INDUSTRY, PRODUCTIVITY AND DEVELOPMENT IN 96 EUROPEAN REGIONS, 2005-2010

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Abstract
Industrial production per head has usually increased in EU countries and regions for the period 2005-2007, but for the period 2007-2013 it has diminished in many countries and regions, with negative consequences for employment, wages and economic development. We analyze the important positive impact of industry for regional development, in the period 2005-2010, and present the estimation of some econometric models which relate development of services and non industrial sectors, with the level of industrial development. We conclude stating that European Union economic policies should change from wrong perspectives, which lead to industrial decay and trade deficits, to foster positive policies, addressed to increase industrial production per capita and economic development, accordingly to social demand of the majority of European citizens. The European Parliament should have a more positive role to contribute to this change, given voice to EU citizens, in order to improve European economic policies.
JEL Codes: C5, L60, O14, O18, O52, O57, R1, R11
Keywords: European Union, Industry, Productivity, Regional Development, Interregional Econometric Models

1. Introduction

Industrial development per capita is usually important to increase non industrial production per capita, as well as employment and wages, and that has been an important way to improve welfare and quality of life in many European countries and regions.

After several decades of improvement in industrialization of European Union we have found that around year 2005 economic policies have abandoned the main priority of European Development in search of profit through globalization through the World, with delocalization of enterprises in search of cheap cost of labor, some looking for profit maximization and other ones looking for survival when the EU has allowed imports without enough barriers addressed to compensate for differences of costs between internal and external production.

In this article we analyze some of the main consequences of this policy for the evolution of employment, productivity, wages and development of European regions and countries.

In section 2 we present graphs showing the important decrease of industrial production in several EU countries and 96 regions, particularly during the period 2008-2010.

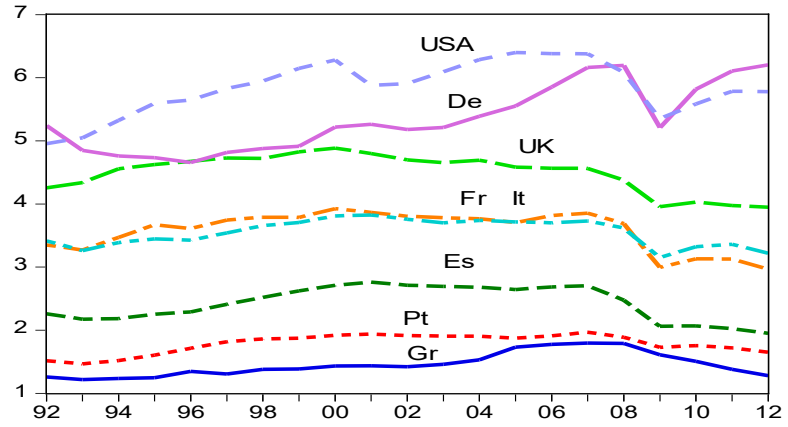
In section 3 we present the estimation of several equations related with regional development in 96 NUTS 1 regions of the European Union, which explain important relationships between industry, productivity and development.

Finally in section 4 we present the main conclusions. In the Annex we include some data, sources of data and comments about criticisms by eminent economist about austerity policies in Europe.

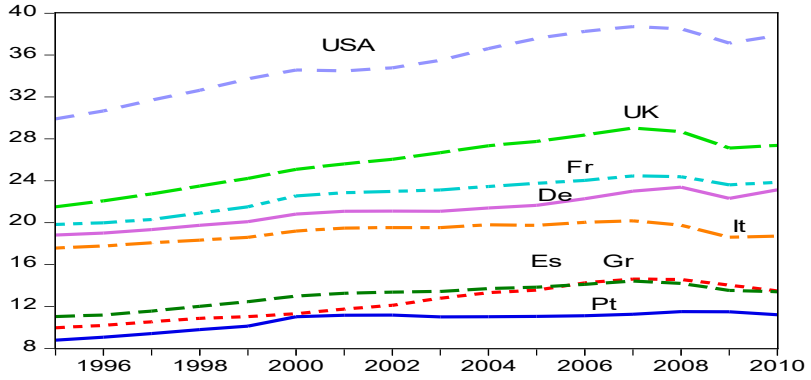
2. Industry in EU countries, 1992-2012, and in regions for 2008-2010

Graph 1 shows the evolution of real value-added of Industry per inhabitant in several EU countries in comparison with the United States, for the period 1992-2012, Graph 2 shows total real valued-added per inhabitant (industrial and non industrial). Real value is measured in thousand US Dollars (USD) at 2000 prices.

