to the figures published by WIIW Institute (Vienna Institute for Comparative Economic Studies) [4] in February 2003, the Slovak Republic reached the per capita GDP in PPP value of 12, 382 EUR in 2002. The EU-15 average amounted to 23, 582 EUR. Economic performance of SR measured in terms of per capita GDP in PPP thus equaled 52.5 % of the EU-15 average.

Relying on the projected macroeconomic indicators (see part 1) and the assumed exchange rate development (Table 6), the future Slovak economic performance as a percentage of the (current or enlarged) EU average can be quantified. The results of the calculations are presented in detail in Table 7. As follows, in the case of entering optimistic scenario Slovak per capita GDP in PPP would reach 62.9 % of the EU-15 average in 2010, which would stand for 70.5 % of the enlarged EU-25 average.

Table 7

Per capita GDP in PPP

Year		EU-15 = 100			EU-25 = 100	
	S0	S2	S1	S0	S2	S1
2002	52.5	52.5	52.5	60.2	60.2	60.2
2003	53.1	52.7	53.0	60.7	60.2	60.6
2004	54.3	54.1	54.3	61.8	61.6	61.9
2005	55.4	55.6	55.7	63.0	63.2	63.3
2006	56.7	57.2	57.1	64.3	64.8	64.7
2007	57.5	58.2	57.7	65.1	65.9	65.3
2008	58.5	59.4	58.8	66.0	67.0	66.3
2009	59.9	61.0	60.2	67.3	68.6	67.7
2010	61.2	62.9	61.6	68.7	70.5	69.1

The process of Slovak economy converging towards the EU average would definitely benefit from joining the EU. In the entering optimistic scenario, the economic performance measured by per capita GDP in PPP would grow 0.4 percentage point faster compared to the reference scenario.

According to the accomplished calculations, purchasing power parity of Slovak koruna in 2010 would reach 19.2 in the non-entering reference scenario, 19.7 in the entering optimistic scenario and 19.6 in the entering pessimistic scenario. The differences among the alternative scenarios' PPPs are not crucial. This fact

² Calculations of here-presented indicators of real and nominal convergence are based on the formulae qouted in the material [3].

accompanied by non-dramatic deviations in projected GDP³ leads only to slight differences in alternative projections of per capita GDP in PPP development.

If it were an aim to overcome the seemingly little per capita GDP in PPP dynamics differences between the alternative scenarios, one could calculate GDP per capita in EUR, using current SKK/EUR exchange rates.

Table 8
Per Capita GDP in Nominal Exchange Rate

Year		EU-15 = 100	
	Reference scenario S0	Optimistic scenario S2	Pessimistic scenario S1
2002 2003	19.9 21.3	19.9 21.5	19.9 21.4
2004	23.8	24.1	24.0
2005	25.2	25.9	25.6
2006	26.6	27.5	27.0
2007	28.3	29.4	28.8
2008	29.9	31.5	30.5
2009	31.3	33.2	32.2
2010	32.5	34.8	33.5

As Table 8 shows, the GDP calculated using the nominal exchange rates would – in the case of optimistic circumstances following joining the EU – grow at the rate of 1.4 percentage point higher than in the reference prognosis. The more substantial dynamics can be accounted for by a combination of two factors – currency appreciation and increase in the GDP growth rates due to joining the European union.

2.2. Nominal Convergence

Nominal convergence of Slovak economy towards the EU average represents a process of SR comparable price level⁴ approaching the price level of EU. According to the *wiiw* institute data and subsequent calculations, the comparable price level of Slovak GDP amounted to 37.9 % of the average EU-15 price level in 2002. It follows that ERDI (exchange-rate deviation index ERDI = 100 / CPL) reached value of 2.64 in 2002. (Compared to the year 1999 – when the ERDI

³ See the part *Comparing the alternative scenarios*.

⁴ Comparable price level CPL = 100 * PPP / ER, where

PPP - purchasing power parity,

ER – nominal exchange rate of domestic currency against the reference currency (SKK/EUR).

coefficient stretched out to 2.99 – such development represents an improvement by 12 %). Resulting from that, the real purchasing power of 1 EUR in 2002 was 16.1 SKK, and not 42.45 SKK as suggested by the nominal SKK/EUR exchange rate.

