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## **CAP reform and redistribution of direct payments in Slovenia**

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### **ABSTRACT**

The paper attempts to estimate the redistribution of direct payments under different alternatives of the 2003 reform of the EU Common Agricultural Policy (CAP) among the agricultural holdings in Slovenia. The scenario analysis is based on a static deterministic model of agricultural holdings and includes 58,776 agricultural holdings which applied for direct payments in 2002. The distribution of direct payments under different alternatives of CAP reform was compared against the distribution of standard scheme with 100 % EU level of payments. Introduction of a net regional scheme with a defined single area payment would result in a drop in budgetary transfers to 13,684 holdings (23.3 %) in comparison with the standard scheme. These holdings receive a bulk of direct payments (46 %) under the standard scheme. Estimated impacts by sectors reveal that the negative distributive effects occur mainly in the beef and milk sectors. If the policy makers seek to minimize the redistribution effects, the specific compensatory payments as well as gradual introduction of single payments could be introduced. However, the question is if in this case the aims of policy changes are fulfilled and new public concerns about agriculture are met satisfactorily.

**Key words:** CAP reform, direct payments, redistributive effects, agricultural holdings, Slovenia

### **IZVLEČEK**

#### **REFORMA SKP IN PRERAZDELITEV NEPOSREDNIH PLAČIL V SLOVENIJI**

V prispevku so prikazane ocene prerazdelitve direktnih plačil v okviru različnih shem reforme Skupne kmetijske politike (SKP) Evropske unije iz leta 2003 v Sloveniji. Scenarijska analiza je bila opravljena na podatkih o vlogah za neposredna plačila za 58.776 kmetijskih gospodarstev, ki so zaprosila za neposredna plačila v letu 2002. Analiza je bila opravljena s pomočjo za te namene razvitega statičnega determinističnega modela kmetijskih gospodarstev. Primerjana je porazdelitev neposrednih plačil v okviru različnih reformnih shem s porazdelitvijo neposrednih plačil po standardni shemi s plačili na ravni 100 % v primerjavi z

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EU. Uvedba regionalne sheme z enotnim plačilom na površino bi povzročila padec obsega proračunskih transferjev za 13.684 kmetijskih gospodarstev (23,3 %) glede na standardno shemo. Ta kmetijska gospodarstva v okviru standardne sheme prejemajo pomemben del mase neposrednih plačil (46 %). Ocena učinkov po sektorjih pokaže, da so prerazdelitveni učinki najmanj ugodni za sektorja govejega mesa in mleka. Če nosilci odločanja stremijo k minimiziranju redistributivnih učinkov, imajo možnost poseči po specifičnih izravnalnih plačilih. Tudi postopna uvedba enotnih plačil ob hkratnem zmanjšanju specifičnih plačil lahko prispeva k znižanju negativnih učinkov reforme SKP iz leta 2003. A vprašanje je, če je s tem zadoščeno ciljem reforme, ki želi ukrepe prilagoditi spremenjenim zahtevam javnosti do kmetijstva.

**Ključne besede:** reforma SKP, direktna plačila, prerazdelitveni učinki, kmetijska gospodarstva, Slovenija

## 1 INTRODUCTION

Modern agricultural policy mainly has hidden agenda to gain the political power through reaching the income objectives of the specific farm interest groups (Pasour and Rucker, 2005). The agricultural policy reforms can lead to income redistribution, therefore the policy makers tend to minimize the policy reform changes. The issue is not satisfactory covered in the economic literature due to the policy dimensions of such analyses, however it is gaining on the importance (Schmid et al., 2006a and 2006b). Thus, the paper attempts to contribute to the discussion about the issue on the case of the 2003 Common Agricultural Policy (CAP) of the European Union (EU) on the case of Slovene agriculture.

The most significant novelty of the 2003 CAP reform is the introduction of decoupled payments in the form of a single farm payment (SFP) (Agra Focus, 2003/2006) which can be paid either on the basis of past entitlements of the 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, 2003/2006).

The Council of Ministers imposed on the new Member States to introduce a regional version of the SFP, with certain elements allowed to remain production-coupled (Council Regulation 583/04, 2004). Slovenia as one of the new Member States decided to implement combined direct payment scheme (Slovenia clarifies its..., 2006), which comprises regional flat-rate payment, different for arable land and grasslands, payments based on historical rights (milk, beef, sugar) and preserves certain payments production-coupled (special beef premium, ewe and goat premium, hops premium, specific payment for female cattle animals).

The 2003 CAP reform raised expectations about mitigating the income/agricultural support distribution highly skewed towards the largest, high-income farm units (Agra Focus, 2003/2006; Schmid et al., 2006a). However, the recurrent question to what extent a certain (agricultural) policy successfully tackles this problem of income inequality (in terms of distributive justice) remains open (Schmid et al., 2006a).

