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**European Economic Integration and
the Export Behaviour of Firms**

by
Harald Trabold

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Deutsches Institut für Wirtschaftsforschung

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Abstract

This paper explores the mechanisms by which economic integration leads to increased trade between *new and old member states* of the EC. Theoretical considerations imply that the increase in the export value should, to a large extent, be due to new exporters entering new markets. Moreover, small firms should experience a stronger rate of entry than medium and large-scale firms. Empirical evidence using enterprise related trade data for more than 20,000 French firms is presented which confirms the theoretical considerations.

Keywords: European economic integration, export behaviour of firms, small-scale exporters

JEL classification: D21, F15

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1. Introduction

The effects of economic integration on trade flows have been subject to numerous studies at a macro-economic level. There are, however, two aspects on which knowledge is rather scarce. First, is the increase in trade flows due to economic integration a consequence of new firms exporting, or old, established exporters increasing their sales? Second, how are these trade effects distributed among exporters of different size? An assessment of the effects of economic integration on the export behaviour of firms must, therefore, take two routes. The first is to look at the effects of economic integration from the angle of international trade theory. This provides insights into the changes of trade volume and changes in the participation of firms in international trade. The second approach is to look at those effects from a small business perspective. This will generate some insights into the distribution of the effects of economic integration between small and large firms.

2. A glance at international trade theory

Ever since Viner (1950) published his famous book on the customs union issue, international trade theory has made substantial progress in refining the analysis of the static welfare effects associated with trade creation and trade diversion.¹ Trade creation occurs when domestically produced goods are replaced by lower cost imports from a member of a customs union. Trade diversion occurs when goods previously imported from outside the regional trading area are substituted by higher-cost imports from a member within the regional trading area. The net effects on welfare depend on the relative size of gains due to trade creation and losses due to trade diversion. Besides static effects which lead to a once and for all change in welfare, economic integration causes dynamic effects which lead to a sustained increase in the rate of growth. Larger regional markets ensure economies

¹ Cf. Jovanovich (1992).

of scale and increased competition which in turn speeds up technological progress.² Hence, the overall effects of economic integration are generally viewed as beneficial to the welfare of its members and lead to increases in trade between member states.

These insights, however, are mainly related to the economy-wide effects, while knowledge on the firm level effects is rather limited. The main reason for these rather limited insights is that most international trade models use the symmetry assumption: all firms in an industry face the same supply and demand conditions. Hence, they are of identical size, set the same prices and produce the same quantities. Thus, if an industry in a country has a comparative advantage, all firms are exporters. This simplification works quite well in most models of international trade. As Venables (1994) has pointed out, however, this simplification rules out the possibility that some firms may be supplying only the domestic market and engaging in international trade as a consequence of liberalisation. With the symmetry assumption, economic integration can only result in each firm trading more, rather than more firms trading. Moreover, as all firms are of the same size, models which assume symmetry cannot be of any help in answering questions policy makers are often interested in such as: Does the inclusion of new members (like the Northern enlargement of the EU) into a trading bloc enhance the position of small exporters relative to medium or large exporters in their trade relations with those new member states?

One milestone in answering these questions was set by Venables (1994). He constructed a model which allows for an asymmetry in outcomes, i.e. firms selling only to the domestic market and firms selling to the domestic and the foreign market. We do not intend to present the full model and discuss it in detail, but concentrate on two specific points which are especially suitable for analysing the

² Cf. Torre / Kelly (1992).

effects of economic integration on firms. Venables modifies the usual monopolistic competition models in two ways.

Firstly, extending the Dixit-Stiglitz type of models, an additional third step is introduced into the budgeting process. In the first step, consumers allocate their expenditure to various industries. In the second step, consumers divide each of their industry budgets between domestic and foreign goods, in line with the Armington assumption, according to which foreign and domestic goods are imperfect substitutes.³ In the third step, consumers divide their budgets further between different firms. Hence, products are not only differentiated by the country of origin but also by firm.

