Agriculture and Regional Development in Greece

Dimitrios Kyrkilis
University of Macedonia
Egnatia 156, 54006 Thessaloniki, Greece
E-mail: kyrkilis@uom.gr
Telephone Number: +302310 891473
Fax: +302310 891429

Semasis Simeon
Agricultural Bank of Greece
Stefou square, 62042 New Zichni, Serres, Greece
E-mail: semasis1@hotmail.com.
Telephone Number: +302321023047, +306973799481
Fax: +30 2324022043

Abstract
This paper attempts to explore the effects of post-war economic development model followed in Greece. The model is characterized by both the neglect of Greek agriculture and the emphasis on industrialization, mainly around the two major cities, Athens and Thessaloniki. The model has to develop a strong industrial sector but to inflate services and it devastated agriculture. At the regional level the uneven growth path that has been adopted perpetuated between urban and tourist areas on the one hand and the rural regions on the other.

KEYWORDS: Economic development model, Greek agriculture, industrialisation, urbanisation, income disparities, regional development, economic crisis.
1.) Introduction
Modern agriculture may be a key factor of regional development (Randall 2009) especially in countries with considerable spatial income disparities (World Development Report 2008: Agriculture for Development). Regional development policies would contribute to a sustainable national economic development (Friedman and Alonso 1964), enhancing regional growth potential, balancing population distribution increasing productivity and creating employment and income generation opportunities. There are certain regional development models that incorporate agriculture as an engine of regional economic growth (World Development Report 2009: Spatial Disparities and Development Policy).

The debate on which sector, i.e. agriculture, industry should be the priority for economic development was of major importance in 1950’s and the 1960’s (Mercado 2002). A strong argument in favour of agriculture was that agriculture development preceded industrial development and, furthermore, especially in developing countries an increase in rural sector’s productivity would not only solve the food shortage, prevalent in these countries but it would also increase people’s income and improve the country's foreign exchange revenues.

On the other hand the argument in favour of industrialisation was based on the experience of the developed countries in Europe, the USA, Japan e.t.c. Industrialisation supporters claimed that resources could be mobilised for being invested in basic industries and machinery and in various infrastructure projects like electric energy power, and the transportation network.

The whole debate was transformed to a controversy between balanced as opposed to the unbalanced growth concepts. The supporters of unbalanced growth believe that growth could only be achieved only in the leading sectors of the nation’s economy. Investments must be focused on those sectors who achieve the higher capital – output ratio. This concept in effect claims that a country should choose the one of the two opposite development paths, i.e. agriculture vs. industry.

The opposite view, of the balanced growth policy claims that concentrating resources only in a few sectors would undermine the potential of the other sectors.

The debate of balanced versus unbalanced growth modes was extended to the area of spatial development. The unbalanced growth supporters suggest a spatially selective investment plan (growth pole centre theory) while their opponents would prefer a spatially balanced pattern.
The debate on prioritising between agriculture and industry has sparked further discussions on the interrelations between the basic sectors of economy that triggered the development of models that compromise the growth of both sectors and take into account, the nature of development investments and structural changes in an economy.

Certain development theories have argued the inefficacy of adopting a dichotomous development mode between the two sectors (Koppel 1991) for instance argues that the choice of a rural or urban alternative seems to be a deceptive dilemma. Misra (1981), pointed out those arguments by raising three fundamental questions: 1.) whether it is possible to develop rural areas without urban development and the opposite. 2.) Whether there is a country that has developed solely on urban or rural sector and 3.) Whether poverty and underdevelopment are divisible in clear cut urban and rural developments. The apparent negative response to the above questions would lead to the conclusion that the issue is not which to develop first between urban and rural areas but rather in discovering ways to develop both in order to meet many national, regional and local needs. Apparently this balanced development can lead to the reduction of gaps in income, productivity, social services and quality of life in general between rural and urban areas.

At the end of 1951 Greece and its economy were devastated after a decade and even more of war entanglements including a destructive and fratricidal civil war and foreign occupation (Kamarinou1977).

K. Varvaressos, argued that the agricultural sector should be the main pillar of development in the country assisted by large land reclamation, irrigation and improved farming techniques since the industry because of the small size of the Greek market and lack of technology, could not exploit economies of scale and through it achieve high output levels absorbing a massive rural exodus. (K.Varvaressos, cited in Maraveyas, 1992 p.p 35)

According to the 1951 census Greece was an agrarian country, the population of the country was 7,566,000 persons, of whom 43.2% were economically active. The urban population was 38.5%, the semi-urban 13.8% and the rural 47.7%. The agricultural sector employed 59.5% of the working population and contributed 29% of GDP. The average farm size was 35.8 acres and there were 1,311,980 farms employing 1,928,120 farmers. The debate on the country’s proper development model that had started in the second half of the 1940’s followed the industrialisation vs. agriculture development argument.

According to the opposite view, the Greek agriculture was not sufficient by itself to meet the export promotion and of providing productive employment for the entire population. (I. Zigdis, cited in. Maraveyas, 1992, p.p. 36). Also according to X. Zolotas any progress in
agriculture was unable to address the problem of agricultural productivity if the rural population has not been significantly reduced. A massive rural exit did not concern Zolotas because he believed that the development of industry and other sectors, supported by the state and foreign capital with the sufficient finance and proper use of foreign technology could absorb the surplus rural population. Zolotas was also optimistic about the industrial development mainly through private initiative and enterprise and he believed that companies would eventually stop to be hesitant and make unproductive investments or smuggling funds and will ultimately be dedicated to helping the economic growth. (Zolotas, cited in Maraveyias, 1992 p.p. 37, 38).

Ang. Angelopoulos advocated in favor of more intermediate positions that if a country does not want to lag there should no more be engaged in the conflict between industrial and rural development. Both these directions are necessary and complementary to its other. Because, if a country promotes the development of agriculture through the broadest use of machinery, the immediate result would be that a portion of rural population would become redundant and it would seek new employment. (Angelopoulos, cited in Maravegias, 1992, p.p. 38).

Angelopoulos thought of agricultural development as the first priority and that industry should be a necessary complement. He also shared the fears of Varvaressos about the ability of private initiative and suggested the involvement of the state in major industries.

In addition the left party which was defeated at the civil war and it was marginalized politically; it was an advocate of rapid industrialization with heavy state involvement but narrow private initiative. (Batsis, cited in Maraveyas, 1992 p.p. 38)

This debate over the course of development ended with the electoral victory of Marshal Papagos at the elections of 1953. According to the policy decided at the time and played a crucial role in the development of the entire economy up to today, agricultural policy’s primary target was not to assist the development of the sector but to compel the rural sector to contribute as much as allowed by the political and social conjuncture, in creating favourable conditions for the deployment of private capital in the non-agricultural sector of the economy.

2) Agriculture and Greek Economic Development, 1970 until today

Two events were the landmarks for the period since 1971 in Greece, first the fall of the military dictatorship in 1974, after the Turkish invasion of Cyprus and second the country’s entry into the EEC in 1981.
However, the emphasis on industrialisation through a centralised model (Krugman 1991), and the integration to the global economy were not challenged to the least.

