

TESTING INTRA-INDUSTRY TRADE BETWEEN PORTUGAL AND SPAIN 1990-1996

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ABSTRACT: This paper shows how, in the period 1990-1996, economic integration between the two Iberian economies has deepened through intra-industry trade. The enquiry was led at the level of the main forty traded products. In this context, several tests have been made.

Our analysis combines first the application of the Grubel and Lloyd index of the main forty products and the marginal intra-industry trade of Brulhart, and Brulhart and Elliot. On the basis of these indexes we defined our criterion for the selection of the competitive cluster of Portugal throughout the period. We have also considered the global intra-industry trade, in nominal and real terms, according to the method of Greenaway et al.

In econometric terms we have tried to know which is the relation between the intra-industry trade index and the marginal intra-industry trade at the level of the main forty products, the results however were not unequivocal. The same is true as far as concerns the relation between the intra-industry trade index and the net export position at the level of the same products. Despite the fact that some attempts have been inconclusive, knowledge about Iberian trade has developed in a field essential to its upgrading, and the way is open for further research.

Classification JEL: C2, F1

Key words: intra-industry trade, marginal intra-industry trade, competitive cluster, net export position.

1. Introduction

Before EC membership in 1986, despite being neighbours, the level of trade links between the two Iberian countries was low. Afterwards, they rapidly increased and Spain even became Portugal's main trading partner. At the same time, FDI, particularly stimulated by the European Single Market process, has boomed on both sides of the border, often driven to the same sectors by the same multinational firms. Subsequently, intra-industry bilateral trade, quite negligible in the former decades, became a relevant issue. This paper focuses on this specific domain during the period 1990-1996, where as we will see later, it entered into a new stage growing at a

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considerably high rate and turning out the most significant part of bilateral trade. So, in general terms, this case is representative of the evolution of intra-industry trade in the conditions of fresh integration. In the near future, this situation is more likely to happen not only within the European Union, because of the Eastern enlargement, but also all over the world in the wake of the regional agreements' wave of the 1990s.

Taking into consideration this background, the main objectives of the paper are:

- i) To find the cluster where Portugal has competitive advantage in relation to Spain;
- ii) To check the evolution of intra-industry trade index for the group of the main forty products (selected from four digits of the SITC);
- iii) To see what the relation is between the evolution of the intra-industry trade index with the marginal intra-industry trade index for the same forty products;
- iv) To look at the relation between the evolution of the intra-industry trade index of the main forty products and their net export position, selecting however only those that have $\tilde{A}_i > 0$;
- v) To assess whether Iberian integration has been strengthened through intra-industry adjustment.

To achieve our first objective, we took the following steps:

- 1 - we created the concept of "cluster (of products) with high intra-industry trade content" (products where the index B_i of Grubel and Lloyd, 1975, is higher than 50%, ie, $B_i > 0.5$);
- 2 - we combined the index $B_i > 0.5$ with the marginal intra-industry trade index A_i of Brulhart (1994), and Brulhart and Elliot (1995), with the condition that $A_i > 0$, ie, eliminating the cases where there was a unique change either in exports or in imports, from one year to the next; in a second phase, a stronger restriction was admitted, ie, $B_i > 0.5$ and $A_i > 0.5$;
- 3 - we combined the index $B_i > 0.5$ with the complementary of A_i , \tilde{A}_i , of the same authors¹, with the condition $\tilde{A}_i > 0$, ie, that an improvement in Portuguese net export position had been observed; in a second phase, we admitted a stronger restriction, ie, $B_i > 0.5$ and $\tilde{A}_i > 0.5$;

¹ The authors called it only B, however we preferred to use the symbol \tilde{A} in order to avoid the confusion with the index B of Grubel and Lloyd.

- 4 - finally, as we always have $|\tilde{A}_i| + A_i = 1$, we used a new condition that can be considered a synthesis of all the preceding conditions, ie, $B_i > 0.5 \wedge A_i > 0.5 \wedge \tilde{A}_i > 0$.

For our second objective, we created the index B_{40} that is the weighted average of the index B_i of Grubel and Lloyd for the main forty products of bilateral trade and we calculated its value for the period 1990-96.²

To obtain our third objective, we calculated the index $\tilde{A}_{40(k)}$ ³ in the period 1990-96, and we estimated a simple linear model where the explained variable is the index B_{40} and the explanatory variable is the index $A_{40(k)}$.

To obtain our fourth objective, we calculated the index \tilde{A}_{40} for the products with $\tilde{A}_i > 0$, and we estimated a simple linear model where the explained variable is the index B_{40} and the explanatory variable is the index \tilde{A} for the products with $\tilde{A}_i > 0$.

For the fifth objective, we calculated the global intra-industry trade throughout the period for the main forty products, in nominal and real terms, and its annual change, according to Greenaway et al. (1994).

2. Presentation of the indexes

Below we present the main indexes used in this survey.

Indexes of Grubel and Lloyd

Grubel and Lloyd (1975: pp. 20-23) define intra-industry trade as the difference between the trade balance of the industry or product i , $(X_i - M_i)$ and the total trade of this same industry or product $(X_i + M_i)$, ie,

$$R_i = (X_i + M_i) - |X_i - M_i|$$

² Brulhart (1998, p.324) writes that « An anonymous referee suspected that the non-linear nature of the IIT index complicated inter-temporal comparisons. This is a serious problem for comparing of IIT changes». Hence, like Brulhart, we concentrate mainly on the sign of changes in the index.

³ k refers to the number of products that are common to the ranking of the main forty products in the two years

In order to make the comparison easier between industries or countries, the index is presented as a ratio where the denominator is the total trade, ie,

$$B_i = \{ [(X_i + M_i) - |X_i - M_i|] / (X_i + M_i) \} \times 100$$

For all n industries of the country, the index B_i becomes:

$$B = \sum_{i=1}^n B_i [(X_i + M_i) / \sum_{i=1}^n (X_i + M_i)] \times 100$$

So, the index B corresponds to the average of B_i weighted by the share of each sector in the total trade.

Intra-industry trade index for n main products and for m main trading partners

For example, Portugal in our case, this index can be represented as follows:

$$B_n = \frac{\sum_{i,j}^{n,m} R_{ij}}{[\sum_{i,j}^{n,m} (X_{ij} + M_{ij})]},$$

with $i=1, \dots, n$, products, and $j=1, \dots, m$, countries, where R_{ij} represents the intra-industry trade in absolute value of the n products (n equals to 40 in our case). This index, similarly derived from the index B of Grubel and Lloyd, can be applied to bilateral trade, as we have done for Portugal and Spain.

Marginal intra-industry trade indexes

Hamilton and Kniest (1991) had proposed the marginal intra-industry trade index (MIIT), in the following terms:

$$\begin{aligned} \text{MIIT} &= (X_t - X_{t-n}) / (M_t - M_{t-n}), \text{ if } \Delta M > \Delta X > 0 \\ &= (M_t - M_{t-n}) / (X_t - X_{t-n}), \text{ if } \Delta X > \Delta M > 0 \\ &= \text{indefinite, if } \Delta X \text{ and/or } \Delta M < 0 \end{aligned}$$

$$0 \leq \text{MIIT} \leq 1, \text{ if } \Delta X, \Delta M > 0$$

Besides being indefinite for negative values of ΔX and/or ΔM , this index did not allow for the comparison between industries of different size: ie, it did not eliminate scale effect. Another shortcoming pointed out by Greenaway, Hine and Elliot (1994) was associated with the question of considering the flows in nominal terms and not in

real terms⁴. Its relevance came from the link of the adjustment problems, - deriving from dynamic analysis - to the changes in the intra-industry trade flows also from dynamic analysis by their own nature.

After the criticism of Greenaway et al., the index of the marginal intra-industry trade took the following form (see, for instance, Brulhart, 1994, and Brulhart and Elliot, 1995):

$$A = [(|\Delta X| + |\Delta M|) - (|\Delta X - \Delta M|)] / (|\Delta X| + |\Delta M|)$$

$$= 1 - [(|\Delta X - \Delta M|) / (|\Delta X| + |\Delta M|)]$$

$0 \leq A \leq 1$, where the value 0 means that the marginal trade in a certain industry was all of the inter-industry type and the value 1 means that the increase from one period to the other was all of the intra-industry type, and

$$\tilde{A} = (\Delta X - \Delta M) / (|\Delta X| + |\Delta M|)$$

$-1 \leq \tilde{A} \leq 1$. This index \tilde{A} , according to its authors, aims at measuring the distribution of gains resulting from the change in the marginal intra-industry trade, ie, if $\tilde{A}_i > 0$ the country strengthens its net export position in the industry or product i ; if $\tilde{A}_i < 0$, the change in exports is lesser than the change in imports. This index is also used in the analysis of problems of structural adjustment.

We may consider the following cases:

$-1 \leq \tilde{A}_i < 0$, where the country has problems of structural adjustment in the industry i ;

$0 \leq \tilde{A}_i < 1$, where the country has no problems of structural adjustment in the industry i . It should be noted that $\tilde{A}_i = 0$ means $A_i = 1$, ie, the adjustment was all of the intra-industry type.

