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REGIONAL SPECIALIZATION AND TRADE PATTERNS IN EUROPE.

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ABSTRACT

In the present paper we will study the effects of the construction of an internal market in Europe in 1992. The question to be answered is whether some regions in Europe have improved their positions in the internal EU trade from a better exploitation of their comparative advantages (productivity, factors endowment,…) and scale economies, as far as regions have two main reasons for trade: specialization in those activities they do the best and the exploitation of scale economies.

The evolution of inter industrial trade will reveal whether the expectations of some qualified economists of a deeper specialization of northern European regions in human capital-intensive industries and in labour-intensive industries in the southern regions were correct. Besides, the development of intra industrial trade in this decade will prove if the benefits of scale economies were bigger in the south, where they were less exploited at the outset. Finally, we will also analyse the role of foreign direct investment (which can be observed as another way of exports and shares with trade the causal factors) in the reinforcement of specialization patterns across Europe.

In this connection, we identify and analyse the evolution of trade patterns in Europe in the 1990´s through the utilization of Grubel-Lloyd index. Secondly, we utilize several indicators of comparative advantages (sectors average productivity, labour costs, human capital endowment, etc.) and of firms size to study whether they have also undergone some changes as a result of the internal market formation. Although the lack of regional data can make us formulate this analysis for countries rather than for regions, whenever necessary we will supplement it with the patterns of regional specialization within the countries, as far as the regional location of export industries can shed some light on this issue.

* In colaboration with the Euro-American Association of Economic Development Studies

1. INTRODUCTION

Some of the main purposes of the internal market programme of 1992 were the removal of borders controls, technical barriers to trade and barriers to the movements of factors of production. Thus, explanations of its consequences were focused in trade theory.

The traditional theories of international trade state that the result of an economic integration will be the specialization of the regions in those activities in which they have comparative advantages, mainly in the relative prices of factors of production. After a process of change in the trade patterns, economies would reach higher standards of living through the equilibration of the prices of factors and income.

This model can also incorporate the mobility of the capital, in which case it is not only important the gap in the price of factors but also the differentials in productivity.

However, these theories are based in some hypothesis (perfect competition, constant returns...) that are clearly against reality. In this connection, a new theory of international trade came into the stage in the eighties, with some interesting pieces of research by Krugman (1979), Brander and Krugman (1983) and Helpman and Krugman (1985), in which they considered the possibility of firms operating in an imperfect competition context with increasing returns and differentiated goods.

In terms of mobility of capital, the foregoing theories may explain a reciprocal flow of direct investment among the firms of the more developed markets, to the detriment of the peripheral regions. They also explain that whether the target of the direct investment is to exploit intangible assets, the consequences of European integration over capital flows will be difficult to forecast. Firstly, it can be argued that long run strategies of the firms may change as it is not necessary anymore their presence in every country of the Union. Secondly, location advantages may run in very varied directions.

These two groups of theories may explain, respectively, the capability of exploiting the comparative advantages and the economies of scale in the regions located in the periphery. The description of trade patterns and the study of the variables that explain this

scenario may be an interesting task. However, the main purpose of our paper is undoubtedly to uncover the effects that this process of economic integration have had in the economy of the regions (GDP, population, employment...) and to analyse to which geographical areas trade gains had accrued.

In this paper, we will start by studying the evolution of trade patterns in Europe in the 1990´s through the utilization of the Grubel-Lloyd index. In second place, we will monitor several indicators of comparative advantages and of firms´ size to uncover the changes they have undergone since the formation of the internal market. Finally, we will concisely address the issue of capital mobility, monitoring the flows of direct investment in manufacturing.

2. TRADE PATTERNS IN EUROPE IN THE 1990´S

In this section, we identify and analyse the evolution of trade patterns in Europe in the 1990´s through the utilization of the adjusted Grubel-Lloyd index (TI) applied to national data.

International trade patterns correspond to some varied influences:

- Inter-industrial trade reflect the existence of comparative advantages between countries. If inter-industrial trade is dominant TI will have a value close to zero.
- Intra-industrial trade reveal the presence of scale economies, which prevent each country of producing the whole range of commodities it consumes. Intra-industrial trade patterns cannot be forecasted. TI will be equal to unity when trade between two countries is entirely intra-industry.

