

Reform of the CAP after 2013 and its impacts on Slovak agriculture

Reforma SPP po roku 2013 a jej dosahy na slovenské poľnohospodárstvo

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Abstract: The paper deals with the analysis of the proposals of the European Union Common Agricultural Policy reform (the EU CAP) after 2013 and modelling forecast of its impacts on Slovak agriculture. The behaviour of business entities in agriculture is significantly influenced by the current support scheme and the level of support within the EU CAP but also by market conditions. The impacts of the particular scenarios on the changes of production indicate that Slovak agriculture will approach just slowly the 2008 production level. This will be decisively influenced by the price development. Despite of this, it is evident that the most favourable result can be achieved under the Flat Rate Scenario while the absolute abolition of direct payments (Liberal Scenario) will bring very unfavourable economic consequences with impacts on agricultural production in Slovakia.

Key words: Common Agricultural Policy reform, agriculture, direct payments, 1st pillar, 2nd pillar, impacts of the EU's CAP

Abstrakt: Príspevok sa zaoberá analýzou návrhov reformy Spoločnej poľnohospodárskej politiky EÚ (SPP EÚ) po roku 2013 a modelovým odhadom jej dosahov na slovenské poľnohospodárstvo. Súčasná forma a úroveň podpory v rámci Spoločnej poľnohospodárskej politiky EÚ, ale aj podmienky na trhu, významne ovplyvňujú správanie sa podnikateľských subjektov v poľnohospodárstve. Dosahy jednotlivých scenárov na zmeny produkcie naznačujú, že slovenské poľnohospodárstvo sa bude iba veľmi pomaly približovať úrovni produkcie roku 2008. V rozhodujúcej miere to bude ovplyvnené cenovým vývojom. Napriek tomu je zrejmé, že najpriaznivejší výsledok môže byť dosiahnutý v scenári rovnej sadzby (Flat Rate), pričom úplné zrušenie priamej podpory (liberálny scenár) by prinieslo veľmi nepriaznivé ekonomické dôsledky s dosahmi na rozsah poľnohospodárskej výroby na Slovensku.

Kľúčové slová: reforma Spoločnej poľnohospodárskej politiky EÚ, poľnohospodárstvo, priame platby, I. pilier, II. pilier, dosahy reformy SPP EÚ

Situation of agriculture and farms in Slovakia within the EU is significantly influenced by the current support scheme and the level of its support. For its own decision about the alternative scenario of the EU CAP reform after 2013, the Slovak Republic has to define not only its priorities and goals of direct support but also the increasingly important support measures in its second pillar. The aim of this task consisted in deepening the up-to-date knowledge and identifying the impacts of the alternative CAP reform scenarios in a wider range of their production and their economic effects and impacts on farms at the national, regional and micro level. In the paper, there are stated the selected modelling results at the national level.

MATERIAL AND METHODS

Methodological framework consists from two main components:

- Definition of the currently discussed CAP reform scenarios
- Modelling and simulation solutions of the alternative scenarios at the level of
 - production and economic impacts on agriculture,
 - regional impacts at level of natural areas and their aggregation at the NUTS4¹ level and impacts at level of individual farms (results are not published in the paper).

¹Nomenclature des unités territoriales statistiques – Nomenclature of regional statistical units

Table 1. Direct payments – changes of the national envelopes after 2013

Serial No.	Scenario	Label	Change
1.	Base (reference) scenario	BS	-30%
2.	Conservative scenario	KS	-15%
3.	Liberal scenario	LS	-100%
4.	Flat Rate scenario	FR	155 €/ha

Source: author's assumption

During processing of the study Božík and Štulrajter (2010), it was noted very broad scope of proposals of the EU CAP reform. Therefore, the quantification of their impacts within the Slovak agriculture conditions was narrowed to the scenarios that had common characteristics of these proposals. Despite of this, hence is possible to await the latter modification or alternatively combination of scenarios. It is impossible to interpret in the paper the modelling results and simulations in the full range. Therefore, they are narrowed to budget impacts and some production/economic impacts at the national level. Alternatives presented in the paper differ rather significantly, which allows posing either a disclaimer or a support opinion towards some of them from the Slovak interests' point of view.

The experiences of the previous reforms including the Health Check, alternatively also the negotiations prior to the EU Accession show that during each period, there were published fundamental studies assigned by the European Commission (EC) that indicated the results of the alternatively used scenarios which corresponded with the latter reform in the main elements or alternatively they significantly influenced it. As the study which through its range conforms to the ex-ante study about the CAP reform, there can be definitely regarded "Scenario 2020 II" (Nowicki et al. 2009). With regard to this and by the reason of our modelling results comparing to the EU results, we used identical scenarios of the CAP reform after 2013. Thereby, the following scenarios conform to

the modelling solutions of the Research Institute of Agriculture and Food Economics (RIAFAE).

Labelling in Table 1 is also used in the result part of the paper. It is the difference in the KS scenario compared to the scenarios in the study of the EC, namely the maintenance of the decoupled payment to dairy cows and the Livestock Unit and the coupled payment to suckler cows and ewes.

