ECONSTOR
Make Your Publications Visible.

A Service of

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Guisan, M.Carmen; Aguayo, Eva; Carballas, A. David

Conference Paper

Human Capital, Industry, Tourism and Economic Development of EU25 Regions

44th Congress of the European Regional Science Association: "Regions and Fiscal Federalism", 25th - 29th August 2004, Porto, Portugal

Provided in Cooperation with:
European Regional Science Association (ERSA)

Suggested Citation: Guisan, M.Carmen; Aguayo, Eva; Carballas, A. David (2004) : Human Capital, Industry, Tourism and Economic Development of EU25 Regions, 44th Congress of the European Regional Science Association: "Regions and Fiscal Federalism", 25th - 29th August 2004, Porto, Portugal, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:
https://hdl.handle.net/10419/117172

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

WWW.ECONSTOR.EU

Mitglied der Leibniz-Gemeinschaft

ERSA2004

Human Capital, Industry, Tourism and Economic Development of EU25 Regions

GUISAN, M.Carmen eccgs@usc.es
AGUAYO, Eva
CARBALLAS, David
University of Santiago de Compostela, Spain

Abstract

The role of human capital, industry and tourism in regional development is analysed by means of econometric models with data of both EU15 and the ten countries of the 2004´s Enlargement. The study points to the need to improve economic policies at EU level, in order to increase production in the less developed regions and to get a higher degree of socio-economic convergence among EU regions. We analyse the main measures that have shown a positive impact on regional development during the last years.

1.- Introduction

We present some interregional econometric models which have into account information regarding 25 European Union countries, including the 10 new states belonging to EU since 2004.

The main purpose of this study is to analyse the positive influence of human capital, manufacturing investment and tourism in regional development and thus to recommend the need to improve European policies in order to improve regional development in peripheral and less developed areas.

Economic development at regional level is generally well measured by the real value of Gdp per inhabitant, although in some cases it should be convenient the availability of other variables related with regional income per inhabitant. In some particular cases, in very small regions such as Luxembourg, people from other regions works and invest in that territory and Gross Domestic Product not only includes real value-added generated and distributed to residents but also incomes earned by workers and investors resident in other regions.

According to the figures and graphs of section 3, it is clear that Industry and Tourism have an important role in regional development, because the real value-added per inhabitant in those activities increases the demand of buildings, commercial and financial relations and other activities, given rise to important increases of real value-added and employment in other sectors and thus improving economic development. Tourism from highly industrialized regions to less industrialized ones contributes indeed to spread economic development to the destination regions. Besides those two factors there are other important factors which favour development at regional and local level, such as public institutions related with public administration, education, health and other social services, because the investments and expenditures on those activities usually benefit at a great deal the building and commercial activities of the region, and family incomes of employees also have a positive impact on the territory.

Human capital, measured by the educational level of population or through some complementary variables such as expenditure on research and development, has usually an important positive impact on economic development.

High educational levels of population usually favour the increase of investment per inhabitant in manufacturing and thus it has a very positive role in economic development. Besides that the increase in the expenditure on research and development is positive, particularly that related with socio-economic research, as pointed out in Guisan and Aguayo(2001) and (2003).

In section 2 we analyse some previous studies related with interregional comparisons of economic development in Europe. In section 3 we present an analysis of some important regional data related with economic development in 151 regions based on Eurostat statistics and our own estimations in case of non availability of data. In section 4 we present some interregional econometric models which show the positive impact of human capital, manufacturing and tourism in regional development, and in section 5 we present the main conclusions regarding the great importance of increase the support of European Union to the development of regional development policies.

2.- Comparative studies of regional development in European countries

This work forms part of a research project on regional development in European Union countries, like our previously published study on French, Italian and German regions and the forthcoming studies about other countries, where we present some econometric analysis that show the significant impact of several factors on regional development. The main factors here considered are industry, tourism and educational level of population. This approach is based on our previous experience in interregional models of EEC12 countries published in Guisan et al(2001 a, b, c; 2002).

Before to analyse the data of EU25 regions and present some interregional econometric models based on data of 151 European regions, we present an overview of some econometric models and analyses of European regions previously published. In a further publication we will present a more detailed bibliography selected among the more relevant studies according to the impact of Manufacturing, Tourism, Educational level of population and other relevant explanatory variables.

Tondl, G.(1999) analyses the determinants of the uneven growth of European Southern Regions, by means of an empirical study with panel data. He found that since 1975 the extent of catching-up has been very different across Southern regions, and wishes to show whether differences in regional income and growth can be attributed to differences in endowment of human capital.

That panel data consists of a sample of regions from Greece, Spain and the Italian South, for the period 1985-94. The results indicate that the income level of Southern EU regions is largely determined by employment/education levels and past public investment. The author recommends to maintain EU regional policies focused on the human capital factor, but he considers that private investment incentives should be curbed. Although we agree with the convenience to improve the educational level of population in less developed regions, we do not agree with the recommendation of curbing private investment incentives. According to the experience of European econometric studies at regional level it is clear that the peripheral regions generally suffer clear disadvantages to compete with central and intermediate zone regions, which are closer to markets, investors and concentration of population. It is then an important matter to study the best way to compensate the disadvantages of peripheral regions in order to reduce some costs (fiscal taxes for example) in order to allow them to compete with firms of most favoured regions. This is essential to get a general development of European regions and to avoid massive migrations from less developed areas to the most prosperous.

The contributions of Courbis and other researchers applied to the French regions, have had a positive impact on the development of regional econometric models to other European regions, having into account important sectoral and intersectoral relationships. Cuadrado-Roura, Pulido, Guisan and Aguayo and other Spanish researchers of the Hispalink Project and other research teams have presented interesting econometric models of Spanish and European interregional models and anaylisis.

Some interesting interregional analysis of Italy are the following cited in Guisan and Aguayo(2002):

Kostoris, F.D.S.(1994), presents an analysis of public intervention in the Italian economy. This author illustrates the internal contradictions and weaknesses of public action in Italy. New policy proposals to solve old structural problems are then discussed. Although we share the preoccupation of this author on the bad consequences of excesses of public intervention we do not share the view that the less is the best, regarding public activities, as the empirical evidence shows that many public financing, both of public and private activities, have large positive effects on regional development, such as education and health services, the level of education, the improvement of infrastructures, and others.

Bonaglia, F., La Ferrara, E. and Marcellino, M.(1999) apply different methodologies to Italian regional data for the period 1970-1994, for the assessment of public investments role in regional development. The results are presented for Italy as a whole and for different macro-regions, and for individual categories of public capital. The methodologies employed indicate a positive contribution of infrastructures: railways in the North and roads in the Centre and South are the categories that mostly contributed to TFP growth.

