EUROPEAN INTEGRATION AND PERIPHERALITY: ARE THERE LESSONS FROM IRELAND?

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Abstract

This paper suggests that the process of economic integration can generate positive effects for peripheral economies by increasing their attractiveness as a production base for multinational companies. Such investment is likely in the case of goods for which transportation costs are relatively low. Our analysis shows that US investment in Ireland illustrates this process, having increased considerably after 1992, in particular in the "weightless" electronics sector. It shows, however, that other peripheral countries in the EU, namely Greece, Portugal and Spain, have not been successful in attracting a proportionate share of the increased US investment following the process of integration. This suggests that economic integration may be a necessary, but not a sufficient condition for a peripheral country to attract MNCs; other variables such as language and culture, industrial policy and developing agglomerations also count.

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1. Introduction

The spectacular growth performance of the Irish economy in recent years has been the subject of a growing number of studies (for example, Barry, 1999; O'Hearn, 1998; Sweeney, 1998; Gray, 1997). Ireland's average annual growth rates of real gross domestic product (6.1 per cent between 1990 and 1997), by far outstrip the growth rates of the US (2.1) and the European Union (1.8), over the same period (OECD, 1997).[1] Several reasons for this performance have been discussed in the literature, including the important role played by multinational companies (MNCs) in the manufacturing sector. The significance of foreign MNCs is obvious from data available from the Central Statistics Office of Ireland: multinationals accounted for almost 47 per cent of total employment and 77 per cent of total net output produced in Irish manufacturing in 1996. Also, the growing gap between GDP and GNP (the ratio of GNP to GDP decreased from 90 per cent in 1990 to 87 per cent in 1998) indicates the importance of foreign-owned firms in Ireland.

While many reasons for Ireland's attractiveness to MNCs have been discussed in the literature, this paper emphasises the impact of European integration on the location of extra-EU firms in the EU. We suggest that integration may potentially benefit the periphery through the location decisions of companies in internationally-footloose sectors. To examine this process, in our empirical analysis below, we focus on US investment in the EU and compare Ireland, as a representative periphery country, with Germany as a representative core country. We also analyse data for

[1] Over the period, the name changed from the European Economic Community (EEC) to the European Community (EC) and finally to the European Union (EU). For simplicity throughout we refer to it as the EU, and include as the average measures the EU-12.

Greece, Portugal and Spain and discuss the possible reasons why their experience of US FDI has differed from the Irish experience.

Section 2 of this paper discusses the growth performance of the Irish economy in an EU context over the past two decades. Section 3 presents a simple framework for considering how economic integration impacts on the decision of an extra-EU MNC to locate in either the periphery or the core. In this framework, we define the periphery as a country where there is no significant local demand for the goods being produced. In Section 4 we consider Ireland and Germany as examples of the periphery and core respectively, using data on US FDI available from the US Department of Commerce. We focus on two sectors characterised by high and low transportation costs, namely, Transportation Equipment and Electronic Equipment, respectively. In Section 5 we consider the relevance of the Irish experience to Greece, Portugal and Spain. Section 6 contains some concluding comments.

2. Ireland's Recent Economic Growth

The gap between Ireland's performance and that of its EU partners has been particularly striking since 1992 when the Single European Market became fully effective, removing many non-tariff barriers between EU member countries, and abolishing all capital controls in the EU.[2]

[Table 1 here]

Table 1 compares Ireland's GDP growth with that of the EU average and with Germany in particular, between 1970 and 1998. Ireland's real GDP

[2] Officially, the European Single Market became effective on 1 January, 1993 and one may expect the full effects of European integration to show up after 1993. On the other hand, one may expect the anticipation of the Single Market from the late 1980s onwards to have had positive effects on European integration as well. It should be kept in mind that the Irish pound was devalued in January 1993 as well, which, along with Ireland's commitment to join EMU might have reinforced the positive effects of the Single Market.

growth rate in the 1970s was just under five per cent compared with an EU average of just over three per cent. Much of the rapid growth at that time is attributed to Irish membership of the EU in 1973, which gave Irish products easier access to EU markets. It also increased the attractiveness of Ireland as a base for manufacturing investment, both to extra-EU firms, in search of a base from which to penetrate the enlarged market, and to EU firms looking for a cheaper manufacturing base within the EU.

Following this period of rapid expansion, growth rates in the early 1980s fell back to below three per cent - still higher than for the EU, but considerably lower than in the 1970s. The early part of this decade was particularly disastrous from the point of view of employment, which fell by one per cent per annum, five times the rate of decline in the EU as a whole. In addition to relatively low growth and falling employment, the period up to 1987 was one of a growing public debt/GDP ratio. A major change in economic policy in 1987 (towards one of fiscal contraction) led to a turn around, which is already evident in the data for 1986-88, with higher rates of GDP growth and a modest increase in employment growth.[3] However, the increase in employment in this period was still much lower in Ireland than in the EU overall. As the data in Table 1 indicate, a favourable gap emerged between Ireland and the EU overall in the period 1989-91 in terms of output and employment and this gap has increased substantially since then, especially after 1992. Ireland has enjoyed annual average increases in employment of over four per cent since 1995, in contrast to an annual average increase of less than half of one per cent in the EU in the same period.