Namely, recent studies for different EU Member States (for review see Schmid et al., 2006b) report that the 2003 CAP reform will have only minor income distributional effects due to the retained proportionality of agricultural supports with current or past level of production, named historical rights option of the reform (Allanson, 2005; Schmid et al., 2006a). Contrary to the expectations the 2003 CAP reform along with the inherent differences in the natural and structural characteristics between agricultural holdings at least preserves if not adds to the income inequality among agricultural holdings (Schmid et al., 2006a). Nevertheless, it should be considered also that the distribution of agricultural policy transfers can to some extent reflect political goals other than income support, such as environmental, sustainability or rural development goals (Allanson, 2004).

The another extreme option of the 2003 CAP reform is the introduction of flat-rate payments (named also single area payment or net regional scheme) which is a compulsory basis for the implementation of the reform in the new Member States, however in the pure form only rarely used in the old Member States (England and Germany after the long transitional period; Agra Focus, 2003/2006).

The principal aim of the presented paper is to estimate the potential redistribution of direct payments in case of introduction of the 2003 CAP reform in Slovenia, especially of the net regional scheme, by applying static deterministic model of agricultural holdings. The redistribution effects of (agricultural) support policy can be defined as the difference between the inequality of pre-support and post-support farm household income (Allanson, 2005). There are several measures of income distribution in the economic literature, the most commonly used among them are the Lorenz curve and Gini coefficient (Pasour and Rucker, 2005). The analysis presented uses simplistic approach of comparing the levels of direct payments before and after the implementation of different 2003 CAP reform options in the field of direct payments in Slovenia.

## **2 METHOD OF WORK AND DATA**

### **2.1 The static deterministic model of agricultural holdings and data**

To accomplish the analysis a static deterministic model of agricultural holdings was developed based on the IACS data of the Agency of the Republic of Slovenia for Agricultural Markets and Rural Development for all agricultural holdings which applied for direct payments in 2002. The model input data include physical indicators on areas, livestock, milk production and received CAP like direct payments in the reference year. The model allows calculation of various levels and types of direct payments and formation of the categories of farms by type of received payments, size (area and stocks) as well as by location in the less-favoured areas. All in all, 58,776 agricultural holdings were included in the comparative analysis.

For each analyzed agricultural holding the value of direct payments by type of payments under the existing (standard) CAP measures presents 100 % level of payments and is compared to the results of various scenario schemes under the CAP reform. The total amount of direct payments under the net regional scheme (estimated EUR 140.2 million) is estimated on the basis of the "national financial envelope" for Slovenia, calculated from the quotas and reference quantities under the existing (standard) market organizations (Council Regulation 864/04, 2004). The changes in the allocation of the direct payments to the individual agricultural holdings could be seen as a first proxy for the income redistribution, due to the high share of the direct payments in the structure of the farm income (Rednak et al., 2003).

## 2.2 Scenarios

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 % level of payments, hence it can be considered as "non-reform" scenario. The second reference scenario represents an implementation of net regional scheme ("R") in the form of a single payment per hectare of arable land and grasslands. The following four scenarios comprise additional possibilities for the implementation of CAP reform according to the Council Regulations 1782/03 (2003) and 583/04 (2004):

- "PC" - single area payment with production-coupled payments (75 % of the level of payments for special premiums for bulls, 50 % of the level of payments for sheep).
- "PCM" - single area payment with production-coupled payments and historical payments of milk premium (75 % of the level of payments for special premiums for bulls, 50 % of the level of payments for sheep, 100 % of 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 production-coupled payments and historical payments of milk premium (100 % slaughter premium for beef, 40 % of 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 reform).

The level of single payment for arable land is equal in all scenarios. The payment for grasslands is calculated as a residue of the national financial envelope funds and varies among scenarios. "CRS" scenario incorporates a gradual introduction of the reform. 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 reaches the level presented in the basic scenarios ("SS", "R"), while the single regional payment for grasslands increases.

The redistribution effects of the 2003 CAP reform are represented with the distribution of agricultural holdings and direct payments by production types and by classes of redistribution effects as well as with the comparison of the levels of direct payments before (standard scheme) and after the implementation of the 2003 CAP reform.

Altogether, seven classes of redistribution effect 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 %, whereas the class 0 includes the holdings where the payments changed by up to 10 %.

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

### 3 RESULTS AND DISCUSSION

#### 3.1 Net regional scheme

Model results suggest that net regional scheme could have significant redistribution effects (Table 1) compared to the pre-reform (standard scheme) policy, as the payments would go down in 13,684 agricultural holdings (23.3 %). Expressed in the value of the standard scheme payments, these “losing” holdings account for 46 % of payments. On average, the “losing” holdings would in the event of the net regional scheme realize 66 % of the payments of the standard scheme. All in all, 1,589 holdings (2.7 %) would lose more than 50 % of payments.

