An Ex-ante Rural/Urban Analysis of Common Agricultural Policy Options

D. PSALTOPOULOS[1*], E. PHIMISTER[2], T. RATINGER[3], D. ROBERTS[2], D. SKURAS[1], F. SANTINI[4], S. GOMEZ Y PALOMA[4], E. BALAMOU[1], M. ESPINOSA[4], S. MARY[1]

[*]Contact Author, Department of Economics, University of Patras, Rio 26500, Greece.
Email: dempsa@upatras.gr

[1]Department of Economics, University of Patras, Greece
[2] University of Aberdeen Business School, Scotland
[3]UZEI, Czech Republic
[4]IPTS, JRC, Seville

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1. Introduction

Since the early 1990s, the Common Agricultural Policy (CAP) has been substantially reformed in its objectives and instruments used to achieve them (European Commission, 2009a). In recent years, the structural transformation of EU rural areas has attracted increased attention from policy makers, in their effort to respond to issues such as the diminishing importance of agriculture, demand for recreation and environmental concerns. This policy focus has been "embodied" into significantly greater EU expenditure on rural development policy (RDP) measures and an effort to implement these interventions in a more "integrated" framework.

Two EU Regulations have played a major role in facilitating this new RDP approach. Regulation 1257/99 (European Commission, 1999) specified a menu of rural policy measures to be implemented 'at the most appropriate geographical level'. Regulation 1698/2005 (European Commission, 2005) further reinforced EU RDP, through the introduction of a single funding and programming instrument (EAFRD), and emphasizing complementarities between Pillars 1 and 2 (European Commission, 2006); in parallel, it specified three major intervention objectives, namely, improving competitiveness of agriculture and forestry (Axis 1), improving the environment and the countryside (Axis 2) and improving the quality of life in rural areas and encouraging diversification of economic activity (Axis 3). The above reforms were further reinforced by the 2008 CAP Health Check agreement (European Commission, 2009b; 2009c; 2009d), while new challenges led the Commission to issue a communication on the "CAP towards 2020" (European Commission, 2010), suggesting further changes to the CAP.

Currently, the CAP is a "multi-dimensional" form of public intervention structured around two complementary Pillars. It aims to provide a safety net to a market-oriented European agriculture and in parallel, promotes the restructuring of farming, the sustainable management of natural resources and (ultimately) the balanced territorial development of European rural areas.

Empirical evidence on the effectiveness of RDP measures in relation to their broad, economy-wide, policy goals are limited (Midmore *et al.*, 2010). There is however evidence of an unequal distribution of EU policy impacts amongst rural regions (Psaltopoulos *et al*., 2004; Shucksmith *et al.*, 2005) and the considerable leakages of rural policy benefits to urban areas (Baldock *et al*., 2001; Psaltopoulos *et al.*, 2006; Roberts *et al.*, 2009). As far as EU rural policy is concerned, few attempts have been made to assess the regional economic impacts of measures currently classified as Axis 1 and 3, due to data difficulties and the rather blurred distinction between several policy instruments. Also, the fact that the economic effects of such measures are likely to be small (even in the case of small rural economies), due to the small financial weight of RDP relative to both Pillar 1 and other national and EU policies affecting rural areas (Hill and Blandford, 2008), might have influenced the interest of researchers.

The aim of this paper is to apply a Computable General Equilibrium (CGE) modelling approach to the ex-ante assessment of the effects of rural policy measures so as to increase understanding of the way such policies work and are mediated by region-specific characteristics. The main focus of the simulations is to consider how changing the structure of Pillar 2 spending or a decrease in Pillar 1 funds, affect rural development. Analysis is focussed at the NUTS 3 level to complement previous more aggregate-level analysis and based on six specially-selected EU case study areas.

The paper is structured as follows: the next Section briefly deals with the selection of the six study regions and also presents some indicative characteristics of these areas. Section 3 presents the CGE modelling framework applied in this analysis, while this is followed by a Section on the model construction process. Section 5 deals with the application of the policy shocks, while model results are presented in Section 6. Section 7 concludes.

2. The Six Study Regions

Six case study areas were selected with different structural characteristics. The selection process utilized two existing rural typologies at the NUTS 3 level, namely the Diversification typology of the TERA-SIAP project (Weingarten *et al*., 2009) which classifies EU regions according to economic diversification status and potential; and the OECD-based typology (European Commission, 2009e) which classifies regions according to the extent of rurality and peripherality. These two typologies identified a preliminary pool of 30 study regions with different degrees of economic diversification, remoteness and rurality.

