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**THE PROCESS OF ECONOMIC  
INTEGRATION IN EUROPE:  
Consequences for EFTA Countries and Firms**

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# **THE PROCESS OF ECONOMIC INTEGRATION IN EUROPE**

## **Consequences for EFTA Countries and Firms**

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### Abstract

This paper discusses the impact of the completion of the EC internal market on the competitive position of EFTA firms (and, hence, also on economic growth in EFTA countries). The discussion falls in three parts. First, the process of European economic integration in the last decades - as reflected in the composition of EC imports - is examined. Then follows a discussion of the likely effects of the internal market, and to what extent these should be expected to deviate much from what can be observed from European economic integration in the past. Finally, the special problems and opportunities of EFTA firms - as firms from small countries with small domestic markets - are considered. The conclusion is that EFTA firms are in a good position to exploit the possibilities offered by the current deregulation efforts and opening up of markets implied by the EC internal market plans.

## 1. Introduction

The EC plans for the internal market have significantly influenced the political agenda in the six EFTA countries. The fear that EFTA firms, and consequently the EFTA countries, are not going to share the economic gains implied by the internal market is widespread. To avoid this outcome, many observers now argue that new institutional arrangements between the EC and the EFTA (or its member countries) are called for.

However, to what extent should the completion of the internal market be conceived as a threat by EFTA firms? This is the question addressed in this paper. In doing so, both the special interpretation of history used in support of the internal market (the European malaise: Eurosclerosis), and the analyses brought forward by the Commission on the likely effects of the actions to be undertaken (the European cure: the internal market), are examined. The focus of the paper is on manufacturing industry. Other aspects, such as labour market integration, financial integration and fiscal harmonization, though equally or perhaps even more important, are not considered.

The discussion falls in three parts. The first examines the process of European economic integration in the 1970s and 1980s as reflected in the country composition of EC imports. Then follows a discussion of to what extent the effects of the internal market should be expected deviate much from those which can be observed from the process of European economic integration in the past. Finally, the paper considers the special problems and opportunities that firms from small, developed countries face in a process of increasing international economic integration, with particular emphasis on the EFTA countries.

Figure 1. Intra-regional trade, six EC countries, in per cent of total imports (excl. oil and gas)



## 2. European integration in the 1970s and 1980s

The process of European economic integration in the last decades can be divided in two phases (Jacquemin and Sapir, 1988). The first phase starts around 1960 with the formation of EC and EFTA and ends with the first enlargement of the EC in the early 1970s. In this phase, intra-EC trade grew much faster than total EC trade, causing the share of intra-EC trade as a percentage of total EC imports to rise significantly (figure 1). The second phase dates from the early 1970s onwards. What characterizes this phase, compared to the preceding one, is that intra-EC trade does not any longer grow faster than total EC trade. In fact, as shown in figure 1, in the case of the six initial EC-countries, their internal trade as a share of their total foreign trade has actually declined.

The share of intra-regional trade in total trade is a commonly used indicator of economic integration. No surprise, then, that the figures referred to above have caused some worry in EC circles. One widely shared interpretation of these developments is that they reflect so-called "Eurosclerosis", a shorthand for various institutional obstacles to trade and growth that are assumed to be especially evident in EC countries. According to this view, these obstacles have hampered the competitiveness of EC firms and caused their market shares, especially for high technology products, to decrease in favour of their allegedly more dynamic competitors from the USA and Japan.

In the following we will discuss some of the reasons for the changes that can be recorded in the country composition of EC imports in the last decades. Table 1. gives a summary of these developments for all goods excluding oil and gas. In contrast to figure 1, the table covers the imports of both the six initial EC member countries and the three EFTA countries that joined the EC in the early 1970s (UK, Ireland and Denmark).

Table 1. Shares of EC imports, 1961-1987, All goods (excl. oil and gas)

|                  | Change |       |       |        |       |
|------------------|--------|-------|-------|--------|-------|
|                  | 1961   | 1973  | 1987  | 61-73  | 73-87 |
| (1) EC 6         | 31.93  | 48.44 | 48.63 | +16.51 | +0.19 |
| (2) EC 3         | 8.08   | 7.03  | 8.70  | - 1.05 | +1.67 |
| Sum 1-2 EC 9     | 40.01  | 55.47 | 57.33 | +15.46 | +1.86 |
| (3) EFTA 6       | 10.39  | 9.31  | 10.18 | - 1.08 | +0.87 |
| (4) South-Europe | 2.33   | 2.71  | 4.37  | + 0.38 | +1.66 |
| Sum 1-4 Europe   | 52.73  | 67.49 | 71.88 | +14.76 | +4.39 |
| (5) Japan        | 0.78   | 2.19  | 4.89  | + 1.41 | +2.70 |
| (6) NIC          | 2.19   | 3.51  | 4.73  | + 1.32 | +1.22 |
| (7) USA/Canada   | 15.80  | 11.05 | 8.35  | - 4.75 | -2.70 |
| (8) Rest         | 28.50  | 15.76 | 10.15 | -12.74 | -5.61 |
| Sum 1-8          | 100    | 100   | 100   |        |       |

Definitions:

EC 6: Be-Ne-Lux, BRD, France, Italy

EC 3: Ireland, Denmark, UK.

EFTA 6: Norway, Sweden, Finland, Iceland, Austria, Switzerland.

Southern Europe: Spain, Portugal, Greece, Turkey.

NIC: Yugoslavia, Mexico, Brazil, Singapore, Korea (South), Taiwan, Hong Kong.

Source: OECD Trade Series C, IKE Database on Foreign Trade, University of Aalborg

It is easily seen that this gives a somewhat different picture than the one presented in figure 1. In fact, when care is taken to the effects of the enlargement of the EC in the early 1970s, the six initial EC countries' share of total EC imports does not decline. Following the enlargement of the Community, the six initial EC countries increased their exports to the three new member countries, thus offsetting the slow growth in their mutual trade. Furthermore, as should be expected, the three new member countries also increased their trade with the six initial member countries, causing intra-EC trade as a share of total EC imports (so defined) to increase by some 2 percentage points between 1973 and 1987. However, as can be seen from table 1, also the six EFTA countries and the countries of Southern Europe<sup>2</sup> increased their shares of total EC imports in this period. Thus, even though the share of the six initial EC countries did not increase, it was a significant increase in the share of Western Europe in EC trade during this period. Taking a long view, what these data show is primarily the strong increase in European economic integration from the 1960s onwards. However, while economic integration in the 1960s was mainly carried out within two competing trade blocks, EC and EFTA, European integration in the 1970s and 1980s has resulted in an "European economic space" in which present day EC and present day EFTA countries are integrated more or less to the same extent.<sup>3</sup>

With regard to the non European countries, also Japan and the NICs recorded increases in their shares of total EC imports

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<sup>2</sup> Three of the four Southern European countries, included in this table later joined the EC, but with the exception of Greece, which is numerically less important, this was done so late that it can hardly have had any important impact on the data for 1987.