Agricultural land classification in less favoured areas within the simulated scenarios is applied from the up-to-date condition of the task documentation "Simulation of the criteria application proposed by the EC for agricultural land classification into other less favourite areas of Slovakia".

Another modelling assumption

In each scenario, the direct payments are modified by the following categories of modulation (Regulation EU No 73/2009). That calculation is described in detail inside the study done by Božík (2009). A similar approach to the calculation of modulation for the Czech Republic in a wide range of farms can be found also in Medonos et al. (2010).

The above stated volume for year 2013 will be transferred into the Second Pillar of the CAP. This volume will be lower for year 2014 (decrease of payments in the 1st pillar) and it will depend on the real applied scenario. Other additional source of the 2nd pillar would be resources gained by the decrease of the 1st pillar subject to the scenario in the whole volume of reduction in the scenarios BS, KS and FR. We were modelling the resources of the 2nd pillar in identical proportions of the individual axes like in the programming period of the Rural Development Programme 2007–2013. The resources in the scenario LS are transferred just in 45% of the volume of 1st pillar reduction in the nominal term in the line of the study "Scenario 2020 II".

To the Flat Rate Scenario, i.e. the rate per 1 hectare of agricultural land (155 EUR), it is necessary to specify that through modulation, the real average

Table 2. Estimation of the average modulation in percentage and thousand €

Category of modulation	Number of farms (%)	Area LPIS (%)	2012		2013	
			modulation (%)	1000 €	modulation (%)	1000 €
< 5 000 €	6.5	0.7	0.00	0	0.00	0
> 5 000 < 299 999 €	80.0	48.7	0.00	0	10.00	-16 244
> 300 000 €	13.5	50.6	4.00	-8 242	14.00	-31 523
Total	100.0	100.0	2.32	-8 242	12.31	-47 767

LPIS = Land parcel identification system

Source: author's estimation based on data in Central Database of the Ministry of Agriculture of the Slovak Republic, stored by RIAFAE and data collected in Information letters of legal entities and individual farmers, year 2009

value (the average of the Slovak Republic) will be changed to the level around 136 EUR per 1 hectare of agricultural land.

The steps of the obligatory incorporation of the coupled into the decoupled payment system are an important part of the scenario calculation (as the Regulation EU No. 73/2009 states in the paragraph 63).

Modelling and simulation solutions of alternative scenarios

The methodological procedure of the modelling solution at the national and regional level RIAFE_agro and RIAFE_regio is stated in the study that is the outcome of the 4th stage of the research and development task Economy of sustainable agriculture, food industry and rural growth in the Slovak Republic (Božík et al. 2010). The RIAFE_agro is a dynamic partial equilibrium econometric model in which the support incentives and some approaches to computing profitability of the key agricultural commodities has been inspired during a multiyear close collaboration with the UZEI Prague similarly as presented in Foltýn et al. (2009). The RIAFE_regio solves the optimization task of supply allocating results generated at the national level up to 15 agricultural natural areas.

RESULTS AND DISCUSSION

Scenarios of the CAP reform after 2013

Sources of the 1st and 2nd pillar of the CAP for Slovakia after 2013 are the outcome of the reduction and reallocation (transfer) of payments according

to the scenarios stated in the methodological part of the paper. The resources for market measures are the estimation of their drawing in the previous terms and the assumption of their reduction in the particular scenarios.

From the total volume of subsidies point of view and their allocation into the individual pillars of the CAP and in the terms of the CAP scenarios after 2013, there are estimated the following changes:

Base (reference) scenario (Table 3)

- increase of the total volume of payments in the 1st and 2nd pillars together by 2.2% *compared to the final year 2013*, of this, in the 1st pillar the reduction by 31.3% and the in 2nd pillar the increase by 39.1%,
- increase of the total volume of payments in the 1st and 2nd pillars together by 3.5% *for the whole planning term 2014–2020 compared to 2007–2013*, of this in the 1st pillar reduction by 32.4% and in the 2nd pillar increase by 45.6%.

Conservative scenario – cumulatively

- increase of the total volume of payments in the 1st and 2nd pillars together by 5.2% *compared to the final year 2013*, of this in the 1st pillar reduction by 13.2% and in the 2nd pillar increase by 25.4%,
- increase of the total volume of payments in the 1st and 2nd pillars together by 6.6% *for the whole planning term 2014–2020 compared to 2007–2013*, of this in the 1st pillar reduction by 14.5% and in the 2nd pillar increase by 31.3%.

