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No. 1100

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THE HOME COUNTRY EFFECTS OF INTERNATIONALISATION

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ABSTRACT: The widening range of countries acting as home and host to MNEs, and the continuing growth in all forms of cross-border economic activity, have prompted a large literature on the effects of outward MNE activity on the host countries. A smaller body of work has examined the effects on the home countries of MNEs, but this literature has remained quite fragmented. The purpose of this paper is to bring together and review the different strands of the literature examining the home country effects, and to discuss how some of the changes ongoing in the global economy are likely to impact the analyses on the complementarity between home and host country activities.

KEY WORDS: Foreign direct investment, multinational enterprises, globalisation, home country effects.

JEL: D21, D24, F21, F23, M16.

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TIIVISTELMÄ: Globalisaation myötä yhä useammat maat ovat kansainvälisen yritystoiminnan eri muotojen koti- ja kohdemaina. Erityisesti yritysten kansainvälisten operaatioiden kohdemaahan suuntautuvat taloudelliset vaikutukset ovat olleet monen tutkimuksen kohteena. Huomattavasti vähemmän kirjallisuudessa on arvioitu yritysten kansainvälistymisen, ja erityisesti suorien investointien vaikutuksia yrityksen kotimaahan. Lisäksi näiden vaikutusten tutkimisessa on sovellettu useita eri lähestymistapoja. Tämän katsauksen tarkoituksena on tuoda yhteen kotimaavaikutuksia käsitteleviä tutkimuksen keskeisiä havaintoja, ja sitä kautta arvioida millä lailla globalisaation aikaan saamat muutokset vaikuttavat koti- ja ulkomaantoimintojen komplementaarissuhteen arviointiin.

AVAINSANAT: Suorat investoinnit, monikansalliset yritykset, globalisaatio, kotimaavaikutukset.

JEL: D21, D24, F21, F23, M16.

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1. Introduction

The economic importance of multinational enterprises (MNEs) to their home and host countries is unquestionable. UNCTAD (2006) estimates the total world outward stock of foreign investment (valued at current prices) to have been \$10,672 billion in 2005, which represents a six-fold increase from the estimated stock of \$1,723 billion in 1990. There is, in general, a positive relationship between flows of foreign direct investment (FDI) and growth in world GDP, and, as a share of world GDP, the importance of the FDI stock has increased significantly over the past two decades. Indeed, since the mid 1980s, growth in FDI (stocks and flows) has consistently outstripped that of both the world GDP and world exports, similar to an earlier period of growth in the 1960s (UNCTAD, 2006:9).¹

The contemporary MNE coordinates a range of cross-border activities along the entire value added chain, by using a variety of different modes of internationalisation. The direct and indirect effects of outward MNE activity², and particularly of foreign direct investment, on the *host* countries have been explored quite extensively in the literature. Analytical reviews of this literature have been presented recently by e.g. Dunning and Lundan (2007), Barba Navaretti and Venables (2004) and Lipsey (2002b). Of the range of direct and indirect effects of MNE entry, spillovers to host country firms have received particular attention in the literature, and these studies have been reviewed by e.g. Görg and Strobl (2001) and Blomström and Kokko (1998).

By contrast, the literature on the *home* country effects of outward MNE activity remains fragmented, with specific effects being studied in isolation of each other. Since no general overview of the home country effects has been presented to date, the purpose of this paper is

¹ However, measures of the stock of FDI at historic prices are not directly comparable to measures like GDP, that are expressed at current prices or in real terms (Bellak & Cantwell, 2004). This is particularly relevant when comparing the growth of FDI stocks and that of exports and GDP over time.

² We use the term MNE activity to denote all across-border activity controlled and coordinated by MNEs. FDI is an important part of such activity, but as non-equity forms of activity (e.g. contractual alliances, contractual outsourcing) have gained in importance, it is no longer sufficient to consider FDI as synonymous with MNE activity.

to fill the *lacunae* by bringing together and reviewing the different strands in the extant literature. Furthermore, we think that an examination of the home country effects is particularly appropriate at this juncture, since the ongoing developments in the global economy, including the growth in outsourcing, have increased the political salience of the issue of complementarity between the home and host country activities of MNEs.

Among the developments shaping the global economy, first and foremost has been the continuing globalisation of production and markets by the leading MNEs, and a more integrated governance of their operations. Additionally, there have been a variety of structural changes in both the geographical and industrial composition of MNE activity. The 1980s saw the emergence of Japan as a major outward investor, the rise of inward investment into the US, the growth in two-way intra-industry investment and the increased role of M&As as a form of entry. In the early 1990s, the opening up of Central and Eastern Europe, the completion of the Single Market in the EU, and regional integration in North America, and to a lesser extent, in East Asia and the Pacific, broadened and intensified the role of MNEs and cross-border strategic alliances in the global economy. In the mid 1990s, the emergence of the digital economy and the internet boom, the ‘gold rush’ of investment into China, the beginning of outward investment from some emerging economies, and the increase in contractual outsourcing have all helped to shape the contemporary global economy.

The extant literature, which reflects economic conditions from the 1960s to the 1990s, suggests that the process of internationalisation has been largely complementary or neutral in its effects on the home country. However, this research has looked at the issue of complementarity in a narrow context, focusing on one mode of internationalisation (FDI), often at the level of the economy as a whole. Several recent contributions have highlighted the importance of firm-level heterogeneity, and how differences in the resources, capabilities and markets controlled and accessed by MNEs at the micro level impact the patterns of trade and FDI

we observe at the macro level (see e.g. Dunning and Lundan (2007) and Helpman (2006)). In particular, the growth in foreign outsourcing has helped to refocus political attention on the question of complementarity, and specifically the employment effects of outward MNE activity.

This review is structured under four main headings, namely the effects of outward MNE activity on the balance of payments, the effects on domestic employment and capital formation, and reverse spillovers. We conclude by discussing some of the difficulties associated with assessing the home country effects of heterogeneous MNEs in the contemporary global economy.

2. Balance of payments effects

2.1 Balance of payments effects: Income

The balance of payments effects of outward FDI can be subdivided into the income related effects and the effects on the balance of trade. The income related effects discussed in this section include the balance of payments effect of the initial direct investment, as well as any subsequent transactions involving licensing and royalty payments that are either received from or paid to the foreign affiliate(s). It also includes the eventual repatriation of profits to the home country from the foreign affiliate.

We are not aware of any studies that would have tried to estimate the overall impact of all the income related effects of outward FDI on the balance of payments.³ However, the form in which MNEs choose to repatriate profits, whether as intra-firm dividends, interest payments, or royalties, has been investigated in the literature on taxation (Desai, Foley, & Hines, 2006; Lundan, 2006).

³ There are some studies that have explored the balance of payments effects arising from affiliate imports and exports in *host* countries, particularly in developing countries that have faced currency constraints. See e.g. Jansen (1995) on Thailand, Pöschl (2000) on Central and Eastern Europe, and Barry and Bradley (1997) on Ireland.

Although the host country has priority in taxing the earnings of MNEs operating abroad, the home country determines the ultimate tax burden of the investing company. In practice, most major capital-exporting countries seek to neutralise the tax levied on foreign income by adopting methods which fall between current taxation at the home country rate, with full credit for host taxes on income and remittances, and complete exemptions from the home tax.⁴ Most commonly, domestic corporate tax is payable on the foreign income earned by MNEs, but is deferred until it is repatriated to the investing country. Host taxes on income and remittances are then credited against the home taxes, the credit being limited by the home or host tax, whichever is the lower. Most of the tax policies of home countries towards the foreign income earned by their own MNEs are constructed in conjunction with those of the host countries. The result is a complex network of bilateral tax treaties, each of which is characterised by the principle of non-discrimination, whereby each contracting country limits the tax liability on income earned by its foreign affiliates to the value imposed on its own firms.

Although much of the literature on the taxation of MNEs has tended to focus on its direct effects on the location of their investment, and the distribution of the national value added between MNEs and the countries in which they operate, there are several indirect consequences which, in the long run, may be no less important. They include the impact of different systems of taxation on the methods of financing FDI (e.g. between retained earnings and long-term borrowing or between borrowing and issuing new shares), ownership structure, export strategy, pricing policy and dividend remission. The empirical literature in this area is reviewed in Lundan (2006).

2.2 Balance of payments effects: Trade

Concerning the second effect on the balance of payments, more evidence exists comparing domestic exports and affiliate sales, where the aim has been to assess whether affiliate sales

⁴ The first of these methods ensures *capital-export* neutrality (whereby the tax treatment of income earned by MNEs at home or abroad is identical); and the second that of *capital-import* neutrality (whereby foreign affiliates are taxed in exactly the same way as domestic firms).

substitute for exports of final goods from the home country, and/or whether they contribute to an increase in intermediate exports. This discussion has undergone a renaissance in recent years, due to the interest on the impact of offshoring, i.e. the transfer of productive activity across borders, whether this is done contractually, or through foreign direct investment. Of course, to the international business scholar, there is nothing new about the phenomenon of offshoring itself, as the field has sought to explore the effects of both outward and inward investment along the value chain for more than 40 years. However, what is new in the outsourcing discussion, and in the contemporary global economy more generally, is the extent to which the transaction costs of using the market rather than hierarchies to organise transactions across border have declined, enabling firms to gain control of large networks of cross-border activities with less equity investment than has previously been the case.

Here most empirical studies have focused on outbound FDI and home country exports, with the main questions being whether outward foreign investment is a substitute or a complement for home country exports. While in the case of final goods, the shifting of production to the foreign host country would, in all likelihood, imply a reduction in the exports of the good from the home country, much of FDI involves the internalisation of intermediate product markets, and consequently trade in such goods and services on an intra-firm basis. For example, according to the Bureau of Economic Analysis (BEA) benchmark survey in 1999, 68% of US exports shipped to majority-owned foreign affiliates were goods intended for further processing (Mataloni & Yorgason, 2002).

