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**EUROPE'S SINGLE MARKET: THE
LONG MARCH TO 1992**

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INTERNATIONAL TRADE



Centre for Economic Policy Research

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ABSTRACT

Europe's Single Market: The Long March to 1992*

The paper analyses the degree of structural change that has occurred within the EC since the launch of the internal market programme. It is divided into three parts: the first examines inter-sectoral shifts in the pattern of specialization within EC manufacturing, and finds relatively little change from 1986 to 1992; the second describes the trade impact of 1992 with the help of consumption shares, and finds internal and external trade creation; and the third uses regression analysis to account for the ratio of intra-EC imports in total EC imports in 1986 and in 1992, and identifies the impact of the internal market programme.

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NON-TECHNICAL SUMMARY

Ten years ago the European Commission's 1985 White Paper on *Completing the Internal Market* spelled out a programme and timetable for unifying the European market. It proposed that 1992 member states abolish all remaining barriers to the free circulation of goods, services, people and capital. So far, however, there has been little systematic examination of the changes generated by the 1992 programme.

This paper examines the degree of structural change that has occurred within the Community since the launch of the internal market programme. Section 2 focuses on the structure of production. It examines whether there has been an acceleration in the process of structural change in EC member states and whether this has modified their pattern of specialization. Section 3 concentrates on the structure of trade. It analyses whether EC member states have altered their source of supply between domestic production and imports, and between intra- and extra-EC imports. Section 4 estimates an econometric model accounting for the ratio of intra-EC to total EC imports. Section 5 concludes.

The analysis in Section 1 shows that the degree of specialization (measured by the Herfindahl index) has remained fairly low throughout the period 1977–92 in the four largest EC countries. The apparent lack of transformation in the structure of EC manufacturing since 1986 is confirmed by Lawrence indices of structural change which indicate that the pace of structural change did not increase from 1978–85 to 1986–92.

Several factors may account for the fact that the 1992 programme has not, so far, produced major inter-sectoral shifts in the pattern of specialization within EC manufacturing. First, the liberalization of manufactured goods markets during the period 1986–92 may not have been as far-reaching as expected, either because these markets were already largely liberalized prior to 1986, or due to delays in the implementation of the 1992 programme. Second, the liberalization of manufactured goods markets may not have produced inter-industry shifts of resources due to rigidities elsewhere in the economy, particularly in labour and services markets. Third, and perhaps most importantly, much of the effects of increased integration may have taken place within, rather than across, industries.

Section 2 describes two indicators that are generally used to analyse the impact of European integration on trade and derive predictions on the trade

impact of the 1992 programme. The first is the share of apparent consumption in member states (defined as domestic production plus imports minus exports) supplied from each of three sources: domestic production (net of exports), intra-EC imports, and extra-EC imports. The second indicator relies solely on imports. It is the ratio of intra-EC imports to total (i.e. intra- plus extra-) EC imports, which can obviously be derived from the consumption shares of intra- and extra-EC imports.

Two clear tendencies are found for the period 1986–92. First, there has been a steady decline in the share of domestic production in apparent consumption (from 67% in 1986 to 62% in 1992), implying a continuation of the trade creation phenomenon observed earlier. Second, the import ratio has remained constant (around 60%), indicating that the consumption share of extra-EC imports has increased at the same pace as the consumption share of intra-EC imports. At the aggregate level, therefore, there has been as much external as internal trade creation.

More disaggregate analysis shows that the consumption share of domestic production has decreased between 1986 and 1992, while the share of both intra- and extra-EC imports has increased, regardless of the degree of non-tariff barrier (NTB) intensity in 1985. There is a marked difference between sectors with medium and high NTB intensity, however, regarding the relative importance of internal and external trade creation. Internal trade creation dominates in sectors with high NTB intensity, while external trade creation prevails for sectors with medium NTB intensity.

Section 3 estimates an econometric model accounting for the ratio (m) of intra-EC to total EC imports in 1986 and in 1992. The estimation allows for the qualification of the effect of the 1992 programme on trade flows. The estimated model is based on Jacquemin and Sapir (1988b) and Neven and Röller (1991). It is estimated on a cross-section of about 100 NACE 3-digit manufacturing sectors for Germany, France, Italy and the United Kingdom. The model contains five groups of explanatory variables, including one representing trade barriers and incorporating three proxies for the intra-EC trade barriers which existed prior to the internal market programme.

In the 1986 equation, the coefficients of the two NTB dummies (NTB-medium and NTB-high) are significantly positive, confirming the finding by Neven and Röller (1991) that intra-EC NTBs were, in general, more detrimental to firms outside than those inside the EC. On the other hand, the coefficient of the public procurement variable confirms the finding by Jacquemin and Sapir (1988b) that in sectors where public procurement is important, the

fragmentation of the EC market was more harmful to intra- than extra-EC imports.

In the 1992 equation, only the coefficient of NTB-medium remains significantly different from zero. This confirms that the 1992 programme has been more beneficial to non-EC imports in sectors with high NTB intensity than in those with medium NTB intensity. As already indicated, the peculiar behaviour of the latter sectors could be due to either a restrictive external trade policy, or a newly-gained competitive advantage for EC producers based on the completion of the internal market. The regression results are agnostic about the relative contribution of these two factors.

The equation explaining the change from 1986 to 1992 in the ratio of intra-EC imports to total EC imports suggests that the sectors most affected by the internal market programme are those where public procurement is the most important. The bias against intra-EC imports, which existed earlier in these sectors appears to have disappeared. This is somewhat surprising given that the implementation of the 1992 legislative programme has been particularly deficient in the area of public procurement.

