REGIONAL SPECIALISATION AND EFFICIENCY OF THE AGRICULTURAL SECTOR IN GREECE: THE RELATIONSHIP WITH REGIONAL FUNDING ALLOCATION

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Abstract
The aim of this article is to analyse the spatial distribution and regional efficiency of the agricultural sector in Greece and to examine the correlation between sectoral efficiency and the related financial weight given by the Regional Operational Programmes for the 2000-06 period. The key finding of the paper is that funding the agricultural sector at a regional level should take into account the sectoral specialisation of regions along with the assistance of branches which represent geographic associations with the agricultural sector.
Keywords: Agricultural Sector, Location Quotient, Regional Multiplier, Coefficient of Geographic Association, Correlation Coefficient.
JEL Codes: R12, R58

1. Introduction

The employment within the agricultural sector in the European Union (EU) has declined significantly during the last decades. However, the role of the sector in the spatial development process remains very important.

According to Post and Terluin (1997), employment in the agricultural sector of EU countries declined by around 2-3% per annum over the last decade of the 20th century; specifically, the decline was less than 10% of total employment in all EU countries except Greece (23%), Portugal (20%), Ireland (15%) and Spain (11%). In the first decade of the 21st century, the agricultural sector's employment in the EU27 decreased by 25%; it fell by 17% in the EU15 and by 31% in the 12 new Member States (NMS12) that joined the EU in 2004 and 2007 (Eurostat, 2010).

Meyer (1997), Bontron and Lasnier (1997) and Bryden and Bollman (2000) denoted the growing role of employment in the tertiary (tourism-entertainment) and secondary (manufacturing industries) sectors, especially in rural areas.

Jimenez (2003) demonstrated the significant positive influence of public capital on productivity in agriculture, especially where the link to water and transport infrastructure was found to be greater. Mora and Juan (2004) noted that Spain's integration into the European Union and the implementation of the CAP led to an increase in regional specialisation, and that specialisation increased most in regions initially specialising in export-oriented products. Ezcurra et al (2008) showed the positive spatial dependence in European agricultural productivity. They detected the existence of clusters in specific areas in EU, the reduction in the degree of bipolarisation, while intra-distribution mobility was relatively limited. Moreover they analysed the role played in the dynamics of the

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regional distribution of gross value added per worker in the agricultural sector considered by variables such as the country to which a region belonged, investment per worker in agriculture, regional per capita income or the impact of industries directly related to agricultural activities.

The sectoral specialisation, the export orientation and the regional efficiency of the primary sector are examined in this paper. These issues are not restricted to an analysis of the agricultural sector but are extended to all sectors of the regional economy and have been the subject of systematic study and use of special measurement methods for decades (Florence, 1944, 1953; Tiebout, 1956a, b; Isard, 1960; Mayer and Pleeter, 1975; Isserman, 1977). A major part of these methods is based on the theory of economic or export base, where regional development is dependent on export activity.

The aim of this paper is to analyse the spatial distribution and regional efficiency of the agricultural sector in Greece and to examine the degree of correlation between the sectoral efficiency and the related financial weight given by regional planning between 2000 and 2006, and specifically through the Regional Operational Programmes (ROP) of the 3rd Community Support Framework.

The structure of the paper is as follows: in section 2, there is an overview of the spatial development pattern in Greece and the main features of the agricultural sector in regions. Section 3 analyses the methodology used to examine regional distribution and the efficiency of the agricultural sector in Greek regions. Section 4 presents the results of the research. Finally, section 5 concludes the paper.

2. The main features of spatial development pattern in Greece and the role of the agricultural sector in Greek regions

The main feature of the spatial development pattern in Greece is the uneven distribution of population and its activities among the 13 NUTS II regions (Figure 1). More specifically, this situation has to do with the dominance of the two metropolitan centres, Athens and Thessaloniki, and therefore, the uneven distribution of development between these areas and the rest of the country (Petrakos and Psycharis, 2004; Monastiriotis and Jordaan, 2010; Christofakis and Papadaskalopoulos, 2011).