A foreign affiliate set up in a given host country might stimulate exports of intermediate products from the home country, although increased exports of intermediate inputs from a third country are also a possibility. It is also conceivable, that while in the initial stages following foreign direct investment, a large proportion of intermediate inputs are still sourced from the home country, local sourcing might increase over time. This is particularly the case

if technology and managerial capabilities spill over into the local economy, and help to develop the competencies of local supplier firms, possibly increasing their propensity to export as well. As foreign production matures, foreign affiliates might also displace exports by the parent company to a third country. Some evidence of this was found in the Swedish case by Svensson (1996), who demonstrated that while foreign production increased exports of intermediate goods, it reduced home-country exports to a third country. Another possibility, suggested by Kokko (2006) is that international expansion by M&As may make foreign production less dependent on home country exports of intermediate goods.

The impact of outward FDI on increased imports to the home country has not been examined widely, but it might involve a scenario in which the final stages of the production of a manufactured good is carried out in a foreign location, after which the finished product is exported to a number of markets, including the home country. In such a case, the net effect on the home country would consist of the value of the imports of the finished good, net of any exports of intermediate goods to the foreign affiliate, minus any reduction in direct exports to third countries.

2.2.1 Complementarity between foreign production and exports

We now turn to the empirical evidence on home country exports. We first consider four studies undertaken in the 1970s and 1980s. The first was a study conducted by Bergsten et al. (1978), which concluded that the production of affiliates of US MNEs abroad over the period 1966-72 had a positive and significant impact on the exports of the US parents to these affiliates. In addition, foreign-controlled value added activities were found to be positively and significantly correlated with the exports of other US firms in the same industry to that market, so that both the direct effects (exports of the parent company) and the indirect effects were favourable to the host country. In estimating these effects, the authors took account of other variables which affected US exports, including industry and host country characteristics.

The second study, by Lipsey and Weiss (1981), was even more conclusive about the favourable impact of US foreign direct investment on US exports. Based on US Department of Commerce (BEA) data, the authors found that US outbound MNE activity (whether measured by net fixed assets of affiliates, by affiliates' total sales, by affiliates' sales in the host country, or by the number of affiliates) had a favourable impact on the parent company's exports, on US industry exports and on total US exports. The effects on the exports of US industry and for total US exports included a variety of indirect effects over and above those attributed to the parent company. The study further demonstrated that production by US affiliates abroad appeared to substitute for exports from 13 other major industrial countries, and especially in developing countries' markets (i.e. it had a negative impact on the exports of countries other than the US). It also showed that the activities of US-owned manufacturing affiliates were most pronounced in countries which were host to many other foreign-owned affiliates. The authors concluded that their results lent support to the proposition that foreign direct investment is a method by which oligopolistic firms compete for a share in host country markets. They found this to be particularly true of trade and investment in industrial products between developed countries.

A third study, also by Lipsey and Weiss (1984), supplemented their earlier research by examining data at an individual firm level on the exports and foreign production of US MNEs in 1970. More particularly, they related the value of the manufacturing exports of some 200 US firms in 14 industries in each of five areas of the world to the characteristics of the parent firms, the value of production of their foreign affiliates, and the GDP of these areas (Lipsey & Weiss, 1984:305). They discovered that, in all but three sectors, *viz* drugs, electronic components and non-auto transport equipment, there was a positive, and for the most part, significant correlation between exports and foreign production. The relationship was generally

stronger between the two variables in the case of exports of intermediate goods for further processing than it was for the export of final products.

A fourth study, by Blomström et al. (1988), attempted to estimate the effect of foreign production on the home country's exports of manufactured goods using data supplied by the US Department of Commerce for 1982 and the Industriens Utredninginstitut (IUI) of Stockholm for 1965, 1970, 1974 and 1978. In both instances, the authors used trade equations which related exports from the home countries to the GDP and GDP per capita of the host country, and a foreign production proxy (usually net sales of the foreign affiliate, that is, sales minus imports from the home country). They found the predominant relationship 'somewhere between neutrality and complementarity', that is, the foreign production induced either some increase or no change in exports.

The relationship was most clear for Sweden for which increases in foreign production appear positively related to exports, that is, the two variables are complementary for seven industries.⁵ The study also showed that there was no evidence to suggest that the complementarity between exports and foreign production declined as the latter became a more important modality of servicing foreign markets. However, the results for the US were mixed. At the most disaggregated level, there was a predominance of either a positive or no relationship between affiliate net sales and US exports for four-fifths of the 34 industrial sectors. However, in five sectors, *viz* other foods, drugs, industrial chemicals, primary and nonferrous metals and lumber, wood, and furniture and fixtures, exports and foreign production were found to be substitutable for each other.

More recent studies essentially confirm the findings of the earlier studies. Brainard (1997) demonstrated that there was an overall complementarity in the US between FDI and exports in a cross-section of countries and industries in 1989. Clausing (2000) also found a

⁵ This relationship was first established by Swedenborg (1979; 1985).

parallel relationship between exports and FDI using two panels of BEA industry-level data between 1977 and 1994. Specifically, she found that US exports were positively related to foreign production by US MNEs (measured as local affiliate sales net of intra-firm imports), while the sales of foreign affiliates in the US were positively related to US imports, although the latter relationship was not as robust. Using firm-level panel data on US MNEs drawn from the BEA benchmark surveys in 1982-1999, Desai et al. (2005a) revealed that the MNEs that expanded their activities abroad, also tended to increase their activities domestically, and that increases in outward FDI were associated with additional domestic exports.

In Austria, Pfaffermayr (1996), using panel data for the early 1980s and early 1990s, found a significant complementary relationship between outward FDI and manufacturing exports. Drawing on their previous work that employed a gravity framework, Lipsey et al. (2000) discovered that at the firm-level, increased production by Japanese affiliates in a given region was either unrelated or related to larger parent exports. However, using a panel of 11 OECD countries from 1971 to 1992, Pain and Wakelin (1998) could not establish a consistent relationship between either outward or inward FDI and exports. Narrowing the analysis to the UK, Germany, France and Sweden, Barrell and Pain (1997) established a negative relationship between net outward FDI and exports.

A few studies have examined the effect of foreign production on both home country exports and imports. Wei and Liu (2001), using data on inward FDI and trade linkages in China, found that the positive impact of FDI intensity on import intensity was shown to be almost twice as large as that on export intensity. Using data on 27 countries and 13 manufacturing sectors for 1987-1996, Fontagné and Pajot (2001) concluded that, for the UK, each additional dollar of outward FDI stock was associated with a 2 cent increase in UK exports and 6 cent increase in imports. The results for France pointed to weak complementarity, while the results for the US showed large complementary effects with a one-to-one complementarity be-

tween FDI stocks and exports, and a 1.7 increase in imports. Similar results were obtained by Camarero and Tamarit (2004) for 13 OECD countries. Using quarterly data for 1981-1998, they found that in the majority of cases, the stocks of inward and outward FDI were positively related to both exports and imports. However, considering all four possible scenarios combining manufacturing exports and imports and inward and outward FDI, a number of countries experiencing one or more cases involving substitution could also be identified.

Overall, the empirical evidence, much of it at the country or industry level, suggests that FDI and home country exports tend to complement rather than substitute for each other. At the same time, some evidence of substitution has been found in studies employing panel data that is disaggregated at the firm or product level. Indeed, it is only at the firm level that one is able to conclusively test hypotheses of complementarity and substitution, since only then can one assess whether the investment abroad has resulted in more intermediate exports by the *same* firm, or more broadly by the same firm and its group of suppliers in the home country. The next section will review a few recent studies that examine the evidence at the firm (and product) level, and contrast these findings with the aggregate results.

2.2.2 Trade studies employing firm or product level data

It is possible that the positive association or correlation between FDI to a given host country, and exports to the same country, may be the result of aggregation across firms. In any group of companies, individual firms will make different decisions about whether and how to enter a particular market. Some will prefer the export mode; others a licensing contract with a foreign firm, or engaging in FDI. Therefore, even in the absence of any genuine complementarity caused by increased demand for intermediate inputs, it would not be unusual to find a positive association between exports and outward foreign direct investment, as long as one choice did not completely overwhelm the other.

Evidence of this contention was presented in a study by Swenson (2004), using data on foreign investment in the US over the period 1974-1994. This revealed that, while complementary linkages between US imports and inbound FDI flows⁶ were apparent at the level of all FDI and manufacturing investment, at the industry and product level, a substitution relationship was prominent. Furthermore, considerable differences between investor countries were present, which were likely to have been caused, at least in part, by a composition effect, which reflected the dominance of different industries and products for a given investor country.

In addition to the US case, the connection between foreign production and home country exports at the firm or product level has been most extensively studied with respect to the activities of Japanese MNEs. Using Toyo Keizai data on publicly listed Japanese manufacturers from 1966 to 1989, Head and Ries (2001) found that manufacturing investment abroad was associated with increased exports from the home country. They also discovered that a measure of vertical integration was associated with increased intra-firm exports, which suggested that the source of complementarity was the promotion of sales of intermediate goods. The firms that were not vertically integrated, which included the leading firms at the centre of keiretsus in the automotive and electronics sectors, demonstrated a substitution relationship within the firm. However, for the leading firms in the automotive industry, outbound MNE activity tended to increase the exports of the suppliers of parts and components, while this was not the case for the electronics firms.

These results are consistent with those of Blonigen (2001), who examined product level data on foreign production and exports. The first part of the study examined the relationship between the foreign production of Japanese automotive firms in the US and the exports of automobile parts from Japan. While there was a complementary relationship between Japanese production in the US and the exports of various automotive parts from Japan at the prod-

⁶ The results were robust to using investment counts instead of flows of FDI.

uct level, the data showed a net substitution effect for the automotive parts suppliers. However, in this case, exports from Japan were being displaced by the increasing production of Japanese automotive parts affiliates in the United States, rather than by indigenous US firms. In the second part of the study, Blonigen examined a different group of final products, where there was no vertical relationship, and where there was little pressure to increase local content in the host country. Again, the evidence at the product level provided strong evidence for a substitution rather than a complementary relationship between foreign production and exports. Furthermore, the evidence indicated that the substitution effects tended to be large one-time changes, rather than a gradual decline over time.