Flat Rate scenario – cumulatively

- increase of the total volume of payments in the 1st and 2nd pillars together by 2.1% *compared to the final year 2013*, of this in the 1st pillar reduction by 27.5% and in the 2nd pillar increase by 34.8%,

Table 3. Base scenario in mil. €, change in %

	2013	2014	Change (%)	2007–2013	20014–2020	Change (%)
I. pillar						
Market support	61.8	38.6	–37.5	413.9	270.4	–34.7
Direct payments	342.4	239.0	–30.2	2460.0	1673.0	–32.0
I. pillar total	404.2	277.6	–31.3	2873.9	1943.4	–32.4
<i>Resources from modulation</i>	47.8	33.4	–30.0	56.0	234.1	317.9
II. pillar						
Axis 1	121.8	171.0	40.4	852.6	1 197.1	40.4
Axis 2	177.4	244.2	37.6	1 127.2	1 709.4	51.7
Axis 3	48.4	68.0	40.4	338.9	475.8	40.4
Axis 4	11.3	15.8	40.4	79.0	110.9	40.4
Technical assistance	8.0	11.3	40.4	56.3	79.1	40.4
II. pillar total	367.0	510.3	39.1	2 454.1	3 572.3	45.6
<i>I. and II. pillar total</i>	771.2	788.0	2.2	5 327.9	5 515.7	3.5

Source: author's calculation

Table 4. Comparison of scenarios to Base scenario and to pre reform period in 2013 in %

	2014			Change in 2014 to 2013		
	KS	FR	LS	KS	FR	LS
Market support	57.1	0.0	-100.0	35.7	0.0	-62.5
Direct payments	21.4	6.4	-100.0	15.0	4.4	-69.8
I. pillar total	26.4	5.5	-100.0	18.1	3.8	-68.7
<i>Resources from modulation</i>	21.4	6.7	-100.0	15.0	4.7	-70.0
II. pillar total	-9.8	-3.1	4.8	-13.6	-4.2	6.6
<i>I. and II. pillar total</i>	3.0	-0.1	-32.2	3.0	-0.1	-32.9
Market support	+		-	+		-
Direct payments	+	+	-	+	+	-
I. pillar total	+	+	-	+	+	-
<i>Resources from modulation</i>	+	+	-	+	+	-
II. pillar total	-	-	+	-	-	+
<i>I. and II. pillar total</i>	+		-	+		-

KS =Conservative scenario, FR = Flat Rate scenario, LS = liberal scenario

Source: author's calculation

– increase of the total volume of payments in the 1st and 2nd pillars together by 3.5% *for the whole planning term 2014–2020 compared to 2007–2013*, of this in the 1st pillar reduction by 28.7% and in the 2nd pillar increase by 41.5%.

Liberal scenario – cumulatively

– decrease of the total volume of payments in the 1st and 2nd pillars together by 30.7% *compared to the final year 2013*, of this in 1st pillar reduction by 100.0% and in 2nd pillar increase by 45.7%,
 – decrease of total volume of payments in the 1st and 2nd pillars together by 29.8% *for the whole planning term 2014–2020 compared to 2007–2013*, of this in the 1st pillar reduction by 100.0% and in the 2nd pillar increase by 52.5%.

The highest envelope of both CAP pillars would be reached in the Conservative scenario in spite of the lower volume of the 2nd CAP pillar (the lowest volume of payments transferred from the 1st pillar), for both pillars the total 811.2 mil. EUR in year 2014.

Compared to Base scenario

– higher volume of the 1st pillar by 26.4% would be in the Conservative scenario but the lower volume of 2nd pillar at around 10%, however, the total volume of the 1st and 2nd pillar would be higher by 3%,
 – higher volume of the 1st pillar by 5.5% would be in the Flat rate scenario but the lower volume of the 2nd pillar at around 3%, however, the total volume would be comparable to the Base scenario,
 – lower volume of the 1st pillar would be in the Liberal scenario by 100% but the higher volume of the 2nd pillar at around 5%, however, the total volume of the 1st and 2nd pillar would be lower by 32.2%.

Such changes are indicated in the following table while the plus sign “+” means a positive change compared to the Base scenario and the minus sign “-“ means a negative change, without sign, the change is neutral (Table 4).

Production and economic impacts of the CAP reform on agriculture of the Slovak Republic

The prediction of the production and economic results of agricultural production in four scenarios is the output of the CAP change incentives, the production intensity and the expected price development.

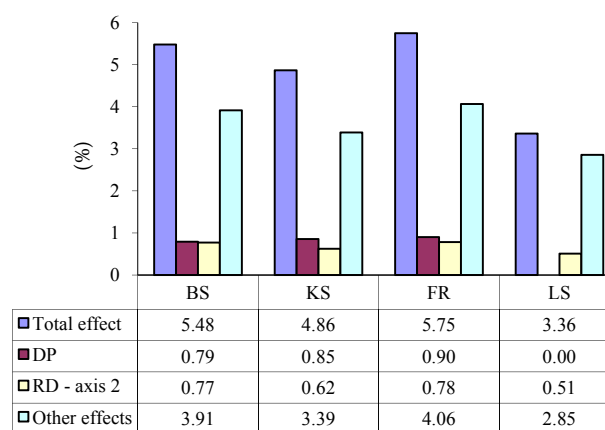


Figure 1. Decomposition in the growth of revenues from agricultural production and the CAP in the average 2014–2020 compared to the average 2008–2013

DP = direct payment, RD = rural development

Source (for Figures 1–11): own model results

With regard to the fact that we are not modelling the whole EU market, the base farm gate price development is derived from the OECD outlook (for the EU agricultural markets) and adjusts to the supply-demand equilibrium. So the effects of the scenarios are influenced by the commodity price including the support policy allocated to the specific commodity (incentive price). Results are presented mainly in the form of the scale of the change comparison of two periods, namely since 2015 compared to the period prior to the reform, i.e. year 2013, alternatively the average of the years 2014–2020 (II) compared to the average of the years 2008–2013 (I).