1. Introduction

Ten years ago, the European Commission's 1985 White Paper on *Completing the Internal Market* spelled out a programme and a timetable for unifying the European market. It proposed that member states abolish, by 1992, all remaining barriers to the free circulation of goods, services, persons and capital. The economic aim of the 1992 programme was to institute structural changes designed to restore the capacity of the European Community (EC) to generate growth and employment.

The White Paper produced not only great expectations, but also tangible actions. Starting in 1986, a whole new institutional environment was created by the internal market programme. One author has even claimed that "*EC-1992 has changed the Community beyond recognition...The internal market in 1993 is simply incomparable with that of 1984.*" (Pelkmans, 1992, pp.2-3). At the same time, economic agents seem to have largely anticipated the conditions of the post-1992 single market through various forms of restructuring. One piece of evidence frequently cited in the literature is the number of cross-border mergers and acquisitions inside the EC, which increased from 200 to 2000 between 1986 and 1990.¹ Another is the study by Italianer (1994) showing that the 1992 programme may have contributed to raising GDP growth inside the EC, at least during the late 1980s.

Various authors have predicted important effects of the 1992 programme on the structure of EC trade and production. Presumably, if firms have indeed altered their behavior in anticipation of the internal market, some of these effects ought to have already materialized. So far, however, there has been little systematic examination of the changes generated by the 1992 programme.

¹ During the same period, the value of such deals increased five-fold from 10 to 50 billion. See European Commission (1994). The rapid rise in intra-EC mergers and acquisitions after 1985 was already cited as evidence of the internal market process by Jacquemin (1990).

The purpose of this paper is to examine the extent of structural changes that have occurred inside the Community since the launching of the internal market programme. The plan of the paper is as follows. Section 2 focuses on the structure of production. It examines whether there has been an acceleration in the process of structural change in EC member states and whether this has modified their pattern of specialization. Section 3 concentrates on the structure of trade. It analyzes whether EC member states have altered their source of supply between domestic production and imports, and between intra- and extra-EC imports. Section 4 estimates an econometric model accounting for the ratio of intra-EC to total EC imports. Section 5 concludes.

2. Structure of Production

In his volume on *Geography and Trade*, Paul Krugman analyzes the degree of economic specialization inside the United States (US) and Europe. Having noted that the “four great regions” of the US (the Northeast, the Midwest, the South, and the West) are comparable in population and economic size to Europe’s “big four countries” (France, Germany, Italy, and the United Kingdom), he hypothesizes that the degree of economic specialization in the US and Europe should also be roughly similar. Using 2-digit employment statistics, Krugman (1991) compares the structure of production for pairs of US regions in 1977 and for pairs of European countries in 1985. He finds that the latter is more similar than the former, implying that European nations were less specialized than US regions.² This finding is confirmed by Ergas and Wright (1994) which, using Herfindahl indices of manufacturing value added at the 2-digit level for 14 OECD countries, shows that each of the “big four” European countries is no more specialized than the much larger United States.³ Krugman (1991) ascribes this situation to the existence of trade barriers inside Europe, and argues that the 1992 programme is likely to increase specialization in the EC.

² Krugman computed the degree of specialization for pairs of regions or countries as $I = \sum_i |s_{i,1} - s_{i,2}|$, where s_i is the share of sector i in total employment of region or country 1 or 2.

³ There are 26 industry groups at the 2-digit level of the OECD’s classification.

Figure 1 reports the degree of specialization in the “big four” European countries for the period 1977-1992, where specialization is defined as the Herfindahl index computed at the 3-digit level of the NACE classification.⁴ The Herfindahl index is defined as $H = \sum_i (s_i)^2$, where s_i is the share of sector i in the total exports of the country. A value of H close to unity implies little specialization (i.e. equal specialization in each of the 100 sectors), while a value close to 100 implies complete specialization in one sector. Due to data limitations, it was necessary to use trade rather than production data in order to keep the set of sectors constant and be able to compare the indices across the four countries.⁵

[Insert Figure 1]

The figure shows that the degree of specialization has remained fairly low throughout the period 1977-1992 in all four countries. Specialization has also remained moderately constant, with the minor exception of France, where the Herfindahl index has somewhat increased since 1986. So far, therefore, the 1992 programme does not appear to have generated a significant increase in the EC’s degree of specialization.

The apparent lack of transformation in the structure of EC manufacturing since 1986 is confirmed by Figure 2, which examines the extent of resource shifts between manufacturing industries for each of the “big four” countries. The figure displays Lawrence indices of structural change (based on total exports) calculated annually over the period 1978 to 1992.⁶ The Lawrence index is defined as $L = (1/2) \times \sum_i |s_{i,t} - s_{i,t-1}|$, where $s_{i,t}$ is the share of sector i in the total exports of the country in year t . A value of L close to zero implies little structural change, while a value close to unity implies a complete upheaval.

[Insert Figure 2]

⁴ There are about 100 industrial sectors at the 3-digit level of the EC’s NACE classification.

⁵ Trade is defined as total (intra- plus extra-EC) exports.

⁶ See Lawrence (1984).

The results indicate that the pace of structural change did not increase from 1978-1985 to 1986-1992. During the two sub-periods, the Lawrence index remained at 4.4% in France and 3.1% in Germany, while decreasing from 4.4% to 3.3% in Italy, and from 5.8% to 3.4% in the United Kingdom. Nonetheless, the year 1986 appears to have been special, with a year-on-year rate of structural change well above the 1978-1992 average in all four countries: 7.5% versus 4.4% in France, 4.5% versus 3.1% in Germany, 5.5% versus 3.9% in Italy, and 5.0% versus 4.7% in the United Kingdom.

