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Regional Disparities in Portugal & Spain (1986-1996)

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Introduction

Spain and Portugal are two european peripheral countries that in politic and economic ways have been leading a nearly symmetric course of development all through the time, been added at the same time at the European Communities (1986). Geographically, they reach specially the known Iberic Peninsula, in the southeast limit of the european continent with some archipelagos: "Islas Baleares" in the Mediterranean sea and "Ilhas Açores", "Archipelago de Madeira" and "Islas Canarias" in the Atlantic Ocean. Administrativelly, the territorial units NUTS2 are associated to both of the countries with regions or "Comunidades Autónomas" with a different step of politic and financial autonomy. In this way, the Spanish "Comunidades Autonomas" have an independency grade pretty high in relation to the portuguese regions, although the Madeira and Açores archipelagos have regional Parliament.

In this communication will treat the position and the absolute and relative dispersion of the territorial disparity, if we compare them among themselves and in relation to the States they belong to. In the other hand, will describe facts and tendencies in the development and recient convergence not only of the regional and national countries but also of the production measured in a common homogenean and comparable unit, calibrating the sigma convergence and the weighted sigma convergence.

1. Area and population

The total area of Spain and Portugal is of 597.897 Km², representing Spain the 85% and Portugal the 15%. There is a bigger disparity in area measures in Spain than in Portugal among the different NUTS II. Whereas in Spain we have "Comunidades Autónomas" that reach nearly the area of Portugal, as Castilla-La Mancha, Castilla-León or Andalucía, another ones are very small, as Baleares, La Rioja, Murcia or the places, in the North of Africa, Ceuta or Melilla; Portugal keeps a nearly homogeneity in the area of its continental regions, except Algarve, which is smaller; and the only smaller regions are the insular ones. From the start, this lack of homogeneity among the different iberic NUTS II, where some Autonomic Communities are so big as Portugal and the archipelagos and the Autonomic Communities with only one province are very small, it

gives it a bias that we will should have in mind when we analyse the population or the product distribution. So, Spain and Portugal in its whole show a sigma divergency of 1,64 in relation to area measures; if we include Ceuta and Melilla (that have a small area, 32 Km2) or 1,16 if we don´t incorporate it. So, will have to consider for the divergency in the other variables this disparity to obtain a more real convergence.

Table 1. Iberian NUTS II areas

NUTS II AREA	AREA (Km2)	log	%	
Norte	21278	9,96542895	3,56	
Centro	23668	10,0718792	3,96	
Lisboa e Vale do Tejo	11931	9,38689533	2,00	
Alentejo	26931	10,2010333	4,50	
Algarve	4988	8,51479031	0,83	
Açores	2330	7,75362355	0,39	
Madeira	779	6,65801105	0,13	
Andalucía	87600	11,3805363	14,65	
Aragón	47720	10,7731059	7,98	
Asturias	10604	9,26898657	1,77	
Baleares	4992	8,51559191	0,83	
Canarias	7447	8,91556655	1,25	
Cantabria	5321	8,57941653	0,89	
Castilla La Mancha	79462	11,2830342	13,29	
Castilla León	94224	11,4534302	15,76	
Cataluña	32113	10,3770162	5,37	
Extremadura	41635	10,6366964	6,96	
Galicia	29574	10,2946509	4,95	
Madrid	8028	8,99069071	1,34	
Murcia	11314	9,33379618	1,89	
Navarra	10391	9,24869533	1,74	
Pais Vasco	7235	8,88668564	1,21	
La Rioja	5045	8,52615293	0,84	
Valencia	23255	10,0542754	3,89	
Ceuta y Melilla	32	3,4657359	0,01	
SPAIN	505992		84,63	
PORTUGAL	91905		15,37	
PORTUGAL & SPAIN	597897		100,00	
	Sigma C.	Mean	Variation C.	
Portugal & Spain	1,64	9,30	17,68	
Portugal	1,25	8,94	13,98	
Spain (- C y M)	1,02	9,80	10,37	
Spain	1,75	9,44	18,58	
Portugal & Spain (- CyM)	1,16	9,54	12,12	
	S.T.D.	Mean	Variation C.	
Portugal & Spain	26484,01	23915,88	110,74	
Portugal	10034,40	13129,29	76,43	
Spain (- C y M)	29569,72	29762,35	99,35	
Spain	29532,52	28110,67	105,06	
Portugal & Spain (- CyM)	26568,20	24911,04	106,65	

Table 2.   Iberian NUT´s II population. (thousand inh.)

