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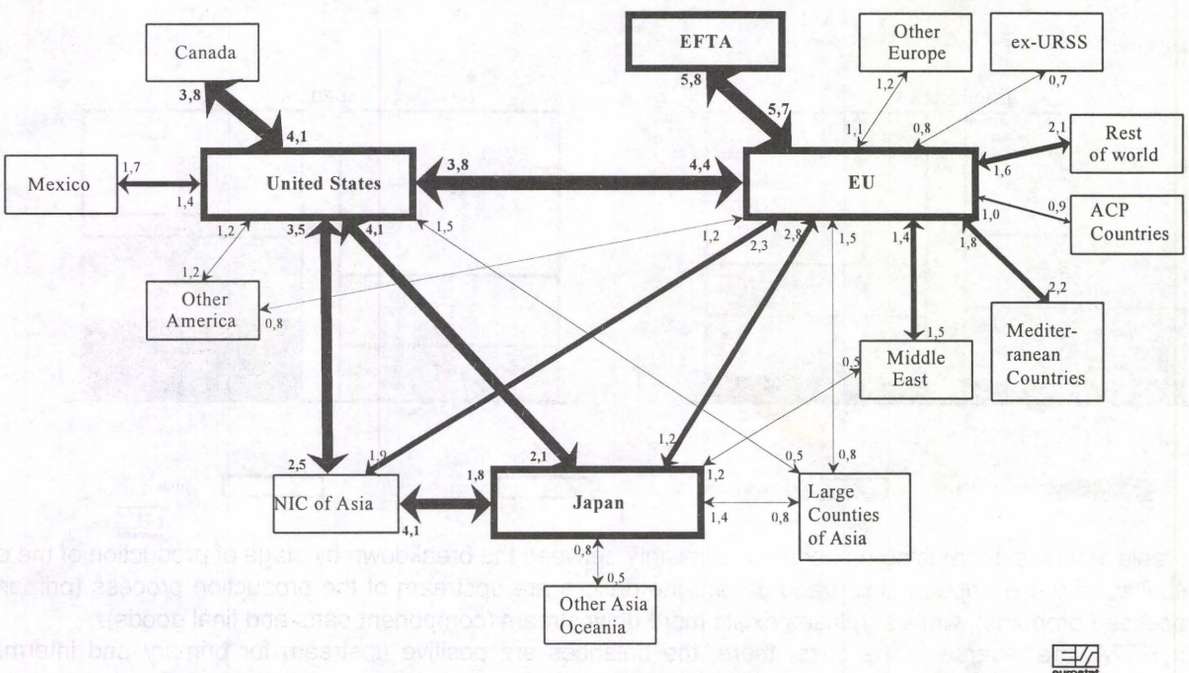
EU TRADE IN INTERMEDIATE PRODUCTS

INTRODUCTION

This report presents the main conclusions of the study "*Statistical analysis of EU trade in Intermediate products*" which has been conducted by CEPII, Centre d'Etudes Prospectives et d'informations Internationales of Paris under the co-ordination of Eurostat.

In the first part the recent developments of the international trade theory are rewieved against the background of the increasing importance of the regionalisation and intermediate goods trade phenomena.
Than the core of the study deals with an empirical analysis of the trade in intermediate products of four reporting zones: EU, EFTA, USA and Japan based on the international trade statistics of these countries for the year 1992. Particular emphasis is dedicated to the study of the "intra-industry" trade for the four zones and for the individual EU Member States.
The last chapter, specifically devoted to the EU, completes this approach: it analyses the intra-industry trade making a distinction between horizontal and vertical differentiation.
In the final part of the study a different methodology is used to identify trade in intermediate products: the Input-Output tables method which is useful for looking at the coherence of regional productive systems.

Figure 1 -Network of international trade flows, all products taken together, 1992 (as % of inter-zone trade of the four reporting zones)(*)



(*) Only mutual flows totalling more than 1.2% of all inter-zone trade are represented

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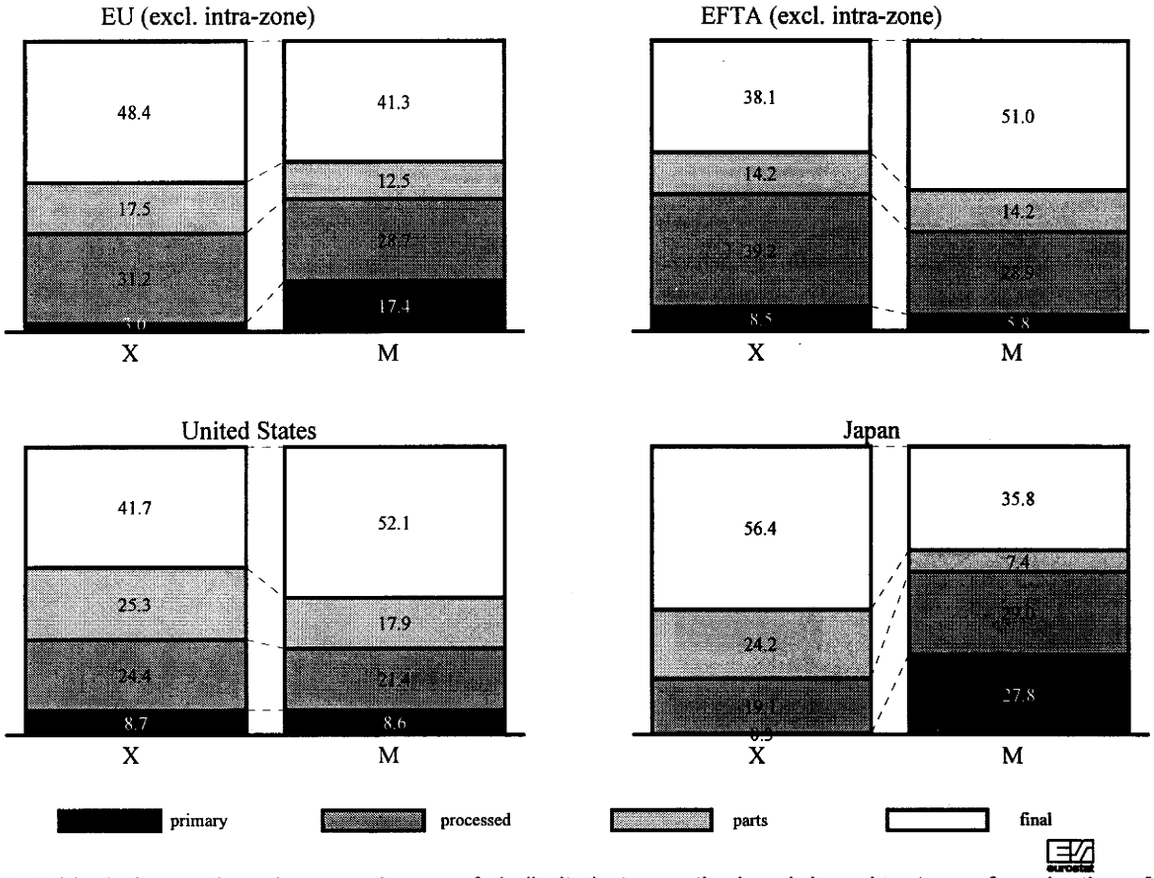
PART I : INTERMEDIARY PRODUCTS TRADE OF EU, EFTA[1], USA AND JAPAN