Several factors may account for the fact that the 1992 programme has not, at least so far, produced major inter-sectoral shifts in the pattern of specialization within EC manufacturing. Firstly, the liberalization of manufactured goods markets during the period 1986-1992 may not have been as far-reaching as expected either because these markets were already largely liberalized prior to 1986, or due to delays in the implementation of the 1992 programme. Secondly, the liberalization of manufactured goods markets may not have produced inter-industry shifts of resources due to rigidities elsewhere in the economy, particularly in labor and services markets. Thirdly, and perhaps most importantly, much of the effects of increased integration may have taken place within, rather than across, industries. Hence, contrary to Krugman's hypothesis, the 1992 programme may have resulted (like earlier phases of European integration⁷) in increased intra- rather than inter-industry specialization.

3. Structure of Trade

In the literature, two indicators are generally used to analyze the impact of European integration on trade and derive predictions on the trade impact of the 1992 programme.

The first is the share of apparent consumption in member states (defined as domestic production plus imports minus exports) supplied from each of three sources: domestic production (net of exports), intra-EC imports, and extra-EC imports. Changes in

⁷ See Sapir (1992).

consumption shares supplied by each source can be related to different types of economic integration, provided one can reasonably assume that no other economic event has significantly affected these shares. A decrease in the share of domestic production is indicative of trade creation, which may be internal (if the share of intra-EC imports has increased) and/or external (if the share of extra-EC imports has increased). Conversely, an increase in the share of domestic production is characteristic of trade diversion, which may also be internal and/or external.

Changes in consumption shares were first utilized by Truman (1975) to examine the effects of European integration during the period 1960-1968. This study finds that integration generated internal and external trade creation in manufacturing sectors. A similar result is found by Jacquemin and Sapir (1988a) for the period 1973-1984, and by Neven and Röller (1991) for the period 1975-1985.

Consumption shares have also been used to predict the trade impact of the internal market programme. Sapir (1990) analyzes shares for the forty 3-digit NACE manufacturing sectors most likely to be affected by the 1992 programme. These sectors were identified by Buigues and Ilzkovitz (1988), based on the extent of non-tariff barriers (NTBs) in intra-EC trade. Sapir (1990) argues that the change in consumption shares induced by the 1992 programme is likely to depend upon the nature of the existing NTBs and the relevant market structure. In the case of NTBs preventing the exploitation of scale economies (such as discriminatory public procurement), it is claimed that the completion of the internal market should lower the extra-EC import share in favor of the intra-EC imports. With NTBs designed to enforce national quotas against extra-EC imports, the latter's share should increase at the expense of domestic production and intra-EC imports. Finally, in other situations the removal of NTBs should raise the extra- and intra-EC import shares at the expense of domestic production.

Neven and Röller (1991) provides additional insight on the trade impact of the 1992 programme. The authors construct an econometric model seeking to explain the share of

intra- and extra-EC imports in apparent consumption for a cross-section of 29 manufacturing industries in the four big EC countries. The explanatory variables include an indicator of NTBs based on Buigues and Ilzkovitz (1988). The estimation results indicate that, for the period 1975-1985, NTBs had no significant impact on the share of intra-EC imports in consumption, but significantly reduced the share of extra-EC imports. By implication, Neven and Röller (1991) expect that the 1992 programme should primarily increase the share of extra-EC imports in consumption.

The second indicator relies solely on imports. It is the ratio of intra-EC imports to total (i.e. intra- plus extra-) EC imports, which obviously can be derived from the consumption shares of intra- and extra-EC imports. If calculated at a sufficiently disaggregate level, this ratio can be interpreted as a measure of the sectoral competitiveness of EC, relative to non-EC, producers. However, changes in competitiveness measured in this fashion can only be attributed to integration in the absence of other major economic events.

Jacquemin and Sapir (1988b) uses the ratio of intra-EC to total EC imports to analyze the process of integration during the period from 1973 to 1983. The authors construct an econometric model explaining this import ratio for a cross-section of nearly 100 manufacturing sectors in the four big EC countries. The explanatory variables contain no comprehensive NTB indicator, but include a measure of the importance of public procurement. The estimation results suggest that, in 1973 and 1983, the fragmentation of the EC market significantly reduced the ratio of intra-EC to total EC imports. Hence, this study implies that the internal market programme should favor intra-EC imports more than extra-EC imports.

The opposite result is obtained by Neven and Röller (1991), which re-estimates the model of Jacquemin and Sapir (1988b), using the Buigues-Ilzkovitz NTB indicator. Two factors may account for the discrepancy between the two studies. First, as already indicated, several types of NTBs existed prior to 1992, with different impacts on trade. Some (like public procurement) in fact favored extra-EC imports, while others (those designed to

enforce national quotas) were clearly meant to protect intra-EC imports. Hence, several NTB variables should be used instead of a single one. Second, there are several statistical differences between the two studies, including sample and estimation method.

The previous discussion provides a number of predictions regarding the trade impact of the 1992 programme, based on earlier studies of two indicators, consumption shares and the import ratio. We now turn to the actual behavior of these two indicators during the period 1986-1992.

Figure 3 shows the evolution of consumption shares and of the import ratio. These are defined here at the aggregate level, for the whole EC-12 and for the entire manufacturing sector.

[Insert Figure 3]

The figure shows two clear tendencies for the period 1986-1992. First, there has been a steady decline in the share of domestic production in apparent consumption (from 67% in 1986 to 62% in 1992), implying a continuation of the trade creation phenomenon observed earlier. Second, the import ratio has remained constant (around 60%), indicating that the consumption share of extra-EC imports has increased at the same pace as the consumption share of intra-EC imports. At the aggregate level, therefore, there has been as much external as internal trade creation.

The remainder of the section presents detailed sectoral information on the evolution of consumption shares during the period 1986-1992.