As shown in Table 1, employment in agriculture has been constantly decreasing since 1972 except for the 2011 when the percentage share of agriculture employment rose slightly relatively to the previous years.

At the same time, industrial development although it grew significantly between 1970 and 1975 then it remained rather steady before it starts to descend off on 1990. Employment in services kept constantly rising up to 2000 afterwards remained rather constant as a percentage share of total employment. It is rather evident that industry did not manage to absorb the redundant rural employment. The correlation coefficient between employment in agriculture and employment in industry although negative is low, see table 2. Primarily agriculture workers moved to services or became unemployed.

The correlation coefficient between agriculture employment and employment in services and unemployment are negative but high as it is shown in table 2. These trends in employment mirror economic inefficiencies and resulted in several economic disorders such as the misallocation of resources including labour that led to low productivity.

### Table 1: Rates of Employment and Unemployment by Main Economic Sector

<table>
<thead>
<tr>
<th>YEARS</th>
<th>Employment in Agriculture (%)</th>
<th>Employment in Secondary Sector (%)</th>
<th>Employment in Tertiary Sector (%)</th>
<th>Unemployment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>55.74%</td>
<td>19.90%</td>
<td>24.36%</td>
<td>3.33%</td>
</tr>
<tr>
<td>1975</td>
<td>41.74%</td>
<td>30.38%</td>
<td>27.87%</td>
<td>3.11%</td>
</tr>
<tr>
<td>1980</td>
<td>41.73%</td>
<td>30.44%</td>
<td>27.83%</td>
<td>3.08%</td>
</tr>
<tr>
<td>1985</td>
<td>30.34%</td>
<td>30.80%</td>
<td>38.73%</td>
<td>4.12%</td>
</tr>
<tr>
<td>1990</td>
<td>28.62%</td>
<td>30.60%</td>
<td>36.09%</td>
<td>4.37%</td>
</tr>
<tr>
<td>1995</td>
<td>20.81%</td>
<td>25.37%</td>
<td>53.82%</td>
<td>7.78%</td>
</tr>
<tr>
<td>2000</td>
<td>18.78%</td>
<td>24.41%</td>
<td>56.80%</td>
<td>8.08%</td>
</tr>
<tr>
<td>2005</td>
<td>15.41%</td>
<td>23.47%</td>
<td>61.12%</td>
<td>10.84%</td>
</tr>
<tr>
<td>2010</td>
<td>15.02%</td>
<td>23.17%</td>
<td>61.81%</td>
<td>11.12%</td>
</tr>
<tr>
<td>2011</td>
<td>15.25%</td>
<td>22.95%</td>
<td>61.80%</td>
<td>14.74%</td>
</tr>
</tbody>
</table>

Source: Greek Statistical Authority, Annual Yearbook, Various Years, Own Calculations

Recent factors like the high cost of living in cities, increasing unemployment and job insecurity, declining wages in the economy and the emergence of food insecurity has led to a significant number of people seeking employment in the agricultural sector from which it was probably originated.
TABLE 2: COEFFICIENTS OF CORRELATION BETWEEN EMPLOYMENT IN AGRICULTURE AND EMPLOYMENT IN OTHER SECTORS AND UNEMPLOYMENT

<table>
<thead>
<tr>
<th>COEFFICIENTS OF CORRELATION</th>
<th>FORMULAE</th>
<th>DEFINITIONS</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>r(1)</td>
<td>ST.EMP, agr/ST.EMP.Sagr</td>
<td>Correlation between total employment and agriculture employment</td>
<td>-0.70284</td>
</tr>
<tr>
<td>r(2)</td>
<td>SINDEMP, agr/SINDEMP.Sagr</td>
<td>Correlation between employment in industry and agriculture</td>
<td>-0.3364</td>
</tr>
<tr>
<td>r(3)</td>
<td>StERTEMP, agr/StERTEMP.Sagr</td>
<td>Correlation between employment in services and in agriculture</td>
<td>-0.88756</td>
</tr>
<tr>
<td>r(4)</td>
<td>SUNEM, agr/SUNEM.Sagr</td>
<td>Correlation between unemployment and agriculture employment</td>
<td>-0.77835</td>
</tr>
</tbody>
</table>

SOURCE: OWN CALCULATIONS

TABLE 3: NUMBER OF EMPLOYEES IN AGRICULTURE PER GREEK REGION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>722.440</td>
<td>670.791</td>
<td>659.836</td>
<td>642.783</td>
<td>570.443</td>
<td>567.228</td>
<td>573.415</td>
<td>541.753</td>
<td>541.227</td>
</tr>
<tr>
<td>East Macedonia-Thrace</td>
<td>82.110</td>
<td>76.555</td>
<td>79.999</td>
<td>74.637</td>
<td>63.852</td>
<td>62.501</td>
<td>58.215</td>
<td>61.742</td>
<td>61.682</td>
</tr>
<tr>
<td>Central Macedonia</td>
<td>128.954</td>
<td>118.884</td>
<td>111.224</td>
<td>117.733</td>
<td>100.198</td>
<td>93.292</td>
<td>93.981</td>
<td>89.222</td>
<td>89.136</td>
</tr>
<tr>
<td>Thessaly</td>
<td>87.292</td>
<td>80.846</td>
<td>77.467</td>
<td>80.297</td>
<td>76.429</td>
<td>77.434</td>
<td>72.358</td>
<td>69.979</td>
<td>69.911</td>
</tr>
<tr>
<td>Western Greece</td>
<td>92.870</td>
<td>85.485</td>
<td>81.851</td>
<td>73.980</td>
<td>65.738</td>
<td>65.241</td>
<td>65.341</td>
<td>60.720</td>
<td>60.661</td>
</tr>
<tr>
<td>Sterea Ellada</td>
<td>49.506</td>
<td>44.125</td>
<td>45.782</td>
<td>46.804</td>
<td>38.491</td>
<td>37.213</td>
<td>39.619</td>
<td>43.351</td>
<td>43.309</td>
</tr>
<tr>
<td>Peloponnese</td>
<td>89.334</td>
<td>82.863</td>
<td>85.632</td>
<td>85.135</td>
<td>77.880</td>
<td>84.473</td>
<td>90.349</td>
<td>81.387</td>
<td>81.308</td>
</tr>
<tr>
<td>Crete</td>
<td>76.659</td>
<td>77.481</td>
<td>74.653</td>
<td>70.902</td>
<td>59.329</td>
<td>57.889</td>
<td>57.811</td>
<td>48.790</td>
<td>48.734</td>
</tr>
</tbody>
</table>