3. Labour market effects

The second category of effects explored in literature concerns the effects of foreign direct investment on employment. Again here the evidence on host country effects is much more extensive than the studies concerning home countries. In the host countries, the effects of MNE entry on local wages and skill development have been examined⁷, while in the home country, the effects have been limited to examining the presence of complementarity or substitution in the levels of employment, and changes in the demand for (skilled) labour.

On the one hand, MNE investment abroad can result in an increase in the demand for high-level skills and managerial services, and/or the increased export of intermediate goods from the home country. On the other hand, if it simply acts as a substitute for domestic investment and the exports arising from such investment, at least the immediate effect on home country employment would be expected to be negative. However, to the extent that by investing abroad a domestic MNE improves its competitive position in the long-term, the initial negative employment effects may eventually be reversed.

⁷ This evidence indicates, that in general, MNEs tend to pay higher wages than uninational firms, and foreign MNEs tend to pay higher wages than domestic MNEs, although the latter difference might not be very large. See e.g. Heyman et al. (2007), Brown et al. (2003) and Lipsey (2002a) for reviews of this literature.

As always, analysing the impact of MNE activity eventually depends on one's assumptions about what would have happened in its place. Had the MNE of one country not invested abroad, would the benefits from the investment simply have been appropriated by a firm of a different nationality? If the MNE decided to move existing operations from its home country to a host country abroad, what would have happened to its global competitiveness had it not moved? Would it have been able to continue production in the original location, or would another domestic firm have been able to take its place? The MNE may well be the instrument by which particular jobs are lost. However, more often than not, it is the change in world technological and trading conditions, and of the underpinning institutions, which causes this job loss - not the MNE *per se*.

Studies conducted by US and European economists in the late 1960s identified four possible domestic employment consequences of the foreign activities of home-based MNEs. These consequences are no less relevant in the early 21st century.

- *The production or job displacement effect:* This effect attempts to assess the extent to which foreign production from the investing country replaces exports and, where that output is imported back into the investing country, the domestic employment required to supply that output.

- *The export stimulation effect:* This follows from the possibility that foreign affiliates will buy some of their raw materials, capital equipment, intermediate products and finished goods and services from their parent companies and/or home countries, thus helping to create new employment opportunities.

- *The home office employment effect:* This suggests that, as foreign production is increased, the innovating, management and other white-collar activities, which are usually undertaken by the investing company on behalf of the foreign operating units of the MNE, will also increase.

- *The supporting firm employment effect*: This is the indirect employment effect of foreign production. It arises from the change in employment in home country firms (e.g. accounting, consultancy, banking and engineering firms) which provide supporting services for the affiliates of home-based MNEs. Of course, it is possible that this effect may be negative if the supporting firms follow their customers overseas.

In turn, these four effects will partly depend on the institutional framework of, and the macro-economic policies pursued by, home and host governments in response to the foreign activities of home-based MNEs. The Japanese - and more recently the so called 'dragon' multinationals from East Asia - have deliberately used outward direct investment, particularly that of an asset seeking or augmenting kind, as a means of upgrading their domestic value added activities, and the quality of domestic work and employment conditions (Mathews, 2002; Ozawa, 1996; 2005; UNCTAD, 2006).⁸

3.1 Earlier evidence on home country employment effects

The most comprehensive studies on the employment implications of outbound direct investment were carried out in the United States beginning in the 1970s. They yielded very different results according to the counterfactual positions assumed. In a survey of 74 manufacturing MNEs carried out by the Emergency Committee for American Trade (ECAT, 1972), the authors estimated that US outward direct investment in the 1960s led to an increase of 550,000 American jobs, mainly, it seemed, because of its beneficial effects on exports and home office activity in the investing companies. A similar conclusion was reached by Stobaugh and Hayes (1976). Based on case study data, and taking (in their opinion) the most plausible counterfactual situation, the researchers put the net (domestic) employment gain of US MNE activity at 600,000 (including 100,000 for support firm employment).

⁸ UNCTAD (2006) offers some examples of how outward FDI by developing country MNEs promotes domestic employment in the white goods and computer industries.

However, about the same time, a contrasting view was expressed by Stanley Ruttenberg (1971) who, in an investigation for the AFL-CIO, calculated that US FDI in the 1960s had cost the US economy 500,000 jobs. But, not only did Ruttenberg assume a counterfactual situation of no alternative domestic investment, he ignored both the home office and supporting firm employment effects. Most early academic studies (Frank & Freeman, 1978; Hawkins, 1972; Magee, 1979; US Tariff Commission, 1970) emphasised the differential employment consequences of outward direct investment according to the ability of other firms to supply the market, which is (or might have been) serviced by US firms. Again, the estimates of these scholars ranged from a net job loss of over 1 million to a net job gain of 629,000.

With all these estimates in mind together with those of his own study, which was based on US Department of Commerce data for 1966 and 1970, Hawkins concluded that, apart from the job displacement effects, US outward investment created between 469,000 and 534,000 extra US jobs. According to the assumed counterfactual position, the job displacement effects varied from 190,000 to 1.2 million. Thus, the net employment effect ranged from +279,000 to -666,000.

In a later study - but for the same time period - Hawkins, in making a comparison between the employment effects of foreign production and those of US exports, sales by non-US producers and imports from third countries (both to foreign and US markets) concluded that foreign production led to a gain of about 260,000 US jobs (Hawkins, 1976). However, he also found that the employment effects of US outward investment were likely to be highly industry specific. While the main gains were recorded by the drug, cosmetic, soap, office machinery, electrical equipment and other manufacturing firms, the industries suffering the largest loss of jobs were industrial and other chemicals, lumber, wood and furniture, and textile and apparel. Finally, the industrial structure of the gains and losses revealed that the main job beneficiaries were more highly paid, more skilled workers, while the main losers were the lower paid and

less skilled workers. Hawkins concluded that because of this, not only should MNEs be required to give as much advance warning as possible about their foreign investment intentions, but that governments should offer more, and more effective, adjustment assistance to displaced workers.

The 'neutral' to 'marginally favourable' employment effects of US foreign investment were confirmed by some later studies which have compared the domestic job performance of US MNEs with those of uninational firms. For example, Kujawa (1980) found that in the years 1973-78, US MNEs expanded their employment by an average of 4.8% per annum, while in the latter employment fell by 2.6% per annum. Over a slightly longer period, *viz* 1970-78, the export growth rates of US MNEs were found to be nearly 50% above the average for all manufacturing industry (Enderwick, 1985).⁹ Similar conclusions were reached in a study of 118 large UK MNEs by Stopford (1979), who discovered that in the early 1970s, except in the auto industry, these firms had either increased their domestic employment by more, or reduced it by less, than uninational UK firms. Later research into the effects of foreign investment by 22 of the largest UK MNEs on the British economy concluded that while, in the short run, such investment probably led to a fall in UK exports, in the long run FDI and domestic employment were likely to be complementary to each other (Shepherd, Sibertson, & Strange, 1985).

A different kind of analysis reveals that US export sales (and, by implication, domestic employment) tend to be positively related to the sales of US foreign affiliates (and, by implication, foreign employment).¹⁰ However, Kravis and Lipsey (1988) concluded that, given the size of its parent operations in the US, a firm that produces abroad tends to have fewer employees in the US and pays slightly higher wages to them. The authors suggested this was

⁹ Other data suggested that the employment of non-bank foreign affiliates of US MNEs fell by 11.0% between 1977 and 1988, compared with a drop in the employment of their parent companies of 5.0% (Mataloni, 1990).

¹⁰ As documented, for example, by Bergsten *et al.* (1978), Lipsey and Weiss (1981) and Blomström *et al.* (1988).

because foreign production frequently displaces the more labour intensive activities in the home country. One exception to this apparent negative effect (which was found to be most pronounced in the labour intensive sectors) was the case of minority-owned manufacturing affiliates. Often, this kind of investment appeared to lead to strong positive effects on the exports of the parent company.¹¹

The US and UK findings were broadly corroborated by European and Japanese studies. Van den Bulcke and Halsberghe (1979) concluded that in the 1970s, Belgian outward direct investment had a positive effect on employment in Belgium, in spite of some loss of jobs arising from the production displacement effect. In Sweden, a detailed examination of two large MNEs concluded that while, in the short run, their foreign activities had replaced products which might otherwise have been domestically made and exported, in the long term, the global competitive position of the investing firms had been advanced and, with it, the employment security of the domestic labour force (Jordan & Vahlne, 1981). In a review of German firms abroad, Bailey (1979) observed that, since a substantial amount of their FDI occurred by way of acquisition or merger, or was specifically designed to overcome trade barriers, it was unlikely to have caused an adverse effect on home employment.

In Japan, a study by Koshiro (1982) found that the reaction of Japanese producers to the switch of production of 875,000 colour television sets from Japan to the US in the period 1977-80 under the orderly marketing agreement was to 'absorb the shock without direct personnel reductions'. They did so by 'boosting production and exports of newly innovated high value added products, increased exports of parts and components and switching their (displaced) export markets to other areas' (p. 35). The author concluded that, while the relocation of production by Japanese MNEs had probably led to some loss of jobs, this was more than outweighed by an increase in the exports of parts, components and capital goods, and extra

¹¹ Which is itself explained by the fact that minority investments are often a method used by companies to buy a share of a foreign market.

expenditure by US workers on Japanese imports. Koshiro also found that, as a result of (or parallel with) Japanese investment in the US, the quality of employment in Japan had been upgraded.

3.2 Recent evidence on home country employment effects

It was the rapid growth of foreign production and foreign employment from the 1950s to the 1970s that prompted fears about the exporting of US jobs abroad. However, employment in foreign affiliates of US firms outside of banking peaked in 1977, and did not regain its previous levels until 1995. Using aggregate data from the BEA, Lipsey (2002a) demonstrated that the gross product of US majority-owned affiliates as a percentage of the total gross product of their parent companies remained stable between 1977 and 1997 (at 24.7% and 24.8% respectively), indicating no substantial shift to outside the United States in terms of production.