Figure 1. The Greek NUTS II Regions
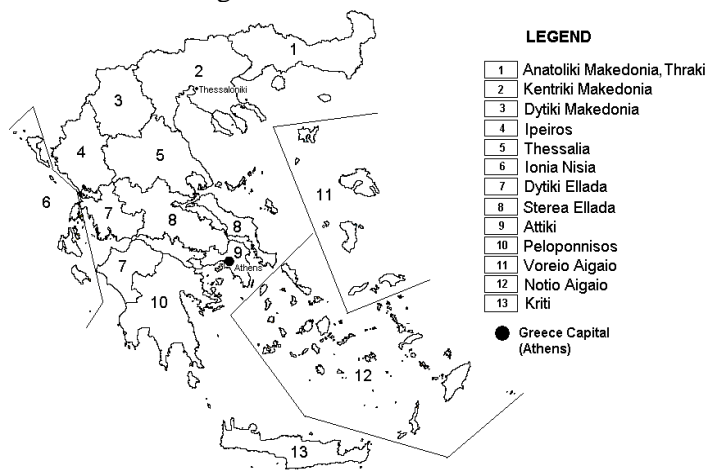
Source: Christofakis and Papadaskalopoulos, 2011.

A review of the distribution of population in Greece over the years showed that this dominance has been getting stronger. More specifically, the proportion of the national population in Attiki (which includes the capital city, Athens) increased from 28.83% in 1961 to 35.61% in 2001. This proportion for Thessaloniki (which includes the metropolitan centre of Thessaloniki) increased from 5.57% in 1961 to 9.91% in 2001.

According to the latest population census conducted in 2011, Attiki concentrated 35.34% of the national population and Kentriki Makedonia comprised 17.38%, while together the two regions shared 52.72% of the population of Greece. One characteristic of the uneven distribution of population was that in none of the remaining regions did the population exceed7% of the national population.

Table 1. Greece Population by Region, 2011

Regions	Population	% allocation
1. Anatoliki Makedonia, Thraki	606170	5.62
2. Kentriki Makedonia	1874590	17.38
3. Dytiki Macedonia	282120	2.62
4. Ipeiros	336650	3.12
5. Thessalia	730730	6.77
6. Ionia Nisia	206470	1.91
7. Dytiki Ellada	680190	6.31
8. Sterea Ellada	546870	5.07
9. Attiki	3812330	35.34
10. Peloponnisos	581980	5.39
11. Voreio Aigaio	197810	1.83
12. Notio Aigaio	308610	2.86
13. Kriti	621340	5.76
Country	10787690	100.00

Source: Hellenic Statistical Authority, Population Census, 2011.

According to the available regional data regarding the GDP for 2008 (Hellenic Statistical Authority), the region of Attiki accounted for 43.62% of the national GDP. The second largest concentration of economic activity is observed in the region of Kentriki Makedonia, accounting for 14.97% of national GDP. Therefore, these regions shared 58.6% of the total GDP (Christofakis and Papadaskalopoulos, 2011).

Industrial activity was also largely concentrated in the greater Athens area, as was the incidence of foreign-owned and export-oriented manufacturing. The remaining regions had very low specialisations, mainly related to tourism (insular regions, especially Notio Aigaio and Kriti), agriculture (especially Thessalia, Peloponnisos, Anatoliki Makedonia, Thraki, Dytiki Ellada and parts of Sterea Ellada and Kentriki Makedonia), and light manufacturing (Sterea Ellada and Kentriki Makedonia), with financial and other business services accounting for less than 5% everywhere in the country outside the main urban regions of Athens and Thessaloniki (Monastiriotis and Jordaan, 2010).

Attiki, Sterea Ellada (a neighbouring region of Attiki which actually hosted a part of the secondary sector of Athens) and Notio Aigaio (that developed in terms of tourism), were the regions with GDP per capita higher than the national average, followed by Kriti (one of the largest islands in the Mediterranean Basin), which also had a small lead when

compared to the national average.