Table 9

Comparable Price Level

Year		EU-15 = 100			EU-25 = 100	9.7
	S0	S2	S1	S0	S2	S1
2002	37.9	37.9	37.9	48.6	48.6	48.6
2003	40.2	40.5	40.3	51.3	51.7	51.4
2004	43.8	44.1	44.2	55.6	55.9	56.1
2005	45.5	46.0	45.9	57.5	58.1	58.0
2006	46.9	47.7	47.3	58.9	59.9	59.5
2007	49.1	49.8	49.8	61.4	62.3	62.3
2008	51.1	52.2	51.9	63.7	64.9	64.6
2009	52.3	53.5	53.4	64.7	66.3	66.1
2010	53.1	54.5	54.3	65.5	67.2	66.9

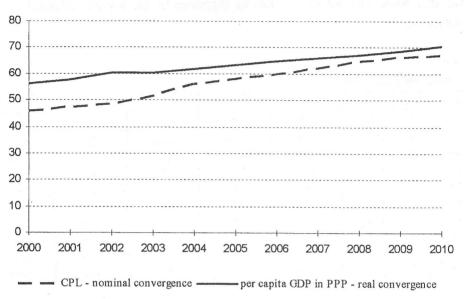
Table 9 summarizes the calculation results concerning the projections of the SR comparable price level indicator against the EU average. According to the entering optimistic scenario, the comparable price level of SR in 2010 would reach 54.5 % of the EU-15 average price level, corresponding to the 67.2 % of the average EU-25 price level. The obvious difference is due to enlarged EU-25 price level lowering as a consequence of admission of ten applicant countries disposing of relatively low price levels.

As far as the process of convergence in means of price levels is concerned, the same is true for that as for the real convergence – joining the EU would induce positive impacts on SR. The Slovak price level would in the case of entering optimistic scenario converge towards the European standard at the average rate 0.5 percentage point above the reference prognosis.

The process of nominal convergence of Slovak economy towards the EU average is more rapid than the real convergence one. The explanation lies in the fact of extremely low comparable price level of SR.⁵ Therefore the potential to converge in the nominal sense is immense. On the contrary, faster process of real convergence would demand GDP growth rates exceeding the economic potential of Slovak Republic.

⁵ Comparable price levels in 2002, EU-15 = 100, as published by European Commission, October 2003: Slovenia – 67; Poland – 61; Estonia – 52; Lithuania – 51; Hungary – 50; Romania – 49; Latvia – 48; The Czech Republic – 47; Slovakia – 44; Bulgaria – 41.

Figure 6
Real and Nominal Convergence Towards the EU-25 Average, Entering Optimistic Scenario



Conclusion

Considering the substantial differences between the discussed scenarios of future development of Slovak macroeconomic indicators, we assume the per capita gross domestic product in purchasing power parity a crucial parameter ranking the progress of aimed-at achievement of economic performance of the EU average.

Taking the approximate calculations in a constant PPP into account, it is possible to stretch the prognosis horizon from 2010 onwards to estimate the time SR needs to achieve the EU average. The results of such extrapolation are presented in Table 10.

According to the non-entering reference scenario presuming continuation of the heretofore development, SR would achieve the economic standard⁶ of the average EU-15 member state in 2040.⁷ In the entering pessimistic scenario, the EU-15 average would be attained in 2035 and in the entering optimistic scenario it would be reached already in 2031. In the case of SR terminating the admission process, the date of achieving the economic standard of average EU-15 member state would amount to 2058.

⁶ Economic standard measured in terms of per capita GDP in purchasing power parity.

 $^{^{7}}$ Approximate calculations based on the constant 2010 PPP and 2 % real per capita GDP EU-15 growth rate presumptions

2058

22

The Year o	The Year of Achieving the Economic Standard of EU-15, resp. EU-25 Average									
Scenario	, , , , , , , , , , , , , , , , , , ,	EU-15 2002 Average = 100		ge = 100	EU-15 Average = 100			EU-25 Average = 100		
		60 %	75 %	100 %	60 %	75 %	100 %	60 %	75 %	100 %
Reference	Year	2004	2008	2015	2009	2022	2040	2002	2016	2036
Entering optimistic	Year Difference*	2004	2008 0	2014 -1	2008 -1	2018 -4	2031 -9	2002 0	2013 -3	2027 -9
Entering pessimistic	Year Difference*	2004	2008	2014 - 1	2009 0	2020 - 2	2035 -5	2002 0	2015 -1	2031 -5