NUTS II	1986	%	1996	%
Norte	3577	7,32	3538	7,19
Centro	1777	3,64	1711	3,48
Lisboa e Vale do Tejo	3439	7,04	3312	6,73
Alentejo	556	1,14	522	1,06
Algarve	338	0,69	346	0,70
Açores	253	0,52	242	0,49
Madeira	268	0,55	258	0,52
Andalucía	6724	13,76	7128	14,49
Aragón	1206	2,47	1180	2,40
Asturias	1135	2,32	1071	2,18
Baleares	669	1,37	730	1,48
Canarias	1433	2,93	1563	3,18
Cantabria	525	1,07	527	1,07
Castilla La Mancha	1682	3,44	1694	3,44
Castilla León	2616	5,35	2510	5,10
Cataluña	6060	12,40	6066	12,33
Extremadura	1089	2,23	1075	2,18
Galicia	2842	5,81	2724	5,54
Madrid	4863	9,95	5016	10,20
Murcia	999	2,04	1084	2,20
Navarra	518	1,06	527	1,07
Pais Vasco	2186	4,47	2069	4,21
La Rioja	258	0,53	261	0,53
Valencia	3739	7,65	3913	7,95
Ceuta y Melilla	125	0,26	133	0,27
PORTUGAL	10208	20,89	9929	20,18
SPAIN	38669	79,11	39271	79,82
PORTUGAL & SPAIN	48877	100,00	49200	100,00

	1986		
	S.T.D.	Mean	Variation C.
Portugal & Spain	1821,28	1955,08	93,16
Portugal	1386,28	1458,29	95,06
Spain (- C y M)	1921,10	2267,29	84,73
Spain	1930,38	2148,28	89,86
Portugal & Spain (- CyM)	1819,32	2031,33	89,56
	1996		
	S.T.D.	Mean	Variation C.
Portugal & Spain	1871,26	1968,00	95,08
Portugal	1354,78	1418,43	95,51
Spain (- C y M)	1989,86	2302,24	86,43
Spain	1996,61	2181,72	91,52
Portugal & Spain (- CyM)	1871,20	2044,46	91,53

Refering to the population, it only has increased in one million of inhabitants in the whole or the two countries, between 1986 and 1996 and the percentages of participation of the portuguese and spanish population mantain themselves very steady in relation to the

total, being only one fifth of the iberic population of portuguese origin; and, the remaining one, spanish population. The population disparities are strong in Portugal and in Spain. In Portugal, two regions (Norte and Lisboa e Vale do Tejo) gather 14% of the iberic population, specially, due to the big metropolitan areas of Lisboa & Porto; while the remaining ones, except Região Centro, keep very desert. In Spain, the mediterranean area (Andalucía, Valencia, Murcia and Cataluña) and Madrid (the capital) show more or less a 45% of the iberic total, it means a very high percentage. In ways of media, the average of inhabitants that have some of the iberic NUTS II is of nearly two millions of inhabitants, but the standard deviation is nearly two millions too.

In the tables number 2 & 3 we can study the evolution of the iberic population composition at level NUTS II between years 1986 and 1996, in percentage differences and in taxes of percentage variation of their differences. Independently of the departure position some NUTS II win participation quotes and another ones loose it, but, in its whole, the percentage variations are very short, so the interregional movility is also low. Between countries, Portugal looses very slowly and Spain wins. And, by NUTS II, the main ones are: Andalucía and Valencia, Madrid and Canarias ; and the main loosers are: Lisboa e Vale do Tejo, País Vasco, Castilla León and Galicia.

Table 3. Evolution of Iberian NUT´s II population composition. (%).