<sup>3</sup> Both present day EFTA and present day EC countries have an average around 58-59% of their exports/imports with the European Community (12). See Kostrzewa and Schmieding (1989).

during the 1970s and 1980s, while both the USA and Canada and the rest of the world (mostly developing) lost. Thus, there is certainly no evidence, at this level of aggregation at least, for the view that the European countries have lost in relation to the USA. The gains for Japan and the NIC countries were large in relative terms and show the increasing competitiveness of these countries on world markets in this period. However, the combined share of Japan and the NICs in EC imports in 1987 remained rather low, below 10%.

The picture presented in table 1. is of course a highly aggregated one. To see what hides behind the aggregate, we have repeated the calculation for four sub-sectors: Products based on natural resources, chemicals, machinery- and transport equipment and traditional manufactures. The relevant tables are included in an appendix to this paper, here we will just point out some main tendencies. The strongest growth in the Western European share of EC imports is found for products based on natural resources. Approximately one half of this increase was due to increased shares for the six initial EC countries, to some extent a reflection of the highly protectionist agricultural policy followed by the EC in this period. In the three other sectors, however, the share of the six initial EC countries in total EC imports declined, most markedly for machinery and transport and traditional manufactures. In chemicals, the gains recorded by the new EC members, present day EFTA and the South European countries were sufficient to secure an increase in the total Western European share of EC imports, at the expense of the USA and Canada. Although Western Europe less the six initial EC members also increased its total share of EC imports for machinery and transport equipment and traditional manufactures, this increase was not sufficient to prevent a decline in the total Western European share of EC imports for these goods. For machinery and transport equipment, the most sizable gains were made by Japan followed by the NICs, while the share of the USA and Canada declined. For traditional

manufactures the largest gains were made by the developing countries ("the rest") followed by the South European countries and the NICs. This suggests that the decline in the Western European share of total EC imports of manufactures in this period to a considerable extent is a reflection of the process of industrialization and "catching up" in NIC countries and other third world countries in the last decades.

As mentioned earlier, it is a widely held view that producers in the Community have lost ground relative to producers from the United States, especially in high technology products. However, there is little in the evidence considered so far that supports this view. Indeed, USA/Canada have lost market shares in all sectors considered so far. To be able to discuss this issue in more detail, we have in table 2. listed all goods where the six initial EC countries according to our calculations have lost more than 10% of the EC market(imports) between 1973 and 1987. It is true that some of these goods are so-called high technology goods, i.e. goods stemming from industries with a high R&D intensity in production. However, as should be clear from the table, USA/Canada do not have a better performance than the six initial EC countries for these goods. Furthermore, Western Europe as a whole is doing it a lot better than both the six initial EC countries and USA/Canada. Thus, there does not seem to be any evidence supporting the view that US producers are doing it markedly better than producers from the EC or Western Europe as a whole.<sup>4</sup> Rather, it seems that the developed economies of North

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<sup>4</sup> The evidence considered here covers EC imports only. Buiges and Goybet (1989) present penetration rates for imports to the USA, the EC(7) and Japan, and market shares for the USA, the EC and Japan in the imports of "the rest of the world" (world imports less the import of the USA, the EC and Japan), for high growth products, medium growth products and low growth products. According to their study, which covers the period 1973-1985/1986, both the USA and the EC have lost market shares at home and abroad for both high and medium growth products in this period, while Japan has gained. Although the US performance is reported to be slightly more favourable for high growth products than for medium growth products, while

Table 2. Growth in market share (per cent), EC-imports 73-87, selected goods

|                                                        | EC 6 | Europe | USA/Canada |
|--------------------------------------------------------|------|--------|------------|
| 19 Fertilizers                                         | -15  | - 8    | +42        |
| 26 Office machinery                                    | -32  | -11    | -32        |
| 28 Semiconductors                                      | -27  | -13    | -50        |
| 29 Telecommunications                                  | -36  | -28    | + 2        |
| 30 Machinery for<br>and distribution of<br>electricity | -19  | - 9    | - 8        |
| 31 Consumer electronics                                | -25  | -29    | -70        |
| 32 Domestic electrical<br>equipment                    | -18  | -14    | -24        |
| 34 Road motor vehicles                                 | -14  | - 8    | -58        |
| 40 Clothing                                            | -27  | -13    | -40        |
| Average of above                                       | -24  | -15    | -27        |
| Memo:                                                  |      |        |            |
| Machinery and<br>transport equipment                   | -16  | -10    | -18        |

Definitions: See appendix

Source: See table 1

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the opposite was found to be true for the EC, the similarity in performance is what strikes most.

America and Western Europe are facing the same competitive challenge from Japan, NIC countries and other industrializing countries of the third world. If anything, Western Europe seems to be in a somewhat better position than the USA in this respect, since Western Europe on average is doing it much better in chemicals, a sector characterized by many R&D-intensive goods. This is also supported by other types of evidence. Based on an examination of various indicators of technological performance, Patel and Pavitt (1987) conclude as follows:

"The evidence ... offers no justification for concluding that W.Europe is on the whole more technologically backward, or more incapable of turning technology to economic advantage, than the USA and Japan. (...) The USA, perhaps more than W. Europe, has seen its technological leadership challenged by Japan in a succession of sectors: steel, consumer electronics and automobiles, in the past; electronic components, and possibly telecommunication and office machinery in the future". (Patel and Pavitt, 1987, p. 82)

Thus, the widely quoted stagnation in intra-EC trade during the last decades is not necessarily so alarming after all. What it shows is primarily that Western Europe - as a closely integrated production system - is wider than the EC. When care is taken to this fact, it turns out that the degree of Western European integration as measured through trade has continued to be on the increase. One possible interpretation of these developments is that the trade creation potentials of the establishment of the EC and EFTA were almost exploited by the early seventies, and that further trade creation within Western Europe from the early seventies onwards would have to take place through increased integration within a larger "European Economic Space". However, the changing composition of EC trade in the last decades also reflects increasing "World integration", between the developed countries of Western Europe and North America at the one hand, and Japan, the NICs and other industrializing countries of "The Third World" on the other. While this latter process certainly represents a challenge to the established firms of Western

Europe and North America, it should not necessarily be conceived as a threat, since it - as economic theory shows - can be mutually beneficial. Probably, these tendencies would have been even stronger had it not been for the protectionist trade policies followed by the EC in the last decades.