Both types of trade - inter and intra-industrial - depend upon the existing similarities and differences among countries. If their economies are alike, intra-industrial trade will be pre-eminent. If they are not so similar, inter-industrial trade (based on comparative advantages) will flourish.

$$TI = 1 - \frac{\left|\frac{X_{ijk}}{X_{ij}} - \frac{M_{ijk}}{M_{ij}}\right|}{\frac{X_{ijk}}{X_{ij}} + \frac{M_{ijk}}{M_{ij}}}$$

Tables 1 and 2 present the average over 23 industries[†] of the trade indices for all bilateral trade flows for years 1992 and 1996, respectively.

Table 1

Adjusted Grubel-Lloyd indices for 1992 (industrial averages).

	Au	Be	De	Fi	Fr	Ge	Gr	Ir	It	Ne	Po	Sp	Sw	UK
Au		0.65	0.54	0.51	0.61	0.72	0.29	0.39	0.58	0.59	0.33	0.41	0.57	0.59
Be	0.65		0.54	0.48	0.72	0.74	0.45	0.54	0.54	0.76	0.43	0.66	0.52	0.76
De	0.54	0.54		0.51	0.53	0.63	0.35	0.54	0.41	0.68	0.38	0.53	0.59	0.65
Fi	0.51	0.48	0.51		0.41	0.49	0.28	0.37	0.35	0.40	0.27	0.39	0.75	0.48
Fr	0.61	0.72	0.53	0.41		0.76	0.40	0.47	0.67	0.65	0.43	0.68	0.49	0.78
Ge	0.72	0.74	0.63	0.49	0.76		0.41	0.50	0.56	0.76	0.41	0.68	0.58	0.76
Gr	0.29	0.45	0.35	0.28	0.40	0.41		0.16	0.36	0.45	0.37	0.42	0.30	0.48
Ir	0.39	0.54	0.54	0.37	0.47	0.50	0.16		0.43	0.56	0.29	0.41	0.41	0.73
It	0.58	0.54	0.41	0.35	0.67	0.56	0.36	0.43		0.50	0.47	0.68	0.39	0.57
Ne	0.59	0.76	0.68	0.40	0.65	0.76	0.45	0.56	0.50		0.44	0.62	0.50	0.80
Po	0.33	0.43	0.38	0.27	0.43	0.41	0.37	0.29	0.47	0.44		0.65	0.37	0.52
Sp	0.41	0.66	0.53	0.39	0.68	0.68	0.42	0.41	0.68	0.62	0.65		0.45	0.57
Sw	0.57	0.52	0.59	0.75	0.49	0.58	0.30	0.41	0.39	0.50	0.37	0.45		0.51
UK	0.59	0.76	0.65	0.48	0.78	0.76	0.48	0.73	0.57	0.80	0.52	0.57	0.51	
AV	0.66	0.71	0.59	0.51	0.70	0.69	0.40	0.60	0.58	0.71	0.48	0.64	0.54	0.71

Source: OECD. Foreign Trade by Commodities. 1995 Issue.

NOTE: National averages have been weighted with total trade flows.

[†] Food and live animals, Feeding stuff for animals, Beverages, Tobacco, Textiles, Clothing, Leather-fur, Footwear, Wood, Wood furniture, Paper, Chemicals, Medical and pharmaceutical products, Petroleum and petroleum products, Rubber manufactures, Non-metallic mineral manufactures, Iron and steel, Non-ferrous metals, Manufactures of metal, Machinery, Electrical machinery, Transport equipment, Medical and optical instruments.

As it can be observed, we have obtained similar results to that of Neven (1990) for year 1985. The UK, France, Germany, the Netherlands and Belgium are those countries with bigger intra-industrial trade, specially among them. Spain, Ireland and Italy are located in intermediate positions, and Portugal and Greece are the countries where inter-industrial trade is more important.

In relation to the other countries in the sample - Austria, Finland and Sweden - we become aware that their indices are smaller than those corresponding to similar countries but that were at that moment members of the EU. As a result of considering these states in the calculation of averages, these are smaller for all the countries in the sample.

Therefore, Portugal and Greece have an intra-community trade more deeply based in their comparative advantages than the other EU countries. In addition, Finland and Sweden also make intensive utilization of their comparative advantages in their intra-EU trade.

We could not employ more up to date data of intra-communitarian trade than those published in the 1998 Issue of OECD Foreign Trade by Commodities. However, it would have been highly desirable to have made use of more recent data in the comparison in order to let the effects of the 1992 internal market programme extinguish completely.

Table 2

Adjusted Grubel-Lloyd indices for 1996 (industrial averages).