Secondly, Venables introduces fixed costs of exporting in addition to fixed costs in production. This allows for a more realistic view of the decision making process of firms, as there are hardly any cases where exporting is not associated with additional fixed costs.⁴ Hence, the model contains fixed costs in production (f) and exporting is subject to further fixed costs (g). Let x denote domestic demand and x^* denote foreign demand for a firm's product. It follows that a firm exports if:

$$(2) \quad (p-c)(x+x^*) \geq f+g$$

where $(p-c)$ is the price cost margin which is set by firms as $(c/(\epsilon-1))$, and ϵ is the elasticity of substitution. Hence, a firm sells only to the domestic market if:

$$(3) \quad (p-c)(x) \geq f$$

and becomes an exporter if foreign demand is high enough to cover the fixed cost of exporting:

$$(4) \quad (p-c)(x^*) \geq g.$$

³ Cf. Armington (1969).

⁴ Cf. Piercy (1982) or Trabold (1995).

We have now established a situation, where we have two types of firms - exporters and non-exporters - and a measure of firm size, x in the case of non-exporters and $(x + x^*)$ in the case of exporters. We can use this to derive how economic integration affects the behaviour of exporters and non-exporters.

Economic integration resulting in a lowering of the fixed costs of exporting (g) will tend to turn a non-exporter into an exporter. The larger the non-exporter, the more likely it is that a given reduction in g will make exporting profitable. Hence, the larger firms in the group of the non-exporters will become exporters and grow by the foreign demand x^* for their products. The behaviour of exporters will not be affected due to a reduction in g . They will continue to export, but their sales will not increase.⁵

Economic integration will also result in an increase in foreign demand. We shall denote the additional demand for a firm's product by dx^* , which implies that an exporter will increase his foreign sales by the value of dx^* . A non-exporter will be affected by an increase in foreign demand in the same way as by a reduction in the fixed costs of exporting. He will tend to become an exporter, depending on the size of the firm and the increase in foreign demand. If a non-exporter becomes an exporter he will increase his sales by $(x^* + dx^*)$.

It is evident from the model that if a firm exports it will be larger than the same firm only supplying the domestic market. With fixed costs of exporting greater than zero, a firm can only become an exporter if there is foreign demand for its product in addition to domestic demand. If we assume that the group of non-exporters consists of smaller firms than the group of exporters, we can use the model to assess the effects of economic integration on firms of different size. A large firm

⁵ Depending on the type of the fixed cost reduction, exporting might become more profitable or the firm might charge a lower price. The latter might lead to increased sales depending on the reactions of other firms, the elasticity of substitution and the income and price-elasticity of demand.

(exporter) will increase its sales by dx^* due to the increase in foreign demand. With respect to small firms two cases have to be distinguished: First, those small firms which do not become exporters are unaffected by economic integration. Second, a small firm becoming an exporter will increase its sales by x^* due to a reduction in the fixed costs of exporting. It increases its sales by $(x^* + dx^*)$ due to the increase in foreign demand.⁶ As economic integration usually entails increased foreign demand and a reduction in fixed costs of exporting, we may conclude that economic integration will increase foreign sales of small firms more than those of large firms. However, this result hinges upon the assumption that non-exporters are small and exporters are large. Although this is a reasonable approximation of reality, we shall now turn to the second route of assessing the effects of economic integration on small firms - the business perspective of exporting - and see whether we can come to similar predictions using this approach.

3. The business view

It is a well-known fact that the majority of small firms do not export at all.⁷ The main reasons given in the literature are that small firms are subject to several obstacles to selling abroad, such as⁸

- lack of information and export financing,
- difficulties in distribution and export marketing,
- lack of qualified staff,
- language problems,
- non-tariff trade impediments, including red tape.

⁶ Note, however, that the maximum increase in sales for a non-exporter is $(x^* + dx^*)$ even if economic integration is driven by both effects.

⁷ Cf. Nothdurft (1992).

⁸ Cf. Miesenböck (1987).