Cuñat, A. and Peri, G.(2000), show their concern on the recent dismal performance of overall job creation which has left Italy, as of the end of the 90's, with very low participation and high unemployment rates. Moreover, Italy exhibits a large regional dispersion of those variables when compared to similar European Union economies. Their paper, using Census data on employment from 784 Local Labor Systems (LLS's), covering the whole Italian territory, analyses job creation and its determinants, including input/output linkages, pool of local workers, technological spillovers and infrastructure provision.

Fiorentini, R. and Tamborini, R.(2000) analyse the impact of monetary policy and credit on the supply side of the Italian economy. The paper relates to the macroeconomic and monetary policy aspects of the so-called "credit channel" of monetary transmission and present an inter-temporal macroeconomic equilibrium model which relates current production with bank credit. They find the evidence that the "credit variables" identified by the model, the overnight rate and a measure of credit risk, have permanent effects on employment and output through the supply side of the economy by altering credit supply conditions to firms.

Ferrera, M. and Gualmini, E. (1999), analyse Italian social policies under the new conditions of internationalisation. They consider that the turbulent 1990s have been a successful decade for Italy, because through an impressive sequence of reforms, this country has been able to put in order its battered public finances, to start an incisive modernization of its backward bureaucratic apparatus, its rigid labour market and its unbalanced welfare state, without seriously jeopardizing social peace not the overall competitiveness of its economy in the global context. They conclude that the dynamics of internationalisation and, especially, or European integration have been crucial for fostering these positive developments.

Another interesting papers, among others, are those of Fabiani, S. and Pellegrini, G.(1997), who focus also on the important role of education and infra-structure on the development of Italian provinces and the paper by Faini, R. and Galli, G.(1995), who analyse the question of financing and development in Southern Italy.

Our experience with econometric models of regional development in EU regions shows many coincidences with some important conclusions of the Italian economy research, giving to the human capital and infrastructures an important role in explaining the differences in real production and non agrarian employment.

Regional disparities in the new member states

It is widely know for those who study the economies of Central and Eastern Europe that regional differences are of major importance. Thus the enlargement of the EU will lead to a severe increase, not just at national level, but even more al the regional one, as stated in works like those of Castells and Espasa (2002), or Cornett (2000).

Weise et al. (2001) indicate that the gaps between the richest and the poorest at national level are in many cases distorted by some artificially high values in the richest regions. These authors consider that regional differences are better measured through the standard deviation, calculated as the weighted distance between the regional and national per capita GDP. Using this measure, they reach the conclusion that, in comparison with the EU15, regional disparities in CEEC (Central and Eastern Europe Countries) are not so high. Hungary and Poland are among those which seem to present some problems, while in the Czech Republic the abnormal situation is caused by the exceptional case of Prague. The poorest regions in Poland, Slovakia and Hungary are placed on the eastern borders. Czech regions are quite homogeneous.

It should also be mentioned that a common pattern in this countries is that the richest region is, often, the capital. Obviously, this fact is not a special feature of these countries, but we would like to mention it because as Estrin and Urga(1997) indicate the communist regimes prided themselves on being able to use the planning to transfer resources from richer to poorer countries within the Council for Mutual Economic Assistance (CMEA), and between regions within each country, although the regional policy was reduced in may cases to a sectoral policy for the industrialization of rural peripheries. These authors conclude that, at the national level, there is little evidence of convergence within the communist block, which brings into question the effectiveness of policies to reduce differentials in income per capita across the region under the previous regime. Not to mention the other failure in the catch-up policy with the Western countries.

However, within each country, the central planning helped in some cases to foster the development of some backward regions through the industrialisation of former rural areas. This has been the case, i.e. of Slovakia which suffered a big industrial push in the 1950s to overcome the differences with the more industrialised Czech parts, as it has been recognized by Williams and Balaz (2000).

Regional differences are even wider if we compare other variables such as the unemployment, it goes beyond the scope of this paper but we would like to mention it for being one of the key problems in transition, as it has been recognized by Renshaw (2000), Galgóczi (2002) or Luengo (2003).

As Weise et al. (2001) show regional differences in unemployment are as relevant as in the EU15, even in countries with relatively low rates, such as the Czech Republic. In 2000, among the regions with lowest rates we find Prague (3.9%), or Közép-Magyarország (4.3%). On the other

side, Lubuskie (in Poland, with 24.3%), or Východné Slovensko (in Slovakia with 23.9%), present some of the higher rates.

As Havrylyshyn (2001) notes, there is an *"overwhelming area of consensus"* around the fact that traditional factor inputs have no role in explaining growth over time and across the transition countries since the fall of the communist regimes. The empirical evidence confirms the short-run nature of both the decline and recovery, and many authors confirm that the uneven path in recovery can be explained by many other elements, such as those mechanisms stressed by Blanchard (1997): *reallocation* of resources (capital and labour) within and among the sectors, and *restructuring* of state firms.

This issue has a key relevance in our analysis as the regions are affected very unevenly by the transition, the winner regions[1] in the transition have been the capital towns and regional centers with diversified economic structure and developed infrastructure -Prague, Budapest, Warsaw, Gyor (Hungary), Plzen (Czech R.)- and those with more diversified sectoral structures where lower industry share meant that they started with less structural problems –Poznan and Krakow (Poland), Csongrad (Hungary); while the losers have been the rural regions and the monostructural regions, shaped during the central planning, where a single sector heritage (defence, agriculture, heavy industry) dominated –Maribor (Slovenia), Lodz (Poland).

Williams and Balaz (2000) further differentiate between the historically marginalised regions and what they call *"transition-related marginal regions"*. The industrial restructuring affected them asymmetrically, while the latter had also in many cases high infrastructure endowments, high income levels, a developed human capital and a considerable volume of R+D; the former suffered the lack of many of this factors. Thus, the latter suffered a strong collapse at the beginning of transition but managed to recover as the 90s passed, making use of the existing capacities. The former did not succeed in the movement to this new economic order.

Thus, we should take into account that we speak about transition countries we have to bear in mind that regional differences may arise, not due to low levels of industrialization, but because of the type of specialization in the various industrial branches and the degree on which the regions were dependent on this sectors, the excess of industrialization was a major problem for many regions as been widely recognized in the literature, and the outcome of transition has been very negative for the old industrial regions which drove the economic activity under socialism

3.- Human Capital, Industry and Tourism in 151 European regions of 25 countries.

Tables 1 to 10 present some indicators of Manufacturing activities, Tourism and Human Capital in 151 EU regions, classified by countries, and some tables with the Top 25 regions which are more outstanding in some of these indicators.

[1] In this classification we follow Radosevic (2000).