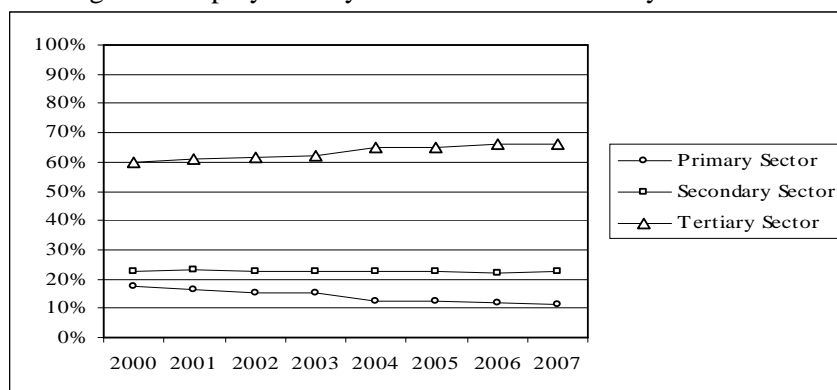Table 2.Regional employment percentage by sector, 2007.

Regions	Primary sector	Secondary sector	Tertiary sector	Total
1.Anatoliki Makedonia, Thraki	11%	5%	4%	5%
2. Kentriki Makedonia	17%	19%	16%	17%
3. Dytiki Macedonia	3%	3%	2%	2%
4. Ipeiros	5%	3%	3%	3%
5. Thessalia	13%	6%	6%	7%
6. Ionia Nisia	2%	2%	2%	2%
7. Dytiki Ellada	11%	5%	6%	6%
8. Sterea Ellada	8%	6%	4%	5%
9. Attiki	2%	38%	43%	37%
10. Peloponnisos	15%	5%	4%	6%
11. Voreio Aigaio	2%	1%	2%	2%
12. Notio Aigaio	2%	2%	3%	3%
13. Kriti	9%	5%	6%	6%
Country	100%	100%	100%	100%

Source: Hellenic Statistical Authority and authors' calculations

With regard to total employment (Table 2), the two dominant regions, Attiki and Kentriki Makedonia, retained their superiority as expected and shared 54% of the national employment (4.5 million employees for 2007). Regarding the regional percentage distribution of sectoral employment, Kentriki Makedonia (17%), Peloponnisos (15%), Thessalia (13%), and Dytiki Ellada (11%) have the highest shares of the country's total employment in the agricultural sector (about 520 thousand people). The two metropolitan regions, Attiki and Makedonia, presented the largest share of national employment in the secondary sector, with 38% and 19% respectively (about 1 million employees), while the picture is the same in the tertiary sector (Attiki 43% and Kentriki Makedonia having 17% of the national employment for the sector, comprising about 3 million people).

Despite the annual decrease in the country's total employment in the agricultural (primary) sector over recent years (Figure 2), the strong dependence of the country on the specific productive sector (which reached 12% of employment at the national level), still exists.

Figure 2.Employment by sector in Greek economy 2000-2007

The dependence on the primary (agricultural) sector appeared even greater for many Greek regions (Table 3). Specifically, in 4 of the 13 regions of the country, the sector shared a percentage ranging between 20% and 30% of total regional employment. These are few peripheral and largely mountainous regions of the country (Peloponnisos, Anatoliki-Makedonia Thraki, Dytiki Ellada), as well as the largely lowland areas (Thessalia). In 7 regions of the mainland space (Ipeiros, Sterea Ellada, Dytiki Makedonia, Kentriki Makedonia), and island space (Kriti, Voreio Aigaio, Ionia Nisia), the related percentages ranged between 10% and 20%. Only in two regions (those of the greater Athens-Attiki and the tourist area of Notio Aigaio) did this percentage not exceed 10%.

Table 3. Sectoral employment percentage by region, 2007

Regions	Primary sector	Secondary sector	Tertiary sector
1. Anatoliki Makedonia, Thraki	25%	20%	55%
2. Kentriki Makedonia	11%	26%	63%
3. Dytiki Macedonia	17%	31%	52%
4. Ipeiros	19%	22%	59%
5. Thessalia	22%	21%	57%
6. Ionia Nisia	14%	18%	68%
7. Dytiki Ellada	21%	18%	61%
8. Sterea Ellada	19%	29%	52%
9. Attiki	1%	23%	76%
10. Peloponnisos	30%	19%	51%
11. Voreio Aigaio	16%	17%	67%
12. Notio Aigaio	7%	18%	75%
13. Kriti	18%	18%	64%
Country	12%	23%	66%

3. Research Methodology

Employment in the agricultural sector and in the food-beverages industry is used in our analysis, according to the official data of Hellenic Statistical Authority for the years 2000-2007. Also, the amounts of public expenditure of 13 Regional Operational Programmes (ROPs) for the 2000-2006 programming period are exploited. These programmes consist of special measures to support directly the primary sector. As expected, the spatial level of analysis referred to the 13 Greek NUTS II regions.

