Income redistribution effects of agricultural policy reforms – The case of Slovenia

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Abstract

The paper attempts to estimate the redistribution impacts of different alternatives of direct payments under the 2003 reform of the EU Common Agricultural Policy (CAP) on agriculture in Slovenia. The analysis is based on a static deterministic model for agricultural holdings. The scenario analysis includes 58,776 agricultural holdings, which applied for direct payments in 2002. The distribution of direct payments according to the different alternatives of CAP reform was compared against the distribution of standard scheme with 100% EU level of payments. Introduction of a regional scheme with a defined single area payment would result in a drop in budgetary transfers to 13,684 farms (23.3%) in comparison with the standard scheme. These farms receive a bulk of direct payments (46%) under the current standard scheme. Estimated impacts by sectors reveal that the negative redistributive effects occur mainly in the beef and milk sectors. Redistributive effects of single area payments could be minimized by combining production coupled payments and specific compensatory payments.

Keywords: CAP reform, income redistribution, Slovenia

1. Introduction

The most significant change of the 2003 reform of the Common Agricultural Policy (CAP) is the introduction of decoupled payments in the form of a single farm payment (SFP) (Agra Focus, 2003/2005). The SFP can either be paid on the basis of past entitlements per individual holding or as a single area payment equal for all producers in a certain area ("regionalisation" of SFP or regional payment scheme). The SFP can be combined with certain coupled payments of the pre-reform policy (Council Regulation 1782/03, 2003; Agra Focus, 2003/2005). The Council of Ministers imposed on the new Member States to introduce a regional version of the SFP (Council Regulation 583/04, 2004).

The CAP reform is expected to lead to a redistribution of budgetary funds between different production sectors and farm types, thus affecting a significant number of producers. The changed level of direct payments will undoubtedly have impact on producers' decisions, which could in the long term substantially affect also the agricultural production structure and trade patterns. However, the literature on redistribution effects of the CAP reform is rather scarce, especially concerning the latest CAP reform. Thus, the presented analysis elaborated for Slovenia could also be of interest to other EU Member States, as possible intensive collateral effects of the CAP reform are indicated. The gradual implementation of regional scheme was selected also in Germany and England (Agra Focus, 2003/2005), which can be perceived as one of the possible future uniform options of the CAP direct payments policy.

The presented paper is an attempt to estimate the effects of the introduction of the CAP reform on the distribution of direct payments by applying a static deterministic model of agricultural holdings.

2. Method of work and data

To accomplish the analysis a static deterministic model of agricultural holdings was developed based on the data of the Agency of the Republic of Slovenia for Agricultural Markets and Rural Development for all agricultural holdings who applied for direct payments in 2002. The model input data include physical indicators on areas, livestock, milk production and received CAP direct payments in the reference

year. The model allows calculation with varying levels and types of direct payments. Furthermore, model allows formation of categories of farms by type of received payments, size (area and stocks) as well as classification by location in the less favoured areas. All in all, 58,776 agricultural holdings were included in the analysis.

The scenario analysis is based on two reference scenarios. The first, ("SS") represents the distribution of direct payments under the standard scheme, taking into account the 100% EU level of CAP pre-reform payments. This scenario can therefore be considered as the "non-reform" scenario. The second reference scenario ("R" - net regional scheme) represents an implementation of SFP in the form of single area payments per hectare of arable land and grasslands without any coupled measures. The results of "R" scenario compared with the results of "SS" scenario imply the possible magnitude of the redistribution effects of the CAP reform.