[3] The rapidity of the turn around led to a debate on whether Ireland provided evidence of an *expansionary fiscal contraction* (See Giavazzi and Pagano, 1990; McAleese, 1990; Honohan, 1999).

The recent growth performance of the Irish economy is associated primarily with three factors (see de la Fuente and Vives, 1997; Leddin and Walsh, 1997):[4]

- the dramatic improvement in the fiscal balances, leading, *inter alia*, to increased investor (both international and indigenous) confidence in Ireland,
- an increased inflow of EU transfers designed to support Ireland's adjustment to the Single European Market,
- the dramatic growth in multinational investment in Ireland in the manufacturing and services sectors.

In this paper, we focus on the third factor and its links to European integration. Table 2 indicates the relative importance of foreign direct investment (FDI) flows for Ireland. While flows relative to GDP into Ireland were below those for the EU in the 1980s, these flows dramatically accelerated since 1992 - equivalent to twice the rate for the EU overall. This increased flow suggests that Ireland has become a relatively more attractive base for extra-EU FDI since the completion of the Single European Market. This investment is mirrored in the extent of manufacturing employment accounted for by multinational firms. As data from the *Forfás Employment Survey* show, employment in multinational firms in the manufacturing sector has risen steadily since Ireland's membership of the EU, from 33 per cent of total employment in 1973 to 48 per cent in 1998.[5]

[4] The quality of the Irish labour force is also frequently seen as a reason for the growth performance. The gradual improvement in the quality of Irish human capital dates back to a change in educational policy at secondary level in the 1960s, which has led to a sustained improvement in the quality of labour throughout the economy (see Bradley et al., 1997).

[5] The *Employment Survey* is an annual survey of all existing manufacturing and internationally-traded services companies in Ireland since 1973 undertaken by Forfás, the policy and advisory board for industrial development in Ireland.

[Table 2 here]

Integration may be expected to affect trade as well as FDI through the reduction of visible and invisible trade barriers between EU countries. Figure 1 charts the development of "openness", as measured by exports plus imports over GDP. Ireland has traditionally been a highly open economy compared to other EU countries and it is apparent that the gap has widened still further in the early 1990s, as the Irish ratio rose while that for the EU average fell.[6,7] Since 1995 the Irish ratio has remained constant.

[Figure 1 here]

While Ireland has been open in terms of international trade since the 1970s, why has it been so much more successful in attracting MNC investment only in recent years? Ireland's attractiveness for foreign direct investment is frequently attributed to factors such as its membership of the European Union (which renders it an attractive base for foreign firms exporting to EU markets), a well-skilled but relatively cheap labour force, a reasonably well developed infrastructure, and, not least, generous fiscal and financial incentives for foreign investors (see, for example, Foley and McAleese, 1991; Barry and Bradley, 1997; Krugman, 1997; McAleese, 1998; Ruane and Görg, 1999). However, these factors have been present for a long time; furthermore, some, such as the relative value of fiscal and financial incentives, while still high, have decreased both absolutely and

[6] Analysis of the Eurostat data indicates that, within the EU, only Luxembourg has a higher level of openness than the Irish economy. The openness indicator for Germany decreased in the early 1990s which can at least be partly attributed to German re-unification, as external trade with the former GDR would then have become internal trade, and as the emerging East German market may have induced firms to increase shipments to East Germany at the expense of exports to other markets.

[7] Note that Irish trade data may be distorted due to transfer pricing by multinational companies.

relatively over the last decade.[8] We suggest that Ireland's recent success in attracting foreign direct investment in manufacturing has been influenced by the process of European integration.

3. Integration and Peripherality

In this section we highlight how economic integration may impact positively on the periphery through the location decisions of internationally-mobile firms. If such firms produce goods for which transportation costs are low, the reduction in trade barriers following economic integration may render it profitable to locate the production of those goods in the periphery, where production costs are lower. This idea has been formalised in a number of papers in the "new economic geography" literature, such as Krugman and Venables (1990, 1995).[9]

Consider the location decision of foreign MNCs considering building a new plant in either of two countries in a free trade area, namely, a core or a peripheral country. As noted above, the periphery is defined as a location where there is virtually no consumer demand for the MNCs' final output, i.e., all production has to be exported to the core country's market. Assume a representative internationally-mobile single plant firm which maximises profits (P) equal to

$$P = px - (w + b + s)x - F \qquad (1)$$

where x is output, p is the price of output, and w measures variable costs (unit wage costs).[10] There are also costs associated with (non-tariff) trade

[8] This relative change is due to absolute reductions in incentives domestically and increasingly generous investment incentives being offered by other EU member countries.

[9] See Brülhart (1998) and Ottaviano and Puga (1998) for comprehensive surveys of the literature on industry location and "new economic geography".

