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*Portugal in the EU:
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Convergence*

Tese de Mestrado

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is mainly preoccupied with the Portuguese convergence in terms of trade with other state-members of the Regional Block.

3.3.2 Interpretation of Results

3.3.2.1 Analysing the Balances on Goods and the Indexes of the Weight of the Balance on Goods over the GDP

Square 13: Balance on goods/ GDP *100

Country	1970	1973	1974	1983	1984	1985	1986	1992	1993	1997
Spain	-4,988	-4,860	-7,905	-4,926	-2,899	-2,870	-3,12	-5,269	-3,121	-2,516
France	0,190	0,173	-1,767	-1,600	-0,902	-0,920	-0,18	1,793	0,601	2,019
Germany	3,089	3,639	4,889	2,972	3,495	4,589	6,167	1,430	2,153	3,417
Greece	-7,277	-12,11	-9,841	-10,09	-10,33	-12,38	-9,17	-11,74	-11,39	-12,70
Portugal	-6,934	-6,903	-13,05	-12,55	-9,312	-6,039	-4,76	-9,932	-9,614	-9,357
Benelux	1,752	1,857	0,040	-0,776	-0,233	0,577	1,929	1,559	2,546	3,156
Denmark	-4,701	-4,071	-5,503	0,440	-0,350	-1,288	-1,25	4,798	5,517	3,269
Finland	-1,625	-1,339	-3,688	0,301	2,920	1,624	2,433	3,549	7,415	9,614
Italy	-0,229	-2,264	-4,297	-0,411	-1,247	-1,265	0,838	0,261	3,332	4,086
Ireland	-10,643	-7,629	-14,85	-1,314	1,282	3,213	4,319	13,516	16,719	24,779
Netherl.	-2,294	2,021	1,839	4,091	5,252	5,233	4,145	3,824	5,400	4,906
Sweden	0,900	3,868	0,672	2,046	3,550	2,367	3,786	2,715	4,062	7,901
Austria	-4,641	-5,542	-3,863	-4,605	-4,995	-4,739	-4,26	-4,107	-3,544	-2,062
United kingdom	-0,025	-3,444	-6,255	-0,517	-1,646	-0,866	-2,50	-2,236	-2,147	-1,597

Source: own estimations using data from base Chelem/ CEP II

In the Portuguese indicator there was a big difference between the years of 1973 to 1974 because of the domestic revolution of the 25th of April and the international oil crisis. This event forced the Portuguese adoption of a stabilisation policy between 77/80 under the control of the International Monetary Fund (IMF) and its adjustments in the administrative prices so that the external deficit was reduced. There were also made some constraints to non-essential consumption imports. Nevertheless, stabilisation was not reached. Even more problematic years would come in the period of 1980/83, when the ratio reached values of -13,72% in 1980 and -24,87% in 81, the max of the period 1970/97.

The centre of Europe seems to recuperate from crisis generally one or two years before Portugal and countries like Greece and Spain. That happens in the crisis of 1981/82 recovered after 83, when the Portuguese economic recuperation

only began in 85 with a positive evolution of the domestic demand and production. Being a small open economy export-orientated, Portugal always suffers a lot with external instability and needs some extra time to cross the problems.

So, the Portuguese trade was much affected in 1983/84 by the increasing inflation rates and the higher exchange risk. A new arrangement was made with the FMI, to follow the prime objective of controlling the balance of payments deficit, stimulating savings and their application in domestic coin, under a deliberated protectionist policy that limited imports and promoted exports. The objective was basically achieved. The indicators passed from -12, 55% in 1983 to -6,039 in 1985; in 1986 the results were even more interesting, given the value of -4,76%.

Comparing countries, to reach an idea about European convergence, its possible to see that they were also strongly affected by the international oil crisis and the problems of 1992/93. The biggest deficits over the GDP current are seen in southern countries like Portugal and Greece. Ireland had big problems in 1974 and 79/81, recovering from deficits to important positive percentages relatively to the GDP, since reaches 11% in 1989 and 24,78% in 1997. Ireland is considered one of the four poorest countries of the community but had been verifying huge progresses always-testifying convergence efforts. Spain has also much better results, dropping the deficit weight in the GDP to values around the -3/ -2% since 1993, reaching its maximums in the seventies in a period of political instability. The ratio of Germany has more or less been stable around 2/ 3% positives. France is a little more instable even though its values don't diverge much from the -1/ 1%.