	1986	1996	Variations	
	(i)	(ii)	(iii)=(ii)-(i)	(iii)/(i)
Norte	7,32	7,19	-0,13	-1,78
Centro	3,64	3,48	-0,16	-4,40
Lisboa e Vale do Tejo	7,04	6,73	-0,31	-4,40
Alentejo	1,14	1,06	-0,08	-7,02
Algarve	0,69	0,70	0,01	1,45
Açores	0,52	0,49	-0,03	-5,77
Madeira	0,55	0,52	-0,03	-5,45
Andalucía	13,76	14,49	0,73	5,31
Aragón	2,47	2,40	-0,07	-2,83
Asturias	2,32	2,18	-0,14	-6,03
Baleares	1,37	1,48	0,11	8,03
Canarias	2,93	3,18	0,25	8,53
Cantabria	1,07	1,07	0,00	0,00
Castilla La Mancha	3,44	3,44	0,00	0,00
Castilla León	5,35	5,10	-0,25	-4,67
Cataluña	12,40	12,33	-0,07	-0,56
Extremadura	2,23	2,18	-0,05	-2,24
Galicia	5,81	5,54	-0,27	-4,65
Madrid	9,95	10,20	0,25	2,51
Murcia	2,04	2,20	0,16	7,84
Navarra	1,06	1,07	0,01	0,94
Pais Vasco	4,47	4,21	-0,26	-5,82
La Rioja	0,53	0,53	0,00	0,00
Valencia	7,65	7,95	0,30	3,92
Ceuta y Melilla	0,26	0,27	0,01	3,85
PORTUGAL	**20,89**	**20,18**	**-0,71**	**-3,40**
SPAIN	**79,11**	**79,82**	**0,71**	**0,90**
PORTUGAL & SPAIN	**100,00**	**100,00**		

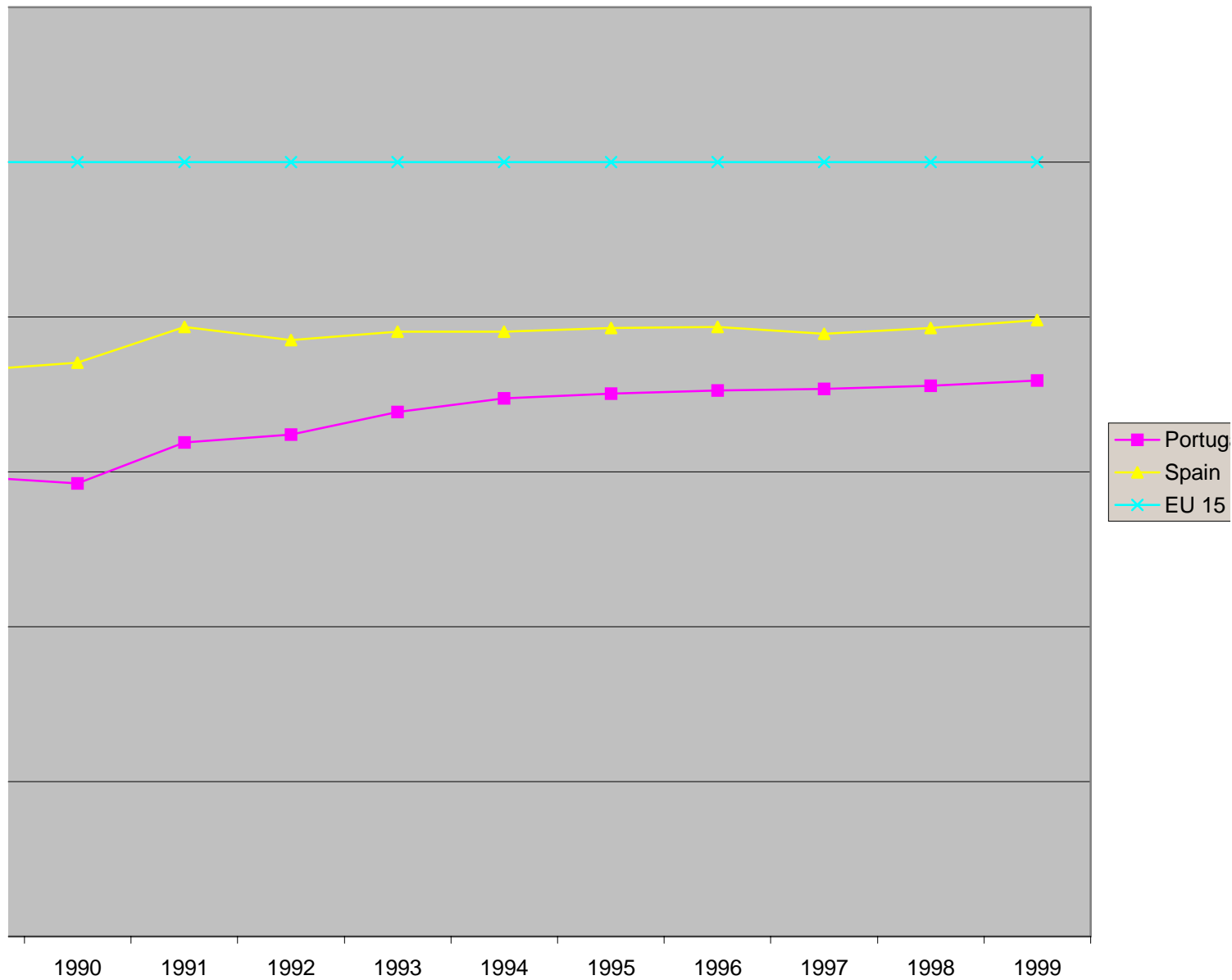|	1986		
	S.T.D.	Mean	Variation C.
Portugal & Spain	3,73	4,00	93,15
Portugal	2,84	2,99	95,02
Spain (- C y M)	3,93	4,64	84,76
Spain	3,95	4,40	89,87
Portugal & Spain (- CyM)	3,72	4,16	89,57
	1996		
	S.T.D.	Mean	Variation C.
Portugal & Spain	3,80	4,00	95,12
Portugal	2,75	2,88	95,59
Spain (- C y M)	4,05	4,68	86,45
Spain	4,06	4,43	91,54
Portugal & Spain (- CyM)	3,80	4,16	91,56