Table 1: Classification of non-tariff barriers

Major group	Type
1 Government involvement in international trade	<ul style="list-style-type: none"> a. Subsidies (production, export, credit, R&D, cheap government services) b. Procurement of public bodies (local, regional, central) c. State monopoly trading d. Exchange rate restrictions e. Tied aid
2 Customs and administrative entry procedures	<ul style="list-style-type: none"> a. Customs classification b. Customs valuation c. Monitoring measures (antidumping and countervailing duties) d. Rules of origin e. Consular formalities f. Import licensing g. Calendar of import h. Administrative controls
3 Standards	<ul style="list-style-type: none"> a. Technical b. Health c. Environment d. Testing and certification e. Packing, labelling, weight
4 Specific limitations	<ul style="list-style-type: none"> a. Quotas (tariff-free ceilings) b. Export and import licensing c. Tax remission rules d. Variable levies e. Bilateral agreements f. Buy-domestic campaigns g. Voluntary export restriction agreements h. Self-limitation agreements i. Orderly marketing agreements j. Multi-fibre arrangements k. Ambiguous laws
Source: Jovanovich (1992, p. 80).	

The main barriers to exporting which economic integration will remove are non-tariff trade impediments. A brief inspection of the main non-tariff trade impediments in table 1 shows that many of them are a stronger obstacle to exporting for small than for medium or large firms. Due to the low export volume of small firms, it might simply not be worthwhile complying with standards of different target markets or finding out about ambiguous laws. If, as a result of economic integration, the product of a firm can be supplied without any adaption to suit a foreign market, there is an incentive also for small firms to export. Economic integration will, however, not substantially reduce any of the other obstacles to exporting. It is therefore no panacea for the export problems of small firms. It should, however, lead to increased participation in foreign trade for those small firms who hold non-tariff trade impediments as the main reason for not exporting.

For medium-sized and large firms the situation is different. In many cases they at least have some experience in exporting and have overcome most problems related to exporting. They have learned, how to adapt their products to different target markets, how to deal with non-tariff trade impediments, and how to secure export finance. They have qualified staff speaking the languages of their main export markets. There are sound theoretical reasons and empirical evidence that the larger a firm, the more export markets are served.⁹ This means that most large firms will already be exporting to those markets which are more accessible to small firms due to regional integration. Medium-sized and large firms are in general less restrained in their export activities than small firms. Hence, they will not benefit as much as small firms from a reduction of barriers to exporting but are more likely to profit from economic integration due to larger markets, as this allows them to reap scale economies.

It seems that we arrive at similar conclusions whether we use the small business view or international trade theory. Small firms will in general benefit more from

⁹ Cf. Trabold (1995).

economic integration than large firms, mainly because it gives small firms access to markets previously not accessible for them.

4. Empirical evidence

We apply our theoretical considerations to the (second) Southern enlargement of the EC and analyse, how French exporters reacted to the reduction in fixed costs of exporting (mainly resulting from being able to export to Spain and Portugal under the same conditions as to the old member states) and from increased demand for their products from the new members. We used enterprise-related trade data from France for the years 1985 and 1990 to assess the effects of the (second) Southern enlargement of the EC in 1986 with the accession of Spain and Portugal (see annex 1 for a description of data sources, coverage and methodology). The data were used to calculate the export value, number of exporters and average export value per firm for all exporters, large and medium-scale exporters and small-scale exporters. The results of these calculations are reported in tables A1 to A9 in the annex 2. Tables 2, 3 and 4 give the percentage changes of those variables between 1985 and 1990¹⁰.

In passing we note that the Southern enlargement of the EC lead to the expected relative increase in French exports to Spain and Portugal (145% and 140% respectively) as compared to only 20% to 51% for the old EC members. This is in line with the standard Vinerian analysis and will not be further commented upon.

¹⁰ Data for Germany refer to West-Germany.

Table 2: French exports by partner country

Country	% change 1985/1990 in		
	export value	number of exporters	average export value per firm
Germany	51	4	45
Italy	35	13	20
United Kingdom	51	3	46
Belgium/Luxembourg	45	2	42
Netherlands	51	3	47
Denmark	26	8	17
Greece	24	11	12
Ireland	20	14	5
Spain	145	107	19
Portugal	140	112	13

Source: Tables A-1, A-2, A-3.

