Abstract: This paper presents evidence and discusses possible implications for Ireland of the increasing level of Irish outward direct investment in the United States. Data available from the US Department of Commerce show that the relative position of outward FDI to the US to inward direct investment received from the US has increased considerably since the early 1980s, as has employment associated with Irish affiliates based in the US. We find evidence that the development witnessed in Ireland is consistent with its moving from Stage 2 to Stage 3 in the Investment Development Path, a concept due to Dunning (1981) and discussed in this paper. The possible effects of outward FDI on the home country are also discussed, introducing some of the potential issues a home country may face. They range from increased profits for investing firms, to labour market effects, spillovers for the investing firm and suppliers, to effects on the balance of payments. While an increase in profits is unambiguously positive for the home country, the other effects may turn out to be either positive or negative. This brief discussion, while being by no means exhaustive, hopes to stimulate interest in the issues involved and to prompt further research in these areas.

Keywords: Inward and Outward FDI, Consequences of Outward FDI for Ireland, Investment Development Path (IDP).

JEL Classifications: F210, F230, O500, R390.

1. INTRODUCTION

It is well known that the United States is the most important source country for foreign direct investment (FDI) flows into the Irish economy. The importance of FDI from the US and other countries for the Irish economy is well documented in the literature. It is, however, beyond the scope of the present paper to elaborate upon all these studies here. For our purposes, suffice it to say that data from the Census of Industrial Production (Central Statistics Office, 1999) show that in 1998 foreign-owned companies in Ireland accounted for 47 percent of total employment.

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in manufacturing industries, and that 27 percent of total manufacturing employment in Ireland was in US-owned companies.

What has been neglected in the literature thus far is, however, the fact that the investment relationship between the US and Ireland is not only a one-way relationship but that Ireland has increased its outward FDI into the US substantially over the last two decades. Data from the US Department of Commerce, the source of most of the data used in this paper, show that Ireland’s outward investment to the US, relative to its inward investment received from the US, has increased substantially since 1981, the first year for which these data are available. This development is illustrated in Figure 1. The ratio would take a value of one if outward investment were exactly equal to inward investment, and as the figure shows, the ratio of FDI stocks has steadily moved towards one, reaching 0.86 in 1999. FDI flows have been fluctuating more heavily, although a clear increasing trend between 1981 and 1999 is also visible in Figure 1.

Figure 1

Ratio of Outward to Inward Investment (three-year moving average)

From the point of view of the individual firm, profit maximising firms will only choose to move their production facilities abroad if this move increases the net present value of the future income stream (see Globerman, 1994). Net present value,
in turn, can be increased through increases in revenue or reductions in cost. Reductions in costs can be achieved if the firm is able to lower operational costs through access abroad to cheaper inputs such as natural resources, labour, or other material inputs. Additionally, locating abroad can reduce costs associated with the need to overcome barriers to trade, for example, tariffs or high transaction costs.

Opening a production plant abroad can also reduce costs if there are economies of scale or scope of multi-plant production. This would be the case if the firm owns a firm-specific asset (Caves, 1971, 1996), i.e., an asset which is usually intangible and to which other firms do not have access (Markusen, 1995). Examples of such an asset are unique management techniques, or access to a particular knowledge base, patents, know how as a result of R&D. Such assets can be transferred easily, at low or zero costs, between different plants of the firm, and therefore give rise to economies of scale at the level of the firm if the costs can be spread over a larger number of plants. In fact, the industrial organisation literature on foreign direct investment conjectures that a firm will only find it profitable to locate abroad if it possesses some form of firm-specific asset. The rationale for this is that production abroad invariably implies a cost disadvantage for foreign vis-à-vis domestic firms as foreign firms have to familiarise themselves with, for example, different languages, legal systems etc. (see Caves, 1971, Hymer, 1976). The possession of a firm-specific asset allows the firm to overcome these cost disadvantages.

Possible increases in revenues can be due to what is usually referred to as “market seeking investment”, i.e., firms moving abroad to open up new markets or increase the penetration of markets which were previously served by exports. Also, firms may be able to increase their revenues by locating abroad if this move enables them to increase their market power and subsequently increase their price-cost-margin. In these cases, the firm-specific asset of a firm is its ability to differentiate and market a product successfully, which allows it to penetrate a foreign market and increase its price-cost-margin.

The increasing level of Irish outward direct investment in the US represents the topic of this paper, the aim of which is to present some evidence and raise a number of issues as to the possible effects of such outward investment on the home economy. Given the fact that there seems to be very little research on Irish direct investment abroad, the purpose of the paper is to introduce issues and hopefully stimulate further research in this area, rather than provide clear-cut answers to particular problems.

We analyse the development of Irish FDI in the US in the framework of the so-called Investment Development Path (IDP) developed by Dunning (1981, 1986). The IDP is a dynamic concept that attempts to account for the development of a country’s net outward investment position (NOI) defined as gross outward investment minus gross inward investment. In a nutshell, the IDP relates a country’s NOI to its level of economic development measured by the level of gross domestic product (GDP). The basic idea is that with increasing economic development,
conditions for inward and outward investment in the country change and the country evolves from being a net recipient of investment to being a net outward investor.

The rest of the paper is structured as follows. Section 2 sets out the concept of the IDP, while Section 3 presents some aggregate statistics on Irish outward FDI in the US. Section 4 assesses empirical evidence to examine whether the IDP concept has any application to the Irish case. Section 5 comments briefly on the possible implications of increasing outward investment on the home economy, while Section 6 summarises the main arguments set forth in the paper, and concludes.

### 2. THE INVESTMENT DEVELOPMENT PATH

The basic idea of the Investment Development Path (IDP) is that with increasing economic development, conditions for inward and outward investment in a country change. This is reflected in the country’s net outward investment (NOI) position, i.e., the difference between inward and outward investment, which is hypothesised to evolve from being highly negative in the early stages of development to becoming positive and eventually fluctuating around zero once the country is fully developed and industrialised. The IDP distinguishes five different stages of development which are outlined briefly (for further discussion, see Dunning and Narula, 1996).

In **Stage 1** the country is at a very early stage of development. Domestic markets are not large enough to attract inward investment of firms which would be prepared to service the domestic market. Also, due to underdevelopment and poorly educated labour force, there is no inward investment to exploit lower production costs. However, there might be inward investment due to the country’s possession of natural resources. Due to the low level of development, home country firms will not be in a position to invest abroad. There will therefore be little or no outward investment. The country’s net outward investment position will accordingly be around zero or negative.