[10] More generally, one could think of w including all variable costs of production for the MNC, including transaction costs for communication between host and home country.

barriers (b) and unit transportation costs for shipping goods (s).[11] The existence of plant fixed (sunk) costs F implies that a firm will generally restrict its locations to one or just a few centres due to economies of scale.

Before economic integration, unit costs due to non-tariff trade barriers (b) are high. We also assume that unit wage costs in the core (w_c) exceed those in the periphery (w_p) since the periphery is less developed than the core. Despite these lower unit wage costs, MNCs do not produce in the periphery because of the high trade barriers. Production, therefore, of any product for which there is only demand at the core will be concentrated in the core.

Now assume that integration takes place so that all non-tariff trade barriers are removed between the periphery and the core (b=0). Assuming, for simplicity, that $s=0$ for goods produced in the core, there are only transportation costs (s) for shipping goods from the periphery to the core market.[12] Thus an MNC will find it profitable to locate in the periphery and ship goods to the core if

$$w_c > w_p + s \qquad (2)$$

i.e., if the unit wage rate in the core exceeds the unit wage rate in the periphery plus the unit transportation cost for shipping goods to the core market. As equation (2) suggests, this is more likely to occur in the case where s is low which one might expect for goods with high value to weight ratios, so-called *weightless* goods, such as high-technology products.[13]

[11] In the tradition of trade literature, we model costs of trade barriers and transportation costs as variable costs. Clearly arguments could be made that they have a fixed cost element, but we ignore this for simplicity.

[12] In this analysis we ignore any differences between the periphery and the core in the shipping costs of intermediate inputs.

[13] Quah (1997) argues for the case of semiconductor production that "[t]he location of their manufacture is unimportant because transportation costs are trivial" (p. 50).

Arguably, even ahead of economic integration, some products may face lower non-tariff barriers than others and may, therefore, be more easily traded between the core and periphery countries. In this case, a multinational may decide to locate in the periphery even without economic integration. Any reduction of non-tariff trade barriers will increase the likelihood of MNCs, especially those producing weightless goods, investing in the periphery relative to the core. Firms already located in the core, however, may not find it profitable to re-locate their plants because of the sunk costs *F* involved in setting up a plant. Thus we would expect to see the changes arising from the reduced trade barriers positively reflected in the location of *new* investment, especially from outside the free trade area. This relative attractiveness of the periphery over the core to mobile investment would not be expected to continue indefinitely, as the location of multinationals in the periphery may be expected to drive up the wage rate over time which will eventually erode the attractiveness of the periphery as a location.[14]

4. An EU Example: Ireland and Germany

In this section we seek to determine whether the expectations suggested by our analysis above are met in the context of the European Single Market. We present empirical evidence on the location of US majority-owned companies in Ireland and Germany, taking these two countries as being representative of the EU periphery and core, respectively. We examine investment by US companies measured in terms of their annual capital expenditures in the respective host country, using data available from the Bureau of Economic Analysis in the US Department of Commerce.[15]

[14] This leads to an equilibrium where $w_c = w_p + s$.

[15] We use capital expenditures rather than FDI flows or stocks since capital expenditures represent the actual investment activities by the foreign affiliates, regardless of the source of financing of the funds

Since we are concerned with the relative impact of the Single Market, we focus on those sectors where trade barriers were deemed to be most important. Emerson (1988) argues that before the introduction of the Single Market, "Technical Regulations [were] rated by industrialists as the most important single category of trade barrier" (p. 49) in the Community. These technical barriers were perceived to be most important in the motor vehicles, electrical engineering, and mechanical engineering sectors (Emerson, 1988, p. 51). This suggests that the introduction of the European Single Market may be expected to have had the greatest impact on the tradability of the output of these sectors between EU countries.

Figure 2 shows the sectoral distribution of US capital expenditures in Ireland and Germany, using the most recent data (1995). In line with expectations, we find that the highest proportion of US investment in Ireland (almost half) is in the electronic equipment sector, arguably the most "weightless" sector; the lowest (less than one per cent) is in the transportation equipment sector, where shipping costs are relatively high.[16] The data for Germany show that US investment is much more evenly distributed across sectors, with the transportation equipment sector receiving the largest share of investment.[17]

[Figure 2 here]

invested. FDI flows or stocks, on the other hand, include only funds transferred from the parent company. Regarding flow versus stock data we prefer the former because they give a better indication of the structural changes taking place than do aggregated stock figures.

[16] Data from the most recent Irish input output tables indicate that transportation costs as a share of total production costs are five times higher for the motor vehicles sector than they are for the office machinery (electronic equipment) sector.

[17] It is worthy of note that the electronic equipment sector has become increasingly important for US investment in the EU as a whole. Between 1985 and 1995, the share of US investment going in the electronic equipment sector increased from 8 to 15 per cent of total US investment in the EU. During the same period, the share of US investment in the transportation equipment sector remained relatively constant at around 18 per cent.