	Au	Be	De	Fi	Fr	Ge	Gr	Ir	It	Ne	Po	Sp	Sw	UK
Au		0.65	0.53	0.45	0.61	0.74	0.41	0.44	0.59	0.57	0.32	0.52	0.58	0.71
Be	0.65		0.63	0.41	0.75	0.74	0.48	0.41	0.62	0.75	0.52	0.54	0.49	0.73
De	0.53	0.63		0.53	0.56	0.62	0.43	0.47	0.41	0.68	0.30	0.49	0.68	0.67
Fi	0.45	0.41	0.53		0.42	0.50	0.35	0.33	0.37	0.42	0.32	0.33	0.67	0.40
Fr	0.61	0.75	0.56	0.42		0.77	0.46	0.52	0.69	0.72	0.45	0.73	0.53	0.78
Ge	0.74	0.74	0.62	0.50	0.77		0.45	0.58	0.60	0.74	0.37	0.67	0.61	0.83
Gr	0.41	0.48	0.43	0.35	0.46	0.45		0.15	0.45	0.48	0.29	0.31	0.31	0.41
Ir	0.44	0.41	0.47	0.33	0.52	0.58	0.15		0.43	0.54	0.32	0.39	0.38	0.67
It	0.59	0.62	0.41	0.37	0.69	0.60	0.45	0.43		0.48	0.59	0.69	0.52	0.59
Ne	0.57	0.75	0.68	0.42	0.72	0.74	0.48	0.54	0.48		0.35	0.59	0.50	0.76
Po	0.32	0.52	0.30	0.32	0.45	0.37	0.29	0.32	0.59	0.35		0.63	0.30	0.48
Sp	0.52	0.54	0.49	0.33	0.73	0.67	0.31	0.39	0.69	0.59	0.63		0.40	0.67
Sw	0.58	0.49	0.68	0.67	0.53	0.61	0.31	0.38	0.52	0.50	0.30	0.40		0.53
UK	0.71	0.73	0.67	0.40	0.78	0.83	0.41	0.67	0.59	0.76	0.48	0.67	0.53	
AV	0.68	0.70	0.60	0.48	0.71	0.70	0.43	0.57	0.61	0.69	0.48	0.65	0.56	0.72

Source: OECD. Foreign Trade by Commodities. 1998 Issue.

NOTE: National averages have been weighted with total trade flows.

Anyhow, after these four years trade patterns in Europe had not undergone any dramatic transformation. As a whole, most of the countries had increased slightly their intra-industrial trade which is probably related with the better capability of European enterprises to operate at continental scale. Nevertheless, it seems that some countries have increased their inter-industrial trade based in the exploitation of their comparative advantages, being Ireland and Finland the most outstanding cases in this respect.

3. COMPARATIVE ADVANTAGES AND FIRMS´ SIZE

In this section, we utilize several indicators of comparative advantages (sectors average productivity, labour costs, human capital endowment, etc.) and of firms size to study whether they have also undergone some changes as a result of the internal market formation.

First of all, we could have tested whether trade can be explained by average labour productivity gaps among the countries[‡]. In which case, Ricardian relative advantages model of international trade would be supported by data. Bela Balassa (1963) tested this hypothesis for the US and British economies obtaining confirming results. The not accessibility of data prevent us from making this analysis, which we will carry out in future far-reaching versions of this paper.

If the Ricardian model of international trade were true, gains of trade will accrue everywhere in Europe. All the trade partners will be better of after the interchange[§].

This situation whether real or not seems not to be shared by many leaders of trade unions or farmer associations around the world. The point is that despite Ricardian apparent harmony, international trade has considerable effects over income distribution. This issue is addressed in such models as Samuelson and Jones *Specific Factors Model* or the (more successful and up to date) Heckscher-Olhin *Factorial Proportions Model*.

We will try to observe the revealed comparative advantages by computing the following ratio: net exports to ½ (total exports + total imports), for some of the branches of activity considered in the previous section[**].

[‡] Although some areas may be more productive in all the branches of activity than others, wage differentials may allow less productive areas to compete in an international market.

[§] Notwithstanding, we should be conscious that in an economy where labour can move freely among regions it can be expected an equalization of wage rates. In which case, any region will only be able to export those commodities in which it has an absolute advantage in production. In the long run, this may mean that those regions without absolute advantage in any industry will not be able to attract or even maintain their populations. Any how, there are still persistent gaps in wage rates around Europe.