As the country develops further and GDP grows the economy moves into **Stage 2**. The country becomes more attractive to inward investment due to the increasing attractiveness of the domestic market which has increased in size and/or purchasing power, and due to the availability of low labour costs. Still, there will be only little outward investment by domestic firms as their firm-specific assets or ownership advantages are lacking since firms are not internationally competitive. The country’s NOI position will become increasingly negative in Stage 2, i.e., the country becomes a net receiver of inward investment.

**Stage 3** is marked by a slowdown of the growth in inward investment. Due to the country’s further economic development its cost competitiveness erodes slowly relative to other less developed countries. Outward investment, on the other hand, will increase during this stage as domestic firms become more internationally competitive and develop their firm-specific assets which allow them to compete.
abroad successfully. The country’s NOI position in this stage is increasing, although the country will still be a net investment receiver.

The move into Stage 4 is achieved when the country’s NOI position becomes positive, implying that the country becomes a net outward investor. At this stage, inward investment occurs not in order to take advantage of lower labour or other production costs but it will be strategic investment with the aim of rationalising international production or sourcing technologies. Outward investment will grow faster than inward investment as domestic firms aim at maintaining or expanding their international competitiveness by locating production facilities in other countries.

Finally, a country will reach a Stage 5 at which stage the country’s NOI position fluctuates around zero. In other words, the country’s inward and outward FDI positions will be nearly equal, possibly at a very high level. This stage is reached by leading developed countries, whose level of inward investment is around as high as their outward investment.

Dunning and Narula (1996) argue that the shape of the IDP and a country’s position on it can vary widely across individual countries. This is because the shape of the IDP depends on countries’ economic characteristics, particularly market size and cost competitiveness. As we show below, Ireland appears to be somewhere between Stage 2 and Stage 3 where the country still is a net receiver of inward investment but outward investment is growing.6

3. IRISH OUTWARD INVESTMENT IN THE US

Before discussing whether the IDP concept is applicable to the analysis of Irish FDI in the US, this section presents some aggregate statistics to chart the development of Irish FDI in the US over the period 1980 to 1999. The data were obtained from the US Department of Commerce’s Bureau of Economic Analysis which collects detailed data on inward and outward investment in the US and makes them available in the publication Survey of Current Business and on the Bureau’s website.7 Unfortunately, given the small size of Irish investment relative to investment in the US overall (Irish FDI stocks accounted for 1.8 percent of total FDI stocks in the US in 1999), there are only limited detailed data available due to confidentiality problems resulting from small numbers of investments involved. However, the available data allow a first insight into the magnitude of Irish investment in the US.8

The data in Table 1 illustrate the development of real Irish outward FDI stocks in the US in comparison with real inward FDI stocks from the US. In real terms, Irish FDI stocks in the US increased from $174 million in 1980 to $17,222 million in 1999. This compares with an increase in US investment stocks in Ireland from $3,957 million to $18,998 over the same period. This increase in Irish outward FDI suggests that Irish companies have been able to become more internationally competitive which has allowed them to penetrate the US market to a greater extent.
One may infer that this increase in investment has only been possible because Irish firms have been able to develop and make better use of their firm-specific assets, as defined above, enabling them to invest and operate abroad successfully.

The employment associated with the Irish affiliates based in the US also increased considerably since the early 1980s. Unfortunately, employment data are only available from the US Department of Commerce for non-bank firms (see Zeile, 2000), but they may nevertheless give a flavour of the change in Irish employment in the US over time.

Table 1: Outward and Inward FDI Stocks  
(in million $ at 1996 prices)

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</thead>
<tbody>
<tr>
<td>Irish FDI in US</td>
<td>174</td>
<td>318</td>
<td>476</td>
<td>1702</td>
<td>2413</td>
<td>4840</td>
<td>12842</td>
<td>17222</td>
</tr>
<tr>
<td>US FDI in Ireland</td>
<td>3957</td>
<td>5332</td>
<td>5700</td>
<td>5608</td>
<td>8305</td>
<td>8150</td>
<td>15472</td>
<td>18998</td>
</tr>
</tbody>
</table>

Note: Both data series were deflated using the US GDP deflator available at http://w3.access.gpo.gov/usbudget/fy2001/hist.html#h10.

Source: own calculations based on US Department of Commerce data

Figure 2

Employment associated with Irish Outward and Inward Investment

Source: Own calculations based on US Department of Commerce data
As Figure 2 shows, employment in Irish-owned firms in the US increased fairly steadily from some 8,900 in 1980 to approximately 39,400 in 1997 and then surged to 64,800 in 1998. This can be contrasted with employment in US-owned affiliates in Ireland where employment stood at 38,400 in 1982 (data for 1980 and 1981 were not available) and increased to 65,500 and 70,400 in 1997 and 1998 respectively. Note that the increase in Irish employment in the US does not necessarily imply that the jobs in Irish firms in the US were exported from Ireland, i.e., that jobs were shifted from Ireland to the US resulting in job losses in Ireland. Whether or not outward investment has negative or positive effects on home country employment depends on a number of factors which are discussed in greater detail below.

Since 1987, the US Department of Commerce provides data on the sources of finance of outward FDI in the US and its corresponding sectoral distribution. Turning to the sources of finance first, data on annual FDI flows are broadly described as being either equity capital flows, reinvested earnings or intercompany debt flows. The development of these three components is depicted in Figure 3.

Figure 3:

Irish Outward Investment by Means of Financing

Note: Data for 1989 and 1997 were not disclosed

Source: Own calculations based on US Department of Commerce data

In 1987, reinvested earnings accounted for almost 70 percent of FDI flows, whereas in 1999, its importance had been reduced to just less than 10 percent. The main
source of finance in the early to mid-1990s has been intercompany debt flows, while in 1999, more than 60 percent of FDI flows were financed through equity capital.

On the one hand, the increasing use of intercompany debt and equity capital flows in the 1990s may be simply due to the liberalisation and the eventual removal of exchange controls in 1993. On the other hand, the use of reinvested earnings in the 1980s may indicate financial independence on the part of the foreign affiliates, since affiliates use their self-generated profits to finance operations. In this case the increasing use of intercompany debt and equity capital transfers possibly suggests that new investments have been undertaken which are not yet financially independent but which rely heavily on transfers from the parent company.11

**Figure 4:**

*Share of Investment in Manufacturing (three-year moving average)*

In terms of the sectoral destination of Irish investment in the US, the data only allow us to examine in any detail the development of the investment share devoted to manufacturing industries. In principle, the US Department of Commerce since 1987, has been providing data which distinguish between four broad sectoral classifications. These are manufacturing (including food, chemicals, metals, machinery, electronics, transportation equipment, and other manufacturing), petroleum, services (including wholesale trade, banking, other financial services, and other services), and other industries. However, sectoral totals for these four
broad classifications, apart from total manufacturing, were mostly not disclosed for Ireland due to confidentiality reasons.