I.1. Sectoral structure of trade

The aggregation key by stage of the product nomenclature used here is based on a modification of BEC (classification by Broad Economic Categories of the United Nations). In order to conform to BEC have been reaggregated the Eurostat (Harmonized System) 6 figures into 4 stages: primary products, processed products, parts and final products (see box next page).
The structure, by stage of production, of the trade of the 4 zones reveals the weight of intermediate goods in international trade (Figure 2). In 1992 it accounted for more than a half of all trade between the regions considered.
Extra-EU exports are mainly specialised on final products (48% of the total), while imports are concentrated on primary and intermediate goods (58%).
A opposite situation is shown by the USA and EFTA product structures: more than a half of these zones' imports are final goods, while on the exports side only represents 41% and 38% of the total respectively.
Japan reproduces the specialisation pattern observed for the EU, taking it to the extreme: it imports raw materials and intermediate goods (64% of the total imports), processes them and exports primarily final goods (56%).

Figure 2
Structure by stage of the foreign trade of the EU, EFTA, the United States and Japan in 1992 (as % of the inter-zone trade of the four reporting zones)



As table 1 shows, there is some degree of similarity between the breakdown by stage of production of the overall balances of the European Union and Japan: the deficits are upstream of the production process (primary and processed products), while surpluses exists more downstream (component parts and final goods).
For EFTA, the reverse is the case: there, the balances are positive upstream for primary and intermediate goods, while for the final goods the balance is negative.

[1] These two groupings are represented in their old forms, i.e. before the accession of Austria, Sweden and Finland to the European Union in 1995.

In the case of the United States, the only surplus is at the stage of parts. The overall deficit comes primarily from finished products, a phenomenon closely linked to the structural surplus that Japan and the NICs of Asia have with that country.

Table 1 - Exports, imports (not intra-zone) and balance of the 4 reporters by stage - 1992, billion ECU

	Exports					Imports					Trade Balance				
	Prim.	Proces.	Parts	Final	Total	Prim.	Proces.	Parts	Final	Total	Prim.	Proces.	Parts	Final	Total
EU	**12.8**	**132.2**	**74.1**	**205.1**	**424.3**	**82.2**	**135.7**	**59.2**	**195.2**	**472.2**	**-69.4**	**-3.5**	**14.9**	**10**	**-48**
Germany	2.7	46.6	26	70.3	145.6	20.8	35.8	18.1	62.9	137.7	-18.1	10.8	7.9	7.3	7.9
France	1.8	15.9	12.7	37.4	67.9	10.7	15.5	8.8	27.9	62.9	-8.9	0.4	4	9.5	5
Denmark	1	3.1	1.4	8.4	13.9	1.2	3.9	1	5.2	11.3	-0.2	-0.8	0.4	3.2	2.6
Italy	0.5	17.6	9.2	29.9	57.2	12.9	20	4.6	17.9	55.4	-12.3	-2.4	4.5	12	1.7
Ireland	0.2	1.6	0.9	2.7	5.5	0.5	1.4	1.3	1.6	4.8	-0.3	0.3	-0.4	1.1	0.7
Portugal	0.2	1.1	0.2	2.2	3.7	1.9	1.4	0.6	2	6	-1.8	-0.3	-0.4	0.2	-2.3
Greece	0.3	1	0.1	1.2	2.6	1.7	1.6	0.4	2.7	6.4	-1.4	-0.6	-0.4	-1.5	-3.8
BLEU	0.5	12.8	2	6.6	21.9	3.3	12.5	3.5	10.1	29.4	-2.8	0.2	-1.4	-3.6	-7.5
Spain	0.4	6	1.9	9.2	17.5	7.9	6.5	2.4	11.4	28.1	-7.5	-0.4	-0.5	-2.2	-10.7
UK	3.8	18.1	16.7	26.7	65.3	9.8	24.9	13.8	35.2	83.7	-6	-6.8	2.9	-8.5	-18.4
Netherlands	1.5	8.3	3.1	10.7	23.5	11.5	12.1	4.7	18.3	46.6	-10	-3.8	-1.6	-7.6	-23
EFTA	**12.6**	**58.5**	**21.2**	**56.8**	**149.2**	**8.1**	**40.5**	**20**	**71.5**	**140.1**	**4.5**	**18**	**1.2**	**-14.7**	**9.1**
Norway	10.6	5.4	0.7	4	20.7	0.6	3.9	2.1	7.8	14.3	9.9	1.5	-1.3	-3.7	6.4
Sweden	0.8	14.1	7.2	14.1	36.1	2.1	7.4	5.5	14.9	29.9	-1.4	6.7	1.7	-0.8	6.2
Finland	0.3	9.8	1	4.2	15.3	1.9	3.4	1.8	5.2	12.3	-1.6	6.4	-0.8	-1	3
Switzeland	0.5	17.7	6.5	22.6	47.4	1.5	15.3	4.8	23.9	45.5	-1.1	2.5	1.7	-1.3	1.8
Island	0	0.2	0	0.9	1.1	0	0.3	0.1	0.5	0.9	0	-0.1	-0.1	0.4	0.2
Austria	0.5	11.3	5.8	11	28.5	1.9	10.3	5.7	19.2	37.1	-1.4	1	0.1	-8.2	-8.6
USA	**28.4**	**79.8**	**82.8**	**136.5**	**327.4**	**32.3**	**80.9**	**67.8**	**197**	**378**	**-3.9**	**-1.1**	**15**	**-60.6**	**-50.6**
Japan	**0.6**	**48.9**	**61.9**	**144.2**	**255.7**	**47.4**	**49.4**	**12.6**	**61**	**170.3**	**-46.8**	**-0.4**	**49.3**	**83.2**	**85.4**