Table 1. Regional Tourism, Education, Industry and Gdp: Spain

	SPAIN	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
24	Galicia	2164	328	36.6	1769	9201	12054
25	Asturias	2316	212	41.6	2142	10017	13182
26	Cantabria	4237	585	46.1	2578	10592	14910
27	Pais Vasco	1313	403	55	4749	13576	18877
28	Navarra	2138	408	51.7	5616	14473	19567
29	La Rioja	2860	364	43.9	4289	13073	16986
30	Aragón	3187	385	45.8	3422	12342	16340
31	Madrid	2205	1081	54.5	2415	15009	19032
32	Castilla y León	2515	408	45.1	2309	10839	14103
33	Castilla-la Mancha	1779	272	33.1	1780	9368	12410
34	Extremadura	1711	208	31.4	583	7191	9856
35	Cataluña	5972	3907	45	4410	13926	18524
36	Com.Valenciana	5072	2132	37	2897	10830	14775
37	Baleares	68062	61938	39.8	1024	14214	18313
38	Andalucia	4884	2628	35.5	1128	8468	11381
39	Murcia	2206	399	39.2	1770	9532	12794
40	Canarias	22527	19083	38.5	739	11010	14504

Source: Regio. Eurostat.

Note: For the U.K and Malta the data for MVH00 are roughly estimates. For Malta the data for PS201 is an estimation. Onsh00 is the ratio between overnight stays and population while onsh00x is a similar ratio for ons from foreign origin, both variables are measured in overnights per 1000 inhabitants. PS201 is the percentage of population aged 25-64 with post secondary education. Vmh00 is the value added in the manufacturing sector, in current €. Gdph95 is the per capita Gdp in € in year 1995, and Gdph00 is the Gdp per capita in year 2000.

Table 2. Regional Tourism, Education, Industry and Gdp: Italy

	ITALY	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
64	Piemonte	1302	536	45.8	5966	17203	23622
65	Valle d´Aosta	19950	5372	42	1894	19812	24224
66	Liguria	7248	2003	49.4	2377	15104	21330
67	Lombardía	1978	877	48.5	6722	19506	26656
68	Trentino Alto-Adige	31068	16432	50.1	3525	19488	27021
69	Veneto	5845	3484	46.1	6081	17280	23596
70	Friuli-Venezia Giulia	3123	1295	51.3	4425	16823	22596
71	Emilia Romagna	7541	1751	49.7	6344	18776	25618
72	Toscana	6259	3021	45	4752	15943	22477
73	Umbría	4147	1141	54.6	3823	14418	19961
74	Marche	4082	808	46.4	4757	14614	20230
75	Lazio	5060	2929	54.4	2201	16594	22417
76	Abruzzi	3523	456	47.4	3318	12514	16536
77	Molise	1290	116	46.9	2491	10951	15513
78	Campania	2575	1158	41.9	1534	9266	12897
79	Puglia	1172	194	38.8	1761	9455	13263
80	Basilicata	1737	134	42.2	2330	9963	14485
81	Calabria	2237	359	45.4	784	8671	12246
82	Sicilia	2287	922	40.6	1002	9339	12901
83	Sardegna	3903	910	38.2	1300	10761	14905

Table 3. Regional Tourism, Education, Industry and Gdp: Germany

	GERMANY	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
5	Baden-Würtemberg	2342	441	80	8596	25850	28339
6	Bayern	4077	714	81.6	6872	26103	28831
7	Berlin	3189	872	83.4	2531	23284	22269
8	Brandeburg	1867	167	95	2073	15080	16083
9	Bremen	1890	446	79.5	7250	30318	33186
10	Hamburg	2718	635	82.4	5331	38858	42304
11	Hessen	2703	752	83.3	5522	27992	30054
12	Mecklenburg-Vorpommern	4922	178	92	1468	14860	16082
13	Niedersachsen	2105	237	84	5000	21345	22278
14	Nordrhein-Westfalen	1265	285	80.7	5477	23960	25214
15	Rheinland-Pfalz	2833	615	81.8	5540	21408	22411
16	Saarland	875	143	82.2	5296	21879	22509
17	Sachsen	2193	178	95.4	2609	15258	16329
18	Sachsen Anhalt	1260	107	92.5	2161	14063	15851
19	Schleswig-Holstein	2453	213	84.6	3389	22079	22339
20	Thüringen	2290	164	93.8	2813	14093	16142

Table 4. Regional Tourism, Education, Industry and Gdp: Austria, Denmark, Finland and Sweden

	Region	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
	AUSTRIA						
89	Ostösterreich	3657	2304	79.8	3982	24122	27540
90	Südösterreich	7072	3525	81.7	4998	18828	21418
91	Westösterreich	16021	13570	77.3	6150	22478	25735
4	DENMARK	1727	864	81.5	4532	26419	32600
97	FINLAND	2581	689	76.5	5809	19397	25362
98	SWEDEN	2400	528	82.7	5839	21538	29356

Table 5. Regional Tourism, Education, Industry and Gdp: Belgium, Netherlands and Luxembourg

	Region	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
	BELGIUM						
1	Bruxelles	4525	4107	61.6	3233	42187	49246
2	Vlaams Gewest	1266	853	63.9	5175	20492	23876
3	Región Wallonne	718	359	58.3	2880	15455	17618
	NETHERLANDS						
85	Noord-Nederland	1493	329	66.8	3410	19672	23153
86	Oost-Nederland	1162	290	66.8	3540	17759	21446
87	West-Nederland	2529	1698	70.4	3156	22577	28068
88	Zuid-Nederland	1317	452	66.5	5601	19382	24098
84	LUXEMBOURG	2826	2669	60.8	5266	34008	47523

Table 6. Regional Tourism, Education, Industry and Gdp: Ireland and United Kingdom

	Region	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
63	IRELAND	6413	4620	61.5	8069	14142	27196
	UNITED KINGDOM						
99	North East	1764	248	78.8	4613	12285	20317
100	North West	3101	333	81.8	4783	13335	22810
101	Yorkshire	1986	246	78.9	4964	13065	23021
102	East Midlands	1393	223	79.6	5807	13890	24412
103	West Midlands	1869	438	77.9	5541	13784	24027
104	Eastern	1694	285	84.4	4091	15035	27094
105	South-East + London	3440	1882	85.1	1376	7480	27292
106	South West	5796	688	87.4	3692	13728	23638
107	Wales	3117	428	76.6	4581	12431	21082
108	Scotland	4924	961	80.5	4319	15110	25284
109	Northern Ireland	1582	31	71.7	3174	12115	20266

Table 7. Regional Tourism, Education, Industry and Gdp: Greece and Portugal

	Region	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
	GREECE						
21	Voreia Ellada	2567	1259	55.4	1104	7989	11048
22	Kentriki+Attiki	3375	2183	55.25	1372	8939	11948
23	Nisia A. +Kriti	31140	28308	43.3	244	8681	11985
	PORTUGAL						
92	Norte (Portugal)	831	317	17.2	2184	7009	9282
93	Centro	1133	330	19	2034	6691	9001
94	Lisboa e Val do Tejo	2290	1585	27.7	1784	10743	15079
95	Alentejo+Algarve	17092	13804	19.35	765	7468	9871
96	Açores+Madeira	11427	9287	15.8	566	7106	10433