Graph 1. Real value-added of Industry per head (QHI) in 7 EU countries and the United States (thousand USD per inhabitant at 2000 prices and exchange rates)



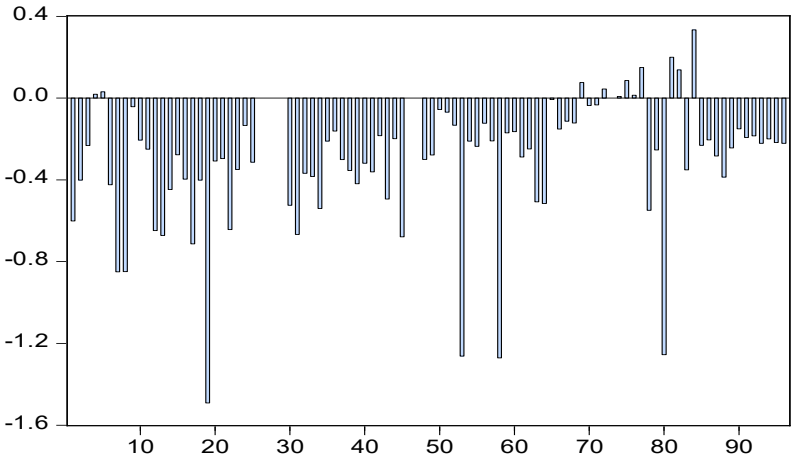
Graph 2. Total Real value-added per head (QHT) in 7 EU countries and the United States (thousand USD per inhabitant at 2000 prices and exchange rates)



We may notice that countries with high levels of QHI usually have high levels of non industrial production (QHNI) and total real real-valued added per head (QHT), although some countries like the United Kingdom have got a higher development of non industrial sectors than Germany in spite of having a lower real value-added of Industry. In the period 2008-2010 there has been a decrease in several countries.

Graph 3 shows the variation of industrial real value added per head, QHI, for the period 2008-2010 in 96 European Union regions (NUTS 1 classification).

Graph 3. Graph of Variation of QHI, at constant prices, in years 2010 and 2008 (thousand Euros at 2000 year prices).



Source: Elaborated by Guisan and Cancelo(2014) from Eurostat statistics. See table A1 in Annex.

Table 1 shows the regions with a positive variation of real QHI in 2008-2010. It includes several regions of Bulgaria and Romania, with low levels of QHI in 2008, that have experienced a positive increase of industrial production in that period. It also includes Region Centralny and Region Poludniowo of Poland, Azores of Portugal, Aland of Finland, Bayen of Germany and 2 Swedish regions (Ostra and Norra).

Regions with positive increase of QHI for 2008-2010 (€ at 2008 prices)

obs		QHI10R-QHI08R	%
4	Severna i yugoizt Bg	35	4.61
5	Yugozapadna i yuz Bg	54	5.69
9	Bayern De	64	0.79
65	Region Centralny Pl	21	1.06
69	Region Poludniowo	138	5.15
72	Reg Aut Azores Pt	75	6.13
74	Macroreg unu Ro	34	2.15
75	Macroreg doi Ro	124	13.13
76	Macroreg trei Ro	47	2.35
77	Macroreg patru Ro	215	13.95
81	Åland Fi	299	10.81
82	Östra Sverige Se	265	4.47
84	Norra Sverige Se	552	6.66

Nota: Elabored by Guisan and Cancelo(2014) from Eurostat Regional Statistics. See table A1 in the Annex.

Table 2 presents the list of 96 EU regions, by descending order of industrial value-added per capita in year 2010 (QHI10).