Box

The three stages of intermediate products according to the BEC

Developed by the United Nations, BEC is a nomenclature derived from the SITC, Rev. 3 (Standard International Trade Classification). It reclassifies the SITC headings on the basis of the principal use of the products. More precisely, it converts foreign trade data into categories of final or intermediate use, such as capital goods, intermediate goods and consumer goods, following the usage in the System of National Accounts. The BEC breakdown of intermediate products into the three stages is as follows:

Primary products

111 Basic food products and beverages mainly intended for industry
21 Industrial supplies, basic products, not elsewhere specified
31 Fuels and lubricants, basic products

Processed products

121 Food products and beverages, mainly intended for industry, processed
22 Industrial supplies, not elsewhere specified, processed
322 Fuels and lubricants, other than motor fuels, processed

Parts

42 Parts and accessories of capital goods, except transport equipment
53 Parts and accessories of transport equipment

Primary products therefore comprise the BEC basic products. "In general, products are classed as 'basic products' if they are essentially products from primary sectors of the economy, namely agriculture, forestry, fishing, hunting, mining and quarrying. Products obviously from other sectors, such as manufacturing industry, are also classed among 'basic products' because they derive almost all their value from a primary sector of the economy. For example, cotton undergoes physical processing during ginning, but since ginned cotton derives its value mainly from the agricultural sector, in BEC it is classed among basic products and not as a product of the textile industry...". Therefore, if only a very small part of the value of an intermediate product is ascribable to manufacturing industry, it is classed among primary products. In this connection, all other intermediate products are deemed to have undergone processing. However, processed products that are parts or accessories of capital goods are classed separately in the parts stage.

I.2. Position by market: state of competition

The market position indicator relates a zone's trade balance in a given product to world trade in the same product. It reflects the final result of the actions of enterprises and nations for our geographical division .

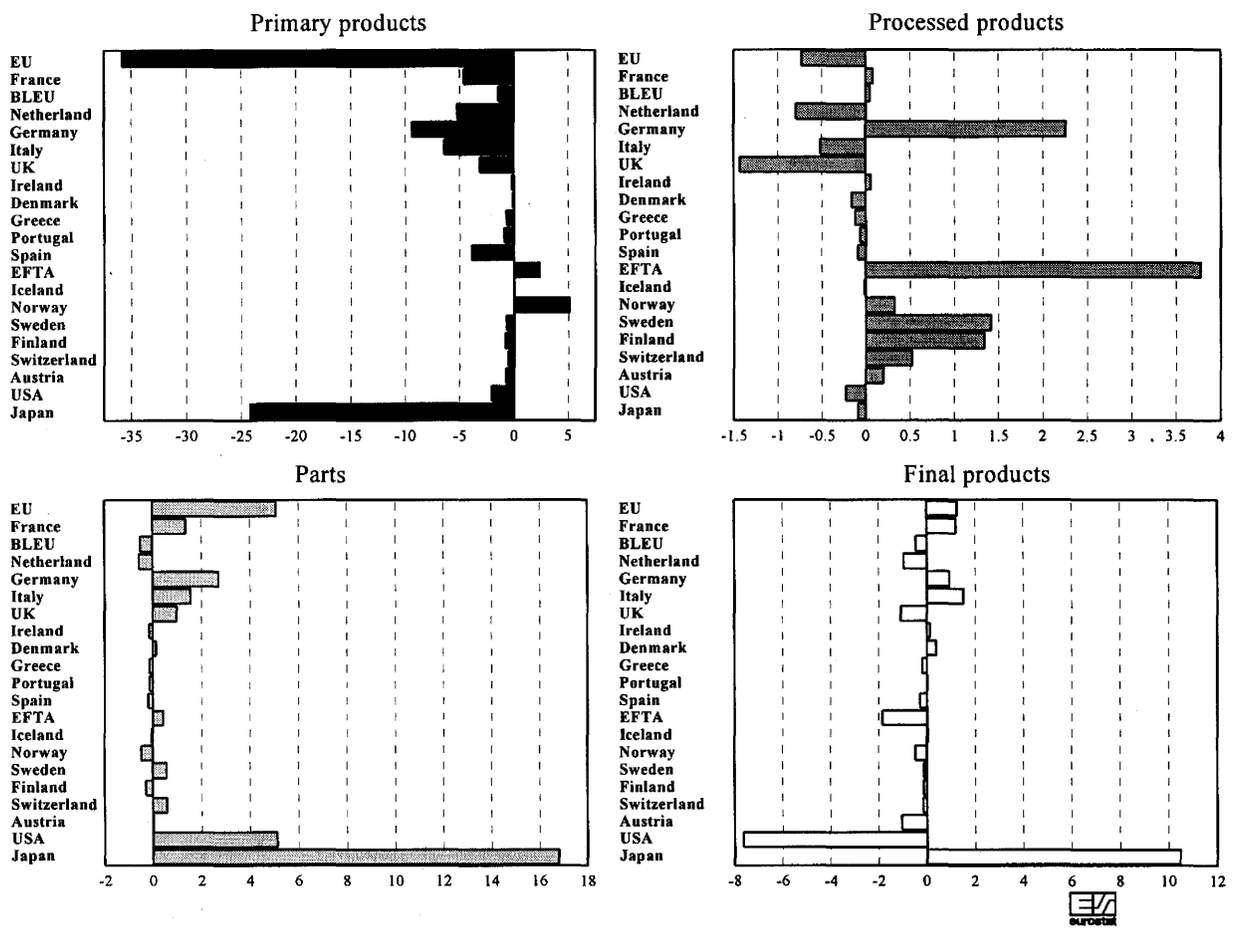
Figure 3 shows the market positions of the reporting countries and zones for products of the four production stages in 1992. For each reporter, the sign of the indicator is by design the same as that of the trade balance . The purpose is to show the relative size of the surpluses or deficits and hence how competitors relate to each other in a given market.

