IMPACTS OF CAP REFORM ON RURAL EMPLOYMENT: A MULTI-MODELING CROSS COUNTRY APPROACH[a]

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Abstract

Expected impacts due to recently introduced CAP reforms can be felt beyond the agricultural sector affecting the entire regional economy. Employment levels will be affected within the farming sector and probably non-agricultural sector will feel the pinch too. Policies influencing employment levels attract the attention of the media and the public. Therefore, policy makers are more sensitive on employment issues than rural and agricultural policies as it is widely admitted that no vibrant regions in Europe can be envisioned without enhancing job opportunities. The influence of CAP reform on employment has not been thoroughly studied within a comprehensive approach, accounting for agricultural and non-agricultural effects and covering the diversity of EU rural regions. In this research work, five EU regions [Emilia Romagna (IT), East Wales (UK), Anatoliki Makedonia and Thraki (GR), Östergötland (SWE) and Kassel (GER)] have been selected and studied to identify and measure CAP's effects on employment throughout the regional economy. A framework of three different approaches (Participatory Process/desk research, PMP, I-O) was developed and then applied to those five EU regions to trace out the current and anticipated employment effects of Pillar I and II. The main focus of this work is on consolidating results derived from different models, applied to five EU regions, to deduce valuable policy generalizations and to derive conclusions that guide policy makers on decisions related to regional and rural development. The results offer a comprehensive picture of the impacts of CAP reforms on regional economies and employment enriching the understanding of the range and diversity of contexts in which CAP is being applied.

Key Words: CAP reform, rural employment, I/O analysis, PMP, qualitative analysis.

JEL code: Q12, Q18, R15.

Introduction

Sustaining and, favourably, increasing employment levels remains the main obvious, or sometimes hidden, objective of most national or EU devised policy changes. Though the significance of keeping people on work is taken for granted, intriguingly most of introduced EU policies within the CAP scheme do not address directly this issue focusing on issues propelled by various lobbying groups. Whether employment is mentioned or not in most EU policy changes, employment levels are watched carefully by the various interest groups and policy makers, understanding the upheavals of any significant employment shed. Thus, EU citizens and policy makers are strongly interested in understanding the effects of EU policies and particular of CAP reforms on the employment levels.

CAP reforms have been gone through a long streamline process since 1992 reaching the peak during the 2003 reform, which has brought striking changes on the fundamental structure of CAP design and philosophy. Researchers have studied CAP reforms mainly to trace effects on certain agricultural sectors (Colman *et al*., 2002; Gohin, 2006; Goodman and Mishra, 2005; Hennessy *et al*., 2004; Ooms and Peerlings, 2005; Serra *et al*. 2005a; Woldehanna *et al*., 2000;) and on certain countries offering a substantial contribution on further improvement on newly introduced policies. Unambiguily, changes on employment levels are highly associated to several other parameters - output growth, investment trends, technology adoption - studied by several colleagues (Ahearn *et al*., 2005:2006, El-Osta *et al*., 2004, Woldehanna *et al*., 2000). Nevertheless, a study that is focused merely on rural employment levels could also contribute to assess current CAP reforms and to facilitate the introduction of more effective policies in the future. Thus, understanding how and why the reforms of CAP (Pillar I and Pillar II) influence the rural employment constitute a challenge as measures target a wide range of objectives causing counterbalanced and complex effects.

This work attempts to address the relation between CAP and rural employment in a multi-modelling and cross country context in order to depict a picture that represents to a larger extent the general EU case. To achieve the main objective five rural areas have selected, scattered throughout Europe, and then Pillar I and Pillar II effects on the region's economy and in particular on employment are studied. Though by applying different approaches results can be influenced and vary they could also offer a more comprehensive picture of the studied region. Therefore, in-depth interviews, a Positive Mathematical Programming (PMP) and Input-Output model were employed in all the regions, coupled with local observations on the regions outlook and performance.

The paper is organised as follows: the next session provides a general background on the applied methodologies, followed by a section describing the major characteristics of the selected regions. In the third section a cross-region assessment is made based on the outcome

from the application of the aforementioned methodologies, whilst the closing session provides recommendations for future policy amendments.