Table 2. EU region, at NUTS 1 classification, accordingly to descending values of Real Value-Added of Industry per capita in year 2010 (QHI10 value in thousand Euros)

Value	*Regions*
>5	*Noord-Nederland (Nl), Baden Wurttember (De), Norra Sverige (Se), Westosterreich (At), Bayern (De), Bremen (De), Ireland, Saarland (De), Zuid-Nedeland(Nl), Rheinland-Pfalz (De), Nordrhein-Westfalen (De), Sodra Sverige (Se), Sudosterreich (At), Nord-Ovest (It), Noreste (Es), Ostra Sverige (Se), Hessen (De), Nord-Est (It), Denmark, Manner-Suomi (Fi), Niedersachen (De), Hamburg (De), Vlaams Gewest (Nl), Ostosterreich (At), Luxembourg*
4-5	*Sachsen-Anhalt (De), Thüringen (De), Sachsen (De), Oost-Nederland (Nl), Scotland (Uk), Centre-Est (Fr), West-Nederland (Nl), East Midlands (Uk), Est (Fr), Schleswig-Holstein (De)*
3-4	*Brussels (Be), Bassin Parisien (Fr), R. Wallonne (Be), Este (Es), Brandenburg (De), Czech R., Wales (Uk), North West (Uk), Yorkshire & H. (Uk), West Midlands (Uk), Noroeste (Es), North East (Uk), South West (Uk), Centro (It), Slovenia, Île de France (Fr), Northern Ireland (Uk), Nord-Pas-Calais (Fr), Berlin (De), Ouest (Fr), East of England (Uk), Centro (Es) South East (Uk), Åland (Fi)*
2-3	*Sud-Ouest (Fr), Slovakia, Region Poludniowo (Pl), Madrid (Es), Dunántúl (Hu), Mecklenburg-Vorpommeriana (De), Continente (Pt), Közép-Magyar (Hu), Region Poludniowy, Voreia Ellada (Gr), Kentriki Ellada (Gr), Méditerranée (Fr), Macroreg trei (Ro), Estonia, Region Centralny (Pl), Attiki (Gr), Malta, Sud (It).*
<2	*Region Pólnocno-Z (Pl), Sur (Es), Macroreg patru (Ro), London (Uk), Cyprus, Lithuania, Region Pólnocny (Pl), Macroreg unu (Ro), Isole (It), Alföld és Észak (Hu), Canarias (Es), Latvia , Azores (Pt), Region Wschodni (Pl), Nisia Aigaiou Kriti (Gr), Macroreg doi (Ro), Yugozapadna i Yuzhna T. (Bg), Severna i Yugoiztochna BG*

Note: QHI10 is value-added of industry per head in year 2010. The first column indicates its value in thousand Euros of 2010. Source. Elaborated from Eurostat regional statistics.

The first group, with a value higher than 5 thousand Euros per head, includes several regions of Netherlands, Germany, Sweden, Austria, as well as Ireland and Nord-Ovest region of Italy.

The second group, with QHI between 4 and 5, includes several regions of Germany, France, Netherlands and the United Kingdom.

The third group, with QHI between 3 and 4, includes 2 regions of Belgium (Brussels and Wallonne, 2 of Germany (Brandenburg and Berlin), 4 of France (Bassin Parisien, Ile de France, Nord-pas-de-Calais and Ouest), 8 regions of the UK, 3 of Spain (Este, Noroeste and Centro), as well as Czech R., Centro of Italy, Slovenia, and Aland of Finland.

The fourth group, with QHI betweem 2 and 3, includes: 2 regions of France (Sud-Ouest and Méditerranée), 3 regions of Poland (Centralny, Poluidnowo, Poludniowy), one region of Spain (Madrid), one of Germany (Mecklenburg-Vorpommeriana), 2 regions of Hungary (Dunantul and Közép-Magyar), 3 of Greece (Voreaia Ellada, Kentriki Ellada, Attiki), Slovakia, Estonia, Malta, one region of Romania (Macroreg trei) and one region of Italy (Sud).

The fifth group includes the regions with lower levels of industrial value-added per capita, below 2 thousand Euros a year. Some of the them have low levels of income per capita, while other ones have average or high positions, in income per capita, due to tourism or other factors that lead to a high concentration of services, like it is the case of London in the UK. This group includes 2 Spanish regions (Sur and Canarias), 3 regions of Poland (Pólnocno-Z., Pólnocny, Wschodni), one region of UK (London), one region of Romania (macroreg unu), one region of Greece (Nisia Aigaiou Kriti), the 2 regions of Bulgaria, aas well as Cyprus and Lithuania.