Table 1: Case Study Regions (2005)

	Arkadia (GR252)	**Potenza (ITF51)**	**Jihomoravsky Kraj (CZ064)**	**Aberdeen & Aberdeenshire (UKM50)**	**Guipúzcoa (ES212)**	**Rheintal-Bodenseegebiet (AT342)***
OECD type	Rural Peripheral	Rural Accessible	Intermediate Closed Space	Intermediate Closed Space	Urban Open Space	Urban Closed Space
TERA-SIAP type	Agri dependent/ low farm pluriactivity	Agri average/ low farm pluriactivity	Agri average/ high farm pluriactivity	Agri low/ low farm pluriactivity	Agri low/ low farm pluriactivity	Agri low/ High farm pluriactivity
Population (thousands)	89.30	391.10	1130.30	504.40	682.10	273.20
Per capita GDP (thousand euros)[1]						
Total	14	12	9	30	26	27
Rural	11	12	8	22	25	26
Urban	21	16	9	37	27	27
Contribution of agriculture to rural areas (%)						
Employment	37.5	11.5	2.9	0.8	1.0	0.1
Value added	12.5	6.6	2.6	2.8	0.8	0.2
Nature of CAP support						
% of RDP in CAP spend	47%	32%	34%	28%	30%	80%
% share Axis 3 in CAP spend	8%	6%	9%	6%	2%	6%

[1] Derived from base year SAM (2005) for each case study region

* Combined contribution of agriculture, forestry and fishing to employment and value added.

For these 30 areas, a further set of criteria on economic size, agricultural structures, employment, sectoral structures and agricultural/rural policy, was applied, aiming at obtaining a characterisation of the study regions reflecting differences in their economic functioning. Following a cluster analysis, the final six selected areas were Arkadia (GR252), Potenza (ITF51), Jihomoravsky kraj (CZ064), Aberdeen City and Aberdeenshire (UKM50), Guipúzcoa (ES212) and Rheintal-Bodenseegebiet (AT342). The six study areas represent a variety of rural contexts in Europe. Table 1 indicates their classification according to the two typologies used, as well as their diversity in terms of population, income per capita, importance of agriculture and CAP support.

3. A Dynamic - Recursive CGE Model for CAP Impact Assessment

Economic modelling efforts aiming to assess CAP impacts are methodologically diverse. Partial equilibrium models have mainly focussed on the assessment of the impacts of Pillar 1 support on agriculture (e.g. Britz *et al.*, 2008), while in terms of multisectoral analysis, several studies on the economy-wide effects of a change in farm support have been based on linear Leontief methods (e.g. Midmore, 1993).

CGE models provide a more sophisticated theoretical and analytical general equilibrium framework. In addition to their ability to capture policy-specific direct, indirect and induced effects, they can also account for potential displacement effects in factor and product markets. In recent years, the construction and use of CGE models in agricultural policy analysis has been widely applied to the investigation of trade policy issues (Tongeren *et al.*, 2001). Several CGE studies have investigated the impacts of changes in farm support at the EU or national levels (e.g. Bascou *et al.*, 2006; Gohin and Latruffe, 2006), but very few regional or sub-regional applications exist.

A simple, static CGE model can be utilized to assess development policy impacts in an economy. Such an approach considers the economy as being in long-run equilibrium at a given point in time, and therefore, simulations can investigate how exogenous shocks change its long-run (fully adjusted) position. However, a weakness of the static approach is that it cannot take into account that development policies are often implemented in a phased manner over time, and usually take several years to full effect. More fundamentally, they are often aimed at increasing the capacity of an economy through investment. However, the static model can be extended by allowing period-to-period updating of key parameters, either endogenously or exogenously, and then solved recursively in each period. In this way it is possible to generate a dynamic time path for model simulations. Such dynamic models lose some of their consistency with microeconomic theory, in the sense that actors are treated as myopic, solving one-period problems rather than an overall dynamic optimisation problem. However, they allow adjustment processes to be incorporated in a straightforward way and thus time paths to new equilibrium can be assessed.

