Measuring Sectoral Patterns of US Investment in EU Member Countries, 1983-1994

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Abstract

This paper analyses the sectoral distribution of US investment across EU member countries. We attempt to determine whether investment is sectorally concentrated by country and whether there seems to be any evidence of increased sectoral specialisation in US investment as the EU market has become more integrated. Our empirical results indicate that US investment is relatively sectorally concentrated by country and that there has been some slight increase in specialisation in mainly small and peripheral member countries, while in most of the large core EU countries, no increase in specialisation is evident. (3,564 words)

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1 Introduction

Over the past two decades there has been a remarkable growth in foreign direct investment (FDI) and in activities of multinational companies (MNCs) throughout the world involving primarily the United States (US), Japan and the European Union (EU). Balasubramanyam and Greenaway (1992) argue that inward direct investment in the EU has been increasing relatively more than in Japan or the US over the last decade, they attribute this outcome to the growing EU market, primarily due to enlargement and to the introduction of the Single Market Programme (SMP), culminating in a single European market in 1993.[1] Empirical support for the significance of the SMP in attracting US and Japanese investment into the EU is found in Aristotelous and Fountas (1996). Using annual data from the 1980s and 1990s, they find strong evidence for a positive impact of the Single European Act on inward investment from the US and Japan. Also, Dunning (1997) finds that UNCTAD data "reveal a substantial increase in the activity of foreign investors in the EC in the latter part of the 1980s" (p. 13), evidence which suggests a positive impact of the European Single Market on inward investment from extra-EU countries.

Data available from the US Department of Commerce indicate that the EU has been a relatively attractive location for US companies throughout the 1980s and the early 1990s, as reflected in Table 1.[2] In 1994, world-wide capital expenditures by US majority-owned affiliates in manufacturing industries amounted to USD 31,322 million, of which 51.1 per cent (USD

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1 See Nicolaides and Thomsen (1991) for a contrary opinion. They argue that the SMP is not a sufficient explanation for the growth in inward (Japanese) FDI in the EU but affected only on the timing of investment decisions.

2 Blair (1987), examining the period 1953 to 1983 also shows that the relative attractiveness of the EC seems to have increased during that period. He estimates that the EC share (EC6 + UK) of the world-wide stock of US manufacturing investment increased from 22.4 to 40.6 per cent in that period.

16,021 million) were spent in the EU. The attractiveness of the EU market to US investors is linked to its size - a common EU market with a GDP of USD 6,742 billion in 1994 (European Commission, 1996) - and to the prospects of further integration and enlargements of the Union in the foreseeable future.

These aggregate data hide possible sectoral differences in the patterns of US investment across EU member countries. One may expect that some EU member countries are more likely to attract investment into particular manufacturing sectors than others, due to different locational endowments of these member countries. In that context, the purpose of this paper is to examine how the distribution of US investment across EU member countries has developed over the last decade. We are particularly interested in the sectoral distribution of US investment across EU member countries, attempting to determine whether there seems to be any evidence as to whether a sectoral specialisation has occurred following increased European integration, i.e., whether particular countries attract US investment into specific manufacturing sectors.

The remainder of the paper is structured as follows. Section 2 sets out the framework for our analysis while Section 3 examines the geographical spread of US investment in manufacturing across EU countries. Section 4 compares the sectoral distribution of US investment in manufacturing industries across EU member countries, focusing on the degree of sectoral concentration of US investment by country. In order to compare the sectoral concentration of investment across different countries, we generate an index which measures changes in the degree of concentration across countries over time. Finally, Section 5 presents some concluding comments.

2 The Framework

Analytical Background

The analysis in this paper is embedded into the analytical framework of the "eclectic paradigm of international production" or "OLI paradigm" (Dunning, 1988). The OLI paradigm suggests that a firm will become a multinational if it possesses ownership (O) advantages and if it is more profitable for the firm to internalise these rather than to engage in other arms-length-operations (I advantage). The firm will then choose the location according to locational (L) advantages of different countries. This paper concentrates on L advantages, i.e., the question why a multinational chooses location *A* rather than location *B*.