Methodological Background

The complexities of rural economic relations, combined with a huge number of conflated or counterbalanced measures of the CAP deter the power of any single methodology to study the relation between CAP measures and rural employment. Thus, in this work several methodological approaches were employed to assess the CAP's impacts and to estimate probable employment effects. Applying more than one approach may enrich the results and provide a detailed picture of the anticipated changes from different angles, but may also end up in contradicted results. The methodological approaches applied in five EU countries are in-depth interviews, Positive Mathematical Programming and Input-Output analysis. In addition, certain methodological approaches - productivity analysis, econometric model for choice experiments - have applied in a few of the regions under investigation. Though details on the applied methodologies can be found in the relevant literature (Arfini and Donati, 2008; Loizou *et al*., 2008; Langstaff *et al*., 2008) as they are described by the leading authors a brief description follows:

Analysis of documentary evidence and representative in-depth interviews. This approach is mainly focused on Pillar II effects and is a mixed-method case study intended to provide an understanding of the impacts on predominantly rural regions. Instead of identifying effects on rural employment the approach tries to explain how the Pillar II interacts with the structure and performance of the local rural economy (Yin, 1994). The same approach applied in all five EU regions following a coordinated two-stage of data gathering process; an investigation of secondary data, offering a contextual framework for the overall study, and an "in-depth interview" of representatives of different interest groups.

First, a regional profile has developed to provide the context in which key informants operate and to inform the process of analysis. Then, key informants were identified and interviewed to explore their perspectives on policy issues. Participants in the interview process – drawn mainly from policy makers, business managers, regional NGO officers and LEADER group managers - are called to respond, interact and discuss a set of pre-drafted questions. Finally, analysis proceeded by exploring patterns within the multiple data sources, which provide support for explanations of the casual relationships (Midmore *et al*., 2008).

Positive Mathematical Programming (PMP). The PMP was applied to identify and measure policy induced changes at individual farm level and then at regional level. The methodology employed in all the regions utilizing FADN data and followed the same process. The regional models allowed the assessment of the main effects of each of the different policy scenarios; full decoupling and full decoupling plus price variations. A special model implemented inside the PMP model captured labour allocation inside the farm with respect to the new production

plan induced by the CAP reform (Arfini *et al*., 2003; Heckelei, 2002; Júdez *et al*., 2001; Paris and Arfini 1995).

The Input-Output Analysis. This approach was selected to assess impacts on output, household income, and employment considering the whole regional economy of the selected regions. First, regional input-output tables were constructed using an accurate and widely applied partial survey technique (Generation of Regional Input-Output Tables - GRIT). Second, the constructed hybrid regional input-output models were upgraded using survey data on key rural economic transactions. The application of the model allowed the estimation of various I-O linkage coefficients (multipliers) for each region to identify the most important economic sectors, in terms of their potential to enhance regional employment, income and output levels, and to estimate indirect and total economic impacts. These linkage coefficients involved the Chenery and Watanabe direct linkages, the Rasmussen and Hirschman linkages (output, income and employment multipliers), the Mattas and Shrestha I-O elasticities (output, income and employment elasticities), and the Papadas and Dahl supply multipliers (supply-driven multipliers) (Chenery and Watanabe, 1958; Hirschman, 1958; Mattas and Shrestha, 1991; Papadas and Dahl, 1999; Rasmussen, 1956). The estimated coefficients exposed the sectors with the highest linkage relations in each region, whereas results from PMP model were also fed into input-output model to observe the indirect and induced changes for the whole economy (Mattas *et al*., 2005; Miller and Blair, 1985).

The regions' background

For this work, five EU regions have been selected, all but one (Sweden) in NUTS II level, scattered throughout the EU to represent somehow the diversity of European regions. The regions are the Emilia Romagna, Italy; Anatoliki Makedonia and Thraki, Greece; East-Wales, UK; Kassel, Germany and Östergötland, Sweden. The main characteristics of each one of the regions are illustrated in Table 1.