Turning therefore to manufacturing, the data, as illustrated in Figure 4, show that the share of Irish FDI stocks in manufacturing has fluctuated between 20 and 40 percent of total investment stocks and seems to have settled at around 30 percent in the mid to late 1990s. FDI flows have again fluctuated quite heavily over the period. At their peak, Irish FDI flows in manufacturing accounted for 160 percent of total FDI flows from Ireland, which indicates that there were large negative FDI outflows from other sectors in that year. In the mid- to late-1990s, FDI outflows in manufacturing represented around 20 to 30 percent of total Irish outflows to the US. This observation, of course, indicates the importance of other sectors for Irish outward FDI, most notably the services sectors. While we cannot derive a consistent series of FDI stocks or flows in services due to the unavailability of data, we can calculate the share of Irish FDI stocks in total services in the US for 1996 and 1998, which was 61 and 53 percent respectively. Under the assumption that these figures are representative of the sectoral distribution of Irish FDI in the US, this illustrates the importance of Irish FDI in the services sector.

4. APPLYING THE IDP TO IRISH FDI IN THE US

The Irish economy has of course grown rapidly over the time period analysed in the previous section and in particular over the last decade. Figures available from the Central Statistics Office (2000), for example, show that Irish GNP at constant prices has increased by an average of 6.1 percent per year between 1990 and 1999. This growth performance has been analysed and commented upon in a number of recent books and journal articles (for example, Sweeney, 1998, Barry 1999, Görg and Ruane, 2000a, MacSharry and White 2000, McAleese, 2000). According to the IDP concept, economic growth should change a country’s inward and outward investment positions. This is what we set out to examine for the Irish economy, in this section.

While the IDP concept relates to a country’s total net outward investment position (NOI) it may, nevertheless, be of interest to apply the concept to the bilateral relationship between Ireland and the US. This is because the US is both the most important source country for FDI in Ireland as well as being a highly developed country. Thus, an increase in the NOI with the US may suggest in particular that Irish firms have been able to increase their international competitiveness which allows them to compete successfully on the US market. It may, therefore, be worthwhile to examine how Ireland’s NOI position with the US has developed over its period of economic development since the 1980s.

Figure 5 plots the development of the NOI (defined as outward FDI stocks in the US minus inward FDI stocks from the US) over the period 1980 to 1999. Firstly it is important to point out that even though the NOI has changed, it has always remained negative, i.e., inward FDI stocks from the US have constantly been higher than Irish
outward investment in the US. Secondly, the development over that period, which was marked by rapid development of the Irish economy, appears to somewhat resemble a U-shape, i.e., the NOI was falling until the late 1980s but has increased since then. This behaviour is consistent with Stages 2 and 3 of the IDP as described above. In Stage 2, inward investment increases without much outward investment, while a Stage 3 economy additionally starts to invest abroad while still being a net recipient of inward investment.13

To analyse the relationship between the NOI position and economic development more formally, Dunning (1981) suggests regressing NOI on GDP, utilising a quadratic specification to allow for the non-linearity in the relationship. Dunning (1981) and more recently, Dunning and Narula (1996) estimate this relationship for a cross-section of different developed and developing countries finding statistical support for the use of such quadratic specifications.

Figure 5: Development of Irish Net Outward Investment Position

There has also been a recent analysis of the relationship between NOI and GDP pertaining to the Portuguese economy by Buckley and Castro (1998). They use time series data for 1943 to 1996 and also find evidence for a non-linear relationship
between the two variables. The authors argue that Portugal entered Stage 2 of the IDP in the early 1980s and has made the transition to Stage 3 in the mid-1990s. Following these studies, we analyse the IDP relationship for Irish FDI in the US by estimating the following model:

\[
NOI = \beta_0 + \beta_1 GDP + \beta_2 GDP^2 + \varepsilon_t
\]  
(1)

Where \( NOI \) is the Irish net outward position with the US, \( GDP \) is real gross domestic product in Ireland and \( \varepsilon \) represents a regression error term. The results of this estimation using data for the period 1980 to 1999 are reported in Table 2. Note that the reported estimation corrects for heteroskedasticity, which was detected in the initial regression, using the White (1980) estimator of variance. The Durbin-Watson statistic (\( dw(3,19)=1.98 \)) indicates that first-order autocorrelation does not appear to be a problem.

### Table 2: Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1)</th>
<th>(2)</th>
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<tbody>
<tr>
<td>GDP</td>
<td>-0.118 (0.033)***</td>
<td>--</td>
</tr>
<tr>
<td>GDP(^2)</td>
<td>1.5e-06 (0.3e-06)***</td>
<td>--</td>
</tr>
<tr>
<td>GDP(^3)</td>
<td>--</td>
<td>-1.1e-12 (4.4e-12)</td>
</tr>
<tr>
<td>GDP(^5)</td>
<td>--</td>
<td>4.6e-21 (5.4e-22)</td>
</tr>
<tr>
<td>Constant</td>
<td>-2757.795 (669.908)***</td>
<td>-4853.852 (350.643)***</td>
</tr>
<tr>
<td>Number of obs.</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>R(^2)</td>
<td>0.66</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Note: Heteroskedasticity consistent standard error in parentheses; Statistically significant at *** 1 percent ** 5 percent * 10 percent level

The negative sign of the coefficient on \( GDP \) and the positive sign on the \( GDP^2 \) coefficient (which are both statistically significant at the one percent level), provide evidence that there is a U-shape relationship between Irish economic development as proxied by the level of GDP and its net outward position with the US. This provides evidence that Ireland follows a development as predicted by the IDP concept: first, the NOI position decreases though with further development increases again. This pattern is consistent with a move from Stage 2 to Stage 3 of the IDP.