### 3. The internal market

As pointed out, the expansion in intra European trade that took place between the EC and present day EFTA countries in the 1970s and 1980s was related to the free trade agreements of the early 1970s and the tariff reductions that followed. It has been shown (Ferreira, 1990, Lundberg, 1990) that this expansion was mainly of the intra-industry type, consistent with the predictions of "modern" trade theories (based on economies of scale). For the trade between three Nordic EFTA countries and the EC between 1970 and 1984 Lundberg (1990) found that "the increase in intra industry trade was largest in formerly strongly protected sectors with fast growing markets and a high degree of product differentiation. The results support the view that differentiation in consumer demand and a taste for variety are dominant explanations of Nordic-EC trade."

For present day EFTA countries the most interesting question related to the EC plans is whether this will result in a continuation of the trends from the past two decades or a return to the situation of the 1960s with competing trade blocks in Europe. Needless to say, the latter would put the present day EFTA countries in a difficult position, especially since the geographical coverage of EFTA is so much reduced compared to the 1960s. To consider this issue it may be useful to start by a short discussion of the EC Commission's own view on the effects of the internal market.

According to the Commission (Cecchini 1988, Commission 1988)<sup>5</sup> the internal market will affect growth in the EC area in two ways. The first is a once and for all effect of approximately 4-6% related to direct and indirect cost reductions through deregulation and reducing obstacles to trade, increased competition and better exploitation of economies of scale. The second type of effects relates to increased innovation and diffusion of technology in the EC area. While considered to be important, these latter effects have not been quantified by the Commission.

There is now an extensive literature on how realistic these estimates are. Some writers, as for instance Peck (1989), point out that compared to previous analyses of the economic effects of tariff reductions, the estimates presented by the Commission seem to be on the high side (".. the report overestimates the gains by a factor of two or three." (Peck, 1989, p. 289)). However, since the methodology adopted in the studies used by the Commission differs from that of earlier studies by taking economies of scale and competition effects more directly into account, the results are not directly comparable. Indeed, it may equally well be argued that the narrow theoretical perspective of the previous analyses of the economic effects of trade reductions indicates that the estimates presented there probably were biased downwards.

Other writers, such as Flam and Horn (1989), stress the great uncertainty attached to some of the calculations used by the Commission in preparing the estimates (calibration of theoretical simulation models). In such simulations, a number of assumptions has to be made, which may eventually turn out to be wrong. For instance, it has been pointed out that the estimates of economies of scale used in the calculations are based on rather old data (Melchior, 1990). Given more recent

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<sup>5</sup> For critical overviews, see Flam and Horn (1989) and Melchior (1990).

developments towards flexible manufacturing, these may turn out to be much too high. Since the results of such simulations are quite sensitive to the choices made, this implies that the results should be treated with utmost care. However, the Commission can hardly be said to have been especially careful in their use of the results of these simulation exercises. On the contrary, as shown by Melchior (1990), the Commission has chosen the version which yields highest growth, in spite of warnings made by the authors of the background study (Smith and Venables, 1988),<sup>6</sup> and then mixed these results with estimates obtained from other, alternative sources in a way that further increases the final estimates (as presented by the Commission).

The main problems with the simulation exercise preferred and used by the Commission are that it is based on very far-reaching assumptions, and that it produces results that are counter-intuitive. First, it is assumed that the large differences in prices on similar products that can be observed across EC countries today, can be explained by the fact that firms exploit their market power to charge higher prices in their domestic markets than elsewhere. However, the empirical evidence behind this assumption is weak,<sup>7</sup> and the possibility that these differences to a large extent are caused by other

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<sup>6</sup> Smith and Venables (1988) present eight different simulations, reflecting different assumptions of firm behaviour, entry/exit and market segmentation. On the version chosen by the Commission they point out that "it is questionable to what extent" this version, although close to the "spirit of what is meant by "completing the internal market"", "is a policy experiment in a meaningful sense". (p. 1502)

<sup>7</sup> Norman (1989, p. 436) argues that "casual observation tends to confirm the (...) hypothesis for many products" and mentions some examples. However, he also points out that there is evidence that points in the opposite direction. In a comment, Horn (1989, p. 450) provides additional examples (from the car industry) of conflicting evidence. Thus, while it seems clear that firms charge different prices in different markets, it is an open question whether it takes the particular form assumed in the simulation-version preferred by the Commission.

factors not taken into account can not be ruled out. Second, it is assumed that the 1992 plans turn the previously segmented national markets into an "integrated" European market, where firms charge the same price for the same product in all markets. However, as pointed out by several authors, including Smith and Venables themselves, existing market segmentation is only partly caused by governmental regulations that will be abolished by the internal market. Third, while one intuitively would expect that the reduction in non-tariff barriers and other obstacles to trade implied by the internal market should lead to an increase in trade, as in previous periods of trade liberalization (cf. section 2 of this paper), the simulation exercise preferred by the Commission actually predicts a strong reduction in trade both within the Community and between the Community and the rest of the world.<sup>8</sup>

The view that the completion of the internal market should lead to a process of industrial concentration, implying among else reduced diversity in the markets, has been criticized by Kay(1989) and Geroski(1989). They point out that according to the material presented by the Commission, scale economics in European industry are in most cases rather small compared to the size of the market, leaving room for a relatively large number of firms in most industries. If there were large economies of scale unexploited, it is argued, these should have been exploited long ago, except in cases where this has been impossible due to protectionism and governmental regulations of various kinds. According to their view, this has been the case in a few sectors only: Aero space, power generating equipment (atomic energy) and telecommunications

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<sup>8</sup> The logic is the following: in a much more competitive environment ("integrated" markets), prices will drop to a level where they are the same everywhere, and the least efficient firms will be forced out of business. Following the assumption on price behaviour, the drop in prices will be largest for domestic producers. As a consequence, the share of domestic producers in the sales of each domestic market will increase at the expense of foreign firms. Hence, trade will be reduced.

mainly. In these sectors, the deregulation implied by the internal market plans could lead to a process of concentration and sizeable economic gains. But in most industries, they argue, the increased competition implied by the internal market plans should not be expected to lead to increased concentration, but increased product diversity in the markets. This would also lead to increased welfare, but with different effects on firm size, location of industry and trade.