It can easily be recognised that there is a complementary relation between the two indexes. In fact, we always have: $|\tilde{A}_i| + A_i = 1$.

⁴ Trying to overcome this deficiency, Greenaway, Hine and Elliot (1994) put forward another index on the basis of Grubel and Lloyd's definition of intra-industry trade: $\Delta R_{ij} / \text{Deflator}$. This index gives us the change in the global intra-industry trade in real terms.

According to Brulhart (1994), if we call A_i the index at the level of the industry, and A^* the index at the level of the country or at the level of the main products, we have

$$A^* = \sum_{i=1}^n w_i A_i, \text{ with } i=1, \dots, n, \text{ and } w_i = (|\Delta X_i| + |\Delta M_i|) / \sum_{i=1}^n (|\Delta X_i| + |\Delta M_i|)$$

In this survey, we calculated A^* for the main forty products. We have only considered those that are within this group in a two-year period. So, we had to use the notation $A_{40(k)}$, with $k \leq 40$, k being the number of products common to the rankings of this two-year period.

Similarly, we can calculate \tilde{A}^* at the level of the country, distinguishing between industries with $\tilde{A}_i > 0$, and those with $\tilde{A}_i < 0$, in order to avoid the balancing of products with opposite signs. So, in the context of this survey, and for the main forty products we have:

$$\tilde{A}_L = \sum_{i=1}^L w_i \tilde{A}_i, \text{ with } \tilde{A}_i > 0$$

$$\tilde{A}_{K-L} = \sum_{i=L}^K w_i \tilde{A}_i, \text{ with } \tilde{A}_i < 0$$

Further, we will use \tilde{A}_L to compare with the index B_{40} . Following the suggestion of Brulhart (1994), we have also calculated the ratio $L/K-L$ and we will examine its evolution.

If we calculate the change in the global intra-industry trade, ΔR_i , throughout the period then we have another measure of the marginal intra-industry trade as it was proposed by Greenaway-Hine-Milner and Elliot. This measure can also be presented in real terms, using an appropriate deflator, particularly the price index of manufactured goods. In this survey, we will use the CPI (the consumption price index).

3. Looking for the clusters where Portugal has competitive advantage in relation to Spain

At this point of our paper, following the main required steps, we try to establish the cluster of products where Portugal has competitive advantage in relation to Spain.

3.1 Clusters with $B_i > 0.50$

The analysis of data (see annex I) shows us that the annual cluster in terms of the number of the products has the following evolution:

1990	1991	1992	1993	1994	1995	1996
16	15	16	17	14	17	29

It appears that at first glance⁵, 1994 shows a clear decrease and 1996 shows a strong increase.

Of the 16 products of 1990, eight are maintained in the 1994 and ten in 1996. These products in order of decreasing B_i of 1996 are:

	1990	1994	1996
1- Polymers of vinyl chloride...	0.990	0.824	0.955
2-Flat-rolled products of iron...	0.547	0.916	0.884
3-Parts suitable for use solely or principally with the engines...	0.999	0.570	0.744
4-Refrigerators, freezers ...	0.764	0.829	0.733
5-Fish, fresh or chilled ...	0.974	0.592	0.665
6-Polymers of ethylene ...	0.823	0.693	0.645
7-Seats,... and parts...	0.915	0.594	0.632
8-Wire and cable for electrical			

⁵ For the purposes of this study, we must bear in mind the interpretation of the findings are affected by the world recession at the beginning of the 1990s, spread over time and space, particularly in Europe. According to the figures of the *OECD Economic Outlook* (December 1998, p.215), for the *GDP annual rate in volume*, the world recession affected the Anglo-Saxon countries first (as well as Sweden and Finland amongst others). So far the main countries of this group after having decelerated in 1990 were effectively in recession in 1991 (USA -0.9%; United Kingdom -1.5%; Canada -1.9%; Australia -1.3%). A gap was observed with continental Europe where a similar process of recession was recorded, *grosso modo*, two years later (whilst Japan fell into a longer period of stagnation). In effect, with the exception of UK, the GDP of the main EU economies was negative only in 1993: Germany: -1.2%; France: -1.3%; Italy -1.2% (-0.5% for the whole European Union, and -1.0% in the Euro zone). Portugal and Spain, respectively, with a decrease of GDP of -1.1% and -1.2% in 1993, followed mainly the pattern of continental Europe. In 1994, most of the former countries were clearly out of recession; however Portuguese GDP was still below its growth rate of 1992 (respectively 2.5% and 2.2%, according to the same source; it must be added that EUROSTAT data also show that Portugal was alone within EU countries, as far as concerns the decrease of the industrial production index in 1994, for the third consecutive year); on the contrary, Spain with a GDP growth rate of 0.7% in 1992, and 2.3% in 1994, followed the general European evolution more closed.

purposes and other insulated...	0.831	0.510	0.526
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The two products that re-emerged in the cluster of 1996 are:

1-Machinery...for the treatment of materials by a process involving a change of temperature ...	0.952	*	0.6932
2-Motor vehicles for the transport of goods ...	0.953	0.395	0.690

* It was not within the main forty products in 1994

3.2 Clusters where we have $B_i > 0.50$ and $A_i > 0$, and $B_i > 0.50$ and $A_i > 0.50$

Let us start with the stronger condition, ie, when $B_i > 0.5$ and $A_i > 0.5$ (see annex III).⁶

Clearly, we have a group of products where marginal trade was mainly intra-industry. Bearing in mind that A_i refers to change over the previous year, and B_i refers to the mentioned year, the analysis of the data shows us the following results:

1991

	A_i	B_i
1-Fish, fresh or chilled...	0.849	0.984
2-Motor vehicles for the transport of goods...	0.684	0.973
3-Furniture and parts ...	0.662	0.766
4-Electric instantaneous or storage water heaters..	0.692	0.692
5-Parts and accessories for tractors, motor vehicles	0.932	0.566

1992

1-Seats... and parts...	0.524	0.923
2-Women's or girls' suits, ensembles, jackets...	0.911	0.911
3-Refrigerators, freezers and other...	0.703	0.876
4-Television receivers, include video monitors...	0.133	0.787
5-Fibreboard of wood or other ligneous materials...	0.694	0.694
6-Wire and cable...and other insulated electric cond.	0.911	0.641

1993

1-Refrigerators, freezers and other...	0.557	0.973
2-Polymers of vinyl chloride or other...	0.919	0.919
3-Flat-rolled products of iron or non-alloy steel...	0.841	0.850

⁶ As you can see in this annex, when a product is not within the main forty products we gave it a value of zero. So, in this case, A_i and B_i indexes are equal. However, it does not correspond necessarily to real value of A_i

4-Particle board and similar board of wood ...	0.696	0.785
5-Molluscs, fit for human consumption...	0.643	0.643
6-Crustaceans, fit for human consumption...	0.549	0.549
7-Motor vehicles for the transport of goods...	0.914	0.506
1994		
1-Flat-rolled products of iron or non-alloy steel...	0.730	0.916
2-Polymers of vinyl chloride or other...	0.654	0.824
3-Wood in the rough ...	0.787	0.787
4-Bread, pastry, cakes, biscuits and others' wares...	0.713	0.713
5-Frozen fish...	0.880	0.535
1995		
1-Flat-rolled products of iron or non-alloy steel...	0.717	0.986
2-Bread, pastry, cakes, biscuits and others' wares...	0.987	0.788
3-Paper, paperboard, cellulose wadding ...	0.752	0.752
4-Fish, fresh or chilled...	0.825	0.700
5-Seats, whether or not convertible into beds...	0.965	0.661
6-Jerseys, pullovers, cardigans ...	0.615	0.615
7-Parts and accessories for tractors, motor vehicles	0.663	0.564
8-Wire and cable for electrical purposes...	0.525	0.512
1996		
1-Paper, paperboard, cellulose wadding ...	0.750	0.992
2-Coffee, whether or not roasted or decaffeinated...	0.974	0.974
3-Crustaceans, fit for human consumption...	0.873	0.873
4-Molluscs, fit for human consumption...	0.857	0.857
5-Petroleum oils ...	0.906	0.841
6-Articles for the conveyance or packaging ...	0.829	0.829
7-Parts suitable for use...with the engines...	0.872	0.744
8-Men's or boys' suits, ensembles, jackets,...	0.720	0.727
9-Plates, sheets... and strip of unexpanded plastics..	0.694	0.694
10-Machinery...for the treatment of materials by a process involving change of temperature...	0.693	0.693
11-Men's or boys' shirts...	0.689	0.689
12-Jerseys, pullovers, ... knitted or crocheted...	0.788	0.679
13-Milk and cream, not concentrated....	0.669	0.669
14-Women's or girls' suits, ensembles, jackets...	0.665	0.665
15-Fish, fresh or chilled...	0.518	0.665
16-Footwear with outer soles of rubber, plastics...	0.602	0.602
17-Fibreboard of wood or other ligneous materials..	0.584	0.584
18-Bars and rods of iron or non-alloy steel...	0.579	0.579
19-Reception apparatus for radio-telephony ...	0.568	0.568
20-Other tubes, pipes and hollow profiles...	0.549	0.549

We observe that 1994 is the worst year not only in terms of the number of products but also in the values of B_i . However, there is a clear recovery in 1995 and 1996, the latter being an exceptional case. If we consider $B_i > 0.50$ and $A_i > 0$ (see annex II) the decrease of the number of products in 1994 and the recovery of 1995 are not visible. Therefore, and only in terms of the number of products in each cluster, we have 14 in 1991, 8 in 1992, 11 in 1993, 11 in 1994, 12 in 1995 and 23 in 1996. The data suggest the use of a stronger condition in the empirical studies, ie, $B_i > 0.5$ and $A_i > 0.5$.