Table 3 shows the values, in Euros, of the following variables in the EU regions more outstanding in industrial development, with QHI higher than 6000 in year 2010:
QHI = value-added in Industry, (Euros per inhabitant)
PMI = mean productivity in Industry (Euros per worker)
PMNI = mean productivity in non Industrial sectors (Euros per worker).
W = average wage (Compensation of Employees/number of Employees, € per employee).
LHI = rate of industrial employment per one thousand people
LHNI = rate of non industrial employment per one thousand people
LHT = rate of total employment per one thousand people

Table 3. Industry and development in EU regions, year 2010: regions with highest values of QHI

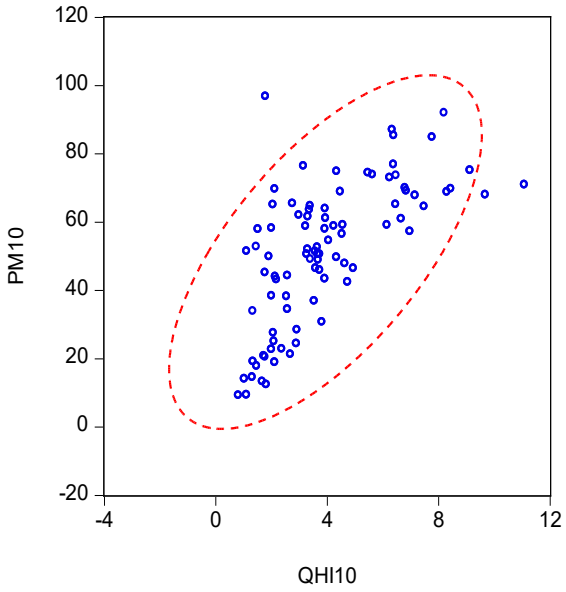
obs		QHI	PMI	PMNI	W	LHI	LHNI	LHT
7	Denmark (Dk)	6344	93606	85959	58140	68	422	490
8	Baden-Württemberg (De)	9684	67054	68397	42101	144	351	495
9	Bayern (De)	8306	66825	69490	40905	124	380	505
12	Bremen (De)	8201	115870	87462	41586	71	372	443
14	Hessen (De)	6386	66701	79413	44714	96	381	477
17	Nordrhein-Westfalen (De)	6837	68523	69246	40475	100	348	448
18	Rheinland-Pfalz (De)	6972	67914	54361	38115	103	374	477
19	Saarland (De)	7483	76717	61143	37204	98	348	445
25	Ireland (Ie)	7772	144837	75899	42111	54	358	412
31	Noreste (Es)	6463	67699	64487	28735	95	337	432
45	Nord-Ovest (It)	6477	62148	77415	33195	104	320	424
46	Nord-Est (It)	6372	54931	77449	30258	116	321	437
58	Noord-Nederland (Nl)	11085	183591	54985	35553	60	425	485
61	Zuid-Nederland (Nl)	7159	100243	62470	38299	71	432	504
63	Südösterreich (At)	6664	74677	57820	36471	89	392	481
64	Westösterreich (At)	8447	83817	66270	37585	101	407	507
80	Manner-Suomi (Fi)	6248	84585	70762	42188	74	382	456
82	Östra Sverige (Se)	6393	135319	80114	40328	47	452	500
83	Södra Sverige (Se)	6799	89004	66420	36615	76	405	482
84	Norra Sverige (Se)	9128	129484	65355	34893	70	390	461

Source: Elaborated from Eurostat Statistics and from Guisan and Vazquez-Rozas(2013)

There are 7 German regions, 3 Swedish regions, 2 regions of Italy, 2 regions of the Netherlands, 2 regions of Austria, 1 region of Spain, besides Ireland and Denmark.

Graph 4 shows the important positive impact of industrial development of mean productivity of workers of all sectors, in EU regions year 2010. We may notice that only a few regions have special features that imply lower or higher productivity than expected accordingly to their industrial development.

Graph 4. Industrial development and Mean Productivity in EU regions year 2010.



Source: elaborated from Eurostat statistics

In year 2014 many criticisms have arisen in order to fight against the excessive austerity policies of European Union and to foster industrial and non industrial production per capita. After 8 years of economic stagnation, or decline, in many regions, it is time that the voice of European citizens have more influence on EU policies. In the Annex we include more information in this regard.

In the next section we present some equations that relate regional development of European countries to industrial policies, showing the great importance of this question for employment, wages and welfare.