Buckley and Castro (1998) found that for the Portuguese economy, a variant of equation (1) yielded a better fit for the regression. Based partially on the observation that a quadratic function did not seem to fit the characteristics of the Portuguese development of the relationship between NOI and GDP, they estimated an equation

\[
NOI = \alpha_0 + \alpha_1 GDP^3 + \alpha_2 GDP^5 + \varepsilon_t
\]  
(2)

In line with Buckley and Castro (1999) we also estimated equation (2) but the results show that this equation does not yield as good a result as the estimation of equation
(1) in terms of significance levels and goodness of fit. While the coefficients still have the expected signs they are statistically insignificant. Also the overall explanatory power of the model, as measured by the R-squared, is far lower for equation (2) than for the estimation of equation (1). This may not be too surprising since the data plotted in Figure 5 suggest a straightforward quadratic (U-shaped) relationship between NOI and GDP for the Irish case.

5. IMPLICATIONS OF OUTWARD INVESTMENT

Given the increasing significance of outward investment for the Irish economy it seems relevant to discuss what the possible effects of outward investment on the home country are. Profit maximising firms will only invest abroad if it is profitable for them to do so. Hence there is a positive effect for the firm’s shareholders based in the home country who receive higher dividends on their shares. Of course, there are also other effects in both negative and positive directions. The former are usually associated with the outflow of capital and labour from the economy, while the latter arise mainly through increases in profits of the investing company or externalities for the company or the economy as a whole.

We discuss these possible effects briefly in this section, although it must be made clear at the outset that the following discussion is meant to raise issues which may be fruitfully addressed in future research, rather than to provide conclusive answers. Not only would a detailed empirical analysis of these issues be beyond the limits of the present paper, but it would also necessitate the availability of detailed data on Irish firms investing abroad. Such data do not appear to be readily available in published form at present.

A criticism frequently voiced when discussing outward investment, is that it reduces home country production and therefore employment in the parent company as investing firms shift production and employment to the host country (see Blomström, 1997). Implicit in the arguments of many critics, appears to be the assumption of a given level of production before and after the outward investment occurs. To discuss this issue more meaningfully, however, one needs to examine various facets of shifting production and employment.

Firstly, assuming that the total level of production is indeed fixed, a shift of production facilities abroad may in most cases signify a fall in employment in the home country, all other things being equal (although employment in the home country may increase if the expansion of activities abroad leads to a need to employ more supervisory or auxiliary employment at home). This behaviour is presumably most likely if firms invest abroad to avail of lower production costs or if firms locate in markets which were previously served through exports. Secondly, outward investment can lead to an overall increase in production for the multinational firm if locating abroad enables a firm to open up new markets or if locating in the host country allows the firm a better penetration of already existing markets. In this case, it is not clear what effects this will have on the firm’s demand for labour in the home.
country. It could possibly stay constant, if the only additional output is produced abroad. Alternatively, the demand for labour could increase if only part of the additional output is produced abroad or decline if more than just the additional output is produced in the host country.

Blomström et al. (1997) investigate the effects of outward FDI on home country employment for the US and Sweden. These two countries have detailed data available on the activities of their multinationals abroad permitting such an analysis. For the US, the authors find that increases in outward FDI (measured as the level of foreign production) lead to a reduction in employment in the parent company. This result is consistent with the notion that firms investing abroad shift primarily labour-intensive production abroad. The home country effects for Sweden, by contrast, are positive; parent companies tend to increase employment at home when investing more abroad.

This contrasting evidence from two case studies, points to the need for a detailed empirical analysis before engaging in a debate on the likely effects of Irish outward investment on the level of employment in the Irish economy. In the case of Irish investment in the US, it seems unlikely that Irish firms do not expand total production when locating abroad. From the IDP concept, recall that these Irish firms are likely to be firms which have developed their firm-specific assets, have become more internationally competitive and are set to exploit these advantages by expanding into international markets. But even if this is the case, the effects on home country employment are not clear. To analyse these, one would need detailed data on firms’ production and employment levels at home and abroad, the latter of which are unfortunately not available at present.

Shifts of production abroad can also impact on the skill mix of employment in the host country, irrespective of whether the total number of employees in the parent company is constant or changed. On the one hand for example, if a firm shifts production to a developing country with low labour costs, it is most likely that low-skilled production is moved, whereas the high-skill components of production (R&D, management) frequently remain with the parent company (see for example Rodríguez-Clare, 1996). In this case, labour demand for low-skilled workers decreases, while demand for high-skilled employees remains constant or may even increase (if, for example, the administration of a foreign affiliate creates new management positions in the parent company).

On the other hand, it has been argued in the literature (for example, Kogut and Chang, 1991 and Neven and Siotis, 1993) that many companies locate abroad in order to source new technologies, i.e., learn new techniques by locating affiliates in advanced countries. If such “technology sourcing” occurs, it may arguably be the case that the relative demand for high-skilled workers declines in the home country, as R&D facilities are shifted abroad to benefit from the advanced technologies available in the host country. In this regard, Blomström and Kokko (2000) have
recently argued that Swedish outward investment has led to a shift of high-skilled production away from Sweden to the affiliates abroad.

The discussion of technology sourcing leads to the more general issue of positive externalities from outward FDI which may benefit the home country firm and the home economy as a whole. For example, technology sourcing as discussed above provides one possible source for positive externalities. As the foreign affiliate acquires new knowledge (be it in terms of technological know-how, management techniques, or knowledge of consumer tastes, etc.) this can be transferred back to the parent company and positively affect home country production. Also, to the extent that FDI abroad leads to increased sales through, say, opening up new markets, the increases in sales revenue may stimulate more R&D being undertaken, if the ratio of R&D spent to sales is constant (Globerman, 1994). In a recent paper investigating this issue for the Swedish economy, Globerman et al. (2000) find evidence which suggests that outward direct investment by Swedish firms seems to have accelerated the flow of new technology into Sweden.

Given that Ireland’s outward investment in the US may likely be of the “technology sourcing” kind, rather than being concerned with locating production there to exploit lower labour costs, it should be worthwhile investigating the effects of locating production in the US on skill levels in the Irish parent companies.14

Positive externalities may not only accrue to the parent companies but also to supplier firms in the home country (Blomström and Kokko, 1998). If the affiliate abroad, and/or the parent company, improve their production processes in the wake of new knowledge from abroad home country suppliers may also benefit from this knowledge through their relationship with the parent or affiliate. An example of this would be the parent company setting higher quality standards for suppliers, and possibly instructing the suppliers as to how to fulfil these higher standards.