After 1996 the countries more or less verified a positive tendency for lower weights of their deficits on the market of goods over the GDP or higher exportations relatively to importations over the GDP but Portugal still presents big weights of the deficit of its balance on goods over the GDP as well as Greece. Ireland verified a remarkable performance since the seventies with a very motivated strategy export-orientated, an example that Portugal is far from achieving.

3.3.2.2 Exports and Imports

For being Portugal an export-orientated economy, let's analyse the evolution of its exports. Considering the transactions with the European Regional Block, Portugal increased gradually its external trade with the European countries, especially after 1986. The higher numbers in 73 in relation to 72 represent the entrance of the United Kingdom in the back then CEE, one of the bigger Portuguese trade-partners and one of the main reasons why Portugal also entered in the CEE some years afterwards.

The Portuguese principal exports were included in the traditional chains like Food Agriculture, Wood Paper and Chemicals. When the United Kingdom, Ireland and Denmark also entered in the CEE all exports grown accordingly, especially in

the chain of Textiles, becoming a more important transaction in the total to the regional block than the Food Agriculture itself. Besides the Textiles, the other traditional chains and the Electronic. Energy was always a not considerable export in this area but that changed dramatically from 1979 to 1980, passing from values like 0.812 to 92.175, as well as in 1982/83, 1984/85 and 1988/89. In 1986 Textiles leaded way a head. In the late nineties exports were more homogenous since only chains like Energy, Chemicals and Iron & Steel were way behind the others in volume. Iron & Steel was particularly determinant in the period of 1982/83.

After realising the performance of exports, the previous information must be confronted with the evolution of its imports. In the annexes there are estimations for all the countries but here we chosen four of the ones with which Portugal seems to exchange more (France, Germany, Spain and United Kingdom) to get a better picture about the Portuguese evolution. The selected years are: 1970 (the beginning of the interval 1970/97), 1986 (the year of the Portuguese entrance in the Regional Block) and 1997 (last year of the interval).

Square 14: Exports and Imports in the year of 1970

	Portugal/ France		Portugal/ Germany		Portugal/ Spain		Portugal/ UK	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Chains								
Total	43,113	120,852	60,011	303,906	16,739	66,151	196,986	215,246
Energy	0,452	5,151	0,203	4,374	0,364	5,649	6,612	6,514
Food Agriculture	16,861	13,341	16,69	3,463	4,039	18,234	38,374	6,487
Textiles	2,774	4,984	6,872	8,839	1,144	2,125	50,329	17,444
Wood Paper	16,292	3,271	9,465	7,212	6,044	3,018	26,901	8,319
Chemicals	4,327	17,379	14,787	60,877	2,638	11,949	10,666	36,02
Iron & Steel	0,362	8,754	1,413	18,599	0,356	2,73	0,377	11,713
Non Ferrous	0,889	3,534	1,182	4,711	0,006	1,433	5,093	10,725
Machinery	0,502	29,201	1,562	69,323	1,291	13,001	3,836	46,315
Vehicles	0,047	22,205	0,043	36,22	0,004	1,476	1,463	46,726
Electrical	0,075	5,921	0,711	16,164	0,258	4,716	1,692	10,766
Electronical	0,453	5,583	6,733	25,23	0,55	1,754	5,945	13,816
NES	0,078	1,529	0,351	48,891	0,046	0,063	45,695	0,399

Source: base Chelem/ CEP II

In 1970 the principal chains in the Portuguese export fluxes were in fact the so called traditional: Food Agriculture, Wood Paper, Textiles (this one especially for the United Kingdom).

Portugal imported mainly Chemicals and Iron & Steel from Germany; Machinery, Vehicles and Chemicals from France; Food Agriculture, Chemicals and Machinery from Spain; and Machinery and Vehicles from the United Kingdom.

The chain of Food Agriculture was significantly imported and exported, which is consistent with the fact that Portugal was a very rural country, focusing the attentions of its production towards the more traditional chains at the same time as bought from very different chains, the things that didn't produce as competitively inside and that involved higher technology. But the chains of Electrical and Electronical were still not much bought or sold. Actually, to be more exact, neither of the chains was much bought or sold to the exterior. The volume of the Portuguese trade in absolute terms was not yet meaningful.