Guisan and Vazquez-Rozas(2013) present the estimation that show the positive impact of industrial Value-Added per head (QHI) on Non Industrial Value per head (QHNI), with a sample of 89 EU regions in year 2010, with dummy variables to take account of special positive effects of other factors on five regions: D1 Brussels (Belgium), D13 Hamburg (Germany), D37 Ile de France (France), D53 Luxembourg, D 91 London (UK). They also present other interesting estimation on the effects of the ratio GDP/Wage on employment, and the impact of mean productivity (PM) on average wage (W).

In the next section we present other estimations related with the positive effects of the increases of industrial development per capita on non industrial development, productivity of non industrial sectors and the rate of employment.

3. Econometric models of regional development in EU regions, 2010

In equation 1, we estimate the relationship between non industrial value-added per inhabitant (QHNI) and industrial real value-added per inhabitant (QHI). with the following dummy variables: D1 for Brussels (Belgium), D53 por Luxembourg, D81 for Aland (Finland) and D91 for London.

Equation 1. Non industrial production per capita related with industrial production per cápuita

Dependent Variable: QHNI10. Method: Least Squares. Sample 89 regions				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.238173	1.590997	5.177994	0.0000
QHI10	2.616102	0.341411	7.662609	0.0000
D1: Brussels	38.65626	7.092217	5.450519	0.0000
D53: Luxembourg	51.91636	7.101087	7.311045	0.0000
D81: Aland, Finland	20.59414	7.099202	2.900908	0.0048
D91: London	31.47486	7.135180	4.411222	0.0000
R-squared	0.663804	Mean dependent var		20.46409
Adjusted R-squared	0.643551	S.D. dependent var		11.80967
S.E. of regression	7.050765	Akaike info criterion		6.809185
Sum squared resid	4126.203	Schwarz criterion		6.976958
Log likelihood	-297.0087	Hannan-Quinn criter.		6.876810
F-statistic	32.77597	Durbin-Watson stat		1.482636
Prob(F-statistic)	0.000000			

Nota: QHI y QHNI in thousand Euros per head. Data from Eurostat statistics.

The estimation of the coefficient of QHI on QHNI amounted to 2.5 in the equation of Guisan and Vazquez(2013) and 2.6 in equation 1.

Both estimations show that the impact is positive, important and significant. In these studies, and in other ones that appear in the bibliography, we have found other factors that have influence on non industrial value-added, like the city-capital effects, port activities and tourism. Industrial development is usually the main variable with positive effect on non industrial development at regional level, although a few regions present special features with other main variables.

Equation 2 estimates the effect in the 76 regions that have shown diminution of total real value-added per capita. Estimation takes account of the possible existence of heteroskedasticity and shows the positive and significant effect of QHI on QHNI, with a coefficiente around 2.8. We test heteroskedasticity.

Equation 2. NLS estimation of QHNI for 76 EU regions in year 2010

Dependent Variable: QHNI10R. Method: Non Lineal Least Squares				
Sample: 1 96 IF QHT10R-QHT07R<0. Included observations: 76				
White Heteroskedasticity-Consistent Standard Errors & Covariance				
QHNI10R=QHNI07R+C(1)*(QHI10R-QHI07R)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	2.799982	0.490655	5.706621	0.0000
R-squared	0.899177	Mean dependent var		16.11191
Adjusted R-squared	0.899177	S.D. dependent var		8.431535
S.E. of regression	2.677240	Akaike info criterion		4.820521
Sum squared resid	537.5711	Schwarz criterion		4.851188
Log likelihood	-182.1798	Hannan-Quinn criter.		4.832777
Durbin-Watson stat	0.515074			

Heteroskedasticity Test: White

F-statistic	0.576421	Prob. F(1,74)	0.4501
Obs*R-squared	0.587424	Prob. Chi-Square(1)	0.4434
Scaled explained SS	1.373233	Prob. Chi-Square(1)	0.2413

The White test allows acceptance of homocedasticity and thus LS estimates without White correction might be also used to test the positive impact of QHI and QHNI.