From an EFTA point of view, it matters whether the Commission is right or whether Kay and Gerosky are right. According to the "integrated market" scenario endorsed by the Commission, the completion of the internal market should be expected to lead to reduced demand for exports from EFTA to the EC and, consequently, reduced scope for exploitation of economies of scale in EFTA countries (since their domestic markets whether on a national or an EFTA scale, are small). If, on the other hand, Kay and Gerosky are right, the trend towards increasing intra-industry trade within Western Europe should be expected to continue. However, there does not seem to be much evidence that can be quoted in support of the Commission's view. The "integrated market" scenario, although interesting from an academic point of view, is based on quite special assumptions, and does not appear to be especially relevant in a quantitative assessment of the likely effects of the completion of the internal market.

So far we have discussed the static, short to medium run effects of the internal market. But as mentioned earlier, the Commission also argues that there exist important dynamic long-run effects that should be taken into account (Cecchini 1988, Commission 1988).<sup>9</sup> According to the Commission (1988),

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<sup>9</sup> In a recent paper Baldwin (1989) argues that there may be growth effects, perhaps extending to the long run, in excess of those taken into account by the Commission (through the effect of higher output on savings/investments and, hence, growth). His argument seems to carry some weight, at least in the medium run. But as pointed out by Venables in a comment,

the possibility of higher growth in the long run rests on the relation between integration, market structure and innovation. Two possible routes have been considered. The first is based on the (allegedly "Schumpeterian") assumption that industrial concentration (fewer and larger firms) leads to more innovation. However, the available evidence does not support this view. This is also acknowledged by the Commission which in its own account of the economic effects of the internal market points out that "Most of the empirical studies (...) show that, apart from the chemical industries, large size does not favour innovation" (Commission 1988, p. 113). The second possibility considered by the Commission is based on the view that the increased competition implied by the internal market will lead to more innovation and, hence, higher growth in the long run. However, it is not clear, theoretically or empirically, that increased competition necessarily leads to increased innovation. As pointed out already by Schumpeter, in the limiting case, "perfect competition", there can be no innovation since in this case firms have no possibility to appropriate the economic benefits that derive from the innovations they make. Thus, there is probably no easy link between market structure and innovation. The available evidence seems to suggest that an industrial structure characterized by diversity of firms of different sizes is the one in which innovations take place most frequently (Scherer 1980, Acs and Audretsch 1987). Whether or not the internal market will lead to a development in that direction is a matter of discussion. The chance is probably better if Kay-Geroski are right than if the Commission is right on the effects of the internal market on the market structure in the Community.

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the argument rests crucially on the assumption of a constant saving ratio: "Changes of one or two points in this ratio could easily dominate the other effects discussed .. a priori 1992 seems to me just as likely to change savingsbehaviour .. as to affect the capital-output ratio." (Venables, 1989, p. 274).

I have argued elsewhere that - apart from science push (which is hardly affected by market structure) - innovation is to a large extent a result of learning created through interaction between users and producers of technology (Fagerberg, 1990). This raises a whole set of new issues, since this perspective focuses on the quality of demand, and the prospects for new innovative solutions being created through the interplay between advanced users and producers of technology. For instance, to the extent that the Community would be in the forefront of environmental regulation, this could initiate new environmental technologies that, through learning effects, could create a competitive advantage for European firms in this area. Similar examples could be conceived in other areas as, for instance, in the health sector. However, this is hardly what the internal market is about. Rather, the principle of mutually recognized and market-determined standards and regulations should be expected to make it more difficult for EC governments to impose tougher and more costly regulations than those applied in other member states. Thus, to sum up, while it can not be ruled out that increased European integration may lead to more innovation, there is little so far that leads us to believe that this is bound to happen.

#### 4. Small countries facing increased international integration: the special problem of the EFTA countries

The evidence seems to suggest that the Commission's estimate of the effects of the internal market on productivity and GDP is a highly uncertain one, and probably errs on the high side. However, there is no reason to believe that the sign of the estimate is wrong. Large or small, the question remains: who are going to reap these gains? The view of the Commission seems to be that the reductions in costs/increases in productivity that are assumed to follow from the completion of

the internal market, will accrue to Community firms only.<sup>10</sup> But why should this be the case? One answer may be increasing protectionism vis à vis non-Community producers, but apparently this is not what the Commission has in mind, and it would in any case be difficult to implement given the importance of the outside world as markets for EC firms. Rather, the arguments brought forward by the Commission are the following:

".. the question needs to be asked as to whether European firms have the capacity to resist market entrants from non member countries who will try to be the first to take advantage of the large market. That capacity depends on the existence of strategic barriers to entry. The main tools for creating such barriers are the exploitation of the position of innovator and first firm on the market ("first mover advantage"); the use of more rapid learning processes, which amplify the first mover advantage; special relationship with customers and suppliers, which create durable links by increasing the cost of changing partner; control of a range of products, including substitutes etc. Thus a distinctive European character can be affirmed in different ways, reflecting a "Community preference". This makes European standards (information, compatibility, quality etc.) an essential weapon in the great industrial battles of today; they are keys opening up and controlling markets through technological alliances. The same is true of joint European research programmes which stimulate cooperation across borders between Community firms and the research centres. Ultimately, the competitiveness of Europe in a completed internal market will be the competitiveness of its firms". (Commission 1988, p137-8)

What is said here about "first mover advantage" and "customer-supplier relationship" is defensible, but there is nothing particularly European in this, rather it is a description of how international markets in high technology products function. However, there is no such thing as a "Community preference" on the demand side of the various European economies, nor could there be given the large cultural differences that exist between the countries in the Community. Industrial standards are of course important, but it must be remembered that

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<sup>10</sup> This is also, with a few qualifications, the assumption adopted by Norman (1989) in his analysis of the economic effects of the internal market for EFTA countries.

although EC countries are important players in the European or international standardization associations, they - or the Commission for that sake - are not in the position to dictate standards in all areas. And even if they could, it would hardly do Community industry any good to have to adapt to industrial standards not compatible with the standards in the rest of the world. The consequence, one could imagine, would be to make Community industry less competitive in international markets, or the opposite of what is aimed for. Technological alliances are important in global industries today, and will probably continue to be so. However, there is no reason to believe that such alliances will be of an intra-EC kind mainly. Indeed, many such alliances are global, involving US, Japanese and European firms. There are good arguments for this, among else because global alliances, in addition to cost-sharing, secure that technologies will be present in all important markets. This increases the chance of survival and reduces the risk of being left on the wrong technological trajectory. Joint EC research programs are of course important in the areas where they exist, but their magnitude is small compared to total R&D spending in the Community, and in several cases these are also open to non EC firms.