The first result of our calculations concerns the distribution of an increase in export value on the number of exporters and the average export value per firm.¹¹ The theoretical considerations presented above imply that for Portugal and Spain this increase in export value should be largely due to a growing number of exporters and to a smaller extent due to the increase in the average export value per firm. The figures in table 2 confirm this view. The number of firms exporting to Spain and Portugal increased by 107% and 112% respectively, while the increase in average exports per firm was only 19% and 13% respectively.

On the other hand, the increase in export value to the old member states (our baseline in this case) was mainly due to the rise in average exports per firm and only to a small extent to an increase in the number of exporters. The increase in

¹¹ The export value can by definition be expressed as the number of exporters multiplied by the average export value per firm.

the number of exporters to the old member states is only a tiny fraction of the increase to Spain and Portugal and ranges from 2% to 14%. The increase in average export value per firm selling to Spain and Portugal, however, is similar to the one of Greece, Denmark and Italy, and much smaller than the one to Germany, the UK, the Netherlands or Belgium. The data clearly confirm the arguments presented above that economic integration will tend to augment the participation of firms in foreign trade mainly by providing them with new business opportunities in the new members as a result of reducing the fixed costs of exporting.

Our next result concerns the distribution of those effects between small-scale exporters on the one hand and medium and large-scale exporters on the other. It was argued above that small-scale firms becoming exporters should increase their exports to Spain and Portugal more than medium and large-scale exporters. This was attributed to the fact that economic integration will remove obstacles to exporting which are especially detrimental to small firms. This view is also confirmed by our calculations which are presented in table 3 for medium and large-scale exporters and in table 4 for small-scale exporters.

Table 3: Exports of French medium and large-scale exporters by partner country

Country	% change 1985/1990 in		
	export value	number of exporters	average export value per firm
Germany	50	-1	51
Italy	34	9	24
United Kingdom	50	1	49
Belgium/Luxembourg	44	3	40
Netherlands	51	0	51
Denmark	25	8	16
Greece	24	13	10
Ireland	19	14	4
Spain	140	81	33
Portugal	135	92	22

Source: Tables A-4, A-5, A-6.

Table 4: Exports of French small-scale exporters by partner country

Country	% change 1985/1990 in		
	export value	number of exporters	average export value per firm
Germany	75	13	55
Italy	86	21	54
United Kingdom	68	8	55
Belgium/Luxembourg	55	1	54
Netherlands	57	12	41
Denmark	79	6	69
Greece	25	-2	27
Ireland	43	17	22
Spain	358	192	57
Portugal	421	235	56

Source: Tables A-7, A-8, A-9.

According to our figures the group of French small-scale exporters increased their exports to Spain and Portugal by 358% and 421% respectively, while exports of medium and large-scale exporters grew only by 140% and 135% respectively. For both groups of firms, the increase was mainly due to the change in the number of exporters, which roughly tripled in the case of small-scale exporters and almost doubled in the case of medium and large-scale exporters. One should note in passing that this is in sharp contrast to the development of exports to the old member states, where the number of exporters grew only slightly (or even shrank) for both groups of exporters. On the other hand, there was almost no difference in the growth of the average export value per French small-scale exporter in trade with Spain, Portugal, Germany, Italy, the UK and Belgium and Luxembourg (approx. 55%).

5. Do exchange rates influence these results?

Theoretically, the results obtained from our calculations could be influenced by exchange rate variations, if:

1. The fixed costs of exporting were borne in the foreign currency.
2. The percentage of fixed costs of exporting was different for small-scale exporters and medium and large-scale exporters.
3. The variation in the exchange rates was of the same direction for Spain and Portugal and was going in the opposite direction for the other EC members.