Our underlying assumption in this paper is that a US multinational company considering an investment in the EU faces a two-step decision process. First, it decides whether or not to invest in the EU rather than in other world regions or countries, i.e., the EU as an economic region is in competition with other regions in the world, such as North America, the Newly-Industrialised Countries in the Far East (NICs), etc. Second, it chooses a location within the Union, driven by the relative locational advantages of different EU member states. In this analysis we are concerned with the second step of this process only. In the context of the eclectic paradigm, we assume the ownership and internalisation advantages, as well as the locational advantages of the EU *per se* to be given and we limit our concerns to the locational advantages of individual EU member states.[3]

[3] Location characteristics that would influence the first step, i.e., the decision by US companies to invest in the EU include, *inter alia*, trade controlling measures in the EU, EU market size, and exchange rate differences between the US and the EU. See, for instance, Culem (1988), Scaperlanda and Balough (1983), and Lunn (1980, 1983) for econometric analyses of US investment in the EU.

Based on the OLI paradigm we suggest that there are five broad categories of locational advantages that may influence the second decision. The first category is *transport costs* between the production plant and the sales market. The firm will choose a location that has the lowest transportation costs to the sales market, other things being equal.[4] Second, *resource endowments* (i.e., inputs in the production process) can differ between countries and may pull MNCs to particular locations. Availability, quality, and costs of inputs fall into this category. An MNC will, for example, prefer locations with an abundant supply of skilled labour and low wage rates, *ceteris paribus*.

Third, *market-related factors* can impact on the locational decision of multinational companies. If the multinational investment is intended to produce output for the local market, market characteristics, such as the size of the host country market, income and local demand preferences will clearly be important for the location of such a company. In this case, it is likely that the multinational chooses to serve markets which it served heretofore by exports, i.e., the location of a production plant in the country will lead to import-substitution. In the case of US investment in the EU we assume that it is intended to serve the whole EU market. In other words, we see US investment as being "export-oriented" (Balasubramanyam and Greenaway, 1992). In that case we would expect that market-related locational factors apply to the EU as a whole only and not to individual countries.

[4] This characteristic may be assumed to be particularly relevant in the case of the EU. The major part of the EU sales market is concentrated in the core of the Union which includes the Benelux countries, France, Germany, Austria and the North of Italy. Nevertheless, plants serving this market are located throughout the Union, including peripheral countries. Since one would generally expect the transport costs from the periphery to the core to be highest, peripheral countries have to outweigh the relative disadvantage in transportation costs by having greater comparative locational advantages in the other categories.

Fourth, *government policies* are also likely to influence business locations. For example, the government can influence locational decisions by changing tax policies, particularly corporation taxes, by offering investment incentives, or by influencing the overall business environment for foreign investors.

Fifth, *industrial agglomerations* are another type of location characteristic which have been discussed in the recent literature by, *inter alia*, Venables (1994) and Krugman (1991). Agglomerations are geographical concentrations of industries which can arise from, for example, resource endowments that attract particular industries which share a common input (such as the agglomeration of coal and steel industry in the *Ruhrgebiet* in Germany) or from to the use of a common infrastructure by different firms in order to minimise transportation and communication costs. Also, agglomerations can be created by government policies which aim at attracting particular industries to locate in a designated area. The agglomeration of industries arises, therefore, because of the existence of one or more of the above discussed categories of L advantages. However, once an industrial agglomeration exists, it becomes an additional locational advantage that attracts foreign industry. Related to the idea of agglomerations is the concept of "first-mover-advantages" discussed by Markusen (1991). He suggests that initial locational advantages of a country for particular sectors can lead to a "first-mover-advantage" for the respective country and, subsequently, to a build-up of industrial agglomerations in these sectors.