Thus, the arguments put forward by the Commission on the distribution of the gains between EC and non-EC firms following the completion of the internal market are generally not convincing. If we abstract from the small increase in the relative costs for non-EC firms caused by the difference in paperwork required by EC and non-EC firms after the completion of the internal market, the opening up of hitherto protected national markets in individual EC countries to international competition should be seen as a unilateral tariff reduction by each individual country in favour of firms from other EC countries and non-EC firms. Of course, to the extent that foreign firms face tariffs, the advantage should be expected be larger for EC firms, but this is not relevant for firms

from countries with free-trade-agreements. Many foreign firms also have production facilities within the EC and will be able to circumvent tariffs in this way. Furthermore, if it is true, as argued by the Commission, that EC firms in a number of industries - because of protectionism and regulations in the past - are relatively inefficient, foreign firms should actually be in a good position to outperform them. The reason is simple: in contrast to the EC experience, most large foreign firms, and certainly all foreign multinationals, have for decades been forced to adapt themselves to the much more competitive global markets, and should therefore be expected to have reached an efficiency-level superior to that of the previously protected European national champions.

The EFTA countries are in a special position for two reasons: They already have free access for their manufacturing goods in the EC markets, and they are all small countries. The first should be an advantage compared to firms from for instance the USA, Japan or NIC countries, but what about the latter? It is a commonly held view that small countries face a comparative disadvantage in cases where markets are nationally segmented and economies of scale prevail. One should expect, then, that the gradual reduction of obstacles to trade and competition implied by the internal market should be especially favourable for small countries (Krugman 1988), and this is also the view held by the Commission (Commission 1988, p. 21). More recently, however, Krugman and Venables (1990) have argued that small countries actually risk to lose from increased integration, the reason being that there always will be a certain degree of "natural" protection for domestic producers, that these will tend to be more important as competition hardens, and thus favour producers with large domestic markets.<sup>11</sup>

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<sup>11</sup> It should be noted that Krugman and Venables defines "smallness" in a special way, as market access. Thus, according to their definition, Spain is a small country, but Belgium is not.

The idea of small country disadvantages due to economies of scale goes back at least to Dreze (1961) and it may be appropriate to discuss his model here. According to Dreze, markets (demand) may be either international or national in character, the latter reflecting cases where product specifications are different across countries. The method of production may be either mass production (long production runs) or small scale (tailor made). Now, since, according to Dreze, domestic producers will always have an advantage in tailor made products, he concentrates his attention on case A and B in figure 2.<sup>12</sup> below, that is the case with mass production and international markets (A) and the case with mass production and nationally segmented markets (B).

Figure 2. Dreze's model (1961)

| Standardization of demand |                                                                  |                                                         |
|---------------------------|------------------------------------------------------------------|---------------------------------------------------------|
|                           | International                                                    | National                                                |
| Scale:                    |                                                                  |                                                         |
| Mass production           | A<br>Semifinished goods<br>(iron, steel)<br>Industrial equipment | B<br>Cigarettes, Cars,<br>Furniture,<br>Pharmaceuticals |
| Small scale               | C                                                                | D<br>Tailor-made products                               |

Dreze explicitly assumes that small countries can not "export their own tastes" (Dreze, 1961, p. 29) and that small countries therefore face a comparative disadvantage in type B goods. From this he infers that small countries have to specialize in type A goods, and he argues that this seems to fit the Belgian experience. But it is easy to find examples that contradict this prediction. For instance, Denmark is

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<sup>12</sup> The figure is constructed by the author, but the goods mentioned are taken from Dreze's paper.

specialized<sup>13</sup> in furniture, Switzerland in pharmaceuticals and Sweden in telecommunication equipment and cars, all examples of type B goods. How is this to be explained?

First, Dreze is probably wrong when he asserts that small countries can not "export their taste": the Swiss has for a long time exported their taste for chocolate, the Scandinavians their taste for furniture and so on, thus exploiting the demand for variety in export markets. But it does not seem reasonable to explain the success of small countries in, say, pharmaceuticals and telecommunication equipment in this way. It is, however, possible to reconcile Dreze's basic theoretical perspective - if not his predictions - with these findings. Dreze defines economies of scale in the following way:

"By economies of scale, I understand not so much the fact that production costs are lower in large enterprises than in small ones, but that costs are typically lower for mass production than for small scale production."  
(Dreze, 1961, p. 20)

A natural interpretation of this is that the economies of scale - as discussed by Dreze - relate primarily to the size of firms, not the size of plants.<sup>14</sup> However, as pointed out by Swedenborg, economies of scale in this sense "is compatible with multi-plant production and with "foot-lose" MNCs producing in many countries" (Swedenborg, 1989, p. 3). Since firms from small countries do face a comparative disadvantage in industries where economies of scale at the plant level are

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<sup>13</sup> Export specialization was measured as the market share for country *i* for commodity *j* in the world market divided by the overall market share for country *i* on the world market. On average, this index equals unity, thus a country is said to be export specialized in commodity *j* if the index exceeds unity. In 1985 the numbers were: Denmark (furniture 5.0), Switzerland (pharmaceuticals 4.9), Sweden (telecommunications 2.52, road motor vehicles 1.1). Sources and definitions as in Appendix.

<sup>14</sup> This will, for instance, be the case when the most important sources of economies of scale relate to areas such as R&D, information, marketing, finance etc.

important (the minimum efficient plant size very large), they should - following Dreze's way of reasoning - be expected to exploit the possibilities offered by economies of scale at the firm level. A brief look at the existing evidence does not seem to contradict this. In fact, according to a recent sample published by Business Week, of the ten most internationalized large manufacturing companies in the world, seven happen to be from EFTA countries (table 3).