Only when these conditions are simultaneously satisfied, would it be possible for exchange rate variations to exert as strong an influence as a reduction in the fixed costs of exporting. An inspection of the exchange rate variations in Table 5 shows, that condition 3 is not satisfied. The Peseta remained comparatively stable against the French Franc between 1985 and 1990 while the Escudo depreciated. In addition, the currencies of the old member states moved in all possible directions. The German Mark, the Dutch Guilder, the Belgium Franc and the Danish Krona appreciated against the French Franc, while the other currencies depreciated. In addition, there are several types of fixed costs of exporting which do not accrue in foreign currency (e.g., additional staff at home, product adaption).¹² Hence, it is rather unlikely, that the empirical confirmation of our theoretical consideration can be attributed to exchange rate variations.

¹² Cf. Piercy (1982).

Table 5: Variation of the French Franc against European currencies
(foreign currency units per FF, 1985 = 100)

Country	1985	1986	1987	1988	1989	1990
Germany	100.0	95.7	91.3	90.0	89.9	90.6
Italy	100.0	101.3	101.5	102.8	101.2	103.5
United Kingdom	100.0	114.6	118.2	109.8	111.3	119.9
Spain	100.0	106.8	108.6	103.3	98.0	98.9
Netherlands	100.0	95.7	91.2	89.8	89.9	90.5
Belgium	100.0	97.6	94.0	93.4	93.5	92.9
Denmark	100.0	99.1	96.5	95.8	97.2	96.4
Portugal	100.0	113.9	123.6	127.4	130.1	138.0
Greece	100.0	131.5	146.6	154.9	165.6	189.4
Ireland	100.0	103.0	107.0	105.3	105.8	106.0

Sources: IMF, International Financial Statistics; DIW calculations.

6. Conclusions

Theoretical considerations and empirical evidence presented in this paper clearly indicate that European economic integration helps firms in old member countries to augment their exports to the new member states. The increase in the export value is, to a large extent, due to new exporters entering the new markets, and only to a small extent due to an increase in average export value per firm. This effect is stronger for small-scale exporters than for medium and large-scale exporters. In addition to the other benefits, economic integration appears to be peculiarly beneficial to small firms, as it allows them to access new markets previously closed to them.

References

- Armington, P. (1969)
A Theory of Demand for Products Distinguished by Place of Production, IMF Staff Papers, Vol. 16, pp. 158-177.
- Baumann, R. (1995)
An Appraisal of Intra-Firm Exports from Brazil in 1980 and 1990, in: The Developing Economies, Vol. 12, No. 1, pp. 32-51.
- Bergsten, F. (1991)
Rx for America: Export-Led Growth, International Economic Insights, Vol. 2, pp. 1-7.
- Direction général des douanes et droits indirects (1991)
Les entreprises importatrices et exportatrices: Résultats Année 1990, mimeo, Paris.
- Jovanovich, M. (1992)
International Economic Integration, London.
- Miesenböck, K. (1987)
Small Business and Exporting: A Literature Review, in: International Small Business Journal, Vol. 6, No. 2, pp. 42-61.
- Nothdurft, W. (1992)
Going Global. How Europe Helps Small Firms Export, Washington.
- Piercy, N. (1982)
Export Strategy: Markets and Competition, London.
- Torre, A. de la and Kelly, M. (1992)
Regional Trade Arrangements, IMF Occasional Paper 93, Washington.
- Trabold, H. (1994)
Firm Concentration, Specialization and Newcomers in Foreign Trade. Insights to be Gained from Analysing Enterprise-Related Trade Data from Customs Sources. International Trade Centre UNCTAD/GATT, Research Paper, Geneva.
- Trabold, H. (1995)
On the Fallacy of Neglecting Firm Size in Assessing Export Marketing Strategies. DIW Discussion Paper No. 109.
- Venables, A.J. (1994)
Integration and the Export Behaviour of Firms: Trade Costs, Trade Volume and Welfare, in: Weltwirtschaftliches Archiv, Vol. 130, No. 1, pp. 118-132.
- Viner, J. (1950)
The Customs Union Issue, New York.