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);

On the other hand, the introduction of 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 be allocated more than 50 % higher payments by the net regional scheme compared to the standard scheme. On the whole, more holdings would gain than lose by introduction of the net regional scheme. Only for 22 % of holdings (received 23 % of total standard scheme payments founds), 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 beef (“Bulls”) and milk production (Figure 1). As these sectors also take up an important share in the “mixed” type, the effects are extremely negative also for this production type. More than 40 % of the holdings of the type “Bulls” (70 % of payments) would be ranked in the losing groups, receiving only around 50 % of payments according to the standard scheme. Under the standard scheme this production type is relatively strongly supported and the stocking density is high which has lead to the higher level of direct payments per hectare. In crop production the changes would be relatively small. However, the sectors with production largely connected to grasslands would gain substantially as the stocking density in these sectors is lower (suckler cows, sheep and goats).

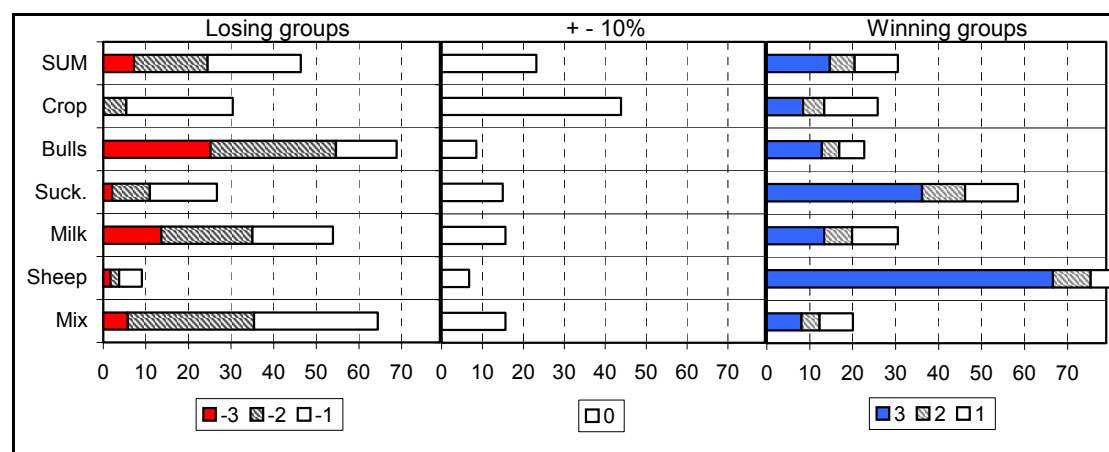


Figure 1. Redistribution of standard scheme payments in case of implementing the net regional scheme ("R") by production orientations.

### 3.2 Combined solutions for alleviating redistribution effects

The comparison of schemes by different scenarios (Table 2) reveals the effects of the share of funds paid in the form of regional payment on the redistribution. The effects are the strongest in case of introduction of net regional scheme, whereas they gradually ease with addition of various specific payments (other scenarios).

Table 2. Structure of national envelope use and redistribution effects under various scenarios.

	R	PC	PCM	HIS	CRS
<b>Structure of national envelope (%)</b>					
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
<b>Redistribution effects by classes (% of payments under SS)</b>					
-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

It is difficult to assess properly the consequences of individual scenarios only on the aggregate level, because the effects at the level of each production type are also important (Figure 2). Results for scenarios where only some elements of the standard scheme are preserved (scenarios "PC" and "PCM") show that the measure alleviating the negative effects in one production type has the opposite effects in other types (scenario "PC": improvement in "Bulls", deterioration in "Milk"; scenario "PCM":

significant improvement in “Milk”, deterioration in “Suck.”). Although the reduction of payments seems to be problematic from the policy point of view, also the changes which cause disproportionately high increase in payments in one production type (“Milk” in scenario “PCM”) should be considered when dealing with redistribution effects of the reform. Similar negative effects have been perceived also 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, if this is the objective of decision makers, to form a scheme which would not have significant redistribution effects at least in some production types.