Data

The following analysis uses data on capital expenditures by majority-owned US affiliates in manufacturing industries as reported by the US Department of Commerce. We choose to examine capital expenditures rather than FDI

flows or stocks since capital expenditures represent the actual investment activities by the foreign affiliates, regardless of their source of financing of the funds invested. FDI flows or stocks, on the other hand, include only funds transferred from the parent company. The analysed period is 1983 to 1994, a period of particular interest in the case of US investment in the EU for two reasons. First, there was a significant EU enlargement - Portugal and Spain joined the EU in 1984 and Greece in 1986. One may assume that these countries have become relatively more attractive for US investment since joining the EU. Second, we would expect the EU Single Market to have an impact on inward investment. While the Single Market did not become effective before the end of 1992, one would expect US firms anticipating its presumed effects during the middle and late 1980s, as discussed by Aristotelous and Fountas (1996). As Dunning (1991) points out, further economic integration in the EU can be expected to lead to the substitution of exports from extra-EU countries by local production, i.e., extra-EU investment can be expected to increase.

3 Geographical Distribution in the EU

Any analysis of the geographical distribution of US investment in the EU must take into account the fact that bigger countries will always attract a higher level of foreign investment than small countries do. To take account of this we calculate a ratio

$$S_j = \frac{I_j}{I_{EU}} / \frac{GDP_j}{GDP_{EU}} \qquad (1)$$

where I_j / I_{EU} denotes the market share of country *j* of US investment in the EU and GDP_j / GDP_{EU} denotes country *j*'s share of EU GDP. This ratio

enables us to analyse whether a country receives more or less US investment than might be expected on a *pro rata* basis.[5]

Changes in the geographical distribution of US manufacturing investment across EU member countries between 1983 and 1994 are indicated in Table 2. The results show that Ireland has always attracted by far the highest share of US investment relative to its size. The table also indicates that Ireland's relative importance in the EU as a base for FDI has increased considerably since 1983 and since 1989 in particular, with its share of EU FDI reaching a peak in 1994 at more than seven times its share of EU GDP. The significance of US investment for the Irish economy is likely to reflect the strategy in Irish industrial policy towards attracting foreign investment particularly from the US, using, *inter alia*, generous investment incentives (Ruane and Görg, 1997).

Other countries that receive a higher share of US investment than their share of EU GDP are BLEU, the Netherlands, and the UK. In the case of the latter, Thomsen and Woolcock (1993) and Hagedoorn and Narula (1995) point out that the UK has had the strongest tradition as a base for US investment in Europe. Like the UK, though on a smaller scale, the Netherlands also has a long tradition of attracting foreign investors, especially from the US (Thomsen and Woolcock, 1993).

Compared with the performance of Ireland, all other peripheral countries in the EU, aside from the UK, attract a smaller share of US investment than would be expected on a *pro rata* basis. The table indicates that to date there is no indication that any of the recent entrants - Spain, Portugal and Greece - have enjoyed significant increases in the share of EU FDI from the US

[5] A country which was an investment recipient exactly on a *pro rata* basis would receive a share of investment equal to its share of EU GDP, i.e., the ratio *S* would be equal to 1. If the ratio is higher than 1 the country receives a higher share of investment than its share of EU GDP, and *vice versa* in the case of $S < 1$.

which they receive. This may indicate that peripheral locations in general are at a relative disadvantage compared with core countries in attracting US investment, probably due to their unfavourable geographical location. The UK and Ireland appear to have been able to overcome their relative locational disadvantage in Europe; for US investors, this may be attributable to the common language and the cultural links between both the UK and Ireland and the US.

4 Sectoral Concentration of US Investment

We now turn to look at the sectoral distribution of US investment in manufacturing across EU member countries. Dunning (1997) finds that in the 1980s the majority of extra-EU FDI in the EU as a whole was in the metal-based manufacturing sectors, such as transportation equipment and electrical & electronic equipment. However, the sectoral patterns may be assumed to be different across individual EU member countries. In the context of the OLI paradigm, we would expect that a country offering specific locational advantages to particular industrial sectors will attract foreign investment over-proportionally in these sectors. This is, in some sense, similar to the concept of comparative advantage in international trade, which predicts that a country abundantly endowed with a particular factor will specialise in producing those goods whose production is intensive in this factor. In this case, the country can be seen as possessing a comparative advantage in the production of this factor-intensive good over other countries. Similarly, an EU member state will attract inward investment in those sectors for which it offers comparative locational advantages over other EU member countries. To simplify the comparison of different EU member states we generate an index to measure the sectoral concentration of US investment in different countries.