Furthermore, outward FDI will impact on the host country’s balance of payments, although the nature of this effect is not clear-cut. On the one hand, a net outflow of capital will impact negatively, as would an increase in imports if the parent company buys intermediate or final goods from the affiliate abroad. On the other hand, profits being repatriated from the affiliate to the parent would improve the home country’s balance of payments. So would increased exports from the home country to the affiliate, which can be mainly thought of as intermediate inputs being supplied from the parent or other home country firms to the affiliate abroad.15 Unfortunately, a detailed empirical study of the effects of outward FDI on the Irish economy is not possible at present due to the lack of appropriate data.
6. SUMMARY AND CONCLUSIONS

This paper presents evidence and discusses possible implications for Ireland of the increasing level of Irish outward direct investment in the United States. The relative position of outward FDI to the US to inward direct investment received from the US has increased considerably since the early 1980s, as has employment associated with Irish affiliates based in the US. We find evidence that the development witnessed in Ireland is consistent with its moving from Stage 2 to Stage 3 in the Investment Development Path, a concept due to Dunning (1981) and discussed in this paper. The short discussion of the possible implications of outward FDI introduces some of the potential issues a home country may face. This discussion, while being by no means exhaustive, hopes to stimulate interest in the issues involved and to induce further research into these areas as Ireland seems to be set on moving up the Investment Development Path.

The empirical analysis in the paper is severely limited by the unavailability of more detailed data on Irish investment abroad. While comprehensive data on the activities of foreign multinationals locating in Ireland are available from the Central Statistics Office and other government agencies, no comparable data appear to be published on the activities of Irish multinational firms abroad. Given the increasing importance of Ireland not only as a host to foreign companies but also as a home for Irish-owned multinational companies operating abroad, it appears to be worthwhile to consider the options for collecting detailed data on outward investment. Such data would be needed to allow detailed analyses of Irish FDI abroad and its effects on the Irish economy.
Endnotes

1. See, for example, Barry et al. (1999) and Görg and Ruane (2000a) for recent discussions.

2. The US Department of Commerce defines foreign direct investment as capital transfers between the parent company and affiliates abroad, where the parent owns at least ten percent of the foreign affiliate (see Mataloni, 1995).


4. In contrast, there has been quite a substantial amount of recent research into the determinants of inward FDI (Hannigan, 1998) and the effects of multinationals on the Irish economy; (see, for example, Görg and Ruane (2000b) for an analysis of linkages between multinationals and domestic suppliers, Görg and Strobl (2000, 2002a, 2002b) for papers on the effect of multinationals on the development and survival of indigenous firms, and Figini and Görg (1999) for an analysis of the effect of multinationals on the relative demand for skilled labour in Ireland). Also, Honohan and Lane (2000) examine Irish portfolio (not direct) investment abroad, while Lane (2000) looks at the international diversification of risk of the Irish economy.

5. These firm-specific assets or ownership advantages are necessary for a firm to become a multinational (Caves, 1996; Dunning, 1988).

6. It is noteworthy, though, that the increased market size which attracted inward investment in Stage 2 is likely to be the EU market rather than the Irish market, which has opened up after Ireland’s accession to the EU as well as the implementation of the EU Single Market. As export figures for foreign firms located in Ireland suggest, they appear to serve mainly the EU market while the domestic market does not seem to be important for sales (Barry et al., 1999).


8. It is noteworthy that no published Irish statistics are currently available which provide detailed data on Irish outward (or inward) FDI stocks or flows which are comparable to the US data.

9. In reply to a query as to what might explain this surge in employment William Zeile, who works on statistics on inward investment in the US in the Bureau of Economic Analysis, indicated that this can be attributed to acquisitions of existing US companies by Irish multinationals. He was, however, not in a position to provide further details as they are legally prohibited from disclosing information on individual companies.

10. Data on employment in US multinationals abroad have only been collected on an annual basis since 1982.

11. Note that the picture for 1991 differs from the pattern in all other years between 1990 and 1999, with large negative outflows (i.e., net inflows) of reinvested earnings.

12. In contrast, US FDI in Ireland has been mainly into the manufacturing sector, although its importance has been declining. In 1980, 73 percent of US FDI stocks in Ireland were in manufacturing industries, while this share declined to 45 percent in 1999.

48
13. Strictly speaking, a feature of Stage 3 is also a slowdown of the growth of inward investment, as discussed above. However, the data in Table 1 do not suggest such a slowdown in US FDI in Ireland.

14. Of course, Ireland at the moment benefits from increased skill levels due to inward FDI. This would have to be taken into account in any analysis of the effects of outward FDI on skill levels.

15. The effects of outward investment on home country exports have been discussed for the case of Sweden by Svensson (1996). He finds that an increase in exports by Swedish affiliates abroad has been at the expense of exports from the parent firms.
References


50


DISCUSSION

Mr. John Travers: I am delighted to have the opportunity to propose the vote of thanks to Holger Görg for a well-researched and well-prepared paper that is interesting and insightful in its own right and highly relevant to industrial policy in Ireland. I congratulate Holger.

Perhaps a good test of any research paper is the degree to which it identifies and describes new trends in any area of economic activity and opens up new lines of inquiry. I think that this paper does this admirably in the case of FDI in Ireland – both on the inward and outward flow sides. It also raises significant issues for industrial policy.

Holger places his analysis nicely within the framework of the five-stage investment path (IDP) model of Dunning which pivots around the concept of net outward investment (NOI). This approach is based on the balance between forward and outward investment flows as a country moves from the stage of underdevelopment to development.

Halfway along these stages, at Stage 3, the model suggests that the competitiveness of a country for inward FDI erodes slowly relative to other less developed countries. At the same time, outward investment increases as domestic firms become more internationally competitive and seek to increase returns to shareholders by undertaking investments which helps to grow their business abroad.

The data identified by Holger suggest that Ireland is moving into this stage. For example:

- The stock of Irish FDI in the U.S. has increased by a factor of almost 60 between 1988 and 1997 from a very low base. The stock of U.S. FDI in Ireland has increased by a factor of only 3, from a relatively high base, over the same period. In fact, the absolute increase in Irish FDI stocks in the U.S. was greater than the increase of U.S. FDI stocks in Ireland over that period if the data is correct. Allowing for some question marks about the U.S. Department of Commerce data from which these trends are derived in Holger’s paper, the direction and pace of relative change is clear and remarkable.