Within this context, models constructed here are dynamic – recursive CGE models, adapted from the standard models developed by IFPRI, with the within-period model developed from the static CGE model (Lofgren *et al.*, 2002), and the recursive dynamic part adapted from Thurlow (2008). This framework has been applied widely both at the national and regional level (Partridge and Rickman, 2008).

A number of model modifications were carried out to capture rural-urban linkages and the small regional nature of the study areas. In more detail, production activities are spatially disaggregated, while commodities are not. It is argued that the market integration of the rural and urban areas in the study regions is very high so that assuming, *a priori*, the existence of separate rural and urban commodity markets would suggest a higher than actual isolation of urban and rural space. Households are disaggregated according to their rural/urban location while government and the Rest of the World are each portrayed in an aggregate manner.

To control model dynamics, a number of exogenous “between period” adjustments on variables such as productivity growth or/and government spending are imposed. Population and labour supply are also exogenous between periods, while capital adjustment for each sector between periods is typically endogenous, with investment by commodity in the solution of the model in period *t-1* used to update capital stocks before the model solution in period *t.* As in the Thurlow model, to map this to capital stock in activities it is assumed that the commodity composition of capital stock is identical across activities. Effectively, the allocation of new capital across activities then uses a partial adjustment mechanism, with those activities where returns are higher than average obtaining a higher than average share of the available capital. This then determines, after accounting for (exogenous) depreciation, for the adjustment in capital stock in each activity. Alternatively, the growth rate of capital stock in a specific sector may be set exogenously. In this case, the amount of investment required for this sector is calculated and then the amount of investment available for endogenous allocation reduced accordingly.

4. Model Construction

The SAM tables for the six study regions were constructed through a four-stage process. Stage 1 involved the regionalization of existing national (or in the case of Guipuzcoa, NUTS 2) Input-Output Tables for year 2005, through the use of location quotient and RAS procedures. This was followed by the rural-urban disaggregation of sectors and households, performed here through the utilization of secondary data (for example, employment data to split sectors, population data to split households). A key issue required at this point is the definition of rural and urban boundaries in the region. In some cases (e.g. Arkadia), this was straightforward as the urban area consists solely of the city of Tripoli. In others (e.g. Guipuzcoa), the definition of rural and urban was based on population density at the municipality level.

Stage 2 mainly involved the disaggregation of agricultural activity and commodity entries (through the use of FADN information on farm-types) and then, the conversion of the regional Input-Output Table into a SAM structure by filling in the inter-institutional transactions of the SAM table. The latter was carried out via the utilization of regional household income and expenditure data, as well as information from key informants (regional agencies and local policy makers). In Stage 3, initial SAM entries were “superiorised”, in other words replaced with values considered more accurate, collected from elite interviews with local policy-makers and stakeholders. Finally, Stage 4 involved the application of the cross entropy optimization procedure (Robinson *et al*., 2001) in order to estimate balanced SAMs.

The structure of the six SAMs is identical across all study regions, but there are some differences in terms of the degree of disaggregation of accounts, as a result of both data availability and different regional characteristics. For example, more food processing activities are included in the Arkadia SAM because a greater disaggregation of such activities in present in the Greek national Input-Output table than the Scottish or Czech tables. The choices of factor and household accounts are very similar across study areas, with one extra labour skills category in the Arkadia SAM compared to the other regions, while due to data availability constraints, the Jihomoravsky kraj SAM is the only one to distinguish rural households by commuting status. In five of the six SAMs (the exception Rheintal-Bodenseegebiet), separate farm household accounts are distinguished.

SAM construction was followed by model calibration, which required the specification of elasticities, exogenous region-specific trends and closure rules. The choices of model elasticities and trend parameters varied between the study areas, reflecting differences in economic structure. In contrast, the choice of model closure rules was almost identical in all six models; in the government account balance it was assumed that savings adjust endogenously and tax rates are fixed; in the external balance, real exchange rate were set as endogenous and the current account deficit as fixed; finally in the Savings-Investment balance, investment was taken as fixed and savings were assumed to adjust. Regarding factor markets, only the labour market closure rules varied, with two models assuming an upward-sloping labour supply function for both skilled and unskilled workers while the other four models assumed neoclassical adjustment in the unskilled labour market. Full details of the six SAMs and choice of elasticities/trend values are available from the authors on request.