3.3 Clusters where we have $B_i > 0.50$ and $\tilde{A}_i > 0$, as well as simultaneously $B_i > 0.50$ and $\tilde{A}_i > 0.50$

Considering first the criterion $B_i > 0.50$ and the index $\tilde{A}_i > 0$ (see annex IV), through the data analysis, we observe that the products where intra-industry trade is higher ($B_i > 0.5$), and where Portugal has improved the net export position ($\tilde{A}_i > 0$) were the following throughout the period: (* refers to products that respect to the stronger condition, ie, $B_i > 0.5$ and $\tilde{A}_i > 0.5$, according to the annex V).

1991 ⁷

	\tilde{A}_i	B_i
1-Fish, fresh or chilled ...	0.151	0.984
2-Frozen fish...(*)	0.515	0.501
3-Polymers of ethylene, in primary forms (*)	0.992	0.692
4-Polymers of vinyl chloride ... (*)	0.635	0.9
5-Jerseys, pullovers,...knitted or crocheted...	0.478	0.522
6-Motor vehicles for the transport of goods...	0.316	0.973

1992

1-Frozen fish ...(*)	0.824	0.507
2-Flat-rolled products of iron or non-alloy steel..(*)	1.000	0.923
3-Refrigerators, freezers ...	0.297	0.876
4-Electric instantaneous or storage water heaters (*)	0.91	0.759
5-Wire and cable for electrical purposes...	0.089	0.641

1993

1-Petroleum oils ... (*)	1.000	0.941
2-Polymers of vinyl chloride	0.081	0.919
3-Fibreboard of wood or other ligneous materials(*)	0.528	0.674
4-Flat-rolled products of iron or non-alloy steel...	0.159	0.85
5-Motor vehicles for the transport of goods...	0.86	0.506

⁷ In order to make it clearer, we must add that \tilde{A}_i refers to change over the previous year, and B_i refers to the mentioned year.

1994

1-Petroleum oils ... (*)		0.604	0.863
2-Polymers of ethylene, in primary forms (*)	0.563	0.693	
3-Polymers of vinyl chloride ...		0.346	0.824
4-Wood in the rough, whether or not stripped...		0.213	0.787
5-Particle board and similar board of wood...(*)		1.000	0.51
6-Fibreboard of wood or other ligneous materials...		0.625	0.601
7-Parts suitable for use... with engines...(*)		0.984	0.57
8-Refrigerators, freezers ...(*)		0.70	0.82
9-Wire and cable for electrical purposes...(*)		0.853	0.51
10-Seats, whether or not convertible into beds..(*)		1.00	0.594

1995

1-Fish, fresh or chilled ...		0.175	0.70
2-Bread, pastry,... and other bakers' wares...		0.013	0.788
3-Wood in the rough, whether or not stripped...(*)		0.646	0.626
4-Particle board and similar board of wood...(*)		0.515	0.509
5-Jerseys, pullovers,...knitted or crocheted...		0.385	0.625
6-Wire and cable for electrical purposes...		0.475	0.512
7-Motor vehicles for the transport of goods...(*)		1.00	0.929
8-Parts and accessories for tractors ...		0.337	0.564
9-Seats, whether or not convertible into beds..		0.035	0.661

1996

1-Crustaceans, fit for human consumption...		0.127	0.873
2-Milk and cream, not concentrated...		0.331	0.669
3-Fibreboard of wood or other ligneous materials...		0.416	0.584
4-Men's or boys' suits, ensembles, jackets...		0.280	0.727
5-Men's or boys' shirts ...		0.311	0.689
6-Flat-rolled products of iron or non-alloy steel...(*)		1.00	0.884
7-Parts suitable for use... with engines...		0.128	0.744
8-Machinery...for the treatment of materials by a process involving change of temperature...		0.307	0.693
9-Reception apparatus for radio-telephony...		0.432	0.568
10-Motor cars...for the transport of persons...(*)		1.00	0.541
11-Seats, whether or not convertible into beds..(*)		0.502	0.632

We must point out the following aspects:

- i) With the condition $B_i > 0.50$ and $\tilde{A}_i > 0$, we note a difference amongst the years regarding the number of products, with 1992 and 1993, in relation to the previous years, being the worst and 1996 the best one;
- ii) With the stronger condition, ie, $B_i > 0.50$ and $\tilde{A}_i > 0.5$, there is, practically, no difference amongst the years. In these circumstances, it seems more appropriate to use the weaker condition.

3.4 Clusters where we have $B_i > 0.50$, $A_i > 0.50$ and $A_i > 0$: the competitive cluster of Portugal in relation to Spain

Analysing the data according to the criterion that has been applied (see annex VI), we can now determine which products where Portugal has a competitive advantage over Spain throughout the period:

1991			
	\tilde{A}_i	A_i	B_i
1- Fish, fresh or chilled...	0.151	0.848	0.984
2- Motor vehicles for the transport of goods...	0.316	0.684	0.973
1992			
1-Refrigerators, freezers...	0.297	0.703	0.876
2-Wire and cable for electrical purposes	0.089	0.911	0.641
1993			
1-Polymers of vinyl chloride...	0.081	0.919	0.919
2-Flat-rolled products of iron...	0.159	0.841	0.850
3-Motor vehicles for the transport of goods...	0.086	0.914	0.506
Em 1994			
1-Polymers of vinyl chloride...	0.346	0.654	0.824
2-Wood in the rough ...	0.213	0.787	0.787
Em 1995			
1-Fish, fresh or chilled...	0.175	0.825	0.700
2-Bread,...and other bakers' wares...	0.013	0.987	0.788
3-Jerseys...knitted or crocheted...	0.385	0.615	0.615
4-Wire and cable for electrical purposes	0.475	0.525	0.512
5-Parts and accessories for tractors...	0.337	0.663	0.564
6-Seats ... and parts....	0.035	0.965	0.661
Em 1996			

1-Crustaceans ...	0.127	0.873	0.873
2-Parts... for use...with the engines...	0.128	0.872	0.744
3-Men´s or boys´ suits...	0.280	0.720	0.727
4-Machinery... for the treatment of materials by a process involving a change of temperature...	0.307	0.693	0.693
5-Men´s or boys´ shirts...	0.311	0.689	0.689
6-Milk and cream, not concentrated...	0.331	0.669	0.669..
7-Fibreboard of wood ...	0.416	0.584	0.584
8-Reception apparatus for radio-teleg. ...	0.432	0.568	0.568

Take special note of the decrease in the number of products from 1993 to 1994 and the recovery from 1994 to 1995 and particularly from 1995 to 1996.

3.5 Calculation of the B_{40} , $A_{40(K)}$, \bar{A}_L , and \bar{A}_{K-L} indexes and of the ratio $L/(K-L)$

In order to get more information about bilateral intra-industry trade we complemented the first step of our study with the calculation of several other indexes. The results are shown in Table 1.

Table 1
Calculation of several correlated indexes, 1990-1996

	1990	1991	1992	1993	1994	1995	1996
B_{40}	0.448	0.437	0.405	0.448	0.336	0.411	0.584
$A_{40(K)}$		0.2782	0.1376	0.1376	0.2171	0.2185	0.2685
$\bar{A}_L, \bar{A}_i > 0$		0.2680	0.2207	0.4284	0.2961	0.4602	0.3309
$\bar{A}_{K-L}, \bar{A}_i < 0$		-0.4537	-0.5965	-0.4340	-0.4869	-0.3213	-0.4006
K		33	36	33	33	34	23
L		17	16	11	17	16	7
$K-L$		16	20	22	16	18	16
$L/(K-L)$		1.063	0.80	0.50	1.063	0.8(8)	0.438

In terms of static analysis, we note through the evolution of index B_{40} that the pattern of intra-industry trade of the main forty products has changed from 1990 to 1996. Also, there was a general increase of the index from 0.448 to 0.584, despite the fall in the years 1992 and 1994 in what seems to be a consequence induced by the European recession, particularly as seen above by the Spanish and Portuguese cases (particularly as the latter year is concerned). It stands out however, as already referred to that the big push to bilateral intra-industry trade took place more accurately from 1995 to 1996.