2. Production

Among 1986 and 1996 has been produced a process of approaching the level of the economic development in the two Iberic States in relation to the remaining Actual Communitary Europe (EU 15), measured in terms of GDPph in purchasing parity power. This approach is reflected in table number 4 where the fore values are showed to the analysis period 1986-1999 (where the last three years are projections). As we may observe, in only one decade, the increase of our states has been very strong, mainly in the case of Portugal, that starting from very low levels (55,1% in the communitary media for EU 15) has been able to recover positions to find itself nowadays in a 70% in the media approximately. In the case of Spain, although increasing, is less spectacular, because it also has passed from 70% in the communitary media (that is, the position that has now Portugal) to a nearly 80%. Moreover, in this convergence process of the two countries in relation to the communitary media, as speed has been different , it has brought as a consequence, not only an approaching of the two countries but also a decrease of the differences between them, what we can observe in the third column in table 4.

Table 4. Ten years Iberian GDP per inhabitant (PPS) evolution. (EUR15=100)

	Portugal	**Spain**	**Difference Variation** Spain-Portugal	**Portugal**	**Spain**
1986	55,1	69,8	14,7		
1987	56,7	71,5	14,8	2,90	2,44
1988	59,2	72,5	13,3	4,41	1,40
1989	59,4	73,1	13,7	0,34	0,83
1990	58,5	74,1	15,6	-1,52	1,37
1991	63,8	78,7	14,9	9,06	6,21
1992	64,8	77,0	12,2	1,57	-2,16
1993	67,7	78,1	10,4	4,48	1,43
1994	69,5	78,1	8,6	2,66	0,00
1995	70,1	78,6	8,5	0,86	0,64
1996	70,5	78,7	8,2	0,57	0,13
1997	70,7	77,8	7,1	0,28	-1,14
1998	71,1	78,6	7,5	0,57	1,03
1999	71,8	79,6	7,8	0,98	1,27
Difference	15,4	8,9			
Variation	27,9	12,8			

Furthermore, intuitively and observing not only the fourth and the fifth column where we see increase taxes of the indexes of Spain and Portugal reflected in relation to Europe 15, but observing figure 1, the

Iberic GDPph (pps) indexes (EU 15=100)

Legend: Portug… (Portugal), Spain, EU 15

X-axis: 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999

convergence speed is bigger in the period 1986-1993 (the first quinquennium of the incorporation to the European Comunities) that in the period 1993-1999 (after the taking of effect of the United European Market and the process of nominal convergence in Maastricht criteria of the country group which will form the Monetary Economic Union).