Square 15: Exports and Imports in the year of 1986

Chains	Portugal/ France		Portugal/ Germany		Portugal/ Spain		Portugal/ UK	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Total	1089,72	944,801	1116,345	1398,797	451,172	967,038	1036,529	748,368
Energy	35,251	66,784	16,355	2,71	16,076	99,117	47,232	81,161
Food Agriculture	93,832	71,058	49,465	39,403	65,196	129,314	122,089	70,776
Textiles	448,796	97,937	508,96	183,081	39,947	48,802	495,615	54,605
Wood Paper	158,462	33,051	119,472	63,858	99,256	57,828	172,986	36,155
Chemicals	75,378	179,219	98,421	314,203	84,529	157,443	74,172	175,288
Iron & Steel	7,961	39,332	11,084	84,534	17,39	66,878	11,453	27,692
Non Ferrous	3,504	14,241	1,533	30,156	9,112	25,988	3,252	11,57
Machinery	111,937	125,112	43,981	263,008	39,181	124,055	47,116	89,065
Vehicles	96,873	219,962	13,762	100,53	44,226	183,516	13,67	96,013
Electrical	20,384	42,146	97,554	106,305	23,748	35,398	5,867	17,178
Electronical	36,107	52,293	154,107	166,445	12,25	35,109	41,969	82,165
NES	1,244	3,677	1,655	44,572	0,264	3,599	1,117	6,709

Source: base Chelem/ CEP II

The main Portuguese exports as well as imports were no longer in completely different chains, intra-industry fluxes were more significant than sixteen years before.

Portugal imported Chemicals, Machinery and Vehicles from France, the same as in 1970 but also exported more Machinery, Vehicles and Chemicals as before, and Textiles represented a higher quota crossing the Food Agriculture itself. From Germany, Portugal mainly imported Machinery, Textiles, Chemicals, Electrical and Electronical, the same chains that were privileged for the exports adding the Wood Paper.

Portugal sold especially wood Paper, Chemicals and Food Agriculture to Spain at the same time that also imported Food Agriculture and Chemicals, as well as Machinery and Vehicles.

It was with the United Kingdom that the principal exports were still traditional given the importance of the Wood Paper, Textiles and Food Agriculture. Chemicals and Food Agriculture were both imported and exported. It also imported from chains like Machinery, Vehicles and Electronical.

Square 16: Exports and Imports in the year of 1997

	Portugal/ France		Portugal/ Germany		Portugal/ Spain		Portugal/ UK	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Total	3041,935	3782,111	4524,242	5207,105	3351,634	8516,023	2816,555	2596,384
Energy	27,032	48,453	3,71	30,768	62,499	162,153	56,181	269,91
Food Agriculture	243,086	659,55	58,618	156,97	470,724	1680,763	207,01	315,586
Textiles	1140,301	469,66	1428,152	535,541	529,687	754,264	1095,948	256,673
Wood Paper	418,426	195,371	311,738	151,769	498,462	762,358	215,095	126,571
Chemicals	252,888	567,141	235,599	698,657	497,825	1428,996	211,37	351,664
Iron & Steal	6,817	118,433	7,6	173,13	123,457	354,762	5,646	82,736
Non Ferrous	7,375	45,504	43,324	72,943	70,209	191,4	8,973	30,153
Machinery	160,236	459,327	246,77	866,757	300,115	903,743	119,68	305,085
Vehicles	398,847	562,121	1230,495	983,549	475,457	1210,999	559,804	437,635
Electrical	273,671	254,248	552,905	463,813	198,127	476,867	191,541	156,997
Electronical	108,289	301,103	403,186	521,706	108,667	456,149	97,026	254,379
NES	4,974	101,208	2,209	551,548	16,412	133,648	48,287	8,998

Source: base Chelem/ CEP II

As much as Portugal became a more open economy and entered in the European Regional Block with Spain, trade barriers like import rights, grants of public money, quotas, embargos, sanctions, exports control, cartels, non tariff barriers and exchange controls, as well as all sort of investment limitations diminished, trade considerably grown up. But since 1986 the Regional Block had also new state-members and the market was larger. Trade fluxes were considerably higher than in 1970 or 1986. And intra-industry fluxes even more significant.