On the other hand, through the evolution of the index A_{40} we observe a sharp decrease in 1991-93, as well as a recovery in the following years. This leads us to the

conclusion that, when the effects of European economic recession were more likely, the change in bilateral trade seems to be mainly of the inter-industry type.

Moreover, when we look at the index \tilde{A}_L at the level of the main forty products, but choosing only those with $A_i > 0$, we observe that the net export position of Portugal has strengthened in the periods 1992-93 (European economic recession) and 1994-95. Nevertheless, if we use the method of Brulhart (1994) to divide the number of products with $A_i > 0$ by the number of products where $A_i < 0$, ie, $L/(K-L)$, we observe that the worst result for Portugal occurs in 1992-93. So, in spite of the reduction in the number of products with $A_i > 0$ from 1991-92 to 1992-93 (they go from 16 to 11), we have a clear strengthening of the Portuguese net export position (\tilde{A}_L passing from 0.2207 to 0.4284). Another point that should be emphasised is the fact that 1994 was the year where the lowest value of B_{40} was recorded (as well as its sharpest decrease). At the same time, there was a boost in the index A_{40} and a fall in the index \tilde{A}_L from 1993 to 1994. This means that the evolution of the index B_{40} is compatible with different evolutions of the indexes A_{40} and \tilde{A}_L , but there are signs of positive correlation between B_{40} and A_{40} and of a negative correlation between B_{40} and \tilde{A}_L . So, let us examine this conclusion more carefully in the following points.

4. The relation between intra-industry trade index and the marginal intra-industry trade index for the main forty products

In the pursuit of our study, we applied the simple linear model:

$$B_{40} = a_0 + a_1 A_{40(K)}$$

As the variable B_{40} has one more observation than the variable $A_{40(K)}$, let us first eliminate the observation of B_{40} for 1990 and afterwards eliminate the observation of B_{40} for 1996.

Estimated model (between brackets is the value of t-ratio):

Eliminating the observation B_{40} for 1990, it becomes:

$$B_{40} = 0.351 + 0.56 A_{40(K)} \\ (0.761)$$

$$R^2 = 0.127$$

DW=1.996, ie, there is no auto-correlation.

The explanatory variable has no statistical significance.

Eliminating the observation B_{40} for 1996, we have:

$$B_{40} = 0.353 + 0.313 A_{40(K)} \\ (0.675)$$

$R^2=0.102$

DW=1.839, ie, there is no auto-correlation.

The variable $A_{40(K)}$ is also statistically without significance.

Conclusion: despite the small size of the sample, and although the sign of the coefficient a_1 is the same as the one theoretically predicted, we can draw no firm conclusion about the relationship between the intra-industry trade index and the marginal intra-industry trade at the level of the main forty products.

5. The relation between intra-industry trade index and the net export position of Portugal at the level of the main forty products

The simple linear model to be estimated now is:

$$B_{40} = b_0 + b_1 \tilde{A}_L$$

Estimated model:

Eliminating the observation B_{40} for 1990, we have:

$$B_{40} = 0.40 + 0.109 \tilde{A}_L \\ (0.251)$$

$R^2 = 0.015$

DW=1.48

The variable \tilde{A}_L has no statistical significance.

Eliminating the observation of B_{40} for 1996, we have:

$$B_{40} = 0.570 - 0.448 \tilde{A}_L \\ (2.835)$$

$R^2 = 0.668$

$$\bar{R}^2 = 0.585$$

DW=3.748, ie, there is negative auto-correlation.

The variable \tilde{A}_L is statistically significant for a level of significance of 5%. The result of the estimation tells us that *the strengthening of the net export position of Portugal had a negative effect on the intra-industry trade at the level of the main forty products. This is an unexpected outcome.*

It must be observed that the theoretically predicted sign for b_1 is positive, ie, it was expected that the strengthening of the net export position of Portugal had a positive effect on the intra-industry trade at the level of the main forty products. As the number of observations is small, the mere substitution of the observation B_{40} for 1990 by the observation B_{40} for 1996 radically altered the results: the coefficient b_1 changed from positive to negative, and the explanatory variable, \tilde{A}_L , became statistically significant.

For that reason, we opted for the estimation of a new model, now using \tilde{A}_{K-L} as explanatory variable. So, we have the following simple linear model:

$$B_{40} = c_0 + c_1 \tilde{A}_{K-L}$$

Theoretically, we assume that $c_1 < 0$, ie, it is predicted that the deterioration of the Portuguese net export position has a negative effect on the intra-industry index at the level of the main forty products.

Estimated model:

Eliminating the observation of B_{40} for 1990:

$$B_{40} = 0.57 + 0.297 \tilde{A}_{K-L}$$

(0.705)

$$R^2 = 0.11$$

DW=1.628, there is no auto-correlation.

The variable \tilde{A}_{K-L} has no statistical significance, and the sign of the coefficient is the opposite of the theoretically predicted sign.

Eliminating the observation of B_{40} for 1996:

$$B_{40} = 0.258 - 0.362 \tilde{A}_{K-L}$$

(1.719)

$$R^2 = 0.425$$

$$\bar{R}^2 = 0.281$$

DW=5,165, ie, there is a negative auto-correlation.

The variable \tilde{A}_{K-L} has the sign theoretically predicted but it is only statistically significant for the level of significance of 16%.

Summing up: with the same observations we have contradictory results when we use \tilde{A}_L and \tilde{A}_{K-L} . This means that nothing can be concluded as far as the relation between intra-industry trade index B_{40} and the net export position is concerned. The number of observations is small, and we need recalculate, in a future paper, all the estimations with a much higher number of observations.

6. Global intra-industry trade between Portugal and Spain, in nominal and real terms

Taking into consideration previous remarks we need now to know how global intra-industry trade in nominal and real terms has been developed in the period 1990-1996. From this point of view, Table 2 shows the results obtained through the calculations.

Table 2

Global intra-industry trade in nominal and real terms 1990-1996

unity: millions of escudos

	1990	1991	1992	1993	1994	1995	1996
R40	190445	193185	200190	219575	197013	271651	380900
Δ R40	-----	2740	7005	19385	-22562	74638	109249
Deflator*	1,134	1,114	1,089	1,065	1,052	1,041	1,031
R40/Deflator	167941	173416	183829	206174	187274	260952	369447
Δ (R40/Defla)	-----	5475	10413	22345	-18899	73678	108494

* The deflator that has been used was the consumption price index, average change without housing

So, respecting global intra-industry trade, it is characterised by a rising trend, in nominal as well as in real terms, despite a decrease in 1994. It must be added that, in real terms, the average annual growth rate in the years 1994-96 amounting to 40.45% is much higher than that observed in 1990-93, not more than 7.07%.

For the whole period 1990-96, the corresponding growth rate is 14.04%. Therefore, we can conclude that during the period under analysis, the integration between the two Iberian economies, from the point of view of intra-industry trade, has boosted, and that this process has even particularly increased in 1995 and 1996.

7. Main conclusions

Taking into account all the limitations previously pointed out, we can now draw the main conclusions of our study:

- The analysis of the evolution of intra-industry trade index of the main forty products (B_{40}) leads us to the conclusion, from a static point of view, that there was a strengthening of intra-industry trade between Portugal and Spain in the period 1990-96, despite the sharp decrease of 1994;
- This same conclusion can be drawn from the evolution of global intra-industry trade of the main forty products, in nominal terms (R_{40}) as well as in real terms ($R_{40}/\text{deflator}$);
- The intra-industry economic integration between the two countries has thus increased, particularly in the period 1995-96;
- During the European economic recession, particularly in 1992 and 1993 in relation to the previous years, the change in the bilateral trade was mainly inter-industry;
- When we look at the index \tilde{A}_L at the level of the main forty products, choosing however only the products with $A_i > 0$, we see that the Portuguese net export position has strengthened in 1992-93 (European economic recession) and in 1994-95;
- In econometric terms, we cannot draw an unequivocal conclusion as far as concerns the relation between the intra-industry trade index B_{40} and the marginal intra-industry trade index A_{40} . Similarly, it was not possible to conclude unequivocally about the relation between B_{40} and the index \tilde{A}_L when $\tilde{A}_i > 0$;
- In terms of Iberian trade, and applying the criterion $B_i > 0.5 \wedge A_i > 0.5 \wedge \tilde{A}_i > 0$, we selected the competitive cluster for Portugal throughout the period 1990-96. This cluster in 1996 was formed by the following products:
 - Crustaceans, fit for human consumption, ...
 - Parts suitable for use solely or principally with the engines of heading n° s 8407 and 8407...

- Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts...
- Machinery, plant or laboratory equipment whether or not electrically heated, for treatment of materials by a process involving a change of temperature ...
- Men's or boys' shirts ...
- Milk and cream, not concentrated nor containing added sugar or other sweetening matter
- Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents...
- Reception apparatus for radio-telephony, radio-telegraphy or radio broadcasting...