Employment data tell a very similar story. Employment in US affiliates abroad as a percentage of the global employment in non-bank MNEs was 27.6% in 1977 and 28.8% in 1997. Relative to total US employment, that of US affiliates has fluctuated a little more, from a low of 5.2% in 1957 to a high of 8.0% in 1977 and back to 6.2% in 1997 (Lipsey, 2002a). By 2003, the share had risen back to 7.6 % (UNCTAD database). Since the petroleum and manufacturing sectors account for a disproportionate share of international production, the share of foreign affiliates in employment is also higher in these sectors. But even here it is true, that the level of manufacturing employment in foreign affiliates as a percentage of total manufacturing employment in the US has changed little from 26% in 1977 to 26.9% in 1997 (Lipsey, 2002a).

While these data indicate little in the way of a shift from domestic to foreign employment by US MNEs, there has been an increase in the share of US domestic employment accounted for by foreign-owned MNE affiliates (Mataloni, 2004). As indicated earlier, although some of this change could be due to a reduction in domestic employment by US parents, it is

more likely to be influenced by M&A activity, reflecting a change in ownership, rather than a change in the attractiveness of the US as a production location.¹² It is also the case, that data from just two years later (1999) shows that the affiliate employment as a share of total US employment had jumped to 35%, with a large part of the increase accounted for by employment in affiliates in developing countries (Harrison, McMillan, & Null, 2007).

Using firm-level data drawn from the BEA benchmark surveys from 1982 to 1999, Desai et al. (2005b) found that US MNEs that expanded their activities abroad, also tended to increase their activities domestically. Since foreign economic activity and domestic economic activity may be at least partly determined by the same factors, the authors devised an instrument that relates to investment abroad, but has no connection to domestic investment. To create this instrument, the authors used the differences in GDP growth rates in the firm-specific geographic distribution of foreign investment to predict changes in foreign investment. They found that outward FDI was complementary to domestic investment, and that foreign employee compensation, sales, assets, and numbers of employees were also positively associated with their domestic counterparts.

By contrast, using the same data from the BEA benchmark surveys, Harrison et al. (Harrison & McMillan, 2006; Harrison et al., 2007) discovered that whether one found a substitutionary or complementary relationship depended on whether the affiliates were located in low-income or high-income countries. For affiliates in high-income countries, the relationship between affiliate employment and home country employment was generally complementary. However, for affiliates in low-income countries, the relationship was likely to be substitution-

¹² An interesting study by Heyman et al. (2006) demonstrated that foreign acquisitions of Swedish firms in 1996-2000 increased wage dispersion by boosting the wages of managers and the CEO in the targeted firms, while other employees were either negatively affected or unaffected. The study is particularly notable for using matched employer-employee data, which allowed for a fine-grained evaluation of the factors contributing to the wage differences. The study also found that there was no difference between foreign acquisitions of uninationa or multinational Swedish firms, and it appeared that the act of acquisition, rather than foreign ownership, was the cause of the wage dispersion, as takeovers of foreign affiliates by Swedish firms produced the same effect.

ary, although the overall negative effect on domestic employment was not very large.¹³ In contrast to the previous study, Harrison et al. examined not just the within-firm effects, i.e. whether within one MNE jobs at home are displaced due to jobs created in the foreign affiliates, but also employment shifts across firms within industrial sectors.¹⁴

In Europe, using a sample of 1,272 European MNE parents and their affiliates in the EU-15 and in Central and Eastern Europe in the period 1994-1998, Konings and Murphy (2001; 2006) unearthed some evidence of a substitution relationship between parent and affiliate employment. However, for manufacturing affiliates, this effect was only apparent for affiliates in the EU-15, while for other affiliates, there was a substitution effect only between parents and affiliates in wholesale trade and construction in Central and Eastern Europe.

In addition to examining the extent to which employment abroad has substituted for employment at home, it is also helpful to explore whether the labour intensity between home operations and host operations has changed, and particularly the extent to which lower skill activities have been relocated.

In the US, a study by Brainard and Riker (1997) found that while overall, employment in the foreign affiliates of US multinationals had a very modest substituting effect for the employment of parent companies, there was some substitution among workers in affiliates located in different developing countries. In other words, while investment abroad is generally complementary to that undertaken in the home country of the MNE, changes in the configuration of global activities may result in shifts in employment from one foreign affiliate to another. Using a methodology similar to the previous study, Braconier and Ekholm (2000),

¹³ This is in the context of the overall trends in the US labour market, which saw considerable employment losses in the manufacturing sector, offset by an increase in employment in the service sector. At the same time, while labour compensation increased, the increases were not sufficient to offset the job losses, leading to a declining labour share in income.

¹⁴ This is similar to some results on the role of exporting firms in the domestic economy. Using a plant-level data set on US manufacturing establishments in the period 1973-1987, Bernard and Jensen (1997) found that the major shifts in the skill composition of labour during this period were due to between-plant rather than within-plant movements. In general, increases in employment at the exporting plants contributed strongly to the increase in the relative demand for skilled labour. Additionally, exporters accounted for almost all of the increase in the wage gap between high- and low-skilled workers.

using firm-level data from six surveys on Swedish MNEs in 1970-1994, found some evidence of a substitutionary relationship between employment in Sweden and other high-income locations, but no evidence of substitution between the home country and low-income locations.

Analysing the firm-level disaggregated data collected by the BEA in a benchmark survey in 1989, Lipsey (2002a) found that higher levels of affiliate production by US MNEs in developing countries were associated with lower levels of parent employment. While he discovered that the allocation of more labour intensive segments of production from the US to developing countries was likely to reduce the labour intensity of home production, there was only weak evidence for a wage or skill effect. Moreover, where this was the case, it was primarily because the foreign activities of MNEs in general were associated with higher wages at home.

Comparing US and Swedish multinationals, and using the 1989 BEA data and the Swedish data for 1970-1994, Blomström et al. (1997) also found that the investment of US multinationals abroad, particularly in developing countries, affected parent production by decreasing labour intensity at home. In particular, they discovered that the production of Swedish affiliates in other high-income countries was associated with more employment - and particularly lower skilled employment - in the parent companies. However, they also discovered that the small amount of affiliate production in developing countries was associated with more higher skilled employment at home. The authors explain this by observing that Swedish multinationals produce relatively less in developing countries, and where they do, their output is more likely to be intended for sale in the host country rather than manufactured for export. These differences also reflect the concentration of outbound FDI from Sweden and the US in different sectors, with US FDI being more prevalent in sectors where foreign production is most likely to displace domestic production.

Similar to the Swedish results, using firm-level data from MITI for 1986, 1989 and 1992, Lipsey et al. (2000) found that there was a complementary relationship between Japanese MNEs production abroad and their employment at home. In Italy, using regional-level data on Italian manufacturing firms in 1985-1995, Mariotti et al. (2003) found that outward FDI in lower-income countries reduced the labour intensity of home country production, particularly by smaller firms, while the relationship was a complementary one in respect of investment in high-income countries.

Finally, we would mention two recent studies that employ a propensity scoring methodology; a study on Italy and France by Barba Navaretti et al. (2007) and on South Korea by Debaere et al. (2006). The former study builds on the earlier work of the authors (Barba Navaretti & Castellani, 2004), which looked at the effects of engaging in foreign investment on productivity, output growth and employment in the home country, without considering heterogeneity among the destination countries. The new model looked at the choice of a firm which had not previously invested abroad to either continue to stay at home, to invest in a low-income country, or to invest in an industrialised country, and compared the outcomes for an investing firm with a non-investing firm. Using a panel of 269 manufacturing firms in Italy and 171 in France from 1993 to 2000, they found that in the case of investment directed to low-income countries, for Italy the results indicated positive effects, both in terms of productivity and the growth in output and employment at home. For the French firms, there was a positive effect on the growth of output and employment, but no effect on productivity. Investments in industrialised economies had similar effects on both countries, with increases in employment and output, and higher long-term productivity at home.

Using a similar model and a sample of up to 452 manufacturing firms listed on the Korean stock exchange between 1980 and 1995, Debaere et al. (2006) found that investment in low-income countries (mainly China), either as an initial foray into foreign investment, or as a

shift from previous investments in more developed countries, decreased the employment growth of the MNE at home. By contrast, investments directed at high-income countries (mainly the US), had no effect on employment growth at home.

3.3 Outsourcing and the demand for skilled labour

Since the 1970s, increased inequality in wages between the high skilled and the lower skilled workers has manifested itself in several industrialised countries, such as the US, the UK, Australia and New Zealand. In continental Europe, the relative wage decline for lower skilled employees has been tempered by different labour market policies and institutions, such as collective bargaining agreements and the active participation of workers in managerial decision making, but there has been persistent unemployment, particularly for the unskilled (Shelburne, 2004). A popular explanation for the wage gap has been the introduction of new technologies that favour the more skilled workers - so-called skill-biased technological change. However, the emergence of this effect at a time when trade and foreign direct investment have grown particularly rapidly, has also invited questions about the degree to which the two factors are linked.

Trade and foreign investment can induce changes in demand patterns, facilitate technological change, and the adoption of new institutions, such as legislation regarding minimum wages or unionisation. Since foreign direct investment allows intermediate goods to be traded within the firm that otherwise might not be tradable, it expands the range and volume of goods that can be traded between countries. However, as we discussed earlier, the extent to which MNEs coordinate their network of value added activities through ownership or contractual means has changed considerably over the past two decades. At the same time, the practice of outsourcing the production of intermediate goods and services on an arm's length basis has increased dramatically (UNCTAD, 2004).