As Table 3 shows, Ireland's share of US capital expenditures in EU countries (i.e., Ireland's "market share" of US investment in the EU) has increased considerably since the 1970s and especially since 1992. On average, some 5.7 per cent of all capital expenditures by US firms in the EU between 1992 and 1995 went to Ireland, during which period Ireland's GDP accounted for only 1 per cent of EU GDP (European Commission, 1996). This supports the view that increased economic integration has meant that Ireland became relatively more attractive to US investment. The corresponding figure for Germany is circa 28 per cent of US capital expenditures in the EU, compared to Germany's share of EU GDP of approximately 30 per cent.

[Table 3 here]

On the basis of the arguments above, we would expect a relative increase in extra-EU investment in Ireland in those sectors where (a) trade barriers had been significant (motor vehicles, electrical engineering, and mechanical engineering sectors) and (b) transportation costs are relatively low (electrical engineering).[18] We find evidence of this in Table 3, which shows that Ireland's "market share" of US capital expenditures in the EU in the electronic equipment sector increased from an average of 5.5 per cent in 1989 to 1991 to 25.5 per cent between 1992 and 1995. This appears to reflect Ireland's increased attractiveness for electronics firms especially after the increased level of integration in 1992. Germany's "market share" of US investment in this sector, on the other hand, decreased consistently since 1986.

Comparison of the figures for the transportation equipment sector indicates that, even after economic integration, Ireland has not received any

significant amounts of investment in this sector, where shipping costs are relatively high. In effect, the reduction in trade barriers have not impacted positively on Ireland, which is an attractive location for the production of weightless goods compared with non-weightless goods.

As pointed out in Section 3 one might expect an increasing level of integration to put upward pressure on wages in the periphery, which over time would reduce its attractiveness for further location of multinational companies. To examine whether there is any evidence of this happening in Ireland, we calculate an index $\Delta = (w_G - w_{IRL}) / w_G$, as the difference in hourly compensation costs for production workers (*w*) between Germany and Ireland as a percentage of the costs in Germany. We calculate this index for different sectors for the period 1984 to 1994, using data available from the US Department of Labor for this period (Figure 3).

[Figure 3 here]

It is apparent from Figure 3 that the difference between labour costs in Germany and Ireland has increased considerably between 1984 and 1994, i.e., labour costs in Ireland have decreased relative to Germany. This trend is evident in both the electronics and transportation equipment sectors, as well as in total manufacturing. The relative decrease in Irish labour costs possibly results in part from Ireland's national policy of wage moderation, which has in several national agreements since 1987 ensured that only very moderate increases in nominal wages have taken place in the economy. This policy of wage bargaining went hand-in-hand with a reduction in labour taxes, which ensured higher increases in real than in nominal wages (see Lane, 1998).

[18] As pointed out above, the electronics sector is a weightless sector where transportation costs can be expected to be negligible (Quah, 1997; Yoffie, 1993).

The data presented in this section suggest that Ireland as a peripheral country has benefited in terms of US investment since 1992 in exactly those sectors where there were significant reductions in trade barriers and where unit transportation costs are relatively low. Furthermore, the wage data to 1994 did not indicate that the benefits of the reduced unit trade costs are, as yet, being offset by rising wage costs, compared with Germany (as the representative core economy).[19]

5. Lessons for other Peripheral Countries

In this section we examine the experience of the other countries at the EU periphery, namely, Greece, Portugal and Spain.[20] According to the analysis thus far we might expect that, *ceteris paribus*, these countries would also have received higher levels of investment after European integration in 1992.[21] Table 4 shows the shares of US investment in these countries for total manufacturing and for the two reference sectors, namely, transportation equipment and electronic equipment.

[Table 4 here]

It is evident that US investment has not increased significantly in any of these three peripheral countries since 1992. Even prior to its entry into the European Community in 1986, Spain attracted a higher share of US manufacturing investment than did Greece or Ireland, which were already members. However, this can be explained by Spain's much larger size, providing reasonable domestic demand for the products of the

[19] However, there are indications that wage costs in Ireland have begun to rise since 1994, due to skill shortages in particular in the electronics industry. Unfortunately more recent comparative data are not available to complete this comparison.

[20] Since the focus of this paper is on peripherality and economic integration in Europe, we do not analyse the core countries in detail. We simply note that in terms of US FDI, the scale and sectoral concentration of investment in Germany is very similar to that found in the other key core economies, namely, France and Italy (see Görg and Ruane, 1999, Tables 2 and 3).