5. Policy Shocks

5.1 Scenario Specification

The recursive dynamic CGE model allowed the assessment of policy scenario impacts over the current and future EU programming periods. The 2006-2020 time-span accommodates the assessment of the impacts of EU budget and CAP reform decisions, and also contains an adequate time period for RDP intervention to operate and produce secondary/long-run economic impacts. As the aim is to compare the economic impacts of alternative “paths” of Pillar 1 and 2 measures with those of the current policy context, the baseline of this analysis is specific to the implementation of the CAP Health Check and the 2007-13 RDPs, with adjustments made to reflect national choices on the CAP Health-Check (i.e. SFP model, definition of eligibility, partial decoupling, Article 68, etc.). Modulation rates follow the Fischler reform and CAP Health Check decision and study-area-specific equivalent amounts are transferred to Pillar 2 and increased by national co-financing. In the Czech case study, direct payments (including a national top-up) are gradually increased and reach their 100% level in 2013.

The next three policy scenarios aim to assess the impacts of relatively extreme EU agricultural and rural policy changes on the economies of the six study areas:

Scenario 1 – “Agricultural” RDP: RDP spending is characterized by a sectoral (i.e. agriculture) targeting and concentrates on Axes 1 and 2. Pillar 1 flows observe the baseline conditions. Axis 3 expenditure is distributed to Axes 1 and 2 measures, proportionately to already-defined budget shares of measures within Axes 1 and 2.

Scenario 2 – Diversification RDP: RDP spending targets the non-agricultural, rural economy and also pursues an improvement in the quality of life in rural areas and concentrates only on Axis 3. Pillar 1 is as in the baseline. The distribution of funds to Axis 3 measures follows the procedure adopted for Scenario 1.

Scenario 3 – Reduction of Pillar 1 support: This Scenario takes into account the current CAP orientations and assumes a 30% decrease in Pillar 1 support. Pillar 2 is as in the baseline, but as Pillar 1 is reduced, modulation funds are also reduced.

Each scenario represents a different combination of positive and/or negative shocks to agriculture and non-agricultural rural industries. The associated direct effects of these depend on the implementation of Pillar 1 and 2 measures, which varies widely across study areas.

5.2 Modelling Scenario Simulations

The mechanism used to implement the scenarios in the models is focussed on the assumed induced changes in investment and capital stock within key industries. This choice was largely determined by the fact that (in contrast to conventional static demand shocks) the dynamic CGE model can accommodate that RDP investment projects (and their economic effects) are implemented over a given period.

To operationalize this approach, Axes 1 and 3 spending in each region was mapped into investments in specific SAM sectors of the models. Data availability, and the way the RDP has been implemented, varies considerably across study regions and thus, region-specific supplementary assumptions were required. For example, in Scotland, regions set rural priorities and total funding is allocated via “Options” which do not map simply into the RDP measures, while differences also exist in the sectoral targeting of RDP measures among study areas.

Once the assumed allocation of RDP spending to specific sectors has been made, the simulations are carried out in a series of steps. First, the model is run with all sectors treated as endogenous. This defines the growth rate without RDP spending in the sectors which are assumed to benefit from it. The growth rate of capital stock in these sectors is calculated after the RDP spending was added and then the model is re-run with these capital growth rates set exogenously. Further, the foreign savings inflow is increased by the amount of the RDP spending assumed to be funded by EU and/or national government and/or private funds. Next, some of the models are adjusted to changes in ownership of factor incomes, due to RDP. Finally, investment-driven savings (with overall investment increased to allow for extra RDP investment) plus exogenous foreign savings are used as closure rules in the base run. This ensures that extra economic activity due to the extra RDP investment and subsidy inflows is not conflated with changes in investment due to changes in savings behaviour. The reduction in Pillar 1 spending in Scenario 3 was modelled as a reduction in decoupled farm household income and, in some study areas, a reduction in coupled support. Axis 2 measures were modelled as coupled support with income received directly by the relevant farm type. This is recognised as a simplification in the current analysis as discussed further in the conclusions.