ANNEX I: Cluster of products with $Bi > 0,5$

Trade with Spain in 1990			Xi+Mi		
Nº	Code	PRODUCTS	1000 PTE	Ri	Bi
1	8409	Parts suitable for use solely or principally with the engines of heading nº 8407 or 8408	6.041.451	6.033.666	0,999
2	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	5.198.130	5.144.622	0,990
3	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	4.770.790	4.646.594	0,974
4	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	38.646.137	36.833.326	0,953
5	8419	Machinery, plant or laboratory equipment whether or not electrically heated, for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilizing, pasteurizing	3.717.518	3.540.422	0,952
6	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	4.047.913	3.701.850	0,915
7	8528	Television receivers, incl. Video monitors and video projectors, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus	7.881.935	7.191.606	0,912
8	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	12.359.175	10.269.086	0,831
9	3901	Polymers of ethylene, in primary forms	7.657.869	6.300.294	0,823
10	9403	Furniture and parts thereof n.e.s. (excl. Seats and medical, surgical, dental or veterinary furniture)	6.134.847	4.944.112	0,806
11	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	7.188.302	5.493.208	0,764
12	4011	New pneumatic tyres, of rubber	6.248.476	4.262.484	0,682
13	7308	Structures and parts of structures 'for example, bridges and bridge-sections, lock-gates, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and col	3.836.179	2.355.922	0,614
14	8407	Spark-ignition reciprocating or rotary internal combustion piston engines	5.764.861	3.209.984	0,557

15	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	32.185.913	17.624.456	0,548
16	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	5.133.380	2.809.898	0,547

Xi+Mi = exports + imports

Source: ICEP.

Nº	Code	Trade with Spain in 1991 PRODUCTS	Xi+Mi	Ri	Bi
			1000PTE	1000PTE	
1	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	4.203.846	4.185.476	0,996
2	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	4.727.486	4.658.766	0,985
3	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	6.254.599	6.155.154	0,984
4	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	30.299.609	29.476.752	0,973
5	8528	Television receivers, include. Video monitors and video projectors, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus	9.166.394	8.853.892	0,966
6	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	8.403.518	7.754.090	0,923
7	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	4.420.750	3.980.760	0,900
8	9403	Furniture and parts thereof n.e.s. (excl. Seats and medical, surgical, dental or veterinary furniture)	8.470.663	6.489.600	0,766
9	3901	Polymers of ethylene, in primary forms	6.888.340	4.767.444	0,692
10	8516	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers; electr	4.403.369	3.045.400	0,692
11	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	18.080.720	10.994.748	0,608
12	4011	New pneumatic tyres, of rubber	5.749.893	3.281.886	0,571
13	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of	33.776.382	19.106.154	0,566

		persons, motor vehicles for the transport of goods and special purpo			
14	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	4.841.587	2.525.598	0,522
15	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	8.781.330	4.395.488	0,501

Source: ICEP.

Trade with Spain in 1992			Xi + Mi	Ri	Bi
Nº	Code	PRODUCTS	1000 PTE	1000 PTE	
1	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	5.934.038	5.505.796	0,928
2	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	5.470.819	5.048.486	0,923
3	6204	Women's or girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (excl. Knitted or crocheted, wind-jackets and similar articles, slips, petticoats and panties, track suits.	5.100.665	4.647.934	0,911
4	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	10.648.133	9.331.822	0,876
5	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	4.771.444	4.074.084	0,854
6	8528	Television receivers, incl. Video monitors and video projectors, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus	7.068.383	5.562.768	0,787
7	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	7.033.537	5.435.298	0,773
8	3901	Polymers of ethylene, in primary forms	6.664.688	5.075.096	0,761
9	8516	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers; electr	4.659.112	3.533.974	0,759
10	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	4.856.676	3.371.370	0,694
11	9403	Furniture and parts thereof n.e.s. (excl. Seats and medical, surgical, dental or veterinary furniture)	8.917.145	5.974.404	0,670

12	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	20.310.825	13.027.080	0,641
13	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	4.873.254	3.111.100	0,638
14	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	28.327.978	15.696.010	0,554
15	4804	Uncoated kraft paper and paperboard, in rolls or sheets as specified in note 7a or 7b to chapter 48 (excl. goods of headings 4802 or 4803)	5.900.966	2.999.318	0,508

Source: ICEP.

Trade with Spain in 1993			Xi+Mi	Ri	Bi
Nº	Code	PRODUCTS	1000 PTE	1000 PTE	
1	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	8.176.544	7.956.378	0,973
2	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing >= 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	29.300.840	27.574.464	0,941
3	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	5.993.734	5.508.656	0,919
4	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	5.856.781	5.073.468	0,866
5	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	6.496.139	5.524.782	0,850
6	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	5.246.005	4.378.758	0,835
7	3901	Polymers of ethylene, in primary forms	7.129.529	5.886.294	0,826
8	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	7.071.878	5.661.658	0,801
9	4410	Painéis de madeira ou de outras matérias lenhosas mesmo aglomeradas Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	6.054.284	4.753.300	0,785
10	8409	Parts suitable for use solely or principally with the engines of heading n 8407 (Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408 (Compression-ignition internal combustion piston	6.990.592	4.925.706	0,705

		engines, diesel or semi-diesel).			
11	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	5.353.545	3.605.668	0,674
12	6204	Women's or girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (excl. Knitted or crocheted, wind-jackets and similar articles, slips, petticoats and panties, track suits.	4.783.087	3.083.896	0,645
13	0307	Molluscs, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. aquatic invertebrates other than crustaceans and molluscs; flours, meals and pellets of aquatic invertebrates othe	5.151.904	3.313.588	0,643
14	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	20.891.281	12.693.208	0,608
15	0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac	5.106.233	2.805.864	0,549
16	6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (excl. knitted or crocheted, wind-jackets and similar articles, separate waistcoats, track suits, ski suits and swimwear)	17.542.081	9.445.316	0,538
17	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	24.978.622	12.633.818	0,506

Source: ICEP.

Nº	Code	Trade with Spain in 1994	Xi+Mi	Ri	Bi
		PRODUCTS	1000 PTE	1000PTE	
1	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	7688491	7.039.024	0,916
2	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing >= 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	21563558	18.614.904	0,863
3	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	10413844	8.628.356	0,829
4	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	9365874	7.713.914	0,824

5	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.)	7217435	5.682.720	0,787
6	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products	7238769	5.160.658	0,713
7	3901	Polymers of ethylene, in primary forms	10815193	7.496.908	0,693
8	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	7055044	4.243.342	0,601
9	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	8470131	5.029.346	0,594
10	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	6945353	4.112.566	0,592
11	8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	8683989	4.952.254	0,570
12	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	16824965	8.993.200	0,535
13	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	7667639	3.914.028	0,510
14	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	26522585	13.521.806	0,510

Source: ICEP.

Trade with Spain in 1995			Xi+Mi	Ri	Bi
N.º	Code	PRODUCTS	1000 PTE	1000 PTE	
1	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	11.584.668	11.551.618	0,997
2	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	9.524.422	9.394.818	0,986
3	3904	Polymers of vinyl chloride or other halogenated olefins, in	10.647.866	10.008.992	0,940

		primary forms			
4	3901	Polymers of ethylene, in primary forms	10.752.231	10.020.284	0,932
5	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	28.599.339	26.557.202	0,929
6	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing ≥ 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	26.095.932	23.948.794	0,918
7	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products	9.658.547	7.611.160	0,788
8	8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	8.549.933	6.607.554	0,773
9	4811	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, surface-coloured, decorated or printed, in rolls or sheets as specified in note 7a and 7b to chapter 48 (excl. goods of headings 4803, 4809, 4810 and 4)	9.292.709	6.990.470	0,752
10	6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (excl. knitted or crocheted, wind-jackets and similar articles, separate waistcoats, track suits, ski suits and swimwear)	17.578.585	12.802.504	0,728
11	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	8.521.030	5.964.128	0,700
12	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	10.341.765	6.836.228	0,661
13	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.)	11.520.305	7.206.688	0,626
14	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	9.054.293	5.568.194	0,615
15	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	62.655.637	35.338.274	0,564
16	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	31.088.002	15.918.808	0,512

17	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. fibreboard, veneered particle board, hollow-core composite panels and board of ligneous ma	8.191.195	4.168.150	0,509
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Source: ICEP.