[**] The classification of industries according to factor intensity follows D.J. Neven (1990) paper. Natural resources: Food and live animals and Wood. Labour: Clothing and Footwear. Capital: Paper, Petroleum and petroleum products, Beverages Non-metallic mineral manufactures and Iron and steel. Human capital: Chemicals, Medical and pharmaceutical products, Machinery, Electrical machinery, Transport equipment and Medical and optical instruments.

Table 3

Ratio net exports to ½ (total exports + total imports). Percentage.

	Natural Resources		Labour		Capital		Human capital	
	1992	1996	1992	1996	1992	1996	1992	1996
Austria	2.6	-0.39	4.52	-5.5	3.01	0.10	-19.36	-31.96
Belgium	0.29	-0.08	-2.50	-1.58	2.02	-4.17	7.68	-3.47
Denmark	0.76	0.87	0.36	-1.57	-6.03	-5.27	-7.64	-27.18
Finland	2.82	2.96	-2.08	-2.19	41.17	31.42	-7.30	-25.42
France	0.34	0.26	-0.76	-1.25	0.27	-2.87	5.18	1.72
Germany	0.26	-0.14	-3.02	-2.07	-4.82	-3.11	16.33	20.04
Greece	-1.59	-1.73	12.77	4.19	4.27	-11.67	-70.32	-73.44
Ireland	-0.54	-0.47	-1.55	-1.75	-6.58	-7.52	17.12	33.00
Italy	-0.86	-0.55	8.04	8.54	0.79	0.26	-15.97	-12.98
Netherlands	0.86	0.64	-1.66	-0.43	2.61	5.69	3.58	5.39
Portugal	2.57	1.71	23.39	16.67	-3.38	-3.33	-48.48	-33.67
Spain	-0.32	-0.14	-1.09	0.29	-3.36	-2.04	-22.51	-15.27
Sweden	0.15	0.24	-5.42	-2.61	14.64	12.04	1.35	-11.75
the U.K.	-1.39	-0.52	-1.15	-0.9	-0.72	4.91	-4.065	-7.11

Source: OECD. Foreign Trade by Commodities. 1994 and 1998 Issues.

As it becomes clear in table 3, Finland and Portugal, due to the strength of their wood industries, show the biggest advantages in natural resources. Also, Denmark, The Netherlands, Sweden and France reveal advantages in this field.

As expected, principally Portugal but also Italy and Greece present advantages in labour intensive industries. However, Spain did not exploit its comparative advantage in labour cost in 1996, as according to Neven it did not in 1985 either.

In relation to capital-intensive industries two of the new member states of the EU stand out: Finland and Sweden. Also the Netherlands, the UK, Italy and Austria are net exporters in this group of industries. In this connection it should be bore in mind Leontief paradox.[††]

The most outstanding net-exporters in human capital intensive industries are Ireland, Germany, the Netherlands and France. As shown below, all these countries are

[††] Leontief showed that after the Second World war the USA imports were more capital-intensive than its exports, which was clearly in contradiction with its relative physical capital endowment. Anyhow, posterior pieces of research explained this contradiction stating that US exports were mainly based in human capital intensive industries and not on mature capital intensive industries.

characterized for high values in all human capital indicators which makes of them excellent candidates for being part of this selected group. Nevertheless, there are other countries in this sample, as the Nordic, that were not able to exploit, as expected, their comparative advantages in human capital intensive industries.

The enormous correlation between physical and human capital may contribute to explain why the countries specialized in human capital intensive industries seems not to stand out in capital intensive industries. Neira & Guisán (1999) make some interesting points in this respect.

The evolution of labour cost in the industrial sector may also contribute to shed some light on the issue of whether or not comparative advantages have been further exploited after 1992.