- The employment levels associated with these changes of stock on FDI are also interesting. An increase from around 9,000 to 65,000 between 1980 and 1998 in the case of Irish FDI in U.S. and an increase from 34,000 to 70,000 between 1982 and 1988 in the case of U.S. FDI in Ireland. Again the data presented indicate that the increase in the level of employment in the U.S. associated with Irish FDI in that country is higher than that associated with U.S. FDI in Ireland over the last 20 years. This conclusion from the data is counterintuitive for many of us.
Holger’s paper goes on to list and discuss briefly some of the possible implications of outward FDI for a home economy. In general, in terms of employment, production levels, market access/penetration, technology acquisition, suppliers, behavioural patterns within a firm, a country’s balance of payments and so on. He rightly draws the conclusion that the impact of outward FDI on these factors are firm-specific and country specific. Also the data availability in Ireland which might be used to gauge the impact of outward FDI is inadequate and a good deal of further analysis and research is required to come to conclusions on these issues.

In summary Holger’s paper indicates:

- Irish FDI in U.S. has been increasing rapidly over the past 20 years.
- Most of this is in the services sector.
- Direct employment levels associated with this investment in the U.S. is significant and increasing at a faster rate than that directly associated with U.S. FDI in Ireland.
- In terms of Dunning’s 5-stage investment development path (IDP) model, Ireland is moving to Stage 3 – consistent with the early stages of becoming a developed economy.
- The impact of Irish FDI in the U.S. on the home economy in Ireland requires further data and research but there is a conceptual leaning towards the conclusion that the net impact is positive.
- The paper identifies or suggests a number of areas for future fruitful research including the impact of Irish FDI on:
  - the technological capacity of firms;
  - the skills level of firms;
  - the profitability of firms;
  - the relationship between firms and their suppliers in the home market.

As I mentioned, apart from the interesting data and analysis presented, Holger’s paper raises an important issue in relation to industrial policy: what should the Government policy stand be in relation to outward FDI from Ireland?

At stages in the past there was some intuitive tendency to consider outward FDI from Ireland as a somewhat negative factor: that it, perhaps, represented a lost opportunity for investment in employment creating projects in Ireland in a situation where the supply of labour greatly exceeded demand. Even in the U.S., the major source of foreign FDI in the world, this type of view is not infrequently expressed at the present time. In Ireland the discussion and perceptions has moved beyond these, somewhat, iconoclastic views. As Holger’s paper indicates outward FDI has been increasing significantly. This trend is driven by the practical needs of business firms seeking new opportunities for expansion and development and of investors seeking a spread of investment opportunities from a risk-management and return optimisation point of view.
We have undertaken some work in Forfás on these developments for industrial policy purposes in conjunction with the Department of Enterprise and Employment and Enterprise Ireland. The work has been undertaken by Seamus Bannon, Andrew McDowell, Patrick Gaule and Caroline Shally who has recently completed a master’s thesis at National University of Ireland, Galway on Ireland’s outward foreign direct investment. It builds on good work that Colm Treanor in the department has previously undertaken. The objective of the work has been four-fold:

1. To establish broad directions of what is happening in outward FDI in Ireland;
2. To undertake a number of case-studies of firms in the manufacturing and services sectors that are engaged in outward FDI from Ireland to establish the underlying rationale and experience of these firms as an input into the formulation of policy;
3. To review the policy approach to outward FDI in some other countries;
4. To formulate a general policy approach to outward FDI.

The first stage of this work was completed earlier this year. I will only provide a short overview of its conclusions. Briefly, these are as follows:

As regards the broad direction of what has been happening the findings are consistent with those of Holger’s paper, i.e. a significant and accelerating increase in outward FDI in the manufacturing sector to the U.K., other EU countries, the U.S. and other countries over the past decade and more.

The case studies of outward direct FDI experience and practice covered 16 firms in sectors ranging from high-tech industry (software and design) to traditional industry (food, packaging and engineering), to hotels, to banks, to publishing. Four types of companies that engage in outward FDI were identified:

1. Large companies with a dominant domestic market position that use strong resources of expertise and finance developed in the domestic market to develop overseas. These include firms such as the Kerry Group, AIB and Independent Newspapers.
2. Companies with a weak or threatened position in the Irish market that invest overseas in order to achieve lower costs (e.g. firms in the clothing, textiles, craft/giftware sectors are examples) or to reinforce their position as sub-suppliers to multinationals in Ireland by offering global/regional solutions to the supply chains of multinational companies (MNC’s). These investments tend to be acquisitions rather than Greenfield operations.
3. Companies that follow a normal stages-of-development sequential model from exports, to overseas sales office, to full overseas presence.
4. Companies with little or no Irish market presence which invest in the overseas markets they first serve through exports in order to access market
knowledge, investment finance, expertise and networks. These tend to be high-tech companies such as Iona and Elan.

The review of policy practice in relation to outward FDI in other countries found a positive and supportive government policy approach prevails in most other EU countries. The main exception appears to be Italy. Supports mainly tend to be related to information provision, the raising of awareness and supporting exploratory investment missions abroad. In some cases financial supports are available towards investment costs, training and so on associated with an outward FDI project which meets specific criteria of supporting the development of the home economy (e.g. Austria). In some cases also a strategic approach to the sectors and geographical destinations for which support is made available is in place (e.g. Netherlands).

Finally the general policy approach to outward FDI for Ireland that has been formulated encompasses, in summary terms, the following:

- An acknowledgement and positive recognition that outward direct investment (ODI) is a wholly natural and correct evolution of the development of firms and of a national economy such as that of Ireland.
- Actions to ensure that this acknowledgement and recognition is more widely communicated to firms and to the general public.
- Strong reflection of such acknowledgement and recognition in the programmes of the development agencies.
- Direct supports for ODI should be mainly in the form of “soft” supports e.g. information sourcing and provision, advisory services supporting networks. These supports include the establishment of incubator units in selected countries enterprise Ireland has established such as in the U.S.
- The development agencies should adopt a proactive approach in identifying the sectors, firms and destinations for ODI most beneficial to economic development in Ireland.
- The network of some 38 double taxation agreements (DTA’s) should be kept under review to obviate any constraints to outward direct investment (ODI) consistent with these policy guidelines.
- Ireland should participate strongly in advancing the progress of a multilateral investment treaty through the World Trade Organisation (WTO) to provide a consistent, clear and transparent international framework for the treatment of outward direct investment between member states of the WTO.
- Specific actions should be taken to close/fill the data gaps in relation to odi that exist at present.