SOURCE: EURO STAT REGIONAL YEARBOOK 2011
## TABLE 4: NUMBER OF TOTAL EMPLOYEES PER GREEK REGION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>4,255,114</td>
<td>4,260,547</td>
<td>4,356,481</td>
<td>4,408,022</td>
<td>4,514,448</td>
<td>4,550,600</td>
<td>4,659,809</td>
<td>4,782,684</td>
<td>4,791,577</td>
</tr>
<tr>
<td><strong>East Macedonia-Thrace</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>243,486</td>
<td>238,213</td>
<td>239,585</td>
<td>235,868</td>
<td>232,070</td>
<td>235,509</td>
<td>211,554</td>
<td>243,013</td>
<td>243,163</td>
</tr>
<tr>
<td><strong>Central Macedonia</strong></td>
<td>717,604</td>
<td>722,791</td>
<td>722,342</td>
<td>748,325</td>
<td>755,123</td>
<td>753,668</td>
<td>790,331</td>
<td>798,838</td>
<td>800,227</td>
</tr>
<tr>
<td><strong>Western Macedonia</strong></td>
<td>103,093</td>
<td>104,186</td>
<td>105,320</td>
<td>103,355</td>
<td>101,989</td>
<td>107,420</td>
<td>107,416</td>
<td>107,439</td>
<td></td>
</tr>
<tr>
<td><strong>Thessaly</strong></td>
<td>284,119</td>
<td>280,178</td>
<td>281,960</td>
<td>287,399</td>
<td>309,237</td>
<td>305,518</td>
<td>309,339</td>
<td>310,942</td>
<td>311,177</td>
</tr>
<tr>
<td><strong>Hiperus</strong></td>
<td>128,688</td>
<td>121,884</td>
<td>127,546</td>
<td>125,468</td>
<td>131,061</td>
<td>127,488</td>
<td>139,030</td>
<td>140,644</td>
<td>140,687</td>
</tr>
<tr>
<td><strong>Ionian islands</strong></td>
<td>89,181</td>
<td>87,660</td>
<td>89,592</td>
<td>90,400</td>
<td>91,761</td>
<td>93,478</td>
<td>91,388</td>
<td>91,149</td>
<td>91,328</td>
</tr>
<tr>
<td><strong>Western Greece</strong></td>
<td>278,469</td>
<td>270,875</td>
<td>276,746</td>
<td>277,747</td>
<td>281,386</td>
<td>282,463</td>
<td>290,831</td>
<td>295,916</td>
<td>296,286</td>
</tr>
<tr>
<td><strong>Sterea Hellas</strong></td>
<td>203,538</td>
<td>198,533</td>
<td>213,720</td>
<td>225,825</td>
<td>214,765</td>
<td>222,797</td>
<td>232,485</td>
<td>231,808</td>
<td>232,004</td>
</tr>
<tr>
<td><strong>Peloponnese</strong></td>
<td>246,250</td>
<td>241,901</td>
<td>252,903</td>
<td>248,126</td>
<td>250,124</td>
<td>253,816</td>
<td>268,687</td>
<td>271,053</td>
<td>271,257</td>
</tr>
<tr>
<td><strong>Attica</strong></td>
<td>1,507,296</td>
<td>1,541,716</td>
<td>1,601,333</td>
<td>1,606,586</td>
<td>1,683,938</td>
<td>1,701,022</td>
<td>1,745,296</td>
<td>1,811,189</td>
<td>1,816,436</td>
</tr>
<tr>
<td><strong>Northern Aegean</strong></td>
<td>68,755</td>
<td>69,934</td>
<td>69,113</td>
<td>68,761</td>
<td>71,132</td>
<td>73,433</td>
<td>76,278</td>
<td>77,840</td>
<td>77,917</td>
</tr>
<tr>
<td><strong>Southern Aegean</strong></td>
<td>117,314</td>
<td>117,738</td>
<td>116,733</td>
<td>122,307</td>
<td>123,767</td>
<td>127,476</td>
<td>124,072</td>
<td>128,466</td>
<td>128,785</td>
</tr>
<tr>
<td><strong>Crete</strong></td>
<td>267,320</td>
<td>264,939</td>
<td>259,587</td>
<td>267,854</td>
<td>266,477</td>
<td>271,944</td>
<td>273,098</td>
<td>274,408</td>
<td>274,872</td>
</tr>
</tbody>
</table>

**SOURCE:** EURO STAT REGIONAL YEARBOOK 2011

Agriculture’s gross value added (GVA) in percentage share of total was severely reduced from just over 12 percent in 1970 to almost 3.5 percent in 2007 compared with a lower reduction of industry’s VA and a considerable increase of the services’ VA in the same period, see Table 6. That indicates that the growth rate of agriculture was below the total economy’s growth rate. As a matter of fact agriculture’s VA in absolute 2000 prices rose between 1970 and 2000 was set on a descending path afterwards and in 2007 reached a level below its corresponding level of 1970, see table 5. The above result may be explained by the adoption of the subsidised system of the Common Agriculture Policy (CAP) after Greece joined the European Community in 1981. The introduction of subsidies caused the reduction of the output of the high value added products like vegetable crops, grape and wine products, oil, and aromatic products et c. Greek rural production focused exclusively to the subsidized crops like cotton, cereals, corn and very few others. Finally after the appliance of the disconnection of subsidies from the production during 2005, the reduction of rural production became dramatic. Owing to that system Greek farmers prefer instead of producing and pay the relevant costs to take the subsidies for their living. Consequently a possible reduction or elimination of subsidies would cause a terrible shock or else a final blow to the Greek agriculture even amid of a fierce economic crisis.
TABLE 5: DEVELOPMENT OF VA TOTAL AND BY SECTOR OF ECONOMY, CONSTANT PRICES (2000=100), IN MILLION EUROS (1970-2007)

<table>
<thead>
<tr>
<th>Years</th>
<th>Total VA</th>
<th>Agriculture VA</th>
<th>Industry VA</th>
<th>Construction VA</th>
<th>Wholesale and retail VA</th>
<th>Financial Intermediation And real estate VA</th>
<th>Other service Activities VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>50858,7</td>
<td>6164,0</td>
<td>7058,7</td>
<td>6409,6</td>
<td>10645</td>
<td>7327,3</td>
<td>12052,7</td>
</tr>
<tr>
<td>1975</td>
<td>66990,2</td>
<td>7431,3</td>
<td>10281,9</td>
<td>6445,8</td>
<td>14967</td>
<td>10213</td>
<td>15352,7</td>
</tr>
<tr>
<td>1980</td>
<td>82302,4</td>
<td>7924,6</td>
<td>13286,3</td>
<td>7349,4</td>
<td>18967</td>
<td>13242</td>
<td>18985,4</td>
</tr>
<tr>
<td>1985</td>
<td>88592,5</td>
<td>7927,8</td>
<td>13948,2</td>
<td>6272,6</td>
<td>21857</td>
<td>15416</td>
<td>20946,5</td>
</tr>
<tr>
<td>1990</td>
<td>96256,2</td>
<td>7010,8</td>
<td>14620,4</td>
<td>7849,0</td>
<td>24941</td>
<td>18262</td>
<td>23130,6</td>
</tr>
<tr>
<td>1995</td>
<td>103243,9</td>
<td>8013,0</td>
<td>14722,4</td>
<td>6841,1</td>
<td>27632</td>
<td>21696</td>
<td>24286,2</td>
</tr>
<tr>
<td>2000</td>
<td>120382,2</td>
<td>7933,3</td>
<td>16754,4</td>
<td>8469,7</td>
<td>36264</td>
<td>24794</td>
<td>26166,4</td>
</tr>
<tr>
<td>2005</td>
<td>149651,7</td>
<td>7563,4</td>
<td>20599,6</td>
<td>11159</td>
<td>51950</td>
<td>25906</td>
<td>32362,5</td>
</tr>
<tr>
<td>2006</td>
<td>154551,1</td>
<td>6197,9</td>
<td>21229,2</td>
<td>12266</td>
<td>53604</td>
<td>27224</td>
<td>33871,1</td>
</tr>
<tr>
<td>2007</td>
<td>160659,5</td>
<td>5526,3</td>
<td>21563,9</td>
<td>13196</td>
<td>57945</td>
<td>27812</td>
<td>34767,9</td>
</tr>
</tbody>
</table>

SOURCE: WWW.STATS.OECD.ORG.