The selected regions are relatively large and internally diverse, representing different types of rural conditions within the EU. Main differences include a growing population and a large number of cooperatives in Emilia-Romagna; high percentage of employment in agriculture and semi-arid production conditions in Anatoliki Makedonia and Thraki; shortage of affordable rural housing and relative under-funding of Pillar 2 in East Wales; severe demographic problems in Kassel region and focus on rural entrepreneurship and SME development along with high standards of IT infrastructure in Östergötland. More specifically, in southern Europe, Anatoliki Makedonia and Thraki and Emilia-Romagna contain a mixture of mountainous and flat land. The former consists of roughly two-thirds mountainous or semi-mountainous land, whereas the latter is divided to mountainous land in the southwest and fertile flat lands in the northeast. On the contrary, the mountainous areas of

East Wales are characterised by high rainfall and large areas that can only support extensive livestock production. Kassel region is predominantly arable, whereas Östergötland contains a mixture of more remote forested areas, the archipelago, and open plains, which are the most productive arable lands in Sweden.

Table 1: Economic structure and employment levels of the regions

	Emilia Romagna	**Anatoliki Makedonia and Thraki**	**East-Wales**	**Kassel**	**Östergötland**
Land use	Mountainous in south-west, fertile arable flatlands in the north-east	Mountainous and semi-mountainous, with arable land on coastal plains, some irrigated	Large areas of upland with high rainfall predominantly used for livestock	Predominantly arable, grassland along rivers and in former border regions between W and E Germany	Fertile central open plains, semi-open and forest in north and south, archipelago in the Baltic Sea to the east
Area (km^2)	22.123	14.157	7.634	8.288	9.987
Population	4.187.557	607.847	300.000	1.300.000	416.303
Population density p/km^2	189	43	24	152	39
GDP/capita (euros)	28.417	11.753	23.515	21.954	20.611
Employment in rural sector	4.4%	12%	10.7%	2%	2%
Unemployment	3.4%	5.1%	2.4%	10.3%	7%
Accessibility	Good transport infrastructure	Potentially a major route to new EU countries, currently peripheral	Peripheral in central area	Centre of Germany, good new road and rail infrastructure, but perceived locally as remote	Peripheral, especially archipelago
Infrastructure	Good	Insufficiently developed	Poorly developed in central area	Good	Good overall
Economic development	Good	Poor	Medium	Good	Medium

Overall population densities vary greatly between the regions, from 24 inhabitants per square km in East Wales, to 189 per square km in Emilia-Romagna. High variations in population density also exist within the regions, with the majority of populations being concentrated around main cities. As regards the economy of the regions, the significance of agriculture's contribution to the regional economy and employment varies considerably. The

pattern of significant variations between regions is repeated concerning infrastructure i.e. transport links, health, education and information technology provision. The most prominent differences relate to levels of basic infrastructure, the majority have high standards of basic service and infrastructure provision, albeit with some relative deficits in remoter rural areas. Disparities also exist regarding the economic development ranging from poor levels for Anatoliki Makedonia and Thraki to good for Emilia Romagna and Kassel. A key determinant for this diversity pertains to the degree of RDP measures implementation ranging from Italy, where all of the measures permitted were implemented in the 2000-2006 period, to Greece, where only a minimal number of the voluntary measures were adopted.

A cross-region assessment

This section develops a cross-region assessment to cast the main impacts of the CAP and RDP reforms on the economic structure and employment levels of the five studied regions. The assessment is based on the results from the application of three discrete methodologies (in-depth interviews, PMP, I-O) aiming to identify the main existed differences and similarities between the regions drawing conclusions relating to policy effectiveness throughout the EU.

a) Qualitative assessment of the CAP impacts

Evaluating the impacts of the Pillar II reforms upon farm and non-farm employment was investigated through a qualitative research that included a detailed cross case study analysis and in-depth interviews with stakeholders and farmers in each region. The main inferences drawn from this research involve three broad themes: i) the rural economy and the CAP and RDP reforms, ii) the interaction of these reforms with other policies in the studied regions and iii) the impact on farm and non-farm employment. Table 2 provides the main qualitative results of CAP's impacts on regional economy and employment.