Table 1 presents the evolution of consumption shares for the whole EC-12, by types of sectors defined according to the intensity of NTBs. The classification into low, medium and high NTB sectors is from Buigues and Ilzkovitz (1988).

[Insert Table 1]

Several interesting features emerge from the data in Table 1. First, the phenomenon of double (internal and external) trade creation permeates all three types of sectors. Regardless of NTB intensity, the consumption share of domestic production has decreased between 1986 and 1992, while the share of both intra- and extra-EC imports has increased. Second, the sectors least affected by changes in consumption shares are those which had the lowest NTB intensity. Since this result was expected based on the assumption that the 1992 programme was the most important structural economic event of the period, it gives credence to the assumption itself. Consequently, changes in consumption shares can be used with some confidence in assessing European integration during the period 1986-1992. Third, the extent of trade creation (measured as the change in the consumption share of domestic production) is much greater in sectors with medium NTB intensity than in those with high NTB intensity. This suggests some difficulties in implementing the internal market programme in the most protected sectors.

Four, there is a marked difference between sectors with medium and high NTB intensity regarding the relative importance of internal and external trade creation. Internal trade creation dominates in sectors with high NTB intensity, while external trade creation prevails for sectors with medium NTB intensity. As a result, the ratio of intra-EC imports to total EC imports has evolved in opposite directions in the two groups of sectors: it has dropped from 63.8% in 1986 to 60.5% in 1992 for sectors with medium NTB intensity, while at the same time increasing from 59.8% to 61.7% for sectors with high NTB intensity. This implies that the two groups of sectors were subject to different types of NTBs. In particular, sectors with medium NTB intensity seem to have been affected primarily by NTBs designed to enforce national quotas against extra-EC imports. As expected, the removal of these barriers has mainly benefited extra-EC imports.

The next two tables examine in greater details the changes in consumption shares for sectors with medium and high NTB intensity.

Table 2 presents the evolution of consumption shares for medium NTB intensity sectors defined at the 3-digit level of the NACE classification.

[Insert Table 2]

Apart from three exceptions, all sectors shown in Table 2 have undergone a steady decline in the share of domestic production in apparent consumption, implying a phenomenon of trade creation. These sectors fall into three categories. The first comprises of seven sectors, with both internal and external trade creation. The second consists of six sectors, including clothing and footwear (two sectors which were protected by national quotas on extra-EC imports), with only external trade creation. The third contains three sectors with only internal trade creation: machine tools, electrical appliances, and motor vehicles. The conspicuous absence of external trade creation in the last category could be related to either of two factors: a restrictive external trade policy, or a newly-gained competitive advantage for EC producers based on the completion of the internal market.

Table 3 presents the evolution of consumption shares for high NTB intensity sectors defined at the 3-digit level of the NACE classification.

[Insert Table 3]

Apart from one exception (wine), all sectors shown in Table 3 have undergone a steady decline in the share of domestic production in apparent consumption, implying a phenomenon of trade creation. Like in the case of sectors with medium NTB intensity, these sectors fall into three categories. The first comprises of six sectors, with both internal and external trade creation. The second consists of one sector with only external trade creation: office machinery. The third contains four sectors with only internal trade creation: pasta, cocoa and sugar products, beer, and soft drinks. The absence of external

trade creation in the last category is probably not unrelated to the food-processing nature of the activities concerned.

4. Econometric analysis: Impact of '1992' on trade flows

The descriptive analyses of the previous two sections are somewhat ambiguous regarding the trade impact of the internal market programme. A firmer assessment requires an econometric model which explicitly accounts for the impact of intra-EC non-tariff barriers on trade flows.

This section attempts to estimate a model accounting for the ratio (m) of intra-EC to total EC imports in 1986 and in 1992. The estimation will permit to quantify the effect of the 1992 programme on trade flows. The estimated model is based on Jacquemin and Sapir (1988b) and Neven and Röller (1991). It is estimated on a cross-section of about 100 NACE 3-digit manufacturing sectors for France, Germany, Italy, and the United Kingdom. The model contains five groups of explanatory variables.

The first group includes the determinants of inter-industry trade, namely factor intensity (human capital and physical capital) and technology (R&D).

The second group accounts for intra-industry trade and includes the extent of scale economies and the degree of product differentiation.

The third group represents trade barriers. It includes three proxies for the intra-EC trade barriers which existed prior to the internal market programme: a dummy variable reflecting sectors with medium NTB intensity (NTB-medium), a dummy variable for sectors with high NTB intensity (NTB-high), and a variable measuring the importance of public procurement.⁸ This group also includes three other variables: transportation costs,

⁸ Although Buigues and Ilzkovitz (1988) includes public procurement in their assessment of NTBs, the correlation between our public procurement variable and the NTB variables is extremely low: 0.02 for NTB Medium and 0.15 for NTB High.

tariffs (in the early 1980s), and a dummy variable accounting for the common agricultural policy (CAP).

The fourth group contains three dummy variables (France, Germany, and Italy) allowing for country fixed effects. The reference is the United Kingdom.

The last group contains three dummy variables accounting for peculiarly low values of the dependent variable, primarily in the wood sector.

Table 4 reports the results of the ordinary least-squares estimation using a double-logarithmic functional form. The three columns refer to (the log of) the ratio of intra-EC imports to total EC imports for, respectively, 1986, 1992, and the change from 1986 to 1992.

[Insert Table 4]

The most important results concern the three proxies for the intra-EC trade barriers which existed prior to the internal market programme.