We use the relevant methods of regional analysis to examine specialisation and efficiency within the agricultural sector, namely the Location Quotient, the Regional Multiplier, the Export Activity, the Coefficient of Geographic Association and the Correlation Coefficient.

The Location Quotient (LQ) is an efficient way to determine the concentration of industries in some regions. This index can help policy makers and researchers to plan and evaluate regional economic growth through regional base multipliers (Chiang, 2008). LQ, is given by that equation (Isserman, 1977):

$$LQ = \frac{Air}{Ain} / \frac{Ar}{An} \tag{1}$$

In our research: A: the employment;   i: the primary sector or the branch of food-beverages, r: the region and n: the country.

With reference value 1, when $LQ \succ 1$ then the considered spatial unit r is specialised in the sector/branch i.

Directly connected to the Location Quotient is the Regional Multiplier (K), the existence of which requires the LQ value greater than 1:

$$K_{ir} = \frac{1}{1 - \frac{1}{LQ_{ir}}} \qquad (2) \qquad \text{and, so:} \qquad K_{ir} = \frac{LQ_{ir}}{LQ_{ir} - 1} \qquad (3)$$

The Regional Multiplier can estimate any efficiency and Export Activity of the sector at regional level. In particular, it is a different expression of the classic Keynesian multiplier and tries to measure the total impact of a basic-export sector change on the regional economy. The Regional Multiplier is connected with the Export Activity as:

$$K_{ir} = \frac{A_{ir}}{X_{ir}} \qquad (4) \qquad \text{or more detailed as:} \qquad K_{ir} = \frac{A_{ir}}{A_{ir} - \frac{A_r}{A_n} A_{in}}, \qquad (5)$$

where the denominator of the fraction (4) gives the export activity of the spatial unit r, which is related to the Location Quotient and analyzed as follows (Isserman, 1977):

$$X_{ir} = A_{ir}\left(1 - \frac{1}{LQ_{ir}}\right) \text{ ή } X_{ir} = A_{ir}\left(\frac{LQ_{ir} - 1}{LQ_{ir}}\right) \qquad (6)$$

The Regional Sectoral Multipliers and the Export Activity are calculated in this paper.

The Coefficient of Geographic Association/Coefficient of Spatial Association is used to estimate the degree of association between branches at regional level (Florence, 1944).The degree of association between the agricultural sector and food-beverages branch is reflected in the same region, so the relative sector efficiency is investigated indirectly, through the ability to attract food-beverage activities in the region.

The standard Coefficient of Geographic Association/Coefficient of Spatial Association between sectors/branches i and l is (Richter, 1969):

$$A = 1 - \frac{1}{2}\sum_r \left| \frac{Air}{Ain} - \frac{Alr}{A\ln} \right|, \qquad (7)$$

where:

Air : the number of employees of the sector/branch i in the region r.

Ain : the total number of employees of the sector/branch i in all n regions.

Alr : the number of employees of the sector/branch l in the region r.

$A\ln$: the total number of employees of the sector/branch l in all n regions.

Finally, the Correlation Coefficient or Linear Correlation Coefficient of Pearson is used to examine the correlation between two regional variables at a straight line. The equation is (Rodgers and Nicewander, 1988):

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\left[\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2\right]^{1/2}} \qquad (8)$$

In our analysis, the above coefficient is used to correlate the regional allocation of public expenditures directly attributable to the Regional Operational Programmes, related to actions intended to strengthen the agricultural sector with the relevant allocation of employment at regional level. That helped to define whether or not the funding allocation followed the weightiness of the agricultural sector's employment in each region.

4.   Applications and Results
4.1. Specialisation, Export Activity and Regional Multipliers in Agricultural Sector

The specialisation of the Greek regions in the agricultural sector was estimated by the Location Quotients (LQ). According to the results, 10 of the 13 Greek regions specialised in the sector for the year 2007 (Table 4).