Table 2: Qualitative results on CAP's impacts

Main Themes	**Rural Economic Relations**	**Unanimously agreed**	**Perceptions**
Rural Development Programmes	CAP – Rural economy	√	Agricultural sector receives disproportionate support
Rural Development Programmes	CAP – Rural economy	√	Determinant for the rural economy
Main CAP reform objectives	CAP – Rural economy	√	To uphold labour in agriculture and not to increase labour

Pillar I support	CAP – Rural economy	√	Creates unequal income distribution
Pillar I support	CAP –Rural economy	√	Streamlining of but not abolishing
Need for further modifications in CAP	CAP – Rural economy	√	As currently ineffective on inappropriate measures
Pillar I and Pillar II		√	Gradual move towards Pillar II
Interaction between CAP and other policies	CAP - other policies	√	• Lack of coherence • Bureaucracy further deters RDP participation • RDP poorly managed • Waste of scarce resources
Rural Development Programmes	CAP-employment	√	• Sustain current employment levels or at least suspend further decline • Preserves environment to a large extend • No significant effect on women's employment • Diversification and infrastructure support can enhance employment opportunities

Unanimous views revealed regarding the relation of the rural economy and the CAP and RDP reform, arguing that support of agriculture is disproportionate to its importance for the rural economy and the course of the overall rural economy strictly depends upon the degree of received support through RDP. In addition, respondents argue that CAP reforms do not increase jobs in the regions; they just try to maintain the existing state. Furthermore, they believe that a negative consequence of the reforms is the unequal distribution of support from Pillar I, supporting the income and not the employment level of the region. The need for further CAP changes is underlined in all regions, arguing that key measures of CAP are ineffective and inappropriate to safeguard future development. For example, the view that current Pillar I support helps to create a subsidy-dependence culture among the farmers have widely expressed. Finally, in all regions most of the interviewees argued the need to gradually wane Pillar I and strengthen Pillar II.

Respondents expressed a spectrum of different views referring to issues of their own regions and the structure of the particular economy. Among all the views, the following ones can be quoted as they still touch very important aspects of the CAP. In Östergötland, interviewees underscored the relation between urban and rural areas, as they believe that this relation determines the future development of a rural region. In Emilia Romagna, respondents

have repeatedly raised the lack of cooperation among farmers that is not strongly supported by the CAP reforms, as this region has developed very high cooperative schemes.

On the interaction between CAP/RDP reforms and other policies in all regions, a lack of coherence between policies sometimes leads to confusion, which is exacerbated when combined with bureaucratic procedures. This lack of coherence and coordination between the CAP/RDP measures and other policies can result in a waste of scarce resources. In addition, focusing on specific actions and leaving out important regional dimensions waken the dynamics of the RDP's.

The most important aspect of RDP's is their association with the levels of rural employment that must be closely monitored adjusting the Pillar II measures. Throughout the regions, respondents concede that indeed the RDP's have played a significant role in maintaining employment levels or at least in decelerating the employment decline rates. Intriguingly, respondents have raised the issue of women's employment as by enhancing women's job opportunities a stable economic development can be maintained. Thus, it was argued that current RDP's have little to offer on broadening women's job opportunities as only few programmes are related to women's labour (agro-tourism). Refocusing RDP's towards activities like child care training, and social structures can provide new incentives for women to stay in rural areas and to find a job. In addition, supporting the general infrastructure of the region could be proved very conducive to a vibrant rural region. It is worth mentioning that LEADER+ is perceived as a programme that reinforces the labour market and must be extended by broadening its effectiveness.

Interviewees have also focused on several issues relating to particular needs of a region. Östergötland is focused on the relation between RDP's and environment/processing industry; Emilia Romagna and Kassel on the development of bio-energy activities; Anatoliki Makedonia and Thraki on immigration from new member states and east Europe. Ultimately, it can be said that RDP's serve very well as a unique development and employment tool for any EU regions, though this power can be further enhanced by certain changes, but RDP's must be implemented in a way that allow flexibility according to the regions specific needs.

b) Positive Mathematical Programming PMP – changes on farming activities and employment

Changing the crop mix at farm levels affects on-farm employment as adopting new activities could demand more or less labour and also change the input requirements and output flows spreading effects on the whole regional economy. Thus, to trace and reveal the course of anticipated changes at farm level and then to upgrade them at regional level, a Positive Mathematical Programming was applied in all regions. Attempting to resemble the new conditions at farm level, two scenarios have been visioned (S1 and S2) and have been simulated by the PMP utilizing mainly FADN data provided by the EU Commission. The first one (S1) concerns the option of total decoupling for all the agricultural products (milk

included), while the second one (S2) pertains to the first scenario plus anticipated product prices changes as they are recorded in the EUROSTAT database. The baseline scenario reflects the farm structure before the application of the horizontal Regulation EC 1782/2003 that truly represents the conditions in farming before 2005. The simulation of the PMP model points to significant changes on different variables in each region (land allocation, livestock structure, economic impact of the reform and farm employment) due to the CAP reform.