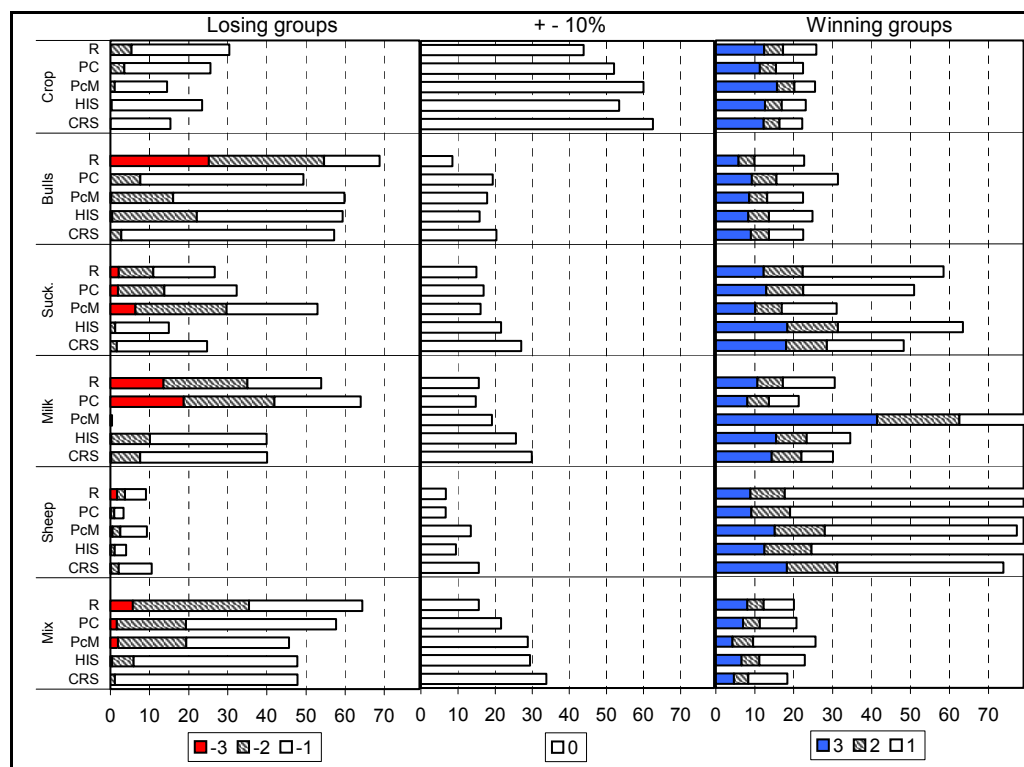


Figure 2. Redistribution of standard scheme payments in case of implementing various combined schemes (scenarios) by production orientations.

The results of scenarios “HIS” and “CRS” show a more balanced picture and less intensive changes (decreasing number of holdings in classes with most intensive changes: -3, 3). In scenario “HIS” single regional payments are combined with specific payments for animal sectors which are close to the historic payments rights. Results for this scenario reveal that such approach could be suitable for alleviating negative redistribution effects of the transition. 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, 2003/2006). 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 analyzed production orientations (Figure 2), and above all it helps alleviating the transition shock.

#### 4 CONCLUSIONS

Based on the presented results it can be concluded that the introduction of the regional payments under the 2003 CAP reform would result in a significant redistribution of direct payments among agricultural holdings in Slovenia compared to the pre-reform situation. This could be detrimental to a significant number and production types of the analyzed agricultural holdings, especially those in the beef production.

The redistribution is an important politically sensitive side-effect of the analyzed reform which could significantly affect the economic attractiveness of individual production types and thus lead to different competitive positions of producers in different EU regions. The results presented show that redistribution effects may be alleviated by various forms of specific compensatory payments, as well as by enabling gradual adjustment to changes through gradual increasing of regional payments' level and gradual reduction of specific payments. This is all to a large extent considered in the decision about the 2003 CAP reform policy option in Slovenia, accepted in June 2006 (Slovenia clarifies its..., 2006).

The presented analysis shows how the income objectives, here clearly expressed as the minimizing the redistribution effects, determine the policy decisions. This way one of the key characteristics of the modern agricultural policy, which is that the agricultural supports are mainly allocated to the specific farm groups (in Slovenia bigger beef and dairy farms) and could be evaluated as problematic from the equity, fairness and welfare perspective (Pasour and Rucker, 2005), has not been touched, with oppositely related concerns leading to the final decisions in Slovenia and in the majority of the developed countries. The other important public policy issues related to agriculture and agricultural policy, like the environment, food safety and animal welfare, are normally not tackled in the discussion many times, thus making the legitimacy of such policy decisions questionable. However, these issues will undoubtedly gain on their importance in the future.

Due to the fact that during the time of the paper submission procedure the reform policy scheme of direct payments in Slovenia has already been decided upon the paper loses on some of its actuality of presenting possible redistribution effects of different reform direct payments policy schemes. Nevertheless, besides offering the quantitative comparison of possible redistribution effects of the 2003 CAP reform with other EU Member States, the presented analysis provides also a starting point for further research in the insufficiently examined field of income distribution effects of different instruments of CAP in Slovenia. Further investigations in the field are recommended to be extended especially in terms of application of more sophisticated methods to quantitatively evaluate (re)distribution effects of agricultural policy (instruments).



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