Finally, can I formally propose a vote of thanks to Dr. Holger Görg for a very fine paper on Irish direct investment in the U.S.
Dr. Frank Barry: Holger is to be congratulated on his exploration of a previously uncharted database yielding information on Irish direct investments in the US. The magnitude of some of the numbers he unearths surprised me, particularly of course his findings that the stock of US FDI in Ireland is not that much greater than the stock of Irish FDI in the US, and that the associated employment numbers are also fairly similar. Accordingly it would be desirable to be able to confirm these from other sources such as company accounts, if it were possible to identify the major companies involved.

I try to do this by supplementing Holger's material with data drawn from another useful source, the Irish Times Archive([http://www.Ireland.com/newspaper/archive/](http://www.Ireland.com/newspaper/archive/)). This exploration, I think, throws up some interesting issues.

Several company names crop up again and again when looking at Irish firms investing overseas; names like Jefferson Smurfit, AIB, Kerry Group and a number of other food companies, CRH, Waterford Wedgwood, Irish Life, Independent Newspapers and a few others. (Not all of these investments are centred on the US of course). In more recent years "new economy" firms like Elan begin to loom larger in the picture, and there is mention of companies like Iona Technologies, Aimware, Baltimore Technologies, Trinity Biotech, CBT Systems and Massana setting up in the US.

It's interesting first of all to look at the scale of foreign investments by the old and new economy sectors, and then to explore the characteristics of the firms making these investments.

The first point to note is that the bulk of Irish direct investment in the US is in traditional sectors. Company names that stand out in this regard include AIB, CRH and Smurfit.

- AIB: Having entered the market in 1988, AIB is now one of the 50 largest bank holding companies in the US, with assets of close to $20 billion and a workforce of 6,500.
- CRH: Following recent acquisitions, CRH's expanded US materials businesses now has sales of some £1 billion per annum, and annual output of 400 million tons of aggregates, 15 million tons of asphalt and 2.7 million cubic yards of ready-mixed concrete.
- Smurfit: The recent merger of Smurfit's US operations with Stone Container makes it one of the five biggest producers in the packaging industry, and these five now control nearly 60 percent of North American capacity.

These old economy firms continue to dominate in terms of current investments, with pharmaceuticals company Elan making inroads into the picture in recent years.
Recent substantial investments in the US for example include:

- £840 million spent by AIB in 1997 on the purchase of Dauphin Deposit Corporation;
- £418 million spent by CRH on US acquisitions in 1996. (CRH also spent more than £100 million on US acquisitions in both 1995 and 1997).
- £82 million spent by Waterford Wedgewood on a US acquisition in 1999

As against this, Elan spent £700 million in 1998 on three US acquisitions.

This sets the context for the £3 million each spent by Datalex and Trinity Biotech on recent US acquisitions. There have of course been other huge "old economy" expenditures on acquisitions in other markets also; e.g. Musgrave's acquisition of 21 outlets in Northern Ireland for £67 million, AIB's expenditure of £44 million on a Polish bank, and Smurfit's expenditure of £17 million on a majority shareholding in two Argentine companies, to name but a few.

These big Irish multinationals do not share many of the characteristics of the US multinationals operating in Ireland. In particular none of them other than Elan are in high-tech R&D-intensive sectors, as defined by OECD (1994). Nor do any of them, again other than Elan, appear to engage strongly in R&D, as measured by patenting activity at least. Elan is the only one of the companies mentioned to feature in Mary O'Sullivan's (2000) list of the top thirteen patenters among Irish indigenous enterprises.

In this regard Irish multinationals differ greatly from most multinational enterprises, in which R&D is generally found to be the most important proprietary (or firm-specific) asset; see e.g. Caves (1996, chapter 1), Davies and Lyons (1996, chapters 7 and 8), Markusen (1998).

We can pursue this point a little further. Consider the average US company operating in Ireland. It will have made a scientific breakthrough, details of which it wishes to retain in-house. It will have come to Ireland generally as a low-cost (and probably primarily low-tax-cost) production location from which to serve the EU market. Had circumstances been different it could have chosen to export into Europe from another location.

This is not the case with most of the "old economy" Irish companies mentioned above. The major ones on which I've focused are actually producing non-traded goods (in the sense of goods that tend not to be traded internationally). Indeed Holger's data source shows that only 28% of the Irish FDI stock in the US in 1997 (evaluated on a historical cost basis) was in Manufacturing, while 57% of the equivalent US position in Ireland was in this sector.
Construction, building materials, paper and packaging and most services sectors including banking need to locate at or close to where the customers are. Undoubtedly these Irish multinationals have valuable proprietary assets but they are in non-traded rather than in internationally tradable sectors. In that sense one may not want to go so far as to argue that they have surmounted the entry barriers that Eoin O'Malley (1987) has long argued constrain the likely success of indigenous firms on the international marketplace.

In other words, while the successes of indigenous multinationals should in no way be disparaged, the success appears to be concentrated in a limited range of sectors, which are not the high-wage high-productivity sectors, and from which spillover benefits from headquarters services in Ireland are probably less likely to arise than in the case of firms whose proprietary assets lie in R&D.

The Dunning hypothesis that Holger goes on to test seems to me to gloss over these sorts of important microeconomic details, and therefore seems to give an overly benign view of how well Ireland is doing in chugging along its "investment development path".

Let me now say something briefly about the recent tendency of Irish "new economy" firms to open up US operations. A sign of this is of course the incubation centre that Enterprise Ireland opened up a few years ago in Silicon Valley to assist Irish high-tech firms establishing a presence in the US.

Why should such firms be drawn to establish bases in the US? According to Cryan (1999) the answer revolves around the need to network. Without a local presence there is little possibility of being featured in the US press, of developing relationships with computer vendors or of attracting the attention of venture capitalists. The importance of a US base is summed up by one venture capitalist who is quoted as saying:

"I will not invest in a company that is any more than a 35-minute drive from my office. I need to keep an eye on my investment and it's very difficult to do that if the company headquarters is 6,000 miles away." (Irish Times, Friday, March 26, 1999)

While this model more closely resembles Holger's discussion of "technology sourcing" than do the "old economy" investments, it also resembles the view I have been propounding earlier, that these products need to be produced close to where the customer is located. And clearly from the preceding quote it is important that much of the R&D be carried out at the US base. In many respects the importance which all analysts remark upon of maintaining a Silicon Valley presence reminds me, unfortunately, of the old-style agglomeration effects that inhibited the development of dynamic industrial sectors outside the European core at the time of the Industrial Revolution! (On this see Ó Grada (1994, chapter 13.6). It remains to be seen, I would
suggest, what the long-term implications are for R&D developments in peripheral regions.