N.	code	Trade with Spain in 1996	Xi+Mi	Ri	BI
		PRODUCTS	1000 PTE	1000 PTE	
1	4811	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, surface-coloured, decorated or printed, in rolls or sheets as specified in note 7a and 7b to chapter 48 (excl. goods of headings 4803, 4809, 4810 and 4)	17.879.261	17727308	0,992
2	0901	Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion	6.897.491	6714718	0,974
3	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	9.792.861	9349346	0,955
4	7210	Flat-rolled products of iron or non-alloy steel, of a width \geq 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	10.370.422	9170664	0,884
5	0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac.	7.160.369	6249316	0,873
6	0307	Molluscs, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. aquatic invertebrates other than crustaceans and molluscs; flours, meals and pellets of aquatic invertebrates othe	8.002.174	6857216	0,857
7	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing \geq 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	18.188.601	15295308	0,841
8	3923	Articles for the conveyance or packaging of goods, of plastics; stoppers, lids, caps and other closures, of plastics	6.260.077	5192260	0,829
9	8409	Parts suitable for use solely or principally with the engines of heading n 8407 (Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408 (Compression-ignition internal combustion piston engines, diesel or semi-diesel).	7.900.857	5875310	0,744
10	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	11.416.108	8371338	0,733
11	6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (excl. knitted or crocheted, wind-jackets and similar	21.512.735	15635066	0,727

		articles, separate waistcoats, track suits, ski suits and swimwear)			
12	3920	Plates, sheets, foil, film and strip of unexpanded plastics, not reinforced, coated, laminated or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. s)	6.027.059	4179948	0,694
13	8419	Machinery, plant or laboratory equipment whether or not electrically heated, for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilizing, pasteurizing	6.864.126	4754082	0,693
14	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	30.551.942	21070602	0,690
15	6205	Men's or boys' shirts (excl. Knitted or crocheted, nightshirts, singlets and other vests)	8.468.224	5832630	0,689
16	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	10.137.679	6880982	0,679
17	0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter	7.891.766	5280378	0,669
18	6204	Women's or girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (excl. Knitted or crocheted, wind-jackets and similar articles, slips, petticoats and panties, track suits.	9.994.666	6650754	0,665
19	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	10.532.087	7006224	0,665
20	3901	Polymers of ethylene, in primary forms	8.412.794	5426618	0,645
21	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	12.556.135	7939282	0,632
22	6403	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather (excl. Orthopaedic footwear, skating boots with ice or roller skates attached, and toy footwear)	6.860.798	4131416	0,602
23	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	8.436.304	4929954	0,584
24	7213	Bars and rods of iron or non-alloy steel, in irregularly wound coils	6.481.539	3750610	0,579
25	8527	Reception apparatus for radio-telephony, radio-telegraphy or radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock	8.375.553	4761136	0,568
26	7306	Other tubes, pipes and hollow profiles 'for example, open-seam or welded, riveted or similarly closed', of iron or	6.795.756	3727852	0,549

		steel (excl. Seamless tubes and pipes and tubes and pipes having internal and external circular cross-sections and an extern			
27	8703	Motor cars and other motor vehicles principally designed for the transport of persons, including station wagons and racing cars (excl. Motor vehicles of heading no 8702)	116.506.352	62983792	0,541
28	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products	11.044.877	5866394	0,531
29	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	30.152.742	15866164	0,526

Source: ICEP.

ANNEX II: Products with Ai>0 and Bi >0,5

1990 - 1991

Nº	Code	PRODUCTS	Ai 1991-1990	Bi 1991
1	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,390	0,985
2	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,849	0,984
3	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	0,684	0,973
4	8528	Television receivers, incl. Video monitors and video projectors, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus	0,219	0,966
5	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,140	0,923
6	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,365	0,900
7	9403	Furniture and parts thereof n.e.s. (excl. Seats and medical, surgical, dental or veterinary furniture)	0,662	0,766
8	3901	Polymers of ethylene, in primary forms	0,008	0,692
9	8516	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers; electr a)	0,692	0,692
10	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,127	0,608
11	4011	New pneumatic tyres, of rubber	0,033	0,571
12	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	0,932	0,566
13	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats) a)	0,522	0,522
14	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,485	0,501

a) In 1990 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1990. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1991 - 1992

n°	Code	PRODUCTS	Ai 1992-1991	Bi 1992
1	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,524	0,923
2	6204	Women's or girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (excl. Knitted or crocheted, wind-jackets and similar articles, slips, petticoats and panties, track suits.a)	0,911	0,911
3	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,703	0,876
4	8528	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers; electr	0,133	0,787
5	8516	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers;electr	0,090	0,759
6	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw a)	0,694	0,694
7	8544	Wire and cable -include. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,911	0,641
8	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,176	0,507

a) In 1991 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1991. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1992 - 1993

N°	Code	PRODUCTS	Ai 1993-1992	Bi 1993
1	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,557	0,973
2	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms a)	0,919	0,919

3	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	0,005	0,866
4	7210	Flat-rolled products of iron or non-alloy steel, of a width \geq 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,841	0,850
5	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,362	0,835
6	3901	Polymers of ethylene, in primary forms	0,255	0,826
7	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	0,696	0,785
8	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw)	0,472	0,674
9	0307	Molluscs, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. Aquatic invertebrates other than crustaceans and molluscs; flours, meals and pellets of aquatic invertebrates othe a)	0,643	0,643
10	0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. Crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac a)	0,549	0,549
11	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	0,914	0,506

a) In 1992 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1992. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1993 - 1994

Nº	Code	PRODUCTS	Ai 1994-1993	Bi 1994
1	7210	Flat-rolled products of iron or non-alloy steel, of a width \geq 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,730	0,916
2	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing \geq 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	0,396	0,863
3	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,300	0,829
4	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,654	0,824

5	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.) a)	0,787	0,787
6	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products a)	0,713	0,713
7	3901	Polymers of ethylene, in primary forms	0,437	0,693
8	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	0,375	0,601
9	8409	Parts suitable for use solely or principally with the engines of heading n 8407 (Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408 (Compression-ignition internal combustion piston engines, diesel or semi-diesel).	0,016	0,570
10	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,880	0,535
11	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,147	0,510

a) In 1993 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1993. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1994 - 1995

Nº	Code	PRODUCTS	Ai	Bi
			1995-1994	1995
1	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,205	0,997
2	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,717	0,986
3	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,210	0,940
4	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products	0,987	0,788
5	4811	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, surface-coloured, decorated or printed, in rolls or sheets as specified in note 7a and 7b to chapter 48 (excl. goods of headings 4803, 4809, 4810 and 4) a)	0,752	0,752

6	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,825	0,700
7	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,965	0,661
8	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.)	0,354	0,626
9	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats) a)	0,615	0,615
10	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	0,663	0,564
11	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,525	0,512
12	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	0,485	0,509

a) In 1994 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1994. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1995 - 1996

Nº	Code	PRODUCTS	Ai	Bi
			1996-1995	1996
1	4811	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, surface-coloured, decorated or printed, in rolls or sheets as specified in note 7a and 7b to chapter 48 (excl. goods of headings 4803, 4809, 4810 and 4)	0,750	0,992
2	0901	Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion a)	0,974	0,974
3	0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac a)	0,873	0,873
4	0307	Molluscs, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. aquatic invertebrates other than crustaceans and molluscs; flours, meals and pellets of aquatic invertebrates othe a)	0,857	0,857
5	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing ≥ 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being	0,906	0,841

		the basic constituents of the preparations		
6	3923	Articles for the conveyance or packaging of goods, of plastics; stoppers, lids, caps and other closures, of plastics a)	0,829	0,829
7	8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	0,872	0,744
8	6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (excl. knitted or crocheted, wind-jackets and similar articles, separate waistcoats, track suits, ski suits and swimwear)	0,720	0,727
9	3920	Plates, sheets, foil, film and strip of unexpanded plastics, not reinforced, coated, laminated or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. s) a)	0,694	0,694
10	8419	Machinery, plant or laboratory equipment whether or not electrically heated, for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilizing, pasteurizin a)	0,693	0,693
11	6205	Men's or boys' shirts (excl. Knitted or crocheted, nightshirts, singlets and other vests) a)	0,689	0,689
12	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	0,788	0,679
13	0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter a)	0,669	0,669
14	6204	Women's or girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (excl. Knitted or crocheted, wind-jackets and similar articles, slips, petticoats and panties, track suits. a)	0,665	0,665
15	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,518	0,665
16	3901	Polymers of ethylene, in primary forms	0,036	0,645
17	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,498	0,632
18	6403	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather (excl. Orthopaedic footwear, skating boots with ice or roller skates attached, and toy footwear) a)	0,602	0,602
19	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw a)	0,584	0,584
20	7213	Bars and rods of iron or non-alloy steel, in irregularly wound coils a)	0,579	0,579
21	8527	Reception apparatus for radio-telephony, radio-telegraphy or radio-broadcasting, whether or not combined, in the same housing, with	0,568	0,568

		sound recording or reproducing apparatus or a clock a)		
22	7306	Other tubes, pipes and hollow profiles 'for example, open-seam or welded, riveted or similarly closed', of iron or steel (excl. Seamless tubes and pipes and tubes and pipes having internal and external circular cross-sections and an extern a)	0,549	0,549
23	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,056	0,526

a) In 1995 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1995. In this case, A_i and B_i indexes are equal. Thus, it does not correspond necessarily to the real value of A_i .