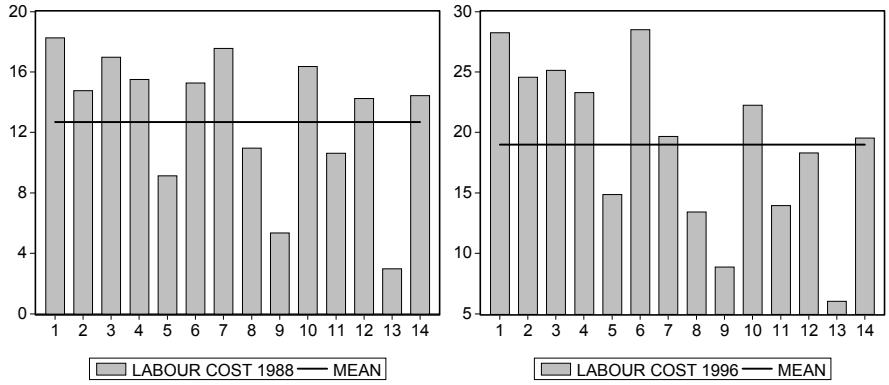
The last two models mentioned above forecast that as a result of international trade there will be a change in the relative prices of factors which will substantially affect to the income of the owners of production factors. It will benefit to the owners of factors profuse or which are specific of the exporting sectors of an economy and worsen the situation of the owners of factors which are scarce or specific of importing sectors of this economy. In spite of this, the overall situation of the territory will be better of through a wider range of commodities available for consumption. The main difference between the two aforementioned models is that in the specific factors model the distributional problem is temporal and will be solved with factors movements from slump sectors to expansionary sectors, whereas in the factorial proportions model this problem is more or less permanent.

Thus these models forecast an equalization of relative prices of factors between countries, a point which has not been empirically confirmed. In fact there are still big gaps in wage rates around Europe which can not be only explained through the differential in the quality of labour. According to the Eurostat figures used to make the graph below, the variation coefficient for labour cost has slightly increased its value from 1988 (0.3545) to 1996 (0.3624).

The graph 1 shows the structure of labour costs in Europe for years 1988 and 1996.

Graph 1

Average hourly cost of labour (wage earners and employees) in manufacturing. ECU.



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Source: Eurostat Statistical Yearbook 98.

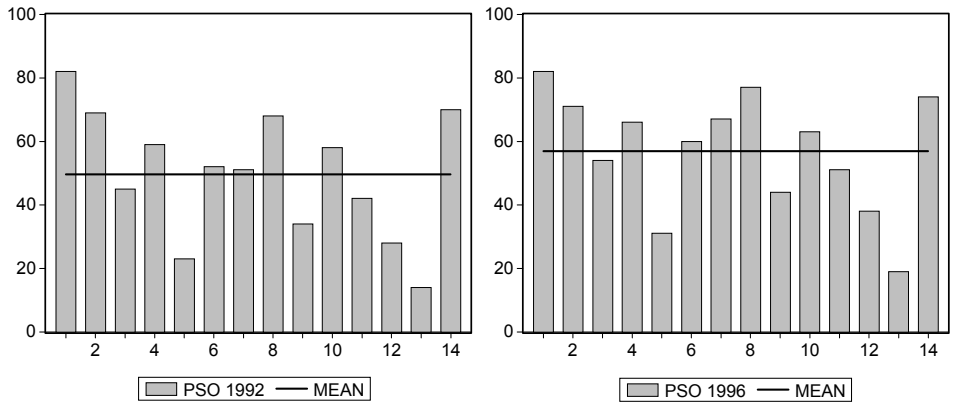
Only part of the revealed comparative advantage formerly observed in Table 3 were confirmed with labour costs data obtained from Eurostat. Portugal and Greece, as expected, have a cost of labour well under the European average. Spain, as previously stated, despite its relatively cheap salaries only has a small surplus in the trade of these produces. Even worse, Ireland and the UK have undergone deficits in this particular trade despite having, in 1996, even lower costs of labour than Spain. On the contrary, Italy was extremely competitive in labour intensive industries in spite of the fact that its salaries were much closer to the EU average.

The graphs presented below try to illustrate the human capital endowment of EU countries. In graph 2 we put the accent in the general educational level of labour force which has been empirically proved that has an important impact over economic growth. In graphs 3 and 4 we show the R&D total expenditure and the R&D expenditure of business enterprises in percentage of GDP.

As we have observed above, only a few of the EU member states make an intensive utilization of their human capital endowment in their industrial foreign trade. In fact, as the reveal comparative advantages points out, Germany, the Netherlands and France have populations with the highest educational standards in Europe. However, some other countries such as Sweden, the United Kingdom, Finland or Denmark have also privileged positions in this respect that have not been until now fully exploited.

Graph 2

Percentage of labour force with upper secondary education or over.



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Source: OECD Education at a Glance.