TABLE 6: PERCENTAGE OF VA BY MAIN ECONOMIC SECTORS.

<table>
<thead>
<tr>
<th>Arithmetical order of years</th>
<th>Years</th>
<th>PERCENTAGE OF AGRICULTURAL VA</th>
<th>PERCENTAGE OF SECONDARY SECTOR VA</th>
<th>PERCENTAGE OF TERTIARY SECTOR VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1970</td>
<td>12,12%</td>
<td>26,48%</td>
<td>59,04%</td>
</tr>
<tr>
<td>6</td>
<td>1975</td>
<td>11,09%</td>
<td>24,97%</td>
<td>60,50%</td>
</tr>
<tr>
<td>11</td>
<td>1980</td>
<td>9,63%</td>
<td>25,07%</td>
<td>62,20%</td>
</tr>
<tr>
<td>16</td>
<td>1985</td>
<td>8,95%</td>
<td>22,82%</td>
<td>65,72%</td>
</tr>
<tr>
<td>21</td>
<td>1990</td>
<td>7,28%</td>
<td>23,34%</td>
<td>68,91%</td>
</tr>
<tr>
<td>35</td>
<td>2004</td>
<td>5,14%</td>
<td>19,76%</td>
<td>76,47%</td>
</tr>
<tr>
<td>36</td>
<td>2005</td>
<td>5,05%</td>
<td>21,22%</td>
<td>73,65%</td>
</tr>
<tr>
<td>37</td>
<td>2006</td>
<td>4,01%</td>
<td>21,67%</td>
<td>74,21%</td>
</tr>
<tr>
<td>38</td>
<td>2007</td>
<td>3,44%</td>
<td>21,64%</td>
<td>75,02%</td>
</tr>
</tbody>
</table>

SOURCE: WWW.STATS.OECD.ORG.
In addition, Greek agriculture shows weak or non-existent linkages with other economic sectors. Correlation coefficients of agriculture VA and VA of other sectors tend to zero; see Table 7, with the exception of a moderate correlation coefficient with construction’s VA that equals to 47.5 percent.

### Table 7: Coefficients of Correlation Between Main Sectors

<table>
<thead>
<tr>
<th>CORRELATION</th>
<th>FORMULAE</th>
<th>DEFINITIONS</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>r(1)</td>
<td>Stva, agr/Stva.Sagr</td>
<td>Correlation between total value added and agriculture</td>
<td>0.035</td>
</tr>
<tr>
<td>r(2)</td>
<td>Sagr, Sind/Sagr.Sind</td>
<td>Correlation between agriculture and industry</td>
<td>0.1174</td>
</tr>
<tr>
<td>r(3)</td>
<td>Sagr, Scon/Sagr.Scon</td>
<td>Correlation between agriculture and construction</td>
<td>0.475</td>
</tr>
<tr>
<td>r(4)</td>
<td>Sagr, Swhol/Sagr.Swhol</td>
<td>Correlation between agriculture and wholesale and retail services</td>
<td>-0.085</td>
</tr>
<tr>
<td>r(5)</td>
<td>Sagr, Sfin/Sagr.Sfin</td>
<td>Correlation of agriculture and financial services</td>
<td>0.1978</td>
</tr>
<tr>
<td>r(6)</td>
<td>Sagr, Sserv/Sagr.Sser</td>
<td>Correlation between agriculture and other services</td>
<td>0.09817</td>
</tr>
<tr>
<td>r(7)</td>
<td>Stva, Sind/Stva.Sind</td>
<td>Correlation between total value added and industry</td>
<td>0.97187</td>
</tr>
<tr>
<td>r(8)</td>
<td>Stva, Scon/Stva.Scon</td>
<td>Correlation between total value added and construction</td>
<td>0.748</td>
</tr>
<tr>
<td>r(9)</td>
<td>Stva, Swhol/Stva.Swhol</td>
<td>Correlation between total value added and wholesale and retail services</td>
<td>0.9854</td>
</tr>
<tr>
<td>r(10)</td>
<td>Stva, Sfin/Stva.Sfin</td>
<td>Correlation between total value added and financial services</td>
<td>0.9599</td>
</tr>
<tr>
<td>r(11)</td>
<td>Stva, Sserv/Stva.Sser</td>
<td>Correlation between total value added and other services</td>
<td>0.98903</td>
</tr>
</tbody>
</table>

Source: Own calculations

This result is an indication of that agriculture has been neglected and it has followed an autonomous path, accepting the strong effects of both international and those at national level price fluctuation (spider theorem).

Also it reflects the effects of low productivity and competitiveness of agricultural products, lack of infrastructure, expertise and information networks.
TABLE 8: AGRICULTURE GVA TOTAL AND PER GREEK REGION, IN MILLION EUROS, CURRENT PRICES (2000-2008)

<table>
<thead>
<tr>
<th>Greek regions</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>7,933</td>
<td>8,260</td>
<td>8,184</td>
<td>8,448</td>
<td>8,172</td>
<td>8,403</td>
<td>6,989</td>
<td>6,877</td>
<td>6,575</td>
</tr>
<tr>
<td>East Macedonia-Thrace</td>
<td>665</td>
<td>709</td>
<td>638</td>
<td>707</td>
<td>658</td>
<td>689</td>
<td>508</td>
<td>572</td>
<td>501</td>
</tr>
<tr>
<td>Central Macedonia</td>
<td>1,579</td>
<td>1,649</td>
<td>1,614</td>
<td>1,569</td>
<td>1,670</td>
<td>1,730</td>
<td>1,346</td>
<td>1,382</td>
<td>1,365</td>
</tr>
<tr>
<td>Western Macedonia</td>
<td>278</td>
<td>300</td>
<td>315</td>
<td>288</td>
<td>287</td>
<td>306</td>
<td>251</td>
<td>262</td>
<td>254</td>
</tr>
<tr>
<td>Thessaly</td>
<td>1,089</td>
<td>1,010</td>
<td>1,065</td>
<td>1,205</td>
<td>1,107</td>
<td>1,132</td>
<td>818</td>
<td>802</td>
<td>846</td>
</tr>
<tr>
<td>Hiperus</td>
<td>340</td>
<td>402</td>
<td>371</td>
<td>381</td>
<td>350</td>
<td>363</td>
<td>312</td>
<td>293</td>
<td>271</td>
</tr>
<tr>
<td>Ionian islands</td>
<td>128</td>
<td>145</td>
<td>145</td>
<td>153</td>
<td>123</td>
<td>157</td>
<td>116</td>
<td>119</td>
<td>99</td>
</tr>
<tr>
<td>Western Greece</td>
<td>891</td>
<td>956</td>
<td>945</td>
<td>947</td>
<td>912</td>
<td>927</td>
<td>773</td>
<td>782</td>
<td>762</td>
</tr>
<tr>
<td>Sterea Hellas</td>
<td>942</td>
<td>884</td>
<td>851</td>
<td>909</td>
<td>818</td>
<td>895</td>
<td>722</td>
<td>681</td>
<td>635</td>
</tr>
<tr>
<td>Peloponese</td>
<td>665</td>
<td>794</td>
<td>742</td>
<td>820</td>
<td>732</td>
<td>775</td>
<td>767</td>
<td>674</td>
<td>627</td>
</tr>
<tr>
<td>Attica</td>
<td>381</td>
<td>347</td>
<td>368</td>
<td>351</td>
<td>315</td>
<td>330</td>
<td>311</td>
<td>327</td>
<td>301</td>
</tr>
<tr>
<td>Northern Aegean</td>
<td>176</td>
<td>220</td>
<td>171</td>
<td>234</td>
<td>183</td>
<td>160</td>
<td>176</td>
<td>130</td>
<td>126</td>
</tr>
<tr>
<td>Southern Aegean</td>
<td>149</td>
<td>157</td>
<td>149</td>
<td>152</td>
<td>146</td>
<td>161</td>
<td>174</td>
<td>171</td>
<td>161</td>
</tr>
<tr>
<td>Crete</td>
<td>650</td>
<td>686</td>
<td>810</td>
<td>734</td>
<td>872</td>
<td>780</td>
<td>713</td>
<td>682</td>
<td>626</td>
</tr>
</tbody>
</table>