ANNEX III: Products with $A_i > 0,5$ and $B_i > 0,5$

1990 - 1991

Nº	Code	PRODUCTS	$A_i > 0,5$ 1991-1990	$B_i > 0,5$ 1991
1	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,849	0,984
2	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	0,684	0,973
3	9403	Furniture and parts thereof n.e.s. (excl. Seats and medical, surgical, dental or veterinary furniture)	0,662	0,766
4	8516	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers; electr a)	0,692	0,692
5	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	0,932	0,566
6	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)a)	0,522	0,522

a) In 1990 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1990. In this case, A_i and B_i indexes are equal. Thus, it does not correspond necessarily to the real value of A_i .

1991 - 1992

Nº	Code	PRODUCTS	$A_i > 0,5$ 1992-1991	$B_i > 0,5$ 1992
1	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,524	0,923
2	6204	Women's or girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (excl. Knitted or crocheted, wind-jackets and similar articles, slips, petticoats and panties, track suits. a)	0,911	0,911
3	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,703	0,876
4	8528	Television receivers, include. Video monitors and video projectors, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus	0,133	0,787
5	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw a)	0,694	0,694

6	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,911	0,641
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a) In 1991 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1991. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1992 - 1993

Nº	Code	PRODUCTS	Ai>0,5 1993-1992	Bi>0,5 1993
1	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,557	0,973
2	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms a)	0,919	0,919
3	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,841	0,850
4	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	0,696	0,785
5	0307	Molluscs, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. aquatic invertebrates other than crustaceans and molluscs; flours, meals and pellets of aquatic invertebrates othe a)	0,643	0,643
6	0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac a)	0,549	0,549
7	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	0,914	0,506

a) In 1992 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1992. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1993 - 1994

Nº	Code	PRODUCTS	Ai>0,5 1994-1993	Bi>0,5 1994
1	7210	Flat-rolled products of iron or non-alloy steel, of a width >= 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,730	0,916
2	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,654	0,824
3	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for	0,787	0,787

		walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.) a)		
4	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products a)	0,713	0,713
5	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,880	0,535

a) In 1993 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1993. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1994 - 1995

Nº	Code	PRODUCTS	Ai>0,5 1995-1994	Bi>0,5 1995
1	7210	Flat-rolled products of iron or non-alloy steel, of a width \geq 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,717	0,986
2	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products	0,987	0,788
3	4811	Paper, paperboard, cellulose wadding and webs of cellulose fibres, coated, impregnated, surface-coloured, decorated or printed, in rolls or sheets as specified in note 7a and 7b to chapter 48 (excl. goods of headings 4803, 4809, 4810 and 4) a)	0,752	0,752
4	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,825	0,700
5	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,965	0,661
6	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats) a)	0,615	0,615
7	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	0,663	0,564
8	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,525	0,512

a) In 1994 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1994. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1995 - 1996

Nº	Code	PRODUCTS	Ai>0,5 1996-1995	Bi>0,5 1996
1	4811	Paper, paperboard, cellulose wadding and webs of cellulose fibres,	0,750	0,992

		coated, impregnated, surface-coloured, decorated or printed, in rolls or sheets as specified in note 7a and 7b to chapter 48 (excl. goods of headings 4803, 4809, 4810 and 4)		
2	0901	Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion a)	0,974	0,974
3	0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac a)	0,873	0,873
4	0307	Molluscs, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. aquatic invertebrates other than crustaceans and molluscs; flours, meals and pellets of aquatic invertebrates othe a)	0,857	0,857
5	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing ≥ 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	0,906	0,841
6	3923	Articles for the conveyance or packaging of goods, of plastics; stoppers, lids, caps and other closures, of plastics a)	0,829	0,829
7	8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	0,872	0,744
8	6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (excl. knitted or crocheted, wind-jackets and similar articles, separate waistcoats, track suits, ski suits and swimwear)	0,720	0,727
9	3920	Plates, sheets, foil, film and strip of unexpanded plastics, not reinforced, coated, laminated or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. s) a)	0,694	0,694
10	8419	Machinery, plant or laboratory equipment whether or not electrically heated, for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilizing, pasteurizin a)	0,693	0,693
11	6205	Men's or boys' shirts (excl. Knitted or crocheted, nightshirts, singlets and other vests) a)	0,689	0,689
12	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	0,788	0,679
13	0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter a)	0,669	0,669
14	6204	Women's or girls' suits, ensembles, jackets, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (excl. Knitted or crocheted, wind-jackets and similar articles, slips, petticoats and panties, track suits. a)	0,665	0,665
15	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,518	0,665

16	6403	Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather (excl. Orthopaedic footwear, skating boots with ice or roller skates attached, and toy footwear) a)	0,602	0,602
17	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw a)	0,584	0,584
18	7213	Bars and rods of iron or non-alloy steel, in irregularly wound coils a)	0,579	0,579
19	8527	Reception apparatus for radio-telephony, radio-telegraphy or radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock a)	0,568	0,568
20	7306	Other tubes, pipes and hollow profiles 'for example, open-seam or welded, riveted or similarly closed', of iron or steel (excl. Seamless tubes and pipes and tubes and pipes having internal and external circular cross-sections and an extern a)	0,549	0,549

a) In 1995 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1995. In this case, A_i and B_i indexes are equal. Thus, it does not correspond necessarily to the real value of A_i .

ANNEX IV: Cluster of products with $\tilde{A}_i > 0$ and $B_i > 0,5$

1 - Products with $\tilde{A}_i > 0$ and $B_i > 0,5$, between 1991-1990

Nº	Code	PRODUCTS	$\tilde{A}_i > 0$	$B_i > 0,5$ 1991
1	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,151	0,984
2	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,515	0,501
3	3901	Polymers of ethylene, in primary forms	0,992	0,692
4	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,635	0,9
5	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	0,478	0,522
6	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	0,316	0,973

2 - Products with $\tilde{A}_i > 0$ and $B_i > 0,5$, between 1992-1991

Nº	Code	PRODUCTS	$\tilde{A}_i > 0$	$B_i > 0,5$ 1992
1	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,824	0,507
2	7210	Flat-rolled products of iron or non-alloy steel, of a width ≥ 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	1	0,923
3	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,297	0,876
4	8516	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers; electr	0,91	0,759
5	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,089	0,641

3 - Products with $\tilde{A}_i > 0$ and $B_i > 0,5$, between 1993-1992

Nº	Code	PRODUCTS	$\tilde{A}_i > 0$	$B_i > 0,5$ 1993
1	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing ≥ 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	1	0,941
2	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,081	0,919
3	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	0,528	0,674
4	7210	Flat-rolled products of iron or non-alloy steel, of a width ≥ 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,159	0,85
5	8704	Motor vehicles for the transport of goods, incl. Chassis with engine	0,086	0,506

	and cab		
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4 - Products with $\tilde{A}_i > 0$ and $B_i > 0,5$, between 1994-1993

Nº	Code	PRODUCTS	$\tilde{A}_i > 0$	$B_i > 0,5$ 1994
1	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing ≥ 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	0,604	0,863
2	3901	Polymers of ethylene, in primary forms	0,563	0,693
3	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,346	0,824
4	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.)	0,213	0,787
5	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	1	0,51
6	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	0,625	0,601
7	8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	0,984	0,57
8	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,7	0,829
9	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,853	0,51
10	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	1	0,594

5 - Products with $\tilde{A}_i > 0$ and $B_i > 0,5$, between 1995-1994

Nº	Code	PRODUCTS	$\tilde{A}_i > 0$	$B_i > 0,5$ 1995
1	0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,175	0,7
2	1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products	0,013	0,788
3	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.)	0,646	0,626
4	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	0,515	0,509

5	6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats)	0,385	0,615
6	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,475	0,512
7	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	1	0,929
8	8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	0,337	0,564
9	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,035	0,661

6 - Products with $\tilde{A}_i > 0$ and $B_i > 0,5$, between 1996-1995

Nº	Code	PRODUCTS	$\tilde{A}_i > 0$	$B_i > 0,5$ 1996
1	0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac	0,127	0,873
2	401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter	0,331	0,669
3	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	0,416	0,584
4	6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (excl. knitted or crocheted, wind-jackets and similar articles, separate waistcoats, track suits, ski suits and swimwear)	0,28	0,727
5	6205	Men's or boys' shirts (excl. Knitted or crocheted, nightshirts, singlets and other vests)	0,311	0,689
6	7210	Flat-rolled products of iron or non-alloy steel, of a width ≥ 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	1	0,884
7	8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	0,128	0,744
8	8419	Machinery, plant or laboratory equipment whether or not electrically heated, for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilizing, pasteurizin	0,307	0,693
9	8527	Reception apparatus for radio-telephony, radio-telegraphy or radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock	0,432	0,568
10	8703	Motor cars and other motor vehicles principally designed for the transport of persons, including station wagons and racing cars (excl. Motor vehicles of heading no 8702)	1	0,541
11	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,502	0,632