Table 4. Location Quotient of Agricultural Sector by Region 2000-2007

Regions	LQ 2007	LQ 2000
1. Anatoliki Makedonia, Thraki	2.17	1.97
2. Kentriki Makedonia	0.99	1.05
3. Dytiki Macedonia	1.47	1.22
4. Ipeiros	1.67	1.37
5. Thessalia	1.92	1.81
6. Ionia Nisia	1.19	1.51
7. Dytiki Ellada	1.78	1.97
8. Sterea Ellada	1.64	1.42
9. Attiki	0.06	0.08
10. Peloponnisos	2.60	2.14
11. Voreio Aigaio	1.41	1.12
12. Notio Aigaio	0.60	0.48
13. Kriti	1.56	1.71

The higher values of the LQ are observed, as expected, in the agriculturally developed regions of Peloponnisos (2.60) and Anatoliki Macedonia-Thraki (2.17), which have increased their specialisation in the period between the years 2000 and 2007.

Also, in another 5 regions, the LQ value has increased for that period (Dytiki Macedonia, Ipeiros, Thessalia, Sterea Ellada, and Voreio Aigaio). In 4 regions, the LQ value has decreased (Kentriki Macedonia, Ionia Nisia, Dytiki Ellada and Kriti), while in only 2 regions (Attiki, Notio Aigaio) was there not any specialisation in the specific sector. By the estimation of regional employment multipliers and export activity in the agricultural sector for the same period (Table 5), some further conclusions could be drawn, about the efficiency and extroversion of the sector at regional level, according to the economic base model (Isserman, 1977; Chiang, 2008).

In particular, the highest regional sector multiplier appeared in two insular regions, Ionia Nisia (6.27), and Voreio Aigaio (3.45) as well as in a peripheral region of the mainland - that of Dytiki Makedonia (3.13). The regional employment multipliers decreased in most regions during the specific period 2000-2007, with notable changes in some cases, such as Kentriki Makedonia, in the year 2007 which showed no export activity, because of a

lack of specialisation on the LQ coefficient, and Voreio Aigaio, with a significant decrease in the referenced coefficient. On the other hand, Ionia Nisia showed a significant increase in the value of coefficient. However, a more complete picture of the degree of regional sector specialisation could be provided by the export activity which associated with the above coefficients (LQ and Kir). So, according to the employment data, significant export activity presented in the Peloponnisos, Thessalia and Anatoliki Makedonia- Thraki regions, with particular growth in the specific sector, as we found from the previous analysis.

Table 5. Regional Multipliers (Kir) and Export Activity (Xir) of the Agricultural Sector by region 2000, 2007

Regions	Kir		Xir	
	2007	2000	2007	2000
1. Anatoliki Makedonia, Thraki	1.85	2.03	31897.79	39495.82
2. Kentriki Makedonia		3.98		31638.25
3. Dytiki Macedonia	3.13	5.56	5655.60	3827.12
4. Ipeiros	2.50	3.71	10182.98	7873.13
5. Thessalia	2.09	2.24	31217.46	38079.53
6. Ionia Nisia	6.27	2.94	1901.65	7472.22
7. Dytiki Ellada	2.28	2.03	24968.47	44699.07
8. Sterea Ellada	2.56	3.4	16619.64	14238.93
9. Attiki				
10. Peloponnisos	1.62	1.88	46897.68	46525.77
11. Voreio Aigaio	3.45	9.25	3388.48	1370.69
12. Notio Aigaio				
13. Kriti	2.79	2.41	16795.74	31082.20

4.2. Specialisation, Export Activity and Regional Multipliers of Food-Beverages Branch and Geographic Association with the Agricultural Sector

The productive system associated with the food-beverages industry (food processing, packaging etc.), utilising the production from the agricultural sector, creates an important source of employment and income at regional level, maximising the economic and social benefits for each region.In that context, this section presents a comparative analysis of the results from the application of Location Quotients, Regional Multipliers and Export Activity of Food-Beverages Industry along with those of the agricultural sector, in order to define any common spatial behaviour between them. The relevant results are presented in table 6. The interpretation of results indicates that some regions with high specialisation in the primary sector specialise in food-beverages too (LQ>1,5 in both sectors), such as Dytiki Ellada and Kriti. However, several regions, while specialised in the primary sector do not specialise in the food-beverage industry (Anatoliki Makedonia, Thraki, Dytiki Makedonia, Ionia Nisia, and Sterea Ellada). The opposite appeared to a lesser extent in some places (Kentriki Makedonia, Voreio and Notio Aigaio). Therefore, despite some common spatial behaviours between the two sectors, as observed, we cannot support the argument for a widespread trend.