The main difference between the "small country multinationals" of table 3 and, for instance, US or Japanese multinationals is the degree of internationalization both in terms of sales and in terms of assets (production facilities etc.) abroad. Probably, these characteristics extend to many other firms from small countries as well. As it appears, firms from small countries are doing it remarkably well in international markets for a whole range of high technology products.<sup>15</sup> This may indicate that scale economies related to plant size are less important than commonly assumed in discussions of the likely effects of 1992. However, this does not imply that economies of scale do not pose problems for governments in small countries. For instance, as shown by Eliasson (1988), manufacturing employment in small countries typically depends on a small number of very internationalized companies, and this makes these countries vulnerable to the performance and strategies of these companies. These challenges, however, are probably more related to the global trend towards internationalization, than to what happens with the EC internal market.

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<sup>15</sup> For an examination of small country performance in electronics, see Dalum et al (1988).

Table 3. The 'stateless' world of manufacturing<sup>16</sup>

| Company                    | Home country            | 1989<br>Total<br>sales<br><br>Billions | Sales<br>outside<br>home<br>country | Assets<br>outside<br>home<br>country | Shares<br>held<br>outside<br>home<br>country |
|----------------------------|-------------------------|----------------------------------------|-------------------------------------|--------------------------------------|----------------------------------------------|
| NESTLE                     | SWITZERLAND             | \$32.9*                                | 98.0%                               | 95.0%                                | Few                                          |
| SANDOZ                     | SWITZERLAND             | 8.6*                                   | 96.0                                | 94.0                                 | 5.0%                                         |
| SKF                        | SWEDEN                  | 4.1                                    | 96.0                                | 90.0                                 | 20.0                                         |
| HOFFMANN-<br>LA-ROCHE      | SWITZERLAND             | 6.7*                                   | 96.0                                | 60.0                                 | 0.0                                          |
| PHILIPS                    | NETHERLANDS             | 30.0                                   | 94.0                                | 85.0*                                | 46.0                                         |
| SMITHKLINE<br>BEECHAM      | BRITAIN                 | 7.0                                    | 89.0                                | 75.0                                 | 46.0                                         |
| ABB                        | SWEDEN                  | 20.6                                   | 85.0*                               | NA                                   | 50.0                                         |
| ELECTROLUX                 | SWEDEN                  | 13.8                                   | 83.0                                | 80.0                                 | 20.0                                         |
| VOLVO                      | SWEDEN                  | 14.8                                   | 80.0                                | 30.0                                 | 10.0                                         |
| ICI                        | BRITAIN                 | 22.1                                   | 78.0                                | 50.0                                 | 16.0                                         |
| MICHELIN                   | FRANCE                  | 9.4                                    | 78.0                                | NA                                   | 0.0                                          |
| HOECHST                    | W. GERMANY              | 27.3                                   | 77.0                                | NA                                   | 42.0                                         |
| UNILEVER<br>AIR<br>LIQUIDE | BRITAIN/NETH.<br>FRANCE | 35.3<br>5.0                            | 75.0*<br>70.0                       | 70.0*<br>66.0                        | 27.0<br>6.0                                  |
| CANON                      | JAPAN                   | 9.4                                    | 69.0                                | 32.0                                 | 14.0                                         |
| NORTHERN<br>TELECOM        | CANADA                  | 6.1                                    | 67.1                                | 70.5                                 | 16.0                                         |
| SONY                       | JAPAN                   | 16.3                                   | 66.0                                | NA                                   | 13.6                                         |
| BAYER                      | W. GERMANY              | 25.8                                   | 65.4                                | NA                                   | 48.0                                         |
| BASF                       | W. GERMANY              | 13.3                                   | 65.0                                | NA                                   | NA                                           |
| GILETTE                    | US                      | 3.8                                    | 65.0                                | 63.0                                 | 10.0*                                        |

<sup>16</sup> This is a sampling of manufacturing companies with a minimum \$3 billion in annual sales that derive at least 40% of those sales from countries other than their home country. It does not include state-owned companies or holding companies. Taken from Business Week, May 14 1990. Asterix denotes estimates by Business Week.

Thus, on the assumption that increasing direct protectionism is less likely, non-EC firms have few reasons to fear the internal market. To the extent that it is true that EC markets have been highly protected, foreign firms may even be in a better position than EC firms to take part in the coming competition. This is especially so in the case of firms from the EFTA countries. Since their home markets have been small, EFTA firms have had to rely much more on foreign markets than many EC firms, and should therefore be expected to be in a good shape to face the increasing competition implied by the internal market. Compared to their competitors from the USA, Japan and the NICs, they also enjoy a zero tariff for manufactured goods, a situation that is likely to continue.

## 5. Conclusion

The purpose of this paper has been to discuss possible consequences of the EC internal market for EFTA countries (and firms). The conclusion may be summarized in three points.

- a) While it may be analytically convenient to discuss consequences for EFTA countries of the internal market in two polar cases, either included or not, this is not valid as a description of the challenges facing EFTA firms today. As shown in section 2, and also in many other studies, EC and EFTA are already integrated to an extent that makes the distinction between membership and non-membership almost artificial, at least as far as manufacturing industry is concerned.
- b) The economic consequences of the internal market in terms of growth and productivity are difficult to assess. As pointed out by Kay "1992 is perhaps the most successful marketing campaign of the decade" (Kay, 1989, p. 28). The estimates presented by the Commission are built on assumptions that cannot be easily defended, and probably err on the high side. However, there are few reasons to believe that the competitive position of EFTA firms on the EC market will deteriorate following the completion

of the internal market. Because of their small domestic markets, most EFTA firms have already been exposed to international competition for a long time, and should therefore be in a good position to exploit the possibilities offered by current deregulation efforts and opening up of previously protected markets in Community member countries.

- c) EFTA countries already practice free trade to a larger extent than the EC countries (Lundberg 1989) and it is possible that they therefore have less to gain in terms of increased economic welfare from liberalization of imports than many EC countries have. If the EFTA countries join in with the EC in their efforts to deregulate and open previously protected markets, as they probably will have to (and also are inclined to) do, the effects will probably be most marked outside manufacturing (in the financial sector, for instance).

In section 2 it was pointed out that European integration from the early 1960s onwards can be divided in two phases, both characterized by important trade creation effects: (1) Integration within EC and EFTA and (2) Integration between the initial EC and the initial EFTA. It is difficult to end this paper without pointing to what probably will be the major development in this area in the next decades: integration between present day Western Europe and present day Eastern Europe, the economic effects of which may far exceed those of the internal market plans. This is, however, a topic which merits a paper on its own.