In manufacturing as well as in services, globalisation is fostering the separation of the higher skilled from the lower skilled activities. The existence of considerable differences in wage levels, particularly in the lower skill intensive sectors, results in reduced demand for the lower skilled activities in the home country of the MNE, and a shift to contractual outsourcing or foreign investment to other countries. However, in this instance, increased productivity in the home country would not be due to new technology demanding higher skills, but rather to the elimination of the lower skilled activities from the calculation. Furthermore, Shelburne (2004) argues that the changes in the skill mix taking place in the home country may equally occur in the host economy as a result of inward direct investment, as well as that of contractual outsourcing. If firms in developing economies become producers for developed-country outsourcing, the technology employed in the production of such goods and services is likely to be similar to that employed in the developed home countries before outsourcing took place. Such technology would require relatively higher skills in the developing economy, and would therefore be likely to increase the wage gap between the skilled and unskilled employees in that economy. Indeed, this is what was found in Mexico by Feenstra and Hanson (1997).

In the US, Feenstra and Hanson (1996) used data on manufacturing imports and input purchases between 1972 and 1990 to estimate the level of outsourcing by industry, and to assess its impact on the demand for skilled labour. They found that increased outsourcing had contributed substantially to the increase in the relative demand for non-production labour in the US. In other words, a higher level of outsourcing by US MNEs was associated with increased employment of skilled labour. It should be noted, however, that the measure of outsourcing used by the authors was a broad one, and included two kinds of intermediate inputs, namely parts and components and contract work performed by others. The second category consisted of goods made entirely by others and sold by the MNE under its own name, as well as the use of contract work for foreign assembly. There was, however, no distinction made

between components that were sourced from own affiliates and those purchased from independent suppliers.¹⁵

As we have already seen in the previous section, the level of aggregation in the data has an impact on the likelihood of finding a complementary or a substitutionary relationship. At the level of the firm, the test of the complementarity between foreign and domestic activities is quite strict. However, to the extent that a person losing a job in one firm is likely to find another one created within the same sector, it might be easier to find a complementary relationship at a higher level of aggregation.

This is demonstrated in a recent study by Amiti and Wei (2005b) for the period 1992-2000, which showed that, if the US manufacturing economy was decomposed into 450 sectors, growth in outsourcing¹⁶ was associated with a small negative effect on employment growth at the sectoral level. However, if the US economy was decomposed into 96 sectors, there was no correlation between domestic employment growth and the growth of outsourcing. In a subsequent study on the UK economy from 1995 to 2001 (Amiti & Wei, 2005a), including 69 manufacturing and 9 service sectors, the authors did not find a negative effect on employment from service outsourcing at the sectoral level, although the effect on the service sectors was negative in some specifications. Overall, their results suggested that the jobs displaced by service outsourcing were likely to be offset by new ones created in the same sector.¹⁷

Indeed it is entirely possible, as the authors suggest, that the net effect from outsourcing for the economy as a whole may well be neutral. More new jobs are created, particularly in those firms investing in affiliates in other developed countries, while jobs are likely to be lost within those firms and in those industries, where investments are made in low-income countries. Overall, the picture is one of the restructuring of employment across sectors, rather than

¹⁵ By contrast, Slaughter (2000) found little effect on US wages from an increase in foreign production (as an alternative to contractual outsourcing) within US multinationals.

¹⁶ Including both service outsourcing and material outsourcing.

¹⁷ Indeed, it should be noted that both the US and the UK have a positive balance on services in balance of payments terms.

of large shifts in aggregate employment. This is also the conclusion reached by Mankiw and Swagel (2006), following a review of the empirical evidence to date. They found that, in spite of the political sensitivity of the issue of outsourcing in the US, there was little evidence to suggest that outsourcing by US MNE is leading to substantial job losses at home; indeed, if anything, the evidence seems to point to the contrary.¹⁸

Finally, we would simply note that any outsourcing of the labour intensive segments of production of goods and services from a developed to a developing country is likely to increase the inequality of the wage distribution in both the originating country, as well as that of the host country producing the goods or services. This pattern of growing inequality as a result of increasing trade and foreign direct investment is similar to what one would observe as a result of skill-biased technological change, but it is notable that the same pattern would be observed even with a modest degree of technological change in a globalising economy.

4. Effects on domestic capital formation

The third factor concerns the complementarity between foreign and domestic investment. The general concern of home countries has been that, if MNEs are faced with capital constraints, they may allocate investment into projects abroad *or* projects at home; and in such cases foreign and domestic investment would be viewed as substitutes for each other.

Such a relationship was, in fact, found by Feldstein (1994), who analysed the effect of outbound foreign direct investment on the domestic capital stock for a sample of OECD countries in the 1970s and 1980s. The study employed a model in which gross domestic investment was a function of gross national savings, as well as that of inward and outward FDI.¹⁹

¹⁸ Nonetheless, we would concur with Harrison et al. (2007), who emphasise that although the aggregate effect on employment may be neutral or even beneficial, there are likely to be considerable job losses in some sectors, and the economic and social costs of adjustment should not be ignored when evaluating the overall impact on the home country.

¹⁹ Gross domestic investment is a geographical measure that includes the investment that is undertaken by firms in a particular country, including the affiliates of foreign multinationals resident in the country. Gross national savings includes saving in the form of retained earnings by the affiliates of the home country multinationals abroad.

The results indicated that that each dollar of outward direct investment reduced domestic investment by approximately one dollar. Additionally, estimating that only about 20% of the value of the assets by US affiliates abroad was financed by cross-border flows of capital, and another 18% was financed by retained earnings, Feldstein calculated that each dollar of foreign assets acquired by US MNEs was likely to reduce the US domestic capital stock by up to 38 cents.²⁰ In the Netherlands, Belderbos (1992) also found a substitutable relationship for MNEs in the food and metal and electronics industries in 1978-1984.

Indeed, several cross-sectional studies from the 1970s and 1980s found that investment abroad tended to reduce domestic investment in the same period. However, using aggregate panel data on the foreign and domestic capital expenditures of US MNEs in the 1980s and 90s, Desai et al. (2005b) found a complementary relationship. In a subsequent study using more detailed panel data on US MNEs drawn from the BEA benchmark surveys, Desai et al. (2005a) found that outward FDI was complementary to domestic investment, and that foreign employee compensation, sales, assets, and numbers of employees were also positively associated with equivalent domestic economic activity.

Using manufacturing census data for the US economy in 1992-1997, Bernard and Jensen (2006) found that while, on average, plants belonging to multi-unit and multinational firms were less likely to be shut down, once the effects of industry and plant specific characteristics were accounted for, the results were reversed. Thus, although individual production units belonging to multi-plant firms tended to be larger, older and more productive than those of single-plant firms, they were actually more likely to be closed down. Although US MNEs accounted for only 6% of all manufacturing plants in the US in this period, they were responsible for 26% of the total employment and 34% of output; hence the authors concluded that

²⁰ Ideally, in such a model, one would like to be able to separate the response of domestic investment to outbound FDI flows from the response of domestic investment to the retained earnings of the foreign affiliates. It would also be interesting to know whether a dollar increase in the retained earnings of foreign affiliates had the same impact on domestic investment as a dollar increase in domestic savings, but this was not possible due to data limitations.

plant closures by MNEs were likely to have a significant effect on the restructuring of US industry.

Using industry level data from Sweden between 1982 and 1995, Braunerhjelm and Oxelheim (2000) noted that there was considerable growth in outward FDI in R&D intensive (Schumpeter) industries, such as chemicals, fabricated metal products, machinery and equipment. In the traditional (Heckscher-Ohlin) industries, such as textiles, wood products, paper and pulp and basic metal industries, outward FDI also grew, but to a lesser extent. The authors hypothesised, that since the Schumpeterian industries utilised headquarters services and R&D, which could be employed in multiple plants, they were likely to be more footloose, thus creating more potential for a substitutable relationship. By contrast, Heckscher-Ohlin industries were more likely to record scale economies at the plant level, and be more tied to location-specific resources, which gives rise to possible vertical complementarities. In fact, the authors found a weak substitutable relationship between outward FDI and home country investment in R&D intensive industries, although this was only present for investment within the EU. The opposite (complementary) pattern was observed in sectors based on traditional comparative advantage. It should be noted, however, that while the study was conducted at the industry level, it is still likely to have masked differences between more disaggregated industry sectors, as well as any variation in the strategies of firms within each sector.

In their study of the Canadian case, Hejazi and Pauly (2003) used a stock adjustment model, in which firms adjusted their investments to reach a desired capital stock, but where adjustment carries some cost. In their model, home country gross fixed capital formation (GFCF) was not only dependent on corporate profits, taxes, prices for intermediate inputs, wage levels, interest rates, lagged capital stocks, depreciation and R&D spending, but also on inward and outward FDI. Their results indicated that the impact of FDI varied according to the investing partner. Overall, inward FDI to Canada was positively related (complementary)

to domestic GFCF, but investment from the UK or from the rest of the world had a greater positive impact than did investment from the US. For outward FDI, the results were more mixed. Canadian investment to the United States was shown to increase domestic investment, while capital flows to the rest of the world, excluding the United Kingdom, decreased domestic investment. The authors explain these results by reference to the motivation for the FDI. They suggest that, as Canadian outward FDI into the US and UK is aimed at market access, it would be expected to have a positive or neutral impact on domestic investment. For inward FDI, to the extent that investors from outside NAFTA were locating their activities in Canada to produce goods for sale in the free trade area, this would be likely to boost domestic capital formation, although this was not specifically investigated in the paper.

Using firm-level panel data for a sample of medium-sized and large manufacturing firms in Austria in the period 1997 to 2001, Pfaffermayr (2004) demonstrated that MNEs that expanded activities in their foreign affiliates, also experienced employment growth at home, suggesting a complementary relationship. In Finland, an analysis of a panel of 218 Finnish manufacturing firms between 1998-2002 discovered that outward FDI by financially unconstrained firms increased domestic investment, while such investment directed at emerging markets, or undertaken by financially constrained firms, decreased domestic investment (Oksanen, 2006). These results were, however, sensitive to the specification of the particular model used.