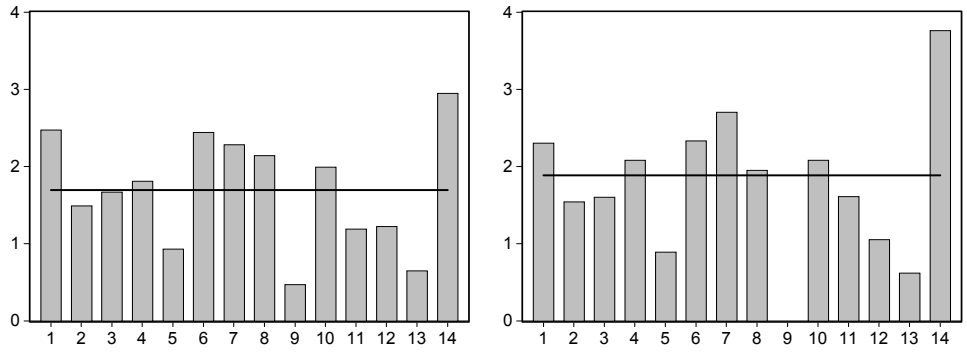
Ireland has the most outstanding position in the net trade of human capital intensive industries. This fact is undoubtedly related to the intense improvement that the educational standard of its labour force has undergone in the last decades. In addition, it has a percentage of expenditure in R&D remarkably higher than that of countries of the same level of per capita income.

The feeble status of Greece, Portugal, Spain and Italy in Table 3 is also supported for the pour educational figures and the low percentage of R&D expenditure. However, in most of the cases there appear to be clear signs of improvement in this issue.

Graph 3

Expenditure in R&D. Percentage of GDP.

1992 1996



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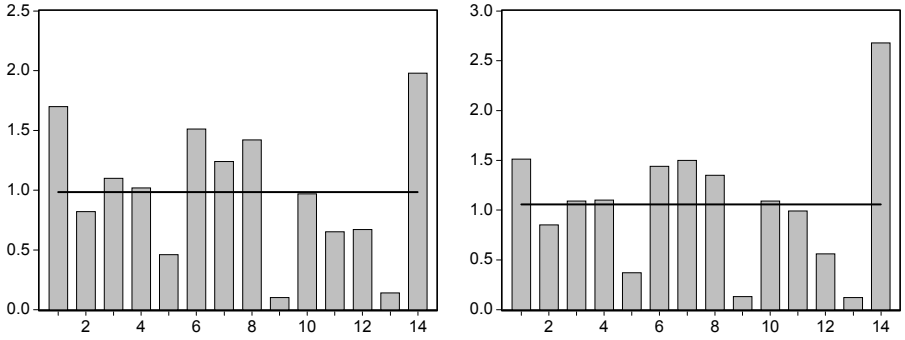
Source: UNESCO Statistical Yearbook 1999.

Graph 4

Expenditure in R&D (%PIB). Business enterprise sector

1992 1996



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Source: Eurostat R&D Annual Statistics.

In some occasions, countries would be better of if they specialize in the production of a small range of commodities due to the existence of *scale economies*. On the one hand,

when an industry is characterized by the presence of increasing returns, it would be more efficient if it works at a bigger scale. On the other, consumers would rather to have a wider range of produces to choose. International trade may link both issues, it will allow each individual country to specialize in the production of a small range of commodities at a very big scale without sacrificing the variety in consumption.

Increasing returns will drive the economy towards an imperfect competition market structure. A pure monopolistic situation is exceptional because a firm that is obtaining such big profits will eventually attract competitors. The *Monopolistic Competition Model*, which is a more conceivable situation, shows how international trade can improve the relationship between the scale of production and the variety of goods available for consumption.

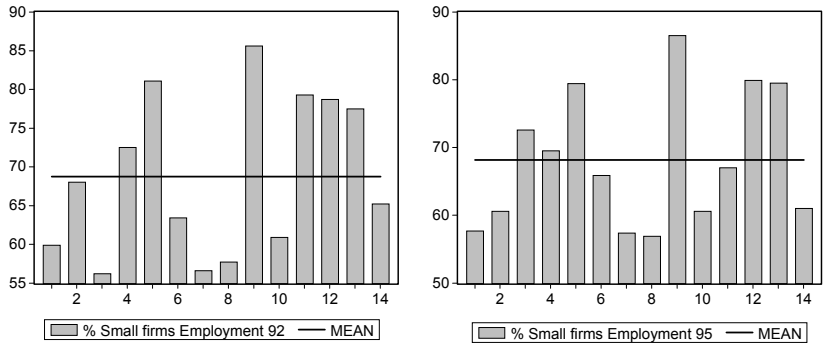
Whether this situation is dominant - as among similar economies - there will be big gains from interchange and small losses related to income re-distribution. Thus, in spite of the effects of trade over income distribution, all the participants may be better of.