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Table A1. Shares of EC imports, 1961-1987, Products based on natural resources (excl oil and gas)

|                   | Change |       |       |        |        |
|-------------------|--------|-------|-------|--------|--------|
|                   | 1961   | 1973  | 1987  | 61-73  | 73-87  |
| (1) EC 6          | 24.42  | 39.53 | 45.57 | +15.11 | +6.04  |
| (2) EC 3          | 6.55   | 6.22  | 8.48  | - 0.33 | +2.26  |
| Sum (1-2) EC 9    | 30.97  | 45.75 | 54.05 | +14.78 | +8.30  |
| (3) EFTA 6        | 9.98   | 9.30  | 11.65 | - 0.68 | +2.35  |
| (4) South-Europe  | 3.03   | 3.56  | 5.32  | +0.53  | +1.76  |
| Sum (1-4) Europe  | 43.98  | 58.61 | 71.02 | +14.63 | +12.41 |
| (5) Japan         | 0.73   | 0.93  | 0.76  | + 0.20 | -0.17  |
| (6) NIC           | 2.53   | 3.96  | 3.74  | + 1.43 | -0.22  |
| (7) USA + Canada  | 14.42  | 10.55 | 6.73  | - 3.87 | -3.82  |
| (8) Rest of world | 39.34  | 25.95 | 17.75 | -12.39 | -8.20  |
| Sum (1-8)         | 100    | 100   | 100   |        |        |

Table A2. Shares of EC imports, Chemicals.

|                   | Change |       |       |        |       |
|-------------------|--------|-------|-------|--------|-------|
|                   | 1961   | 1973  | 1987  | 61-73  | 73-87 |
| (1) EC 6          | 46.03  | 62.70 | 59.69 | +16.67 | -3.01 |
| (2) EC 3          | 8.73   | 7.84  | 11.01 | - 0.89 | +3.17 |
| Sum (1-2) EC 9    | 54.76  | 70.54 | 70.70 | +15.78 | +0.16 |
| (3) EFTA 6        | 10.95  | 8.69  | 9.86  | - 2.26 | +1.17 |
| (4) South-Europe  | 1.24   | 1.28  | 2.03  | 0.04   | +0.75 |
| Sum (1-4) Europe  | 66.95  | 80.51 | 82.59 | +13.56 | +2.08 |
| (5) Japan         | 0.85   | 1.69  | 1.90  | +0.84  | +0.21 |
| (6) NIC           | 0.99   | 0.77  | 1.11  | -0.22  | +0.34 |
| (7) USA + Canada  | 23.21  | 11.98 | 8.26  | -11.23 | -3.72 |
| (8) Rest of World | 8.00   | 5.05  | 6.14  | -2.95  | +1.09 |
| Sum (1-8)         | 100    | 100   | 100   |        |       |

Table A3. Shares of EC imports, Machinery and transport equipment  
Change

|                   | 1961  | 1973  | 1987  | 61-73  | 73-87 |
|-------------------|-------|-------|-------|--------|-------|
| (1) EC 6          | 50.76 | 58.77 | 49.63 | +8.01  | -9.14 |
| (2) EC 3          | 13.09 | 8.35  | 8.54  | -4.74  | +0.19 |
| Sum (1-2) EC 9    | 63.85 | 67.12 | 58.17 | +3.27  | -8.95 |
| (3) EFTA 6        | 11.46 | 9.70  | 9.21  | - 1.76 | -0.49 |
| (4) South-Europe  | 0.19  | 1.17  | 3.15  | +0.98  | +1.98 |
| Sum (1-4) Europe  | 75.50 | 77.99 | 70.53 | +2.49  | -7.46 |
| (5) Japan         | 0.60  | 4.84  | 11.15 | +4.24  | +6.31 |
| (6) NIC           | 0.20  | 1.28  | 4.19  | +1.08  | +2.91 |
| (7) USA + Canada  | 21.44 | 13.82 | 11.36 | -7.62  | -2.46 |
| (8) Rest of World | 2.26  | 2.07  | 2.77  | -0.19  | +0.70 |
| Sum (1-8)         | 100   | 100   | 100   |        |       |

Table A4. Shares of EC imports, Traditional industrial products  
Change

|                   | 1961  | 1973  | 1987  | 61-73 | 73-87  |
|-------------------|-------|-------|-------|-------|--------|
| (1) EC 6          | 55.20 | 56.47 | 45.42 | +1.27 | -11.05 |
| (2) EC 3          | 11.36 | 7.22  | 7.89  | -4.14 | +0.67  |
| Sum (1-2) EC 9    | 66.56 | 63.69 | 53.31 | -2.87 | -10.38 |
| (3) EFTA 6        | 11.79 | 8.81  | 9.08  | -2.98 | +0.27  |
| (4) South-Europe  | 1.16  | 3.38  | 6.72  | +2.22 | +3.34  |
| Sum (1-4) Europe  | 79.51 | 75.88 | 69.11 | -3.63 | -6.77  |
| (5) Japan         | 1.88  | 2.21  | 2.39  | +0.33 | +0.18  |
| (6) NIC           | 5.01  | 9.02  | 11.36 | +4.01 | +2.34  |
| (7) USA + Canada  | 8.77  | 5.74  | 5.18  | -3.03 | -0.56  |
| (8) Rest of world | 4.83  | 7.15  | 11.96 | +2.32 | +4.81  |
| Sum (1-8)         | 100   | 100   | 100   |       |        |