Equation 3. Relatioship between Industrial Value Added per head with its lagged value and educational level of population (values of QHI in Euros per head)

Dependent Variable: QHI10				
Method: Least Squares. Sample 95 regions				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
QHI08	0.921118	0.013552	67.97059	0.0000
PS210	1.549564	0.865524	1.790318	0.0767
R-squared	0.980758	Mean dependent var		3987.724
Adjusted R-squared	0.980551	S.D. dependent var		2208.966
S.E. of regression	308.0617	Akaike info criterion		14.31931
Sum squared resid	8825888.	Schwarz criterion		14.37307
Log likelihood	-678.1670	Hannan-Quinn criter.		14.34103
Durbin-Watson stat	1.703183			

Equation 4 shows the positive impact of industrial productivity per worker on non industrial productivity per worker. Accordingly to Kaldor´s perspective, industrial production has usually a positive impact on non industrial production. Increases of QHI usually imply increases of income per inhabitant and those increases has a positive effect on real value added per worker in many non industrial sectors.

Equation 4. Productivity in non industrial sectors in EU regions, year 2010

Dependent Variable: PMNI10. Method: Least Squares. Included observations: 88				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14594.64	3732.840	3.909795	0.0002
PMI10	0.650033	0.053126	12.23579	0.0000
R-squared	0.635152	Mean dependent var		54184.31
Adjusted R-squared	0.630910	S.D. dependent var		28743.60
S.E. of regression	17462.54	Akaike info criterion		22.39597
Sum squared resid	2.62E+10	Schwarz criterion		22.45227
Log likelihood	-983.4226	Hannan-Quinn criter.		22.41865
F-statistic	149.7147	Durbin-Watson stat		1.339916
Prob(F-statistic)	0.000000			

Equation 5 relates the rate of employment with its lagged value and the increase in the ratio QHT/W. Analysis of data show that usually a low value of this variable is due to low values of QHT and not to high values of W. Usually it is not a good policy to diminish W in order to increase this ratio, because decreases in W usually have negative effects on QHT and may imply decrease of the ratio QHT/W. Interesting comment on this regard may be found in Guisan(2013) and other studies.

Ecuación 5. Rate of employment in year 2010, related with its lagged value and the increase in the ratio QHT/W.

Dependent Variable: LHT10. Method: least Squares. Included observations 77				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LHT09	0.991829	0.002161	459.0396	0.0000
(QHT10/W10)-(QHT09/W09)	73.80329	18.72782	3.940838	0.0002
R-squared	0.968080	Mean dependent var		437.1425
Adjusted R-squared	0.967654	S.D. dependent var		45.16549
S.E. of regression	8.122981	Akaike info criterion		7.052902
Sum squared resid	4948.712	Schwarz criterion		7.113780
Log likelihood	-269.5367	Hannan-Quinn criter.		7.077253
Durbin-Watson stat	1.007335			

Average value of QHT/W of the European regions, in year 2010, was 0.88. The highest values usually correspond to regions with high values of QHT and not to regions with low wages. The importance of industry for the increase of real production per head (QHT) should have into account in order to foster increases in employment and wages. These results shows that the mixed dynamic model fits very well in this case, with a high value of the Adjusted R-square and a low value of S.E. in comparison with the Mean of the dependent variable.

5. Conclusions

The estimations show the positive impact of industry on regional development, with positive effects on productivity, real wages, and rate of employment. Having into account that these variables have usually a positive effect on quality of life, it is important to

emphasize that European Union should foster support to industry, and that austerity policies of the period 2008-2014 have had negative consequences on EU industry and development.

Regarding the failure of the excessive austerity policies, imposed in the European Union for the period 2008-2014, it is important to mention that the positive influence of the ratio QH/W on the rate of employment does not imply that diminution of average wage is a good solution for employment increase. Often the diminution of wages induces an stagnation, or diminution, of QHT/W and it is not a good solution. The best solution is usually to increase QHT what very often should be based on the increase of QHI.

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[1] http://www.usc.es/econmet/eaat.htm

[2]http://greekeconomistsforreform.com/public-finance/development-is-the-only-solution-seventeen-proposals-for-a-new-development-strategy/

Annex on line at the journal Website: http://www.usc.es/econmet/rses.htm

Annex 1:

Table 1 includes regional data of the following variables:

Productivity per worker in Industry (PMI) and Non Industrial sectors (PMNI), in thousand Euros per worker.

Production per capita: Real Value-Added per inhabitant in Industry (QHI), Non Industrial sectors (QHNI) and Total (QHT), in thousand Euros per inhabitant.