The figures of the percentage of firms with less than 250 workers, presented in graph 5, may give some intuition concerning the evolution of scale economies in Europe after 1992. Obviously, it would have been desirable the use of more and better indicators, but we will use this, as a start, for its accessibility.

Graph 5

Percentage of employment in small business over total industrial employment

1992 1995



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Source: Eurostat Statistical Yearbook 98.

As the graph above shows, it keeps on being two groups of countries: northern countries characterized for business of bigger size and southern countries where small business prevail. After 1992, it does not appear to be any systematic pattern in the changes of business size in southern Europe, whereas Spanish and Irish firms increased their size, on the other hand, Greek, Italian and Portuguese small business increased their presence. In relation to the northern states, the evolution in firms size showed a slight increment in most of the cases.

The most striking development is the one followed by Ireland. It can be appreciated as the impressive growth of industrial production that has undergone in the last decade has been hand by hand of an important increase in business size.

4. A BRIEF APPROXIMATION TO CAPITAL MOBILITY IN THE EU

The regions of a country are usually more specialized than the countries and also have higher mobility of factors. As a result of the integration of national markets in Europe, the production geography of the EU may came closer to that of a big national economy.

Mobility of labour, which has not been important among developed countries in last decades, is typically stronger within a country than among countries. The creation of the 1992 internal market made easier the movements of population in the EU, but in spite of wage differential the affection of Europeans to their homelands is still extremely high. In contrast, there has been a considerable increase in the movements of capital among countries in last years. At the end, the regions of the EU will have to compete for attract or even maintain mobile factors and this competition will create cumulative processes of unequal growth.

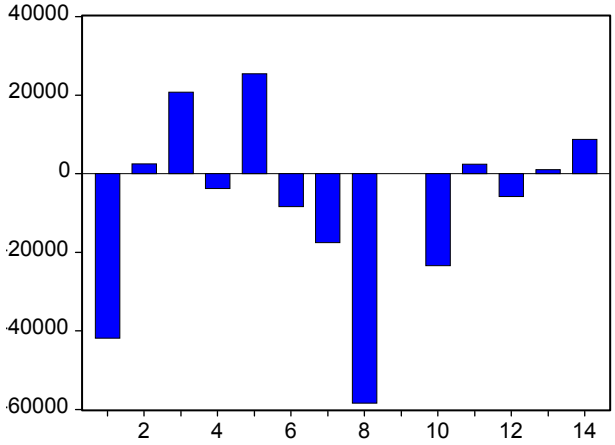
Foreign direct investment is a way of international indebtedness, countries which got into debts are those which have at present the best productive investment opportunities. Multinational companies are the main means of foreign direct investment. In this connection, a major issue is the one related to the location of multinational companies, which is determined for the same reasons as international trade, basically, international endowment of factors, transport costs and barrier to trade.

Graph 6 presents the net flow of direct investment in manufacturing (inflows less outflows) by country in millions of 1990 US $[‡‡]. In a far reaching version of this paper, we will analyse inflows and outflows separately and also the breakdown of foreign investment in manufacturing by activities and country of origin and destination.

‡‡ We have converted the series, expressed in current currencies of each country, in 1990 prices applying the GDP deflactor of each country. Then ,we use the 1990 exchange rates with respect to US$. All these supplementary data were obtained in OECD, *National Accounts, Main Aggregates 1960-1997*.

Graph 6

Net flows of direct investment in manufacturing by country (total cumulative from 1993 to 1998*) Millions of 1990 US$



1. GERMANY, 2. AUSTRIA, 3. BELGIUM, 4. DENMARK, 5. SPAIN, 6. FRANCE, 7. FINLAND, 8. UNITED KINGDOM, 9. GREECE, 10. THE NETHERLANDS, 11. IRELAND, 12. ITALY, 13. PORTUGAL, 14. SWEDEN

NOTE:* For Austria and Belgium data are referred to total direct investment from 1992 to 1997.

Source: OECD International Direct Investment Statistics Yearbook 1999.