[21] For a detailed comparison of peripheral countries, see European Commission (1997).

multinational company.[22] The share of US investment in Greece and Portugal, however, is less than one per cent and has not shown any marked development either following EU membership or in the aftermath of European integration. In particular, there is no evidence that these countries have been able to increase substantially their share of US investment in the electronics sector, which we might expect on the basis of our discussion above. This suggests that there must be other forces at work to explain the relative attractiveness of Ireland compared to other EU countries for US investment. It seems reasonable to argue that economic integration may be one of a number of necessary conditions for a peripheral country to be able to attract foreign investment, but it is certainly not in itself a sufficient condition.[23]

What is different between Ireland and the other three peripheral countries? For a start, the fact that Ireland is English speaking gives it an advantage over other non-English speaking peripheral countries in attracting investment from the US. The use of a common language reduces transaction costs not only for multinationals from other English speaking countries but also for other MNCs, since English is used world-wide in the transaction of international businesses. Also, not least due to the common language, Ireland and the US share a similar culture, which may make Ireland a more familiar environment for US investors than other continental European countries. As Casson (1995, Chapter 5) shows, a

[22] In this sense it does not accord with our definition of a peripheral country. The assumption that there is reasonable domestic demand in Spain is also supported by a look at the export ratios of US firms in Spain; US Department of Commerce data show that they exported around one-third of their output in 1994.

[23] There have been numerous empirical studies analysing the determinants of foreign investment in host countries. Labour costs and market size have been found to be important determinants of the location of US FDI (Aristotelous and Fountas, 1996; Barrell and Pain, 1996; Wheeler and Mody, 1992). Aristotelous and Fountas (1996) and Pain (1997) find econometric evidence that the introduction of the European Single Market had positive effects on US FDI into the EU and on UK outward FDI respectively.

firm considering locating abroad may favour the most familiar type of market as it avoids major set-up costs associated with unfamiliar locations, such as costs of uncertainty and costs of investigation an unfamiliar environment. Of course, the advantage of being English speaking and sharing a common culture is not confined to the production of weightless goods and can, therefore, not explain Ireland's apparent particular attractiveness for US MNCs in the electronics industry. To explain this we focus on two other aspects, namely, the impact of Irish industrial policy and the emergence of industrial agglomerations in the electronics sector in Ireland.

Irish industrial policy towards foreign direct investment has evolved since the 1950s as a policy of actively promoting investment by multinational companies in the Irish manufacturing sector.[24] This policy has been based on the use of both fiscal and financial investment incentives. Prior to 1982, Ireland offered a full tax holiday on profits arising from all new export sales made by foreign manufacturing companies. Since then, manufacturing firms have been entitled to an automatic preferential corporate tax rate of 10 per cent on all manufacturing profits, irrespective of whether they arise from exports or domestic sales. This corporate tax rate continues until 2010, after which a rate of 12.5 per cent will apply. Along with the fiscal incentives, that are available to all firms automatically, there are also discretionary investment grants available for all manufacturing firms. These grants are implemented at the discretion of the Industrial Development Authority (IDA Ireland) at project level on an increasingly pro-active and selective basis.

[24] See Ruane and Görg (1999) and Foley and McAleese (1991) for reviews of Irish industrial policy.

In the mid-1970s IDA Ireland identified the electronics and pharmaceuticals sectors as providing the most promising opportunities for MNC investment for Ireland. They were the precise sectors, *viz.* weightless goods, for which peripheral countries would, from a locational viewpoint, enjoy a comparative advantage. Furthermore, these were the sectors in which rapid growth was anticipated in the 1970s. The US was identified as the most likely source for such investment, given the significance of US companies in these high-tech sectors. Again, this implied a maximisation of benefits, given the lower transaction costs for US firms locating in Ireland due to the common language and culture.

Specifically identified by policy makers in the 1970s was the creation of industrial agglomerations in electronics and pharmaceuticals.[25] Clusters of firms were encouraged by deliberate selection, which fostered contact, based on horizontal and vertical relationships between new entrants and incumbents in the electronics and pharmaceutical sectors. It has recently been argued by, for example, Barry and Bradley (1997), Krugman (1997) and McAleese (1998) that one of Ireland's current advantages for foreign MNCs is the existence of these agglomeration economies and the presence of some of the major companies in electronics and pharmaceuticals.[26] Krugman and Venables (1995, 1996) show theoretically that firms which are linked through production inputs tend to agglomerate geographically. The existence of input-output linkages and imperfect competition creates positive externalities which benefit the agglomeration of industries in particular regions. These agglomerations can occur both within narrowly-defined industrial sectors or across all industries.

[25] Porter (1998) notes that Ireland, along with several other smaller EU countries (including Portugal but excluding Spain and Greece), has operated an industrial development strategy involving cluster initiatives.

Since many key players in both electronics and pharmaceuticals are present in Ireland, it has become an attractive production base for other firms in the same sector because of the availability of pools of common inputs, such as infrastructure, skilled labour, and intermediate inputs. For example, computer firms located in Ireland include Apple, Compaq, Dell, Gateway, Hewlett Packard, Xerox, and IBM, while the semi-conductor manufacturers Intel and NEC as well as software companies such as Microsoft, Lotus and Oracle also have production facilities in Ireland. Also, there may be a demonstration effect emanating from these large firms which signals to other firms that Ireland has advantages as a location. As a decision to invest abroad involves some degree of uncertainty, firms can gain from observing the investment decisions of other firms. Particularly if the key players have located abroad successfully, their decision signals to other firms that the chosen location is favourable and, thus, triggers the location of these "followers" in the same location (Krugman, 1997).