Once inverted the negative tendency in 1994, a new dynamic of the Portuguese exports started, especially with countries like Spain, France and United Kingdom. The exchange rate evolution was also favourable. That recuperation remained strong until the end of the nineties, for more that structural changes and convergence seemed yet far from the optimum.

The Portuguese traded chains with higher technology grown up much in the nineties. Portugal preferred to buy Vehicles and Chemicals, but also Food Agriculture, and preferred to sell Textiles, Vehicles, Chemicals and Wood Paper.

It's important to notice how the relations with Spain increased immensely. Portugal that was still a big exporter of Food Agriculture started to buy big amounts of that same chain from Spain. After a balance of the numbers, the fact was that imports increased much more than exports.

In the relation with the United Kingdom we realise a growth of exported Vehicles and Electrical products, despite the yet weight of the traditional chains. Imports are considerably in the same chains.

3.3.2.3 Herfindahl/ Gini-Hirshman Indexes

The Herfindahl and the Hirshman Indexes traduce the concentration of the market. So, before we had a general idea about the economy with the weight of the balance on goods over the GDP, afterwards a detailed observation of the exports and imports for chains and countries, now it's time to make a point about the level of competition, if we face a situation closer to perfect competition with a lot of firms or industries working in the chains or a more concentrated market for not many firms or industries.

This is a very interesting indicator for Portugal because it started as a country with many small firms that were protected by domestic helps. So, Portugal had many reasons to become a more open economy. Its firms had to learn how to explore its competition advantages, explore its manufacture capacities, diversify the risk and reduce production costs, all this to be able to respond to a larger and competing market. Before they were lazy because of the constant protection of domestic grants of public money, producing especially to the domestic market. Now they were feeling three immediate needs, the need of a good evaluation of the markets (are they the communitarian and the several internationals), improve upon distribution nets and accede to potential clients. A strategic possibility at this point was the concentration of firms. If that happen will be traduced by the Herfindahl and the Hirshman Indexes, here used over chains.

Let's analyse the following squares for the same four countries selected above: France, Germany, Spain and the United Kingdom and their relations with the Portuguese trade over the same three significant years: 1970, 1986 and 1997. More squares are disposable in annexes.

Square 17: Herfindahl and Hirshman Indexes. Year of 1970

	Portugal/ France		Portugal/ Germany		Portugal/ Spain		Portugal/ UK	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Herfindahl	0,3108	0,140055	1,90E-01	0,147697	0,226302	0,147697	0,181837	0,143382
Gini-Hirshman	55,752	37,42393	43,64024	38,43135	47,57117	38,43135	42,6423	37,86584

Source: own estimations using data from base Chelem/ CEP II

Both these indexes are estimated over the quotas of market, as can be testified in the formulas (I.2) to (I.5), so they show the level of concentration but not much other information for being hard to distinguish the intra-industry trade from the inter-industry trade for not containing its estimations the difference between exports and imports. The relevant here determine the distribution of market shares in those indexes.

According to the Herfindahl Index the level of concentration was considerably low and since with the indicator of Gini-Hirshman a closer result from the 100% means a maximum level of concentration, the Portuguese trade seemed concentrated around the 40/50% for exports and 38% for imports.

In other words, departing from the idea that concentration incentives collusion increasing industry-wide profits, than Portugal presented low concentration of market a consistent result with the known reality, that Portugal was a small and less open economy back then than today.

Square 18: Herfindahl and Hirshman Indexes. Year of 1986

	Portugal/ France		Portugal/ Germany		Portugal/ Spain		Portugal/ UK	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Herfindahl	0,224	0,13737	2,58E-01	0,136053	0,136042	0,121663	0,281594	0,12812
Gini-Hirshman	47,326	37,06347	50,77046	36,88539	36,88392	34,88023	53,0654	35,79383

Source: own estimations using data from base Chelem/ CEP II

In a more open economy then in the seventies, the level of concentration diminished for the exports and the imports according to the Gini-Hirshman index. The Herfindahl index dropped in both cases for France, continued very low for Germany, diminished in both cases for Spain and increased in the Portuguese exports for the United Kingdom. The concentration of the markets reflected higher competition on the markets.