

WORKING PAPER

2-00

Belgium's export performance

A constant market shares analysis



**Federal
Planning Bureau**
Economic analyses and forecasts

Avenue des Arts 47-49
B-1000 Brussels
Tel.: (02)507.73.11
Fax: (02)507.73.73
E-mail: contact@plan.be
URL: <http://www.plan.be>

D. Simonis
March 2000



Belgium's export performance

A constant market shares analysis

D. Simonis
March 2000



Federal Planning Bureau

The Belgian Federal Planning Bureau (BFPB) is a public agency under the authority of the Prime Minister and the Minister of Economic Affairs. The BFPB has a legal status that gives it an autonomy and intellectual independence within the Belgian Federal public sector.

BFPB's activities are primarily focused on macro-economic forecasting, analysing and assessing policies in the economic, social and environmental fields.

Internet

URL: <http://www.plan.be>

E-mail: contact@plan.be

Publications

Publications:

The Economic Forecasts
The "Short Term Update"

Planning Papers (the last numbers)

giving the results of policy analyses and assessments

85 *Un projet à l'échelle mondiale: le développement durable*
Duurzame ontwikkeling: een project op wereldschaal
N. Gouzée, N. Zuinen, S. Willems - Février 1999

86 *Vieillesse démographique et financement de la sécurité sociale: un défi soutenable? Vergrijzing en financiering van de sociale zekerheid: een haalbare uitdaging?*
Actes du Colloque organisé par le Bureau fédéral du Plan à Bruxelles, les 2 et 3 décembre 1997 - Handelingen van het door het Federaal Planbureau georganiseerde Colloquium, Brussel, 2 en 3 december 1997

87 *Overheidsparticipaties in de marktsector in België*
Les participations publiques dans le secteur marchand en Belgique
H. Spinnewyn - Février 2000

Working Papers (the last numbers)

8/99 *Survival and growth of Belgian firms with collective layoffs - The impact of relocation, size, age, capital intensity and multinational group membership*
Bart van den Cruyce - October 1999

1/00 *Impacts économiques d'une baisse de la TVA sur les nouvelles constructions résidentielles - Economische effecten van een BTW-verlaging op nieuwe particuliere woningen*
L. Avonds, F. Bossier, M. Englert, E. Hespel, F. Vanhorebeek, J. Verlinden - Février 2000

Citations should refer to the publication, mentioning the author(s) and the date of publication.

Responsible Editor Henri Bogaert
Legal Depot: D/2000/7433/8



Table of Contents

	Summary	1
I	Introduction	4
II	The Constant Market Shares Analysis	8
	A. Background and Contents of the CMSA	8
	1. A decomposition method	8
	2. Ex-post method	9
	B. Shortcomings of the traditional formulation of the CMSA and solutions proposed by Milana (1988)	9
	1. The index number problem	9
	2. The interpretation of the residual term	10
	3. The variability of the results depending on the order of decomposition of the structural effect	10
	4. The path dependency	10
	C. New formulation of the CMSA by Milana (1988)	11
	1. "Total effect"	11
	2. "Competitiveness effect"	12
	3. "Market composition effect"	12
	4. "Product composition effect"	13
	5. "Residual effect"	13
III	Results of the CMSA (1991-1997)	14
	A. CMSA (1991-1997) - Global results	14
	B. CMSA (1991-1997) - Contributions of the different geographical areas	18
	1. BLEU: CMSA (1991-1997) - geographical breakdown	19
	2. Main European trading partners: CMSA (1991-1997) - geographical breakdown	21
	3. USA: CMSA (1991-1997) - geographical breakdown	27
	4. Japan : CMSA (1991-1997) - geographical breakdown	29
	5. Asian NICs: CMSA (1991-1997) - geographical breakdown	31

C.	CMSA (1991-1997) - Contributions of the different sectors	33
1.	BLEU : CMSA (1991-1997) - sector breakdown	34
2.	Main European trading partners: CMSA (1991-1997) - sector breakdown	36
3.	USA: CMSA (1991-1997) - sector breakdown	42
4.	Japan: CMSA (1991-1997) - sector breakdown	44
5.	Asian NICs: CMSA (1991-1997) - sector breakdown	44
IV	Conclusion	47
V	Bibliography	48
VI	Annexes	49
A.	Annex I	49
B.	Annex II	50
C.	Annex III	52



Summary

This Working Paper presents a general overview of the structural trade patterns of Belgium and its main trading partners during the period 1991-1997. It allows us to provide some insights into the specific issue of the trade channel transmission of financial crises.

The recent crisis in the Asian NICs and its global contagion has had an important impact on the world economy. The trade linkages were an important channel of transmission¹. In 1998, Belgian trade flows were also affected. Within this context, an interesting question was whether Belgium's pattern of specialisation played any significant role in determining its relative export performance.

In order to examine Belgium's relative export performance, we have carried out a constant market shares analysis (CMSA). This analysis is an accounting method for decomposing ex-post, a country's aggregated export share development. The methodology developed by Milana (1988)² has been followed because it aims to find a satisfactory solution to the problems encountered by the traditional approaches to CMSA given the recent developments in index number theory.

According to this new specification of the methodology, percentage changes in the aggregated export market share of a country, defined as the percentage ratio between the country's exports and total world exports, have been disaggregated into four components:

- A "competitiveness effect", which reveals the capacity of a country to increase its market share due to competitiveness factors only, independently of structural developments in the market or in the product trade pattern.
- A "market effect", which measures the effect stemming from the geographical breakdown of a country's exports.
- A "product effect", which defines the influence from the product composition of a country's exports.
- A "residual effect", which embodies all the second-order factors. It represents the positive or negative impact of particular combination of market-product factors in comparison to the market and product mean distribution of a given country's exports.

1. Reuven Glick, Andrew K. Rose (1999), "Contagion and trade", *Journal Of International Money And Finance*, (18) 4, pp. 603-617.
2. Milana C. (1988), "Constant Market Shares Analysis and Index Number Theory", *European Journal of Political Economy*, (4) 4, pp. 453-478.

The constant market shares analysis has also its limitations. This method permits to separate and quantify the respective roles of the competitiveness and the structural effects in determining export performance. But as an accounting method, it provides no insight into the explanatory factors underlying the changes in the market shares.

- The competitiveness effect summarises the changes in price competitiveness (assessed by the real effective exchange rate) as well as changes in non-price competitiveness (expressed by qualitative factors reflecting product differentiation) in the export performance.
- The sum of the market effect, the product effect, and the residual effect represents the structural effect due mainly to changes in the market and in the product pattern of specialisation of a country.

The analysis was computed over the period 1991-1997 at the most disaggregated level available using the CHELEM database (i.e. 72 sectors and 62 countries or areas) in order to get the best information to evaluate the four different effects. The global results for Belgium were compared with that of its main European trading partners (Germany, France, the Netherlands, the United Kingdom, and Italy), as well as the United States, Japan, and the Asian NICs. Then, the overall change in export market shares has been disaggregated further to take account of the geographical trade patterns and of the commodity trade patterns of the countries considered.

In the period under review, the decrease in Belgium's global export market share (data covering the Belgium-Luxembourg Economic Union area) was mainly the result of the negative contribution of Belgium's market specialisation. The contributions of the competitiveness effect and of the product specialisation effect were of lesser importance. An interesting result of the study suggests that the orientation of Belgium's geographical trade pattern has had a negative influence on export performance, while the competitiveness and the residual effects were slightly positive. The main reason behind the negative contribution of the market effect is related to the importance of exports from Belgium to the other countries of the European Union in a period during which the EU rate of growth was lower than total world growth rate.

A rather similar conclusion can be drawn for Belgium's main European trading partners. For these countries, the loss in export market share is also related to the negative market effect due to the high degree of intra-EU15 trade. However, some of these European countries registered a more substantial positive contribution of the competitiveness effect (the Netherlands, the United Kingdom) than Belgium, or a positive contribution of the product effect (Germany and the United Kingdom). Belgium's export performance has been also hindered by a lower export market share in the sector of electronics products than its main trading partners, in particular the Netherlands and the United Kingdom.

In the United States, the increase in the global export market share was the result of the combination of the positive market and product specialisation effects, which more than compensated for the negative impact of the competitiveness effect. By contrast, in Japan, these positive effects were insufficient to compensate for the substantial loss in competitiveness. In the Asian NICs, all the effects have

combined their positive influence to produce an increasing export market share. Concerning the influence of the structural effect on the export performance, the Asian NICs benefitted particularly from a pattern of exports oriented towards the most dynamic markets and products in world trade.

However, because of rapidly changing conditions within the Asian NICs and within the European countries in transition, the above-mentioned results have to be taken with extreme caution. The recent crises in the Asian NICs and in Russia, and their global contagion, have shown that the orientation of Belgium's geographical trade pattern has served to limit the direct effects of the crises on Belgium's export performance. The main impact of the crises on Belgium's trade performance came through indirect effects via its main trading partner Germany.

In the long run, Belgium should nonetheless remain aware that the geographical concentration of trade is a source of vulnerability due to the sensitivity to cyclical fluctuations in the neighbouring countries. Therefore, Belgium should diversify its exports and take a better advantage of the large trade growth potential associated with the Asian NICs, the European countries in transition and the other emerging economies.



Introduction

The recent crisis in the Asian NICs and its global contagion has had an important impact on the world economy. Trade linkages were an important transmission channel for the crisis¹. In 1998, Belgian trade flows were also affected. Within this context, an interesting question was whether Belgium's pattern of specialisation played any significant role in determining its relative export performance in the medium term. It is well known that the differences in the structure of exports partly explain the differences in the export performance of various countries. If a country only exports certain traditional products for which international demand is growing slowly compared with other products, then its total export market share of world trade will decline (even if this country succeeds in maintaining its market share in these traditional products). A similar reasoning holds for the geographical distribution of export markets. Therefore a better export performance is achieved through a pattern of exports oriented towards the most dynamic markets and products in world trade.

We have carried out a constant market shares analysis (CMSA) to quantify the respective roles of structural and competitiveness factors in determining export performance. The data used in the CMSA come from the CHELEM database developed by the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) in Paris. This is a worldwide database, covering all trade flows in goods. The data are values expressed in dollars. The analysis covers the period 1991-1997, 1997 being the last year for which international data were available.

World trade during the period 1991-1997 was characterised by a strong annual growth rate and an increasing involvement by the Asian countries. While country market shares of world trade decreased both in Japan and in the European countries under review, the United States and especially the Asian NICs achieved increasing market shares.

In 1997, the growth in the volume of world trade was 10%, one of the fastest rates of growth in the last decade according to the World Trade Organization². The Americas (North and South) had strong economic growth and this fuelled the expansion in world trade during this period. The value of European trade expressed in dollars fell in 1997, but when expressed in ECUs it increased by 11%. The impact of the Asian crisis on world trade occurred with a time lag. The immediate effect of the financial crisis (which started in July 1997) and the following adjustment policies carried out by the different governments was a significant slowdown in domestic demand, which via trade linkages, spilled over to other

-
1. Reuven Glick, Andrew K. Rose (1999), "Contagion and trade", *Journal Of International Money And Finance*, (18) 4, pp. 603-617.
 2. OMC, *Rapport annuel 1998*.

countries. The decline in the Asian NICs imports during the second half of 1997 had an initial impact on intra-regional trade and also on raw materials markets that were more sensitive to Asian demand. Total trade flows with the rest of the world were then also affected. The strong economic growth of the Asian economies in the years prior to the crisis had resulted in a considerable rise in the demand for imports from industrialised countries. Asian economies were an important export market for these countries. These trade relations had become particularly important for Japan. They also represented a large share of the United States' exports but were a much lower proportion of exports for most European countries.

TABLE 1 - Geographical distribution of exports (1991-1997)

in % of total	BLEU		Germany		France		Netherlands	
	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NorthAm	5.46	3.77	8.85	7.02	7.95	6.84	3.79	3.26
SouthAm	1.24	0.88	2.70	2.04	2.40	3.39	1.25	1.02
EU15	69.26	78.60	54.90	62.71	61.92	66.14	69.60	75.51
EastEur	3.39	1.39	10.42	6.65	3.74	1.99	3.21	1.67
OtherEur	8.07	4.78	7.69	8.68	5.94	5.41	4.02	3.64
Afr-ME	3.14	4.01	3.54	4.59	7.43	9.09	2.60	3.21
Japan	1.16	1.16	2.26	2.50	1.87	2.08	1.03	0.73
SEAsia	7.82	5.13	8.79	5.15	8.11	4.51	14.10	10.61
OtherAsia	0.47	0.28	0.84	0.67	0.65	0.55	0.38	0.36
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

in % of total	United Kingdom		Italy		USA		Japan		Asian NICs	
	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
NorthAm	14.65	12.41	9.43	7.55	20.49	18.83	29.96	31.96	22.79	24.93
SouthAm	2.13	1.64	4.35	2.42	20.01	15.44	4.73	3.91	2.90	2.09
EU15	53.26	60.26	53.31	63.52	20.18	26.07	14.69	19.99	14.04	17.31
EastEur	3.07	1.18	7.98	3.94	1.30	1.29	0.67	0.99	1.48	0.92
OtherEur	5.78	5.34	7.62	7.13	2.92	3.16	1.56	1.99	1.21	1.31
Afr-ME	7.55	7.73	6.38	7.49	4.03	5.00	3.54	5.14	3.76	4.76
Japan	2.70	2.34	2.31	2.26	10.03	11.83	0.00	0.00	13.00	16.22
SEAsia	8.93	7.33	7.63	4.99	18.67	15.81	42.51	33.45	38.77	30.33
OtherAsia	1.95	1.76	0.99	0.70	2.37	2.56	2.33	2.56	2.06	2.13
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICs = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

Belgium's geographical trade pattern (Table 1) reflects its high degree of economic integration with the other industrial countries, especially EU members.

- The importance of trade relations between Belgium and the other countries of the European Union demonstrates the high degree of integration that Belgium has with Europe. This geographical concentration of trade can also be a source of vulnerability due to the sensitivity to cyclical fluctuations in the neighbouring countries. According to the CHELEM database, Belgium's exports to the EU countries accounted for about 70% of total exports in 1997 (data covering the Belgian Luxembourg Economic Union area - BLEU). The main export markets for Belgium were Germany (16.9%), France (15.2%), the Netherlands (12.5%) and the United Kingdom (10%).
- Belgium's exports to the United States and Japan are rather modest. The United States and Japan accounted for 5% and 1.2% of total exports respectively in 1997, substantially less than that of the other EU countries considered (except the Netherlands).
- Among other regions of the world in 1997, the group of the Asian NICs and the group of the European countries in transition represented small shares of Belgium's total exports despite the rapid trade growth experienced by these countries prior to the crisis. In fact, Asian NICs and the European countries in transition are more important to the export performance of other EU countries. If we compare Belgium with its main trading partners - i.e. Germany, France, the Netherlands, United Kingdom, Italy - these countries all show closer trade links with Asian NICs and the European countries in transition.

Belgium's sector trade pattern (Table 2) reflects the importance of three groups of products: chemical products, vehicles and other products (including diamonds). Belgian exports are rather weak in the electronics sector, one of the most rapidly expanding sector of world trade during the period 1991-1997. If we compare Belgium with its main trading partners, these countries all show larger trade shares of the electronics sector.

This paper is divided into two parts. The first part focuses on the method of analysis. CMSA is an accounting method for decomposing ex-post, a country's aggregated export share performance into a "structural effect" and a "competitiveness effect". The specification of the methodology developed by Milana (1988)¹ has been followed because it aims to find a satisfactory solution to the problems encountered by the traditional approaches to CMSA. The second part of the paper presents an application of the CMSA using a comparative approach. The results of the analysis allow us to compare the export performance of Belgium with its main trading partners, as well as the United States, Japan and the Asian NICs.

1. Milana C. (1988), "Constant Market Shares Analysis and Index Number Theory", *European Journal of Political Economy*, (4) 4, pp. 453-478.