Tabla A1. Data of 96 NUTS 1 regions of EU in year 2010 (thousand Euros 2010)

obs		PMI10	PMNI10	QHI10	QHNI10	QHT10
1	Brussels	139	167	3.98	57.30	61.28
2	Vlaams Gewest	69	75	5.63	26.79	32.42
3	R. Wallonne	75	62	3.93	20.17	24.11
4	Severna i Yugoiztochna BG	8	10	0.82	2.67	3.49
5	Yugozapadna i Yuzhna T. BG	10	15	1.03	5.15	6.18
6	Czech R	29	32	3.82	10.47	14.28
7	Denmark	94	86	6.34	36.28	42.63
8	Baden-Württemberg	67	68	9.68	24.00	33.69
9	Bayern	67	69	8.31	26.43	34.74
10	Berlin	77	62	3.36	25.47	28.83
11	Brandenburg	54	42	3.92	17.43	21.34
12	Bremen	116	87	8.20	32.55	40.75
13	Hamburg	96	107	5.99	46.19	52.18
14	Hessen	67	79	6.39	30.28	36.67
15	Mecklenburg-Vorpo	39	45	2.58	18.33	20.91
16	Niedersachsen	64	58	6.15	21.18	27.34
17	Nordrhein-Westfalen	69	69	6.84	24.12	30.95
18	Rheinland-Pfalz	68	54	6.97	20.34	27.31
19	Saarland	77	61	7.48	21.27	28.76
20	Sachsen	48	48	4.64	17.59	22.23
21	Sachsen-Anhalt	57	44	4.95	16.44	21.39
22	Schleswig-Holstein	56	54	4.06	21.37	25.43
23	Thüringen	43	42	4.73	15.98	20.71
24	Estonia	22	26	2.10	8.59	10.69
25	Ireland	145	76	7.77	27.20	34.97
26	Voreia Ellada	NA	NA	NA	NA	NA
27	Kentriki Ellada	NA	NA	NA	NA	NA
28	Attiki	NA	NA	NA	NA	NA
29	Nisia Aigaiou Kriti	NA	NA	NA	NA	NA
30	Noroeste (ES)	59	51	3.65	17.32	20.97
31	Noreste (ES)	68	64	6.46	21.71	28.17
32	Com Madrid	66	65	2.76	26.85	29.61
33	Centro (ES)	57	50	3.27	16.14	19.41
34	Este (ES)	55	59	3.93	20.07	23.99

35	Sur (ES)	57	49	1.92	15.68	17.60
36	Canarias (ES)	69	52	1.46	18.02	19.48
37	Île de France	85	117	3.53	46.30	49.83
38	Bassin Parisien	54	63	3.95	20.60	24.54
39	Nord-Pas-Calais	57	66	3.40	20.67	24.07
40	Est FR	47	62	4.24	20.47	24.72
41	Ouest FR	48	64	3.31	21.76	25.07
42	Sud-Ouest FR	57	63	2.99	22.77	25.76
43	Centre-Est FR	60	71	4.48	24.22	28.70
44	Méditerranée FR	61	71	2.13	24.27	26.40
45	Nord-Ovest IT	62	77	6.48	24.76	31.23
46	Nord-Est IT	0	NA	NA	NA	NA
47	Centro IT	NA	NA	NA	NA	NA
48	Sud IT	47	60	2.01	15.10	17.11
49	Isole IT	51	59	1.52	16.02	17.54
50	Cyprus	40	46	1.78	19.21	20.99
51	Latvia	19	19	1.34	6.71	8.06
52	Lithuania	25	20	1.78	6.62	8.40
53	Luxembourg	186	180	5.13	73.58	78.71
54	Közép-Magyar HU	40	38	2.55	13.33	15.88
55	Dunántúl	23	21	2.69	5.58	8.26
56	Alföld és Észak	17	18	1.47	4.64	6.12
57	Malta	29	40	2.01	13.16	15.18
58	Noord-Nederland	184	55	11.09	23.36	34.44
59	Oost-Nederland	81	56	4.57	25.18	29.74
60	West-Nederland	106	72	4.35	33.72	38.07
61	Zuid-Nederland	100	62	7.16	26.99	34.15
62	Ostösterreich	90	72	5.47	29.95	35.42
63	Südösterreich	75	58	6.66	22.65	29.31
64	Westösterreich	84	66	8.45	26.95	35.40
65	Region Centralny	23	28	2.07	10.90	12.97
66	Region Poludniowy	23	23	2.38	6.70	9.08
67	Region Wschodni	16	14	1.31	5.18	6.50
68	Region Pólnocno-Z	21	23	2.00	6.93	8.93
69	Region Poludniowo	29	23	2.90	6.74	9.64
70	Region Pólnocny	20	21	1.73	6.26	7.98
71	Continente	30	36	2.58	13.56	16.14
72	Reg Aut Azores	31	34	1.33	13.91	15.24
73	Reg Aut. Madeira	NA	NA	NA	NA	NA
74	Macroreg unu	16	12	1.68	3.69	5.36
75	Macroreg doi	15	8	1.10	2.98	4.09
76	Macroreg trei	25	17	2.12	6.37	8.48
77	Macroreg patru	17	11	1.81	3.62	5.43
78	Slovenia	28	40	3.54	13.85	17.38
79	Slovakia	26	29	2.92	9.21	12.13
80	Manner-Suomi FI	85	71	6.25	27.04	33.29
81	Åland FI	NA	NA	3.16	37.09	40.25
82	Östra Sverige	135	80	6.39	36.24	42.63