Measurement of Sectoral Concentration

A convenient method to measure the sectoral concentration of foreign investment in country *j* is to sum the squares of the investment shares of sector *i* in country *j*,

$$CI_j = \sum_{i=1}^{n} a_{j,i}^2 \qquad (2)$$

where *n* denotes the number of manufacturing sectors and $a_{j,i}$ is the proportion of foreign investment in manufacturing sector *i* of total foreign investment in manufacturing in country *j*.[6]

If all sectors receive the same share of investment inflows, the index will take the minimum value

$$CI = 1/n \qquad (3)$$

with *n* denoting the number of sectors. The lower and upper limits of the index will be 0 and 1 respectively, where the former value will be obtained when *n* approaches infinity and the sectors receive equal shares of investment. In the case that only one single sector receives all investment inflows (*n=1*), the ratio equals 1.

Since we focus on foreign investment stemming from only one host country and, moreover, a fixed set of manufacturing sectors for the whole analysis (the US Department of Commerce defines seven manufacturing sectors) we can compare the indices obtained for different EU countries and over the period 1983-94. In the case of the distribution of US capital expenditures in EU countries, aggregated into seven possible manufacturing sectors, the concentration index is bounded between $0.1428 \leq CI_j \leq 1$ with an index of 0.1428 indicating equal distribution among all seven sectors in a country. In

[6] This formula is similar to that used in industrial organisation theory to measure the level of concentration within particular industries. Referred to as the Hirschman-Herfindahl index, this index is the sum of squares of the market shares of firms in a market.

practice one would not expect the index to be 0.1428 since investment projects in some sectors are inherently more mobile than in others and consequently an equal distribution across all seven sectors is improbable. Hence, one would *a priori* expect some level of concentration towards the more footloose sectors, such as the electronics sector,[7] while sectors which depend more on particular inputs, such as steel production, will be less mobile. Furthermore, some sectors are very capital intensive by nature (for example, chemical industries) and, since we measure the concentration of invested capital, one may *a priori* expect a larger share of investment for capital-intensive industries.

Equally one would not expect an index equal to 1, i.e., foreign investment in a country being totally specialised in one industrial sector, not the least for historical reasons.[8] The locational advantages (besides natural resource endowments) of a country are subject to change over time but it is very likely that "old" companies (companies that were attracted by the location characteristics before the change) remain in the country (at least for some time) even though the sectoral locational advantages have changed and favour now other sectors.

Concentration Indices for EU Countries

We begin by examining the sectoral concentration of US investment for the EU as a whole in order to set a benchmark for the analysis of the individual member states. Table 3 shows that the concentration index for the EU overall remained relatively constant over the whole period 1983 to 1994 at around 0.18. Compared with the minimum value of the index (0.1428) the

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[7] Yoffie (1993), for example, points out that the semiconductor industry is internationally very mobile due to low transportation costs and the dependence on only two major inputs - sand and electricity.

[8] This is thus similar to the empirical evidence in the case of comparative advantage and international trade. While the theory would predict a high degree of specialisation following international trade, this outcome is not to be observed in practice.

figures for the EU indicate a relatively even sectoral spread of US manufacturing investment in the EU since, as pointed out above, one would not expect the value of the index to be as low as 0.1428 in practice. Moreover, there appears to be no strong tendency towards increasing sectoral concentration of US investment in the EU overall, reflecting the fact that US companies are investing across the whole range of manufacturing activities to serve the large EU market. The sectoral spread is relatively even across sectors, given that certain sectors, for example, chemicals and transportation equipment would be expected to be very capital intensive.