It seems reasonable to ask why electronics and pharmaceuticals have formed agglomerations in Ireland and not other manufacturing sectors. First, as noted above, Irish policy has played a major role to play in creating the agglomerations in these two sectors. Second, and not unconnected to the first reason, is the issue of weightlessness as discussed above. The high transportation costs in other manufacturing sectors act as an impediment to their successful agglomeration in the periphery and firms in sectors with high transport costs may find it more profitable to locate in a core country. Consequently, they were not the target of policy makers' strategies. Thirdly, there is of course an element of chance: Ireland

[26] Wheeler and Mody (1992) show in an econometric study of US FDI that agglomerations in host countries have positive impacts on US investment, *ceteris paribus*.

appeared to be an attractive location for electronics and pharmaceuticals in the 1980s and was able to attract some of the key players, which allowed it to capitalise on their presence. One could imagine an alternative scenario in which a key player decided to locate in another EU country and in which Ireland would never have been able to develop its agglomerations and demonstration effects. As Krugman (1997) puts it succinctly: "Fortunately, Ireland got off on the right foot" (p. 51).

6. Conclusions

This paper suggests that the process of economic integration can generate positive effects for peripheral economies by increasing their attractiveness as a production base for MNCs. Such investment is likely in the case of goods for which transportation costs are relatively low. We have shown that the example of US investment in Irish manufacturing illustrates this process, having increased quite considerably after 1992, in particular in the "weightless" electronics sector. It seems reasonable to conjecture that the recent growth in US FDI in internationally-traded services (including all areas of banking, finance, marketing and software) in Ireland is further illustration of the potential for peripheral countries in terms of producing service products which are even more “weightless” than electronics. In this context, the expected relative growth in global trade of services relative to manufacturing over the next decade augurs well for the Irish economy in terms of the supply of FDI projects.

Our analysis shows also, however, that the other peripheral countries in the EU, namely Greece, Portugal and Spain have not been able to reap the same benefits from the process of integration, i.e., did not attract significantly more US investment. This suggests that economic integration may be a necessary, but certainly not a sufficient, condition for a

peripheral country to attract the location of MNCs. The extent of the impact also depends on other variables, and we discussed the possible positive influences of the shared language and culture, Irish industrial policy and agglomerations on the location of US firms in Ireland. Thus, in looking at Ireland's positive experience, account must be taken of several factors: consistently supportive and proactive policies supporting the location of MNCs, its established reputation as an export base for MNCs in Europe well ahead of the Single Market Programme, and the agglomerations of industries that have emerged in certain high-growth niche sectors.

Ireland has been fortunate in that US investment has not been attracted primarily into sectors in which the country had a traditional comparative advantage. Barry and Bradley (1997) argue that Ireland in the 1960s had a revealed comparative disadvantage in the chemicals, metals and engineering sectors, yet these are the sectors in which Ireland attracted substantial US investment (see Figure 2). Neven (1990) finds that in the 1980s Ireland's revealed comparative advantages were in natural resources sectors, including food and wood, and the production of high human capital intensive goods. As shown in Figure 2, US investment is weak in the former but strong in the latter sectors. This indicates that a country's initial comparative advantages may not prove important in attracting FDI into particular sectors.

It appears that the Irish approach, a mixture of economic incentives and marketing, seems to be working at present. This may in part be attributable to the fact that, being project focused, policy is able to take into account the complex nature of the investment process followed by MNCs, and to avail of the favourable conditions that have obtained

currently in the market for US FDI during the 1990s.[27] But this does not necessarily mean that Irish industrial policy is an unqualified "success". In order to arrive at such a conclusion, we would have to take account of the costs associated with attracting foreign investors, in particular the costs of fiscal and financial incentives, and the alternative options which might have been pursued.[28]

[27] The growing scale of US FDI in Ireland could be seen as indicative of a scale of country-specific dependency that is not particularly desirable, despite the quality of the investment projects.

[28] There is also an EU dimension to the costs of attracting FDI, whereby EU member countries compete through offering different investment incentives, outbidding each other to attract the location of foreign firms. This incurs costs to society, which would have to be included in any cost benefit analysis of Irish industrial policy.

Tables

Table 1 Growth of Real GDP and Employment

(annual average rates)

	1970-79	1980-85	1986-88	1989-91	1992-94	1995-97
Real GDP						
Ireland	4.9%	2.7%	3.2%	5.2%	4.5%	8.4%
EU	3.2%	2.3%	3.3%	2.7%	1.1%	2.3%
Employment						
Ireland	-	-1.0%	0.3%	1.3%	1.8%	4.1%
EU	-	-0.2%	1.2%	1.1%	-1.2%	0.4%

Source: Estimations based on various issues of *OECD Economic Outlook*

Table 2 FDI Inflows as Percentage of GDP

(annual average rates)

	1985-91	1992-94	1995-96
Ireland	0.9%	2.2%	2.8%
EU	1.1%	1.1%	1.2%

Source: Estimations based on *UN World Investment Report 1997* and Eurostat data

Note: Data for other years were not available from this source.