Production

The change of returns (production including subsidies) is defined in two periods (available is also the complete time series), the year 2015 compared to 2013 represents 2.6% in the Base scenario. The Conservative scenario generates a lower growth (2%). Lower is not only the growth by the market effects influence (price and natural production) but also the growth of revenues from the income segment of the 2nd pillar payments. The highest growth of revenues was generated in the Flat Rate scenario (2.8%). The highest changes from the scenarios are also in all components of revenues, i.e. natural production, prices, the 1st and 2nd pillar of the CAP. Minimal changes in the growth of revenues are in the Liberal scenario, just by 0.5%, while the payments of the 1st pillar will not share in the revenues.

Comparison of the period after the CAP reform (2014–2020) with the pre-reform period (2008–2013) shows that the differences among the scenarios have a similar character. On the other hand, owing to the low level of production and phasing – in the periods of direct payments up to the year 2013, the changes are more significant and prefer explicitly the conditions of the Flat Rate scenario (Figure 1 and 2).

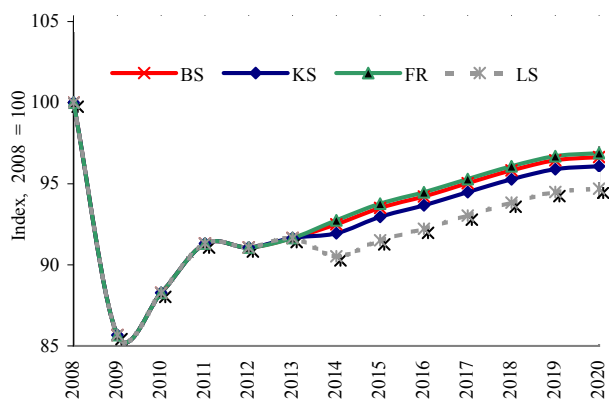


Figure 3. Change of the production volume

The impacts of the particular scenarios on production changes in the time series indicate that Slovak agriculture will reach the production level of the year 2008 just very slowly. It will be influenced to a decisive extent by the price development that reached its extreme in the year 2008. In spite of this, it is evident that the best result can be achieved in the Flat Rate scenario while the Liberal scenario is the least favourable. From the results, it is possible to conclude that in the year 2020, the aggregated level of crop prices will reach around 95% of the level in the year 2008 (after the slump in the year 2009). The decomposition of the volume and price of production indicates the largest growth of the production volume in the Flat Rate scenario, but the differences between the BS, KS and FR are negligible (Figure 3).

Economic results for the crop prediction are quite different from those for the livestock. The changes in crop production indicate a significant and more dynamic growth compared to the livestock. The Flat Rate scenario (FR), alternatively the Base scenario (BS) is also in favour of the crop production. Livestock will just slowly recover and it could expect a growth revival of its production after a lapse 2 to 3 years while it will probably not achieve the level of the year 2008. However, the simulations indicate that the continuation of the coupled production in livestock will lead to a more stimulating effect (the Conservative scenario) than other scenarios.

The decomposition of the production prediction to price and its volume indicates that the growth of crop production will have a more significant influence on the natural production growth than the prices, notably in the Flat rate scenario and the Base scenario. For livestock, we generally forecast a converse influence where the growth of price will be more a significant

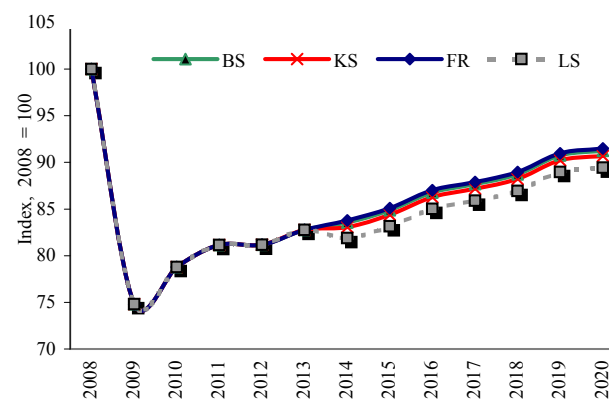


Figure 2. The total change of production

BS = base, KS = conservative, FR = Flat Rate, LS = liberal (for Figures 2–11)

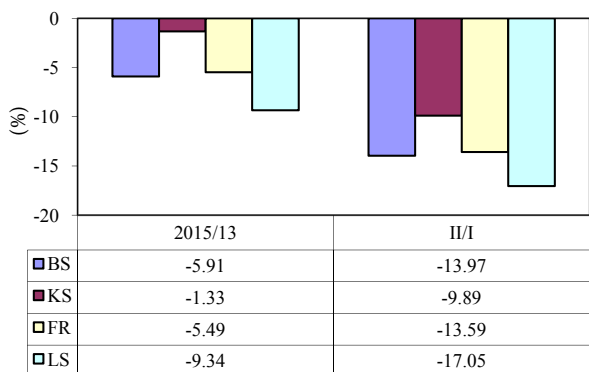


Figure 4. Changes – agricultural land

II/I = Change of average period 2014–2018 compared to average 2004–2013 (for Figures 4–11)

production factor than the natural production growth stimulated by demand.