As it can be observed, Spain and Belgium[§§] stand out as big debtors in the EU context. However, if we take into account the size of countries (the ratio to 1992 GDP in 1990 US$), we should also mention Ireland, Sweden as important receivers of capital flows. Austria[7] and Portugal have also been net debtors. On the other hand, the principal net exporters of capital have been the United Kingdom, Germany, the Netherlands and Finland, and in relative terms, Finland, the Netherlands and the United Kingdom.

According to Table 3, taking into consideration that industries intensive in human capital make also intensive utilization of physical capital, we conclude that net exporters of capital are mainly those countries that are exporters of capital (human or physical) intensive products: Finland, Germany, the Netherlands and, at a lesser extent, the UK. Conversely, Belgium, Spain and Portugal, which are importers of produces intensive in

[§§] It should be borne in mind that Austrian and Belgian data are referred to *total* direct investment from 1992 to 1997.

capital, have received large flows of direct investment too. Sweden and Ireland, depart from this general pattern.

Multinational enterprises may have been improving the general standard of living of European regions, so much as any particular international trade. Nevertheless, their operation rises suspicions on the societies because it has distributional effects over the income within and among the states.

As it was profusely stated before, economic integration may eventually lead to a gain of efficiency in some industrial sectors of the regions of Europe as a result of exploiting comparative advantages and economies of scale. There were expected some benefits from 1992 internal market that would accrue mainly to the economies of the southern countries. In a final section, we would have liked to shed some light on the industrial specialization patterns of the regions in order to asses which of them would have benefited the most and have better perspectives in the future. Unfortunately, lack of data have made of this issue almost an intractable task.

5. CONCLUSIONS

The main conclusions we have reached in the present paper are the following:

1. Trade patterns in Europe had not undergone any dramatic transformation after 1992. Most of the countries had increased slightly their intra-industrial trade which is probably related with the strategy of the main European multinational groups.

2. Finland and Portugal, and at a less extent, Denmark, The Netherlands, Sweden and France reveal comparative advantages in natural resources intensive industries. Specially Portugal but also Italy and Greece present advantages in labour intensive industries. Finland, Sweden, the Netherlands, the UK, Italy and Austria are net exporters in produces of capital-intensive industries. Finally, the most outstanding net-exporters in human capital intensive industries are Ireland, Germany, the Netherlands and France.

3. The equalization of relative prices of labour among countries predicted by some models of international trade, whether Eurostat figures are to be believed, is rejected. The variation coefficient for labour cost has slightly increased its value from 1988 (0.3545) to 1996 (0.3624).

4. Only part of the comparative advantage in labour-intensive industries revealed through trade figures is confirmed by labour costs data. On the one hand, Spain, Ireland and the UK did not exploited their advantages in this field as they could. On the other, Italy was extremely competitive in spite of its much lower advantage.

5. Only Ireland, Germany, the Netherlands and France make an intensive utilization of their human capital endowment in their industrial foreign trade. However, some other countries such as Sweden, the United Kingdom, Finland or Denmark have also privileged positions in this respect that have not been until now fully exploited. The feeble status of Greece, Portugal, Spain and Italy is also supported for their pourer educational figures and the low percentage of GDP that they assign to R&D expenditure.

6. After 1992, it does not appear to be a equalization in business size in Europe. Anyhow, it seems that firms size showed a slight increment in most of the states.

7. In general, there have been net exporters of capital mostly those countries that are exporters of capital (human or physical) intensive products: Finland, Germany, the Netherlands and, at a lesser extent, the UK. On the contrary, Belgium, Spain and Portugal, which are importers of produces intensive in capital, have received large flows of direct investment.

In conclusion, the construction of the internal market in Europe in 1992 does not seem to have altered the competitive positions of the states in the internal EU market, at least up to the moment. The evolution of inter industrial trade does not confirm the expectations of a *deeper* specialization in the north in human capital-intensive industries and in labour-intensive industries in the south. In addition, the development of intra industrial trade in this decade does not suggest an intensification in the exploitation of scale economies in the south.

However, despite comparative advantages in labour-intensive production, southern regions must be aware of the superiority of developing countries in this respect which will be eventually revealed in long run. At certain point in time, the aforementioned reason will make necessary for them to specialize in physical and human capital intensive industries incurring in very high costs of adjustment. So, it is highly desirable that southern regions make an effort to accumulate physical and human capital in spite of its relatively high costs.

In this connection, regional and national policies in the EU should be addressed to improve infrastructures (transport, communications, public services,…), overcome differentials in educational levels and impulse the efforts in R&D made since the institutions and enterprises of the least-favoured regions.

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