2017

2011

2031

2058

18

2002

2023

Table 10

The Year of Achieving the Economic Standard of EU-15, resp. EU-25 Average

2009

Difference

2004

Year

Non-entering

catastrophic

Due to the current political and economic situation, it is reasonable to consider the entering optimistic scenario the most probable route of future Slovak economic development. As a consequence of successful EU admission, the growth rate of Slovak GDP would yearly increase by nearly 1 percentage point additionnally compared to the reference scenario. Such a positive dynamics of GDP would create an encouraging environment enabling Slovak Republic to achieve the average EU-25 economic standard in 2027. Besides, the criterion of 75 % of enlarged EU-25 average economic performance would be met in 2013 by the Slovak Republic.

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^{*} Deviation from the reference scenario, in years.

Table 1 Selected Macroeconomic Indicators, Non-entering Reference Scenario S0

		2002	2003	2004	2005	2006	2007	2008	2009	2010
				I.	Dynamics of	GDP and its	Component	s		
GDP, bil. SKK ¹		738.4	759.5	790.0	823.1	859.3	889.4	923.3	963.2	1 005.1
	Growth rate, %	4.4	2.9	4.0	4.2	4.4	3.5	3.8	4.3	4.3
Consumption of households, bil. SKK 1		388.7	397.7	414.6	433.3	453.9	467.6	483.2	502.0	523.4
	Growth rate, %	5.4	2.3	4.2	4.5	4.8	3.0	3.3	3.9	4.3
Public consumption, bil. SKK 1		156.2	158.9	161.6	164.6	170.9	174.8	178.2	181.7	185.8
	Growth rate, %	3.8	1.7	1.7	1.9	3.8	2.3	2.0	2.0	2.3
Gross fixed capital formation, bil. SKK 1		213.0	222.2	235.3	248.4	260.6	274.0	289.1	305.0	320.5
•	Growth rate, %	-0.9	4.4	5.9	5.6	4.9	5.2	5.5	5.5	5.1
Domestic demand, bil. SKK 1		757.9	778.8	811.5	846.3	885.3	916.4	950.4	988.7	1 029.7
	Growth rate, %	4.7	2.8	4.2	4.3	4.6	3.5	3.7	4.0	4.1
Exports of goods and services, bil. SKK 1		585.6	610.1	635.5	662.9	692.5	724.9	759.1	795.3	836.3
	Growth rate, %	5.9	4.2	4.2	4.3	4.5	4.7	4.7	4.8	5.2
Imports of goods and services, bil. SKK 1		612.4	637.1	665.7	696.8	728.3	759.6	793.9	828.6	868.7
	Growth rate, %	5.3	4.0	4.5	4.7	4.5	4.3	4.5	4.4	4.8
Net exports, bil. SKK 1	12 +	-26.8	-27.0	-30.2	-33.8	-35.8	-34.7	-34.8	-33.3	-32.4
	Growth rate, %	-6.7	0.7	11.9	12.2	5.8	-3.1	0.4	-4.5	-2.6
Net exports, bil. SKK 2		-76.5	-75.7	-49.0	-67.6	-84.6	-88.5	-71.7	-86.1	-60.6
	Growth rate, %	-8.6	-1.1	-35.3	38.1	25.1	4.6	-19.0	20.0	-29.6
	L			L	abour Marke	et Developm	ent and Pric	es		
Consumer prices ³	Growth rate, %	3.2	7.7	5.7	3.8	3.1	5.1	3.3	2.9	2.5
Labour productivity	Growth rate, %	3.6	2.3	3.0	2.7	2.8	2.3	2.3	2.1	2.1
Average monthly wage, nominal, SKK		13 514	14 747	16 063	16 906	17 889	19 076	19 958	20 901	21 791
Average monday wage, nomina, ordi	Growth rate, %	9.3	9.1	8.9	5.3	5.8	6.6	4.6	4.7	4.3
Average monthly wage, real, SKK	,,,,	8 468	8 580	8 839	8 960	9 194	9 331	9 453	9 621	9 785
Tivolago monany wago, roas, oxix	Growth rate, %	5.9	1.3	3.0	1.4	2.6	1.5	1.3	1.8	1.7
Employment, thousand persons	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2 015.2	2 030.1	2 049.4	2 080.5	2 115.0	2 138.8	2 171.2	2 219.7	2 269.5
improjuoni, modelle persono	Growth rate, %	0.4	0.7	1.0	1.5	1.7	1.1	1.5	2.2	2.2

In constant prices.
 In current prices.
 An average year-on-year change.