The only reporting zone with a surplus in primary products is EFTA, but its surplus is small compared to the deficits of the Union and Japan. This market is dominated by raw material producers from the geographical zones other than the reporting ones.

On the other hand, the EFTA's competitiveness in processed products, where almost all its members are in surplus, is remarkable. The other fact worthy of note is Germany's positive performance in a European Union that shows a deficit over all. The four reporting zones are all competitive for parts, Japan in particular.

Finally, in the case of final goods the deep rooted symmetry of the two large balances, the American deficit and the Japanese surplus, is shown.

Figure 3
Market positions of reporting countries and zones for products of the 4 stages in 1992 (as % of inter-zone trade for the stage in question)

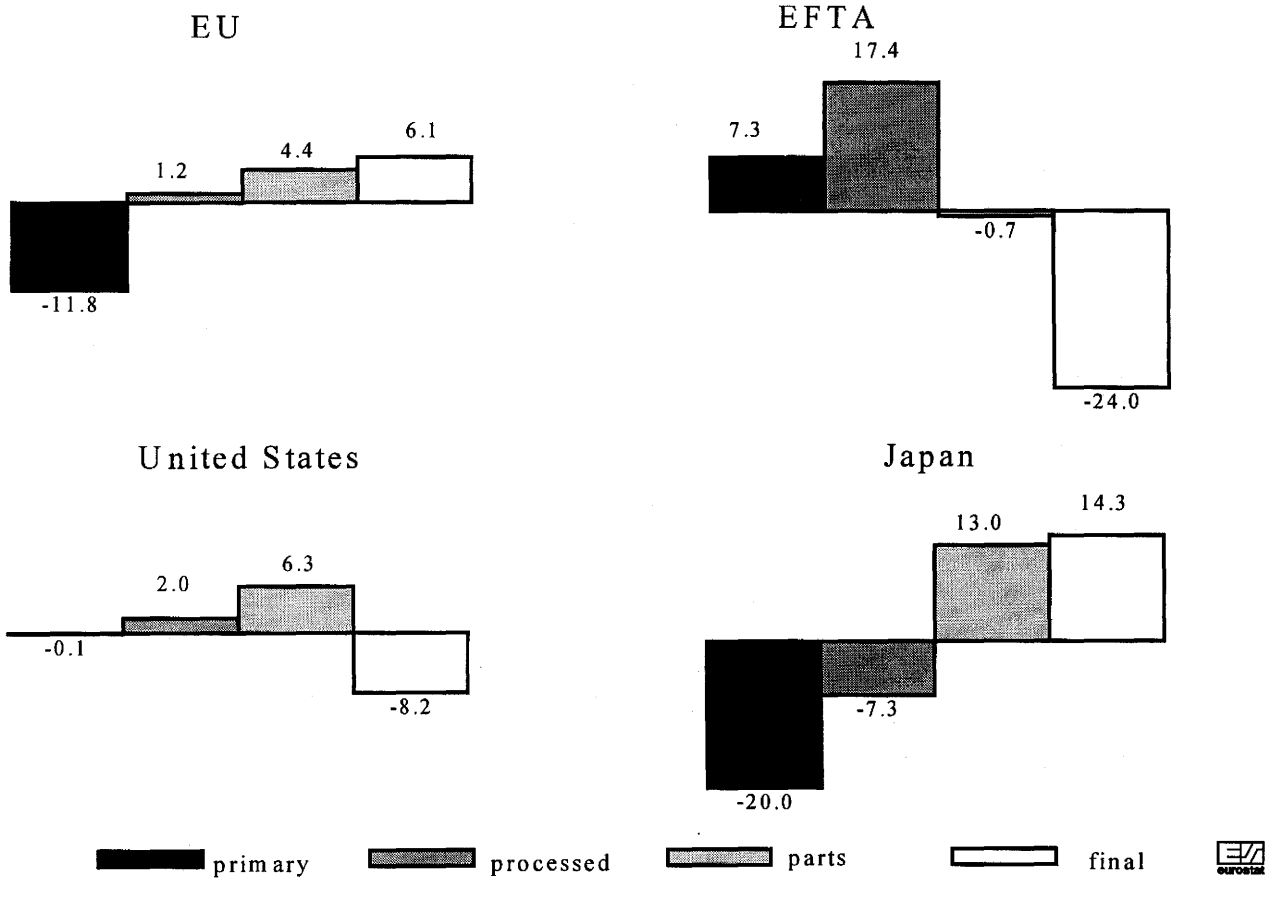


I.3. International specialisation: strengths and weaknesses

The respective specialisation's[2] of the four reporting zones are estimated by the balance contribution indicator. This is an indicator of "comparative advantage" revealed by the result of the international trade. The trade balance is the basic tool, as it is for the indicator of position by market, which assesses competitiveness. Unlike competitiveness, however, which is measured between countries (for each product group), comparative advantage is measured with regard to different products groups (for each country). For a given country, it is a question of comparing the various products with each other, regardless of the level of the overall balance.

Figure 4 shows the comparative advantages by stage of the four reporting zones in 1992.
The by-stage specialisation profiles of EFTA and Japan are symmetrical. Unlike Japan, the countries of the Association are in fact specialised upstream of the production process; primary and processed products correspond to their strengths, whilst parts and, in particular, final goods make a negative contribution to their trade balances. The United States' strengths are concentrated in the middle of the production process, in processed products and especially in parts. Final products are their main weaknesses. The European Union's specialisation is less marked than the other three zones. In fact, all the other stages with the exception of primary products make a positive contribution to the Union's balance, in ascending order from processed products to final products.