Table 8. Regional Tourism, Education, Industry and Gdp: France

	FRANCE	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
41	Île de France	5634	3348	68.9	4097	30574	36637
42	Champagne-Ardenne	1741	625	56.7	4604	18289	21899
43	Picardie	1260	402	55.5	4532	16826	19063
44	Haute-Normandie	1435	458	60	6010	18704	22040
45	Centre	2436	707	61.6	4319	18437	21021
46	Basse-Normandie	2794	986	63.3	4050	17050	19750
47	Bourgogne	2533	976	63.6	3984	18079	21472
48	Nord-Pas-de-Calais	1455	443	56.5	4078	15855	18672
49	Lorraine	1513	457	65.6	3936	17298	19324
50	Alsace	3417	1498	69.1	5533	21011	23792
51	Franche-Comté	1901	399	63.4	5689	17741	20306
52	Pays de la Loire	1568	222	67	4362	17664	20844
53	Bretagne	2188	465	70.7	3172	16763	19938
54	Poitou-Charentes	3022	369	65.9	3284	16595	19197
55	Aquitaine	2754	543	66.7	2809	17728	20902
56	Midi-Pyrénees	3764	1402	72.7	2948	17643	20479
57	Limousin	1855	239	68.6	2961	16134	18991
58	Rhône-Alpes	3201	958	69.3	5081	20047	23870
59	Auvergne	2715	341	67.4	4317	16544	20013
60	Languedoc-Roussillon	3080	750	60.8	1795	15353	17981
61	Provence-Alpes-Côte d´Azur	5097	2335	61.5	2325	18304	21031
62	Corse	10481	3315	46.5	619	14436	17664

Table 9. Regional Tourism, Education, Industry and Gdp: Czech Republic, Hungary, Cyprus, Malta, Estonia, Lithuania, Latvia, Slovenia and Slovak Republic

	Region	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
	CZECH REPUBLIC						
111	Praha	5994	5435	94.7	930	7060	11660
112	Strední Cechy	1160	588	79.3	1550	2995	4543
113	Jihozápad	1559	727	88.6	1511	3656	5058
114	Severozápad	2919	1864	83.4	1169	3609	4422
115	Severovýchod	2534	1218	88.5	1611	3353	4644
116	Jihovýchod	966	465	89.6	1277	3432	4723
117	Strední Morava	1427	466	88.4	1423	3277	4342
118	Moravskoslezko	1148	323	87.9	1340	3637	4500
	HUNGARY						
120	Közép-Magyarország	1875	1541	80.4	1143	4807	7664
121	Közép-Dunántúl	1036	535	74.6	1874	3018	5069
122	Nyugat-Dunántúl	2746	1548	75.1	2133	3432	5738
123	Dél-Dunántúl	1783	1032	70.7	598	2719	3766
124	Észak-Magyarország	749	163	70.1	791	2422	3251
125	Észak-Alföld	784	330	67.9	650	2377	3195
126	Dél-Alföld	493	142	70.9	740	2769	3616
110	CYPRUS	22908	22121	67.4	1287	9239	12653
129	MALTA	18463	18463	77	885	6801	10145
119	ESTONIA	1394	1037	88.2	656	1884	4063
127	LITHUANIA	261	182	88.5	623	1239	3304
128	LATVIA	608	345	81.5	414	1336	3207
146	SLOVENIA	2311	1448	77.2	2362	7209	9826
147	SLOVAK REPUBLIC	1038	511	87.1	880	2728	3951

Table 10. Regional Tourism, Education, Industry and Gdp: Poland

	POLAND	ONSH00	ONSH00X	PS201	VMH00	GDPH95	GDPH00
130	Dolnoslaskie	508	198	84.3	909	2617	4575
131	Kujawsko-Pomorskie	224	52	80	913	2505	3968
132	Lubelskie	151	32	80.6	477	1941	3032
133	Lubuskie	362	121	86.1	764	2472	3966
134	Lódzkie	200	40	81	760	2300	3929
135	Malopolskie	704	269	84.4	743	2224	3940
136	Mazowieckie	427	221	84.2	966	3133	6699
137	Opolskie	135	42	84.1	748	2488	3786
138	Podkarpackie	154	31	84.3	713	1947	3144
139	Podlaskie	190	51	77.6	543	1907	3289
140	Pomorskie	493	193	82.8	923	2522	4439
141	Slaskie	171	40	86.5	809	3103	4878
142	Swietokrzyskie	201	33	78.1	613	1999	3462
143	Warminsko-Mazurskie	646	279	76.4	602	2006	3291
144	Wielkopolskie	294	97	84.6	994	2476	4711
145	Zachodniopomorskie	423	207	81.1	720	2587	4362

Tables 11 to 13 show the most outstanding regions in variables related with the intensity of Tourism Activity, Educational level of Population and Manufacturing. This three variables have generally an important impact on economic development both at national and regional level. Human capital is usually very much related to the increase in real Value-Added of Manufacturing by inhabitant although in the case of several of the new European Union countries, which have become member in 2004 enlargement this positive correlation has not been until now so evident as in the EU15. We will comment on this question at the end of this section.

Table 11 present data of ONSH00, number of Overnigh Stays at Hotels in year 2000 per one thousand inhabitants of the recipient region, as a measure of the intensity of tourism, corresponding to the 25 regions with the highest position in EU rankings according to the available data. Table 12 present similar results for the variable ONSH00X, which corresponds to Overnight Stays at Hotels from foreign visitors per one thousand inhabitants of the recipient region and the corresponding ranking.

Table 11. Top 25 regions at ONSH00: Overnight Stays national and foreign per one thousand inhabitants in 2000

Name	ONSH00	RONSH00
Baleares	68062	1
Nisia A. +Kriti	31140	2
Trentino Alto-Adige	31068	3
Cyprus	22908	4
Canarias	22527	5
Valle d´Aosta	19950	6
Malta	18463	7
Alentejo+Algarve	17092	8
Westösterreich	16021	9
Açores+Madeira	11427	10
Corse	10481	11
Emilia Romagna	7541	12
Liguria	7248	13
Südösterreich	7072	14
Ireland	6413	15
Toscana	6259	16
Praha	5994	17
Cataluña	5972	18
Veneto	5845	19
South West	5796	20
Île de France	5634	21
Provence-Alpes-Côte d´Azur	5097	22
Com.Valenciana	5072	23
Lazio	5060	24
Scotland	4924	25

Source: Elaboration from Eurostat Regional Data.