Table 6. Location Quotient (LQ), Export Activity (Xir), Regional Multipliers (Kir) of the Primary (Agricultural) Sector and Food –Beverages branch by Region, 2007

Regions	LQ		Kir		Xir	
	Primary Sector	Food-Bever ages	Primary Sector	Food-Bever ages	Primary Sector	Food-Bever ages
1. Anatoliki Makedonia, Thraki	2.17	0.94	1.85		31897.79	
2.Kentriki Makedonia	0.99	1.26		4.91		2847.97
3. Dytiki Macedonia	1.47	0.89	3.13		5655.6	
4. Ipeiros	1.67	1.24	2.5	5.1	10182.98	818.94
5. Thessalia	1.92	2.5	2.09	1.67	31217.46	1350.86
6. Ionia Nisia	1.19		6.27		1901.65	
7. Dytiki Ellada	1.78	1.78	2.28	2.28	24968.47	1500.27
8. Sterea Ellada	1.64	0.74	2.56		16619.64	
9. Attiki	0.06	1.01		102.2		17.84
10. Peloponnisos	2.6	0.73	1.62		46897.68	
11. Voreio Aigaio	1.41	2.63	3.45	1.61	3388.48	228.3
12. Notio Aigaio	0.6	1.59		2.68		203.45
13. Kriti	1.56	1.73	2.79	2.38	16795.74	888.32

Regarding the analysis of the results of export activity and regional multipliers, it emerged that there are not any significant deviations from the basic findings above.

In order to estimate through a more systematic way the spatial association between the two sectors, the Coefficient of Geographic Association/Coefficient of Spatial Association is used. Thus, the degree of association between the agricultural sector and the food-beverages branch was reflected in the same region, so the relative sector efficiency was investigated indirectly, through the ability to attract food-beverage activities in the region. According to the results, despite the fact that the value of the coefficient is significant for the year 2007 (0.69), we cannot say that it is very high (e.g., A>0.80) and moreover, it shows a relevant stability compared with the year 2000 (0.66). This situation could be interpreted as the result of weak inter-sectoral linkages at a local/regional level, due to the lack of measures to strengthen the local and entrepreneurial environment and thus the inability to attract food processing and marketing industries for the primary sector products in the referred area.

Additional findings are given by the correlation of sector funding through the Regional Operational Programmes (ROPs), with the sectoral employment at regional level in the related period.

4.3. Agricultural Sector funding and correlation with the employment

The rural development programmes applied for the period 2000-2006 in Greece were (European Commision, 2003):

- One mono fund National Operational Programme-Guidance covering the whole country;
- One national Programming Document-Guarantee, covering early retirement, compensation allowance for less favoured areas, agri-environment measures etc;
- One Leader+ initiative covering the whole country;

- 13 multi-fund Regional Operational Programmes partly co-financed by EAGGF-Guidance for each of the 13 Greek regions.

These 13 programmes had a clear regional dimension and application for the development strategy of each region through multiple interventions, including actions and projects to enhance the capabilities and activities of the agricultural sector. Unlike the current planning period (2007-2013), ROPs for 2000-2006 allocated Public Expenditure at a measured level. So, the amount related directly to the primary sector in every ROP, could be estimated. This is very important in order to clearly define the weight of the agricultural sector in the total expenditures (as indicated by the proportional share) for each region and then to correlate it with the weight of the sector in the regional employment (Table 7).