Figure 4
Specialisation of the four reporting zones by stage in 1992 (in thousandths of the zone's GDP)



[2] A country's or a zone's international trade specialisation is the result of the structure of its comparative advantages (strengths) and disadvantages (weaknesses). Unlike the concept of competitiveness, which is greatly affected by the macroeconomic cycle, in particular changes in real exchange rates, specialisation is structural in nature

I.4. Intra-industry trade

According to conventional theories, international trade in a given product ought to take place between different countries (different in their relative endowment with production factors or technological expertise) on an unlinked basis; either exports (where there is a comparative advantage) or imports (comparative disadvantage). The existence of simultaneous flows of exports and imports of the same product is a priori incompatible with this reasoning.

This is, however, precisely the phenomenon that economists have been finding since the 1960s: simultaneous exports and imports within the same industry between countries with similar levels of development are a prominent feature of contemporary international trade. The study of this so-called "intra-industry" trade may be regarded as the starting point for the rewriting of international trade theory.

The "intra-industry" trade of the reporting countries/zones is here calculated by the Grubel and Lloyd indicator (GL), which shows the crossed trade in a product between two partners (the balanced part of the trade) as a proportion of the total bilateral trade in the same product.

Table 3 shows the Grubel and Lloyd indicator for the four declaring zones and the average by stage of processing in 1992. Most intra-product trade is concentrated in the downstream stages of the production process and especially in parts. Whatever the logic adopted, for each zone the intra-product trade is always the greatest for parts and the least for primary products. The other two stages show values very close to the average.

Table 3
The Grubel and Lloyd indicator for the 4 zones by stage of processing in 1992
(including intra-zone trade)

	Primary	Processed	Parts	Final	Total
EU	**7.7**	**29.9**	**49.5**	**33.7**	**33.0**
EFTA	4.0	25.3	**38.8**	25.9	25.9
United States	4.9	24.2	**52.7**	23.4	28.2
Japan	0.8	16.7	27.8	14.1	15.6
Average 19 countries	5.7	27.3	**46.7**	28.8	**29.5**

Source: Eurostat, authors' calculation.

Note: For the EC and EFTA the figures show values aggregated from the individual results of the member countries. The figures in bold correspond to GLs that are above the all-stages average (grey box).

Just as the theoretical explanations of intra-product trade in consumer goods are based mainly on demand for variety, it is logical to assume that a producer looks for a set of particular specifications for his inputs (intermediate goods) in order to meet the demand for differences that he perceives. The efficiency of the productive combination is enhanced as a result. The preponderance of intermediate goods in crossed trade should not therefore surprise us.
At branch level, intra-product trade involves first of all those for which parts are particularly important: other transport equipment, information technology, electrical/electronics, private cars, mechanical engineering and chemicals (Table 4).

Table 4
The Grubel and Lloyd indicator by branch and stage of processing in 1992

	Primary	Processed	Parts	Final	Total
Other transport		5.8	**51.3**	**40.6**	**44.2**
Information technology			**54.7**	**34.2**	**41.5**
Electrical/electronics		**36.3**	**46.8**	**32.6**	**38.5**
Private Cars			**44.2**	**32.6**	**36.0**
Mechanical engineering		**39.4**	**44.2**	**28.3**	**33.7**
Chemicals	**31.9**	28.4	**47.3**	**38.7**	**31.3**
Miscellaneous	16.2	**37.5**	**34.5**	28.7	**30.6**
Metal products	20.7	28.6	**35.1**	**34.1**	29.0
Coking & Refining	1.2	28.9		21.5	28.7
Wood & Paper	13.2	21.8	**51.1**	**41.1**	25.9
Textiles	14.7	25.8	**38.3**	20.2	21.9
AFI	13.0	15.8		16.0	15.9
Agriculture	7.8	18.2		7.9	7.9
Mining & Quarrying	2.4	14.8		0.7	3.7
Total	5.7	27.3	**46.7**	28.8	**29.5**

Source: Eurostat, authors' calculation.

Note: This is the average GL for the 19 declaring countries, *including intra-zone trade*. The figures that are higher than the all-stages average (grey box) are in bold.

Table 5 shows the Grubel and Lloyd indicator for the four reporting zones and the average by stage of processing in 1992. Most intra-product trade is concentrated in the downstream stages of the production process and especially in parts. Whatever the logic adopted, for each zone the intra-product trade is always the greatest for parts and the least for primary products. The other two stages show values very close to the average.
Taking all products together, it is the European countries that are most involved in intra-product trade: five founder countries of the EU - France, FRG, BLEU, Netherlands - and the United Kingdom and the two Alpine countries of EFTA occupy the highest positions. The predominance of the European countries is confirmed at each stage. However, the United States is one of the front runners in parts.

Table 5 -Bilateral GL, intermediate products, 1992 (%)

	Primary	Processed	Parts	Final	Total
France	7.3	35.5	52.9	41.9	39.7
BLEU	12.4	32.9	39.8	38.6	34.5
Netherlands	10.3	32.1	54.2	33.5	32.9
Germany	8.1	32.7	49.1	36.8	35.8
Italy	3.7	25.1	47.8	26.7	27.4
UK	6.7	25.9	53.6	34.4	33.9
Ireland	13.4	20.2	46.9	22.9	26.2
Denmark	20.8	23.3	41.6	20.6	23.7
Greece	3.2	10.1	10.7	6.1	7.3
Portugal	2.5	14.6	22.2	17.3	15.7
Spain	3.4	23.5	45.8	21.7	24.0
Island	0.7	0.9	0.6	0.8	0.8
Norway	2.7	15.6	27.5	14.4	12.3
Sweden	5.3	18.4	35.2	25.2	23.8
Finland	1.8	10.2	28.0	20.0	14.9
Switzerland	8.1	37.1	46.0	29.1	33.5
Austria	8.1	30.5	43.3	30.7	32.0
USA	4.9	24.2	52.7	23.4	28.2
Japan	0.8	16.7	27.8	14.1	15.6
Average 19 countries	5.7	27.3	46.7	28.8	29.5

PART II: SPECIFIC ANALYSIS OF THE EUROPEAN UNION (1988-1992)

II.1 An alternative approach: the analysis by range

The approach used in the section I, to analyse the intra-industry trade, does not allow a distinction to be made between the horizontal dimension of product differentiation and the vertical dimension. Demand for different qualities is nevertheless the source of a large amount of the intra-industry trade.