Quantitative effects of the CAP scenarios on production

Agricultural land

The CAP scenarios and the EU market conditions including price development influence the model results of prediction and its balance of demands for the limited production source – land.

The arable land use is the result of the particular commodities supply/demand and the incentive effect of policies. Apart from the livestock prices and requirements for feedstuff, there is also the coupled or alternatively decoupled effect of support on the cattle and ewe production in the part of the forage crops area and the permanent grassland (PGL). The higher incentive effect of the Flat Rate scenario will prove after the year 2013 through a relatively larger agricultural land use. In any case, the CAP liberalisation will lead to the reduction of arable land and also the total agricultural land area.

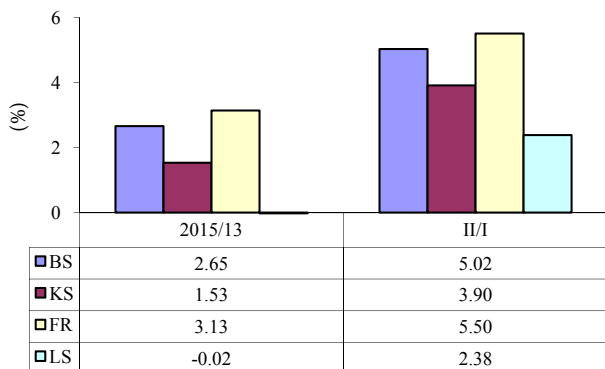


Figure 5. Change of the cereals production

Percentage changes during the years or decades before and after the reform indicate the lowest diminution of the used agricultural land in the Conservative scenario. It could influence the stabilisation of the used arable land, or alternatively to moderate the increase in the Flat Rate scenario (Figure 4).

Cereals

Cereals are the dominant group in crop production. With regard to supply and demand, the competitive position of crops towards the limited production source and yield development we expect that growing of the areas of cereals will be moderately declined till the year 2013 together with the growth of intensity. We interpret this effect by the decline of the cereal prices after they peaked in the year 2007, the payment reduction for the eligible crops on arable land resulting from the decreasing national Top-Ups to the direct payments, whereby there will occur a more significant decline of the incentive price.

After the year 2013, the coupled payment on the eligible area for crop will be cancelled and the incentive price will be decreased, or alternatively it will reflect in the Single Payment Scheme (area of farm). This will result to the planted area at the level of 760–780 thousands hectares. The coupled production will transfer a part of payments to ruminants and with the ongoing payment to milk (the Conservative scenario – KS), it will moderately decrease the land area and the cereals production (around 1–1.2%) compared to the Base scenario. Compared to the Base scenario (BS), the Flat Rate (FR) supports not only the production growth but as such, it contributes also to the growth of the cultivated areas (Figure 5).

Oilseed

Oilseed areas steadily expand mainly at the expense of the feedstuff but some scenarios of the future policies could modify this development. It concerns particularly the Conservative and the Liberal scenario. However,

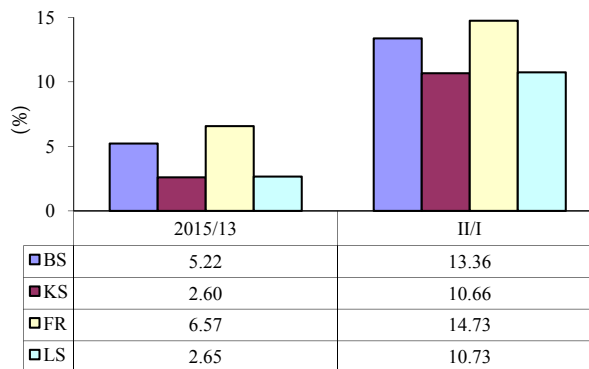


Figure 6. Change of the oilseed production

the production decline trends are not evident in the future. We expect that the growing areas of oilseed will moderately rise together with the growth of intensity through the Flat Rate scenario implementation. Similarly like in the cereals sector, the oilseed area would moderately decrease jointly with the total volume in the 1st pillar and the continuation of the coupled production in livestock by the influence of the CAP just in the scenario KS and LS by 0.5% (2015/2013), alternatively by 2.7% (II/I period) (Figure 6).

Milk and cattle breeding

Milk production is a long-time issue of Slovakia linked to the long-term recession of demand, profitability and the loss of competitiveness in its production. The solution of this issue exceeds the possibilities of the Slovak milk market. In the line with the development in the at world milk dairy market, the outlook is not even optimistic in the future and the proposed policies can just dampen it or alternatively to stabilize the actual situation.