Table 7. ROP public expenditures and employment percentages in the primary (agricultural) sector by region

Regions	ROP public expenditure percentage in the primary sector	Regional Employment percentage in the primary sector
1. Anatoliki Makedonia, Thraki	30.60%	25.05%
2. Kentriki Makedonia	16.23%	11.38%
3. Dytiki Macedonia	33.21%	16.93%
4. Ipeiros	34.91%	19.22%
5. Thessalia	34.60%	22.10%
6. Ionia Nisia	16.53%	13.71%
7. Dytiki Ellada	27.28%	20.50%
8. Sterea Ellada	26.89%	18.94%
9. Attiki	1.66%	0.67%
10. Peloponnisos	32.08%	30.00%
11. Voreio Aigaio	19.10%	16.22%
12. Notio Aigaio	19.92%	6.91%
13. Kriti	28.51%	17.90%

From the related results, it emerges that the largest percentage of the sector's financial assistance presented in Ipeiros (about 35%), which marginally exceeded the respective assistance in Thessalia (which is followed by the regions of Dytiki Makedonia, Peloponnisos and Anatoliki Makedonia-Thraki, with a percentage of more than 30%). In last place according to this classification is the metropolitan region of Attiki, as expected.

Furthermore, in order to examine more accurately the correlation between employment in the agricultural sector with the emphasis given to the sector through the regional planning, we use the correlation (linear) coefficient (r). Specifically, the variables employed are the regional allocation of public expenditures (X) which has been led directly in actions to the agricultural sector within the ROPs, and the related regional employment allocation of the sector (Y). This way helps us to examine if the financial allocation is correlated with the sectoral specialisation of each region. According to the results, the correlation coefficient value is r=0.84, which indicates the presence of a sufficient positive correlation between the two variables (see Figure 3).

Figure 3. Correlation between ROPs public expenditure percentage and employment percentage by region
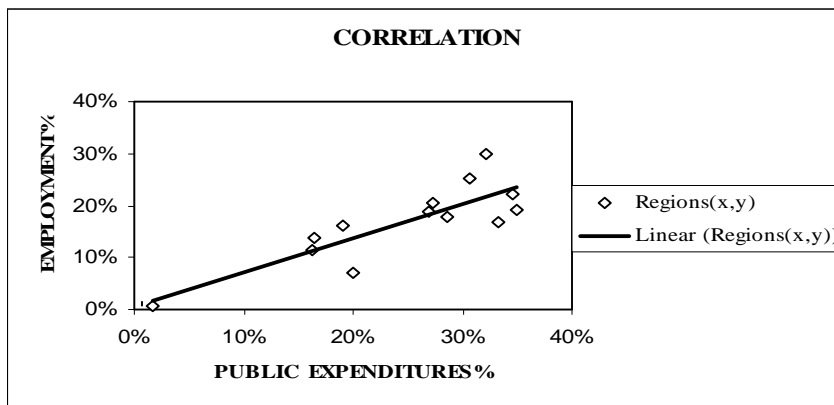
To summarise, from the above analysis, we can say that in the majority of Greek regions, the proportion of public expenditure directed to the primary sector in each region is compatible with the magnitude of the sector in the regional economy (in terms of regional employment).

5. Conclusions and main policy implications

Despite the decrease of agricultural employment found in the country as a whole over recent years, there is still a strong dependence on the specific productive sector. The dependence on the primary sector appeared even greater in many Greek regions as much in the mainland as in the island space.

According to our quantitative approach, improvement of specialisation and export activity in most mainland regions of the country as well as in an island region (Voreio Aigaio) has been reported, while the opposite result is reported regarding the multiplier which has been increased in Dytiki Ellada, Ionia Nisia and Kriti.

Despite the existence of a geographical association between the agricultural sector and the food beverages industry, this is not particularly strong. The highest specialised agricultural regions are characterised by low specialisation in the food-beverages industry and consequently an absence of export activity. This fact could be interpreted as the result of a lack of strong inter-sectoral linkages in a local-regional level, probably due to the absence of effective measures to strengthen the local productive and entrepreneurial environment and thus the inability to attract processing and marketing industries for agricultural sector products in the specialised regions.

However, there is a positive correlation between the ROPs funding given directly to the sector and the regional specialisation, although the related expenditures is only a part of the total financial assistance for rural development in 2000-2006 period.

As a concluding remark, it should be noted that regional planning and the distribution of the agricultural sector funding at regional level, should take into account the sectoral specialisation and efficiency of regions, in addition to the sectoral efficiency that is presented by the related geographic association.

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