Table 12. Top 25 regions at ONSH00X: Overnight Stays from foreign origin per one thousand inhabitants in 2000

Name	ONSH00X	RONSH00X
Baleares	61938	1
Nisia A. +Kriti	28308	2
Cyprus	22121	3
Canarias	19083	4
Malta	18463	5
Trentino Alto-Adige	16432	6
Alentejo+Algarve	13804	7
Westösterreich	13570	8
Açores+Madeira	9287	9
Praha	5435	10
Valle d´Aosta	5372	11
Ireland	4620	12
Bruxelles	4107	13
Cataluña	3907	14
Südösterreich	3525	15
Veneto	3484	16
Île de France	3348	17
Corse	3315	18
Toscana	3021	19
Lazio	2929	20
Luxembourg	2669	21
Andalucia	2628	22
Provence-Alpes-Côte d´Azur	2335	23
Ostösterreich	2304	24
Kentriki+Attiki	2183	25

Source: Elaboration from Eurostat Regional Data.

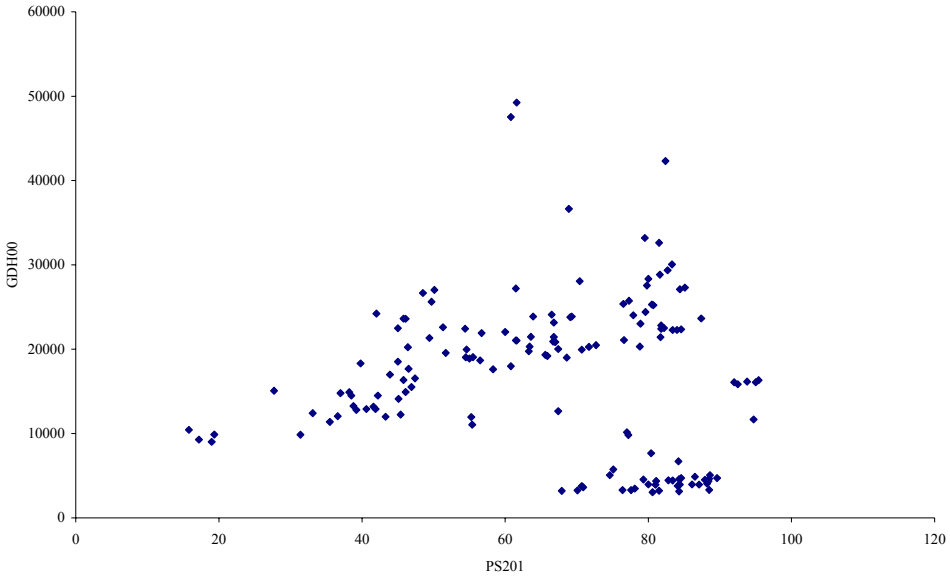
Tourism activities are important both in Western Europe as in Central Europe, particularly in Mediterranean regions. There are also important areas for extra-hotel tourism in several countries, based more on national demand, which are also relevant to have a positive impact on regional development, as mentioned in some previous studies as Guisan and Neira(2001) for the case of Spain. Not only the demand of hotels and restaurants increases with tourism but also activities related with building, commercial services, financial services and other sectors. The effect on building construction of dwellings and hotels is very important in the majority of tourism regions. In the case of Germany the number of Overnight stays at hotels from national origin is much higher than the number of stays from foreign origin, being Bayern, with 3352 total overnight stays per one thousand inhabitants the most outstanding region, according to the data published by Guisan and Aguayo(2002).

Table 13 present the most outstanding regions according to human capital, measured by the percentage of population with secondary studies completed or superior. Other measures of human capital, such as the expenditure on education and the expenditure on Research and Development activities would lead to very different ranking regarding the position of the Central European regions of the 2004 EU Enlargement, because those countries show very low levels in those indicators in comparison with the majority of Western Europe.

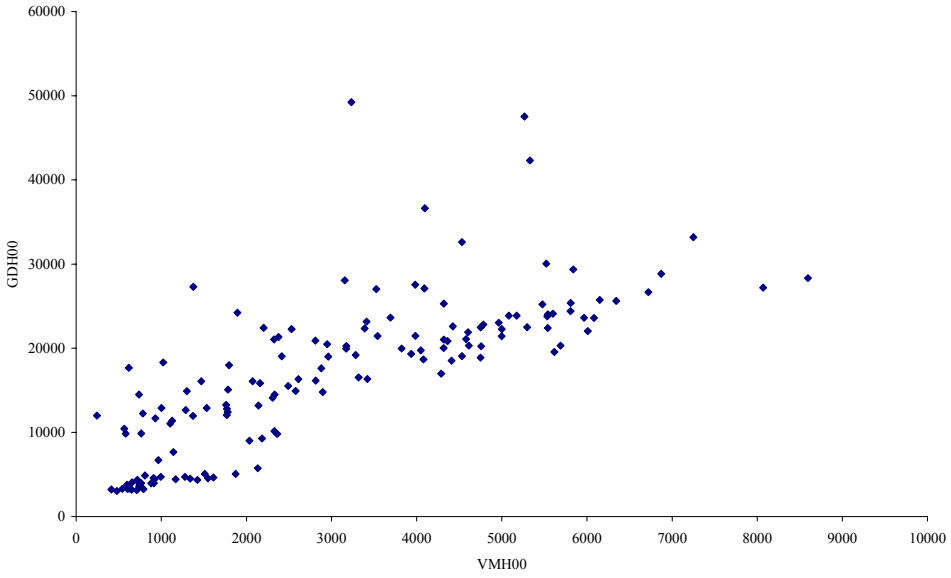
Table 13. Percentage of population with secondary studies second cycle or more years of education

Name	PS201	RPS201
Sachsen	95.4	1
Brandeburg	95	2
Praha	94.7	3
Thüringen	93.8	4
Sachsen Anhalt	92.5	5
Mecklenburg-Vorpommern	92	6
Jihovýchod	89.6	7
Jihozápad	88.6	8
Severovýchod	88.5	9
Lithuania	88.5	10
Strední Morava	88.4	11
Estonia	88.2	12
Moravskoslezko	87.9	13
South West	87.4	14
Slovak Republic	87.1	15
Slaskie	86.5	16
Lubuskie	86.1	17
South-East	85.1	18
Schleswig-Holstein	84.6	19
Wielkopolskie	84.6	20
East Anglia	84.4	21
Malopolskie	84.4	22
Dolnoslaskie	84.3	23
Podkarpackie	84.3	24
Mazowieckie	84.2	25

Graph 1. Relation between PS201 and Gdph00



Graph 2. Relation between Vmh00 and Gdph00



Regional data of Central and Eastern Europe

In this paper we compare the industrial base of the regions in 1995 and 2000. The 90s witnessed a huge decline in the industrial production in all the CEEC, as Blanchard (1997) recognises, while activity declined initially in nearly all sectors at the beginning of transition, the decline was far from uniform. The decline was larger in the industrial production than in aggregate output, and was followed by a weak recovery. This is a key point because when comparing the regions in these countries one may conclude (mainly for the data of 1995) that a region has a strong industrial base but it could be due to the lack of restructuring in that particular industry.