Table 5. Ten years Iberian NUT II´s GDP per inhabitant (PPS) evolution. (IBERIA=100)

NUTS II	1986	1996	Variations GDPph(pps)			
	(i)	(ii)	(iii)=(ii)-(i)	(iii)/(i)	log (i)	log(ii)
Norte	76,58	80,99	4,41	5,76	1,8841154	1,90843
Centro	62,49	79,04	16,55	26,48	1,7958105	1,89784
Lisboa e V.T.	118,69	114,87	-3,82	-3,22	2,0744141	2,06020
Alentejo	55,60	77,49	21,89	39,37	1,7450748	1,88924
Algarve	66,54	91,89	25,35	38,10	1,8230828	1,96326
Açores	59,79	64,90	5,11	8,55	1,7766286	1,81224
Madeira	60,24	70,74	10,50	17,43	1,779885	1,84966
Andalucía	79,13	74,24	-4,89	-6,18	1,8983412	1,8706
Aragón	113,74	115,39	1,65	1,45	2,0559132	2,06216
Asturias	105,50	95,53	-9,97	-9,45	2,0232525	1,98013
Baleares	135,47	125,90	-9,57	-7,06	2,1318431	2,10002
Canarias	103,85	96,44	-7,41	-7,14	2,0164065	1,98425
Cantabria	100,41	99,81	-0,60	-0,60	2,001777	1,99917
Castilla La Mancha	81,67	85,53	3,86	4,73	1,9120626	1,93211
Castilla León	97,41	98,51	1,10	1,13	1,9886035	1,99348
Cataluña	123,33	128,63	5,30	4,30	2,0910687	2,10934
Extremadura	66,24	70,87	4,63	6,99	1,8211203	1,85046
Galicia	82,42	81,77	-0,65	-0,79	1,9160326	1,9125
Madrid	128,73	130,57	1,84	1,43	2,1096798	2,11584
Murcia	100,86	87,22	-13,64	-13,52	2,003719	1,94061
Navarra	127,08	127,33	0,25	0,20	2,1040772	2,10493
Pais Vasco	134,12	119,80	-14,32	-10,68	2,1274935	2,07845
La Rioja	124,83	115,52	-9,31	-7,46	2,096319	2,06265
Valencia	106,25	95,79	-10,46	-9,84	2,0263289	1,98132
Standard deviation (P&S)	25,74	20,19	**Sigma Converg.(P&S)**		0,1233	0,09
Standard deviation (S)	20,17	19,05	**Sigma Converg.(S)**		0,0874	0,08
Standard deviation (P)	20,27	15,22	**Sigma Converg.(P)**		0,1040	0,07

In table 5, we analyse the regional disparities and the sigma convergence of the product per capita in homogeneous terms for the period 1986-1996 at the whole. For this, we have calculated again the indexes, employing now one base 100 for the average value of

the Iberic States (IBERIA = 100). As a consequence, those regions and Comunidades Autonomas that are richer than the media its value will be bigger than 100; and those that are less its value will be lower than 100.

If we compare, almost none of the portuguese regions except Lisboa e Vale do Tejo, the one that contains the capital (Lisboa) is above iberic average, being some of them as Alentejo under it. Nearly all the Spanish Comunidades Autónomas are above the iberic media, except some inside regions as Castilla- La Mancha, Castilla- León, Extremadura and Galicia.