TABLE 2 - Sector distribution of exports (1991-1997)

	BLEU		Germany		France		Netherlands		
	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Energy	3.02	3.90	0.79	1.26	2.48	2.47	8.26	9.89	
Food industry	10.82	11.16	5.10	6.05	14.29	16.41	22.06	24.08	
Textile	7.10	7.53	4.65	6.17	5.56	6.14	4.17	4.65	
Wood & paper	5.69	6.48	5.51	6.43	5.43	5.63	5.93	6.50	
Chemical	21.22	18.92	16.86	17.42	17.61	18.31	18.52	18.07	
Steel industry	5.32	7.27	3.25	3.91	3.46	4.19	2.23	2.44	
Non ferrous	2.73	3.16	1.95	1.97	1.72	1.97	1.87	2.12	
Mechanical	8.35	8.28	20.57	22.37	18.32	18.45	8.78	11.38	
Vehicles	14.72	15.77	17.12	16.31	11.42	12.10	4.70	3.99	
Electrical	2.97	2.61	6.81	6.73	5.50	4.88	3.24	3.07	
Electronics	5.45	3.75	9.78	9.10	11.18	8.47	16.30	9.81	
Others	12.61	11.17	7.62	2.29	3.04	0.98	3.94	4.00	
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

	United Kingdom		Italy		USA		Japan		Asian NICS		
	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	in 1997	in 1991	
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
Energy	5.78	6.66	1.50	1.95	1.96	3.02	2.48	0.41	6.00	9.35	
Food industry	6.95	7.96	6.87	7.30	10.68	12.99	14.29	0.68	7.49	10.59	
Textile	4.64	4.87	17.25	18.30	3.14	2.65	5.56	2.65	13.51	20.11	
Wood & paper	5.74	5.80	7.58	7.01	6.44	6.67	5.43	3.95	5.82	7.29	
Chemical	16.15	16.60	14.35	13.08	13.73	13.36	17.61	8.44	8.10	7.72	
Steel industry	2.38	3.14	3.07	3.30	1.16	1.43	3.46	4.36	1.72	1.91	
Non ferrous	1.77	2.14	1.11	1.07	1.60	2.06	1.72	0.72	1.25	1.18	
Mechanical	19.48	20.36	24.71	23.43	22.82	24.43	18.32	19.25	8.06	7.71	
Vehicles	9.21	8.63	8.04	8.75	8.67	7.86	11.42	22.40	3.66	2.47	
Electrical	5.16	4.23	6.13	5.80	5.50	4.68	5.50	7.02	6.49	5.13	
Electronics	18.57	14.32	6.01	6.43	20.19	16.25	11.18	28.37	35.23	24.58	
Others	4.16	5.29	3.39	3.58	4.10	4.60	3.04	1.75	2.67	1.95	
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia



The Constant Market Shares Analysis

A. Background and Contents of the CMSA

1. A decomposition method

The constant market shares analysis is a decomposition method which was applied for the first time to international trade flows by Tyszynski (1951). The technique, known as shift-and-share analysis, was already used in the empirical studies of structural change in the field of industrial and regional economics. The idea behind the CMSA is to decompose the change in the aggregate exports (or the global export share) of a country into two main parts. According to the traditional formulation of the CMSA, the first part of the decomposition indicates the hypothetical change in a given country's exports assuming that the share of this country's exports relative to the exports of the rest of the world (or another reference¹) has remained constant (the so-called "structural effect"). The second part of the decomposition, a residual effect, indicates the difference between the actual change and the hypothetical change with regard to the country's exports (the so-called "competitiveness effect"). In the discrete-time formulation of the CMSA, a third effect arises. It is a second-order effect that was interpreted by Baldwin (1958) as the interaction between the structural and competitiveness effects (the so-called "interaction effect").

As the country's export flows and that of the rest of the world are not homogeneous, the decomposition method has to be applied to trade data at a disaggregated level with respect to markets and products. Using such a disaggregation, aggregate exports are defined as the double sum (over markets and products) of individual products exported to single foreign markets. It is then possible to specify the influence of export structure on a country's export performance and to quantify the "market composition effect" and the "product composition effect".

As noted by Magee (1975)²: "The technique reveals that, even if a country maintains its share of every product in every market, it can still have a decrease in its aggregate market share if it exports to markets that grow more slowly than the

-
1. According to Jepma C.J (1986), *Extensions and Application Possibilities of the Constant Market Shares Analysis. The case of the developing countries' exports*, Thesis, University of Groningen, pp.134-135, the choice of the reference group presents an element of arbitrariness. The reference group has to meet some requirements: the countries in the group should represent the most important competitors on foreign market and it could be useful to compare the production structure of the country considered with that of the reference group.
 2. Magee S.P. (1975), "Prices, Incomes and Foreign Trade", in Kenen P.B. (ed. by), *International Trade and Finance. Frontiers for Research*, Cambridge University Press, p.221.

world average and/or if it exports products for which demand is growing more slowly than average”.

2. Ex-post method

The CMSA is an accounting method for decomposing ex-post the variations over time of a country's aggregated export share. The technique has its limitations. The CMSA is a descriptive method that, by itself, provides no insight into the explanatory factors underlying the changes in the market shares. It does not examine the causal relationships between trade performance and other economic variables like the exchange rate. The usefulness of the CMSA is to separate and quantify the contribution of a country's trade pattern (market and product composition) to trade performance and to quantify the contribution of other factors. For an explanation of the size of the components, the CMSA can be combined with complementary analyses (time-series or cross-section analyses).

B. Shortcomings of the traditional formulation of the CMSA and solutions proposed by Milana (1988)

The CMSA became popular in the field of applied international economics despite continued criticism. It was acknowledged as a useful tool of analysis, in particular to compare the export performance of different countries. However, the method in its traditional formulation had some shortcomings. Research by Richardson (1971a, 1971b) made an important contribution towards understanding the accounting nature of the technique and adopting an index number approach. The CMSA has been progressively refined¹. This section summarises the main shortcomings of the traditional formulation of the CMSA and the solutions based on the recent developments in index number theory proposed by Milana (1988) in the reformulation of the method, which has been used in this paper.

1. The index number problem

The index number problem arises because the CMSA is always applied to a discrete time-period. During the time interval assumed, the export structures of both the country considered and the rest of the world will be changing continuously. But the CMSA is applied to discrete-time observations. Different weights of aggregation can be chosen to translate the continuous-time into the discrete-time decomposition formula. Richardson (1971a) proposed different formulations using Laspeyres- or Paasche-type systems of weights, or using some mixed systems (cf. Annex 1). The index number problem is preoccupying because the choice of the weights of aggregation influences the values and sign of the various elements of the decomposition.

1. For references to recent contributions, see Fagerberg J. and Sollie G. (1987), “The Method of Constant Market Shares Analysis Reconsidered”, *Applied Economics*, 19, pp. 1571-1583.

The new formulation of the CMSA developed by Milana (1988)¹, proposes to overcome the problem by reformulating the discrete-time version of the accounting decomposition using Diewert's (1976)² superlative index numbers. According to this author, as the weights are not constant during the whole time-period under review, more flexible index numbers should be used instead of the fixed weighted Laspeyres- or Paasche-type indexes.

2. The interpretation of the residual term

In the traditional formulation of the CMSA, the "competitiveness effect" is a residual effect calculated as the difference between the change in the aggregate export share and the "structural effect". The residual aspect of this important effect is obviously a major weakness of the CMSA in its traditional formulation, which therefore affects the intelligibility of the results. Using the reformulation by Milana (1988) based on Diewert's superlative index numbers, the competitiveness effect and the structural effect are calculated in a symmetric mode. The residual term interpreted as the "interaction" effect is ruled out, being distributed to the other components of the CMSA.

3. The variability of the results depending on the order of decomposition of the structural effect

As noted by Richardson (1971a, 1971b), a further problem of the CMSA in its traditional formulation is that a change in the calculation sequence of market and product effects modifies the values and the sign of these individual effects. This results from the fact that the decomposition method only holds if the expressions of the market and product effects are calculated asymmetrically, i.e. if the product effect is expressed in comparison to the reference level at a higher degree of disaggregation, and the market effect is compared to the reference level without disaggregation (or vice-versa). Although the sum of both effects remains the same across different formulations, the size of the separate market and product effects will differ depending on the order of decomposition for the single elements. As noted by Milana (1988), the problem is due to the fact that, in the traditional formulation, a third effect is in fact incorporated in either the commodity or product effect, depending on which effect is calculated second in the decomposition. In the new formulation of the CMSA (used in this paper), the third effect is explicitly calculated. Hence, the structural effect is decomposed into three elements: the "market effect", the "product effect", and the "specific market-product effect" or "residual effect", which are insensitive to the order of decomposition.

4. The path dependency

The last issue is linked to the fact that, for the same initial and final values of the single elements, the path of these elements during the time interval over which

-
1. Milana C. (1988), "Constant Market Shares Analysis and Index Number Theory", *European Journal of Political Economy*, (4) 4, pp. 453-478.
 2. Diewert W.E. (1976), "Exact and Superlative Index Numbers", *Journal of Econometrics*, 4, pp. 115-145.

the CMSA is computed, influences the values of the various effects resulting from the decomposition of the change in the aggregate exports (or the global export share). In the traditional formulation of the CMSA, this problem is not taken into account. The decomposition is applied to discrete-time observations at the beginning- and end-of-period. In the new formulation of the CMSA, the author recommends applying the chain principle by subdividing the whole time-period into shorter intervals for which the data are available, to apply the decomposition method on each of these intervals, and to use chained indices to reconstruct the global results.

C. New formulation of the CMSA by Milana (1988)

The new formulation of the methodology by Milana (1988) proposes satisfactory solutions to the major problems of CMSA accounting decomposition, given the recent developments in index number theory. These solutions should improve the quality of the empirical analysis. However, in the general case, the growth in a country's export shares and the growth in world exports are unlikely to follow the same path. Moreover, it is unlikely that variations of the single elements over time are consistent with the underlying law of aggregation established by the chosen aggregator function. Thus, approximation errors would remain in the new formulation. According to the new formulation of the CMSA, the percentage change in the aggregated export market share of a country, the "total effect" - defined as the ratio between the country's exports and total world exports - has been disaggregated into four components.

$$\text{Total effect} \equiv \text{Competitiveness effect} + \text{Market effect} + \text{Product effect} + \text{Residual effect}$$

1. "Total effect"

$$\left[\frac{\sum_m \sum_p X_{m,p}^{t1}}{\sum_m \sum_p XW_{m,p}^{t1}} - \frac{\sum_m \sum_p X_{m,p}^{t0}}{\sum_m \sum_p XW_{m,p}^{t0}} \right] * 100$$

Where:

$X_{m,p}^t$ = element (m,p) of the matrix of the reporting country's exports at time t,

$XW_{m,p}^t$ = element (m,p) of the matrix of world exports¹ at time t,

m = market index, p = product index,

t0 = initial period, t1 = final period.

1. If the reporting country is part of the reference group, the data have to be corrected in order to prevent distortions. This correction has a small influence on small market shares, but it can be very influential when the country considered has larger market shares.

The total effect measures the change (positive or negative) over the period under review of the aggregated export share of a country. The decomposition method has to be applied to trade data at the most disaggregated level with respect to markets and products.

The total effect is divided into two main effects: the competitiveness effect and the structural effect. The competitiveness effect summarises the influence of changes in price competitiveness (assessed by the real effective exchange rate) and changes in non-price competitiveness (expressed by qualitative factors reflecting product differentiation) on export performance. The sum of the other three effects (market effect, product effect, residual effect) represents the structural effect, largely reflecting changes in the market and in the product specialisation of the country considered.

2. “Competitiveness effect”

$$\sum_m \sum_p 0.5 * \left[\frac{XW_{m,p}^{t0}}{\sum_m \sum_p XW_{m,p}^{t0}} + \frac{XW_{m,p}^{t1}}{\sum_m \sum_p XW_{m,p}^{t1}} \right] * \left[\frac{X_{m,p}^{t1}}{XW_{m,p}^{t1}} - \frac{X_{m,p}^{t0}}{XW_{m,p}^{t0}} \right] * 100$$

The competitiveness effect reveals the capacity of a country to increase its market share due to competitiveness factors only, independently of structural developments in the market or in the product trade pattern. It is calculated by aggregating the changes in the export shares of a country for each market and for each product (second term between brackets), weighted by the relative import shares of the partner countries in world trade.

The system of weights in this version of the CMSA is calculated using an average of the weights of the initial year and final year. This choice reflects the fact that a country’s export structure and total world trade are changing over time, but that there is no reason to believe that either the structure at the beginning- or end-of-period was dominant throughout the period.

3. “Market composition effect”

$$\sum_m \sum_p 0.5 * \left[\frac{X_{m,p}^{t0}}{\sum_p XW_{m,p}^{t0}} + \frac{X_{m,p}^{t1}}{\sum_p XW_{m,p}^{t1}} \right] * \left[\frac{\sum_p XW_{m,p}^{t1}}{\sum_m \sum_p XW_{m,p}^{t1}} - \frac{\sum_p XW_{m,p}^{t0}}{\sum_m \sum_p XW_{m,p}^{t0}} \right] * 100$$

The market effect measures the effect stemming from the geographical breakdown of a country’s exports. It is calculated by aggregating the changes in the individual market shares (sum over the products) of total world trade (second

term between brackets), weighted by the export shares of the country concerned in these geographical markets.

4. "Product composition effect"

$$\sum_m \sum_p 0.5 * \left[\frac{X_{m,p}^{t0}}{\sum_m XW_{m,p}^{t0}} + \frac{X_{m,p}^{t1}}{\sum_m XW_{m,p}^{t1}} \right] * \left[\frac{\sum_m XW_{m,p}^{t1}}{\sum_m \sum_p XW_{m,p}^{t1}} - \frac{\sum_m XW_{m,p}^{t0}}{\sum_m \sum_p XW_{m,p}^{t0}} \right] * 100$$

The product effect defines the influence of the product composition of a country's exports. It is calculated by aggregating the changes in the individual product shares (sum over the markets) of total world trade (second term between brackets), weighted by the export shares of the country concerned in these sector markets.

5. "Residual effect"

$$\sum_m \sum_p 0.5 * \left[\frac{X_{m,p}^{t0}}{XW_{m,p}^{t0}} * \frac{\sum_m XW_{m,p}^{t0} * \sum_p XW_{m,p}^{t0}}{\left(\sum_m \sum_p XW_{m,p}^{t0} \right)^2} + \frac{X_{m,p}^{t1}}{XW_{m,p}^{t1}} * \frac{\sum_m XW_{m,p}^{t1} * \sum_p XW_{m,p}^{t1}}{\left(\sum_m \sum_p XW_{m,p}^{t1} \right)^2} \right] * \left[\frac{XW_{m,p}^{t1} * \sum_m \sum_p XW_{m,p}^{t1}}{\sum_m XW_{m,p}^{t1} * \sum_p XW_{m,p}^{t1}} - \frac{XW_{m,p}^{t0} * \sum_m \sum_p XW_{m,p}^{t0}}{\sum_m XW_{m,p}^{t0} * \sum_p XW_{m,p}^{t0}} \right] * 100$$

The residual effect embodies all second-order factors. It represents the positive or negative impact of specific market-product combinations in comparison to the market and product mean distribution of a given country's exports. It is calculated by aggregating the relative changes in world export shares of individual products on individual markets in comparison to the average change of the world export shares for the same individual products and the same individual markets taken separately (second term between brackets). These relative changes are weighted by the export shares of the country concerned, weighted themselves by the relative importance of these products and these markets to total world trade.



Results of the CMSA (1991-1997)

The CMSA formulation used in this paper is the version developed by Milana (1988)¹. It was computed over the period 1991-1997 at the most disaggregated level available using the CHELEM database (i.e. 72 sectors and 62 countries or areas) in order to get the best information to evaluate the four different effects. The results for Belgium are compared to those of its main trading partners (Germany, France, the Netherlands, United Kingdom and Italy), as well as the United States, Japan and the Asian NICs. Following this, the overall change in export market shares is disaggregated further to take account of the geographical trade patterns and the commodity trade patterns of the countries considered. The results are presented in tables and in figures.

The CHELEM database provides data on values expressed in dollars. It is impossible to distinguish between the volume and the price components in the evolution of the market shares. Therefore, the interpretation of the results should be made with extreme caution, as changing exchange rates and prices have an impact on price competitiveness and on export performance.

A. CMSA (1991-1997) - Global results

The global results for each country presented in Table 3 are expressed in absolute terms. They are the sum on the rows and the columns of the components resulting from the decomposition method. They are also expressed as a percentage of 1991 export shares in order to get the contribution of each effect to the rate of change of exports, and to compare the performance of the different countries.

In the period under review, Belgium's global export market share decreased from 3.6% in 1991 to 3.3% in 1997 (data covering the Belgium-Luxembourg Economic Union area). As shown in Table 3, this was mainly the result of the negative contribution of Belgium's market specialisation (-11.6% of 1991 export share), while the negative contribution of the product specialisation effect was of lesser importance. This means that - during the period under review - the geographical orientation of Belgium's exports has been mainly towards markets with a lower growth rate relative to world trade growth. The positive contributions of the competitiveness effect and the residual effect were not sufficient to compensate for the remaining effects.

1. However, the CMSA was carried out without subdividing the period under review (1991-1997) into shorter intervals, as suggested by Milana (1988).

By contrast, in the case of Germany, the negative competitiveness effect (-13%) was the main driving force behind the fall in the export market share. Moreover, this effect was accompanied by a negative market effect (-7.1%), while the positive effect of German commodity specialisation was not sufficient to compensate for these adverse effects. This resulted in a sizable fall in Germany's export market share from 12.8% in 1991 to 10.6% in 1997 (i.e. -17.3% of 1991 export share). In the case of France, the large negative contribution of market specialisation was reinforced by the impact of a negative competitiveness effect and of a small negative product effect, explaining the reduction in its export market share from 6.7% in 1991 to 5.7% in 1997. Only the residual effect had a positive contribution. In the case of the Netherlands, the negative contribution of market specialisation was accompanied by a small negative contribution of the product effect. However, the positive competitiveness effect reduced the impact of these negative effects. This is the reason behind the rather limited decrease in the export market share from 4.078% in 1991 to 3.824% in 1997. Between 1991 and 1997, the United Kingdom registered the smallest decrease in the export market share among the European countries considered. This was the result of opposing forces: the negative influence of the market specialisation effect was partially offset by the combined positive influence of the competitiveness effect and the product effect. In the case of Italy, the global export market share decreased from 5.2% in 1991 to 4.7% in 1997. This was mainly the result of the negative contribution of the market effect (-9.9% of 1991 export share), while the negative contributions of the competitiveness effect and the product specialisation effect were of lesser importance.