Here I have identified two different types of Irish investments in the US, both of which are of the horizontal type, i.e. the same good is being produced in the home and host market. US investments in developing countries will primarily be of the vertical type; this entails locating only the labour-intensive stages of the production process there, in order to benefit from labour costs that are lower than in the home location.

As for US FDI in Ireland, there are typically both horizontal and vertical aspects present. The horizontal aspect arises because US firms are for the most part producing in Ireland for the EU market. The vertical aspect arises because only some stages of the process are undertaken here; it is only through intra-firm trade that the possibility of transfer pricing arises. I am surprised that the Dunning hypothesis pays little attention to how these vertical and horizontal characteristics of inward and outward FDI might change as a country develops.

I want to suggest that the evidence I have adduced here actually goes counter to the general thrust of Dunning's hypothesis. Recall Holger's conclusion that Ireland seems currently to be located between Stages 2 and 3. Dunning, with developing countries in mind, suggests that inward FDI in Stage 2 will generally be intensive in the use of primary products or natural resources. He sees indigenous firms as moving up the value-added chain over the course of Stage 2, so that they start to compete in Stage 3 with the foreign multinationals that the country hosts, while their ascent up the ladder of comparative advantage causes them to begin to shift the labour-intensive stages of their own production processes abroad in Stage 3. Thus he focuses on a vertical shift on the part of the peripheral region's multinationals. (Admittedly he also allows for the possibility of some market-seeking investments in richer countries at this stage). Entry barriers seem to be able to be scaled easily in this story.

My comments above will suggest a different reading of Ireland's development path. Dividing industry somewhat loosely into "traditional" and "modern", we have had inward FDI in modern sectors and a lot of outward FDI in traditional sectors. Furthermore, this outward FDI has been horizontal rather than vertical. To the (still relatively small) extent that we have outward FDI in modern sectors, it seems to me that this has developed through a symbiotic relationship with inward FDI rather than as an automatic consequence of economic convergence, as appears to be the perspective advocated by Dunning.

Let me once again thank Holger for drawing our attention to this interesting datasource, and for raising a host of challenging questions, the full policy implications of which will only become apparent over time.
Mr. John Fitzpatrick: To continue with the issue of data availability which has been raised by a number of speakers and which is mentioned in Holger’s paper as an important one to consider: for a long time there has been a dearth of the type of statistical information required. However, earlier this year, CSO started to address this particular question with the publication of new quarterly and annual series of balance of payments statistics including specifically data on Direct Investment flows both inwards and outwards. Unfortunately, the series only covers two full years – 1998 and 1999. A broad regional breakdown of the data was given, namely, EU/non-EU and EMU/non-EMU transactions.

CSO intends to extend the range of analyses available in the future, particularly in the areas of geographical and sectoral detail. In this context it is important to stress that CSO will be faced with the same data confidentiality difficulties faced by the US compilers and referred to in Holger’s paper. In addition, whether it will be possible to provide the various types of analyses mentioned by earlier speakers remains to be seen but CSO will, of course, do whatever it can to be of assistance to users. Up to now our agenda has been largely dictated by the differing requirements of the ECB, Eurostat and other international organisations. This situation will no doubt continue and meeting the demands of all users will present a significant challenge to CSO.
I would also like to make a comment of a technical nature on the basis for making geographical allocations. Two principles operate under the international guidelines: (a) country of ultimate beneficial ownership (IDI) or investment (ODI) and (b) country of immediate ownership (IDI) or investment (ODI). Because of international statistical requirements relating to aggregation of national BOP data to produce regional (e.g. EU area or EMU area) results, Ireland, like other EU or EMU countries, is required to apply the ‘immediate ownership/investment’ principle. I suspect that the US data from the BEA may be based on the other principle. Use of different geographical allocation principles by different compilers may cause difficulties in interpreting the counterpart flows and positions. I simply raise this point in the context of the conclusion from the US based data in Holger’s paper that in 1999 Ireland’s stocks of ODI to the US were approaching equivalence with the US stocks of ODI into Ireland, a fact which struck myself and my CSO balance of payments colleagues as surprising and one which probably needs further investigation when CSO data become available.”

Mr. John O’Hagan: From the perspective of a former BOP compiler in CSO, I have a few comments on the underlying statistical data used in the paper. The USA BEA data are a valuable and, as far as we know, comprehensive source for USA Inward Direct Investment (IDI) from Ireland, but care is needed in interpreting them. Some of the trends and results adduced in the paper are somewhat surprising. Pending the availability of corresponding data from the developing CSO BOP sources it is not possible to be definitive, but a few possibilities might be considered.

Firstly: the sectoral breakdown, which shows a surprisingly low proportion in manufacturing and, by implication, a high proportion in services. One possibility is that entities may appear to be in different branches, depending on which end of the chain one is looking from. An Irish manufacturing company may have an American operation which in its own right is a distribution or other service operation, and thus might be differently classified by the two compilers.

Secondly: as BOP compilers, we have never been aware of any demand from users for a breakdown of FDI transactions which would distinguish setups and organic growth from acquisition and merger activity, nor any proposals from fellow compilers to assemble such data. I find this lack of demand somewhat puzzling. USA IDI into Ireland and Irish (Outward Direct Investment) ODI into the USA are clearly very different on this dimension: our IDI has been predominantly based on setups and organic growth, while much of the longer-established core of Irish ODI into the USA has grown through merger and acquisition. The implications for the domestic economy are likely to be very different also. Analysts can readily draw on a wealth of information on merger and acquisition activity from newspapers and similar databases, but the pitfalls of trying to combine that with official BOP-type data are severe. Having said that, we cannot offer to fill the gap, as our data collection does not recognise this dimension.
Several speakers have commented on the paper's striking finding that the stock of Irish ODI into the USA is rapidly approaching that of IDI from the USA into Ireland. The figures in the paper (Table 1) are quoted at constant 1990 prices, and imply that ODI has grown 55 times from 1980 to 1997, but IDI by only 3 times. It would be interesting to know what deflator has been used, and whether the same deflator has been used for both series. National accountants have difficulty enough estimating suitable deflators for economic flows; the theoretical and data problems for deflating financial stocks are even more daunting. And, given the very different sectoral, maturity and other differences between the two stocks in this case, the usefulness of such deflators is open to question. Having said that, the trends in the current-dollar values for the two stocks probably do in fact tell much the same story, at least for recent years.