In the 1986 equation, the coefficients of the two NTB dummies (NTB-medium and NTB-high) are significantly positive, confirming the finding by Neven and Röller (1991) that intra-EC NTBs were, in general, more detrimental to firms outside than those inside the EC.⁹ On the other hand, the coefficient of the public procurement variable, confirms the finding by Jacquemin and Sapir (1988b) that, in sectors where public procurement is important,¹⁰ the fragmentation of the EC market was more harmful to intra- than extra-EC imports.

⁹ The coefficients of these variables indicate that m86 (the 1986 ratio) was 6.5 points higher than the average in sectors with medium NTB intensity and 6.4 points higher in sectors with high NTB intensity.

¹⁰ Office equipment, transportation equipment (shipbuilding, railway equipment, aerospace), and precision and medical equipment.

In the 1992 equation, only the coefficient of NTB-medium remains significantly different from zero.¹¹ This confirms that the 1992 programme has been more beneficial to non-EC imports in sectors with high NTB intensity than in those with medium NTB intensity. As already indicated, the peculiar behavior of the latter sectors could be due to either a restrictive external trade policy, or a newly-gained competitive advantage for EC producers based on the completion of the internal market. The regression results agnostic about the relative contribution of these two factors.

The equation attempting to explain the change from 1986 to 1992 in the ratio of intra-EC imports to total EC imports suggests that the sectors most affected by the internal market programme are those where public procurement is the most important. The bias against intra-EC imports which existed earlier in these sectors on appears to have disappeared. This is somewhat surprising given that the implementation of the 1992 legislative programme has been particularly deficient in the area of public procurement.¹²

The coefficients of other variables also contain interesting information.

Economies of scale have a significantly negative impact on the import ratio in 1986, and a significantly positive impact on its change to 1992. This reinforces the sentiment that the EC was less fragmented in 1992 than in 1986.

Transportation costs favor imports from intra-EC origin almost equally in 1986 and 1992.

Tariffs also assist imports from intra-EC origin, but their effect has significantly reduced over time. In fact, the import ratio has increased least (or decreased most) from 1986 to 1992 in sectors where tariffs were the highest in the early 1980s. This results from both the implementation of the Tokyo Round and the enlargement of the EC to Portugal and Spain.

¹¹ The coefficients of the 1992 equation indicate that m_{92} was 6.5 points higher than the average in sectors with medium NTB intensity and 5.4 points higher in sectors with high NTB intensity.

¹² See European Commission (1995).

On the other hand, the protectionist effect of the common agricultural policy has continued to rise from 1986 to 1992, partly as a result of the enlargement of the EC to Portugal and Spain.¹³

Finally, the coefficients of the country dummies indicate that Germany and the United Kingdom (UK) import significantly less from their EC partners (as a proportion of their total imports) than France and Italy. This contrasts with the earlier finding of a specific UK effect by Jacquemin and Sapir (1988b) and by Neven and Röller (1991). Their result can be reproduced with the present study, but only with an exclusive UK dummy.

5. Conclusion

This paper has sought to analyze the structure of EC trade and production during the period from the launching of the internal market programme, in 1986, to its completion, in 1992. Several findings emerge from the study.

First, by 1992, the internal market programme has produced only relatively modest inter-sectoral shifts in the pattern of specialization within EC manufacturing. This may be the result of problems in the implementation of the 1992 programme, or of the continuation of earlier trends in EC integration towards greater intra-industry specialization.

Second, like earlier phases of EC integration, the internal market programme has produced, at the aggregate level, internal and external trade creation: it has increased the consumption share of both intra- and extra-EC imports at the expense of the share of domestic production.

¹³ The coefficients of CAP indicate that m86 was 11.9 points higher than the average and m92 17.8 points higher than average in food sectors.

Third, at the sectoral level, the internal market programme has favored differently intra- and extra-EC imports depending on the type of non-tariff barriers existing and their effect in 1986. According to the econometric analysis, in sectors with medium and high NTB intensity, extra-EC imports were generally more penalized in 1986 than intra-EC imports. The opposite held in sectors where public procurement is important. By 1992, these biases had (partly or totally) disappeared, except in sectors with medium NTB intensity. The latter may be the result of protectionist EC trade policy, or of improved competitive positions of EC producers based on the completion of the internal market.

Fourth, the regression analysis shows that the behavior of intra- and extra-EC imports during the period 1986-1992 has also been affected by other factors besides the 1992 programme. In particular, the enlargement of the EC to Portugal and Spain in 1986, has had a trade-creating effect in most sectors (due to lower tariffs), but a trade-diverting in sectors covered by the common agricultural policy.

In conclusion, this preliminary analysis of the internal market programme has identified a number of interesting features. It has also raised a number of questions, which require further study on Europe's long march to 1992.

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Figure 1
Specialization in trade
(Herfindahl indices of intra- plus extra-EU exports)