In the United States, the combination of the positive market and product specialisation effects more than compensated for the negative impact from the competitiveness effect. The global export market share increased from 13.6% in 1991 to 14.6% in 1997.

By contrast, in Japan these positive effects were insufficient to compensate for the substantial loss in competitiveness. This was the main reason behind the substantial fall in the global export market share from 9.8% in 1991 to 8.5% in 1997.

In the Asian NICs, all the effects have combined their positive influence, so that the global export market share increased from 9.4% in 1991 to 11.2% in 1997 (i.e. +19.3% of 1991 export share). The main contributions to this global result came from the positive market and product effects, while the positive impact of the competitiveness effect and the residual effect were very small.

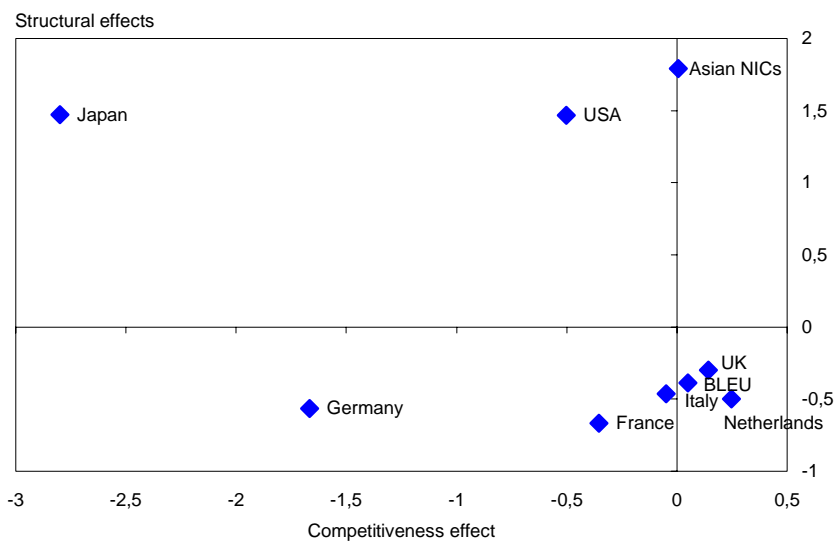
TABLE 3 - Global results of the CMSA (1991-1997)

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
BLEU	3.256	3.609	-0.354	-9.8	0.051	1.4	-0.418	-11.6	-0.056	-1.5	0.087	2.4
Germany	10.613	12.840	-2.227	-17.3	-1.666	-13.0	-0.909	-7.1	0.250	2.0	0.094	0.7
France	5.690	6.707	-1.017	-15.2	-0.353	-5.3	-0.716	-10.7	-0.031	-0.5	0.082	1.2
Netherlands	3.824	4.078	-0.254	-6.2	0.247	6.1	-0.460	-11.3	-0.019	-0.5	-0.018	-0.4
United Kingdom	5.607	5.756	-0.149	-2.6	0.144	2.5	-0.412	-7.2	0.075	1.3	0.039	0.7
Italy	4.718	5.238	-0.520	-9.9	-0.048	-0.9	-0.450	-8.6	-0.048	-0.9	0.035	0.7
USA	14.551	13.563	0.988	7.3	-0.502	-3.7	1.140	8.4	0.450	3.3	-0.123	-0.9
Japan	8.528	9.851	-1.323	-13.4	-2.800	-28.4	1.026	10.4	0.595	6.0	-0.147	-1.5
Asian NICS	11.188	9.400	1.788	20.8	0.007	-0.6	1.085	11.9	0.630	8.6	0.077	1.0

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

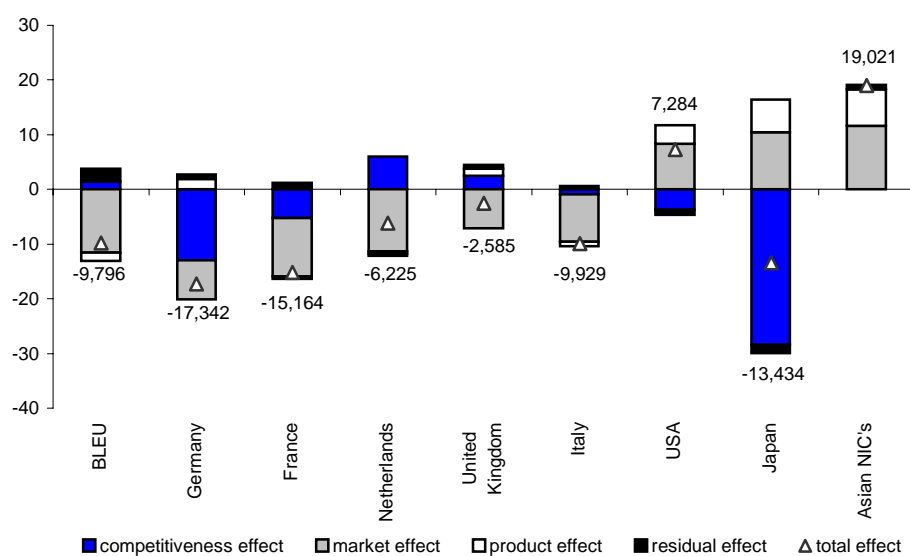
FIGURE 1 - Global results of the CMSA (1991-1997) (in absolute terms)



Source: Own calculations based on CHELEM database, CEPII.

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

The structural effects are the sum of the market effect, the product effect, and the residual effect.

FIGURE 2 - cmsa (1991-97) - Global results (in % of 1991 export shares)

Source: Own calculations based on CHELEM database, CEPII.

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICs = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

B. CMSA (1991-1997) - Contributions of the different geographical areas

The overall change in export market shares has been disaggregated further to take account of the geographical trade patterns of the countries considered. As a result, the following tables present, for each country, the contributions of the different areas to the global results presented in Table 3. They correspond to the sum on the columns of the components resulting from the decomposition method. They are expressed in absolute terms and as a percentage of 1991 export shares. The results for Belgium are compared to those of its main trading partners (Germany, France, the Netherlands, United Kingdom and Italy), as well as the United States, Japan and the Asian NICs.

The different geographical areas have been defined as follows:

NorthAm = United States, Canada

SouthAm = Venezuela, Ecuador, Mexico, Brazil, Argentina, Chile, Colombia, Peru, Others in America

EU15 = France, BLEU, Germany, Italy, Netherlands, United Kingdom, Ireland, Denmark, Finland, Sweden, Austria, Spain, Greece, Portugal

EastEur = Ex-Yugoslavia, Ex-USSR, Central Europe

OtherEur = Norway, Iceland, Switzerland, Turkey, Israel, Others in Southern Europe

Afr-ME = South Africa, Algeria, Morocco, Tunisia, Egypt, Gulf, non OPEC Middle East, Nigeria, Gabon, Others in Africa

Japan

SEAsia = Indonesia, India, South Korea, Hong Kong, Singapore, Taiwan, Malaysia, Philippines, Thailand, Pakistan, Brunei, Others in Asia/Oceania, China, Indo-China, Others

OtherAsia = Australia, New Zealand

1. BLEU: CMSA (1991-1997) - geographical breakdown

The main result concerning the **total effect** is related to the important role that the countries of the European Union have in explaining the total loss of Belgium's export market share (data covering the Belgium-Luxembourg Economic Union area or BLEU, as already mentioned). This negative influence came from the combined negative contributions of the market effect, and, to a lesser extent, the competitiveness effect and the product effect. Although Belgium's export share with the countries of East Europe is still very low, it increased at a staggering rate of 120% during the period under review due to the process of trade liberalisation undertaken by these countries. This gain in export share was the result of the combined positive contributions of the competitiveness effect (+53.6% of 1991 export share), the market effect (+47.4%) and the residual effect (+20.5%). Belgium's export share also increased with the countries of "other" Europe due to the positive contributions of the competitiveness effect and the residual effect. The gains in export share with the countries of East Europe, "other" Europe, North America, and South-East Asia were not sufficient to offset the loss in export share with the countries of the European Union.

Concerning the **competitiveness effect**, Belgium registered a negative contribution from the countries of the European Union and, to a lesser extent, from the countries of Africa and the Middle East. The contributions from other areas were positive. The global competitiveness effect was positive.

Concerning the **market effect**, it appeared that Belgium's main trading partners, the European countries (in particular Germany and France) induced a negative market effect, whereas the Asian NICs and the European countries in transition produced positive market effects. The main negative contribution came from the countries of the European Union and, to a much lesser extent, countries of Africa and the Middle East. Belgium registered a positive contribution from two groups of countries: North America (United States and Canada), and the so-called "emerging countries" of East Europe, South America, and South-East Asia. But the global market effect was nonetheless negative.

The global **product effect** was negative due to the negative contributions from South America, the European Union, and Japan.

Concerning the **residual effect**, Belgium registered a negative effect with respect to Japan and the countries of South-East Asia, and a positive effect with respect to the other countries. The global residual effect was positive.

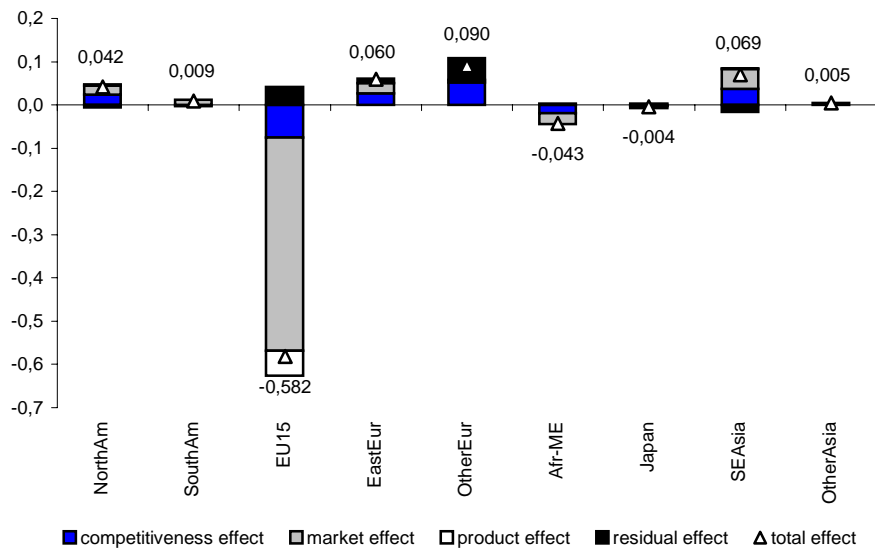
TABLE 4 - BLEU (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	0.178	0.136	0.042	30.6	0.024	17.6	0.021	15.2	-0.006	-4.1	0.003	2.6
SouthAm	0.040	0.032	0.009	27.3	-0.003	-10.3	0.011	35.6	0.001	3.6	0.000	-0.8
EU15	2.255	2.837	-0.582	-20.5	-0.075	-2.6	-0.494	-17.4	-0.057	-2.0	0.041	1.5
EastEur	0.110	0.050	0.060	119.7	0.027	53.6	0.024	47.4	0.000	0.0	0.010	20.5
OtherEur	0.263	0.172	0.090	52.4	0.052	29.9	0.000	0.3	0.006	3.2	0.051	29.3
Afr-ME	0.102	0.145	-0.043	-29.3	-0.019	-12.8	-0.026	-17.8	0.000	0.2	0.003	2.1
Japan	0.038	0.042	-0.004	-10.0	0.003	8.2	-0.002	-3.6	-0.001	-2.8	-0.005	-12.4
SEAsia	0.254	0.185	0.069	37.5	0.037	20.1	0.046	25.0	0.001	0.3	-0.016	-8.8
OtherAsia	0.015	0.010	0.005	51.4	0.004	43.0	0.000	3.8	0.000	3.5	0.000	1.7
TOTAL	3.256	3.609	-0.354	-9.8	0.051	1.4	-0.418	-11.6	-0.056	-1.5	0.087	2.4

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Note: BLEU = Belgium-Luxembourg Economic Union

FIGURE 3 - BLEU (1991-97) - Contributions of the different geographical areas (in absolute terms)



Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

2. Main European trading partners: CMSA (1991-1997) - geographical breakdown

Concerning the **total effect**, a rather similar analysis can be undertaken for Belgium's European primary trading partners (Germany, France, the Netherlands, the United Kingdom and Italy). The main reason behind the loss in export market share is related to the contribution from the EU15. This result was due, in the case of Germany, to the combined negative contributions of the market effect and the competitiveness effect, while the positive product and residual effects were of lesser importance. A decrease in the export market share has also been registered with the countries of "other" Europe, except in the case of the Netherlands and Italy. By contrast, all the European countries under review registered a rapid increase in their export market share with the countries of East Europe between 1991 and 1997, resulting from the positive contributions of the competitiveness effect (except in the case of Germany), the market effect and the product effect. However, the export share reached with these countries was only significant in the case of Germany. The positive contributions of the countries of East Europe, South-East Asia, South America (except for France), and North America (except for France) were insufficient to offset the adverse effect of the EU15.

Concerning the **competitiveness effect**, the results registered by Germany were negative with each area, except with South-East Asia. The negative result registered by France was due to the negative contributions of the EU15, Japan, North America, South America, Africa and the Middle East while the negative result also registered by Italy was mainly due to the negative contributions of the EU15 and Japan. By contrast, the Netherlands and the United Kingdom registered a global positive competitiveness effect: the positive contributions of the EU15, East Europe, "other" Europe, and Japan more than compensated for the negative contributions of South-East Asia and South America.

Concerning the **market effect**, the results demonstrated that for all the European countries concerned, the contribution of the market effect in the CMSA analysis was negative. This result was due to the high share of intra-EU trade in a period during which EU economic growth was lower than that of total world growth. By contrast, the European countries all benefited from a positive market effect from the Asian NICs, the countries of East Europe, and the countries of South America, as well as from North America.

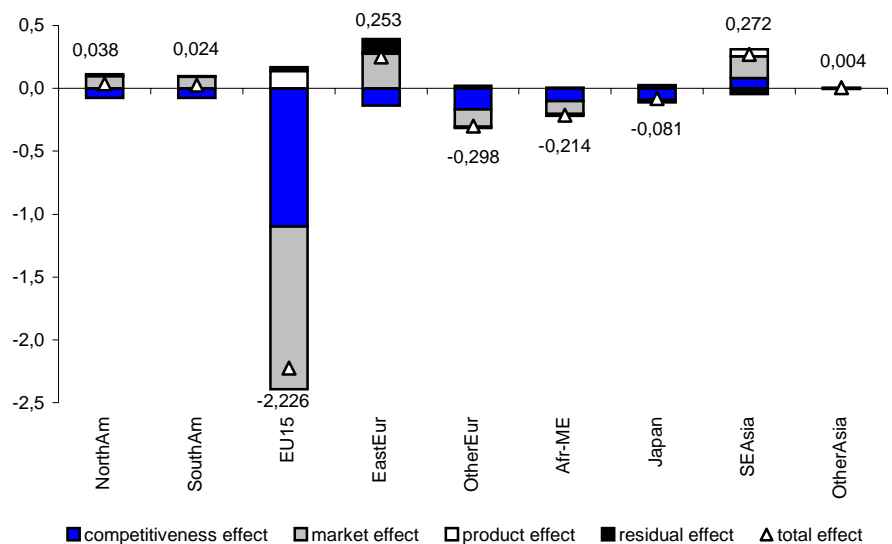
Concerning the **product effect**, a distinction should be made among the European countries considered. The global product effect and the contributions of each area were positive in the case of Germany, while Italy and France (with the exception of a positive contribution from Africa and the Middle East) reported the opposite result. The global product effect was also positive in the case of the United Kingdom, but the contributions of North America and Africa and the Middle East were negative. In the case of the Netherlands, the global product effect was negative, but the contributions of South-East Asia and "other" Asia were positive.

Finally, it should be noted that, with the exception of the Netherlands, the **residual effect** was positive for all the European countries concerned. In particular, the contribution from East Europe was positive for all the European countries.