Finally, in an analysis conducted by UNCTAD (2006:183) of outward FDI from developing countries, the authors concluded that it had not only had a positive effect on the investor firms' performance, but that in some countries, mostly in South-East and East Asia, outward FDI has been one of the factors of successful industrial restructuring, alongside sustained economic growth.²¹ Once again, however, the study emphasised that the impact of outward FDI on both the amount and composition of domestic investment was likely to vary

²¹ In this study, particular examples were given of such an impact in the case of Hong Kong, Taiwan, Singapore and Mauritius (UNCTAD, 2006:177).

according to country specific factors, the motives for FDI, the path of internationalisation taken by MNEs, and the spillover effects arising from being part of a foreign-based cluster or network of firms.

5. Reverse knowledge spillovers

The fourth and final factor we consider is the most recent one to be studied, and it has only begun to be investigated following the internationalisation of R&D activities of MNEs in the 1990s. This concerns the effects of outward MNE activity on domestic knowledge acquisition, and indirectly, on domestic productivity. The impact on the home country is typically measured by changes in knowledge inputs or outputs, such as the patenting of home country firms, or their pattern of patent citations. Here again the literature on the host country impact of both linkages and spillovers is much more extensive, including the productivity enhancing effects of the training provided by MNEs, together with demonstration effects and knowledge spillovers.²²

We begin with the broad question investigated by Potterie and Lichtenberg (2001), concerning the extent to which FDI (inward and outward) has served as a channel for international technology diffusion between the United States, Japan and 11 European countries in 1971-1990. In their study they regressed total factor productivity of these countries with a set of independent variables which included domestic R&D stock, the foreign R&D stock incorporated in imports, and inward FDI and outward FDI. Their results indicated that while both imports and outward FDI increased productivity in the home country, inward FDI flows did not contribute to (or detract from) the technological productivity of these developed economies. While the benefits drawn from imports were higher in the 1970s than in the 1980s, the opposite was true of the effect of outward FDI, which became larger over time.

²² These are reviewed by e.g. Blomström and Kokko (1998) and Lipsey (2002b). Although often neglected in the empirical literature, it should be noted, that as the competitive effects of MNE entry are likely to be substantial, an assessment of spillovers is only feasible once the changes in market structure and the level of competition have been taken into account. See also Chapter 16 in Dunning and Lundan (2007).

Another approach linking trade to technological learning, is that of Coe and Helpman (1995), who investigated the extent to which a country's total factor productivity depended on domestic and foreign R&D expenditures, where foreign R&D expenditures were measured as a weighted sum of its trade partners' cumulative R&D spending.²³ They found that foreign R&D had beneficial effects on domestic productivity, and the effects were stronger the more open economy was to trade. In a subsequent paper (Coe & Helpman, 1997), the authors concentrated specifically on developing countries. Here they assumed that developing countries had a domestic stock of R&D of zero, and looked for changes in the country's total factor productivity attributable to foreign R&D spending, imports of machinery and equipment, and secondary school enrolment. The basic argument was again that openness to trade improves productivity by making available products that would otherwise not be available, and/or useful information which would be difficult and costly to acquire by other means. They discovered that total factor productivity was positively related to the foreign R&D spending, as well as to the country's openness to trade and a better educated labour force. However, they also showed that foreign R&D affected developing country productivity primarily through its interaction with machinery and equipment imports.

Aside from these macro-level studies, a few studies have been conducted at the firm level by using patent citations as indicators of home country knowledge spillovers. One such study was conducted by Globerman et al. (2000), who used patent citations to trace the diffusion of foreign knowledge into Sweden. Instead of using patent citations to map the geography of local spillovers in host countries, as was done e.g. by Almeida (1996), the authors examined the effects of outward direct investment on patterns of citations in the home country. The sample covered 109 patents filed by large Swedish MNEs in 1986, that included 263 references to existing patents. It also included 111 patents filed by small and medium-size Swed-

²³ However, it should be noted that this study focuses solely on knowledge transfer facilitated by trade, and ignores the contribution of FDI.

ish enterprises (SMEs) without any foreign operations, including 310 citations to earlier patents. The authors estimated a conditional logit model, where each citation was treated as a separate observation, thus yielding the probability that a patent from a particular country gets cited.

Following Jaffe et al. (1993), Globerman and his co-authors first investigated international trade as a possible conduit for international R&D spillovers. Here they hypothesised, that importers can learn from the imports of machinery and equipment, as well as from technology embodied in other products, which can be reverse engineered, while exporters benefit from contact with foreign customers, who require adaptations to existing products, and may assist in finding new technical solutions. Additionally, the researchers investigated inward and outward FDI links with the countries being cited as possible conduits of technology transfer. The main findings arising from the study were that both the patent stock in the country being cited, and that outward FDI to the country being cited, were positive and significant determinants. Inward FDI was found to be a negative but often insignificant determinant, which may have reflected the extent of MNE activity from other Nordic countries. Additionally, trade contacts appeared more important for SMEs than for MNEs.

What is particularly interesting, however, is that outward FDI was shown to have a positive influence both for the group of Swedish MNEs, as well as for the group of SMEs, who had not engaged in any outward FDI. This could either mean that the outward FDI variable was capturing something about the host country not included in the model, or as the authors suggest, it could be evidence that, in a small economy, the benefits derived from FDI in terms of technological learning are disseminated by MNEs back to their home country, and within the home country to the SMEs. This is an intriguing proposition, and capable of being investigated further by comparing the patent citations made by SMEs and MNEs over time.

Other recent research employing a similar methodology include a study by Criscuolo (2004), who conducted both an interview-based study of intra-firm transfer of technology, as well as analysing patent citations as evidence of inter-firm spillovers in the European chemicals and pharmaceuticals sectors. She found that firms in the home country of the MNE had a higher than average propensity to cite the patents of the foreign subsidiaries of their ‘national champions’ in the chemical sector, but not in the pharmaceutical sector. This was explained by the structure of R&D, which in the pharmaceutical sector tends to be conducted through multiple hubs, while R&D in the chemical sector still strongly based in the home country. She also found, that in terms of the total number of citations, the spillovers were quite small, which is what one would expect, particularly when the measurement is not contaminated by those direct transfers within the MNE which constitute a reverse flow of technology, but that are not spillovers.²⁴

Another interesting study that carefully controls for the ‘noise’ added by the patent examiner to the citation record was conducted by Popovici (2005), who found robust evidence that US affiliates conducting R&D overseas facilitated the flow of knowledge from the host to the home country. Specifically, she found that US firms citing the patents of US affiliates in a particular host country, say Japan, were more likely to cite other patents registered by firms from that country. This adds to the earlier findings by Branstetter (2000) who found evidence of knowledge spillovers (as measured by patent citations) from Japanese affiliates to US firms and *vice versa*. His results were particularly notable due to the very low levels of R&D typically conducted by Japanese affiliates. Evidence from the interviews conducted as part of the study confirmed the importance of foreign affiliates in potentially broadening the reach of the R&D that had traditionally been conducted by the parent company in Japan.

²⁴ In general, one should distinguish between linkage effects, that accrue to local firms in an upstream or downstream relationship with the MNE affiliate, and spillovers to local firms that have no formal connection to the MNEs. See also Chapter 16 in Dunning and Lundan (2007).

6. Discussion and conclusions

The first studies on the relationship between the internationalisation of MNEs and their home country activities were conducted in the 1960s and 70s. From a contemporary viewpoint, the task then was a fairly straightforward one, as internationalisation through direct ownership was the preferred means whereby MNEs controlled their foreign activities. Furthermore, relatively few parts of the value chain were subject to offshoring (international production), and therefore the analysis of the home country effects could concentrate on a limited set of variables. In the first decade of the 21st century, we see a very different global economy, where the value chains of companies have been broken up, and where the range of potential partners for outsourcing and/or offshoring is wider than ever before. While most of the attention in the 1960s and 70s was focused on manufacturing investment, which was predominantly resource or market seeking in its orientation, much of FDI today is in services, and it is more likely to involve asset seeking and knowledge augmenting motivations as well.

The widening range of activities that are subject to cross-border coordination by MNEs, and the growing number of locations where such activity can take place, render the analysis of the home country effects of MNE activity very challenging. Activities in different parts of the value chain are performed abroad for different motivations, and each type of activity has somewhat different implications for the domestic activities of the MNE. At the same time, the mode of internationalisation, or the way in which MNEs choose to coordinate their network of activities, has shifted from equity-based forms of control, like wholly-owned affiliates and joint ventures, to contractual alliance-based forms. Some activities, like many business services that were previously performed by the firm itself, have now been outsourced to other companies, often still in the home country. Other activities have not only been contracted out, but offshored as well.

Table 1 presents a classification of four standard motivations for internationalisation²⁵, together with the dominant mode of internationalisation for each type, and an estimation of the likelihood that the relationship of foreign to home country activities is complementary or substitutionary. What matters from a policy perspective, is why particular kinds of activities are best performed in particular locations, or more specifically, why are some activities performed in the home country, while others are likely to be outsourced to host countries. Partly the former is likely to be due to path dependence and habit. It is also likely to be due to the better availability of information, particularly in small home countries. The possibilities for face-to-face contact, and the existence of dense social networks enable a better flow of information, that often coincides with high levels of trust. Such conditions will yield relatively low costs of transacting, and due to the ‘costs of foreignness’ that have to be overcome for outsourcing to be performed successfully abroad, are likely to favour the home country, up to a certain point.

However, looking again at Table 1, for many of the activities firms perform abroad, there is no home-based alternative that would yield the same result, and the activities are in this sense complementary to those at home. This is certainly the case with most resource seeking investment, with the possible exception of investment that seeks to exploit low labour costs. By contrast, with market seeking investment, the question is whether to supply the foreign market from a foreign or a domestic location, which in most cases would imply some degree of substitution between foreign and domestic activities. The same is true of efficiency seeking investment, which is predicated on the existence of cost differentials between home and host countries, and the gains from the effective coordination of an integrated network.