Land allocation seems to be the primary change in farming activities due to policy reforms and especially the introduction of decoupled payments. As can be seen from Table 3, farmers all over regions are more likely to shift land use from cereals to other crops. The magnitude of this land reallocation varies among the regions as the importance of cereals production differs too. Fodder crops will gain ground as under the new regime provides better opportunities and higher returns. Nevertheless, cereals production will continue mainly on highly efficient farms and of course assuming the continuation of the current supportive regime. This behaviour of farmers could be very well justified under a strategy of minimizing costs and responding to the market signals.

Table 3: Land use effect of the CAP reform

	Emilia Romagna		**Anatoliki Makedonia and Thraki**		**East Wales**		**Kassel**		**Östergötland**	
Crops	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
	Variation (%)		Variation (%)		Variation (%)		Variation (%)		Variation (%)	
Wheat	-15.9	-9.3	-4.0	-8.9	-68.4	-74.4	-28.1	-39.8	-21.2	-51.9
Barley	-24.9	-22.2	9.3	-5.4	-83.3	-82.7	-24.1	-43.2	-27.4	-10.4
Other cereals	-28.7	39.0	-73.3	-73.1	-64.9	-63.4	-8.7	8.2	-34.0	-1.9
Fodder Crop	14.8	11.7	-	-	4.0	4.0	13.1	15.3	13.8	14.1
Oilseed	-6.3	-49.6	-	-	-31.2	-41.5	-12.9	19.5	-7.8	20.9
Tobacco	-	-	-58.7	-64.4	-	-	-	-	-	-

In respect to the livestock sector, changes have also recorded due to changes in subsidies, direct effect, and due changes in feeding crops, indirect effect. Generally, milk cows and sheep livestock will remain at the same levels of production while the bovine production will drop. A general outlook of the farm enterprise is depicted in Table 4 and clearly demonstrates that overall Gross margins are positively affected. This is very encouraging as individual crop changes may blur this picture.

Table 4: Economic Impact of the CAP reform

	Emilia Romagna		Anatoliki Makedonia and Thraki		East Wales		Kassel		Östergötland	
	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
	Variation (%)		Variation (%)		Variation (%)		Variation (%)		Variation (%)	
Gross Saleable Production	-5.3	-8.8	1.3	6.8	-15.8	-34.8	4.5	7.0	-2.0	-15.3
Net subsidy	83.2	83.2	-5.6	-1.7	31.5	31.5	19.7	19.7	8.5	8.5
Variable costs	-5.3	-6.1	29.3	33.7	-24.4	-39.5	3.8	4.3	-6.5	-19.4
Gross margin	22.3	3.4	-2.9	2.4	383.8	351.0	52.1	74.4	101.6	129.3

Table 5: CAP impacts on farm and off-farm employment according to farm types

		Emilia Romagna		Anatoliki Makedonia and Thraki		East Wales		Kassel		Östergötland	
Farm type[b]	**Type of Labour**	**S1**	**S2**	**S1**	**S2**	**S1**	**S2**	**S1**	**S2**	**S1**	**S2**
		Variation %		**Variation %**		**Variation %**		**Variation %**		**Variation %**	
FT 1	Family	-0.1	-0.5	0.0	0.0			-5.2	-5.2	-0.3	-0.3
	Extra-family	-3.8	-1.0	-1.4	-1.3			-26.4	-26.4	-21.9	-21.9
FT 3	Family	-0.9	-0.8								
	Extra-family	-3.9	-4.5								
FT 4	Family	-6.2	-3.1	-13.1	-12.0	0.0	0.0	-0.4	-0.1	0.0	-0.2
	Extra-family	-48.4	11.0	-67.9	-46.8	-35.1	-37.0	12.2	26.0	-19.6	-19.4
FT 5	Family	-0.2	-0.3								
	Extra-family	-0.6	-0.6								
FT 6	Family	-1.2	-1.2					-0.4	-0.4	0.0	0.0
	Extra-family	-8.0	-2.5					-9.0	2.0	-24.4	-23.7
FT 7	Family	-1.7	-1.0					-0.3	-0.1		
	Extra-family	-32.6	-22.2					-34.6	-6.1		
FT 8	Family	-1.2	-1.2	-0.1	0.0	0.0	0.0	-2.7	-2.7	0.0	0.0
	Extra-family	-26.7	-22.6	-50.2	-35.8	-22.8	-22.9	-14.4	-14.4	-22.3	-22.2