TABLE 5 - Germany (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	0.940	0.901	0.038	4.3	-0.076	-8.5	0.099	11.0	0.014	1.6	0.000	0.0
SouthAm	0.286	0.262	0.024	9.3	-0.075	-28.5	0.093	35.6	0.003	1.3	0.001	0.5
EU15	5.826	8.052	-2.226	-27.6	-1.101	-13.7	-1.295	-16.1	0.140	1.7	0.029	0.4
EastEur	1.106	0.853	0.253	29.6	-0.136	-15.9	0.277	32.5	0.004	0.5	0.110	12.9
OtherEur	0.816	1.114	-0.298	-26.7	-0.168	-15.1	-0.138	-12.4	0.020	1.8	-0.010	-0.9
Afr-ME	0.376	0.589	-0.214	-36.3	-0.099	-16.8	-0.102	-17.4	0.005	0.9	-0.018	-3.1
Japan	0.240	0.321	-0.081	-25.2	-0.092	-28.6	-0.017	-5.3	0.007	2.3	0.021	6.5
SEAsia	0.933	0.661	0.272	41.2	0.084	12.7	0.173	26.2	0.054	8.1	-0.044	-6.7
OtherAsia	0.090	0.086	0.004	4.3	-0.003	-3.9	0.000	0.5	0.002	2.3	0.004	5.1
TOTAL	10.613	12.840	-2.227	-17.3	-1.666	-13.0	-0.909	-7.1	0.250	2.0	0.094	0.7

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 4 - Germany (1991-97) - Contributions of the different geographical areas (in absolute terms)

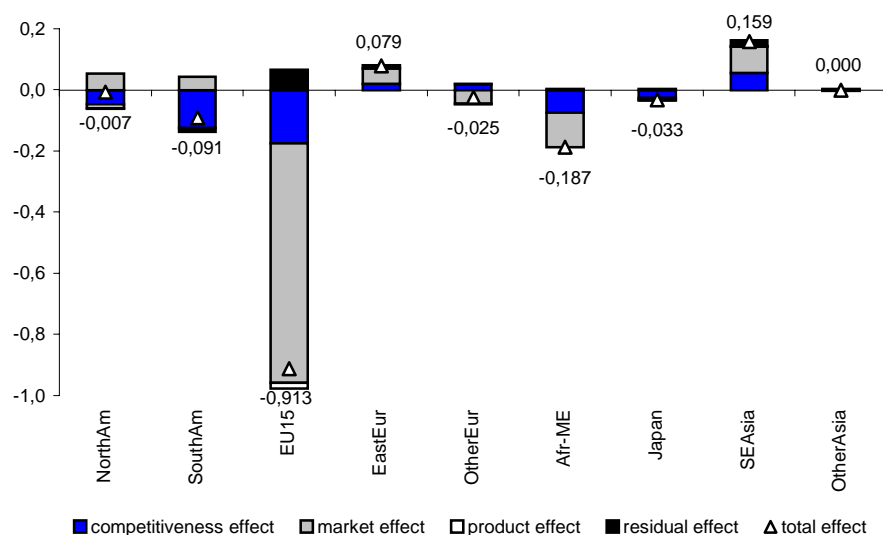
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 6 - France (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	0.452	0.459	-0.007	-1.4	-0.048	-10.5	0.054	11.8	-0.012	-2.7	-0.001	-0.3
SouthAm	0.136	0.227	-0.091	-40.0	-0.124	-54.4	0.042	18.6	0.000	-0.2	-0.013	-5.9
EU15	3.524	4.437	-0.913	-20.6	-0.175	-3.9	-0.784	-17.7	-0.019	-0.4	0.066	1.5
EastEur	0.213	0.134	0.079	59.5	0.020	14.9	0.050	37.2	-0.001	-0.8	0.011	8.5
OtherEur	0.338	0.363	-0.025	-6.8	0.018	5.0	-0.046	-12.6	-0.003	-0.7	0.001	0.4
Afr-ME	0.423	0.610	-0.187	-30.7	-0.073	-12.1	-0.115	-18.8	0.004	0.7	0.000	0.0
Japan	0.106	0.139	-0.033	-23.7	-0.027	-19.0	-0.006	-4.1	-0.003	-2.4	0.002	1.6
SEAsia	0.461	0.303	0.159	52.5	0.055	18.1	0.086	28.6	0.002	0.7	0.019	6.2
OtherAsia	0.037	0.037	0.000	-0.9	0.001	2.2	0.001	2.0	0.001	2.6	-0.003	-8.5
TOTAL	5.690	6.708	-1.017	-15.2	-0.353	-5.3	-0.716	-10.7	-0.031	-0.5	0.082	1.2

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 5 - France (1991-97) - Contributions of the different geographical areas (in absolute terms)

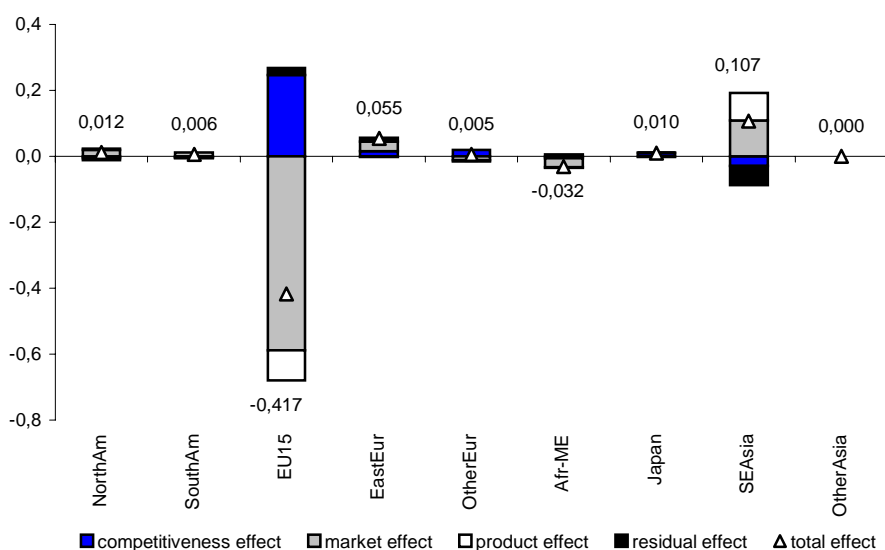
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 7 - Netherlands (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	0.145	0.133	0.012	8.9	-0.006	-4.9	0.019	13.9	-0.004	-3.3	0.004	3.3
SouthAm	0.048	0.041	0.006	15.6	-0.003	-6.6	0.012	29.4	0.000	-0.8	-0.004	-8.6
EU15	2.662	3.079	-0.417	-13.6	0.246	8.0	-0.588	-19.1	-0.091	-3.0	0.021	0.7
EastEur	0.123	0.068	0.055	80.1	0.016	23.4	0.029	42.9	-0.002	-3.3	0.011	16.5
OtherEur	0.154	0.149	0.005	3.6	0.020	13.6	-0.013	-8.5	-0.003	-1.8	-0.001	-0.4
Afr-ME	0.099	0.131	-0.032	-24.1	-0.006	-4.6	-0.026	-20.1	-0.002	-1.6	0.005	3.7
Japan	0.040	0.030	0.010	33.8	0.010	35.5	-0.001	-4.2	-0.001	-3.8	0.002	6.4
SEAsia	0.539	0.433	0.107	24.7	-0.029	-6.8	0.108	25.1	0.085	19.6	-0.057	-13.3
OtherAsia	0.015	0.015	0.000	0.0	-0.001	-4.6	0.001	3.6	0.000	1.2	0.000	-0.4
TOTAL	3.824	4.078	-0.254	-6.2	0.247	6.1	-0.460	-11.3	-0.019	-0.5	-0.018	-0.4

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 6 - Netherlands (1991-97) - Contributions of the different geographical areas (in absolute terms)

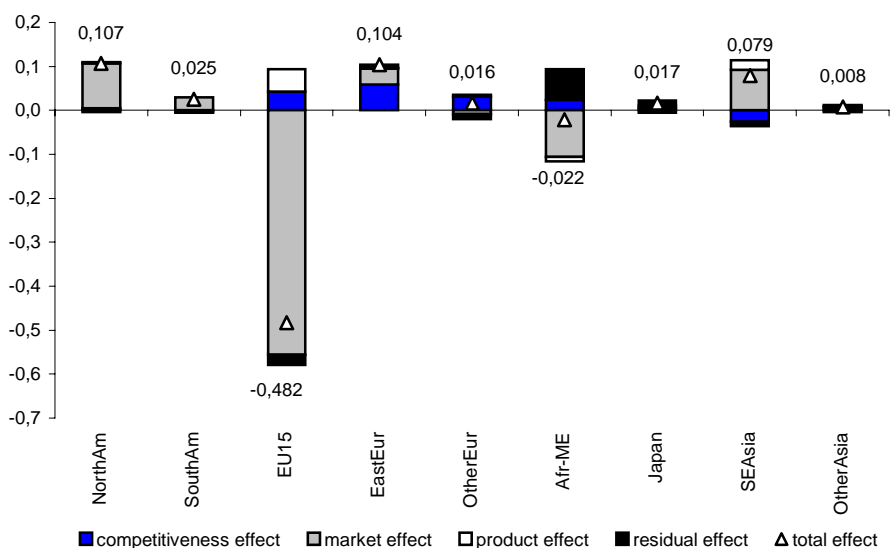
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 8 - United Kingdom (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	0.822	0.715	0.107	15.0	0.005	0.7	0.102	14.2	-0.004	-0.6	0.003	0.5
SouthAm	0.119	0.094	0.025	26.4	-0.003	-3.2	0.030	31.8	0.000	0.1	-0.002	-2.6
EU15	2.986	3.469	-0.482	-13.9	0.043	1.2	-0.556	-16.0	0.051	1.5	-0.023	-0.7
EastEur	0.172	0.068	0.104	152.6	0.059	86.4	0.036	53.1	0.002	3.3	0.006	9.2
OtherEur	0.324	0.308	0.016	5.3	0.032	10.3	-0.009	-2.8	0.004	1.3	-0.011	-3.5
Afr-ME	0.423	0.445	-0.022	-5.0	0.024	5.4	-0.106	-23.9	-0.010	-2.2	0.070	15.8
Japan	0.152	0.135	0.017	12.5	0.004	3.2	-0.005	-3.5	0.007	5.2	0.011	8.1
SEAsia	0.501	0.422	0.079	18.7	-0.025	-5.9	0.092	21.7	0.023	5.4	-0.011	-2.5
OtherAsia	0.109	0.101	0.008	7.7	0.006	5.8	0.004	3.8	0.003	3.0	-0.004	-4.3
TOTAL	5.607	5.756	-0.149	-2.6	0.144	2.5	-0.412	-7.2	0.075	1.3	0.039	0.7

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 7 - United Kingdom (1991-97) - Contributions of the different geographical areas (in absolute terms)

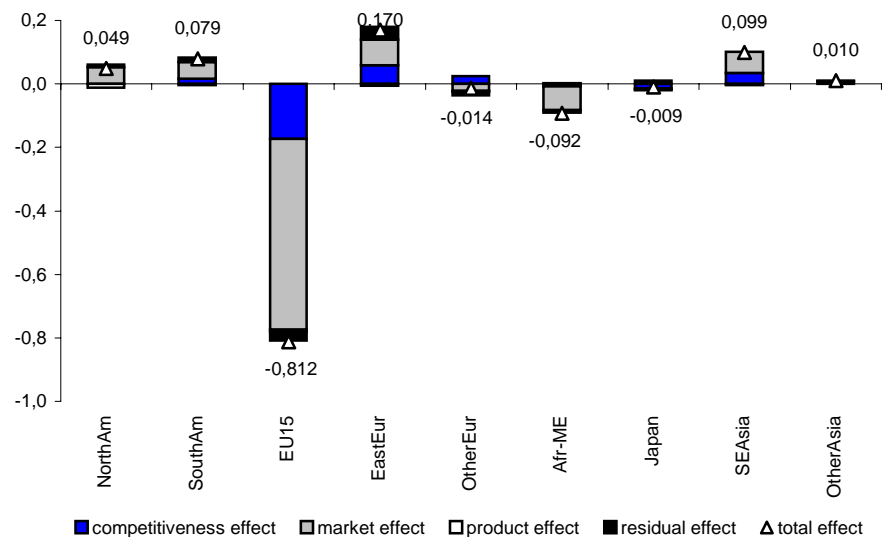
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 9 - Italy (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	0.445	0.396	0.049	12.4	0.001	0.2	0.052	13.2	-0.011	-2.8	0.007	1.8
SouthAm	0.205	0.127	0.079	62.3	0.016	12.3	0.053	42.3	-0.005	-3.6	0.014	11.0
EU15	2.515	3.327	-0.812	-24.4	-0.172	-5.2	-0.601	-18.1	-0.007	-0.2	-0.028	-0.9
EastEur	0.377	0.207	0.170	82.3	0.060	28.9	0.080	38.8	-0.006	-3.0	0.039	19.0
OtherEur	0.360	0.374	-0.014	-3.8	0.024	6.5	-0.022	-5.8	-0.003	-0.7	-0.012	-3.1
Afr-ME	0.301	0.393	-0.092	-23.3	-0.007	-1.7	-0.075	-19.0	-0.009	-2.3	0.002	0.6
Japan	0.109	0.118	-0.009	-7.8	-0.013	-11.1	-0.005	-4.3	-0.002	-1.9	0.011	9.4
SEAsia	0.360	0.261	0.099	37.8	0.035	13.5	0.066	25.1	-0.005	-1.8	0.000	0.1
OtherAsia	0.047	0.036	0.010	28.1	0.008	23.2	0.001	2.7	-0.001	-1.4	0.001	3.5
TOTAL	4.718	5.238	-0.520	-9.9	-0.048	-0.9	-0.450	-8.6	-0.048	-0.9	0.035	0.7

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 8 - Italy (1991-97) - Contributions of the different geographical areas (in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

3. USA: CMSA (1991-1997) - geographical breakdown

Concerning the **total effect**, the global increase in export market share registered by the United States between 1991 and 1997 was related to the positive contributions of South America, South-East Asia, North America, and to a lesser extent East Europe. The positive contributions of South America and North America were due to the combined positive influence of the competitiveness effect, the market effect, and the product effect. In the case of South-East Asia, the positive influences of the market and product effects were sufficient to offset the negative competitiveness effect. The negative contribution from EU15 was mainly due to the negative market effect accompanied by a negative competitiveness effect, and to a smaller extent a negative residual effect. The negative contribution from Japan was due mainly to the negative competitiveness effect.

The global **competitiveness effect** registered by the United States was negative. This result was due to the negative contributions of Japan, South-East Asia, the EU15, and "other" Europe.

By contrast to the European countries, the global **market effect** registered by the United States was positive. This result was supported by the substantial positive contributions of South-East Asia and South America. The main reason for this can be attributed to a geographical trade pattern oriented towards the areas where economic growth was particularly strong between 1991 and 1997, in comparison to total world growth.

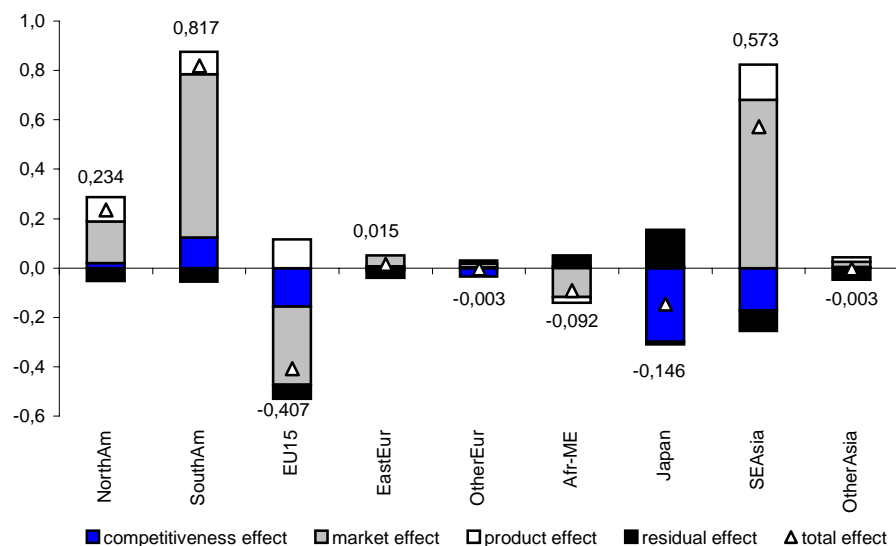
Concerning the **product effect**, the global effect was positive in the case of the United States and this was the result of the positive contributions from each geographical area (with the exception of East Europe, Africa and the Middle East).

Finally, it should be noted that the **residual effect** was negative and was the result of the negative contributions from each geographical area (with the exception of Japan, Africa and the Middle East, and "other" Europe).

TABLE 10 - USA (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	3.376	3.141	0.234	7.5	0.019	0.6	0.169	5.4	0.099	3.1	-0.053	-1.7
SouthAm	2.912	2.095	0.817	39.0	0.122	5.8	0.662	31.6	0.091	4.3	-0.056	-2.7
EU15	2.542	2.949	-0.407	-13.8	-0.156	-5.3	-0.316	-10.7	0.115	3.9	-0.056	-1.9
EastEur	0.190	0.175	0.015	8.4	0.006	3.6	0.045	25.7	-0.009	-5.0	-0.030	-17.1
OtherEur	0.425	0.429	-0.003	-0.8	-0.035	-8.1	0.005	1.2	0.013	3.1	0.012	2.8
Afr-ME	0.586	0.678	-0.092	-13.5	0.006	0.9	-0.119	-17.5	-0.021	-3.2	0.044	6.5
Japan	1.459	1.605	-0.146	-9.1	-0.299	-18.6	-0.010	-0.6	0.005	0.3	0.149	9.3
SEAsia	2.716	2.144	0.573	26.7	-0.172	-8.0	0.682	31.8	0.141	6.6	-0.084	-3.9
OtherAsia	0.345	0.348	-0.003	-0.8	0.005	1.5	0.021	6.0	0.016	4.6	-0.048	-13.9
TOTAL	14.551	13.563	0.988	7.3	-0.502	-3.7	1.140	8.4	0.450	3.3	-0.123	-0.9

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 9 - USA (1991-97) - Contributions of the different geographical areas (in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

4. Japan : CMSA (1991-1997) - geographical breakdown

Concerning the **total effect**, the global fall in export market share registered by Japan between 1991 and 1997 was due to the negative contributions of each area with the exception of South America and South-East Asia.

The global **competitiveness effect** registered by Japan was also negative resulted from the negative contributions of each area.