Thus we would expect that both market seeking and efficiency seeking activities, there is likely to be a production or job displacement effect in the home country, where foreign

²⁵ See Chapter 3 in Dunning and Lundan (2007) for a further discussion.

production replaces home country exports of final goods. At the same time, particularly in the efficiency seeking case, the activities performed abroad might also stimulate the production and exports of intermediate goods, or generate more opportunities for firms to shift to higher value added activities in the home country. By contrast, strategic asset seeking investment, like resource seeking investment, often has no domestic counterpart, and it is undertaken to augment the resources and capabilities that are available to the firm. This type of investment also includes knowledge augmenting investment, which is likely to generate further demand for home country products and services in the long run.

Finally, the (indirect) supporting firm employment effect is particularly important to acknowledge, since with increased outsourcing, more of the activities previously performed by the MNE are being performed by other domestic firms. Consequently, a comprehensive assessment of home country effects would need to consider the effects induced and experienced by the primary network partners of the MNE as well. For example, if a firm engaged in domestic outsourcing alongside offshore outsourcing, conventional firm-level analyses would indicate a substitutionary relationship. However, depending on the level of foreign outsourcing, the true relationship to domestic employment might in fact be neutral, or even positive.²⁶ Similarly, if offshoring was measured only by FDI, the relationship might appear to be neutral or mildly negative, while including the impact of contractual offshoring might reveal the true effect to be more strongly negative.

It is apparent from the preceding review, that having to rely on aggregate data made it difficult to parse out the effects of internationalisation from other factors influencing the levels of production, R&D or employment in the domestic economy in the earlier literature. However, while the increasing availability of firm-level data has enabled more rigorous analyses, it has also become apparent, that it is no longer sufficient to simply track changes

²⁶ This problem is not solved by sectoral aggregation, since outsourcing is more likely to take place in non-core areas of activity, implying *between* rather than *within* sector shifts in employment.

within the ownership boundary of the firm. In one way or another, empirical studies of the home country effects also need to account for the fact that the contemporary MNE is a coordinating entity as much as it is a productive entity, and the ownership boundary no longer demarcates the activities over which the MNE exercises *de facto* control.

Table1. The likelihood of complementarity or substitution for different modes of internationalisation

<i>Motivation for internationalisation</i>	<i>Dominant mode of internationalisation</i>	<i>Relationship to home country activities</i>
Resource seeking	Greenfield investment	Complementary
	Mergers and acquisitions	Complementary
	Joint ventures	Complementary/Substitutionary
Market seeking	Licensing	Complementary
	Greenfield investment	Complementary/Substitutionary
	Mergers and acquisitions	Complementary/Substitutionary
Efficiency seeking	Joint ventures	Complementary
	Greenfield investment	Complementary/Substitutionary
	Joint ventures	Complementary/Substitutionary
Strategic asset seeking	Contractual alliances	Substitutionary
	Mergers and acquisitions	Complementary
	Contractual alliances	Complementary

References

- Almeida, P. (1996). Knowledge sourcing by foreign multinationals: Patent citation analysis in the U.S. semiconductor industry. *Strategic Management Journal*, 17(Winter Special Issue), 155-165.
- Amiti, M., & Wei, S.-J. (2005a). Fear of service outsourcing: is it justified? *Economic Policy*, 20(42), 308-347.
- Amiti, M., & Wei, S.-J. (2005b). *Service Offshoring, Productivity, and Employment: Evidence from the United States*. Washington, DC: IMF Working Paper WP/05/238.
- Bailey, P. J. (1979). *Employment effects of multinational enterprises: A survey of relevant studies relating to the Federal Republic of Germany*, ILO Working paper on Multinationals (No. 2). Geneva: ILO.
- Barba Navaretti, G., & Castellani, D. (2004). *Investments Abroad and Performance at Home: Evidence from Italian Multinationals*. London: CEPR Discussion Papers: 4284.
- Barba Navaretti, G., Castellani, D., & Disdier, A.-C. (2007). *How does investing in cheap labour countries affect performance at home?* Universities of Milan/Urbino/Paris I: mimeo.
- Barba Navaretti, G., & Venables, A. J. (2004). *Multinational firms in the world economy*. Princeton: Princeton University Press.
- Barrell, R., & Pain, N. (1997). Foreign direct investment, technological change, and economic growth within Europe. *Economic Journal*, 107(445), 1770-1786.
- Barry, F., & Bradley, J. (1997). FDI and trade: The Irish host-country experience. *Economic Journal*, 107(445), 1798-1811.
- Belderbos, R. A. (1992). Large Multinational Enterprises Based in a Small Economy: Effects on Domestic Investment. *Weltwirtschaftliches Archiv*, 128(3), 543-557.
- Bellak, C., & Cantwell, J. A. (2004). Revaluing the capital stock of international production. *International Business Review*, 13(1), 1-18.
- Bergsten, C. F., Horst, T., & Moran, T. H. (1978). *American Multinationals and American Interests*. Washington, DC: The Brookings Institution.
- Bernard, A. B., & Jensen, J. B. (1997). Exporters, skill upgrading, and the wage gap. *Journal of International Economics*, 42(1/2), 3-31.
- Bernard, A. B., & Jensen, J. B. (2006). Firm structure, multinationals and manufacturing plant deaths, *WP 06-7*. Washington, DC: Institute for International Economics.
- Blomström, M., Fors, G., & Lipsey, R. E. (1997). Foreign direct investment and employment: Home country experience in the United States and Sweden. *Economic Journal*, 107(445), 1787-1797.
- Blomström, M., & Kokko, A. (1998). Multinational Corporations and Spillovers. *Journal of Economic Surveys*, 12(3), 247-277.
- Blomström, M., Lipsey, R. E., & Kulchayck, K. (1988). US and Swedish Direct Investment and Exports. In R. E. Baldwin (Ed.), *Trade Policy Issues and Empirical Analysis* (pp. pp. 259-297). Chicago: University of Chicago Press.
- Blonigen, B. A. (2001). In search of substitution between foreign production and exports. *Journal of International Economics*, 53(1), 81-104.
- Braconier, H., & Ekholm, K. (2000). Swedish Multinationals and Competition from High- and Low-Wage Locations. *Review of International Economics*, 8(3), 448-461.
- Brainard, S. L. (1997). An Empirical Assessment of the Proximity-Concentration Trade-Off Between Multinational Sales and Trade. *American Economic Review*, 87-111(4), 520.
- Brainard, S. L., & Riker, D. A. (1997). *Are U.S. Multinationals Exporting U.S. Jobs?* Cambridge, MA: NBER Working Papers: 5958.

- Branstetter, L. (2000). *Is Foreign Direct Investment a Channel of Knowledge Spillovers? Evidence from Japan's FDI in the United States*. Cambridge, MA: NBER Working Papers: 8015.
- Braunerhjelm, P., & Oxelheim, L. (2000). Does Foreign Direct Investment Replace Home Country Investment? The Effect of European Integration on the Location of Swedish Investment. *Journal of Common Market Studies*, 38(2), 199-221.
- Brown, D. K., Deardorff, A. V., & Stern, R. M. (2003). *The Effects of Multinational Production on Wages and Working Conditions in Developing Countries*. Cambridge, MA: NBER Working Papers: 9669.
- Camarero, M., & Tamarit, C. (2004). Estimating the Export and Import Demand for Manufactured Goods: The Role of FDI. *Review of World Economics/Weltwirtschaftliches Archiv*, 140(3), 347-375.
- Clausing, K. A. (2000). Does multinational activity displace trade? *Economic Inquiry*, 38(2), 190-205.
- Coe, D. T., & Helpman, E. (1995). International R & D spillovers. *European Economic Review*, 39(5), 859-887.
- Coe, D. T., & Helpman, E. (1997). North-south R&D spillovers. *Economic Journal*, 107(440), 134-149.
- Criscuolo, P. (2004). *R&D internationalization and knowledge transfer: Impact on MNEs and their home countries*. Unpublished Ph.D. thesis, MERIT, Maastricht.
- Debaere, P., Lee, H., & Lee, J. (2006). *Does Where You Go Matter? The Impact of Outward Foreign Direct Investment on Multinationals' Employment at Home*: CEPR Discussion Papers: 5737.
- Desai, M. A., Foley, C. F., & Hines, J. R. (2005a). *Foreign direct investment and domestic economic activity*. Cambridge, MA: NBER Working Paper 11717.
- Desai, M. A., Foley, C. F., & Hines, J. R. (2005b). *Foreign direct investment and the domestic capital stock*. Cambridge, MA: NBER Working Paper 11075.
- Desai, M. A., Foley, C. F., & Hines, J. R. (2006). Taxation and multinational activity: New evidence, new interpretations. *Survey of Current Business*, 86(2), 16-22.
- Dunning, J. H., & Lundan, S. M. (2007). *Multinational Enterprises and the Global Economy, Second Edition*. Cheltenham: Edward Elgar.
- ECAT. (1972). *The Role of Multinational Corporations in the United States and World Economies*. Washington, DC: Emergency Committee for American Trade.
- Enderwick, P. (1985). *Multinational Business and Labour*. London: Croom Helm.
- Feenstra, R. C., & Hanson, G. H. (1996). Globalization, outsourcing, and wage inequality. *American Economic Review*, 86(2), 240-245.
- Feenstra, R. C., & Hanson, G. H. (1997). Foreign direct investment and relative wages: Evidence from Mexico's maquiladoras. *Journal of International Economics*, 42(3/4), 371-393.
- Feldstein, M. (1994). *The Effects of Outbound Foreign Direct Investment on the Domestic Capital Stock*. Cambridge, MA: NBER Working Papers: 4668.
- Fontagné, L., & Pajot, M. (2001). Foreign trade and FDI stocks in British, US and French industries: complements or substitutes? In N. Pain (Ed.), *Inward investment, technological change and growth: The impact of multinational corporations on the UK economy* (pp. 240-264). Houndmills, U.K. and New York: Palgrave.
- Frank, R. H., & Freeman, R. T. (1978). *Distributional Consequences of Direct Foreign Investment*. London: Academic Press.
- Globerman, S., Kokko, A., & Sjöholm, F. (2000). International Technology Diffusion: Evidence from Swedish Patent Data. *Kyklos*, 53(1), 17-38.