However, this does not imply that, as we attempt to show in our paper, industry can help us to understand the different development levels across the regions, this picture is even clearer when we compare this regions with those of the former EU15.

The same can be said about the education levels in the CEE regions. Human capital endowments are very high in all this countries (in many cases higher than those of many western European countries). Gros and Suhrcke (2000) emphasize that transition countries have a higher proportion of their population in secondary and tertiary education than the value that could be expected considering their income per capita. Thus this variable can not help us to explain the economic differences with the regions of EU15.

Table 14. Percentage of immigrant population from CEEC in the EU15 with the higher level of educational attainment indicated, 1999

	GE	AU	BE	DE	SP	FI	FR	GR	NE	IT	LU	U.K.	SW	UE
Primary and lower secondary	24.9	21.0	47.1	2.9	17.6	44.9	34.2	49.4	42.1	23.6	50.5	33.4	28.7	28.8
Upper secondary studies	39.4	58.4	35.9	69.3	13.6	31.7	23.6	43.6	32.7	27.8	40.7	56.9	31.3	37.1
University studies	35.7	19.2	17.1	27.8	68.8	23.4	42.2	7.0	56.2	48.8	8.8	12.8	40.0	34.1
Nationals with university studies	19.6	8.5	20.4	31.8	15.6	22.4	17.0	11.9	18.3	7.3	12.6	24.3	24.2	16.7

Note: GE, Germany; AU, Austria; BE, Belgium; DE, Denmark; SP, Spain; FI, Finland; FR, France; GR, Greece; NE, The Netherlands; IT, Italy; LU, Luxembourg; SW, Sweden.
Source: Martín et al. (2002, pp. 120-121).

The above presented table attempt to prove that education is not the source of economic differences between the CEEC and the EU15, as it shows than the immigrants of these countries in the EU15 have in many cases a higher education level than the national population.

Tourism has also been affected by transition, contributing to create new forms of uneven regional development. Recessions in the domestic markets converted in relative winners those regions less reliant on domestic demand, while the relative losers saw their domestic market collapse because of reductions in disposable income and the ending of protectionism provided by barriers to international travel. This was particularly important in those regions which depended on a higher degree on Eastern European markets.

Williams and Balaz (2000) remark some of the key aspects in the effects of changes in tourism over the regional differences in transition:

- The emergence of market economies in CEEC increased the importance of domestic and international business travel, being the major winners the major cities and the main industrial regions.
- The price differences between the transition economies and neighbouring countries, such as Germany or Austria, generated large flows for shopping, trade and leisure purposes.
- Declining living standards between 1990 and 1993 had a severe impact on tourism facilities which have been designed for low cost domestic recreation.

4.- Interregional models of Economic Development in EU25

Models 1 relates de following variables:

GDP00PP = Regional Gross Domestic Product, GDP, in year 2000 expressed in billions of dollars at 1995 prices and Purchasing Power Parities, (Bn $ 1995 PPP).

POB1564 = Population 15-64 years old in millions of people.

POBHE = Population 15-64 years old with higher education, in millions of people

GDPMPP = Gross Domestic Product in Manufacturing in year 2000, Bn $ 1995 PPP.

ONS00 = Overnight Stays at Hotels, in millions

EDU = Educational Expenditure per year in the period 1995-99 (Bn $ 1995 PPP).

Model 1. Model for regional GDP in year 2000
Dependent Variable: GDP00PP
Method: Least Squares
Sample: 1 151
Included observations: 135
Excluded observations: 16

Variable	Coefficient	Std. Error	t-Statistic	Prob.
POB1564	2.651037	1.961781	1.351342	0.1789
POBHE	37.81715	6.931829	5.455580	0.0000
GDPMPP	1.439847	0.187758	7.668634	0.0000
ONS00	0.597323	0.131642	4.537470	0.0000
EDU	8.499486	1.293206	6.572414	0.0000

R-squared	0.964600	Mean dependent var	62.54064
Adjusted R-squared	0.963510	S.D. dependent var	77.75378
S.E. of regression	14.85275	Akaike info criterion	8.270581
Sum squared resid	28678.55	Schwarz criterion	8.378184
Log likelihood	-553.2642	Durbin-Watson stat	1.807240

The model shows the positive effect of Higher Education, Manufacturing and Overnight Stays on Gdp. Educational expenditure in previous years shows also a positive and significant effect on real GDP.

Model 2 is a model in levels for regional GDP per inhabitant in year 2000. The variables GDPH, GDPMH and EDUH are expressed in $ at 1995 and PPPs. in per capita terms. HE is the number of people with higher education per one thousand population between 15 and 64 years en ONSH are thousand overnight stays per one thousand inhabitants.

The model shows also the significant and positive effect of human capital, manufacturing and toursim on regional Gdp per inhabitant.

The goodness of fit is higher in the case of model 1, because the Sum of Squares of Residuals from model 2 for the variable GDP00PP is 33400 higher than the SSR of model 1 which is 28678.

Model 2.Model for regional GDPH in year 2000
Dependent Variable: GDPH00PP
Method: Least Squares
Sample: 1 151
Included observations: 135
Excluded observations: 16

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HE	21.90110	4.347273	5.037893	0.0000
GDPMHPP	1.602713	0.248540	6.448503	0.0000
ONSH	0.250659	0.052209	4.801037	0.0000
EDUH	11.01316	1.276649	8.626611	0.0000

R-squared	0.710212	Mean dependent var	19733.65
Adjusted R-squared	0.703576	S.D. dependent var	8418.845
S.E. of regression	4583.628	Akaike info criterion	19.72755
Sum squared resid	2.75E+09	Schwarz criterion	19.81363
Log likelihood	-1327.610	Durbin-Watson stat	1.426100

Finally models 3 and 4 show the positive effect that the educational level of population has on the evolution of manufacturing. This model relate GDPM in year 2000 with its lagged value in 1995 and the share of population with higher education on POB1564.

Model 3. LS estimation of GDP in Manufacturing without White correction
Dependent Variable: GDPM00H
Method: Least Squares
Sample: 1 151
Included observations: 135
Excluded observations: 16

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDPM95H	1.113493	0.025284	44.03985	0.0000
PHE	1123.363	373.9494	3.004051	0.0032

R-squared	0.935739	Mean dependent var	2881.051
Adjusted R-squared	0.935256	S.D. dependent var	1950.368
S.E. of regression	496.2695	Akaike info criterion	15.26682
Sum squared resid	32755697	Schwarz criterion	15.30986
Log likelihood	-1028.510	Durbin-Watson stat	1.446249

Model 4. LS estimation with White correction for GDP in Manufacturing
Dependent Variable: GDPM00H
Method: Least Squares
Sample: 1 151
Included observations: 135
Excluded observations: 16
White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDPM95H	1.113493	0.022625	49.21465	0.0000
PSUP/100	1123.363	268.4299	4.184940	0.0001

R-squared	0.935739	Mean dependent var	2881.051
Adjusted R-squared	0.935256	S.D. dependent var	1950.368
S.E. of regression	496.2695	Akaike info criterion	15.26682
Sum squared resid	32755697	Schwarz criterion	15.30986
Log likelihood	-1028.510	Durbin-Watson stat	1.446249

5.- Conclusions

Here we have presented several estimations with regions of EU25 countries, which confirm the findings of previous studies in relation with the important role of manufacturing and other variables to improve regional development. The uneven evolution of many regions, particularly with less development in the periphery of Europe due to the important central advantages of some regions, make particularly interesting the incentives to promote economic activities in those regions. European economy needs more dialogue among regional researchers and politicians, both at national and international level.