ANNEX V: Cluster of products with $\tilde{A}_i > 0,5$ and $B_i > 0,5$

1 - Products with $\tilde{A}_i > 0,5$ and $B_i > 0,5$, between 1991-1990

Nº	Code	PRODUCTS	$\tilde{A}_i > 0,5$ 1991-90	$B_i > 0,5$ 1991
1	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,515	0,501
2	3901	Polymers of ethylene, in primary forms	0,992	0,692
3	3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,635	0,9

2 - Products with $\tilde{A}_i > 0,5$ and $B_i > 0,5$, between 1992-1991

Nº	Code	PRODUCTS	$\tilde{A}_i > 0,5$ 1992-91	$B_i > 0,5$ 1992
1	0303	Frozen fish (excl. Fish fillets and other fish meat of heading 0304)	0,824	0,507
2	7210	Flat-rolled products of iron or non-alloy steel, of a width ≥ 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	1	0,923
3	8516	Electric instantaneous or storage water heaters and immersion heaters; electric space heating apparatus and the like; electro-thermic hair-dressing apparatus, e.g. hair dryers, hair curlers and curling tong heaters, and hand dryers; electr	0,91	0,759

3 - Products with $\tilde{A}_i > 0,5$ and $B_i > 0,5$, between 1993-1992

Nº	Code	PRODUCTS	$\tilde{A}_i > 0,5$ 1993-92	$B_i > 0,5$ 1993
1	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing ≥ 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	1	0,941
2	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw	0,528	0,674

4 - Products with $\tilde{A}_i > 0,5$ and $B_i > 0,5$, between 1994-1993

Nº	Code	PRODUCTS	$\tilde{A}_i > 0,5$ 1994-93	$B_i > 0,5$ 1994
1	2710	Petroleum oils and oils obtained from bituminous minerals (excl. crude); preparations containing ≥ 70 % by weight of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations	0,604	0,863
2	3901	Polymers of ethylene, in primary forms	0,563	0,693
3	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	1	0,51
4	4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl.	0,625	0,601

		Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw		
5	8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	0,984	0,57
6	8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,7	0,829
7	8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,853	0,51
8	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	1	0,594

5 - Products with $\bar{A}_i > 0,5$ and $B_i > 0,5$, between 1995-1994

Nº	Code	PRODUCTS	$\bar{A}_i > 0,5$ 1995-94	$B_i > 0,5$ 1995
1	4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.)	0,646	0,626
2	4410	Particle board and similar board of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Fibreboard, veneered particle board, hollow-core composite panels and board of ligneous)	0,515	0,509
3	8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	1	0,929

6 - Products with $\bar{A}_i > 0,5$ and $B_i > 0,5$, between 1996-1995

Nº	Code	PRODUCTS	$\bar{A}_i > 0,5$ 1996-95	$B_i > 0,5$ 1996
1	7210	Flat-rolled products of iron or non-alloy steel, of a width ≥ 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	1	0,884
2	8703	Motor cars and other motor vehicles principally designed for the transport of persons, including station wagons and racing cars (excl. Motor vehicles of heading no 8702)	1	0,541
3	9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,502	0,632

ANNEX VI: Products with $\tilde{A}_i > 0$ and $A_i > 0,5$ and $B_i > 0,5$

1990-91

Code	PRODUCTS	1991-90 $\tilde{A}_i > 0$	1991-90 $A_i > 0,5$	1991 $B_i > 0,5$
0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,151	0,849	0,984
8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	0,316	0,684	0,973

1991-92

Code	PRODUCTS	1992-91 $\tilde{A}_i > 0$	1992-91 $A_i > 0,5$	1992 $B_i > 0,5$
8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat pumps (excl. Air conditioning machines of heading no 8415)	0,297	0,703	0,876
8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,089	0,911	0,641

1992-93

Code	PRODUCTS	1993-92 $\tilde{A}_i > 0$	1993-92 $A_i > 0,5$	1993 $B_i > 0,5$
3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms a)	0,081	0,919	0,919
7210	Flat-rolled products of iron or non-alloy steel, of a width ≥ 600 mm, hot-rolled or cold-rolled 'cold-reduced', clad, plated or coated	0,159	0,841	0,85
8704	Motor vehicles for the transport of goods, incl. Chassis with engine and cab	0,086	0,914	0,506

a) In 1992 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1992. In this case, A_i and B_i indexes are equal. Thus, it does not correspond necessarily to the real value of A_i .

1993-94

Code	PRODUCTS	1994-93 $\tilde{A}_i > 0$	1994-93 $A_i > 0,5$	1994 $B_i > 0,5$
3904	Polymers of vinyl chloride or other halogenated olefins, in primary forms	0,346	0,654	0,824
4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excl. rough-cut wood for walking sticks, umbrellas, tool shafts and the like; wood in the form of railway sleepers; wood cut into boards or beams, etc.) a)	0,213	0,787	0,787

a) In 1993 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1993. In this case, A_i and B_i indexes are equal. Thus, it does not correspond necessarily to the real value of A_i .

1994-95

Code	PRODUCTS	1995-94 Ai>0	1995-94 Ai>0,5	1995 Bi>0,5
0302	Fish, fresh or chilled (excl. Fish fillets and other fish meat of heading 0304)	0,175	0,825	0,7
1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice paper and similar products	0,013	0,987	0,788
6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excl. Wadded waistcoats) a)	0,385	0,615	0,615
8544	Wire and cable -incl. Co-axial cable- for electrical purposes, insulated, whether or not enamelled or anodised, and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables	0,475	0,525	0,512
8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, motor cars and other motor vehicles principally designed for the transport of persons, motor vehicles for the transport of goods and special purpo	0,337	0,663	0,564
9401	Seats, whether or not convertible into beds, and parts thereof n.e.s. (excl. Medical, surgical, dental or veterinary of heading 9402)	0,035	0,965	0,661

a) In 1994 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1994. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

1995-96

Code	PRODUCTS	1996-95 Ai>0	1996-95 Ai>0,5	1996 Bi>0,5
0306	Crustaceans, fit for human consumption, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine, incl. Crustaceans in shell cooked beforehand by steaming or by boiling in water; flours, meals and pellets of crustac a)	0,127	0,873	0,873
8409	Parts suitable for use solely or principally with the engines of heading n 8407(Spark-ignition reciprocating or rotary internal combustion piston engines) or 8408(Compression-ignition internal combustion piston engines, diesel or semi-diesel).	0,128	0,872	0,744
6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (excl. knitted or crocheted, wind-jackets and similar articles, separate waistcoats, track suits, ski suits and swimwear)	0,280	0,720	0,727
8419	Machinery, plant or laboratory equipment whether or not electrically heated, for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilizing, pasteurizin a)	0,307	0,693	0,693
6205	Men's or boys' shirts (excl. Knitted or crocheted, nightshirts, singlets and other vests) a)	0,311	0,689	0,689
0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter a)	0,331	0,669	0,669

4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or other organic bonding agents (excl. Particle board, whether or not bonded with one or more sheets of fibreboard; laminated wood with a layer of plyw a)	0,416	0,584	0,584
8527	Reception apparatus for radio-telephony, radio-telegraphy or radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock a)	0,432	0,568	0,568

a) In 1995 this product was not within the main forty products. So, as the analysis must be done using only the main forty products, we gave a value of zero to that product in 1995. In this case, Ai and Bi indexes are equal. Thus, it does not correspond necessarily to the real value of Ai.

References

BRULHART, M. (1994), "Marginal Intra-Industry Trade: Measurement and Relevance for the Pattern of Industrial Adjustment", *Weltwirtschaftliches Archiv*, Vol. 130, pp. 600-613.

BRULHART, M and ELLIOT, R. (1995), "A Critical Survey of Trends in Intra-Industry Trade" *Working Paper*, Universidade de Coimbra.

BRULHART, M. (1998), "Trading Places: Industrial Specialization in the European Union" *Journal of Common Market Studies*, Vol. 36, Nº 3, pp.319-346.

EUROSTAT (1996), *Statistiques de Base de l'Union Européenne* , 388 p.

FAUSTINO, H. (1992), "Indicadores de comércio e de especialização intra-sectorial: qual ou quais utilizar nos estudos empíricos", *Estudos de Economia*, Vol. XIII, Nº1, pp. 29-54.

GREENAWAY, D. et al. (1994), "Adjustment and the Measurement of Marginal Intra-Industry Trade", *Weltwirtschaftliches Archiv*, Vol. 130 pp.77-99.

GRUBEL, H. and LLOYD, P.(1975), *Intra-industry Trade. The Theory and Measurement of International Trade in Differentiation Products*, London, The Mcmillan Press, 205 p.

HAMILTON, C. and KNIEST, P. (1991), "Trade Liberalisation, Structural Adjustment and Intra-Industry Trade: A Note", *Weltwirtschaftliches Archiv*, Vol. 127, Nº 2, pp. 356-367.

OECD (1998) *Economic Outlook* , 278p.