This section proposes an alternative method to conventional measurements of the "Grubel and Lloyd" type and introduces the price dimension (unit values). The basic idea is to get a better picture of the phenomenon of "intra-industry trade" at product level, taking in both horizontal differentiation (trade in varieties) and vertical differentiation (trade in qualities), thereby giving the phenomenon a definition that is closer to the observed reality and to economic theory. This method uses two criteria the extent of the "developping" of bilateral trade at a fine level and the "similarity" of unit values - to break down total trade as a whole into different types of trade:

- two-way trade in similar products;
- two-way trade in vertically differentiated products;
- one-way (inter-industry) trade.

The importance of two-way trade in vertically differentiated products brings us back to the question of the quality segments in which the trade takes place. The analytical grid classifies trade according to ranges in relation to a European norm at the finest possible level. If the unit value of the "elementary flow" does not deviate by more than 15% from the Community average unit value, the flow is deemed to represent products of the middle of the range. A unit value 15% above that norm makes the flow top of the range, whilst a unit value 15% below corresponds to a bottom of the range flow.

II.2 European Union's types of trade

Table 6 shows for 1992 the nature of the trade flows of the twelve member countries of the European Community taken as a whole.Looking first at the last line showing the total EU trade for all products, stages, reporting countries and partner countries together:

- nearly one half (47%) of the EU countries' trade with the world is one-way trade, that is in the form of exports or imports without significant flows in the other direction;

- the second type of trade by order of importance is vertically differentiated two-way trade (nearly 40% of the value of total flows): there is then a significant overlap between bilateral exports and imports, but for different unit values. This may be interpreted as a quality trade.

- two-way trade in similar products has a relatively small part with only 15% of the total. This shows the advantage of our approach when used in addition to that based on the conventional GL coefficient.

Inter-industry trade represents two thirds of trade with the extra-Community partners, but only one third within the EU. The counterpart of this phenomenon is of course that two-way trade is much more developed within the EU. This suggests that in Europe there is a much finer specialisation than that shown by most conventional (intra-industry) approaches. According to our method, this is a specialisation that operates within products as defined in the nomenclatures, with a 45% share in vertical differentiation and 20% in horizontal differentiation.

Table 6
Breakdown of the types of trade in intra- and extra-EU trade in 1992, by country, stage, branch and partner

	Intra-EU			Extra-EU			Total EU		
	TWSP	TWVDP	one-way	TWSP	TWVDP	one-way	TWSP	TWVDP	one-way
By stage									
Primary	10.5	18.5	71.0	1.0	2.8	96.2	4.8	9.0	86.2
Processed	19.9	41.9	38.2	5.3	24.5	70.1	14.3	35.2	50.5
Parts	19.5	66.3	14.2	10.2	54.1	35.8	15.7	61.3	23.0
Final	21.0	43.2	35.8	6.7	29.3	64.0	15.6	38.0	46.4
By industry									
Agriculture	5.6	15.7	78.8	0.5	4.6	94.9	3.7	11.6	84.6
Mining & Quarrying	11.7	16.6	71.7	0.9	0.7	98.4	3.5	4.6	91.9
AFI	13.2	25.4	61.3	1.9	7.6	90.5	10.0	20.3	69.7
Textiles	12.7	42.3	45.0	4.4	19.0	76.6	9.3	32.6	58.1
Wood & Paper	22.9	48.7	28.4	6.7	21.2	72.1	15.8	36.6	47.6
Coking & Refining	17.7	50.5	31.8	8.5	31.2	60.3	13.5	41.8	44.7
Chemicals	18.6	45.8	35.7	5.1	29.9	65.0	14.0	40.3	45.7
Metal Products	25.5	41.9	32.6	7.1	24.1	68.9	18.7	35.3	46.0
Mechanical engineering	16.9	56.7	26.4	7.7	36.5	55.8	12.9	47.9	39.2
Information technology	24.5	65.5	10.1	8.4	44.2	47.4	18.0	56.8	25.2
Electrical/electronics	15.2	61.4	23.4	6.7	47.1	46.2	11.1	54.6	34.3
Cars	27.0	53.0	20.0	9.3	33.8	56.9	22.6	48.2	29.2
Other transport	55.8	28.5	15.7	15.2	53.9	30.9	34.2	42.0	23.8
Miscellaneous	15.1	47.5	37.3	4.8	36.7	58.5	10.0	42.2	47.8
By country									
France	26.9	46.3	26.9	7.8	31.0	61.2	20.2	40.9	38.9
BLEU	23.6	47.0	29.4	2.9	22.2	74.8	17.9	40.2	41.9
Netherlands	22.3	43.8	33.9	5.0	19.8	75.2	16.6	35.9	47.5
Germany	21.5	48.1	30.4	8.2	33.6	58.2	15.4	41.4	43.2
Italy	11.4	44.5	44.1	5.2	24.2	70.6	8.8	36.1	55.0
UK	19.5	48.2	32.3	5.0	36.9	58.1	12.4	42.7	44.9
Ireland	8.1	42.9	49.1	2.2	27.3	70.5	6.5	38.7	54.7
Denmark	8.8	38.1	53.1	7.5	23.2	69.4	8.2	31.2	60.6
Greece	2.5	10.4	87.0	2.1	8.7	89.2	2.4	9.8	87.8
Portugal	10.2	23.4	66.4	0.8	5.8	93.3	7.8	18.9	73.3
Spain	15.7	39.9	44.4	3.4	11.8	84.8	11.1	29.4	59.4
By partner									
EU	20.0	45.0	35.0				20.0	45.0	35.0
EFTA				12.3	38.4	49.3	12.3	38.4	49.3
Other Europe				4.2	34.1	61.7	4.2	34.1	61.7
ex-USSR				0.7	5.8	93.5	0.7	5.8	93.5
Mediterranean countries				6.7	25.2	68.0	6.7	25.2	68.0
ACP				3.2	6.2	90.7	3.2	6.2	90.7
Middle East				1.2	10.3	88.5	1.2	10.3	88.5
USA				10.9	48.9	40.2	10.9	48.9	40.2
Canada				3.2	19.9	76.9	3.2	19.9	76.9
Mexico				1.5	10.0	88.4	1.5	10.0	88.4
Other America				1.6	9.4	89.0	1.6	9.4	89.0
Japan				2.7	24.5	72.8	2.7	24.5	72.8
NICs of Asia				2.2	26.8	71.1	2.2	26.8	71.1
Large countries of Asia				0.6	9.0	90.4	0.6	9.0	90.4
Other Asia-Oceania				1.9	13.7	84.4	1.9	13.7	84.4
Rest of the World				1.8	27.9	70.3	1.8	27.9	70.3
Total	**20.0**	**45.0**	**35.0**	**6.2**	**28.8**	**65.0**	**14.5**	**38.5**	**47.0**