The positive impact of manufacturing, tourism and educational level of population should be taken into account by European politicians in order to improve economic policies focused to improve economic development at regional level.

The effect of manufacturing on regional development is generally very important both in Western, Central and Eastern Europe. Some problems seem to appear in some western countries such as Portugal with the move of industrial investments to Central Europe and other areas with lower salaries, and even all European countries may be affected by industrial investments moving to other non-European countries with lower salaries.

Economic policies should focus in improving clearly the situation of regions with low levels of real Gdp per inhabitant, and also contribute to a higher convergence of EU average to the situation of the USA. Some important measures to reach the high levels of employment and real average wages of the USA are analysed in Guisan and Cancelo(2004).

Bibliography

Aguayo, E. (2001). *"Empleo regional y población: un modelo econométrico interregional de las regiones europeas"*. Tesis Doctoral. Universidad de Santiago de Compostela.

Aguayo, E.; Guisan, M.C. y Rodríguez, X.A.(1997). *"Modelización regional: técnicas y tipos de modelos"*. Documentos de Econometría, nº 8. Servicio de Publicaciones de la Universidade de Santiago de Compostela.

Andrienko, Y. y Guriev, S.(2003). *"Determinants of Interregional Mobility in Russia: Evidence from Panel Data"*. William Davidson Institute Working Paper Number 551.

Baltagi, B.H. (1995). *"Econometric Analisis of Panel Data"*. New York. Wiley.

Basile, R.; De Nardos, S. and Girardi, A. (2001). *"Regional Inequalities and Cohesion Policies in the European Union"*. Working Paper of the ISAE. www.camecon.com/services/europe/research1.htm

Battagion, M.R. and Tajoli, L.(1999). "Ownership Structure, Innovation Process and Competitive Performance: the Case of Italy". *Working Papers Series of University Bocconi*, Milano[2].

Birg, H.(1981). "An Interregional Population-Employment Model for the Federal Republic of Germany: Methology and Forecasting Results for the year 2000". *Papers of the Regional Science Association*, vol 47. pp.97-117.

Birg, H.(1981). "An Interregional Population-Employment Model for the Federal Republic of Germany: Methology and Forecasting Results for the year 2000". *Papers of the Regional Science Association*, vol 47. pp.97-117.

Blanchard, O. (1997). *"The Economics of Post-Communist Transition"*. Oxford University Press.

Bolton, R.(1993). "Regional Econometric Models". En BODKIN, R.G, KLEIN, L.R. y MARWAH, K. (edit.) *"A history of Macroeconometric Model-Boulding"*. pp. 451-479. Edward Elgar Publishing. New York.

Bonaglia, F., La Ferrara, E. and Marcellino, M.(1999). "Public Capital and Economic Performance: Evidence from Italy". *Working Papers Series of Bocconi University n. 163*.[2]

Brown, M. et al(1972). "Regional-National Econometric Model of Italy". *Papers of Regional Science Association*. Vol. 29, pp. 25-44.

Capellin, R.(1975). "La structura dei modelli econometrici regionali". *Giornale degli Economisti e Annali di Economia*. Vol. 34(7-8), pp. 423-452.

Capellin, R.(1976). "Un modello econometrico dell'economia lombarda". *Giornale degli Economisti e Annali di Economia*. Vol. 35(5-6), pp. 263-290.

Castells, A. and Espasa, M. (2002): "Desequilibrios territoriales y Políticas de Cohesión en la Unión Europea en la perspectiva de la ampliación". *Papeles de Economía Española*, nº 91. Los Desafíos de la Construcción Europea.

Catin, M. (1992). "La modélisation régionale". En: DERYCKE, P. (ed.) *"Espace et dinamiques territoriales"*. Economica. París. pp. 187-213.

Chang, S. (1974). "An Econometric Forecasting Model Based on Regional Economic Information System Data: The Case of Mobile Alabama". *Journal of Regional Science*. Vol. 19, pp. 293-319.

Clark, D.E. y Murphy, C.A.(1996). "Countywide Employment and Population Growth: an Analysis of the 1980s". *Journal of Reginal Science*, vol.36-2, pp.235-256.

Courbis, R. (1979). *"Modèles régionaux et modèles régionaux-nationaux"*. Actes du II Colloque international d'Econometrie appliquée. Editions Cujas.

Cornett, A.P. (2000). "*Regional Cohesion in an Enlarged European Union: an Analysis of Inter Regional Specialization and Integration*". 40TH Congress of the European Regional Science Association. Barcelona.

Cuadrado-Roura, J.R.; Mancha-Navarro, T. and Garrido-Yserte, R.(2000). "Regional productivity patterns in Europe: An alternative approach". *The Annals of Regional Science*, Vol.34, pp. 365-384.

Cuñat, A. and Peri, G.(2000). "Job Creation in Italy: Geography, Technology and Infraestructures". *Working Paper Series of University Bocconi*, n.175.[2]

Derycke, P. (ed.)(1992) *Espace et dinamiques territoriales.* Economica. París.

EUROSTAT. *REGIO* Database.

Estrin, S. and Urga, G. (1997). "*Convergence in Output in Transition Economies: Central and Eastern Europe, 1970-1995*". The William Davidson Institute at the University of Michigan Business School. Working Paper nº 30.

Fabiani, S. and Pellegrini, G.(1997). "Education, Infra-structure, Geography and Growth: An Empirical Analysis of the Development of Italian Provinces". *Working Paper Series of Banca Italia Servizi di Studi,* n.323, Rome.[2]

Fagerberg, J.; Verspagen, B. y Caniëls, M.(1997). "Technology, Growth and Unemployment across European Regions". *Regional Studies*, Vol. 31,5-pp.457- 466.

Faini, R. and Galli, G.(1995). "Finance and Development: The Case of Southern Italy". *Working Paper Series of Banca Italia Servizi di Studi*, n.170, Rome.[2]

Ferrera, M. and Gualmini, E.(1999). "Rescue from Without? Italian Social Policies 1970-99 and the Challenges of Internationalization". *Working Papers Series of European University Institute*, Firenze.[2]

Fiorentini, R. and Tamborini, R.(2000). "Monetary Policy, Credit and Aggregate Supply: the Evidence from Italy". *Working papers Series EconWpa, Wustl.* Washington University in Saint Louis, n.4008.[2]

Freeman, Donald G.(2001). "Sources of fluctuation in regional growth". *The Annals of Regional Science*, 2001, Vol.35-2, pp. 249-266.