SOURCE: EURO STAT REGIONAL YEARBOOK 2011

TABLE 9: INDUSTRY GVA TOTAL AND PER GREEK REGION IN MILLION EUROS, CURRENT PRICES (2000-2008)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>16,754</td>
<td>17,058</td>
<td>18,537</td>
<td>19,326</td>
<td>20,422</td>
<td>22,494</td>
<td>23,431</td>
<td>24,537</td>
<td>27,394</td>
</tr>
<tr>
<td>East Macedonia-Thrace</td>
<td>729</td>
<td>779</td>
<td>855</td>
<td>875</td>
<td>877</td>
<td>956</td>
<td>916</td>
<td>1,029</td>
<td>1,125</td>
</tr>
<tr>
<td>Central Macedonia</td>
<td>2,972</td>
<td>2,926</td>
<td>2,940</td>
<td>3,126</td>
<td>3,298</td>
<td>3,501</td>
<td>3,641</td>
<td>3,881</td>
<td>4,286</td>
</tr>
<tr>
<td>Western Macedonia</td>
<td>765</td>
<td>762</td>
<td>936</td>
<td>924</td>
<td>1,020</td>
<td>1,177</td>
<td>1,201</td>
<td>1,342</td>
<td>1,321</td>
</tr>
<tr>
<td>Thessaly</td>
<td>904</td>
<td>1,014</td>
<td>1,158</td>
<td>1,312</td>
<td>1,345</td>
<td>1,463</td>
<td>1,694</td>
<td>1,631</td>
<td>1,871</td>
</tr>
<tr>
<td>Central Greece</td>
<td>4,940</td>
<td>4,876</td>
<td>5,183</td>
<td>5,266</td>
<td>5,402</td>
<td>6,009</td>
<td>6,059</td>
<td>6,449</td>
<td>7,167</td>
</tr>
<tr>
<td>Hiperus</td>
<td>247</td>
<td>265</td>
<td>298</td>
<td>320</td>
<td>325</td>
<td>372</td>
<td>394</td>
<td>431</td>
<td>450</td>
</tr>
<tr>
<td>Ionian islands</td>
<td>54</td>
<td>83</td>
<td>124</td>
<td>130</td>
<td>134</td>
<td>155</td>
<td>176</td>
<td>185</td>
<td>210</td>
</tr>
<tr>
<td>Western Greece</td>
<td>628</td>
<td>755</td>
<td>918</td>
<td>976</td>
<td>1,002</td>
<td>1,097</td>
<td>1,214</td>
<td>1,286</td>
<td>1,409</td>
</tr>
<tr>
<td>Peloponese</td>
<td>1,438</td>
<td>1,254</td>
<td>1,326</td>
<td>1,331</td>
<td>1,342</td>
<td>1,558</td>
<td>1,642</td>
<td>1,793</td>
<td>1,942</td>
</tr>
<tr>
<td>Attica</td>
<td>5,849</td>
<td>5,926</td>
<td>6,417</td>
<td>6,776</td>
<td>7,414</td>
<td>8,187</td>
<td>8,592</td>
<td>8,788</td>
<td>10,057</td>
</tr>
<tr>
<td>Northern Aegean</td>
<td>68</td>
<td>99</td>
<td>147</td>
<td>154</td>
<td>150</td>
<td>171</td>
<td>208</td>
<td>211</td>
<td>241</td>
</tr>
<tr>
<td>Southern Aegean</td>
<td>205</td>
<td>266</td>
<td>360</td>
<td>348</td>
<td>334</td>
<td>372</td>
<td>411</td>
<td>447</td>
<td>475</td>
</tr>
<tr>
<td>Crete</td>
<td>321</td>
<td>410</td>
<td>542</td>
<td>545</td>
<td>582</td>
<td>658</td>
<td>709</td>
<td>760</td>
<td>851</td>
</tr>
</tbody>
</table>

SOURCE: EURO STAT REGIONAL YEARBOOK 2011
<table>
<thead>
<tr>
<th>Greek regions</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>95,694</td>
<td>103,650</td>
<td>112,394</td>
<td>126,529</td>
<td>137,946</td>
<td>143,726</td>
<td>156,315</td>
<td>168,618</td>
<td>175,694</td>
</tr>
<tr>
<td>Western Macedonia</td>
<td>1.900</td>
<td>2.011</td>
<td>2.217</td>
<td>2.506</td>
<td>2.629</td>
<td>2.845</td>
<td>3.203</td>
<td>3.362</td>
<td>3.348</td>
</tr>
<tr>
<td>Ionian islands</td>
<td>2.054</td>
<td>2.218</td>
<td>2.410</td>
<td>2.737</td>
<td>2.971</td>
<td>3.157</td>
<td>3.373</td>
<td>3.626</td>
<td>3.803</td>
</tr>
<tr>
<td>Attica</td>
<td>42.363</td>
<td>46.963</td>
<td>51.936</td>
<td>58.075</td>
<td>62.776</td>
<td>65.220</td>
<td>71.069</td>
<td>76.923</td>
<td>81.089</td>
</tr>
<tr>
<td>Northern Aegean</td>
<td>1.582</td>
<td>1.823</td>
<td>1.847</td>
<td>2.146</td>
<td>2.229</td>
<td>2.291</td>
<td>2.538</td>
<td>2.737</td>
<td>2.799</td>
</tr>
</tbody>
</table>

SOURCE: EURO STAT REGIONAL YEARBOOK 2011
Table 12 shows the correlation coefficients between GVA in agriculture and other main economic sectors per Greek region and between employment in agriculture and employment in other main sectors per Greek region.