The following four combined scenarios comprise different solutions for diminishing the redistribution effects of the 2003 CAP reform according to the Council Regulations 1782/03 (2003) and 583/04 (2004):

• "PC" - single area payment with coupled payments (75% of the payments for special premiums for bulls, 50% of the of payments for sheep);

• "PCM" - single area payment with coupled payments and historical payments of milk premium (75% of the payments for special premiums for bulls, 50% of the payments for sheep, 100% of the milk premium);

• "HIS" - single area payment with additional specific payments for animal sectors (40% of the pre-reform level);

• "CRS" ("compensatory regional scheme") - single area payment with coupled payments and historical payments of milk premium (100% of the slaughter premium for beef, 40% of the milk premium), additional compensatory payment per hectare for agricultural holdings in deteriorated economic position resulting from transition to the single payment scheme (40% of losses established in the first year of implementation of the net regional scheme).

The level of single payment for arable land is equal in all scenarios. The payments for grasslands are calculated from the residue of the national financial envelope funds. The value of these payments is varying with scenarios. The "CRS" scenario incorporates gradual introduction of the

reform. Namely, in the first year of the reform the share of specific payments is assumed higher and in turn the single area payment for the grasslands is assumed lower. In the transitional period the share of specific payments decreases until it finally reaches the level presented in scenarios "SS" and "R", while the single regional payment for grasslands increases.

The model results are presented by classes of redistribution effects and by production types. All in all, seven classes of redistribution effects were formed. The classes -3 and +3 include agricultural holdings which lose or gain more than 50% of the total value of direct payments compared to scenario "SS" respectively. The classes -2 and +2 include the holdings with the change in total payments ranging from 30 to 50%, the classes -1 and +1 include the holdings with the change from 10 to 30% and the class 0 includes the holdings where the payments changed by up to 10%.

The production types were formed according to the share of the individual type (or group) of standard scheme payments in the total value of direct payments received by sample holdings. The holdings were ranked in a certain production type if the specific payment for this production type represented more than 50% of the total value of received direct payments. If none of the payments exceeded 50%, the holdings were ranked in the production type "mixed" („Mix"). Other production types are following: arable crops ("Crop"), cattle fattening, where bull premiums represent most of supports ("Bulls"), and by the analogy cattle-suckler cows („Suck."), milk production („Milk") and sheep breeding („Sheep"). The model results for the whole sample are presented with "SUM".

The redistribution effects are represented with the distribution of agricultural holdings and payments by production types or by classes of redistribution effects and with the comparison of the levels of payments before (standard scheme) and after the CAP reform.

3. Results and discussion

3.1. Net regional scheme

Model results imply that the net regional CAP reform scheme could have significant redistribution effects in comparison with the pre-reform direct payment policy (Table 1). Compared to the standard scheme the payments would go down in 13,684 holdings (23.3%) to the 66% level of the standard scheme payments. These "losing" holdings receive 46% of the total value of payments under the standard scheme. All in all, 1,589 holdings (2.7%), ranked in class -3, would in case of implementing the net regional scheme lose more than 50% of payments compared to the standard scheme.

Table 1: Redistribution effects in case of implementing the net regional scheme ("R")

	Classes of redistribution effects*							**Total**	**Lose**	**Gain**
	-3	-2	-1	0	1	2	3			
Number of holdings (AH)	1,589	4,760	7,335	13,009	6,961	4,831	20,291	58,776	13,684	32,083
% of AH	2.7	8.1	12.5	22.1	11.8	8.2	34.5	100	23.3	54.6
% of payments under SS	7.2	17.3	21.8	23.1	10.1	5.7	14.7	100	46.3	30.5
Payments index (SS=100)	40	60	80	98	119	139	253	111	66	187

* Group of farms which in comparison to standard scheme: lose > 50% of payments (-3); lose 30–50% (-2); lose 10–30% (-1); + - 10% (0); gain 10–30% (1); gain 30–50% (2); gain > 50% (3);

Source: Own calculations

On the other hand, the introduction of the net regional scheme would bring about a rise in payments for a significant part of the holdings (32,083 holdings). Compared to the standard scheme, 20,291 holdings (34.5%), ranked in class 3, would receive more than 50% higher payments in case of implementing the net regional scheme. On the whole more holdings would gain than lose by the introduction of the net regional scheme. Only for 22% of the holdings (received 23% of

total standard scheme payments funds) the level of payments would not be affected by the change of the scheme markedly.