- Görg, H., & Strobl, E. (2001). Multinational Companies and Productivity Spillovers: A Meta-Analysis. *Economic Journal*, 111(475), 723-739.
- Harrison, A. E., & McMillan, M. S. (2006). *Outsourcing Jobs? Multinationals and US Employment*: NBER Working Papers: 12372.
- Harrison, A. E., McMillan, M. S., & Null, C. (2007). U.S. Multinational Activity Abroad and U.S. Jobs: Substitutes or Complements? *Industrial Relations*, 46(2), 347-365.
- Hawkins, R. G. (1972). *Job Displacement and the Multinational Firm: A Methodological Review, Occasional Paper* (No. 3, June). Washington, DC: Center for Multinational Studies.
- Hawkins, R. G. (1976). *Jobs, Skills and US Multinationals* (Statement to sub committee of International Economic Policy, Committee on International Relations House of Representatives, 5 February, 1976).
- Head, K., & Ries, J. (2001). Overseas Investment and Firm Exports. *Review of International Economics*, 9(1), 108-122.
- Hejazi, W., & Pauly, P. (2003). Motivations for FDI and domestic capital formation. *Journal of International Business Studies*, 34(3), 282-289.
- Helpman, E. (2006). Trade, FDI, and the Organization of Firms. *Journal of Economic Literature*, 44(3), 589-630.
- Heyman, F., Sjöholm, F., & Tingvall, P. G. (2006). *Acquisitions, Multinationals and Wage Dispersion*. Stockholm: Research Institute of Industrial Economics Working Paper No. 675.
- Heyman, F., Sjöholm, F., & Tingvall, P. G. (2007). Is there Really a Foreign Ownership Wage Premium? Evidence from Matched Employer-Employee Data. *Journal of International Economics*(forthcoming).
- Jaffe, A. B., Trajtenberg, M., & Henderson, R. (1993). Geographic localization of knowledge spillovers as evidenced by patent citations. *Quarterly Journal of Economics*, 108(3), 577-598.
- Jansen, K. (1995). The macroeconomic effects of direct foreign investment: The case of Thailand. *World Development*, 23(2), 193-210.
- Jordan, G. L., & Vahlne, J. E. (1981). *Domestic Employment Effects of Direct Investment Abroad by Two Swedish Multinationals, Multinational Enterprises Working Paper* (No. 13). Geneva: ILO.
- Kokko, A. (2006). *The home country effects of FDI in developed economies*. Stockholm: European Institute of Japanese Studies Working Paper No. 225.
- Konings, J., & Murphy, A. (2001). *Do Multinational Enterprises Substitute Parent Jobs for Foreign Ones? Evidence from European Firm Level Panel Data*. London: CEPR Discussion Papers: 2972.
- Konings, J., & Murphy, A. P. (2006). Do Multinational Enterprises Relocate Employment to Low-Wage Regions? Evidence from European Multinationals. *Review of World Economics/Weltwirtschaftliches Archiv*, 142(2), 267-286.
- Koshiro, K. (1982). How overseas investments affects employment at home? *Japan Economic Research Center Bulletin*, No. 417, June.
- Kravis, I. B., & Lipsey, R. E. (1988). *The Effect of Multinational Firms' Foreign Operations on Their Domestic Employment, Working Paper* (No. 2760). Cambridge: National Bureau of Economic Research.
- Kujawa, D. (1980). *Employment Effects of Multinational Enterprises: The Case of the United States, ILO Working Paper* (No. 12). Geneva: ILO.
- Lipsey, R. E. (2002a). Foreign production by US firms and parent firm employment. In R. E. Lipsey & J.-L. Mucchielli (Eds.), *Multinational Firms and Impacts on Employment, Trade and Technology: New Perspectives for a New Century*. London: Routledge.

- Lipsey, R. E. (2002b). *Home and Host Country Effects of FDI*. Cambridge, MA: NBER Working Papers: 9293.
- Lipsey, R. E., Ramstetter, E., & Blomstrom, M. (2000). Outward FDI and Parent Exports and Employment: Japan, the United States, and Sweden. *Global Economy Quarterly*, 1(4), 285-302.
- Lipsey, R. E., Ramstetter, E., & Blomström, M. (2000). Outward FDI and Parent Exports and Employment: Japan, the United States, and Sweden. *Global Economy Quarterly*, 1(4), 285-302.
- Lipsey, R. E., & Weiss, M. Y. (1981). Foreign production and exports in manufacturing industries. *Review of Economics and Statistics*, 63, 488-494.
- Lipsey, R. E., & Weiss, M. Y. (1984). Foreign production and exports of individual firms. *Review of Economics and Statistics*, 66, 304-308.
- Lundan, S. M. (2006). Reinvested earnings as a component of FDI: An analytical review of the determinants of reinvestment. *Transnational Corporations*, 15(3), 33-64.
- Magee, S. P. (1979). Jobs and the multinational corporations: The home country perspective. In R. G. Hawkins (Ed.), *The Economic Effects of Multinational Corporations*. Greenwich: JAI Press.
- Mankiw, G. N., & Swagel, P. (2006). *The politics and economics of offshore outsourcing*. Cambridge, MA: NBER Working Paper 12398.
- Mariotti, S., Mutinelli, M., & Piscitello, L. (2003). Home country employment and foreign direct investment: evidence from the Italian case. *Cambridge Journal of Economics*, 27(3), 419-431.
- Mataloni, R. J. (1990). US multinational companies: operations in 1988. *Survey of Current Business*, 70(June), 31-44.
- Mataloni, R. J. (2004). A Note on Patterns of Production and Employment by U.S. Multinational Companies. *Survey of Current Business*, 84(3), 52-56.
- Mataloni, R. J., & Yorgason, D. R. (2002). Operations of U.S. Multinational Companies: Preliminary Results from the 1999 Benchmark Survey. *Survey of Current Business*, 82(3), 24-54.
- Mathews, J. A. (2002). *Dragon Multinational: A New Model for Global Growth*: Oxford University Press.
- Oksanen, O.-P. (2006). *Are foreign investments replacing domestic investments? Evidence from Finnish manufacturing*. Helsinki: ETLA Discussion Papers No 1001.
- Ozawa, T. (1996). Japan: The macro-IDP, meso-IDPs, and the technology development path (TDP). In J. H. Dunning & R. Narula (Eds.), *Foreign direct investment and governments: Catalysts for economic restructuring*. London: Routledge.
- Ozawa, T. (2005). *Institutions, industrial upgrading and economic performance in Japan*. Cheltenham: Edward Elgar.
- Pain, N., & Wakelin, K. (1998). Export performance and the role of foreign direct investment. *Manchester School*, 66(3), 62-88.
- Pfaffermayr, M. (1996). Foreign Outward Direct Investment and Exports in Austrian Manufacturing: Substitutes or Complements? *Weltwirtschaftliches Archiv*, 132(3), 501-522.
- Pfaffermayr, M. (2004). Export orientation, foreign affiliates, and the growth of Austrian manufacturing firms. *Journal of Economic Behavior & Organization*, 54(3), 411-423.
- Popovici, I. (2005). Outward R&D and knowledge spillovers: Evidence using patent citations, *mimeo*. Miami, FL: Florida International University.
- Potterie, B. V. P. D. L., & Lichtenberg, F. (2001). Does foreign direct investment transfer technology across borders? *Review of Economics & Statistics*, 83(3), 490-497.
- Pöschl, J. (2000). FDI in the balance-of-payments framework. In G. Hunya (Ed.), *Integration through foreign direct investment: Making Central European industries competitive*

- (pp. 218-243). Cheltenham: Edward Elgar in association with the Vienna Institute for International Economic Studies.
- Ruttenberg, S. (1971). *Needed! A Constructive Foreign Trade Policy*. Washington DC: AFL-CIO.
- Shelburne, R. C. (2004). Trade and Inequality: The Role of Vertical Specialization and Outsourcing. *Global Economy Journal*, 4(2), 1-32.
- Shepherd, D., Sibertson, A., & Strange, R. (1985). *British Manufacturing Investment Overseas*. London and New York: Methuen.
- Slaughter, M. J. (2000). Production transfer within multinational enterprises and American wages. *Journal of International Economics*, 50(2), 449-472.
- Stobaugh, R. B., & Hayes, R. H. (1976). *Nine Investments abroad and their impact at home: Case studies on multinational enterprises and the US economy*. Boston: Harvard Business School Press.
- Stopford, J. M. (1979). *Employment Effects of Multinational Enterprises in the United Kingdom*, ILO Working Paper (No. 5). Geneva: ILO.
- Swedenborg, B. (1979). *The Multinational Operations of Swedish Firms: An Analysis of Determinants and Effects*. Stockholm: Industriens Utrednings Institut.
- Swedenborg, B. (1985). Sweden. In J. H. Dunning (Ed.), *Multinational Enterprises, Economic Structure and International Competitiveness*. Chichester and New York: John Wiley and Sons.
- Swenson, D. L. (2004). Foreign Investment and the Mediation of Trade Flows. *Review of International Economics*, 12(4), 609-629.
- Svensson, R. (1996). Effects of Overseas Production on Home Country Exports: Evidence Based on Swedish Multinationals. *Weltwirtschaftliches Archiv*, 132(2), 304-329.
- UNCTAD. (2004). *World investment report 2004: The shift towards services*. New York and Geneva: United Nations Conference on Trade and Development.
- UNCTAD. (2006). *World investment report 2006: FDI from developing and transition economies - Implications for development*. New York and Geneva: United Nations Conference on Trade and Development.
- US Tariff Commission. (1970). *Economic Factors Affecting the Use of Items 807.00 and 806.30 of the Tariff Schedules of the United States*. Washington, DC: Government Printing Office.
- Van den Bulcke, D., & Halsberghe, E. (1979). *Employment Effects of Multinational Enterprises: A Belgian Case Study*, ILO Working Paper (No. 1). Geneva: ILO.
- Wei, Y., & Liu, X. (2001). *Foreign direct investment in China*. Cheltenham: Edward Elgar.

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