Evaluating the impacts of the CAP reform on the economic structure of the selected regions offered significant outcomes relating to rural employment. These outcomes are provided for each region and according to each farm type in the Table 5. The two types of labour considered in the PMP analysis - family and extra family work – show a decrease in all the regions due to decoupling. This is attributed to the change of farms' mindset aiming to

[b] **FT1**: field crops, **FT2**: horticulture , **FT3**: permanent crops, **FT4**: animal production, **FT5**: granivores, **FT6**: mixed cropping, **FT7**: mixed livestock , **FT8**: mixed crop-mixed livestock

reduce the production cost substituting extensive farming activities (cereals and industrial crops) with fodder crops and other good practices.

c) Input-Output analysis: economic and employment effects

Input/Output (I-O) analysis constitutes an analytical tool that can be used to trace out the course of transferring effects from one sector to others and in consecutive patterns. Thus, by building a regional I-O table a clear picture of the structure of the economy is given and the existing relationship among various regional sectors can be identified. In this particular analysis, I-O applied to vision structural relations and to examine impacts in terms of output, household income and employment due to CAP changes. A hybrid regional I-O model was constructed, applying the GRID regionalization technique for all studied regions offering again an opportunity to compare the structure and the dynamics of the economy. In addition, I-O model allows the computation of various I-O linkage coefficients (Multipliers) for each region to identify the important economic sectors according to their potential to enhance regional employment, income and output levels. Ultimately, I-O analysis used to cast all the indirect effects upon the economy due to RDP flow of funds in the region.

A careful inspection of the regional I-O tables reveals profound differences in the structure of the regional economy reflected better when I-O multipliers estimated. The size of the same sector and the dynamics, in terms of multiplier's size, varies substantially among the regions and those significant differences surface a message for the design of RDP's. Sectoral diversity among regions calls upon flexibility in Pillar II programmes in order to be effective and boost the regional economy. Table 6 illustrates such diversities depicting the employment multipliers for five sectors. It is clear that employment stimulating sectors vary though that processing agriculture demonstrates high employment multipliers in most cases.

Table 6: Employment multipliers (Rasmussen and Hirschman Linkage Coefficients)

	Emilia Romagna	**Anatoliki Makedonia and Thraki**	**East Wales**	**Kassel**	**Östergötland**
Textiles	1.807 (13) *	5.828 (1)	1.157 (63)	1.282 (15)	1.068 (47)
Agriculture	1.295 (23)	1.069 (35)	4.444 (1)	1.122 (20)	1.076 (46)
Food products and	2.866 (3)	3.407 (4)	-	2.010 (3)	1.471 (14)
Coke, refined petroleum products	1.105 (28)	4.130 (3)	-	-	1.836 (4)
Chemicals and chemical products	3.151 (2)	1.604 (13)	1.293 (37)	1.687 (4)	1.486 (13)

* *in parentheses is the rank order of the sectors for each region*

The potential impact of CAP reforms was evaluated utilizing information from the Positive Mathematical Programming model (PMP) related to crop and livestock production changes. Adopting the scenario S2 set in the PMP model the results infer modest changes in regional economies (Table 7). In particular, the adoption of decoupling causes minor problems to the regional economies in terms of output, income and employment losses. As it has been already mentioned, the tendency for farmers is to give preference to those processes that allow major savings in terms of production costs and a gross margin increase.