<table>
<thead>
<tr>
<th>Regions</th>
<th>Agriculture over Industry</th>
<th>Agriculture over Services</th>
<th>Agriculture over Total GVA</th>
<th>Agriculture GVA over Rural Employment</th>
<th>Agricultural GVA over Total Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>-0.7919</td>
<td>-0.7545</td>
<td>-0.75</td>
<td>0.5748</td>
<td>-0.8007</td>
</tr>
<tr>
<td>Northern Greece</td>
<td>-0.7398</td>
<td>-0.6931</td>
<td>-0.6765</td>
<td>0.6304</td>
<td>-0.7581</td>
</tr>
<tr>
<td>East Macedonia</td>
<td>-0.681</td>
<td>-0.7213</td>
<td>-0.6828</td>
<td>0.6274</td>
<td>0.3053</td>
</tr>
<tr>
<td>Central Macedonia</td>
<td>-0.7015</td>
<td>-0.6319</td>
<td>-0.6234</td>
<td>0.4609</td>
<td>-0.7771</td>
</tr>
<tr>
<td>Western Macedonia</td>
<td>-0.5854</td>
<td>-0.681</td>
<td>-0.6396</td>
<td>0.3385</td>
<td>-0.7149</td>
</tr>
<tr>
<td>Thessaly</td>
<td>-0.6497</td>
<td>-0.6317</td>
<td>-0.5805</td>
<td>0.7421</td>
<td>-0.5485</td>
</tr>
<tr>
<td>Central Greece</td>
<td>-0.85</td>
<td>-0.8103</td>
<td>-0.7432</td>
<td>0.4582</td>
<td>-0.8662</td>
</tr>
<tr>
<td>Hiperus</td>
<td>-0.8004</td>
<td>-0.7972</td>
<td>-0.8069</td>
<td>-0.2898</td>
<td>-0.9673</td>
</tr>
<tr>
<td>Ionian islands</td>
<td>-0.5038</td>
<td>-0.5836</td>
<td>-0.5868</td>
<td>0.3672</td>
<td>-0.1219</td>
</tr>
<tr>
<td>Western Greece</td>
<td>-0.7592</td>
<td>-0.813</td>
<td>-0.771</td>
<td>0.6133</td>
<td>-0.9408</td>
</tr>
<tr>
<td>Sterea Hellas</td>
<td>-0.6813</td>
<td>-0.8882</td>
<td>-0.8755</td>
<td>0.3083</td>
<td>-0.7158</td>
</tr>
<tr>
<td>Peloponese</td>
<td>-0.68</td>
<td>-0.3945</td>
<td>-0.4475</td>
<td>0.1769</td>
<td>-0.5228</td>
</tr>
<tr>
<td>Attica</td>
<td>-0.8609</td>
<td>-0.8726</td>
<td>-0.8571</td>
<td>0.8557</td>
<td>-0.8573</td>
</tr>
<tr>
<td>Aegean islands</td>
<td>-0.2649</td>
<td>-0.3939</td>
<td>-0.3263</td>
<td>0.2725</td>
<td>-0.4877</td>
</tr>
<tr>
<td>Northern Aegean</td>
<td>-0.6116</td>
<td>-0.6115</td>
<td>-0.6796</td>
<td>-0.4304</td>
<td>-0.7669</td>
</tr>
<tr>
<td>Southern Aegean</td>
<td>0.6261</td>
<td>0.712</td>
<td>0.7027</td>
<td>0.4512</td>
<td>0.5948</td>
</tr>
<tr>
<td>Crete</td>
<td>-0.089</td>
<td>-0.2291</td>
<td>-0.2244</td>
<td>0.09815</td>
<td>-0.495</td>
</tr>
</tbody>
</table>

SOURCE: OWN CALCULATIONS

There is a negative correlation between GVA in agriculture and the rest of the economy, especially in Northern Greek region, Central Macedonia, Epirus, Western Greece and Attica which shows the negative relationship between the Greek GVA in agriculture and other economic sectors at both to the regional and national level of the economic sector at large. The exception is the region of South Aegean with positive although moderate correlation between agriculture and the other two economic sectors and this indicates positive synergies. In this case we have indeed a peculiarity of the Greek reality where all sectors of the local economy grow simultaneously.
It is also obvious the negative correlation between rural GVA and total employment, indicating a negative relationship between the rural GVA and total employment especially in Central Greece, Central Macedonia, Epirus, Western Greece and Attica.

5. CONSEQUENCES OF THE FOLLOWED GREEK REGIONAL DEVELOPMENT MODEL

Table 13 shows that the Greek rural population has been significantly reduced as a consequence of the reduction of the rural labor force and the rural GVA. The totally unbalanced development followed in Greece resulted to a huge depopulation in rural areas and, at the same time to a monstrous hydrocephalus development of the regions around the two big cities of Athens and Thessaloniki. Whatever anemic growth of the secondary sector and the excessive swelling of the tertiary sector occurred mainly around these two cities.

Therefore the ultimate implementation of the growth pole development model in post war Greece has evolved mainly through the shrinkage (reached the limits of the annihilation) of agriculture has led the stagnation of the secondary sector and to a highly inflated service sector.

<table>
<thead>
<tr>
<th>CENSUS YEAR</th>
<th>TOTAL</th>
<th>URBAN</th>
<th>SEMI-URBAN</th>
<th>RURAL</th>
<th>TOTAL</th>
<th>URBAN</th>
<th>SEMI-URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>7632801</td>
<td>2879994</td>
<td>1130188</td>
<td>3622619</td>
<td>100</td>
<td>37,7</td>
<td>14,8</td>
<td>47,5</td>
</tr>
<tr>
<td>1961</td>
<td>8388553</td>
<td>3628105</td>
<td>1085856</td>
<td>3674592</td>
<td>100</td>
<td>43,3</td>
<td>12,9</td>
<td>43,8</td>
</tr>
<tr>
<td>1971</td>
<td>8768641</td>
<td>4667489</td>
<td>1019421</td>
<td>3081731</td>
<td>100</td>
<td>53,2</td>
<td>11,6</td>
<td>35,2</td>
</tr>
<tr>
<td>1981</td>
<td>9740417</td>
<td>5159528</td>
<td>1125547</td>
<td>2955342</td>
<td>100</td>
<td>58,1</td>
<td>11,6</td>
<td>30,3</td>
</tr>
<tr>
<td>1991</td>
<td>10259900</td>
<td>6036660</td>
<td>1312774</td>
<td>2910466</td>
<td>100</td>
<td>58,8</td>
<td>12,8</td>
<td>28,4</td>
</tr>
<tr>
<td>2001</td>
<td>10964020</td>
<td>8206991</td>
<td>2727106</td>
<td>24,9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: GREEK STATISTICAL AUTHORITY, ANNUAL YEARBOOK OF GREECE 2008

If the ratio of population density of the most populated region i.e. Attica to the least populated region i.e. Evritania that is calculated for 2000 and 2009 respectively proves that the gap between the two has expanded from 9452 percent to 10063 percent and furthermore even the gap of population
density between the touristically developed Chalkidiki and the nearby city of Thessaloniki calculated for 2000 and 2009 respectively proves that this gap remained huge from 1003.96 percent to 946.6 percent.