eurostat

Note: TWSP stands for two-way trade in similar products and TWVDP stands for two-way trade in vertically differentiated products. The total of the types of trade for each of the three main columns = 100%.

Table 6 also shows the breakdown of the types of trade for trade between the member countries of the EU in 1992 according to four different splits: by stages of processing, by branch, by EU member country and by partner. The phenomenon of two-way trade being much greater within the EU than with extra-EU partners is found systematically regardless of the split adopted.
Examination of the table from the stage of processing angle shows that intra-Community trade in primary products - very much marked by the comparative advantage in natural resources - is largely one-way (71%). We also note the large proportion of two-way trade in vertically differentiated products for parts within the EU (66%).

Following a logic of branches, we observe the preponderance of one-way trade in particular in the "primary" branches, agriculture and mining and quarrying, for which three quarters of the value of intra-European flows are unlinked. On the other hand, more than half the trade in the information technology, electrical/electronics, mechanical engineering, cars and cocking and refining branches is based on a two-way trade with vertical differentiation. Note here that two-way trade in similar products is extremely important for the "other transport equipment" branch .

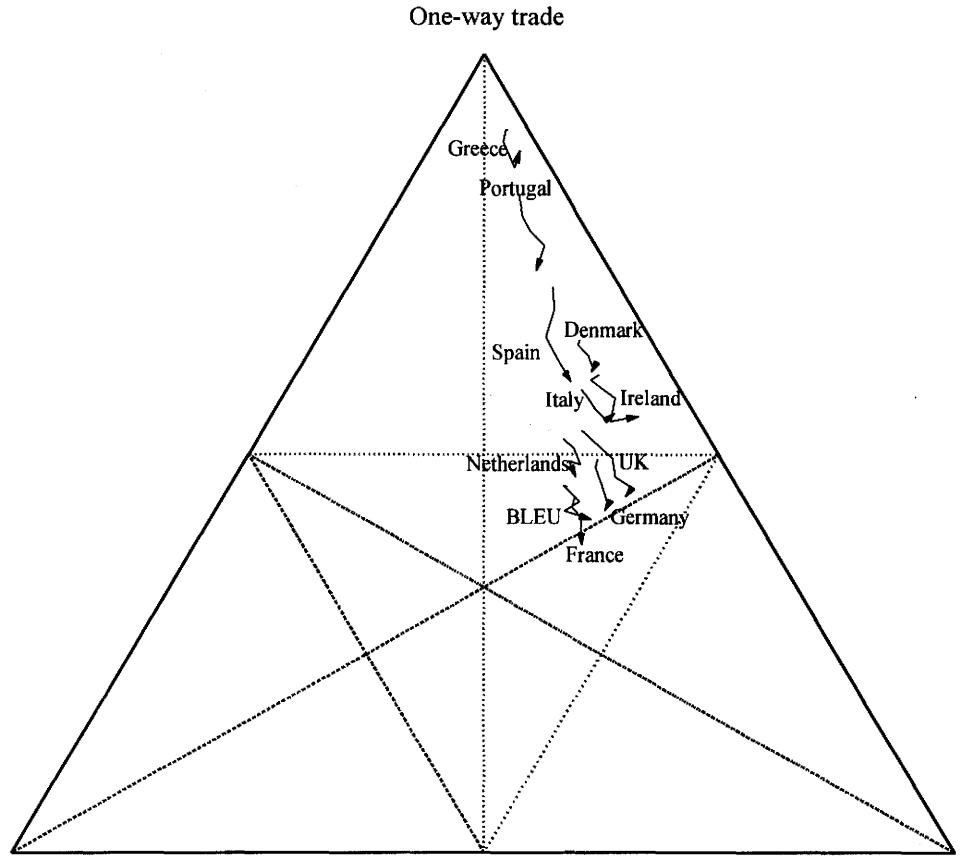
The principal form of country involvement in intra-Community trade is two-way trade in vertically differentiated products, especially in the case of the United Kingdom and the FRG (48%), followed by the pair Belgium/Luxembourg and France. Conversely, Portugal and especially Greece are distinguished by a preponderance of one-way trade. More than one fifth of the bilateral trade of France, Belgium-Luxembourg, the Netherlands and Germany is in the category of two-way trade in similar products.

So far as the partners of the member countries of the EU are concerned, most of them exchange products mainly on an inter-industry basis, despite a potential underestimation bias in this type of trade. The main exceptions are the EFTA countries and the United States, which are the only ones to have a significant proportion of two-way trade in similar products (around 10%).

The chart 5 displays most of this information in the form of a triangular distribution for the years 1988 to 1992. The advantage of presenting it in this way rather than the conventional presentation showing the trend in the Grubel and Lloyd is evident: not only is an increase in that indicator (corresponding to an increase in "intra-industry" trade) indicated by a downward movement in our triangles (move away from one-way trade to two-way trade), but it immediately shows whether the trend is towards a two-way trade with vertical differentiation (bottom right) or towards two-way trade with horizontal differentiation (bottom left).