By contrast to the European countries, the global **market effect** registered by Japan was positive. This was the result of large positive contributions of South-East Asia combined with a positive contribution from North America. This result also reflects the geographical trade pattern of Japan, oriented towards the Asian NICs where economic growth was particularly strong between 1991 and 1997, in comparison to total world growth.

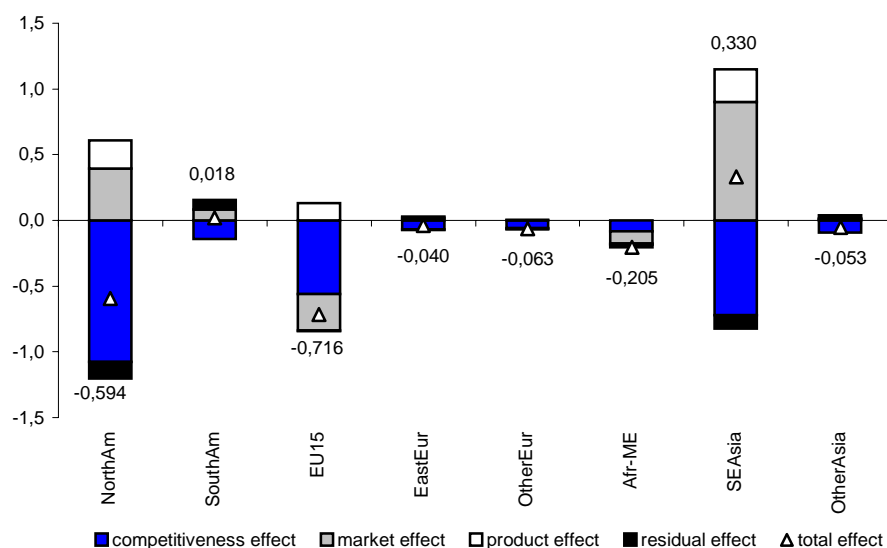
Concerning the **product effect**, the global effect was positive in the case of Japan and this was the result of the positive contributions of each geographical area (with the exception of East Europe, Africa and the Middle East).

Finally, it should be noted that the **residual effect** was positive and was the result of the positive contributions of each geographical area (with the exception of South America, East Europe, and "other" Asia).

TABLE 11 - Japan (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	2.555	3.148	-0.594	-18.9	-1.077	-34.2	0.395	12.5	0.216	6.9	-0.128	-4.1
SouthAm	0.403	0.385	0.018	4.7	-0.140	-36.3	0.082	21.2	-0.003	-0.8	0.076	19.7
EU15	1.253	1.969	-0.716	-36.4	-0.560	-28.5	-0.275	-14.0	0.129	6.6	-0.005	-0.3
EastEur	0.057	0.097	-0.040	-41.2	-0.070	-71.6	0.018	19.0	-0.001	-1.1	0.013	13.1
OtherEur	0.133	0.196	-0.063	-32.1	-0.061	-30.9	-0.004	-2.0	0.005	2.6	-0.003	-1.7
Afr-ME	0.302	0.507	-0.205	-40.4	-0.081	-16.0	-0.097	-19.1	-0.007	-1.3	-0.018	-3.6
SEAsia	3.625	3.295	0.330	10.0	-0.719	-21.8	0.899	27.3	0.250	7.6	-0.105	-3.2
OtherAsia	0.199	0.252	-0.053	-21.1	-0.092	-36.5	0.008	3.3	0.006	2.2	0.024	9.5
TOTAL	8.528	9.851	-1.323	-13.4	-2.800	-28.4	1.026	10.4	0.595	6.0	-0.147	-1.5

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 10 - Japan (1991-97) - Contributions of the different geographical areas (in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

5. Asian NICS: CMSA (1991-1997) - geographical breakdown

Concerning the **total effect**, the rapid increase in export market share registered by the countries of South-East Asia between 1991 and 1997 was related to the positive contributions of each area, with the exception of the EU15, Africa and the Middle East, and Japan. The positive contributions of East Europe and South America were due to the combined positive influence of the competitiveness effect, the market effect and the residual effect, while the positive contribution from South-East Asia was due to the combined positive influence of the competitiveness effect, the market effect and the product effect. The positive contribution from North America was due to the combined positive market and product effects which were sufficient to offset the negative competitiveness effect. By contrast, the negative contribution from the EU15 was due to the combined negative market and residual effects which were not offset by the positive product and competitiveness effects. The negative contribution from Japan was due to the negative influence of the competitiveness market and product effects.

The global **competitiveness effect** registered by South-East Asia was positive. This result was due to the positive contributions of each area, with the exception of Japan and North America.

The global **market effect** registered by South-East Asia was positive. This result benefited mainly from the substantial positive contributions of South-East Asia and North America. The main reason for this is a geographical trade pattern characterised by a large share of intra-area trade, and oriented towards the most expansionary economic areas.

Concerning the **product effect**, the global effect was positive. This result was achieved because the negative contributions of North America the EU15, East Europe, and Africa and the Middle East were all offset by the positive contributions of the remaining geographical areas.

Finally, it should be noted that the **residual effect** was positive and was mainly the result of the positive contributions of East Europe, South America and Japan.

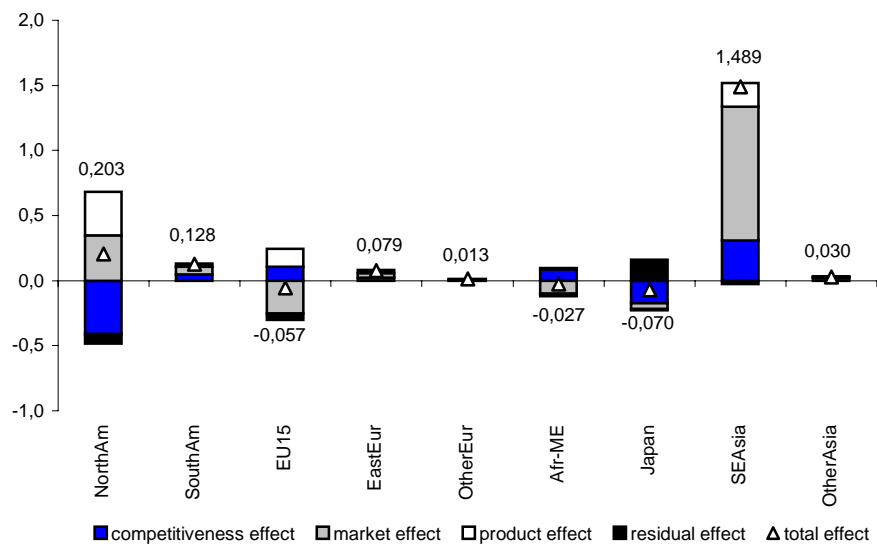
TABLE 12 - Asian NICS (1991-1997) - Contributions of the different geographical areas

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
NorthAm	2.548	2.346	0.203	8.6	-0.412	-17.5	0.348	14.9	0.334	14.2	-0.070	-3.0
SouthAm	0.326	0.197	0.128	65.0	0.048	24.2	0.061	31.0	-0.004	-1.9	0.023	11.8
EU15	1.570	1.627	-0.057	-3.5	0.105	6.4	-0.254	-15.6	0.142	8.7	-0.049	-3.0
EastEur	0.166	0.087	0.079	91.4	0.021	23.7	0.035	40.5	-0.003	-3.0	0.027	31.0
OtherEur	0.136	0.123	0.013	10.5	0.005	4.3	0.003	2.6	0.004	3.6	-0.002	-1.4
Afr-ME	0.421	0.448	-0.027	-5.9	0.085	18.9	-0.100	-22.4	-0.021	-4.8	0.014	3.2
Japan	1.452	1.522	-0.070	-4.6	-0.175	-11.5	-0.043	-2.8	-0.009	-0.6	0.161	10.6
SEAsia	4.339	2.850	1.489	52.2	0.311	10.9	1.026	36.0	0.184	6.5	-0.026	-0.9
OtherAsia	0.230	0.201	0.030	14.7	0.021	10.3	0.008	3.9	0.002	1.0	-0.002	-0.9
TOTAL	11.188	9.400	1.788	19.0	0.007	0.1	1.085	11.5	0.630	6.7	0.077	0.8

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

FIGURE 11 - Asian NICS (1991-97) - Contributions of the different geographical areas (in absolute terms)



Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

C. CMSA (1991-1997) - Contributions of the different sectors

The overall change in export market shares has also been disaggregated to take account of the commodity trade patterns of the countries considered. As a result, for each country, the following tables present the contributions of the different sectors to the global results presented in Table 3. They correspond to the sum on the rows of the components resulting from the decomposition method. They are expressed in absolute terms and as a percentage of 1991 export shares. The results for Belgium are compared to those of its main trading partners (Germany, France, the Netherlands, United Kingdom and Italy), as well as the United States, Japan and the Asian NICs.

The different sectors have been defined as follows:

Energy = Coal (including lignite and other primary energy products), Crude Oil, Natural gas (including all petroleum gases), Coke, Refined petroleum products, Electricity

Food industry = Cereals, Other edible agricultural products, Non-edible agricultural products, Cereal products, Fats (of vegetable or animal origin), Meat and fish, Preserved meat and fish products, Preserved fruit and vegetable products, Sugar products (including chocolate), Animal foodstuffs, Beverages, Manufactured tobaccos

Textile = Yarns and fabrics, Clothing (with fabrics as the main input), Knitwear (made directly from yarns), Carpets and textile furnishings, Leather fur skins and footwear

Wood & paper = Articles in wood, Furniture (made of wood or other materials), Paper and pulp, Printing and publications, Toys, sports equipment and miscellaneous manufactured articles

Chemical = Cement and derived products, Ceramics (including manufactured mineral articles n.e.s.), Glass (flatware and hollow-ware), Basic Inorganic Chemicals, Fertilizers, Basic Organic Chemicals, Paints, colourings and intermediate chemical products n.e.s., Toilet products, soaps and perfumes (including chemical preparations n.e.s.), Pharmaceuticals, Plastics, fibres and synthetic resins, Plastic articles, Rubber articles (including tyres), Unprocessed minerals

Steel industry = Iron and steel-making (including pig iron and sheet steel), Tubes and first-stage processing products, Iron ores and scrap

Non ferrous = Non-ferrous metals, Non-ferrous ores and scrap

Mechanical = Large metallic structures, Miscellaneous hardware, Engines, turbines and pumps, Agricultural equipment, Machine tools, Construction and public works equipment, Specialized machines, Arms and weaponry, Ships (including oil rigs), Aeronautics

Vehicles = Vehicle components, Cars (including motorcycles), Commercial vehicles and transport equipment (including public transport vehicles and railway equipment)

Electrical = Domestic electrical appliances, Heavy electrical equipment, Electrical apparatus (including passive devices)

Electronics = Precision instruments, Watch and clock making, Optics and photographic and cinematographic equipment, Electrical components, Consumer electronics, Telecommunications equipment, Computer equipment (including office equipment)

Others = Precious stones, jewellery, works of art, Non-monetary gold, Not elsewhere specified

1. BLEU : CMSA (1991-1997) - sector breakdown

The main point concerning the **total effect** is the role of a few sectors (vehicles, steel industry, food industry, wood and paper, energy, and textile) in explaining the total loss of Belgium's export market share (data covering the Belgium-Luxembourg Economic Union area or BLEU, as already mentioned). This negative influence came from the combined negative contributions of the market effect and the product effect. A gain in export share was registered in the electronics sector due to the positive influence of the competitiveness and product effects. The small positive contribution from the chemical sector was the net outcome of two opposing forces, the positive competitiveness and product effects compensating for the negative market effect. For the small positive contribution from the "others" sector (including diamonds, a particularly important sector in Belgium's foreign trade), the positive market, product and residual effects were sufficient to compensate for the negative competitiveness effect.

Concerning the **competitiveness effect**, Belgium registered a negative contribution from the "others" sector and steel industry and, to a lesser extent, from the vehicles sector and wood and paper sector. But the global competitiveness effect was nevertheless positive.

The global **market effect** was negative. It was the result of the negative contributions from each sector, with the exception of the "others" sector.

The global **product effect** registered by Belgium was negative. The positive contributions from sectors that grow more rapidly than total world trade (chemical, electric, electronic and "others"), were offset by the negative contributions from more traditional industries (notably, textile and steel industry), as well as negative contributions from energy and food industry.

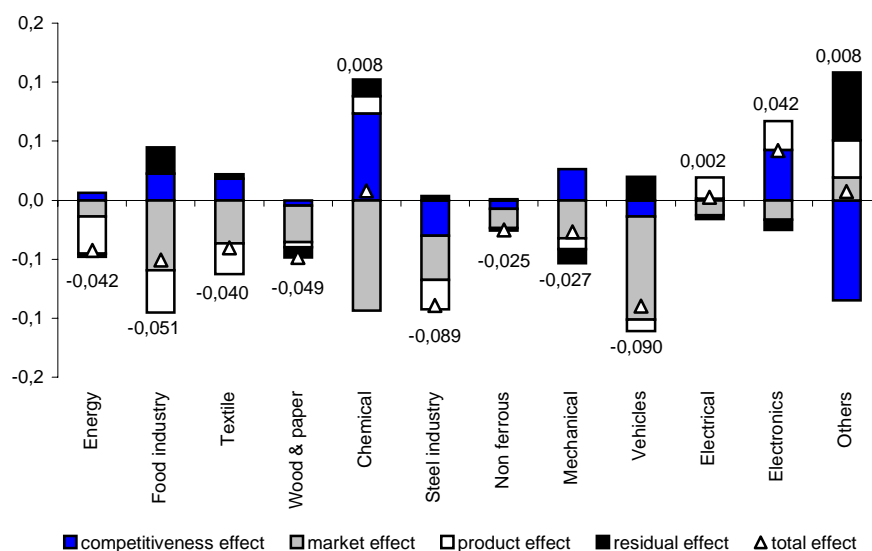
Concerning the **residual effect**, Belgium registered a global positive effect.

TABLE 13 - BLEU (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.099	0.141	-0.042	-30.1	0.006	4.5	-0.014	-9.9	-0.032	-22.5	-0.003	-1.8
Food industry	0.352	0.403	-0.051	-12.6	0.023	5.6	-0.059	-14.7	-0.036	-8.9	0.022	5.6
Textile	0.231	0.272	-0.040	-14.9	0.018	6.7	-0.037	-13.5	-0.026	-9.5	0.004	1.3
Wood & paper	0.185	0.234	-0.049	-20.9	-0.004	-1.9	-0.031	-13.4	-0.004	-1.9	-0.008	-3.6
Chemical	0.691	0.683	0.008	1.1	0.074	10.8	-0.094	-13.7	0.014	2.1	0.014	2.1
Steel industry	0.173	0.262	-0.089	-33.9	-0.030	-11.4	-0.038	-14.4	-0.025	-9.4	0.003	1.3
Non ferrous	0.089	0.114	-0.025	-21.9	-0.007	-6.5	-0.016	-14.2	-0.002	-2.2	0.001	0.9
Mechanical	0.272	0.299	-0.027	-9.1	0.027	8.9	-0.032	-10.8	-0.009	-3.1	-0.012	-3.9
Vehicles	0.479	0.569	-0.090	-15.8	-0.014	-2.5	-0.087	-15.3	-0.010	-1.7	0.020	3.5
Electrical	0.097	0.094	0.002	2.5	0.001	1.5	-0.013	-13.3	0.018	18.8	-0.004	-3.8
Electronics	0.177	0.135	0.042	31.0	0.043	31.6	-0.017	-12.3	0.024	17.9	-0.008	-6.2
Others	0.411	0.403	0.008	1.9	-0.085	-21.1	0.019	4.7	0.032	7.9	0.058	14.3
TOTAL	3.256	3.609	-0.354	-9.8	0.051	1.4	-0.418	-11.6	-0.056	-1.5	0.087	2.4

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union

FIGURE 12 - BLEU (1991-97) - Contributions of the different sectors (in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

2. Main European trading partners: CMSA (1991-1997) - sector breakdown

For all the European countries considered, the **total effect** was negative, i.e. they registered a fall in export market share. In the case of Italy, this global negative effect was the result of the contributions of each sector. In Germany, the only positive contribution came from the “others” sector. In France, positive contributions were registered in two sectors: electronics and “others”. In the Netherlands, the positive contributions were also reported for two sectors: the electronics and vehicles sectors. In the United Kingdom, three sectors made positive contributions: the electrical, electronics, and vehicles sectors.

Concerning the **competitiveness effect**, Germany registered a negative contribution from all the sectors, with the exception of the “others” sector. France also registered a negative contribution from all the sectors, with the exception of electronics and “others”. In Italy, the positive contributions from the mechanical, chemical, wood and paper, steel industry, non ferrous, and “others” sectors were not sufficient to offset the negative contributions of the remaining sectors. This resulted in a global negative effect. By contrast, the global effect was positive in the Netherlands and in the United Kingdom. In the Netherlands, this result was due to the positive contributions from all sectors, with the exception of the mechanical and “others” sectors. In the United Kingdom the positive global effect is explained by the positive contributions from the following sectors: food industry, chemical, steel industry, and “others”.

The global **market effect** was negative in all the European countries considered. This was the result of the negative contributions from each sector.