Table 2 Selected Macroeconomic Indicators, Entering Pessimistic Scenario S1

		2002	2003	2004	2005	2006	2007	2008	2009	2010
				I	Dynamics of	GDP and its	Component	s		
GDP, bil. SKK ¹		738.4	758.7	789.4	825.3	862.1	888.7	923.0	964.7	1 006.4
	Growth rate, %	4.4	2.7	4.0	4.5	4.5	3.1	3.9	4.5	4.3
Consumption of households, bil. SKK 1		388.7	397.2	413.3	432.3	454.6	468.4	484.1	504.5	525.€
	Growth rate, %	5.4	2.2	4.0	4.6	5.1	3.0	3.4	4.2	4.2
Public consumption, bil. SKK 1		156.2	158.7	163.1	167.6	174.4	178.0	181.5	185.1	190.8
	Growth rate, %	3.8	1.6	2.8	2.8	4.1	2.0	2.0	2.0	3.1
Gross fixed capital formation, bil. SKK 1		213.0	221.7	233.3	244.4	255.2	266.2	279.4	294.7	309.4
•	Growth rate, %	-0.9	4.1	5.2	4.8	4.4	4.3	5.0	5.4	5.0
Domestic demand, bil. SKK 1		757.9	777.7	809.6	844.4	884.3	912.5	945.0	984.2	1 025.8
	Growth rate, %	4.7	2.6	4.1	4.3	4.7	3.2	3.6	4.1	4.2
Exports of goods and services, bil. SKK 1		585.6	610.0	637.8	671.0	707.9	748.2	793.3	843.9	899.3
	Growth rate, %	5.9	4.2	4.6	5.2	5.5	5.7	6.0	6.4	6.6
Imports of goods and services, bil. SKK 1		612.4	636.6	666.7	700.7	739.8	779.8	823.0	871.2	926.5
	Growth rate, %	5.3	3.9	4.7	5.1	5.6	5.4	5.5	5.8	6.4
Net exports, bil. SKK 1		-26.8	-26.6	-28.9	-29.8	-31.9	-31.5	29.8	-27.3	-27.2
-	Growth rate, %	-6.7	-0.6	8.6	3.0	7.3	-1.2	-5.6	-8.4	-0.1
Net exports, bil. SKK 2		-76.5	75.0	-45.4	-53.5	-67.6	-73.1	-48.2	-61.5	-34.3
	Growth rate, %	-8.6	-1.9	-39.5	17.8	26.4	8.2	-34.1	27.7	-44.3
				L	abour Marke	et Developm	ent and Price	es		
Consumer prices ³	Growth rate, %	3.2	8.1	6.3	3.6	3.1	5.8	3.3	3.8	2.5
Labour productivity	Growth rate, %	3.6	2.3	3.2	2.9	2.3	1.7	2.1	1.6	2.0
Average monthly wage, nominal, SKK		13 514	14 811	16 210	17 014	18 104	19 537	20 433	21 827	22 708
, 3-,	Growth rate, %	9.3	9.6	9.4	5.0	6.4	7.9	4.6	6.8	4.0
Average monthly wage, real, SKK	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 465	8 587	8 842	8 954	9 244	9 431	9 545	9 827	9 970
	Growth rate, %	5.9	1.4	3.0	1.3	3.2	2.0	1.2	2.9	1.5
Employment, thousand persons		2 015.2	2 028.2	2 044.9	2 078.2	2 123.0	2 151.8	2 187.5	2 252.0	2 303.
	Growth rate, %	0.4	0.6	0.8	1.6	2.2	1.4	1.7	2.9	2.3

In constant prices.
 In current prices.
 An average year-on-year change.