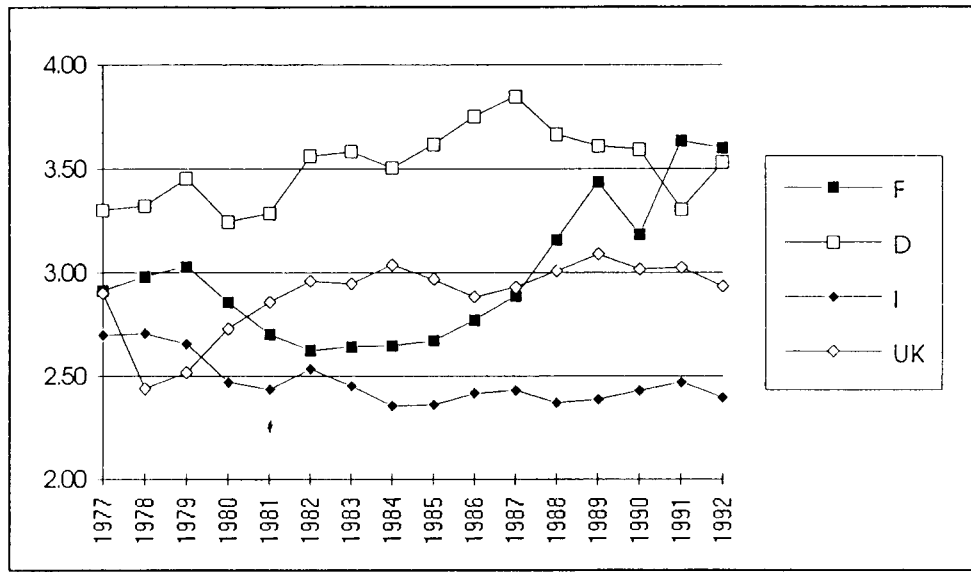


Figure 2
Lawrence index of structural change
based on export (intra- plus extra-EU) data,
manufacturing, four largest Member States
(percentages)

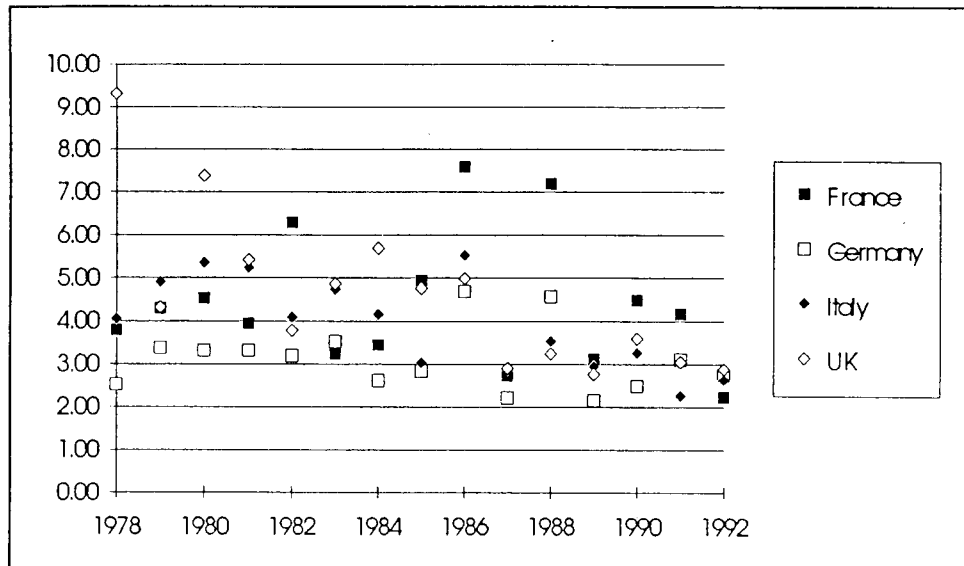


Figure 3
Shares in apparent consumption and imports,
manufacturing, twelve Member States
(percentages)

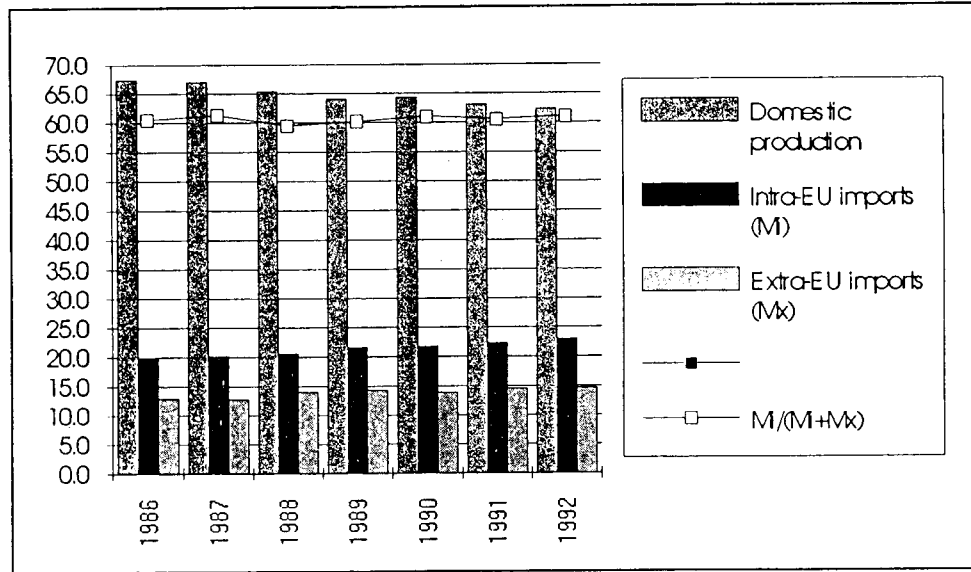


Table 1
Shares in apparent consumption
by types of sectors according to the intensity of barriers in 1985,
manufacturing, twelve Member States
(percentages)

<i>Intensity of barriers</i>	1986	1987	1988	1989	1990	1991	1992
	Share of domestic production						
Manufacturing, total	67.4	67.0	65.4	64.0	64.3	63.1	62.3
Low	70.6	70.3	69.6	68.9	68.3	67.4	66.5
Medium	57.7	57.2	55.5	53.3	53.9	51.1	50.4
High	79.6	79.0	78.8	77.5	77.3	75.3	74.1
	Share of intra-EU imports						
Manufacturing, total	19.7	20.2	20.6	21.6	21.8	22.4	23.0
Low	16.4	16.6	16.6	17.0	17.7	18.1	18.6
Medium	27.0	27.1	27.5	28.8	28.7	29.6	30.1
High	12.2	12.8	12.6	13.5	13.9	14.9	16.0
	Share of extra-EU imports						
Manufacturing, total	12.9	12.8	14.0	14.3	13.9	14.6	14.7
Low	12.9	13.1	13.8	14.0	14.0	14.6	14.9
Medium	15.3	15.7	17.1	17.8	17.4	19.3	19.6
High	8.2	8.2	8.5	8.9	8.8	9.8	9.9