The decline of the dairy cow herds is also related, inter alia, with the growth of intensity, and the breeding selection will continue very probably regardless of the CAP scenario while it could represent yearly around 1% after the year 2013. If we do not take into consideration the result of the Liberal scenario (that it is necessary to analyse in more detail), thus the Conservative scenario does not point towards the production growth compared to the other scenarios. However, the differences of changes are in the decimal percentages and the incentive effect of the policies is eliminated not only by demand but also by the import of dairy products. In conclusion, we expect possibly the revival of production related to the moderate growth of demand. The Liberal scenario increases the consumer demand (Figure 7).

The model prediction of cattle breeding is influenced similarly like the other commodities by the current crisis in livestock, the projection of milk

and milk product prices and the beef prices (OECD). Compared to the other scenarios, the influence of the CAP scenarios after the year 2013 and the continuation of support to the Livestock Unit (LU) and milk (KS) are identifiable through the differences between the other scenarios. From them, it results that the decisive driving force of this production becomes the shift in the herd structure from the combined to the production specifically oriented on the yield with a high intensity (milk or meat, dairy cows or suckler cows). The global competition in the milk market led to the reduction of the dairy cow herds and to the milk yield growth (also by the selection of herds) already before crisis. The stabilization of beef production will therefore be performed exclusively by the increase of the suckler cow herds or alternatively by the removal of dairy cows and calves. A relatively positive effect of the Conservative scenario (KS) on the cattle herds is evident and it results from the coupled support to the LU and milk.

The current tendency of the cattle herds decline would persist until the year 2010. The introduction of the dairy cows support in the year 2010 and the continuation of the LU payment could slow down this trend (according to the modelling results). However, if there occurs the total support decoupling after the year 2013 (the scenarios BS, FR and LS), the previous decline rate will recover drawn by the beef price development also. The increase of the suckler cow herds still fails to eliminate the continuous and long-time decline of the dairy cows' number and its impact on the beef production. However, the measures of the Conservative scenario of the CAP could suspend the production decline in Slovakia firstly through the continuation of the LU payments and the suckler cows' payments after the year 2013. Conversely, the elimination of any direct support in this sector after the year 2013 will lead to the decline together with the further decline of dairy cows and also to the recovery of the beef production decline trends.

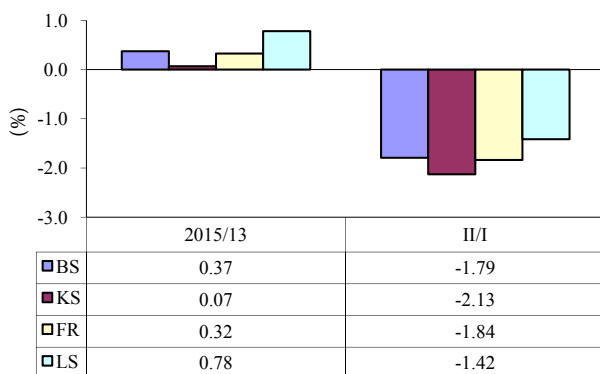


Figure 7. Change of the milk production

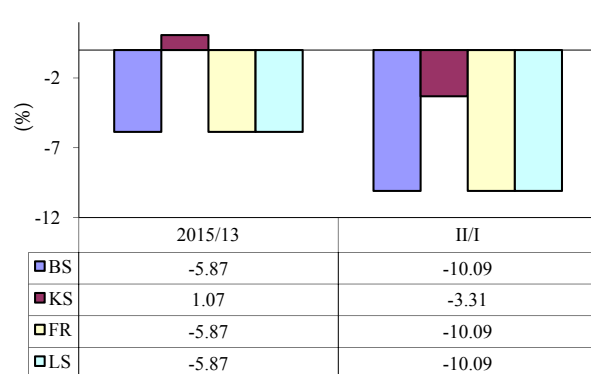


Figure 8. Change of the beef production

Despite of the LU support, we can expect the persistence of economic difficulties in cattle breeding that the Conservative scenario policies (a lower depression of 1st pillar and coupling to the LU and suckle cows) could assist to eliminate sooner than the other CAP scenarios. In connection with dairy cows, the decline and demand stagnation for beef will be saturated by the growth of suckler cows (Figure 8).

Alternative scenarios of the CAP reform economic impacts

Value added growth in Slovak agriculture is not assured by the production growth but by the transfer of public sources. Gross agricultural value is not only decreasing but in the producer prices (except of subsidies), it is not rising. Transfers from the public sources advance the agricultural income, not the growth in the production revenues.

The results of the modelling outlook of the CAP reform scenarios after the year 2013 confirmed that the assumption of the not reformed CAP as the general consensus, predominantly by the old EU Member States, will bring just few positive changes in the agricultural productive use of the landscape.

The cumulative decline of constant prices in the period 2008–2020 indicates the assumption that the achievement of economic results prior to the crisis will not be possible through the price growth, but by the growth of competitiveness, decreasing of the variable and fixed costs per one production unit, as well as through a more steady profit distribution in the food vertical chain.