The comparison by agricultural sectors shows that the redistribution effects would be the most negative in the intensive beef ("Bulls") and milk production (Figure 1). As these sectors are of great significance to the "mixed" farm type in terms of the production value, the effects are extremely negative also for this farm type. More than 40% of the holdings of the farm type "Bulls" (received 70% of the total standard scheme payments funds) would be ranked in the losing groups, receiving merely a half of the payments compared to the standard scheme. Under the standard scheme this farm type is relatively strongly supported and the stocking density is high. In crop production, the changes would be relatively small. The sectors with production largely linked to grasslands would gain substantially as the stocking density in these sectors is relatively lower (suckler cows, sheep and goats).
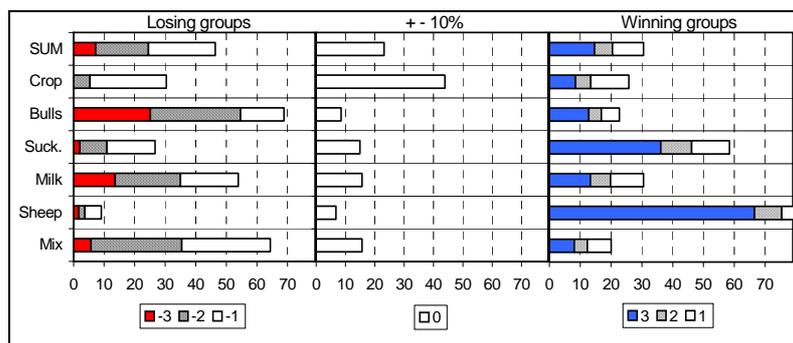

Figure 1: Redistribution of standard scheme payments in case of implementing the net regional scheme ("R") by production orientations
Source: Own calculations

3.2.   Combined solutions for alleviating redistribution effects

The comparison of schemes by different scenarios (Table 2) reveals the impact of the share of funds paid in the form of the regional payment on the redistribution. The impact is the strongest in case of implementing the net regional scheme whereas it gradually weakens with adding of various specific payments (other scenarios).

Table 2: Structure of national envelope use and redistribution effects

	R	PC	PCM	HIS	CRS
Structure of national envelope (%)					
Reserve	3.0	3.0	3.0	3.0	3.0
Production-coupled payments	0.0	11.1	11.1	0.0	9.3
Historic dairy rights	0.0	0.0	14.6	0.0	5.9
Specific additional payments	0.0	0.0	0.0	19.9	5.1
Regional single payment	97.0	85.9	71.3	77.1	76.7
Redistribution effects by classes (% of payments under SS)					
-3 lose >50% in comparison to SS payments	7.2	3.8	1.4	0.2	0.0
-2 lose 30-50%	17.3	11.8	9.8	6.1	2.2
-1 lose 10-30%	21.8	27.5	19.4	28.7	31.6
0 + - 10%	23.1	28.6	33.3	33.0	39.0
1 gain 10-30%	10.1	10.3	18.4	13.1	12.6
2 gain 30-50%	5.7	5.6	8.0	6.5	5.7
3 gain >50%	14.7	12.3	9.7	12.4	8.9
Total lose groups	46.3	43.2	30.7	35.0	33.8
Total gain groups	30.5	28.2	36.1	32.1	27.3
Index of payments for lose groups (SS=100)	66.4	70.1	72.7	78.1	81.0