Concentration indices for EU member countries between 0.1428 and 0.18 indicate a lower level of sectoral concentration of US investment than in the EU overall while values between 0.18 and 1 show higher rates of concentration in the respective country. Immediately apparent is that US manufacturing investment in the UK appears to be relatively evenly spread across manufacturing sectors, with a level of concentration similar to the EU overall. This appears to indicate that the UK is attractive for US manufacturing industry in general, and not only for particular sectors.[9] This may be due to the historically close cultural and linguistic ties between the UK and the US. Furthermore, the fact that the UK is an island (implying relatively high transport costs to the continental EU market) and that it is in itself a reasonably big market may attract US companies which, beside serving the larger EU core market, intend to serve the UK market also. This suggests that, as yet, US companies may not have taken full account of the EU core market. The other "large" countries in the EU, namely France, Germany and Italy also have relatively low and constant concentration

[9] That does, however, not imply that there is no concentration of US investment in the different regions in the UK. For example, one may expect Scotland to show a high degree of sectoral concentration of foreign investment in electronics industries, given the attractiveness of "Silicon Glen" as a location for electronics industries (Turok, 1993). Unfortunately, the US data used preclude an analysis at a regional level.

indices. Similar to the case of the UK, this may indicate that the domestic market still dominates in attracting US firms to particular countries. This is not inconsistent with our assumption that the *main* service market is the EU core market, since each of these countries represents an important share of this EU core market.

The assumption that US firms serve the domestic markets in these countries to some extent appears to be supported by the analysis of the export ratios of US companies in EU countries in Table 4. This table reports overall export ratios for US firms based in EU countries and shows that the export ratios in the UK, France, Germany and Italy were significantly lower than the EU average in 1993; this suggests that the domestic market in these countries is significant as a sales market for US companies. Apart from the export ratio for US firms in the UK, which increased significantly between 1983 and 1993, there is no clear evidence from the table that US firms in EU countries have changed their export patterns in response to increased European integration since the early 1980s.

The concentration ratios in Denmark, Greece and the Netherlands have remained relatively high and constant over the analysed period. By contrast, during recent years the indices for Ireland and Spain have increased considerably from a relatively low base, suggesting that these countries have become particularly attractive for US investment in specific sectors. Indeed these two countries are the only ones which exhibit the kind of increased sectoral concentration which one might expect to occur following the creation of a single market.

Sectoral Distribution of US Investment

Finally, Table 5 shows the actual pattern of sectoral concentration of US investment in the EU in 1994, the most recent year for which data are

available to examine in sectoral terms what lies behind the indices presented in Table 3. The differences in the concentration indices suggest that the sectoral distribution at country level is not similar to that at EU level. Looking first at the EU overall, we note that US investment in the chemicals sector is very significant, accounting for almost 25 per cent of total US capital expenditures in 1994. Given the high capital intensity of production in this sector, the importance of the chemicals sector is not surprising since we are measuring capital expenditures. The other two relatively large sectors are transport equipment and other manufacturing.

Turning to the counties, which are competing with each other for FDI from the US, one can identify groups of countries which appear to have high levels of US FDI in particular sectors. In Denmark and Greece, which account for the lowest EU shares of US FDI on a *pro rata* basis, US investment is heavily concentrated in the food & kindred products, and chemicals sectors. The same result goes, albeit to a lesser extent, for Portugal. Another distinct group is Germany, the UK, and Spain. In these countries, US investment is particularly significant in the transportation equipment (including automobiles) and chemicals sectors. In Germany and the UK, the size of the national markets and the long tradition in the transportation sector make this result unsurprising, particularly since US investment in that sector frequently involved take-overs of or mergers with existing companies. Spain's attraction as a location for US investment is undoubtedly due to its relatively low labour costs (compared to the neighbouring EU countries, except Portugal) and its proximity to the European core market, which minimises transportation costs for firms serving that market.[10]

[10] As Jacobsen and Andreosso (1990) conclude in a comparison of foreign investment in Ireland and Spain, "Spain would be preferred as a peripheral location that is also part of the continental road and rail network" (p. 326).

France, Italy and the Netherlands form a third group of similar countries. US investment is particularly strong in chemicals, also in other manufacturing and non-electrical machinery.[11] Finally, the only country that does not seem to fit into a group with other countries is Ireland, where US investment in the electronics sector accounts for by far the largest share, while investment in chemicals is also significant. As discussed by Ruane and Görg (1997), this pattern might be expected in the light of the policy orientation towards attracting US investment particularly in the electronics and pharmaceuticals sectors.