Differential targets of support in the scenarios will have at their disposal a different volume of financial sources. They will be influenced by the alternative coupled production in livestock (KS), the support for the Less Favoured Areas (LFA), environmental programmes but also the reduction or alternatively

the maintenance of the 1st CAP pillar, the extent of its transfer into the 2nd pillar, as well as the 1st pillar modulation (see the scenarios).

The modelling results are the outcome of the support allocation and the land use coupled to this support. The simulated changes stated in the next figures do not differ significantly from the changes of payments mentioned in the chapter “Scenarios of the CAP reform after the year 2013”, and also their interpretation is basically similar (Figure 9 and 10).

Changes in agricultural production, namely in the short-term (2015/2013), thus also compared to the changes of the periods before and after the reform are more positive in the Flat Rate scenario compared to the results of the Base scenario. Likewise, it is the case of costs. A relatively lower decline of costs in the Conservative scenario is the outcome of a larger extent regard to the more costly livestock compared to the other scenarios (coupled production).

The total agricultural income consists of the difference between the sales from agricultural production and costs plus revenues from supports. The simulated changes of income do not regard the extensive and unpredictable losses (until the period of processing of this article) caused by floods in Slovakia that inundated around 200 thousand hectares of agricultural area. With regard to this fact, the results are less predictable for the period 2010–2011 and their significance mainly consists in changes after the year 2013 and the differences among the particular scenarios of the CAP reform. Despite the above mentioned, we could say that similarly like the results of production changes stimulated by the changes of policies, also the economic results in the Flat Rate scenario show that the total income could reach around 133 million EUR in the year 2015. Conversely, the modelling result for this horizon in the Base scenario represents 121 millions EUR, and in the Conservative scenario 105 million EUR. The Liberal scenario is unacceptable from the

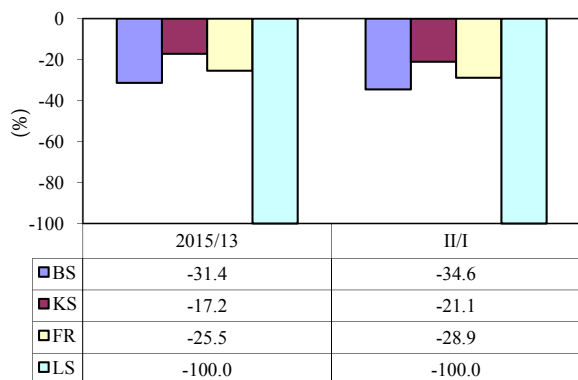


Figure 8. Change of the beef production

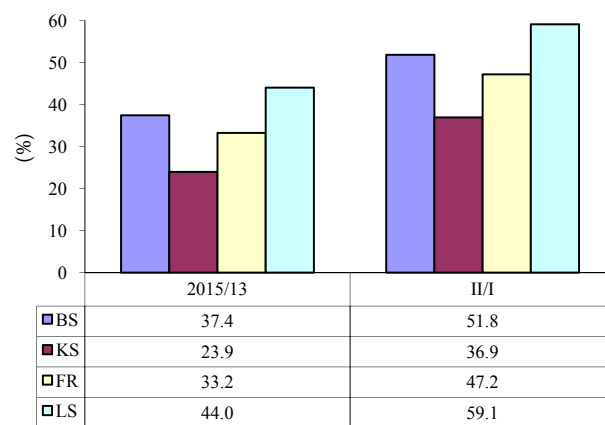


Figure 9. 1st pillar of the CAP

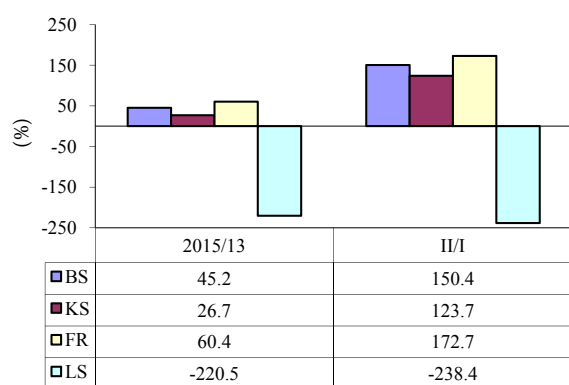


Figure 11. Changes in farm income

result point of view and the loss could reach around 100 million EUR. Alternatively, in the interest of the losses elimination, the companies would accede to the extensive limitation of agricultural production for human purposes.

The changes in the total income from agricultural activities are more positive in the Flat Rate scenario, namely in the short-term (2015/2013 +60.4%), thus also compared to the changes in the periods before and after the reform (+172.7%). Compared to the production results, the outcome of the Base scenario is lower (+45.2%, alternatively +150.4%). The outcome of the Conservative scenario also brings a lower economic effect (+26.7%, alternatively +123.7%). The Liberal scenario gives losses at a significantly higher level as is the loss of agriculture at present.