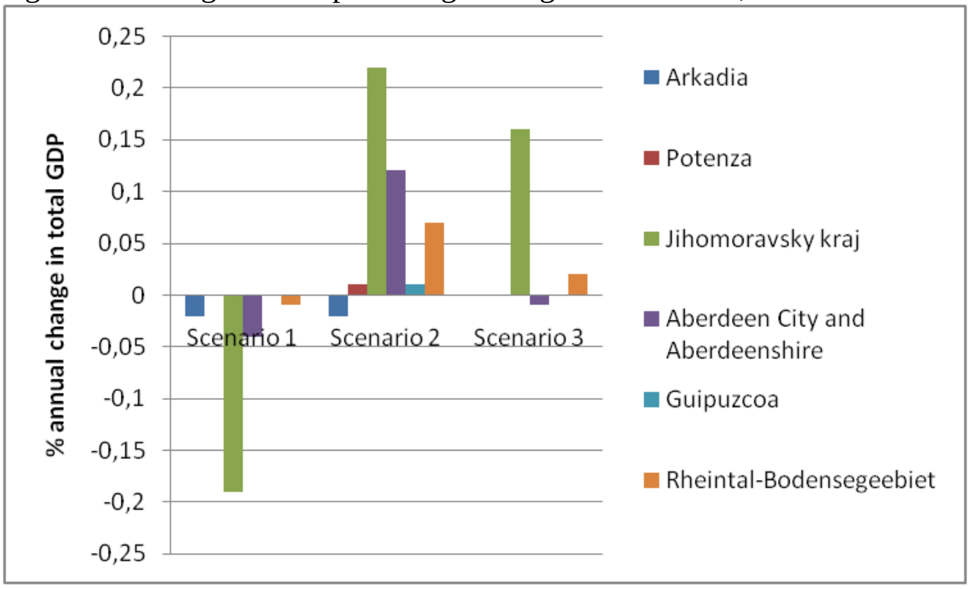
6. Impact Analysis

Impacts are presented as average annual difference between scenario and baseline values over the period 2006-2020. Estimated effects are small, due to the relatively low importance of the agricultural sector and farm households in most areas and/or the small size of CAP expenditure relative to the size of the regional economy.

Figure 1 shows the aggregate (economy-wide) GDP impacts of the three scenarios. Estimated effects of all scenarios are very small, with Jihomoravsky Kraj showing the largest GDP impact. Indeed, only in this region and Aberdeen can the total effects of the policies be viewed as non-negligible. In Scenario 1 (Agricultural RDP), the redistribution of Axis 3 funds towards Axes 1 and 2, impacts negatively non-agricultural rural GDP due to capital stock reduced in affected secondary and tertiary sectors. This scenario decreases (compared to the baseline) output levels in all these sectors. In Scenario 2 (Diversification RDP) non-agricultural rural sectors are favored over agriculture and the shift in Pillar 2 towards Axis 3 gives rise to positive effects in five of the six areas, and especially in those with a diversified economy (Jihomoravsky, Aberdeen, Rheintal-Bodensegeebiet). Arkadia, characterised by its significant dependence on agriculture is the exception, reacting negatively.

In Scenario 3, the decrease in Single Farm Payment affects farm incomes, while in areas where coupled support still applies, a negative effect on farm output should also be expected. The small decrease in modulation funds will slightly decrease rural investment, but effects cannot be expected to be more than marginal. Economy-wide impacts are zero or positive and only in the Czech area the estimate is non-negligible. This finding can be attributed to both the low importance of agriculture in some of the areas and gains in allocative efficiency.

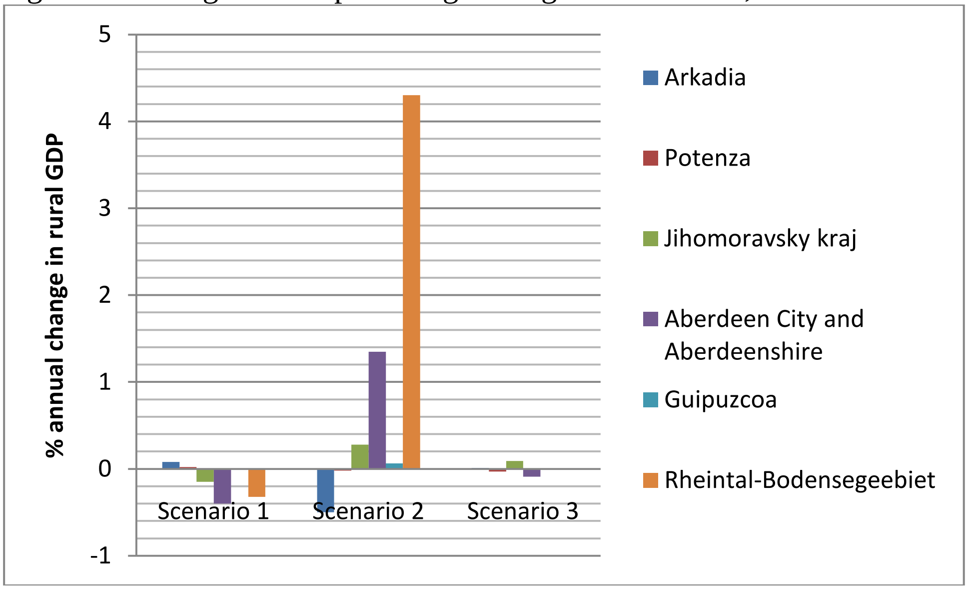
Figure 1: Average annual percentage change in total GDP, 2006-2020