Table 2
Shares in apparent consumption in sectors
with a medium intensity of barriers in 1985,
manufacturing, twelve Member States
(percentages)

	1986	1987	1988	1989	1990	1991	1992
	Share of domestic production						
247 Glass & glassware	71.2	71.6	70.7	69.3	68.7	69.0	68.7
248 Ceramic goods	70.1	70.1	68.8	67.9	67.7	66.4	63.8
321 Agricultural machinery	67.8	67.6	67.1	62.1	62.5	59.3	59.0
322 Machine tools	57.4	58.8	58.2	58.3	56.8	52.9	52.0
323 Textile machinery	35.1	33.9	35.7	35.6	40.8	35.3	34.8
324 Machinery for food ind.	58.8	57.1	57.7	57.3	57.2	56.1	58.4
325 Machinery for iron&steel	69.7	69.0	64.4	63.3	64.2	63.9	62.9
326 Transmission equipment	57.8	57.2	55.6	55.1	54.3	54.0	53.6
327 Other machinery	44.4	40.8	41.2	38.5	43.4	43.3	39.7
345 Radios & TVs	45.9	45.9	41.9	40.5	39.7	37.4	36.0
346 Electrical appliances	68.9	67.8	66.8	64.9	64.6	65.3	62.3
347 Electrical lamps	59.1	59.8	59.5	59.8	61.1	58.0	58.7
351 Motor vehicles	63.3	64.8	65.5	63.9	62.9	62.0	60.3
364 Aerospace	56.5	55.9	27.9	13.0	26.0	6.7	5.4
438 Carpets	41.2	40.8	45.3	43.3	41.5	39.5	42.1
451 Footwear	44.9	44.2	46.2	44.6	42.6	39.5	39.8
453 Clothing	59.8	58.8	59.2	57.4	54.3	51.6	52.9
493 Photo processing equip.	87.9	88.3	88.7	90.2	89.7	90.0	90.3
494 Toys & sports goods	36.4	34.7	33.4	28.4	26.5	20.5	16.4
	Share of intra-EU imports						
247 Glass & glassware	22.3	22.2	22.8	23.7	24.3	23.4	23.5
248 Ceramic goods	23.5	23.7	24.7	25.5	25.8	26.0	27.6
321 Agricultural machinery	26.2	25.9	25.4	28.7	29.1	30.3	30.2
322 Machine tools	24.1	24.2	24.8	24.1	26.1	28.2	29.8
323 Textile machinery	39.2	40.5	39.2	39.7	36.0	39.9	41.3
324 Machinery for food ind.	29.6	31.1	30.5	30.4	30.5	31.1	29.4
325 Machinery for iron&steel	20.9	21.7	24.5	25.8	25.1	24.6	25.0
326 Transmission equipment	27.9	29.0	29.8	29.6	29.8	30.2	30.4
327 Other machinery	38.5	40.6	39.5	41.6	37.6	37.2	39.0
345 Radios & TVs	24.9	24.5	26.4	27.3	28.6	28.8	30.2
346 Electrical appliances	22.3	22.9	23.3	25.0	26.6	26.2	28.3
347 Electrical lamps	30.5	29.8	29.3	28.7	28.4	29.8	28.7
351 Motor vehicles	28.5	27.6	26.6	28.3	29.5	29.9	31.1
364 Aerospace	18.6	18.9	32.1	42.4	32.3	45.3	49.2
438 Carpets	40.2	40.5	37.2	38.5	40.9	41.2	39.5
451 Footwear	39.9	38.5	34.9	35.8	37.1	36.1	35.5
453 Clothing	19.7	19.0	17.9	18.7	20.2	20.2	20.1
493 Photo processing equip.	7.6	7.5	7.1	6.4	7.0	6.7	6.5
494 Toys & sports goods	28.9	27.3	25.7	27.7	29.7	27.3	25.8

	Share of extra-EU imports						
247 Glass & glassware	6.4	6.2	6.5	7.0	6.9	7.6	7.8
248 Ceramic goods	- 6.4	6.2	6.5	6.7	6.5	7.6	8.6
321 Agricultural machinery	6.0	6.6	7.5	9.1	8.4	10.3	10.8
322 Machine tools	18.5	17.0	17.0	17.6	17.1	18.9	18.2
323 Textile machinery	25.7	25.6	25.1	24.8	23.2	24.8	23.8
324 Machinery for food ind.	11.6	11.8	11.8	12.2	12.3	12.9	12.2
325 Machinery for iron&steel	9.4	9.3	11.1	11.0	10.6	11.4	12.1
326 Transmission equipment	14.3	13.8	14.6	15.3	15.9	15.8	16.1
327 Other machinery	17.1	18.6	19.2	20.0	19.0	19.5	21.3
345 Radios & TVs	29.1	29.6	31.7	32.2	31.6	33.7	33.8
346 Electrical appliances	8.8	9.3	9.9	10.0	8.8	8.5	9.3
347 Electrical lamps	10.5	10.4	11.2	11.5	10.5	12.2	12.6
351 Motor vehicles	8.3	7.6	7.9	7.8	7.6	8.1	8.6
364 Aerospace	24.9	25.2	40.0	44.5	41.7	48.1	45.4
438 Carpets	18.5	18.8	17.5	18.2	17.6	19.3	18.4
451 Footwear	15.2	17.3	18.9	19.6	20.3	24.4	24.7
453 Clothing	20.5	22.2	22.9	23.9	25.5	28.2	26.9
493 Photo processing equip.	4.5	4.1	4.2	3.4	3.3	3.2	3.2
494 Toys & sports goods	34.7	37.9	40.9	43.9	43.8	52.2	57.8