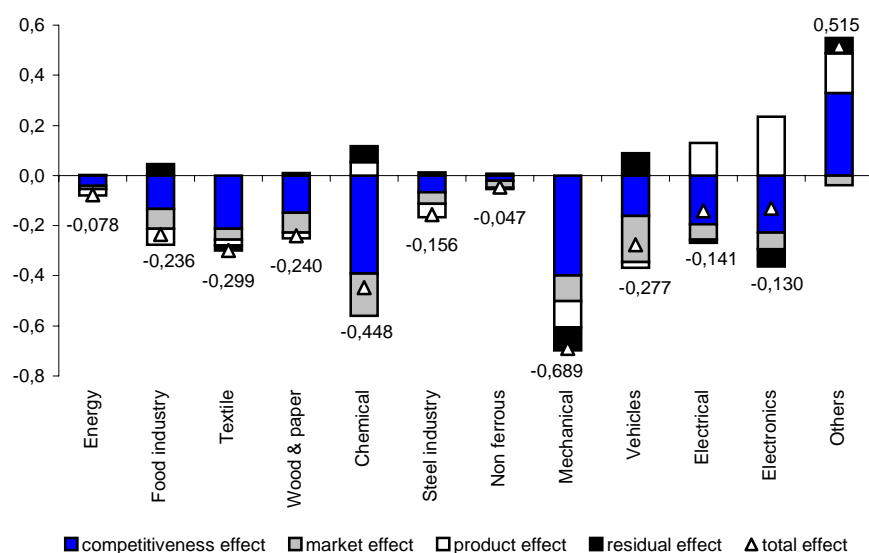
During the period 1991-1997, all the European countries considered registered a positive global **product effect**. This result was due to the substantial positive effects from the following sectors: chemical, electrical and electronics and “others”.

Concerning the **residual effect**, the results varied from one country to another. This effect was of lesser importance.

TABLE 14 - Germany (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.084	0.161	-0.078	-48.2	-0.041	-25.2	-0.013	-8.1	-0.025	-15.8	0.002	1.0
Food industry	0.541	0.777	-0.236	-30.3	-0.134	-17.3	-0.078	-10.0	-0.065	-8.4	0.044	5.7
Textile	0.493	0.792	-0.299	-37.7	-0.212	-26.8	-0.043	-5.4	-0.024	-3.1	-0.020	-2.6
Wood & paper	0.585	0.825	-0.240	-29.1	-0.148	-18.0	-0.078	-9.5	-0.023	-2.8	0.009	1.1
Chemical	1.789	2.237	-0.448	-20.0	-0.391	-17.5	-0.171	-7.6	0.053	2.3	0.064	2.9
Steel industry	0.345	0.502	-0.156	-31.2	-0.068	-13.5	-0.044	-8.8	-0.056	-11.1	0.011	2.3
Non ferrous	0.207	0.253	-0.047	-18.5	-0.020	-7.8	-0.029	-11.3	-0.006	-2.5	0.008	3.2
Mechanical	2.183	2.873	-0.689	-24.0	-0.399	-13.9	-0.103	-3.6	-0.104	-3.6	-0.091	-3.2
Vehicles	1.817	2.094	-0.277	-13.2	-0.161	-7.7	-0.185	-8.8	-0.022	-1.0	0.089	4.2
Electrical	0.722	0.864	-0.141	-16.4	-0.194	-22.4	-0.062	-7.2	0.131	15.1	-0.014	-1.6
Electronics	1.038	1.169	-0.130	-11.2	-0.228	-19.5	-0.066	-5.7	0.235	20.1	-0.069	-5.9
Others	0.808	0.294	0.515	175.2	0.330	112.2	-0.039	-13.1	0.159	54.1	0.060	20.5
TOTAL	10.613	12.840	-2.227	-17.3	-1.666	-13.0	-0.909	-7.1	0.250	2.0	0.094	0.7

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 13 - Germany (1991-97) - Contributions of the different sectors (in absolute terms)

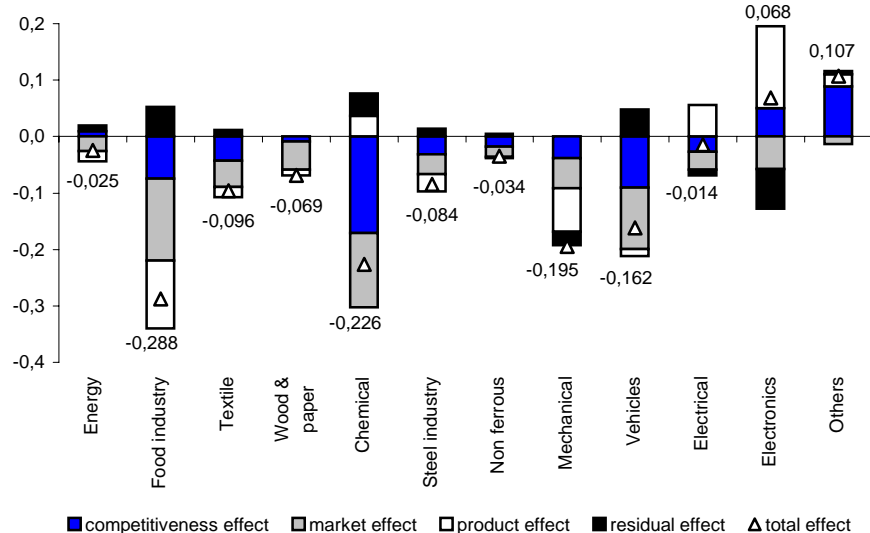
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 15 - France (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.141	0.166	-0.025	-15.0	0.009	5.4	-0.026	-15.6	-0.018	-11.0	0.010	6.1
Food industry	0.813	1.101	-0.288	-26.2	-0.074	-6.7	-0.146	-13.2	-0.120	-10.9	0.053	4.8
Textile	0.316	0.412	-0.096	-23.3	-0.043	-10.5	-0.046	-11.2	-0.018	-4.3	0.012	2.9
Wood & paper	0.309	0.378	-0.069	-18.2	-0.009	-2.4	-0.050	-13.2	-0.010	-2.7	0.001	0.2
Chemical	1.002	1.228	-0.226	-18.4	-0.170	-13.9	-0.132	-10.7	0.036	2.9	0.040	3.3
Steel industry	0.197	0.281	-0.084	-29.9	-0.032	-11.3	-0.034	-12.2	-0.031	-11.1	0.013	4.8
Non ferrous	0.098	0.132	-0.034	-26.1	-0.017	-13.0	-0.018	-14.0	-0.003	-2.1	0.004	3.4
Mechanical	1.042	1.237	-0.195	-15.8	-0.039	-3.1	-0.053	-4.3	-0.077	-6.2	-0.024	-2.0
Vehicles	0.650	0.811	-0.162	-19.9	-0.090	-11.1	-0.109	-13.4	-0.013	-1.6	0.048	5.9
Electrical	0.313	0.327	-0.014	-4.3	-0.027	-8.2	-0.032	-9.6	0.055	17.0	-0.011	-3.3
Electronics	0.636	0.568	0.068	12.1	0.050	8.9	-0.057	-10.1	0.145	25.5	-0.070	-12.3
Others	0.173	0.066	0.107	162.1	0.089	134.7	-0.013	-20.4	0.022	33.1	0.005	8.2
TOTAL	5.690	6.707	-1.017	-15.2	-0.353	-5.3	-0.716	-10.7	-0.031	-0.5	0.082	1.2

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 14 - France (1991-97) - Contributions of the different sectors
(in absolute terms)

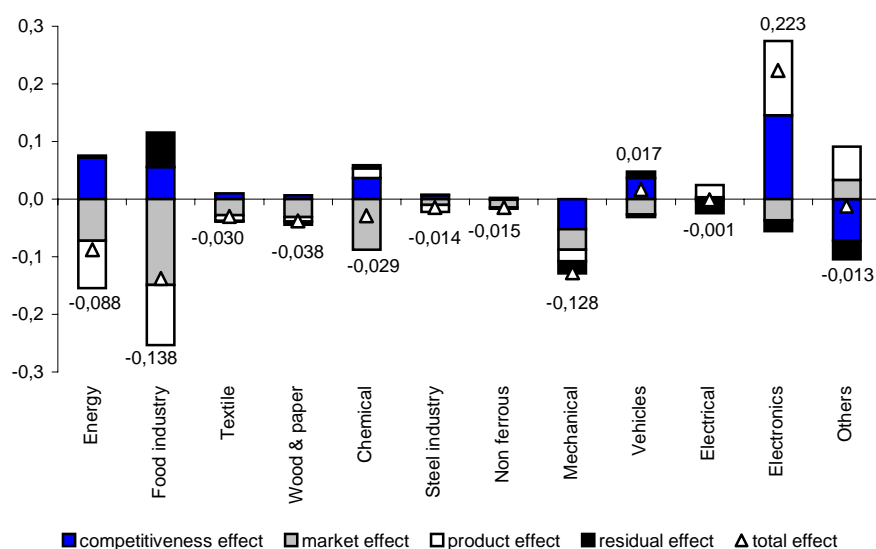
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 16 - Netherlands (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.316	0.403	-0.088	-21.7	0.072	17.8	-0.072	-17.9	-0.082	-20.4	0.003	0.8
Food industry	0.844	0.982	-0.138	-14.1	0.056	5.7	-0.149	-15.2	-0.104	-10.6	0.060	6.1
Textile	0.160	0.190	-0.030	-15.8	0.010	5.0	-0.028	-14.6	-0.011	-5.7	-0.001	-0.6
Wood & paper	0.227	0.265	-0.038	-14.4	0.006	2.4	-0.032	-11.9	-0.007	-2.8	-0.006	-2.1
Chemical	0.708	0.737	-0.029	-3.9	0.037	5.0	-0.088	-12.0	0.016	2.2	0.005	0.7
Steel industry	0.085	0.100	-0.014	-14.5	0.006	6.2	-0.010	-10.3	-0.012	-12.0	0.002	1.9
Non ferrous	0.071	0.086	-0.015	-17.3	-0.001	-1.7	-0.013	-15.2	-0.002	-2.7	0.002	2.3
Mechanical	0.336	0.464	-0.128	-27.6	-0.052	-11.3	-0.035	-7.6	-0.020	-4.3	-0.021	-4.5
Vehicles	0.180	0.163	0.017	10.5	0.037	22.6	-0.026	-16.1	-0.004	-2.7	0.011	6.5
Electrical	0.124	0.125	-0.001	-1.0	0.003	2.6	-0.002	-1.8	0.021	16.4	-0.023	-18.2
Electronics	0.623	0.400	0.223	55.9	0.146	36.5	-0.037	-9.3	0.129	32.2	-0.018	-4.6
Others	0.151	0.163	-0.013	-7.7	-0.072	-44.0	0.033	20.2	0.058	35.8	-0.032	-19.8
TOTAL	3.824	4.078	-0.254	-6.2	0.247	6.1	-0.460	-11.3	-0.019	-0.5	-0.018	-0.4

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 15 - Netherlands (1991-97) - Contributions of the different sectors (in absolute terms)

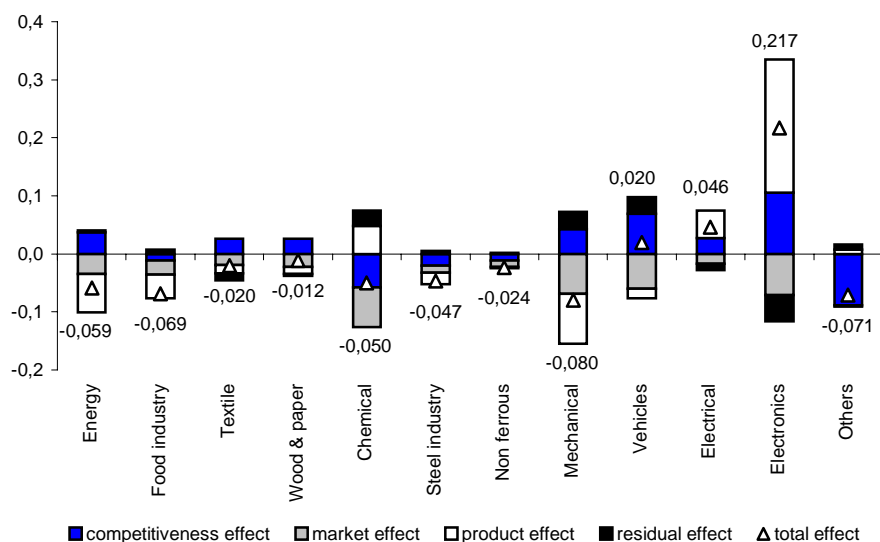
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 17 - United Kingdom (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.324	0.383	-0.059	-15.4	0.037	9.6	-0.035	-9.1	-0.066	-17.3	0.003	0.9
Food industry	0.390	0.458	-0.069	-14.9	-0.012	-2.5	-0.024	-5.2	-0.040	-8.8	0.007	1.6
Textile	0.260	0.280	-0.020	-7.2	0.026	9.3	-0.019	-6.9	-0.014	-4.9	-0.013	-4.7
Wood & paper	0.322	0.334	-0.012	-3.6	0.026	7.8	-0.022	-6.7	-0.012	-3.5	-0.003	-1.0
Chemical	0.906	0.956	-0.050	-5.2	-0.057	-6.0	-0.068	-7.2	0.048	5.0	0.027	2.8
Steel industry	0.134	0.181	-0.047	-26.1	-0.020	-10.9	-0.013	-7.2	-0.020	-10.9	0.005	2.8
Non ferrous	0.099	0.123	-0.024	-19.4	-0.011	-9.0	-0.011	-9.3	-0.003	-2.1	0.001	1.2
Mechanical	1.092	1.172	-0.080	-6.8	0.042	3.6	-0.069	-5.9	-0.086	-7.3	0.030	2.6
Vehicles	0.517	0.497	0.020	4.0	0.069	13.9	-0.059	-12.0	-0.017	-3.5	0.028	5.7
Electrical	0.289	0.243	0.046	19.0	0.027	11.0	-0.017	-6.8	0.048	19.8	-0.012	-4.8
Electronics	1.041	0.824	0.217	26.3	0.105	12.8	-0.071	-8.6	0.230	27.9	-0.045	-5.5
Others	0.234	0.305	-0.071	-23.3	-0.088	-29.0	-0.002	-0.8	0.007	2.3	0.009	3.1
TOTAL	5.607	5.756	-0.149	-2.6	0.144	2.5	-0.412	-7.2	0.075	1.3	0.039	0.7

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 16 - United Kingdom (1991-97) - Contributions of the different sectors (in absolute terms)

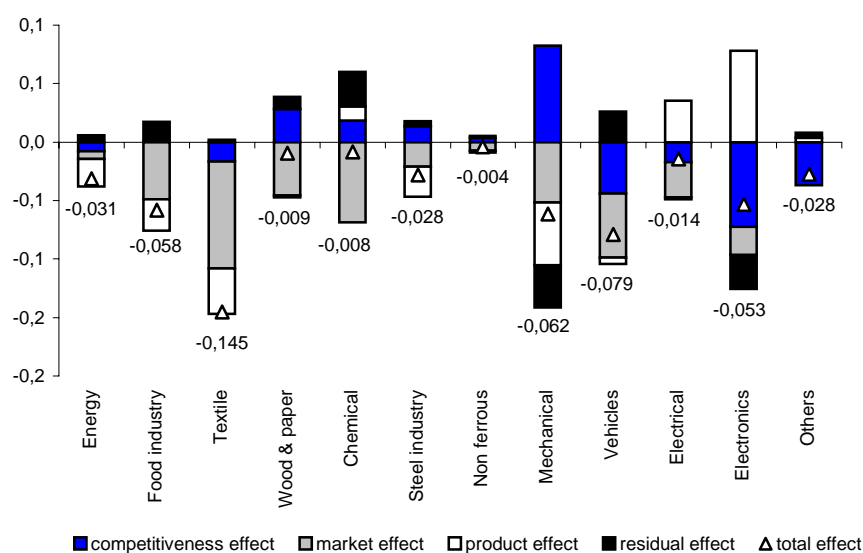
Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 18 - Italy (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.071	0.102	-0.031	-30.5	-0.008	-7.8	-0.007	-6.5	-0.023	-22.9	0.006	5.7
Food industry	0.324	0.382	-0.058	-15.2	0.001	0.2	-0.049	-12.8	-0.027	-7.0	0.017	4.3
Textile	0.814	0.959	-0.145	-15.1	-0.017	-1.7	-0.091	-9.5	-0.039	-4.1	0.002	0.2
Wood & paper	0.358	0.367	-0.009	-2.6	0.028	7.7	-0.046	-12.5	-0.001	-0.4	0.010	2.8
Chemical	0.677	0.685	-0.008	-1.2	0.018	2.7	-0.069	-10.0	0.012	1.7	0.030	4.3
Steel industry	0.145	0.173	-0.028	-16.4	0.013	7.8	-0.021	-12.1	-0.026	-14.9	0.005	2.7
Non ferrous	0.052	0.056	-0.004	-6.7	0.004	6.2	-0.007	-12.6	-0.002	-3.1	0.002	3.1
Mechanical	1.166	1.228	-0.062	-5.0	0.082	6.7	-0.051	-4.2	-0.054	-4.4	-0.036	-2.9
Vehicles	0.380	0.458	-0.079	-17.2	-0.044	-9.6	-0.055	-12.0	-0.006	-1.2	0.026	5.7
Electrical	0.289	0.304	-0.014	-4.7	-0.017	-5.6	-0.030	-9.9	0.035	11.6	-0.001	-0.5
Electronics	0.283	0.337	-0.053	-15.9	-0.073	-21.5	-0.024	-7.2	0.078	23.2	-0.029	-8.5
Others	0.160	0.188	-0.028	-14.7	-0.037	-19.7	0.000	-0.1	0.003	1.8	0.005	2.6
TOTAL	4.718	5.238	-0.520	-9.9	-0.048	-0.9	-0.450	-8.6	-0.048	-0.9	0.035	0.7

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 17 - Italy (1991-97) - Contributions of the different sector (in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

3. USA: CMSA (1991-1997) - sector breakdown

The global **total effect** registered by the United States between 1991 and 1997 was positive. The positive contributions from the electrical, electronics, vehicles, chemical sectors and, to a lesser extent, mechanical, wood and paper, and textile sectors were sufficient to offset the negative contributions from energy, food industry, steel industry, non ferrous, and "others" sectors.