Source: Authors' calculations.

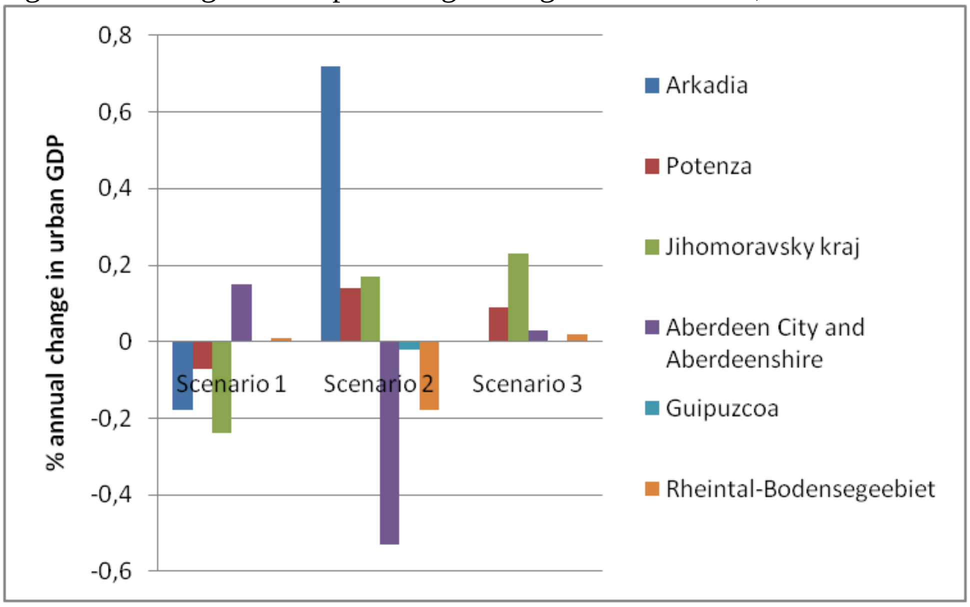
Figures 2 and 3 present scenario-specific rural-urban spillover effects. Scenario 1 (Agricultural RDP) generates very small but positive rural effects in agriculturally-dependent regions of Arkadia (0.08%) and Potenza (0.02%), and with the exception of Guipúzcoa (zero effects), negative rural effects appear in the four intermediate and urban regions. In contrast, the Diversification RDP Scenario 2 generates negative rural effects in agriculturally-dependent regions and positive ones in intermediate and urban areas. Also, with the exception of Jihomoravsky kraj, urban effects mirror rural ones; indicatively, in agriculturally-dependent areas, rural gains are "accompanied" by urban losses in Scenario 1, while in Scenario 2, rural losses are accompanied by urban gains. In Scenario 3 (reduction of Pillar 1 support), rural impacts are very low.

Figure 2: Average annual percentage change in rural GDP, 2006-2020



Source: Authors' calculations.