Table 3 Selected Macroeconomic Indicators, Entering Optimistic Scenario S2

		2002	2003	2004	2005	2006	2007	2008	2009	2010
CONTRACTOR		Dynamics of GDP and its Components								
GDP, bil. SKK ¹		738.4	759.5	794.6	835.0	875.6	912.4	951.7	998.2	1 049.9
	Growth rate, %	4.4	2.9	4.6	5.1	4.9	4.2	4.3	4.9	5.2
Consumption of households, bil. SKK 1	and the state of t	388.7	397.7	415.4	435.3	456.7	473.0	490.7	511.5	535.3
	Growth rate, %	5.4	2.3	4.5	4.8	4.9	3.6	3.7	4.2	4.7
Public consumption, bil. SKK 1		156.2	158.9	161.9	165.1	171.3	175.9	180.2	184.2	188.9
	Growth rate, %	3.8	1.7	1.9	2.0	3.8	2.7	2.4	2.2	2.5
Gross fixed capital formation, bil. SKK ¹		213.0	222.2	235.0	248.9	263.3	279.3	296.0	316.5	338.4
	Growth rate, %	-0.9	4.4	5.7	5.9	5.8	6.1	6.0	6.9	6.9
Domestic demand, bil. SKK 1		757.9	778.8	812.3	849.4	891.4	928.3	967.0	1 012.2	1 062.6
	Growth rate, %	4.7	2.8	4.3	4.6	4.9	4.1	4.2	4.7	5.0
Exports of goods and services, bil. SKK ¹		585.6	610.1	640.3	678.7	720.9	766.6	817.8	876.0	941.4
	Growth rate, %	5.9	4.2	5.0	6.0	6.2	6.3	6.7	7.1	7.5
Imports of goods and services, bil. SKK ¹		612.4	637.1	666.8	703.7	746.5	790.3	840.8	897.8	961.9
	Growth rate, %	5.3	4.0	4.7	5.5	6.1	5.9	6.4	6.8	7.1
Net exports, bil. SKK ¹		-26.8	-27.0	-26.4	-25.0	-25.5	-23.7	-23.0	-21.8	-20.4
	Growth rate, %	-6.7	0.7	-2.0	-5.4	2.1	-7.2	-3.1	-5.1	-6.4
Net exports, bil. SKK ²		-76.5	-75.7	-44.4	-53.2	-65.5	-69.9	-48.0	-62.0	-32.4
	Growth rate, %	-8.6	-1.1	-41.3	19.7	23.1	6.7	-31.3	29.0	-47.7
		Labour Market Development and Prices								
Consumer prices ³	Growth rate, %	3.2	7.7	5.4	4.1	3.8	4.7	3.2	3.4	2.6
Labour productivity	Growth rate, %	3.6	2.3	3.4	3.2	2.9	2.3	2.1	2.0	2.2
Average monthly wage, nominal, SKK		13 514	14 747	16 021	16 994	18 215	19 462	20 457	21 693	22 757
, , , , , , , , , , , , , , , , , , , ,	Growth rate, %	9.3	9.1	8.6	6.1	7.2	6.8	5.1	6.0	4.9
Average monthly wage, real, SKK		8 465	8 580	8 844	9 014	9 3 1 1	9 501	9 678	9 925	10 145
, , , , , , , , , , , , , , , , , , , ,	Growth rate, %	5.9	1.4	3.1	1.9	3.3	2.0	1.9	2.5	2.2
Employment, thousand persons		2 015.2	2 030.1	2 055.0	2 093.8	2 135.2	2 175.1	2 221.0	2 285.1	2 351.0
The state of the s	Growth rate, %	0.4	0.7	1.2	1.9	2.0	1.9	2.1	2.9	2.9

In constant prices.
 In current prices.
 An average year-on-year change:

Table 4 Selected Macroeconomic Indicators, Non-entering Catastrophic Scenario S3

		2002	2003	2004	2005	2006	2007	2008	2009	2010
		Dynamics of GDP and its Components								
GDP, bil. SKK ¹	· ·	738.4	759.5	786.8	813.9	844.6	869.3	895.5	924.9	958.3
	Growth rate, %	4.4	2.9	3.6	3.4	3.8	2.9	3.0	3.3	3.6
Consumption of households, bil. SKK ¹		388.7	397.7	414.4	432.5	452.3	465.4	480.3	498.7	518.9
	Growth rate, %	5.4	2.3	4.2	4.4	4.6	2.9	3.2	3.8	4.1
Public consumption, bil. SKK 1		156.2	158.9	162.7	166.8	173.3	176.9	181.0	185.0	190.8
	Growth rate, %	3.8	1.7	2.4	2.5	3.9	2.1	2.3	2.2	3.2
Gross fixed capital formation, bil. SKK ¹		213.0	222.2	232.4	242.2	251.7	262.4	273.6	284.8	296.3
	Growth rate, %	-0.9	4.3	4.6	4.2	3.9	4.2	4.3	4.1	4.0
Domestic demand, bil. SKK ¹		757.9	785.9	817.5	850.0	884.9	911.8	941.9	975.4	1 012.9
	Growth rate, %	4.7	2.7	4.0	4.0	4.1	3.0	3.3	3.6	3.8
Exports of goods and services, bil. SKK ¹		585.6	610.1	634.3	656.1	681.9	709.6	739.8	771.7	806.7
	Growth rate, %	5.9	4.2	4.0	3.4	3.9	4.1	4.2	4.3	4.5
Imports of goods and services, bil. SKK ¹		612.4	637.1	665.6	692.8	722.9	752.8	787.0	823.0	862.2
	Growth rate, %	5.3	4.0	4.5	4.1	4.3	4.1	4.5	4.6	4.8
Net exports, bil. SKK ¹		-26.8	-27.0	-31.3	-36.7	-41.0	-43.2	-47.2	-51.3	-55.5
	Growth rate, %	-6.7	0.7	16.1	17.3	11.7	5.4	9.3	8.7	8.0
Net exports, bil. SKK ²		-76.5	-75.7	-50.7	-71.6	-93.2	-103.1	-95.4	-118.8	-104.8
	Growth rate, %	-8.6	-1.1	-33.0	41.2	30.2	10.6	-7.5	24.6	10 10
		Labour Market Development and Prices								
Consumer prices ³	Growth rate, %	3.2	7.7	5.7	3.8	3.0	5.0	3.1	3.1	2.4
Labour productivity	Growth rate, %	3.6	2.3	2.7	2.1	2.4	1.9	1.7	1.0	1.5
Average monthly wage, nominal, SKK		13 514	14 747	16 039	16 869	17 754	18 908	19 656	20 690	21 501
	Growth rate, %	9.3	9.1	8.8	5.2	5.2	6.5	4.0	5.3	3.9
Average monthly wage, real, SKK		8 465	8 549	8 773	8 938	9 148	9 277	9 351	9 556	9 697
	Growth rate, %	5.9	1.0	2.6	1.9	2.3	1.4	0.8	2.2	1.5
Employment, thousand persons		2 015.2	2 030.1	2 048.3	2 077.0	2 106.8	2 128.0	2 155.0	2 203.6	2 250.4
	Growth rate, %	0.4	0.7	0.9	1.4	1.4	1.0	1.3	2.3	2.1

In constant prices.
 In current prices.
 An average year-on-year change.

TRENDY VÝVOJA A KONVERGENCIA SLOVENSKEJ EKONOMIKY K PRIEMERU EURÓPSKEJ ÚNIE

Viliam PÁLENÍK – Vladimír KVETAN – Jana HRIVNÁKOVÁ – Ján ĎURÁŠ

Prebiehajúci integračný proces a s ním spojené zmeny správania ekonomických subjektov si v týchto dňoch stále viac vyžadujú dôkladné analýzy a prognózy budúceho vývoja. Tento článok popisuje smery možného vývoja slovenskej ekonomiky po integrácii do Európskej únie. Predikcie a výpočty sa zakladajú na ekonometrickom modeli ekonomiky SR, zostavenom autormi na tieto účely v Ústave slovenskej a svetovej ekonomiky SAV. Prvá časť práce sa venuje porovnaniu výsledkov jednotlivých scenárov vývoja v kľúčových oblastiach reálnej ekonomiky – trhu práce, cien, zahraničného obchodu, vnútorného dopytu a HDP. V druhej časti sú popísané konvergenčné prospekty ekonomiky SR vzhľadom na EÚ.

Z dôvodu potreby čo najlepšie posúdiť vplyvy integrácie SR do EÚ boli vypracované štyri scenáre možného budúceho vývoja. Zotrvačný scenár S0 popisuje teoretické pretrvávanie momentálnej situácie za predpokladu oddialenia (nie však ukončenia) rozširovacieho procesu EÚ. Ráta sa s pokračujúcim využívaním predvstupových výhod všetkými kandidátskymi krajinami. Výsledky tohto scenára slúžia na porovnanie a kvantifikáciu dopadov začlenenia SR do EÚ. Integračné scenáre S1 a S2 kalkulujú s rozšírením EÚ o 10 nových členských štátov. Rozdiel medzi týmito scenármi je v predpokladoch úspešnosti vstupu, vo vývoji zahraničného dopytu a uplatňovaných inštitucionálnych politík. Scenár S3 ilustruje hypotetickú situáciu nevstúpenia (ukončenie prístupového procesu) SR do EÚ, pričom však predpokladá úspešnosť vstupu ostatných krajín. Prezentuje možnosť vážnej ekonomickej izolácie v rámci európskeho priestoru v prípade odmietnutia možnosti stať sa členom EÚ. Vzájomné porovnanie takto špecifikovaných scenárov umožňuje kvantifikovať dôsledky vstupu SR do EÚ.