Concerning the **competitiveness effect**, the United States registered a negative global effect, due to the negative contributions from each sector, with the exception of the mechanical, vehicles, and textile sectors.

The global **market effect** was positive. This was the result of the positive contributions of each sector.

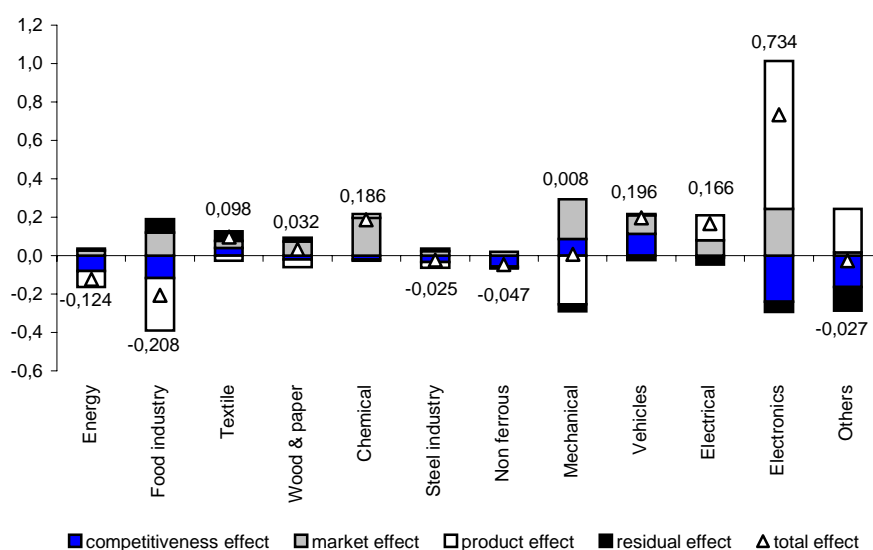
During the period 1991-1997, the United States registered a positive global **product effect**. This result was due to the substantial positive effects from the following sectors: chemical, electrical, electronics, vehicles and "others".

The global **residual effect** was negative. The only positive contributions came from energy, food industry, steel industry, wood and paper, and textile sectors.

TABLE 19 - USA (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.285	0.409	-0.124	-30.4	-0.081	-19.9	0.027	6.6	-0.082	-20.1	0.009	2.2
Food industry	1.554	1.762	-0.208	-11.8	-0.117	-6.7	0.121	6.9	-0.271	-15.4	0.068	3.8
Textile	0.458	0.360	0.098	27.2	0.039	10.9	0.037	10.2	-0.026	-7.1	0.049	13.7
Wood & paper	0.936	0.904	0.032	3.6	-0.018	-2.0	0.073	8.0	-0.043	-4.7	0.021	2.3
Chemical	1.998	1.813	0.186	10.2	-0.020	-1.1	0.195	10.8	0.021	1.1	-0.007	-0.4
Steel industry	0.170	0.194	-0.025	-12.7	-0.035	-17.9	0.024	12.5	-0.027	-13.9	0.014	7.0
Non ferrous	0.233	0.280	-0.047	-16.7	-0.056	-19.9	0.021	7.4	-0.008	-2.8	-0.004	-1.3
Mechanical	3.321	3.313	0.008	0.2	0.086	2.6	0.208	6.3	-0.252	-7.6	-0.037	-1.1
Vehicles	1.262	1.066	0.196	18.4	0.115	10.7	0.094	8.8	0.010	0.9	-0.024	-2.2
Electrical	0.800	0.635	0.166	26.1	-0.009	-1.4	0.080	12.6	0.132	20.8	-0.037	-5.8
Electronics	2.938	2.205	0.734	33.3	-0.242	-11.0	0.242	11.0	0.770	34.9	-0.051	-2.3
Others	0.597	0.624	-0.027	-4.4	-0.163	-26.2	0.018	2.9	0.227	36.3	-0.124	-19.8
TOTAL	14.551	13.563	0.988	7.3	-0.502	-3.7	1.140	8.4	0.450	3.3	-0.123	-0.9

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 18 - USA (1991-97) - Contributions of the different sectors
(in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

4. Japan: CMSA (1991-1997) - sector breakdown

The global **total effect** registered by Japan between 1991 and 1997 was negative. This result was due to the negative contributions from each sector, with the exception of the chemical, non ferrous, and "others" sectors.

Concerning the **competitiveness effect**, Japan registered a strong negative effect, due to the negative contributions from each sector, with the exception of the "others" sector.

The global **market effect** was positive. This was the result of the positive contributions from each sector.

During the period 1991-1997, Japan registered the greatest positive **product effect** among the countries under review. This was due largely to a massive positive contribution from the electronics sector. The other substantial positive contributions came from the following sectors: chemical, electrical, non ferrous, and "others".

The global **residual effect** was negative. The only positive contributions came from energy, food industry, non ferrous, wood and paper, and mechanical sectors.

5. Asian NICs: CMSA (1991-1997) - sector breakdown

The global **total effect** registered by the Asian NICs between 1991 and 1997 was positive. This result was due to the positive contributions from each sector, with the exception of energy, food industry, textile, and wood and paper.

The **competitiveness effect** was almost zero, the net outcome of opposing contributions from various sectors: the negative contributions from energy, food industry, textile, and wood and paper sectors, versus the positive contributions from the remaining sectors.

The global **market effect** was positive. This was the result of the positive contributions from each sector.

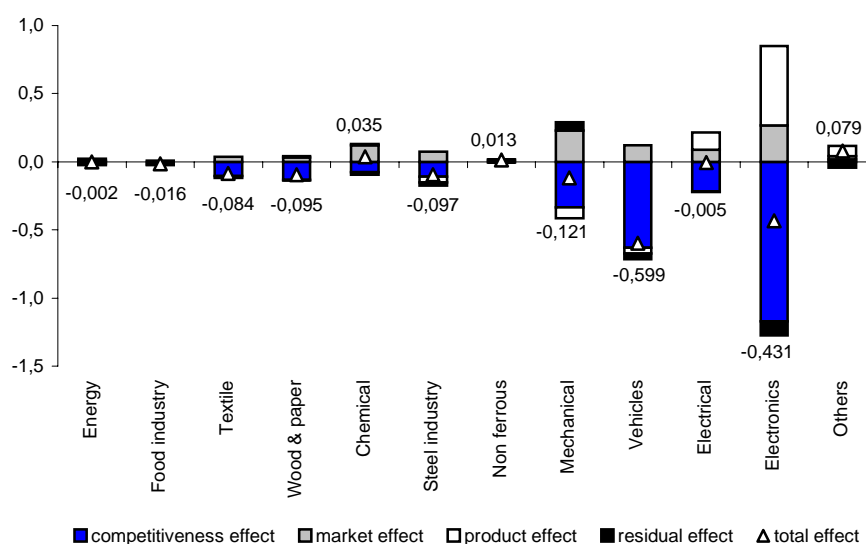
During the period 1991-1997, the Asian NICs registered a positive global **product effect**. This was mainly due to a huge positive contribution from the electronics sector. The other substantial positive contributions came from the following sectors: chemical, electrical, wood and paper, and "others".

The global **residual effect** was almost zero. The negative contributions from chemical, steel industry, non ferrous, electronics, and "others" sectors, were offset by the positive contributions from the remaining sectors.

TABLE 20 - Japan (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.039	0.041	-0.002	-5.1	-0.015	-36.5	0.010	25.1	-0.010	-24.8	0.013	31.4
Food industry	0.051	0.067	-0.016	-23.3	-0.018	-26.4	0.007	10.8	-0.006	-9.7	0.001	0.9
Textile	0.177	0.261	-0.084	-32.3	-0.106	-40.4	0.035	13.5	-0.014	-5.2	0.000	0.0
Wood & paper	0.293	0.389	-0.095	-24.6	-0.134	-34.5	0.033	8.4	-0.003	-0.7	0.008	2.0
Chemical	0.867	0.832	0.035	4.3	-0.077	-9.2	0.120	14.4	0.010	1.2	-0.018	-2.1
Steel industry	0.333	0.430	-0.097	-22.6	-0.108	-25.1	0.076	17.8	-0.044	-10.3	-0.020	-4.7
Non ferrous	0.084	0.071	0.013	18.2	-0.007	-9.3	0.014	20.4	0.001	2.0	0.004	5.2
Mechanical	1.776	1.896	-0.121	-6.4	-0.334	-17.6	0.231	12.2	-0.078	-4.1	0.059	3.1
Vehicles	1.607	2.206	-0.599	-27.2	-0.633	-28.7	0.121	5.5	-0.042	-1.9	-0.042	-1.9
Electrical	0.687	0.691	-0.005	-0.7	-0.217	-31.4	0.090	13.0	0.125	18.1	-0.005	-0.8
Electronics	2.363	2.794	-0.431	-15.4	-1.172	-42.0	0.269	9.6	0.580	20.7	-0.102	-3.7
Others	0.252	0.173	0.079	45.7	0.019	11.1	0.020	11.8	0.076	44.2	-0.042	-24.5
TOTAL	8.528	9.851	-1.323	-13.4	-2.800	-28.4	1.026	10.4	0.595	6.0	-0.147	-1.5

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

FIGURE 19 - Japan (1991-97) - Contributions of the different sectors
(in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

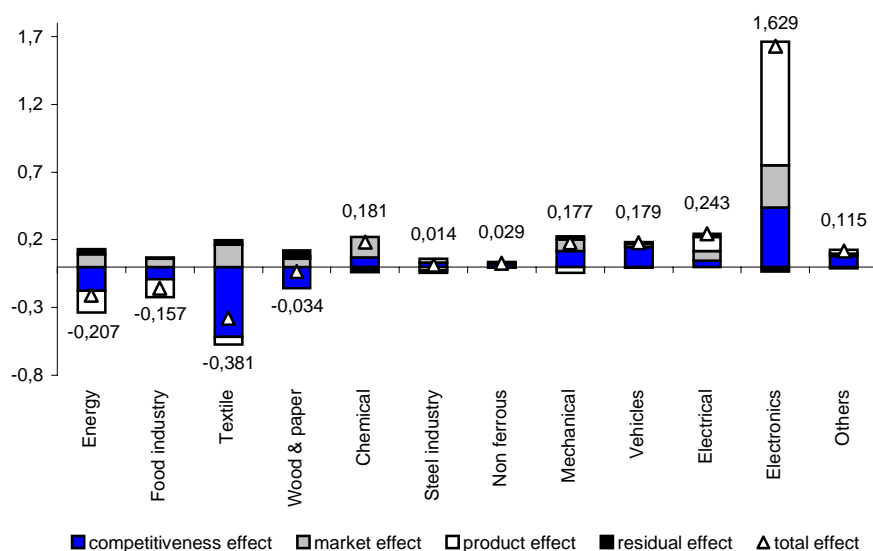
Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.

TABLE 21 - Asian NICS (1991-1997) - Contributions of the different sectors

	Export market share		Total effect		Competitiveness effect		Market effect		Product effect		Residual effect	
	in 1997	in 1991	(3)		(4)		(5)		(6)		(7)	
	(1)	(2)	$\equiv (4) + (5) + (6) + (7)$									
	in % of world trade	in % of world trade	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports	in absolute terms	in % of the 1991 exports
			$= (1) - (2)$									
Energy	0.669	0.876	-0.207	-23.6	-0.177	-20.2	0.093	10.6	-0.162	-18.5	0.039	4.4
Food industry	0.834	0.991	-0.157	-15.8	-0.092	-9.2	0.060	6.1	-0.134	-13.5	0.010	1.0
Textile	1.512	1.893	-0.381	-20.1	-0.516	-27.2	0.164	8.7	-0.058	-3.1	0.033	1.8
Wood & paper	0.651	0.685	-0.034	-5.0	-0.157	-23.0	0.062	9.0	0.019	2.8	0.040	5.8
Chemical	0.907	0.726	0.181	24.9	0.070	9.6	0.150	20.6	0.001	0.1	-0.039	-5.4
Steel industry	0.194	0.180	0.014	7.5	0.032	17.7	0.027	14.9	-0.024	-13.1	-0.021	-11.9
Non ferrous	0.140	0.111	0.029	26.5	0.021	18.9	0.016	14.8	-0.005	-4.6	-0.003	-2.8
Mechanical	0.904	0.727	0.177	24.4	0.118	16.2	0.085	11.7	-0.046	-6.3	0.022	3.0
Vehicles	0.412	0.233	0.179	76.8	0.143	61.5	0.027	11.7	-0.005	-2.1	0.015	6.3
Electrical	0.726	0.483	0.243	50.4	0.046	9.6	0.071	14.7	0.104	21.4	0.023	4.7
Electronics	3.942	2.312	1.629	70.5	0.437	18.9	0.312	13.5	0.912	39.5	-0.032	-1.4
Others	0.299	0.184	0.115	62.8	0.081	44.4	0.017	9.4	0.026	14.4	-0.009	-4.8
TOTAL	11.188	9.400	1.788	19.0	0.007	0.1	1.085	11.5	0.630	6.7	0.077	0.8

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Note: Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

FIGURE 20 - Asian NICS (1991-97) - Contributions of the different sectors
(in absolute terms)

Source: Own calculations based on CHELEM database, CEPII.

Note: The total effect expressed in % of 1991 export shares and indicated by Δ on the figure corresponds to the global change (+ or -) in the country's export market share.



Conclusion

An interesting result of the study suggests that Belgium's overall export performance during the period 1991-1997 has been mainly influenced by an unfavourable geographical specialisation, while the product specialisation has played a rather marginal role. The contributions of the residual effect and of the competitiveness effect were slightly positive. A rather similar analysis can be undertaken for Belgium's main European trading partners (Germany, France, the Netherlands, the United Kingdom and Italy). For these countries, the main reason behind the loss in export market share is also related to the negative contribution of the market effect due to the high degree of intra-EU15 trade in a period during which the EU rate of economic growth was lower than total world growth rate (cf. tables 22 and 24 in Annex II). However, some European countries registered a more substantial positive contribution of the competitiveness effect (the Netherlands and the United Kingdom, cf. table 23 in Annex II) than Belgium, or a positive contribution of the product effect (Germany and the United Kingdom, cf. table 24 in Annex II). As already mentioned, Belgium's export performance is also hindered by a lower export share in the sector of electronics products than its main trading partners, in particular the Netherlands and the United Kingdom.

The concentration of Belgium's geographical trade pattern partly explains why Belgium's export performance did not benefit directly from the strong import demand from the Asian NICs, the European countries in transition, and the Americas. The main impact of this increasing demand on Belgium's exports came through indirect effects via its main European trading partners.

However, because of rapidly changing conditions within the Asian NICs and within the European countries in transition, the results presented above have to be taken with extreme caution. The recent crises in the Asian NICs and in Russia have shown that the orientation of Belgium's geographical trade pattern has served to limit the direct effects of the crises on Belgium's export performance. Certain sectors have nonetheless been hit more seriously by the Asian crisis. This is the case for the diamonds sector¹. According to the CHELEM database, in 1996 the exports of diamonds to Thailand and Malaysia represented 54% and 30% of the total bilateral trade from Belgium respectively, but this decreased by 42% and 30%, respectively in 1997. However to reiterate, the main impact of the crises on Belgium's trade performance came through indirect effects, via its main trading partner Germany. Nevertheless, in the long run, Belgium should remain aware of the trade growth potential associated with the Asian NICs, the European countries in transition, and the other emerging economies.

1. According to the CHELEM classification, diamonds are included in the sector "Others" = Precious stones, jewellery, works of art, non-monetary gold.