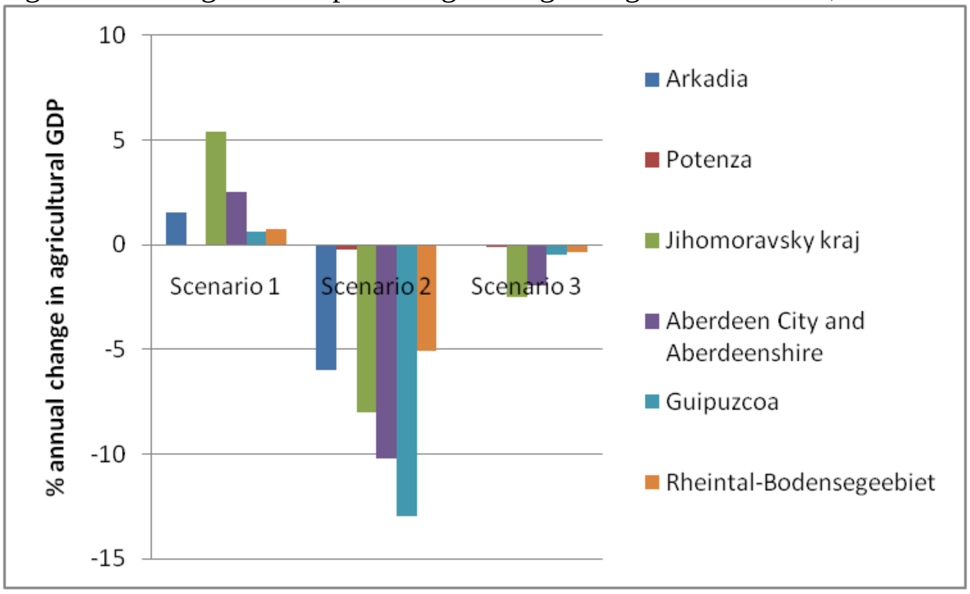
Figure 3: Average annual percentage change in urban GDP, 2006-2020



Source: Authors' calculations.

The scenario impacts on agricultural GDP are presented in Figure 4. Estimated impacts are substantially higher compared to those presented above. In the Agricultural RDP Scenario, higher investment on agriculture and food processing result in notable gains in Jihomoravsky kraj (5.4%), Aberdeen (2.5%) and to a lesser extent, Arkadia (1.5%). In contrast, a diversification strategy (Scenario 2) leads to a significant decline of agricultural GDP in all areas but Potenza. Further, in both RDP Scenarios, there seems to be a trade-off between rural and agricultural GDP impacts in the four diversified economies where Scenario 1 generates rural losses and agricultural gains, while the opposite is observed in Scenario 2. In contrast, in the two agriculturally-dependent areas, rural and agricultural impacts of these two Scenarios are in the same direction. Finally, a decrease in Pillar 1 support generates small negative impacts on agriculture in all study areas. However, as in the case of the impacts of Scenario 3 on rural GDP, estimates are notable only in the Scottish and Czech areas.

Figure 4: Average annual percentage change in agricultural GDP, 2006-2020



Source: Authors' calculations.

While the results presented to this point suggest some common features in impacts across the study areas, the total impacts in particular mask important differences in the magnitude and direction of impacts are due to the unique structure of each economy. Table 3 reflects the impact of the highly varied regional and RDP implementation contexts on the direction and magnitude of estimated policy impacts. The indirect sectoral and spatial spill-over effects occur through the changing structure of input demand, changing product and factor prices, and the overall impact of these is uncertain. For example the direct impact of Scenario 2 involves a reduction of agricultural GDP for all regions, while the sectoral spillover effects to rural secondary and tertiary sectors are region-dependent and differ across study areas. Table 3 also shows that although the overall impact on secondary and tertiary rural GDP is typically positive (except for Potenza and Arkadia), the pathways through the shock appear to differ across regions, with the pattern of changes in wages and prices quite distinct. Employment effects follow GDP in terms of direction and magnitude.

Finally, Table 4 presents the direction and magnitude of scenario impacts on farm and rural household impacts. As expected, Scenario 1 results into increased farm household income, while in Scenario 2 farm household income fell in all regions except Aberdeen, suggesting that in this scenario, returns to the increased investment in farm diversification are insufficient to counteract income falls from agriculture. With the exception of Jihomoravsky Kraj, the decrease in Pillar 1 support in Scenario 3 did reduce farm incomes. There is some evidence that in areas with low levels of pluriactivity (Arkadia, Potenza, Aberdeen, and Guipúzcoa), the negative effects of reducing agricultural support for farm household incomes is more pronounced. However, further research is required before this result can be validated. As far as rural household income is concerned, impacts are much lower in terms of magnitude compared to farm household effects, while the structural characteristics of the six areas seem to determine a mixed pattern of effects.