Table 3 **Shares of US Investment in Ireland and Germany**
(Ratio of US capital expenditures in country over total US expenditures in the EU, annual average rates)

Ireland	1973-79	1980-85	1986-88	1989-91	1992-95
Total Manufacturing	1.5%	2.6%	2.8%	2.7%	5.7%
Electronic Equipment	1.8%	4.5%	6.5%	5.5%	25.5%
Transportation Equipment	0.1%	0.7%	0.3%	0.3%	0.1%
Germany	1973-79	1980-85	1986-88	1989-91	1992-95
Total Manufacturing	27.7%	28.3%	26.8%	26.6%	28.9%
Electronic Equipment	28.0%	31.1%	36.8%	22.1%	21.9%
Transportation Equipment	43.7%	53.5%	50.0%	43.2%	52.1%

Source: Estimations based on US Department of Commerce data

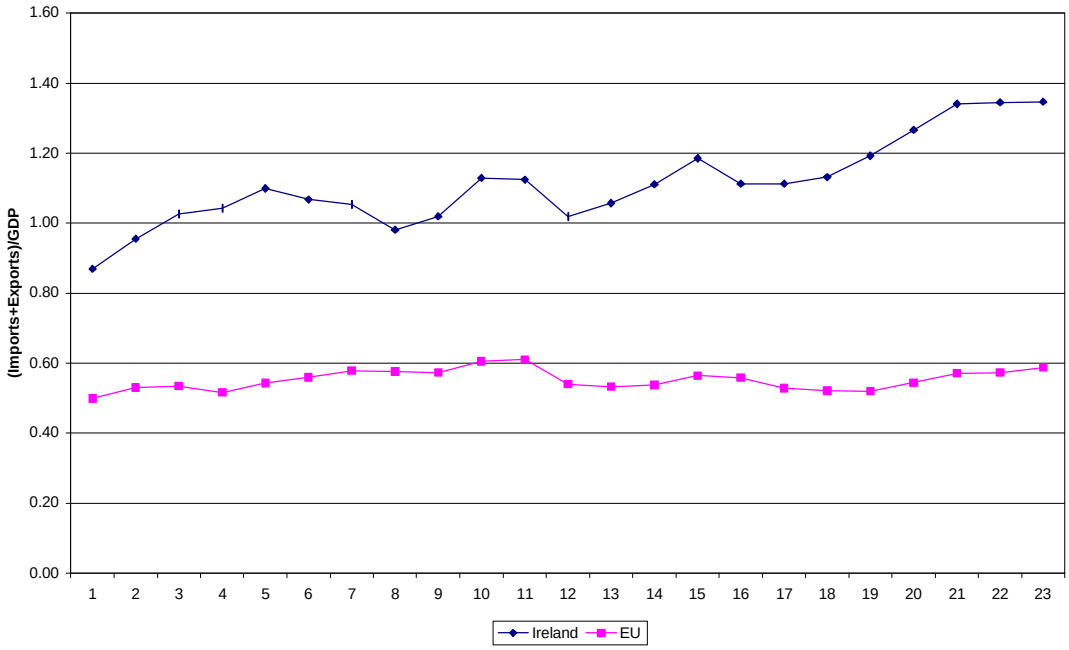
Table 4 **Shares of US Investment in Greece, Portugal and Spain**
(annual average rates)

Greece	1973-79	1980-85	1986-88	1989-91	1992-95
Total Manufacturing	0.4%	0.2%	0.2%	0.2%	0.2%
Electronic Equipment	0.2%	0.1%	0.0%	0.1%	0.0%
Transportation Equipment	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	1973-79	1980-85	1986-88	1989-91	1992-95
Total Manufacturing	0.2%	0.4%	0.5%	0.5%	0.5%
Electronic Equipment	0.3%	1.1%	--	1.3%	0.9%
Transportation Equipment	0.1%	0.4%	--	0.4%	0.5%
Spain	1973-79	1980-85	1986-88	1989-91	1992-95
Total Manufacturing	4.0%	6.2%	4.9%	5.9%	6.6%
Electronic Equipment	6.7%	6.2%	9.7%	7.0%	5.0%
Transportation Equipment	11.6%	5.4%	8.6%	8.5%	13.0%