TABLE 14: DENSITY OF GREEK POPULATION IN NUMBER OF RESIDENTS PER SQUARE KILOMETER IN DIFFERENT REGIONS

<table>
<thead>
<tr>
<th>GEO/TIME</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>83.5</td>
<td>83.8</td>
<td>84.1</td>
<td>84.3</td>
<td>84.6</td>
<td>84.9</td>
<td>85.2</td>
<td>85.6</td>
<td>85.9</td>
<td>86.2</td>
</tr>
<tr>
<td>Anatoliki Makedonia, Thraki</td>
<td>43.2</td>
<td>43.2</td>
<td>43.2</td>
<td>43.2</td>
<td>43.3</td>
<td>43.2</td>
<td>43.2</td>
<td>43.1</td>
<td>43.1</td>
<td></td>
</tr>
<tr>
<td>Evros</td>
<td>35.4</td>
<td>35.4</td>
<td>35.3</td>
<td>35.3</td>
<td>35.3</td>
<td>35.5</td>
<td>35.3</td>
<td>35.2</td>
<td>35.2</td>
<td>35.1</td>
</tr>
<tr>
<td>Kentriki Makedonia</td>
<td>99.1</td>
<td>99.7</td>
<td>100.4</td>
<td>100.9</td>
<td>101.2</td>
<td>101.4</td>
<td>101.9</td>
<td>102.3</td>
<td>102.7</td>
<td>103.2</td>
</tr>
<tr>
<td>Thessaloniki</td>
<td>304.2</td>
<td>306.6</td>
<td>309.6</td>
<td>312.4</td>
<td>314.1</td>
<td>315.8</td>
<td>318.5</td>
<td>321.1</td>
<td>323.8</td>
<td>326.6</td>
</tr>
<tr>
<td>Chalkidiki</td>
<td>30.3</td>
<td>30.5</td>
<td>30.6</td>
<td>30.7</td>
<td>30.7</td>
<td>30.7</td>
<td>30.8</td>
<td>30.8</td>
<td>30.8</td>
<td>34.5</td>
</tr>
<tr>
<td>Dytiki Makedonia</td>
<td>31.9</td>
<td>31.9</td>
<td>32.0</td>
<td>32.0</td>
<td>31.9</td>
<td>31.9</td>
<td>31.8</td>
<td>31.7</td>
<td>31.7</td>
<td>31.7</td>
</tr>
<tr>
<td>Grevena</td>
<td>14.3</td>
<td>14.2</td>
<td>14.2</td>
<td>14.1</td>
<td>14.0</td>
<td>13.9</td>
<td>13.8</td>
<td>13.7</td>
<td>13.7</td>
<td>13.6</td>
</tr>
<tr>
<td>Florina</td>
<td>30.1</td>
<td>30.2</td>
<td>30.3</td>
<td>30.4</td>
<td>30.3</td>
<td>30.3</td>
<td>29.8</td>
<td>29.8</td>
<td>29.8</td>
<td>29.7</td>
</tr>
<tr>
<td>Thessalia</td>
<td>52.9</td>
<td>52.8</td>
<td>52.7</td>
<td>52.7</td>
<td>52.7</td>
<td>52.7</td>
<td>52.6</td>
<td>52.6</td>
<td>52.6</td>
<td>52.6</td>
</tr>
<tr>
<td>Ipeiros</td>
<td>37.1</td>
<td>37.1</td>
<td>37.2</td>
<td>37.4</td>
<td>37.6</td>
<td>37.8</td>
<td>38.2</td>
<td>38.5</td>
<td>38.9</td>
<td>39.3</td>
</tr>
<tr>
<td>Ionia Nisia</td>
<td>91.0</td>
<td>92.0</td>
<td>93.5</td>
<td>94.7</td>
<td>95.6</td>
<td>96.5</td>
<td>97.7</td>
<td>98.8</td>
<td>100.1</td>
<td>101.3</td>
</tr>
<tr>
<td>Zakynthos</td>
<td>95.4</td>
<td>96.7</td>
<td>98.3</td>
<td>99.0</td>
<td>98.9</td>
<td>98.9</td>
<td>99.2</td>
<td>99.4</td>
<td>99.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Kerkyra</td>
<td>175.0</td>
<td>176.9</td>
<td>180.0</td>
<td>183.6</td>
<td>187.4</td>
<td>191.3</td>
<td>195.3</td>
<td>199.6</td>
<td>204.0</td>
<td>208.5</td>
</tr>
<tr>
<td>Dytiki Ellada</td>
<td>65.4</td>
<td>65.5</td>
<td>65.8</td>
<td>66.0</td>
<td>66.2</td>
<td>66.4</td>
<td>66.5</td>
<td>66.7</td>
<td>66.9</td>
<td>67.2</td>
</tr>
<tr>
<td>Evrytania</td>
<td>10.8</td>
<td>10.7</td>
<td>10.7</td>
<td>10.7</td>
<td>10.8</td>
<td>10.9</td>
<td>10.8</td>
<td>10.8</td>
<td>10.7</td>
<td>10.7</td>
</tr>
<tr>
<td>Fokida</td>
<td>18.1</td>
<td>18.1</td>
<td>18.3</td>
<td>18.3</td>
<td>18.2</td>
<td>18.1</td>
<td>18.1</td>
<td>18.0</td>
<td>17.9</td>
<td>17.8</td>
</tr>
<tr>
<td>Peloponnisos</td>
<td>38.7</td>
<td>38.7</td>
<td>38.8</td>
<td>38.8</td>
<td>38.7</td>
<td>38.6</td>
<td>38.5</td>
<td>38.4</td>
<td>38.3</td>
<td>38.2</td>
</tr>
<tr>
<td>Lakonia</td>
<td>25.5</td>
<td>25.6</td>
<td>25.8</td>
<td>25.8</td>
<td>25.8</td>
<td>25.8</td>
<td>25.7</td>
<td>25.6</td>
<td>25.4</td>
<td>25.3</td>
</tr>
<tr>
<td>Attiki</td>
<td>1.020</td>
<td>1.024</td>
<td>1.027</td>
<td>1.032</td>
<td>1.039</td>
<td>1.047</td>
<td>1.055</td>
<td>1.063</td>
<td>1.070</td>
<td>1.077</td>
</tr>
<tr>
<td>Voreio Aigaio</td>
<td>53.6</td>
<td>53.6</td>
<td>53.4</td>
<td>53.3</td>
<td>53.0</td>
<td>52.9</td>
<td>52.7</td>
<td>52.5</td>
<td>52.4</td>
<td>52.3</td>
</tr>
<tr>
<td>Notio Aigaio</td>
<td>56.2</td>
<td>56.6</td>
<td>56.9</td>
<td>57.2</td>
<td>57.3</td>
<td>57.4</td>
<td>57.6</td>
<td>57.8</td>
<td>58.0</td>
<td>58.3</td>
</tr>
<tr>
<td>Dodekanisos</td>
<td>69.1</td>
<td>69.6</td>
<td>70.1</td>
<td>70.5</td>
<td>70.8</td>
<td>71.1</td>
<td>71.4</td>
<td>71.7</td>
<td>72.0</td>
<td>72.4</td>
</tr>
<tr>
<td>Kyklades</td>
<td>42.5</td>
<td>42.8</td>
<td>43.0</td>
<td>43.0</td>
<td>43.0</td>
<td>42.9</td>
<td>43.0</td>
<td>43.1</td>
<td>43.2</td>
<td>43.3</td>
</tr>
<tr>
<td>Kriti</td>
<td>71.1</td>
<td>71.4</td>
<td>71.7</td>
<td>71.9</td>
<td>72.1</td>
<td>72.2</td>
<td>72.4</td>
<td>72.6</td>
<td>72.9</td>
<td>73.2</td>
</tr>
<tr>
<td>Irakleio</td>
<td>110.0</td>
<td>110.4</td>
<td>110.9</td>
<td>111.4</td>
<td>111.8</td>
<td>112.2</td>
<td>112.7</td>
<td>113.2</td>
<td>113.8</td>
<td>114.4</td>
</tr>
<tr>
<td>Chania</td>
<td>62.1</td>
<td>62.5</td>
<td>63.0</td>
<td>63.2</td>
<td>63.2</td>
<td>63.1</td>
<td>63.2</td>
<td>63.3</td>
<td>63.4</td>
<td>63.7</td>
</tr>
</tbody>
</table>