5 Conclusion

The analysis in this paper showed that EU countries seem to attract US investment into different industrial sectors. In the framework of this paper, this seems to indicate that these countries offer different locational advantages which are attractive for investment in different sectors. Regarding patterns of sectoral concentration over time, on the one hand, we found that US investment in mainly small and peripheral countries seems to be more sectorally specialised, while, on the other hand, the big and mostly core EU countries appear to be attractive for investment in all manufacturing sectors. Based on the theory one would predict that, in the larger single market, different member countries may tend to specialise into attracting investment into particular sectors according to their relative locational advantages. This process is not yet apparent, certainly at this level of aggregation, though evidence that the process is under way may be obtained from data at a lower level of sectoral aggregation and at a regional, instead of national, level.

[11] Comments on BLEU are not meaningful in this analysis due to the two missing observations.

Tables

Table 1 Geographical Distribution of World-wide US investment in Manufacturing, 1983-1994

(shares of capital expenditures by US companies in per cent)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
EU	54.6	52.6	50.3	50.6	53.4	52.6	51.4	58.7	60.1	60.0	51.9	51.1
NAFTA	19.8	20.8	23.7	26.0	21.1	20.3	22.3	18.2	15.4	15.8	19.5	21.1
Asia/Pacific	11.0	12.7	14.1	13.3	14.2	16.6	16.1	12.7	14.7	12.7	15.0	14.5
others	14.6	13.9	11.9	10.1	11.3	10.5	10.2	10.5	9.8	11.5	13.6	13.3

Source: Own estimates derived from US Department of Commerce data

Table 2 Scale-adjusted Distribution of US Capital Expenditures in Manufacturing across EU Countries, 1983-1994

(share of US capital expenditures in EU/share of GDP in EU)

Country	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
BLEU	1.5	1.5	1.6	2.3	2.3	2.1	2.3	2.0	1.8	1.8	1.7	2.1
Denmark	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
France	0.8	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.7	0.6
Germany	1.1	1.1	1.3	1.2	0.9	1.0	1.0	1.2	1.1	1.1	1.0	1.0
Greece	0.2	0.2	0.0	0.1	0.2	0.2	0.1	0.0	0.2	0.2	0.2	0.3
Ireland	3.5	4.7	3.9	3.6	3.7	4.0	3.6	3.9	4.0	6.3	7.4	7.4
Italy	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4
Netherlands	1.3	1.5	1.6	1.4	1.5	1.6	1.6	1.7	1.8	1.5	1.5	1.4
Portugal	0.6	0.5	0.7	0.3	0.6	0.7	0.5	0.4	0.5	0.5	0.5	0.4
Spain	0.9	0.6	0.5	0.5	0.8	0.8	0.8	0.8	0.6	0.8	0.9	0.9
UK	1.5	1.5	1.7	1.5	1.6	1.5	1.5	1.9	1.7	1.5	1.6	1.7
EU 12	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Source: Own estimates derived from US Department of Commerce data and GDP data from European Commission (1996).

Table 3 Sectoral Concentration Indices for US Investment in Europe, 1983-1994 [12]

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.32	0.32	n.a.	n.a.	0.28	n.a.
Denmark	0.42	n.a.	n.a.	0.34	0.33	0.30	n.a.	n.a.	0.32	0.34	0.41	0.45
France	n.a.	n.a.	0.26	0.27	0.25	0.25	n.a.	0.22	0.23	0.24	0.23	0.22
Germany	0.24	0.22	0.24	0.22	0.18	0.19	0.20	0.22	0.23	0.25	0.22	0.22
Greece	0.59	0.50	n.a.	0.38	n.a.	0.31	0.40	0.39	0.44	0.42	0.49	0.50
Ireland	0.21	n.a.	0.21	0.19	0.20	0.21	0.20	0.21	0.22	0.23	0.30	0.32
Italy	n.a.	0.22	0.22	0.20	0.20	0.23	0.23	0.18	0.22	0.21	0.19	0.20
Netherlands	n.a.	n.a.	0.25	0.25	0.28	0.29	0.41	0.37	0.22	0.26	0.26	0.24
Portugal	n.a.	0.21	n.a.	n.a.	n.a.	n.a.	0.24	0.22	n.a.	n.a.	n.a.	0.24
Spain	n.a.	n.a.	0.18	0.18	0.17	0.21	0.20	0.21	0.20	0.29	0.30	0.29
UK	0.19	0.17	0.17	0.17	0.17	0.16	n.a.	0.22	0.20	0.18	0.18	0.18
EU 12	0.19	0.18	0.18	0.17	0.16	0.18	0.19	0.18	0.17	0.18	0.18	0.18