Funk, R. and Rembold, G. (1975). "A Multiregion Multisector Forecasting Model for the Federal Republic of Germany". *Papers of the Regional Science Association*. 34. pp.69-82.

Galgóczi, B. (2002): "Social costs of the transformation in Central-eastern Europe". *Papeles del Este,* nº 4.

Gros, D. and Suhrcke, M. (2000). "*Ten years after: what is special about transition countries*" EBRD. Working Paper nº 56.

Havrylyshyn, O. (2001). *"Recovery and Growth in Transition: A Decade of Evidence"*. IMF Staff Papers. Vol. 48, Special Issue.

Glickman, N.J.(1977). "Econometric Analysis of Regional Systems: Explorations in Model Building and Policy Analysis". *Studies in Urban Economics*. Academic Press, New York.

Greenwood, M.J.(1985). "Human Migration: Theory, Models and Empirical Studies". *Journal of Regional Science*, vol.25-4. pp.521-544.

Guisan, M.C. and Aguayo, E. (2001 b). "Employment and Regional Development in France". *Applied Econometrics and International Development.* Vo.1-1. pp.63-92.

Guisan, M.C. and Aguayo, E. (2001 c). "Employment and Regional Development in Germany". *Applied Econometrics and International Development.* Vo.1-2. pp.59-92.

Guisan, M.C. and Aguayo, E. (2001 d). "Employment and Regional Development in Italy". *Applied Econometrics and International Development.* Vo.2-1. pp.83-106.

Guisan, M.C. and Aguayo, E.(2001 a). "Panorama regional y sectorial del empleo en los países de la Unión Europea 1985-2000". *Estudios Económicos Regionales y Sectoriales*. Vol. 1-1, pp. 9-43. Edited by Euro-American Assoc. of Economic Development Studies.[1]

Guisan, M.C. and Aguayo, E.(2002). "Employment and Regional Tourism in European Countries, 1995-2000". *Estudios Económicos Regionales y Sectoriales*. Vol. 2-2, pp. 53-70. Edited by Euro-American Assoc. of Economic Development Studies.

Guisan, M.C. and Aguayo, E.(2003). "Education, Industry, Trade and Development of European and Eurasian Countries in 1980-99". *Applied Econometrics and International Development.* Vo.3-1. pp.115-141.

Guisan, M.C.and Cancelo, M.T. (1996). "Territorial Public Expenditure and Revenue: Economic Impact in the European Regional Growth". *European Regional Science Association. 36th European Congress*, Zürich Working paper no. 8 of the Series *Economic Development,* on line.[1]

Guisan, M.C.and Cancelo, M.T. (2004). "Wages, Employment and Productivity in European Union and Comparison with the USA". *European Regional Science Association. 44th European Congress*, Porto.

Guisan, M.C., Cancelo, M.T., Aguayo, E. and Diaz, M.R.(2001). "Educación, investigación y desarrollo regional". See Guisan et al(2001) *Modelos econométricos interregionales de crecimiento de la industria y los servicios en las regiones europeas. 1985-95.* EE5 published by AHG. Distribution: Mundi-Prensa, Madrid.

Guisan, M.C. and Frias,I. (1996). "Economic Growth and Social Welfare in the European Regions". *36th European Congress of European Regional Science Association*, Zürich.

Guisan, M.C. and Neira, I.(2001). "Turismo hotelero y extrahotelero en las regiones españolas". *Estudios Económicos Regionales y Sectoriales*. Vol. 1-2. 121-140. Edited by Euro-American Assoc. of Economic Development Studies.

Klein, L.R. (1969). "The Specification of Regional Econometric Models". *Papers of the Regional Science Association*, 23. pp. 105-115.

Kostoris, F.D.S.(1994). "Excesses and Limits of Public Sector in the Italian Economy. The Ongoing Reform". *Working Papers Series of Cepr*, n.1053.[2]

Luengo, F. (2003). *"Mercado de trabajo y competitividad en los capitalismos emergentes de Europa Central y Oriental"*. Editorial Complutense, Madrid.

Martín et al. (2002). "*La ampliación de la Unión Europea: Efectos sobre la economía española*". Servicio de Estudios de La Caixa. Colección de Estudios Económicos, nº 27.

Merlevede, B. (2000a). *"Growth in Transition Economies: A review of the Literature"*. Faculty of Applied Economics. University of Antwerp.

Mikheeva, N. (1999). *"Differenciation of Social cohesión and Economic Situation in the Russian Regions and Problems of Regional Policy"*. Economic Education and Research Consortium, Worling Paper nº 99/09.

Nayman, L. and Ünal-Kesenci, D.(2001). "The French-German Productivity Comparison Revisited: Ten Years after the German Unification". *CEPII research centre*, Working paper series number 0114, Paris.

Pozzolo, A.F.(1997). "Research and Development, Regional Spillovers and the Location of Economic Activities". *Working Paper Series of Banca Italia Servizi di Studi*, n.331, Rome.[2]

Radosevic, S. (2000). *"Regional Innovation Systems in Central and Eastern Europe: Determinants, Organizers and Alignments"*. Paper prepared within the framework of the UK ESRC funded research project The emerging industrial architecture of the wider Europe. http://www.sussex.ac.uk/spru/cce

Salvatore, D.(1984). "An Econometric Model of Internal Migration and Development". *Regional Science and Urban Economics*, 14, pp. 77-87.

Schimitt, B.(1999). "Economic Geography and Contemporary Rural Dynamics: An Empirical Test on Some French Regions". *Regional Studies*, vol.33-8. pp.697-711.

Stephan, A.(2001). "Regional Infrastructure Policy and its Impact on Productivity: A Comparison of Germany and France". WZB, *CIC Working papers*, Berlin.Downloadable at www.ideas.repec.org

Tondl, G.(1999). "What Determined the Uneven Growth of Europe´s Southern Regions? An Empirical Study with Panel Data". *Working Paper Series of Vienna University of Economics and the Research Group on Growth and Employment in Europe*, Vienna.[2]

Weise, C.; Bachtler, J. and Downes, R. (2001).*"The Impact of EU enlargement on Cohesion"*. DIW German Institute for Economic Research and EPRC- European Policy Research Centre, European Commission Tender nº PO/00-1/RegioA4.

Williams, A. and Balaz, V. (2000). *"Tourism in Transition: Economic Change in Central Europe"*. I.B. Tauris Publishers, London.

[1] articles and documents on line available at: http://www.usc.es/economet/welcomei.htm

[2] Information about these documents can be found at ideas.repec.org