SOURCE: EURO STAT REGIONAL YEARBOOK 2011
3. INCOME DISPARITIES IN GREEK REGIONS

The economic development of a region is, as a rule, expressed in terms of its Regional Gross Domestic Product (RGDP). This indicator is also frequently used as a basis for comparisons between regions. A meaningful comparison can be made only by comparing the regional GDP with the population of the region in question.

Table 15 depicts the RGDP per capita by Greek region for the period between 1999-2008. It is obvious that significant disparities exist between Greek regions. Despite the fact that during the decade there was a significant increase of the RGDP per capita of the lower income regions, the existence of large inequalities still remains. The higher RGDP per capita has been achieved in Attica the region surrounding Athens city and in the tourist regions of Aigaio and Kriti and the lower is in the rural areas like Anatoliki Makedonia-Thraki and Dytiki Ellada.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatoliki Makedonia, Thraki</td>
<td>7.271,7</td>
<td>7.257,5</td>
<td>7.530,0</td>
<td>8.090,0</td>
<td>8.502,9</td>
<td>8.750,2</td>
<td>9.978,1</td>
<td>10.539,2</td>
<td>11.705,0</td>
<td>10.811,0</td>
</tr>
<tr>
<td>Kentriki Makedonia</td>
<td>7.966,5</td>
<td>7.580,8</td>
<td>8.053,3</td>
<td>8.545,1</td>
<td>9.541,5</td>
<td>10.631,0</td>
<td>11.163,8</td>
<td>11.896,3</td>
<td>12.335,3</td>
<td>11.896,3</td>
</tr>
<tr>
<td>Thessalia</td>
<td>8.064,8</td>
<td>7.716,7</td>
<td>8.070,5</td>
<td>8.629,1</td>
<td>9.148,9</td>
<td>9.122,1</td>
<td>10.118,3</td>
<td>10.811,7</td>
<td>12.281,8</td>
<td>12.244,8</td>
</tr>
<tr>
<td>Ipeiros</td>
<td>9.205,5</td>
<td>9.100,7</td>
<td>9.351,0</td>
<td>9.784,8</td>
<td>10.206,8</td>
<td>9.466,8</td>
<td>10.087,1</td>
<td>10.779,6</td>
<td>12.430,3</td>
<td>12.227,2</td>
</tr>
<tr>
<td>Dytiki Ellada</td>
<td>8.347,2</td>
<td>7.880,1</td>
<td>8.364,8</td>
<td>8.888,0</td>
<td>9.306,0</td>
<td>8.589,0</td>
<td>9.136,4</td>
<td>9.752,3</td>
<td>11.109,9</td>
<td>10.873,7</td>
</tr>
<tr>
<td>Sterea Ellada</td>
<td>10.177,4</td>
<td>9.948,0</td>
<td>10.498,1</td>
<td>11.203,9</td>
<td>11.795,1</td>
<td>10.603,6</td>
<td>11.570,1</td>
<td>12.450,0</td>
<td>14.243,9</td>
<td>12.766,5</td>
</tr>
<tr>
<td>Attiki</td>
<td>9.973,8</td>
<td>9.937,0</td>
<td>10.385,4</td>
<td>11.110,0</td>
<td>11.735,1</td>
<td>13.873,3</td>
<td>14.258,4</td>
<td>15.239,0</td>
<td>17.138,2</td>
<td>17.510,6</td>
</tr>
<tr>
<td>Notio Aigaio</td>
<td>10.379,0</td>
<td>11.767,4</td>
<td>11.533,2</td>
<td>12.161,8</td>
<td>12.916,0</td>
<td>11.047,1</td>
<td>11.534,2</td>
<td>12.813,7</td>
<td>15.108,8</td>
<td>14.767,7</td>
</tr>
</tbody>
</table>

SOURCE: EURO STAT REGIONAL YEARBOOK 2011

While in 2000 the poorest Greek region was the Peloponnesian accounting for the 51.22% of the RGDP's of the that richest region of Western Macedonia, in 73.85% of the country’s GDP and 67.15% of Attica’s, in 2008 the poorest East Macedonia Thrace reaches 61.73% of the richest Attica’s and 76.58% of the country’s while at the same time the GDP of the Aegean islands rose by 47.07% in the North Aegean region by 69.25% in the South Aegean by 42.28% and finally in Crete increased by 42.42% probably due to the impact of tourism.

Because Gross domestic product (GDP) is a key measure of nations and regions economic development and growth from the figures of table 6, the unbalanced development between Greek regions it is evident. The Greek development model, lead to the creation of large scale
inequalities between rural and urban areas and that was despite European Union’s economic efforts to economic development in economically lagging regions and economic integration

4. CONCLUSIONS

The economic development model adopted in post-war Greek economy was characterized by the emphasis on industrialization and urbanization of the country and by selecting a strategy of unequal development.

Both they have provoked the dramatic decline of agriculture, its share of total G.V.A fell to 3.4 percent in 2007 and its labour force that has been also declined. The decline in the agricultural sector rose strongly on the policy of EU subsidies and even more from the decision to decouple subsidies from the actual production.

The problem of the declining rural sector in Greece is even more acute if it is taken into account that employment in the sector is around 15 percent of total (see table 1), a ratio that indicates the low productivity of the sector that makes questionable even its ability to support its own employees (Nikolaidis 2010).

Despite the policy of industrialising the economy, the industrial sector failed to develop as opposed to services that have ended contributing approximately 80 percent of GVA. In addition industry failed to develop linkages with the primary sector and to absorb the surplus labour of this sector.

At the regional level rural areas were depopulated and two large cities have emerged as the main economic centres.

Regional inequalities resulted to huge income disparities between developed urban and tourist areas on the one hand and poor rural areas on the other.

REFERENCES


Nikolaidis E, (2010), Agriculture, Environment, Sustenance, Papazisis, Athens