Data Source

The calculations for this study were performed on enterprise-level trade data from France for the years 1985 and 1990. The primary data has been kindly provided by the French Department of Customs (*Direction générale des douanes et droits indirects, Sous-direction des statistiques et de l'information, Bureau C/1, Ministère de l'économie, des finances et du budget, Paris*) to the International Trade Centre UNCTAD/GATT (ITC) in Geneva. The data were analysed in the framework of the collaboration between the ITC and the DIW in the area of trade data analysis at enterprise level. The tables in this study have been calculated from the primary data set by Christel Kumitz.

Enterprise-level trade data were collected directly from firms' customs declarations. They have been aggregated by year, flow (export, import), country of destination, product and firm. This annually aggregated product, firm and country-specific trade flow is referred to as a transaction.

Data elements

The primary data files contained the following data elements:

- Type of transaction: Indicating the flow of merchandise. The primary data follow the narrow definition of special trade as in most European countries. This excludes, for instance, imports into and exports from bonded warehouses.
- Enterprise code: French exporters and importers have to indicate their enterprise code SIRENE¹³ on all customs declarations. This code allows classification of trade data by enterprise. At present, the Customs Department is not allowed to publish detailed enterprise-specific data which would permit the identification of the exporting or importing firms. In order to maintain the confidentiality of individual firms, the SIRENE codes - on the basis of which firms can be easily identified - were replaced by two unrelated random codes, one of which covers all transactions of the firm within developed market economies and Central and Eastern European countries, and the other, which covers all transactions with developing countries. These codes were separately assigned to export and import data sets, as well as different years.
- Country code: Primary data provide details on more than 200 countries and territories according to the French 3-digit numerical country nomenclature.

¹³ The abbreviation stands for *Système informatique pour le répertoire des entreprises et des établissements*.

Coverage

Similar to the situation in other countries French foreign trade is highly concentrated.¹⁴ The 250 largest exporters account for 50%, the 5000 largest exporters for 90% of French exports.¹⁵ This concentration is also reflected on the level of transactions: for example, the largest 100.000 export transactions cover 95% of French exports to industrialised countries.

In order to reduce the size of the primary data set, it was decided in co-operation with the French department of customs to apply an export transaction threshold of FF 500.000 and exclude all export transactions below this threshold from the data set. (This resulted in a reduction of the physical volume of the data by a factor of eight). It also led to the exclusion of 110.000 - 115.000 micro-exporters bringing the total number of exporters down to 23,700 in 1990 and 19,700 in 1985. Despite these exclusions the data used yield the following coverage ratios in exports to the respective countries:

Germany	97%
Italy	97%
United Kingdom	96%
Netherlands	96%
Spain	95%
Belgium/Luxembourg	94%
Denmark	90%
Greece	90%
Ireland	90%
Portugal	90%

Methodology

The dividing line between small-scale exporters on the one hand, and medium and large-scale exporters on the other hand, was drawn on a relative rather than absolute basis. For each firm, the total export value in trade with industrialised countries was calculated. The bottom 60% of firms was classified as small-scale exporters, the bottom 40% as medium and large-scale exporters.

¹⁴ Cf. Bergsten (1991), Trabold (1994), Baumann (1995).

¹⁵ Cf. Direction générale des douanes et droits indirects (1991).

Table A-1: French exports by partner country

Country	in mill. FF		% change
	1985	1990	1985/90
Germany	126,617	190,713	51
Italy	92,807	125,614	35
United Kingdom	69,149	104,268	51
Belgium/Luxembourg	69,464	100,465	45
Netherlands	40,779	61,476	51
Denmark	6,514	8,223	26
Greece	6,254	7,771	24
Ireland	3,708	4,435	20
Spain	28,113	68,954	145
Portugal	5,595	13,452	140

Source: DIW calculations based on French customs data.