In the first small upper triangle (where at least 50% of trade is one-way), we find in particular Greece and Portugal, then Spain and Denmark, but also Italy and Ireland. As we have already seen in Table 5, the countries of the "hard core" exchange most products in the form of two-way trade and are thus the furthest removed from the apex representing inter-industry trade. Almost all the countries are moving downwards and to the right, which reflects a decline in the proportion of one-way trade in favour of two-way trade in vertically differentiated products, the trend being the greatest for Spain, Portugal and the United Kingdom.

Figure 5
Breakdown of the types of trade in EU trade, 1988-1992, by country



II.3 European Union's specialisation by range

Let us now look more closely at the European Community's specialisation. The following chart show the trade balance contribution indicator of the EU: a positive value may be interpreted as revealing a comparative advantage and the reverse for a negative value. An important characteristic of this indicator is that it is additive: the values can thus be aggregated at any desired level without biasing the results. For example, the sum of the values of the three ranges in an industry gives the total advantage for that industry. By definition, the total for all industries is zero.

The picture of specialisation that emerges from this analysis is that of a quality/price hierarchy. The disadvantages in the mining and quarrying and agro-industries and in wood and paper are mainly in the middle range. That this disadvantage is observed in the middle range is not surprising: given that the products of the mining and quarrying industries are not very differentiated, the corresponding trade flows have unit values close to the Community average. On the other hand, the advantages in the mechanical engineering, chemicals, car and other transport sectors are mainly in top of the range products.

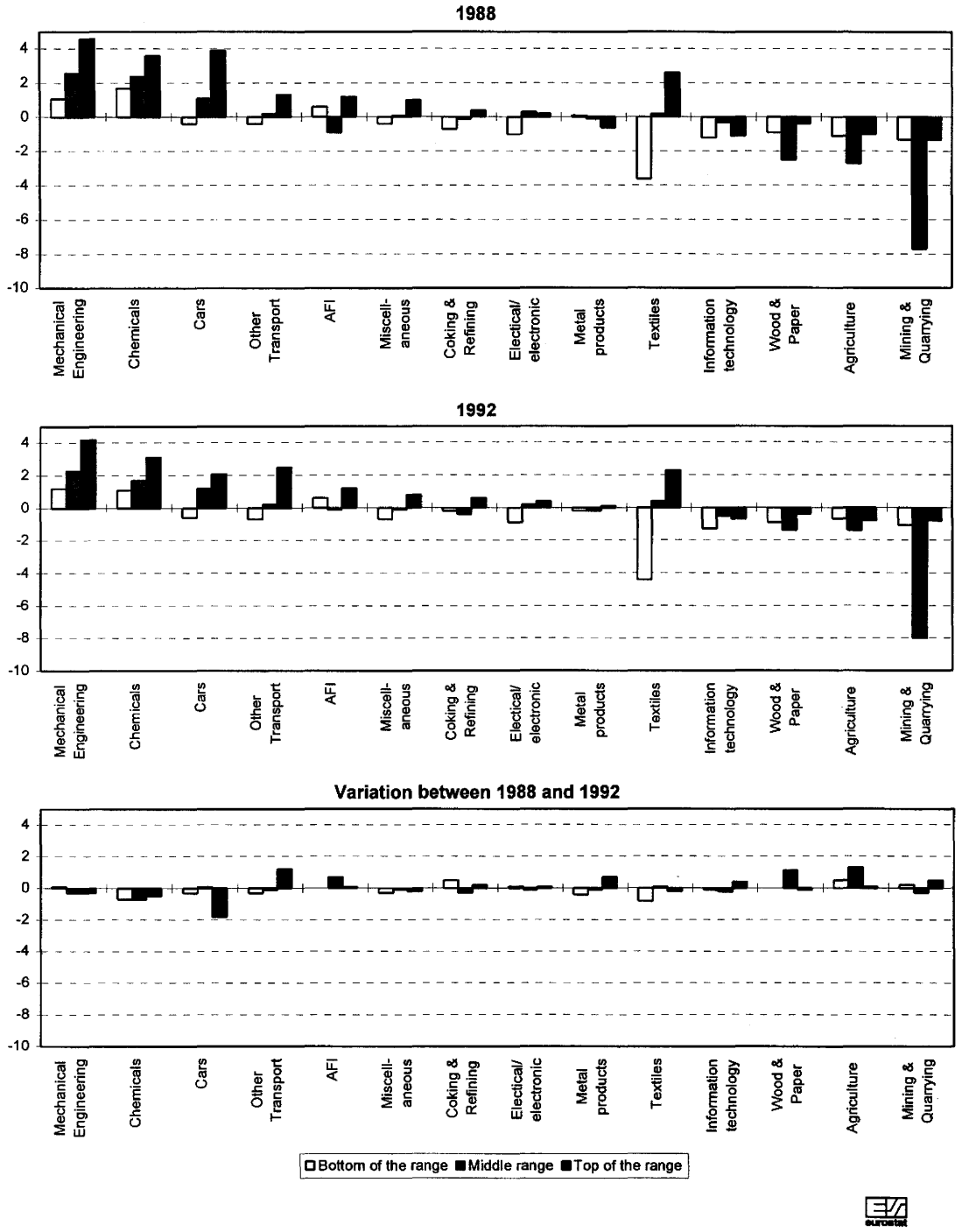
In general, we find the following configuration:

- when the EU has an overall advantage for a branch, that advantage is most marked at the top of the range;
- when the EU has a disadvantage, it is in the middle range or at the bottom of the range.

This specialisation is very clear in the textile industry: balanced overall, and therefore with no marked advantage or disadvantage, analysis by range reveals a very clear division of labour between the EU and the rest of the world. Here, the EU is in a very unfavourable position for the bottom of the range but at an advantage at the top of the range.

The specialisation varies relatively little between 1988 and 1992. So far as its spread is concerned, we generally observe a reduction rather than an increase of specialisation[3]. For example, the positive variation in agriculture is in fact a reduction in the disadvantages, and the negative one in chemicals is a reduction in the advantages. The EU improves its position for other transport, but loses ground in top of the range cars.

Figure 20
The EC's comparative advantages by branch and range in 1988 and 1992



[3] This specialisation presented here at industry level does not, however, preclude a finer specialisation at product level or even within products.