## Appendix

| CLASSIFICATION OF PRODUCTS                              | STTC. REV. 1                                                                                                                                                 | STTC. REV.2                                                                                                                                                                  |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 101 PRODUCTS BASED ON<br>NATURAL RESOURCES              |                                                                                                                                                              |                                                                                                                                                                              |
| 1 Animals, meat, and<br>meat preparations               | 00, 01, 091.3, 411.3                                                                                                                                         | 00, 01, 091.3,<br>411.3                                                                                                                                                      |
| 2 Dairy products and<br>eggs                            | 02                                                                                                                                                           | 02                                                                                                                                                                           |
| 3 Fish and fish prepara-<br>tions                       | 03, 411.1                                                                                                                                                    | 03, 411.1                                                                                                                                                                    |
| 4 Cereals and cereal prepara-<br>tions                  | 04                                                                                                                                                           | 04                                                                                                                                                                           |
| 5 Feeding-stuff for animals                             | 08                                                                                                                                                           | 08                                                                                                                                                                           |
| 6 Skins and leather manu-<br>factures                   | 21, 61                                                                                                                                                       | 21, 61                                                                                                                                                                       |
| 7 Wood and wood manu-<br>factures                       | 24, 63                                                                                                                                                       | 24, 63                                                                                                                                                                       |
| 8 Pulp and paper                                        | 25, 64                                                                                                                                                       | 25, 64                                                                                                                                                                       |
| 9 Textiles                                              | 26, 65                                                                                                                                                       | 26, 65                                                                                                                                                                       |
| 10 Iron ore                                             | 281                                                                                                                                                          | 281                                                                                                                                                                          |
| 11 Iron, steel and ferro<br>alloys                      | 67                                                                                                                                                           | 67                                                                                                                                                                           |
| 12 Aluminum                                             | 684                                                                                                                                                          | 684                                                                                                                                                                          |
| 13 Other products based on<br>natural resources         | 05, 06, 07, 091.4,<br>099, 11, 12, 22,<br>23, 27, 282, 283,<br>284, 285, 286, 29,<br>32, 35, 42, 43, 62,<br>66, 681, 682, 683,<br>685, 686, 687, 688,<br>689 | 05, 06, 07, 091.4,<br>098, 11, 12, 22,<br>23, 27, 282, 286,<br>287(-:32), 288,<br>289, 29, 32, 35,<br>42, 43, 62, 66,<br>681, 682, 683,<br>685, 686, 687,<br>688, 689, 699.9 |
| 102 OIL AND GAS                                         |                                                                                                                                                              |                                                                                                                                                                              |
| 14 Oil and gas                                          | 33, 34                                                                                                                                                       | 33(-:5.2), 34                                                                                                                                                                |
| 103 CHEMICALS                                           |                                                                                                                                                              |                                                                                                                                                                              |
| 15 Organic chemicals                                    | 512                                                                                                                                                          | 51                                                                                                                                                                           |
| 16 Inorganic chemicals                                  | 513, 514                                                                                                                                                     | 522, 523, 287.32                                                                                                                                                             |
| 17 Dyestuffs, coloring<br>materials                     | 53                                                                                                                                                           | 53                                                                                                                                                                           |
| 18 Pharmaceuticals                                      | 54                                                                                                                                                           | 54                                                                                                                                                                           |
| 19 Fertilizers                                          | 56                                                                                                                                                           | 56                                                                                                                                                                           |
| 20 Plastic materials                                    | 581.1:2                                                                                                                                                      | 582, 583, 893.91:2                                                                                                                                                           |
| 21 Other chemicals                                      | 515, 52, 55, 57,<br>581.3:9, 59                                                                                                                              | 335.2, 524, 55,<br>57, 584, 585, 59,<br>894.63, 899.39,<br>951.66                                                                                                            |
| 104 ENGINEERING, ELECTRONICS<br>AND TRANSPORT EQUIPMENT |                                                                                                                                                              |                                                                                                                                                                              |
| 22 Power generating machinery                           | 711                                                                                                                                                          | 711, 712, 713,<br>714, 718                                                                                                                                                   |
| 23 Machinery for special<br>industries or processes     | 712, 715, 717, 718,<br>719.3:5:8                                                                                                                             | 72, 73(-:7.32)<br>744, 745.1                                                                                                                                                 |

|                                                                      |                                                                                 |                                                                                                                                       |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 24 Heating and cooling equipment                                     | 719.1                                                                           | 741(-:31)                                                                                                                             |
| 25 Pumps and centrifuges                                             | 719.2                                                                           | 742, 743                                                                                                                              |
| 26 Typewriters and office machines                                   | 714.1:9                                                                         | 751.1:81:88,<br>759.11:15                                                                                                             |
| 27 Computers and peripherals                                         | 714.2:3                                                                         | 751.2, 752, 759.9                                                                                                                     |
| 28 Semiconductors                                                    | 729.3                                                                           | 776                                                                                                                                   |
| 29 Telecommunications                                                | 724.9                                                                           | 764(-:99)                                                                                                                             |
| 30 Machinery for production and distribution of electricity          | 722, 723, 729.9                                                                 | 771, 772, 716,<br>773, 778.8(-:5),<br>737.32, 741.31                                                                                  |
| 31 Consumer electronics                                              | 724.1:2, 891.1                                                                  | 761, 762, 763,<br>764.99                                                                                                              |
| 32 Domestic electrical equipment                                     | 725                                                                             | 775                                                                                                                                   |
| 33 Scientific instruments, photographic supplies, watches and clocks | 726, 729.5:7, 861,<br>862, 864                                                  | 751.82, 759.19,<br>774, 778.85,<br>87, 88(-:3)                                                                                        |
| 34 Motor vehicles                                                    | 732                                                                             | 78(-:5(-:1:39))                                                                                                                       |
| 35 Aircraft                                                          | 734                                                                             | 792(-:83)                                                                                                                             |
| 36 Ships and boats (incl. oil rigs)                                  | 735                                                                             | 793                                                                                                                                   |
| 37 Other engineering products                                        | 719.6:7:9, 729.1:2:<br>4:6, 731, 733                                            | 745.2, 749, 778<br>(-:8), 785.2:31,<br>786, 791                                                                                       |
| 105 TRADITIONAL INDUSTRIAL PRODUCTS (OTHER)                          |                                                                                 |                                                                                                                                       |
| 38 Manufactures of metal                                             | 69, 719.4, 812.1:3                                                              | 69(-:9.9), 812.1                                                                                                                      |
| 39 Furniture                                                         | 82                                                                              | 82                                                                                                                                    |
| 40 Clothing                                                          | 84                                                                              | 655.3, 658.98, 84(-:8.21)                                                                                                             |
| 41 Industrial products                                               | 812.2:4, 83, 85,<br>863, 891.2:4:8:9,<br>892, 893, 894, 895<br>896, 897, 899, 9 | 792.83,<br>812.2:4, 83,<br>848.21, 851, 883,<br>892, 893(-:91:92),<br>894(-:63), 895, 896,<br>897, 898, 899.1:3<br>(-:9):4:6:7:8:9, 9 |
| 106 SUM OF ALL PRODUCTS                                              |                                                                                 |                                                                                                                                       |
| 42 Sum of all products                                               |                                                                                 |                                                                                                                                       |

#### Notes

1) The abbreviations should be read as the following examples show:

891.1:3 should be read as 891.1+891.3.

899.3(-:9) should be read as 899.3 - 899.39.

Source : OECD Trade Series C, the IKE Data Bank on Trade Statistics, Institute of Production, University of Aalborg.