Source: Estimations based on US Department of Commerce data

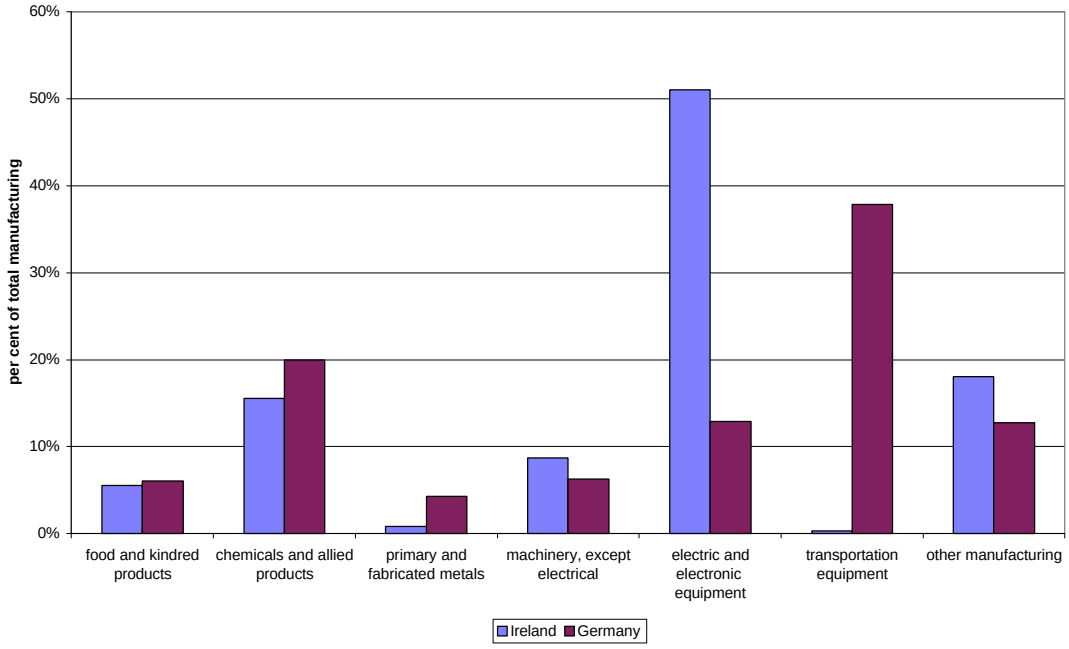
Figures

Figure 1: Degree of Openness in Trade, 1975 - 1997



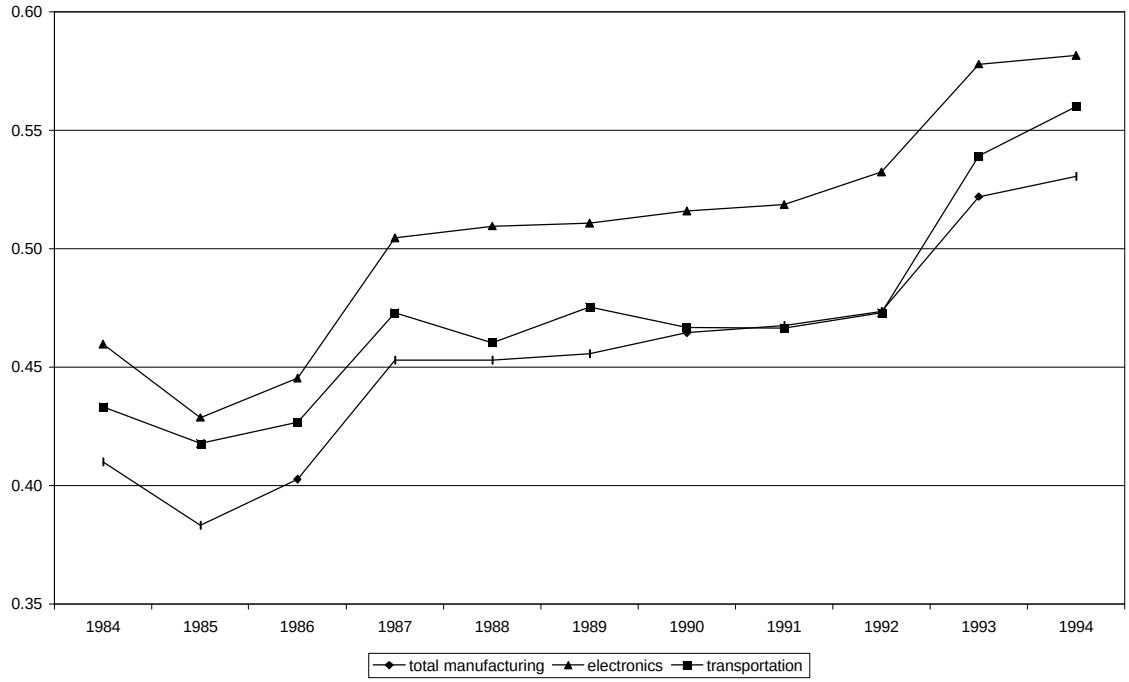
Source: Estimations based on Eurostat data

Figure 2: Sectoral Distribution of US Capital Expenditures, 1995



Source: Estimations based on US Department of Commerce data

Figure 3: Relationship of Irish to German Labour Costs



Note: calculated as $\Delta = (w_G - w_{IRL}) / w_G$

Source: Estimations based on US Department of Labor data

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