Table 7: Total output, employment and household income impacts in the regions

	Output		**Employment**		**Income**	
	million €	(%)	persons	(%)	million €	(%)
	Scenario 2					
Total effect*						
Emilia Romagna	-8.016	-0.002%	-18	0.00%	-0.479	0.00%
Anatoliki Makedonia and	-7.144	(-0.06%)	-388	(-0.18%)	-0.418	(-0.03%)
East Wales	-11.436	0.038%	-167	0.036%	-2.816	0.034%
Kassel	1.112	0.002%	133	0.02%	1.393	0.01%
Östergötland	-82.393	-0.04%	-57	-0.03%	-16.139	-0.03%

**in parentheses are the relevant shares compared to the regional total output, employment and household income.*

Furthermore, the potential impacts of the Pillar II measures were particularly evaluated for the Greek region. Implementation of these measures stimulates the regional economies as they cause significant fund inflows to rural development activities. This stimulation in terms of output, income and employment is obvious for Anatoliki Makedonia and Thraki (Table 8), which will benefit significantly from Pillar II structural measures. Funds inflows will stimulate considerably the regional total output, the household income and employment; and the industry sectors will benefit more from Pillar II measures. The example from the Greek region shows that any negative impacts stemming from Pillar I can be counterbalanced by Pillar II measures.

Table 8: Intersectoral distribution of output, income and employment impacts from the application of the RDP in the Greek region

	Output		**Income**		**Employment**	
	(mn EURO)	(%)	(mn EURO)	(%)	(persons)	(%)
Rural Development Program 2007-13 (funds inflows 507.8 million Euro)						
Primary	35.150	*5.10%*	2.604	*2.98%*	1914	*16.30%*
Secondary	538.882	*78.13%*	62.475	*71.50%*	6381	*54.35%*
Tertiary	115.709	*16.78%*	22.298	*25.52%*	3447	*29.36%*
TOTAL*	**689.741**	***6.01%***	**87.377**	***5.45%***	**11742**	***5.32%***

Shares (%) show the relevant contribution to the current regional total output, employment and household income.

(RDP): Rural Development Program 2007-2013

Concluding remarks - Policy recommendations

In this work, a framework of three different approaches was developed and employed in five selected NUTS II EU regions to assess the impacts of Pillar I and II on the regional economy and in particular on employment. The results offer a clear representation of how the reform determines farming activities and rural employment generation. The longer-term consequences of the reform may be difficult to be evaluated exactly. However the research evidence indicates: rural sector is moving towards a more competitive farm structure; less people employed in agriculture; agriculture sensitive to price signals from world markets. In this context, the effective implementation of policy measures becomes important for regions characterized by rural and economic diversities. Policy action should respond to regional disparities taking advantage market trends and prospects to create competitive advantages for farms and support development opportunities. Flexible adaptation of rural policies to local requirements is a recommended strategy; primarily in realistic terms as concerns the scale of endeavours relative to outcomes.

The cross-region comparison revealed first, that the effect of Pillar II measures is considered modest, highly bureaucratic in nature, and it seems to work better through support for improved farm business efficiency if combined with Pillar I reforms. This could result in stabilising employment levels in the farming sector or at least stem their decline. Pillar I reforms create changes in the mindset of farmers who adopt a strategy of alterations in land use aiming to reach the maximum level of revenue. This has negative consequences for rural employment. Certain sectors have the potential to enhance output, income and employment and therefore a policy promoting their expansion is indispensable.

Certainly, the methodologies applied in this study may have shortcomings in evaluating the exact impacts of the CAP reforms on rural employment in different contexts.

However, the results indicate clearly that Pillar II measures can mitigate any negative impacts from Pillar I. The former need to play a more effective role especially in more peripheral and less accessible territories combined with other mechanisms of economic development that also apply in the regions. This is not the case so far, and the degree of coherence between rural development policies requires a more integrated perspective to provide the desirable results.

The reform allows Member States considerably leeway to design their own CAP version that will better respond to their own vision of agricultural policy. Such Member States' policy actions coupled with an efficient combination of Pillar II measures with structural funds spending may have positive effects on rural employment. Particularly, modulation appears desirable for regions with such divergent characteristics however views on the pace of this kind of funds transfer seem polarized. One perspective infers that agriculture is the main element of rural activity and therefore, indirect employment created by agriculture logically explains the focus on farm-based development. Another standpoint emphasizes supporting employment of sectors outside agriculture taking into account the needs of all rural businesses. Nevertheless, the consensus is that Pillar II policies have the potential to contribute to the maintenance and creation of rural employment. The integration of Pillar II measures along with stimulation of the environmental features of production and socially responsible farming systems underpinned by agri-environmental schemes could result in enhanced employment in rural areas. These policies, though, should be distinguished relative to different circumstances and specifically they should be more flexible taking into account the particularities (economic, cultural, and social) affecting the specific contexts they are applied.

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