CONCLUSION

The current form and support level within the EU CAP considerably influence the behaviour of entrepreneurs in the whole food vertical chain. Slovakia in its decision of support regarding any of the reform scenarios after the year 2013 cannot prefer just one dominant segment (for instance direct payments). It is necessary to judge sensitively the comprehensive effect that leads towards the achievement of its priorities and the strategic target. There has to be taken into account the increasingly more significant form of support in the 2nd pillar of the CAP.

Among the scenarios of the CAP reform, the largest envelope of support within both pillars of the CAP could be reached in the Conservative scenario, despite of the lower volume in the 2nd pillar of the CAP (the lowest volume of payments transferred from the 1st pillar), both pillars will have jointly 811.2 million EUR in the year 2014 (modelled assumptions).

Irrespective of the scenario, Slovak agriculture will reach the production level of the year 2008 just

very slowly and the price development will influence that to a decisive extent. The most favourable results have been modelled in the Flat Rate scenario. In any case, a wide liberalisation of the CAP will lead to the decline of the arable land use and thus also of the total area of agricultural land.

Achievement of economic results prior to the crisis will not be possible through the price growth, but by the growth of competitiveness of agriculture products as well as through a more steady profit distribution in food vertical chain. The changes in agricultural production and the total income, namely in the short-run (2015/2013), thus also compared to the changes in the periods, are more positive in the Flat Rate scenario compared to the results of the Base scenario. Likewise, it is the case of costs. A relatively lower decline of costs in the Conservative scenario is the outcome to a larger extent of the more costs-demanding livestock compared to the other scenarios (coupled production). The Liberal scenario would probably lead to losses at a significantly higher level.

The CAP reform is significantly in favour of the LFA and the Agro Environmental Programmes. By the transfers of sources from the 1st into 2nd pillar of the CAP, it is possible to eliminate the effect of the direct payments reduction.

- The proposals of reform are changing not only the total volume of supports in the principal manner, but also their proportions among the CAP pillars. Compared to the EU-15, Slovakia is facing an expressive extensification of agricultural production and a one-sided fulfilment of just the environmental targets of the Common Agricultural Policy of the EU, no multi-functional agriculture with the intention of the fulfilment of the production, economic, social and environmental targets of the EU CAP.
- **If the implementation happens for instance within the Base or alternatively the Liberal scenario with the transfer of sources into the 2nd pillar, then the trends towards extensive production will strengthen significantly.**

Through its preferences to the 1st pillar issues, Slovakia belongs into group of 10 Central and Eastern European countries (Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, the Czech Republic, Slovakia) the aim of which is the equal flat rate, the unification of payments and the removal of the historic principle in the CAP. If the equal flat rate, the unification of payments and the removal of historic principle in the CAP is the case, the **production extensification in rural areas will be weakened during the next period.** The modelling results indicate this potential development, for sure

in combination with the LFA support. On the other hand, the priority for Slovakia cannot be, at the first glance, the forms of scenarios. The priority is the **equality of conditions with the possibility of a differentiated use within the regions of Slovakia.**

REFERENCES

- Božík M., Štulrajter Z. (2010): Prediction of Regional Impacts Revision of the EU's CAP reform and proposals of changes after 2013. RIAFE, Bratislava; ISBN 978-80-8058-531-0.
- Božík M. (2009): Porovnávací analýza dopadov rozličných variantov prechodu k uplatňovaniu SPS vrátane variantu pokračovania v uplatňovaní SAPS po roku 2008 2008 (Comparative analyse of different scenarios of transition to SPS including scenario of SAPS continuation after 2008). Research study, RIAFE, Bratislava.
- Božík M. et al. (2010): Economics of Sustainable Development in Agriculture, Food Sector and Rural Areas in Slovak Republic. Study No. 155/2009. Bratislava: RIAFE; ISBN 978-80-8058-516-7.
- Foltýn I., Kopeček P., Zedníčková I., Vávra V. (2009): Profitability development of key Czech agricultural commodities in the period 2002–2006. *Agricultural Economics – Czech*, 55: 181–199
- Medonos T., Jelínek L., Humpál J.: The national and regional impacts of direct payments modulation in the Czech Republic, *Agricultural Economics – Czech*, 55: 200–210.
- Nowicki P., Goba V., Knierim A., van Meijl H., Banse M., Delbaere B., Helming J., Hunke P., Jansson K., Jansson T., Jones-Walters L., Mikos V., Sattler C., Schlaefke N., Terluin I., Verhoog D. (2009): Scenar 2020-II – Update of Analysis of Prospects in the Scenar 2020 Study – Contract No. 30-CE-0200286/00-21. European Commission, Directorate General Agriculture and Rural Development, Brussels. Available at http://ec.europa.eu/agriculture/analysis/external/scenar2020ii/report_en.pdf
- Central Database of the Ministry of Agriculture of the Slovak Republic (database stored by RIAFE). Available at www.vuepp.sk/vpu_ulohy.html
- Information letters of legal entities and individual farmers per year 2009 (database collected and stored by RIAFE). RIAFE, Bratislava.

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