Bibliography

- Baldwin R.E. (1958), "The Commodity Composition of Trade: Selected Industrial Countries, 1900-1954", *Review of Economics and Statistics*, 40, pp. 50-71.
- Diewert W.E. (1976), "Exact and Superlative Index Numbers", *Journal of Econometrics*, 4, pp. 115-145.
- Fagerberg J. and Sollie G. (1987), "The Method of Constant Market Shares Analysis Reconsidered", *Applied Economics*, 19, pp. 1571-1583
- Jepma C.J. (1986), *Extensions and Application Possibilities of the Constant Market Shares Analysis. The case of the developing countries' exports*, Thesis, University of Groningen, 257 p.
- Magee S.P. (1975), "Prices, Incomes and Foreign Trade", in Kenen P.B. (ed. by), *International Trade and Finance. Frontiers for Research*, Cambridge University Press, p.221.
- Milana C. (1988), "Constant Market Shares Analysis and Index Number Theory", *European Journal of Political Economy*, (4) 4, pp. 453-478.
- OMC (1998), *Rapport annuel 1998*, Genève.
- Reuven Glick, Andrew K. Rose (1999), "Contagion and trade", *Journal Of International Money And Finance*, (18) 4, pp. 603-617.
- Richardson J.D. (1971a), "Constant-Market-Shares Analysis of Export Growth", *Journal of International Economics*, 1, pp.227-239.
- Richardson J.D. (1971b), "Some Sensitivity Tests for a 'Constant-Market-Shares' Analysis of Export Growth", *Review of Economics and Statistics*, 53, pp. 300-304.
- Tyszynski H. (1951), "World Trade in Manufactured Commodities, 1899-1950", The Manchester School of Economic and Social Studies, 19, pp. 222-304.



Annexes

A. Annex I

In the literature, there is no uniform way of translating the continuous-time into the discrete-time formulation of the CMSA. Richardson (1971a) proposes the following alternative decompositions:

$$(1) \Delta q = \sum_i s_i^0 \Delta Q_i + \sum_i Q_i^1 \Delta s_i$$

(Structural effect at constant market shares + Competitiveness effect)

$$(2) \Delta q = \sum_i s_i^1 \Delta Q_i + \sum_i Q_i^0 \Delta s_i$$

(Structural effect at constant market shares + Competitiveness effect)

$$(3) \Delta q = \sum_i [\alpha s_i^0 + (1 - \alpha) s_i^1] \Delta Q_i + \sum_i [(1 - \alpha) Q_i^0 + \alpha Q_i^1] \Delta s_i,$$

for $0 < \alpha < 1$
(Structural effect at constant market shares + Competitiveness effect)

$$(4) \Delta q = \sum_i s_i^0 \Delta Q_i + \sum_i Q_i^0 \Delta s_i + \sum_i \Delta s_i \Delta Q_i$$

(Structural effect at constant market shares + Competitiveness effect + Residual effect)

$$(5) \Delta q = \sum_i s_i^1 \Delta Q_i + \sum_i Q_i^1 \Delta s_i + \sum_i \Delta s_i \Delta Q_i$$

(Structural effect at constant market shares + Competitiveness effect + Residual effect)

where:

q = total exports of the reporting country,

q_i = exports of the i^{th} commodity of the reporting country

$s_i^0 = q_i^0 / Q_i^0$ = export share in the i^{th} commodity of the reporting country in year 0

$s_i^1 = q_i^1 / Q_i^1$ = export share in the i^{th} commodity of the reporting country in year 1

Q_i^0 = world exports of the i^{th} commodity in year 0

Q_i^1 = world exports of the i^{th} commodity in year 1

Identity (3) is a combination of (1), (2), (4) and (5) and uses symmetric weights. Richardson (1971a) considers that none of the various identities has an a priori superiority to any other. However, the identity (3), with $\alpha = 0.5$, represents a better solution since then the weights on ΔQ_i and Δs_i will be consistent. The effects derived from this identity can be considered most representative, in particular if there is no reason to believe that the export structure of either the beginning- or end-of-period was dominant throughout the period.

B. Annex II

TABLE 22 - CMSA (1991-1997): Total effect - geographical breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
North America	30.60	4.26	-1.44	8.94	14.97	12.39	7.46	-18.86	8.64
South America	27.26	9.30	-39.96	15.61	26.37	62.29	39.02	4.66	65.03
EU 15	-20.52	-27.64	-20.57	-13.56	-13.90	-24.41	-13.81	-36.38	-3.52
EastEur	119.65	29.63	59.46	80.09	152.58	82.31	8.35	-41.22	91.40
OtherEur	52.38	-26.74	-6.77	3.62	5.31	-3.75	-0.77	-32.11	10.52
Afr-ME	-29.34	-36.29	-30.70	-24.08	-4.96	-23.31	-13.54	-40.43	-5.94
Japan	-10.00	-25.17	-23.74	33.83	12.54	-7.82	-9.08		-4.60
South-East Asia	37.48	41.16	52.49	24.67	18.68	37.79	26.71	10.02	52.25
OtherAsia	51.40	4.34	-0.91	0.05	7.75	28.12	-0.75	-21.15	14.72
TOTAL	-9.80	-17.34	-15.16	-6.23	-2.58	-9.93	7.28	-13.43	19.02

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

TABLE 23 - CMSA (1991-1997): Competitiveness effect - geographical breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
North America	17.61	-8.47	-10.47	-4.88	0.72	0.21	0.61	-34.21	-17.54
South America	-10.25	-28.51	-54.45	-6.59	-3.21	12.26	5.84	-36.32	24.18
EU 15	-2.63	-13.67	-3.95	7.98	1.24	-5.18	-5.29	-28.46	6.42
EastEur	53.56	-15.95	14.92	23.39	86.39	28.93	3.62	-71.57	23.67
OtherEur	29.92	-15.10	5.00	13.61	10.26	6.49	-8.10	-30.93	4.31
Afr-ME	-12.83	-16.77	-12.05	-4.58	5.37	-1.73	0.91	-16.02	18.90
Japan	8.22	-28.58	-19.05	35.46	3.22	-11.13	-18.61		-11.51
South-East Asia	20.13	12.73	18.13	-6.77	-5.94	13.50	-8.02	-21.82	10.90
OtherAsia	43.01	-3.85	2.20	-4.58	5.83	23.16	1.46	-36.47	10.27
TOTAL	1.41	-12.97	-5.27	6.06	2.51	-0.92	-3.70	-28.42	0.08

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

TABLE 24 - CMSA (1991-1997): Market effect - geographical breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
North America	15.16	11.03	11.82	13.94	14.22	13.16	5.39	12.54	14.85
South America	35.64	35.58	18.59	29.39	31.84	42.25	31.61	21.19	31.02
EU 15	-17.41	-16.08	-17.67	-19.10	-16.02	-18.07	-10.73	-13.99	-15.62
EastEur	47.40	32.46	37.22	42.90	53.10	38.77	25.75	18.99	40.53
OtherEur	0.28	-12.42	-12.56	-8.48	-2.82	-5.76	1.17	-2.04	2.63
Afr-ME	-17.77	-17.36	-18.79	-20.11	-23.92	-19.01	-17.54	-19.05	-22.39
Japan	-3.62	-5.32	-4.10	-4.15	-3.54	-4.26	-0.60		-2.81
South-East Asia	25.05	26.21	28.57	25.06	21.72	25.10	31.83	27.29	36.00
OtherAsia	3.84	0.55	2.00	3.57	3.78	2.74	6.01	3.29	3.95
TOTAL	-11.59	-7.08	-10.68	-11.27	-7.17	-8.59	8.40	10.42	11.54

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

TABLE 25 - CMSA (1991-1997): Product effect - geographical breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
North America	-4.15	1.57	-2.72	-3.32	-0.62	-2.75	3.14	6.86	14.23
South America	3.56	1.33	-0.16	-0.77	0.15	-3.57	4.33	-0.84	-1.88
EU 15	-2.00	1.74	-0.42	-2.96	1.46	-0.22	3.91	6.57	8.74
EastEur	-0.01	0.47	-0.81	-3.35	3.29	-3.01	-4.97	-1.14	-3.01
OtherEur	3.21	1.81	-0.70	-1.84	1.27	-0.74	3.14	2.64	3.65
Afr-ME	0.16	0.93	0.67	-1.60	-2.21	-2.35	-3.16	-1.29	-4.78
Japan	-2.79	2.27	-2.38	-3.85	5.18	-1.94	0.32		-0.60
South-East Asia	0.29	8.09	0.70	19.55	5.38	-1.78	6.57	7.59	6.45
OtherAsia	3.51	2.26	2.58	1.22	3.00	-1.44	4.59	2.20	1.04
TOTAL	-1.54	1.95	-0.47	-0.47	1.31	-0.92	3.32	6.04	6.70

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

TABLE 26 - CMSA (1991-1997): Residual effect - geographical breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
North America	2.56	0.04	-0.25	3.33	0.47	1.80	-1.70	-4.05	-2.98
South America	-0.79	0.47	-5.86	-8.56	-2.61	11.02	-2.68	19.67	11.75
EU 15	1.45	0.35	1.50	0.69	-0.67	-0.85	-1.91	-0.27	-3.03
EastEur	20.53	12.93	8.53	16.48	9.16	19.02	-17.11	13.08	30.98
OtherEur	29.34	-0.90	0.40	-0.39	-3.52	-3.09	2.76	-1.74	-1.44
Afr-ME	2.14	-3.10	-0.04	3.74	15.77	0.56	6.48	-3.56	3.15
Japan	-12.37	6.54	1.56	6.36	8.06	9.42	9.30		10.60
South-East Asia	-8.79	-6.66	6.15	-13.29	-2.51	0.07	-3.92	-3.18	-0.90
OtherAsia	1.70	5.11	-8.48	-0.40	-4.28	3.52	-13.88	9.50	-0.89
TOTAL	2.41	0.73	1.22	-0.44	0.68	0.67	-0.91	-1.49	0.82

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

C. Annex III

TABLE 27 - CMSA (1991-1997): Total effect - sector breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
Energy	-30.06	-48.17	-15.01	-21.73	-15.40	-30.54	-30.43	-5.05	-23.62
Food industry	-12.59	-30.35	-26.15	-14.08	-14.95	-15.24	-11.81	-23.34	-15.84
Textile	-14.89	-37.71	-23.25	-15.82	-7.24	-15.13	27.21	-32.27	-20.14
Wood & paper	-20.86	-29.12	-18.17	-14.40	-3.56	-2.59	3.59	-24.55	-5.02
Chemical	1.15	-20.01	-18.41	-3.90	-5.22	-1.21	10.24	4.27	24.92
Steel industry	-33.93	-31.16	-29.94	-14.55	-26.06	-16.35	-12.71	-22.61	7.52
Non ferrous	-21.92	-18.47	-26.05	-17.33	-19.38	-6.71	-16.70	18.25	26.49
Mechanical	-9.05	-24.00	-15.77	-27.63	-6.81	-5.03	0.23	-6.37	24.36
Vehicles	-15.81	-13.22	-19.91	10.50	3.96	-17.20	18.42	-27.15	76.80
Electrical	2.51	-16.37	-4.29	-0.98	18.96	-4.66	26.10	-0.70	50.35
Electronics	31.02	-11.16	12.05	55.86	26.30	-15.86	33.28	-15.44	70.46
Others	1.87	175.17	162.11	-7.71	-23.33	-14.72	-4.36	45.69	62.79
Total	-9.80	-17.34	-15.16	-6.23	-2.58	-9.93	7.28	-13.43	19.02

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

TABLE 28 - CMSA (1991-1997): Competitiveness effect - sector breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
Energy	4.48	-25.22	5.40	17.83	9.65	-7.84	-19.88	-36.49	-20.20
Food industry	5.61	-17.29	-6.73	5.67	-2.53	0.25	-6.66	-26.42	-9.23
Textile	6.69	-26.79	-10.48	5.03	9.31	-1.74	10.90	-40.42	-27.25
Wood & paper	-1.89	-17.97	-2.44	2.41	7.76	7.72	-2.05	-34.46	-22.96
Chemical	10.79	-17.46	-13.88	5.03	-6.01	2.67	-1.13	-9.21	9.64
Steel industry	-11.39	-13.51	-11.29	6.16	-10.90	7.77	-17.90	-25.14	17.72
Non ferrous	-6.48	-7.79	-13.05	-1.70	-9.01	6.23	-19.95	-9.30	18.89
Mechanical	8.87	-13.88	-3.11	-11.28	3.60	6.71	2.60	-17.61	16.21
Vehicles	-2.46	-7.69	-11.14	22.57	13.95	-9.57	10.74	-28.67	61.48
Electrical	1.49	-22.41	-8.17	2.64	10.97	-5.63	-1.43	-31.37	9.55
Electronics	31.62	-19.52	8.86	36.49	12.77	-21.55	-10.95	-41.96	18.90
Others	-21.07	112.20	134.69	-43.95	-28.96	-19.67	-26.17	11.11	44.39
Total	1.41	-12.97	-5.27	6.06	2.51	-0.92	-3.70	-28.42	0.08

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

TABLE 29 - CMSA (1991-1997): Market effect - sector breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
Energy	-9.86	-8.14	-15.56	-17.87	-9.12	-6.46	6.63	25.11	10.60
Food industry	-14.72	-10.00	-13.24	-15.16	-5.23	-12.83	6.86	10.81	6.10
Textile	-13.49	-5.44	-11.18	-14.56	-6.93	-9.51	10.20	13.48	8.66
Wood & paper	-13.36	-9.49	-13.16	-11.89	-6.73	-12.49	8.05	8.41	9.05
Chemical	-13.70	-7.63	-10.72	-11.97	-7.16	-10.03	10.76	14.40	20.61
Steel industry	-14.44	-8.78	-12.23	-10.28	-7.17	-12.08	12.53	17.77	14.93
Non ferrous	-14.16	-11.25	-14.01	-15.17	-9.28	-12.65	7.42	20.37	14.77
Mechanical	-10.82	-3.57	-4.31	-7.61	-5.91	-4.19	6.28	12.16	11.69
Vehicles	-15.32	-8.82	-13.39	-16.08	-11.96	-11.95	8.81	5.46	11.68
Electrical	-13.34	-7.18	-9.65	-1.78	-6.81	-9.94	12.60	13.04	14.72
Electronics	-12.30	-5.67	-10.10	-9.30	-8.62	-7.16	10.98	9.62	13.49
Others	4.73	-13.12	-20.36	20.20	-0.81	-0.07	2.89	11.79	9.37
Total	-11.59	-7.08	-10.68	-11.27	-7.17	-8.59	8.40	10.42	11.54

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

TABLE 30 - CMSA (1991-1997): Product effect - sector breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
Energy	-22.48	-15.80	-11.01	-20.39	-17.31	-22.94	-20.07	-24.76	-18.47
Food industry	-8.90	-8.43	-10.87	-10.62	-8.80	-7.00	-15.40	-9.68	-13.51
Textile	-9.54	-3.09	-4.30	-5.66	-4.85	-4.07	-7.14	-5.25	-3.08
Wood & paper	-1.90	-2.83	-2.74	-2.79	-3.53	-0.35	-4.73	-0.67	2.84
Chemical	2.11	2.35	2.94	2.16	4.98	1.75	1.14	1.21	0.10
Steel industry	-9.36	-11.09	-11.09	-12.05	-10.95	-14.93	-13.93	-10.31	-13.06
Non ferrous	-2.17	-2.49	-2.13	-2.70	-2.06	-3.14	-2.80	1.98	-4.56
Mechanical	-3.11	-3.62	-6.19	-4.26	-7.32	-4.37	-7.61	-4.13	-6.29
Vehicles	-1.68	-1.04	-1.59	-2.74	-3.46	-1.23	0.92	-1.90	-2.07
Electrical	18.83	15.14	16.97	16.44	19.75	11.64	20.75	18.11	21.44
Electronics	17.87	20.10	25.47	32.25	27.89	23.20	34.94	20.74	39.46
Others	7.88	54.12	33.10	35.79	2.34	1.81	36.30	44.17	14.38
Total	-1.54	1.95	-0.47	-0.47	1.31	-0.92	3.32	6.04	6.70

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia

TABLE 31 - CMSA (1991-1997): Residual effect - sector breakdown (in % of 1991 exports)

	BLEU	Germany	France	Netherlands	UK	Italy	USA	Japan	Asian NICS
Energy	-1.81	0.99	6.15	0.78	0.87	5.69	2.21	31.44	4.44
Food industry	5.56	5.73	4.77	6.12	1.60	4.32	3.84	0.95	1.02
Textile	1.31	-2.56	2.90	-0.55	-4.66	0.22	13.66	0.02	1.75
Wood & paper	-3.61	1.13	0.22	-2.08	-0.99	2.83	2.35	1.99	5.83
Chemical	2.06	2.86	3.27	0.72	2.85	4.31	-0.40	-2.14	-5.37
Steel industry	1.30	2.27	4.79	1.94	2.75	2.70	6.96	-4.71	-11.91
Non ferrous	0.87	3.16	3.41	2.30	1.16	3.06	-1.25	5.23	-2.83
Mechanical	-3.95	-3.18	-1.96	-4.52	2.56	-2.95	-1.12	3.10	2.99
Vehicles	3.49	4.23	5.94	6.49	5.73	5.66	-2.24	-1.92	6.34
Electrical	-3.77	-1.57	-3.28	-18.17	-4.76	-0.46	-5.81	-0.79	4.73
Electronics	-6.17	-5.88	-12.33	-4.55	-5.46	-8.49	-2.32	-3.65	-1.38
Others	14.29	20.52	8.19	-19.85	3.07	2.58	-19.83	-24.53	-4.84
Total	2.41	0.73	1.22	-0.44	0.68	0.67	-0.91	-1.49	0.82

Source: Own calculations based on CHELEM database, Centre d'Etudes Prospectives et d'Informations Internationales, Paris

Notes: BLEU = Belgium-Luxembourg Economic Union, Asian NICS = Hong-Kong, Singapore, South Korea, Taiwan, Malaysia, Thailand, Philippines, Indonesia