Table 3
Shares in apparent consumption in sectors
with a high intensity of barriers in 1985,
manufacturing, twelve Member States
(percentages)

<i>Sectors</i> <i>(3-digit NACE)</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>
	Share of domestic production						
257 Pharmaceuticals	82.4	83.1	83.1	82.0	81.4	79.6	77.5
315 Boilers	93.4	92.3	92.7	92.0	91.4	90.2	89.4
330 Office machinery	32.7	30.1	32.5	28.5	28.6	30.1	28.1
344 Telecom. equipment	76.0	76.0	76.0	74.1	74.4	73.1	72.0
361 Shipbuilding	81.8	81.3	76.0	74.1	74.6	70.4	68.4
362 Railway equipment	89.2	86.7	87.0	87.0	86.7	75.2	74.0
372 Medical equipment	44.6	44.6	46.4	42.8	42.1	39.2	38.5
417 Pasta	92.8	92.5	92.2	90.8	89.2	88.1	86.9
421 Cocoa & sugar products	83.3	83.4	84.0	83.3	83.2	82.9	80.5
425 Wine	85.7	85.6	84.5	84.8	85.0	85.4	85.6
427 Beer	96.4	96.1	96.0	95.7	95.2	94.8	94.5
428 Soft drinks	96.3	95.9	95.7	95.4	95.5	95.1	94.4
	Share of intra-EU imports						
257 Pharmaceuticals	11.4	11.1	11.1	11.7	12.1	13.2	14.3
315 Boilers	5.4	6.2	6.2	6.6	7.1	7.9	8.5
330 Office machinery	36.2	37.3	33.9	37.0	37.8	36.2	36.9
344 Telecom. equipment	11.8	11.8	11.1	11.7	12.2	12.4	13.0
361 Shipbuilding	5.6	8.5	10.5	11.9	11.6	13.6	15.2
362 Railway equipment	7.6	8.0	8.5	9.4	9.0	15.9	19.0
372 Medical equipment	28.3	28.6	26.9	27.7	29.4	30.1	31.5
417 Pasta	6.6	6.9	7.3	8.6	10.2	11.2	12.2
421 Cocoa & sugar products	13.0	13.2	12.8	14.3	14.5	14.9	17.2
425 Wine	14.1	14.2	15.3	15.0	14.7	14.2	14.0
427 Beer	3.4	3.7	3.8	4.0	4.5	4.8	5.1
428 Soft drinks	3.4	3.9	3.9	4.2	4.2	4.5	5.2
	Share of extra-EU imports						
257 Pharmaceuticals	6.2	5.8	5.8	6.4	6.6	7.2	8.2
315 Boilers	1.2	1.4	1.2	1.4	1.5	2.0	2.1
330 Office machinery	31.0	32.6	33.6	34.5	33.6	33.7	35.0
344 Telecom. equipment	12.2	12.2	12.9	14.2	13.4	14.6	15.0
361 Shipbuilding	12.7	10.2	13.5	14.0	13.8	15.9	16.4
362 Railway equipment	3.2	5.3	4.5	3.6	4.3	8.9	7.1
372 Medical equipment	27.1	26.8	26.8	29.4	28.6	30.6	30.0
417 Pasta	0.5	0.5	0.5	0.6	0.6	0.7	0.8
421 Cocoa & sugar products	3.7	3.4	3.2	2.4	2.4	2.2	2.3
425 Wine	0.2	0.2	0.2	0.2	0.3	0.3	0.4
427 Beer	0.2	0.2	0.2	0.2	0.3	0.4	0.4
428 Soft drinks	0.3	0.3	0.3	0.4	0.4	0.4	0.4

Table 4
Ordinary least-square regression results, n=364
(t-statistics in parentheses)

Dependent variable	log (m86)	log (m92)	log (m92) - log (m86)
Constant	3.869 (15.15)	4.547 (13.11)	-0.322 (-2.40)
Human capital	0.079 (1.75)	0.054 (1.12)	-0.025 (-1.06)
Physical capital	0.159 (2.21)	0.263 (3.47)	0.105 (2.77)
R&D	0.024 (1.70)	0.019 (1.24)	-0.006 (-0.74)
Economies of scale	-0.044 (-2.66)	-0.022 (-1.23)	0.023 (2.58)
Product differentiation	-0.092 (-2.08)	-0.142 (-3.04)	-0.050 (-2.16)
Transportation costs	0.076 (6.17)	0.072 (5.50)	-0.004 (-0.65)
Tariffs	0.048 (4.40)	0.028 (2.35)	-0.021 (-3.62)
CAP	0.183 (2.82)	0.267 (3.89)	0.084 (2.47)
Public procurement	-0.030 (-1.92)	-0.015 (-0.86)	0.015 (1.84)
NTB-medium	0.105 (2.47)	0.106 (2.34)	0.001 (0.03)
NTB-high	0.103 (1.99)	0.088 (1.61)	-0.015 (-0.54)
Germany	0.054 (0.95)	0.044 (0.72)	-0.011 (-0.36)
France	0.304 (5.04)	0.300 (4.69)	-0.003 (-0.12)
Italy	0.133 (2.45)	0.146 (2.53)	0.013 (0.45)
Wood	-1.582 (-9.50)	-1.535 (-8.74)	0.038 (0.43)
R-squared (adjusted)	0.532	0.514	0.200
F-statistic	25.301	23.553	6.345