Table 3: Direction of sectoral GDP, Employment, Wage and Price effects, Scenario 2 (Diversification RDP)

	Arkadia	**Potenza**	**Jihomora-vsky Kraj**	**Aberdeen & Aberdeen -shire**	**Guipúzcoa**	**Rhiental-Bodensee-gebiet**
GDP						
Agriculture	-	-	-	-	-	-
Rural secondary	+	-	+	+	+	+
Rural tertiary	-	+	+	+	+	+
Employment						
Rural secondary	+	-	+	+	+	+
Rural tertiary	-	+	+	+	+	+
Wages						
(Semi) Skilled Labour	-	+	-	-	+	+
Unskilled Labour	+	-	-	-	-	-
Prices						
Total manufacturing	+	+	-	+	0	+
Total services	-	-	-	-	-	-

Source: Authors' calculations.

Table 4: Direction and Magnitude of Farm and Rural Household Income Effects

	Arkadia	**Potenza**	**Jihomoravsky Kraj**	**Aberdeen & Aberdeen -shire**	**Guipúzcoa**	**Rhiental-Bodensee-gebiet**
Farm Household Income Effects[1]						
Scenario 1	+	+	+	-	+	n/a
Scenario 2	-	-	-	+	-	n/a
Scenario 3	-	-	+	-	-	n/a
Min/Max % Change	-8.5/0.3	-25.6/0.1	-0.01/0.02	-10.8/ 3.5	-10.4/0.3	.
Rural Household Income Effects						
Scenario 1	-	+	-	+	-	0
Scenario 2	-	-	+	-	+	-
Scenario 3	0	-	+	-	0	0
Min/Max % Change	-0.2/ 0	-0.1/0.04	-0.03/0.05	-0.06/0.03	-0.02/0.3	-0.2/0

[1] Impact for Small and Large farm Household respectively.

Source: Authors' calculations.

To test the robustness of findings, basic sensitivity tests were carried out. These included changes in macro-economic closure rules (assumptions of endogenous foreign savings or savings-driven behavior) and elasticities (doubling of Armington and production elasticities). Sensitivity results showed little effect on GDP changes, while although some regional impact signs differ, relative results remain the same.

7. Conclusions

This paper has applied a CGE modeling approach to the ex-ante assessment of the rural/urban effects of rural policy measures in six selected EU NUTS 3 regions. It can be possibly argued that its contribution is mainly methodological, due to the scale of regions studied and way RDP policy shocks are implemented to allow for the capacity-enhancing nature of several RDP measures.

In general, economy-wide effects of both changes in the distribution of Pillar 2 funds and a decrease in Pillar 1 support are projected to be small. However, these small total effects mask more significant adjustments at the sectoral or sub-regional level. At the sectoral level, agricultural GDP is projected to decline if a diversification RDP (Axis 3) strategy is chosen and if Pillar 1 funds decrease. On the contrary, an agricultural RDP (Axes 1 and 2) strategy benefits agricultural economic activity.

At the sub-regional level, it seems that regional economic structures mediate the direction and magnitude of policy effects. Indicatively, at least in these case study regions, a RDP emphasis on economic diversification measures seems to benefit rural economic activity in regions where the local economy has already diversified. On the contrary, in local economies which still significantly depend on agriculture or/and are characterised by weak rural economic linkages, RDP measures oriented towards agriculture and food processing have the highest welfare effects. This finding might imply that even in cases where current economic structures do not seem to (currently) favour a diversification-RDP policy option, rural economic welfare might in the "longer-term" pursued through development initiatives which increase rural interdependence and promote rural economic structural change. Last, but not least, this analysis has shown that an emphasis on coupled Pillar 1 support does not seem to promote rural economic welfare.

This analysis and its findings could also point out to several policy implications. Where farm household income is an explicit objective of the CAP, support associated with agricultural production remains an important determinant of farm household income. In such cases, it appears difficult to compensate for a reduction in agriculture-related support through measures aimed at diversification. In terms of territorial differences, the diversity of results across study areas reinforces the menu-driven nature of the RDP. Horizontal policies or measures that are implemented using readily available indicators to represent regional differences, will inevitably fail to take into account territorial factors that mediate policy impacts.

Finally, this effort has showed that further research is needed on topics such as the impact of the size and integration of local labour markets, and the spatial distribution of upstream and downstream firms within a region. Also, further research is needed on the way that Axis 2 measures are modelled, as in certain contexts (e.g. Southern Europe), the assumption that measures such as LFA payments "represent" coupled farm support (instead of income transfers to farm households or enterprises) might be debatable.

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