83	Södra Sverige	89	66	6.80	26.91	33.71
84	Norra Sverige	129	65	9.13	25.51	34.64
85	North East UK	63	44	3.59	16.95	20.54
86	North West UK	64	49	3.73	19.16	22.89
87	Yorkshire & H.	62	47	3.69	18.34	22.02
88	E.Midlands UK	56	48	4.34	18.95	23.29
89	W. Midlands UK	54	50	3.66	18.82	22.49
90	East of England	60	51	3.30	21.55	24.85
91	London	83	97	1.79	44.41	46.20
92	South East UK	70	58	3.24	25.37	28.61
93	South West UK	60	50	3.58	20.98	24.55
94	Wales	70	43	3.73	16.38	20.12
95	Scotland	86	53	4.54	21.98	26.53
96	Northern Ireland	59	48	3.41	17.76	21.17

Source: Data elaborated, from Eurostat statistics by Guisan and Cancelo(2014). Data of PMI and PMNI revised on 5th July 2022.

In the Annex of Guisan and Vazquez(2013) we include regional data of the following variables: Total Employment(LT), Population (Pop), Wage (W) and Production per head (PH), in 96 EU regions, at NUTS1 level, 2000-2010

Annex 2. Criticisms to EU austerity policies

We here include links to some interesting contributions related with European excessive austerity policies.

A2.1. Comments on the Blog of the Euro-American Association of Economic Development Studies to the document:

Comment 17 by Guisan, M.C., year 2011
http://euroamericanassociation.blogspot.com.es/search/label/Azariadis

17 Crisis, Development, Voice of Good Economists in Greece, Portugal and Spain, and comparison with other OECD countries. Euro-American Association Development Report 2011.

Document: http://greekeconomistsforreform.com/public-finance/development-is-the-only-solution-seventeen-proposals-for-a-new-development-strategy/

Azariadis, C., Ioannides, Y., Pissarieds, A. (2010). "Development is the only solution. Seventeen Proposals for a New Development Strategy, Document, October.

Comment 22 by Guisan, M.C., year 2013
http://euroamericanassociation.blogspot.com.es/2013/11/22-european-crisis-and-need-of-better.html

22. European crisis and the need of better economic policies for recovery: voices of economists

Debate of 23-10-2013:
http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+CRE+20131023+ITEM-008+DOC+XML+V0//ES&language=es&query=INTERV&detail=3-075-000

Video of 24-9-2013: Interventions of Mario Draghi and the parlamentarians Elisa Ferreira and Werner Langen:
http://www.europarltv.europa.eu/es/player?pid=5b00651c-6591-4526-b119-a243013309d9

A2.2.Comments on European crisis Upadated 2014, September by Joseph Stiglitz:
http://www.project-syndicate.org/commentary/joseph-e--stiglitz-wonders-why-eu-leaders-are-nursing-a-dead-theory
SEP 26, 2014 67 Europe's Austerity Zombies
Read more at http://www.project-syndicate.org/commentary/joseph-e--stiglitz-wonders-why-eu-leaders-are-nursing-a-dead-theory#4yC2UcxAqiiOU8e5.99