Note: n.a.: not available

Source: Own estimates derived from US Department of Commerce data

Table 4 Proportion of Total Sales Exported by US companies based in EU countries, 1983-93

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
BLEU	70.9	69.8	68.4	68.8	67.7	69.8	69.8	67.7	67.6	67.3	64.4
Denmark	53.0	54.2	52.7	52.6	50.7	48.8	48.2	n.a.	n.a.	n.a.	n.a.
France	35.1	37.1	39.0	38.1	36.8	36.6	33.5	34.2	35.5	36.8	34.6
Germany	43.1	42.8	44.9	45.3	45.1	45.1	43.7	41.8	37.2	39.9	40.3
Ireland	83.6	88.8	90.0	91.3	91.7	94.1	75.0	81.9	90.2	91.0	88.9
Italy	26.9	27.3	27.0	28.1	28.1	28.6	27.3	27.5	28.3	26.1	30.0
Netherland	65.4	65.1	66.0	66.2	66.6	63.7	69.9	71.1	72.1	64.4	62.0
Portugal	41.3	44.6	42.7	50.5	48.5	40.2	n.a.	39.3	34.0	n.a.	30.6
Spain	31.1	n.a.	36.8	32.4	29.4	29.6	30.2	31.4	34.8	33.9	33.2
UK	28.0	30.0	31.0	28.6	30.7	30.6	28.6	34.5	38.5	40.0	39.6
EU 12	41.3	42.6	43.5	42.2	42.5	42.4	41.1	42.4	43.0	43.4	43.1

Note: n.a.: not available

Greece is not included since it attracts only a very small amount of US investment and, consequently, accounts only for a small fraction of exports.

Source: Own estimates derived from US Department of Commerce data

[12] An Appendix showing the calculation of the indices is available from the authors upon request.

Table 5 Sectoral Distribution of US capital expenditures across EU countries, 1994

(in per cent of total manufacturing in the country)

Country/ Sector	Food & kindred products	Chemical & allied products	Primary & fabric. metals	Non-electrical mach.	Electric & electron. equipm.	Transp. equipm.	Other manufac-turing	Total manufac-turing
BLEU	10.9	47.3	2.0	4.5	2.5	n.a.	n.a.	100.0
Denmark	64.3	12.9	1.4	0.4	8.6	2.9	8.6	98.9
France	13.0	32.3	2.2	18.9	4.3	4.5	24.8	100.0
Germany	12.9	14.5	4.3	11.0	6.1	38.7	12.6	100.0
Greece	65.4	25.0	0.0	0.0	0.5	0.0	9.6	100.5
Ireland	2.7	23.2	1.1	7.2	48.7	0.3	16.8	100.0
Italy	11.7	27.5	3.0	23.3	5.0	9.0	20.4	99.9
Netherlands	17.8	37.7	5.0	5.6	10.4	0.6	22.9	100.1
Portugal	25.3	36.0	5.3	2.7	10.7	17.3	4.0	101.3
Spain	8.8	28.9	2.1	3.1	5.4	42.8	9.0	100.1
UK	10.0	20.5	5.1	15.2	5.9	26.9	16.4	100.0
EU 12	11.9	24.5	3.7	12.0	8.2	22.6	17.1	100.0

Source: Own estimates derived from US Department of Commerce data

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