Výsledky variantných výpočtov ekonomických ukazovateľov v uvedených scenároch poukazujú na pozitívny vplyv integrácie na ekonomiku SR. Ani v jednom integračnom scenári (S1 a S2) sa ku koncu prognózovaného obdobia nedosiahnu horšie výsledky ukazovateľov ako v referenčnom scenári S0. Naopak, nevstupový scenár S3 indikuje zhoršenie fungovania slovenskej ekonomiky v dôsledku medzinárodnej izolácie.

Na trhu práce sa predpokladá výrazné oživenie spojené s pozitívnymi vplyvmi integrácie. Odstránenie exportných bariér a prílev zahraničných investícií budú podporovať rast dopytu po práci a vytvárať priestor na znižovanie miery nezamestnanosti. Pozitívny vplyv integrácie sa odrazí aj v mzdovom vývoji.

Spotrebiteľské ceny budú podliehať vplyvu vývoja svetových cien a volebného cyklu. V pesimistickom integračnom scenári sa očakáva o niečo vyššia priemerná miera inflácie ako v optimistickom scenári, hlavný rozdiel by však mal byť v časovom rozložení inflácie.

Integrácia slovenskej ekonomiky do EÚ výrazne ovplyvní zahraničný obchod. Odbúranie vývozných obmedzení vo forme transakčných nákladov a zvýšenie dôveryhodnosti slovenskej produkcie v zahraničí budú pôsobiť výrazne proexportne. Popritom však očakávaný rast vnútorného dopytu spolu s rastom exportu vyvinú tlak aj na rast dovozu.

Hrubý domáci produkt bude ovplyvnený vývojom vnútorného dopytu a saldom zahraničného obchodu. Podľa referenčného scenára S0 bude reálny HDP rásť v intervale 3,5-4,4% ročne. Pri naplnení podmienok optimistického integračného scenára by mohli byť tempá rastu HDP vyššie ešte o dodatočných 0,5-0,9 percentného bodu.

Pozitívny vplyv začlenenia SR do EÚ sa prejaví aj v oblasti nominálnej a reálnej konvergencie. Porovnateľná cenová hladina SR by v prípade optimistického vývoja konvergovala k cenovej hladine EÚ ročne priemerne o 0,5 percentného bodu rýchlejšie ako v nevstupovom variante. Pre reálnu konvergenciu by profit zo začlenenia sa do EÚ znamenal zvýšenie rastu HDP v parite kúpnej sily o 0,4 percentného bodu v porovnaní s referenčným scenárom S0.

Z hľadiska hodnotenia závažnosti rozdielov medzi diskutovanými scenármi budúceho makroekonomického vývoja SR možno považovať za kľúčový ukazovateľ hrubý domáci produkt na obyvateľa v parite kúpnej sily, ako kriteriálny cieľ na dosiahnutie priemernej úrovne Európskej únie. Podľa referenčného scenára S0 by SR mohla dosiahnuť 75 % priemeru budúcej ekonomickej úrovne štátov terajšej Európskej únie (EÚ 15) v roku 2022. V prípade úspešného vstupu by sa tak malo stať už v roku 2018. Ak by nastala hypotetická situácia nevstúpenia SR do EÚ, dosiahla by sa 75 % hospodárska úroveň EÚ 15 až v roku 2031.

Vzhľadom na diskutované a zohľadnené súvislosti vstupu Slovenskej republiky do Európskej únie, optimistický integračný scenár sa považuje za najpravdepodobnejší. Vstupom SR do EÚ sa zvýši rast HDP Slovenska o dodatočný, takmer 1 percentný bod ročne, čím Slovensko dosiahne 75 % priemernú hospodársku úroveň novej, rozšírenej EÚ 25 v roku 2013.