Table 6. Weighted Iberian NUT II´s GDP per inhabitant (PPS) evolution.(IBERIA=100)

	xi 1986 log (i)	xii 1996 log(ii)	wi	xi*wi	xii*wi	xi2*wi	xii2*wi
Norte	1,88412	1,90843	3,56	6,70745	6,79402	12,637611	12,965
Centro	1,79581	1,89785	3,96	7,11141	7,51547	12,77074	14,26
Lisboa e V.T.	2,07441	2,06021	2,00	4,14883	4,12041	8,60639	8,48
Alentejo	1,74507	1,88925	4,50	7,85284	8,50161	13,70379	16,06
Algarve	1,82308	1,96327	0,83	1,51316	1,62951	2,75861	3,19
Açores	1,77663	1,81224	0,39	0,69289	0,70678	1,23100	1,28
Madeira	1,77988	1,84967	0,13	0,23139	0,24046	0,41184	0,44
Andalucía	1,89834	1,87064	14,65	27,81070	27,40485	52,79419	51,26
Aragón	2,05591	2,06217	7,98	16,40619	16,45610	33,72970	33,93
Asturias	2,02325	1,98014	1,77	3,58116	3,50485	7,24558	6,94
Baleares	2,13184	2,10003	0,83	1,76943	1,74302	3,77215	3,66
Canarias	2,01641	1,98426	1,25	2,52051	2,48032	5,08237	4,92
Cantabria	2,00178	1,99917	0,89	1,78158	1,77926	3,56633	3,55
Castilla La Mancha	1,91206	1,93212	13,29	25,41131	25,67785	48,58802	49,61
Castilla León	1,98860	1,99348	15,76	31,34039	31,41725	62,32361	62,62
Cataluña	2,09107	2,10934	5,37	11,22904	11,32717	23,48069	23,89
Extremadura	1,82112	1,85046	6,96	12,67500	12,87922	23,08270	23,83
Galicia	1,91603	1,91259	4,95	9,48436	9,46734	18,17235	18,10
Madrid	2,10968	2,11584	1,34	2,82697	2,83523	5,96400	5,99
Murcia	2,00372	1,94062	1,89	3,78703	3,66776	7,58814	7,11
Navarra	2,10408	2,10493	1,74	3,66109	3,66258	7,70323	7,70
Pais Vasco	2,12749	2,07846	1,21	2,57427	2,51493	5,47674	5,22
La Rioja	2,09632	2,06266	0,84	1,76091	1,73263	3,69142	3,57
Valencia	2,02633	1,98132	3,89	7,88242	7,70734	15,97237	15,27
Sums (P&S)			99,98	194,76031	195,76596	380,35357	383,95

1986 Weighted Sigma Convergence (P&S)		0,0
1996 Weighted Sigma Convergence (P&S)		0,0

Sums (P)	15,37	28,257954	29,508253	52,119982	56,70
Sums (S)	84,61	166,50235	166,25771	328,23359	327,25

1986 Weighted Sigma Convergence (P)		0,1
1996 Weighted Sigma Convergence (P)		0,0

1986 Weighted Sigma Convergence (S)	0,0
1996 Weighted Sigma Convergence (S)	0,0

At last, we calculate in table 6, the weighted sigma convergence in the Iberic States, Portugal, and Spain, not considering the small places of Ceuta and Melilla, and working with area percentages as weights for every iberic NUT II. From this table, we are able to compare the evolution of results along time between countries and bearing in mind the less developed results of non-weighted sigma convergences.

Conclusions

1) Some NUTS II in Spain are as huge as Portugal as a whole & some smaller than Madeira, so sigma convergence comparisons should consider this facts.

2) Iberic Peninsula has a pheripherical system of population, except Madrid, the capital of Spain.

3) In ten years in the European Communities (1986-1996) Portugal & Spain has approched a lot to the average of the European countries and has aproximated themselves.

4) The more developed areas in the Iberic Peninsula, as a consecuence of population system, are the Mediterranean Coast, Madrid and the "Eixo Atlántico", from Setubal/Lisboa to Porto (in Portugal) and now being extended to A Coruña (In Spain). Another traditional developed areas are declining.

5) Among 1986 and 1996 there has been almost no interregional change in iberic nut´s ii population percntages.

6) The sigma convergence or the weighted sigma convergence demonstrate a very similar situation in iberic regional disparities among this years.

7) But we think the weighted sigma convergence formula that we use is a more accurated concept to mesure it.