Table A-2: Number of French exporters by partner country

Country	% change		
	1985	1990	1985/90
Germany	9102	9477	4
Italy	6328	7122	13
United Kingdom	6276	6486	3
Belgium/Luxembourg	9010	9183	2
Netherlands	4562	4679	3
Denmark	1380	1488	8
Greece	1169	1298	11
Ireland	790	903	14
Spain	2760	5715	107
Portugal	1007	2135	112

Source: DIW calculations based on French customs data.

Table A-3: Average export value per firm by partner country

Country	in mill. FF		% change
	1985	1990	1985/90
Germany	13.9	20.1	45
Italy	14.7	17.6	20
United Kingdom	11.0	16.1	46
Belgium/Luxembourg	7.7	10.9	42
Netherlands	8.9	13.1	47
Denmark	4.7	5.5	17
Greece	5.3	6.0	12
Ireland	4.7	4.9	5
Spain	10.2	12.1	19
Portugal	5.6	6.3	13

Source: DIW calculations based on French customs data.

Table A-4: Exports of large and medium-sized French exporters by partner country

Country	in mill. FF		% change
	1985	1990	1985/90
Germany	123,333	184,962	50
Italy	90,759	121,804	34
United Kingdom	67,445	101,403	50
Belgium/Luxembourg	65,762	94,735	44
Netherlands	39,827	59,980	51
Denmark	6,400	8,018	25
Greece	6,076	7,548	24
Ireland	3,623	4,313	19
Spain	27,487	66,083	140
Portugal	5,482	12,865	135

Source: DIW calculations based on French customs data.

Table A-5: Number of French large and medium-sized exporters by partner country

Country	% change		
	1985	1990	1985/90
Germany	5885	5835	-1
Italy	4328	4698	9
United Kingdom	4429	4484	1
Belgium/Luxembourg	5239	5389	3
Netherlands	3526	3523	0
Denmark	1223	1321	8
Greece	983	1115	13
Ireland	702	800	14
Spain	2116	3832	81
Portugal	868	1670	92

Source: DIW calculations based on French customs data.

Table A-6: Average export value per large and medium-sized French exporter by partner country

Country	in mill. FF		% change
	1985	1990	1985/90
Germany	21.0	31.7	51
Italy	21.0	25.9	24
United Kingdom	15.2	22.6	49
Belgium/Luxembourg	12.6	17.6	40
Netherlands	11.3	17.0	51
Denmark	5.2	6.1	16
Greece	6.2	6.8	10
Ireland	5.2	5.4	4
Spain	13.0	17.2	33
Portugal	6.3	7.7	22

Source: DIW calculations based on French customs data.

**Table A-7: Exports of French small-scale exporters
by partner country**

Country	in mill. FF		% change
	1985	1990	1985/90
Germany	3,283	5,752	75
Italy	2,048	3,810	86
United Kingdom	1,704	2,865	68
Belgium/Luxembourg	3,702	5,730	55
Netherlands	952	1,496	57
Denmark	114	204	79
Greece	178	223	25
Ireland	85	121	43
Spain	627	2,872	358
Portugal	112	587	421

Source: DIW calculations based on French customs data.

**Table A-8: Number of French small-scale exporters
by partner country**

Country	% change		
	1985	1990	1985/90
Germany	3217	3642	13
Italy	2000	2424	21
United Kingdom	1847	2002	8
Belgium/Luxembourg	3771	3794	1
Netherlands	1036	1156	12
Denmark	157	167	6
Greece	186	183	-2
Ireland	88	103	17
Spain	644	1883	192
Portugal	139	465	235

Source: DIW calculations based on French customs data.

**Table A-9: Average export value per small-scale exporter
by partner country**

Country	in mill. FF		% change
	1985	1990	1985/90
Germany	1.02	1.58	55
Italy	1.02	1.57	54
United Kingdom	0.92	1.43	55
Belgium/Luxembourg	0.98	1.51	54
Netherlands	0.92	1.29	41
Denmark	0.73	1.22	69
Greece	0.96	1.22	27
Ireland	0.97	1.18	22
Spain	0.97	1.52	57
Portugal	0.81	1.26	56

Source: DIW calculations based on French customs data.