Source: Own calculations

It is difficult to assess properly the consequences of individual reform scenarios only at the aggregate level as the effects at the level of individual production types are also significant (Figure 2). Results for scenarios where only some elements of the standard scheme are retained (scenarios "PC" and "PCM") show that the measure alleviating the negative effects in one production type can have the opposite effects in other types (scenario "PC": improvement in "Bulls", deterioration in "Milk"; scenario "PCM": significant improvement in "Milk", deterioration in "Suck."). Similar negative effects have also been perceived in other combinations of production coupled measures (slaughter premium, suckler cows and slaughter premium). We can conclude that only by the allowed production coupled measures and historic payments for milk it is not possible to form a scheme which would not have significant redistribution effects at least in some production types.
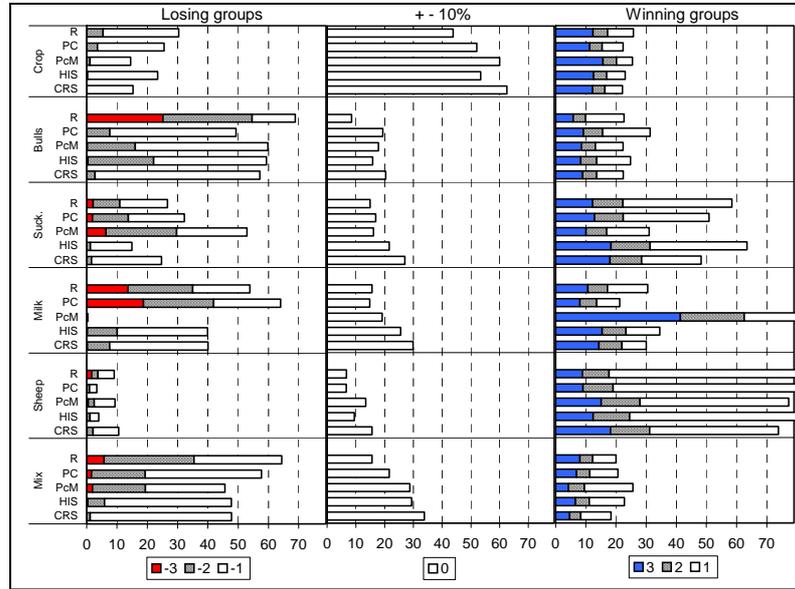
Figure 2: Redistribution of standard scheme payments in case of implementing various combined schemes (scenarios) by production orientations
Source: Own calculations

The results of scenarios "HIS" and "CRS" show a more balanced picture (decreased number of holdings in classes with the most intensive changes: -3, 3). In scenario "HIS" single area payments are combined with specific payments for animal sectors which are similarly defined as the historic payments entitlements. Results for this scenario reveal that such approach could be suitable for alleviating negative redistribution effects of the implementation of the SFP. This is further confirmed by the fact that the majority of old Member States which had implemented the CAP reform in 2005 included historic payment rights in one way or another in their schemes (in the full form among others Italy and Austria, in combination with regional scheme Denmark, Germany and Sweden; Agra Focus, 2003/2005). Scenario "CRS" provides several advantages in comparison to other schemes. It shows less adverse redistribution effects at the end of the transition period, the transition effects are more evenly distributed among the

production orientations (Figure 2), and above all it helps alleviating the transition shock.

4. Conclusions

Considering the model results, the introduction of net regional payments under the 2003 CAP reform in Slovenia would lead to a significant redistribution of direct payments funds detrimental to a core part of agricultural holdings. The income redistribution is undoubtedly politically sensitive side-effect of the reform, significantly affecting the economic attractiveness of individual production types.

However, if this is politically sensitive issue, the redistribution effects may be alleviated by various forms of specific compensatory payments. To enable the gradual adjustment to changes, the level of regional payments could be raised progressively, thus assuring the higher level of specific payments upon the introduction of the reform.

The paper gives insight only into one dimension of the redistribution effects, since only the changes from one type of policy support to another were investigated. Therefore, further investigation of horizontal inequalities between individual production types of farms with or without various forms of policy support is recommended (ALLANSON, 2004).

Additionally, the case of Slovenia implies that the 2003 CAP reform will have a number of side-effects, importantly determining the actual impact of the negative consequences of the adopted reform solutions. In this respect, the significant other side-effects of the CAP reform like effects on land market, production intensity, and protection of natural resources should also be investigated.

Literature

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