Does relocation of economic activities hurt labour in the home country?*

Chiara Fumagalli† Massimo Motta‡

April 23, 2001

Abstract

In many industrialised economies, there is growing concern about the relocation of economic activities abroad. This paper analyses whether this concern is justified. The authors show that theory predicts ambiguous effects of relocation on (the employment and production levels of) the country of origin. Therefore, whether such effects are positive or negative is an empirical question. A survey of empirical works then shows no convincing evidence that outward foreign investment is harmful. Rather, there often exist complementarities between foreign and home production, so that investing abroad might actually increase domestic production and employment.

*Paper written for the Conference on "Globalization and the Location of Economic Activities", October 27-28, 2000, Sitges (Barcelona). Comments from the discussants (A. Venables and I. Wooton) and other participants, as well as from an anonymous referee, are gratefully acknowledged. The authors are also grateful to the Istitut Català de Finances for financial support.

†Università "Bocconi", Milan; e-mail: chiara.fumagalli@uni-bocconi.it

‡Department of Economics, European University Institute, via Roccettini 9, I-50016 San Domenico (FI); Universitat Pompeu Fabra, Barcelona; and Center for Economic Policy Research, London; e-mail: massimo.motta@iue.it.

1 Introduction

In recent years, the benefits and the costs associated with the so-called *globalization* (i.e. the reduction of barriers to trade and to factor mobility which should lead to the creation of a unique world market place) have been intensively discussed.

Most of the political debate is focused on the labour market effects of globalization. In particular, as the activity of Multinational Enterprises (MNEs) has experienced a remarkable growth since the Eighties, the role of Foreign Direct Investments (FDI) in the generation, relocation and distribution of jobs worldwide is receiving more and more attention.

A concern that is often expressed by businessmen, policy makers and by the press is that outward FDI, facilitated by the *increasing economic integration*, might replace home country production thereby aggravating either *unemployment* at home (in the EU) or inducing a *wage fall* (in the US).

The basic argument is that the removal of trade barriers, the declining of transport costs and the advances in communications technology have made it possible to divide production into component stages, locate these production stages in separate countries and trade the resulting goods across borders. In other words, growing economic integration reflects a greater ease of moving production from one place to another and makes firms more footloose. This should increase their incentives to *relocate* the activity towards low-wage countries, which is argued either to suppress employment at home (in particular that of blue-collars) or to worsen workers' conditions and their wages. Hence, very pessimistic views on the prospects awaiting industrial countries if they continue on the road of economic integration with developing countries can be cyclically found in the press. For example, a Business Week special report states that

> "By shifting production overseas, US companies are whittling away the critical mass essential to a strong industrial base. If globalization of industry means that US manufacturers will wind up simply licking the labels and sticking them on products that are made abroad, the nation can look forward to a declining standard of living.[1]"

[1] Quoted in Slaughter (2000).

These worries, which surface whenever international trade agreements are negotiated and deadlines for liberalization approach, give strength to the advocates of trade protection.

For instance, in the US, the Clinton administration has met fierce resistance anytime it has attempted to further liberalize international trade and the NAFTA was intensively opposed by prominent labour organizations and businessmen on the grounds that American firms would either delocate their operations to Mexico or would shut down their business. Indeed, the concerns about the impact of outward FDI led to Congressional proposals to restrict it and to administration measures to limit its financing in the US[2]. In Europe, where the two-digit unemployment figures are the norm, the hostility towards "unfair trade" and the fears that outward FDI might cause unemployment are even stronger. To quote some examples, in 1993 a much publicised report presented by Senator Arthuis in France estimated that over one million jobs where threatened in the country by the process of *délocalisation*. Therefore, "the EC should obtain a selective increase of custom duties in the sectors most affected by job relocations[3]." In Belgium the debate has been particularly vigorous when, in 1998, four MNEs -Levi Strauss, Renault, Duparc Stocking and Boston Scientific- relocated their activities to low wage countries (the first relocation leading to the layoff of 900 employees). These concerns have been reinforced by the opening of Central and Eastern Europe countries to international trade and by the planned enlargement of the EU eastward. Indeed, the labour cost advantage of these economies together with their proximity to important European final markets would actually allow relocations not only of standardised products but also of products which are more sensitive to changes in local markets trends.

The enhanced mobility of MNEs is also feared to create the conditions for *social* as well as *environmental dumping* to emerge: some countries are claimed to strategically establish either loose labour standards or lax environmental policies (or possibly both) to obtain the MNEs' investments. This may lead to unemployment in countries which defend workers' protection and which maintain strict green policies. Alternatively it may induce a welfare decreasing "race to the bottom" to attract FDI. These accuses are addressed not only to developing countries. In 1993, in France, much noise arose when Hoover Corporation

[2] See Lipsey (1999).
[3] See Arthuis, 1993.

shifted its activities from France to Scotland, allegedly attracted there both by lower wage costs and weaker labour standards. Hence, the UK was accused of social dumping.

Following arguments along these lines, policy interventions aimed at limiting relocation, especially towards less developed countries, are often invoked. An example is the call for the adoption of a social clause in international trade agreements, which finds many advocates. Such a clause might consist of imposing taxes on imports produced without respecting the ILO rules regarding human and workers' rights or linking preferential trade and investment benefits to the respect of basic workers rights.

The aim of this paper is to analyse whether the concern that globalisation might lead to a relevant relocation of production and employment out of developed countries is sound, and - more generally - whether FDI (relocation is a particularly type of FDI) really has such negative effects on the home economies. For this purpose, we review both the theoretical and the empirical literature on these issues. Surprisingly, at least for a topic which stirs so much emotion and so many discussions, we have found that this topic has not been the object of many and thorough formal analyses. Very little has been written in the economic literature on relocation and its effects, and in particular econometric studies do not abound.

In any event, establishing clear empirical evidence on the issue is particularly difficult, for many reasons. First, systematic data on FDI are lacking, with very few exceptions. Second, analysing the effects of FDI involves dealing with the important and complicated question of building the proper counterfactual of "what would have happened if FDI had not been made?". Finding that FDI has actually replaced some home production (and exports) does not mean much since, in the absence of FDI, exports migth have come to an end anyhow. Likewise, finding that FDI has actually stimulated some exports does not necessarily entitle optimistic views, since exports might have increased more had the FDI not been made. Third, general equilibrium (or, at least, inter-firm) effects also make the analysis difficult. For instance, even if a proper counterfactual study was made, the finding that a particular firm has relocated activities and stopped domestic production would not necessarily imply that the home economy has suffered: the subsidiary of the investing firm might have increased its demand to other home country firms providing intermediate goods, so that the final effect on the home economy might be quite different.[4]

[4]Notice that we are here discussing mainly the effects on home production and employment, but the

As a consequence, this paper is far from being able to give account of any conclusive evidence on the issue. Our contribution, if any, is to try and put together different strands of the economic literature which touch upon relocation and the effects of FDI, and analyse whether the passionate views about these issues are substantiated.

To anticipate our findings, we are going to argue first, that FDI (and relocation of economic activities) towards less developed countries (supposedly, the most likely to jeopardise labour in industrialised countries) is still less important than towards other developed countries (despite anecdotal evidence, the press and some groups of interest might lead to think the opposite). Second, that FDI (even in less developed countries) can be of very different types, and its effects are unlikely to be homogenous, but will instead vary according to its different types. In many cases, it is market oriented and more likely to be a complement rather than a substitute to domestic production and employment.

In short, our arguments - and the little evidence we have seen - do not seem to support the apocalyptic views of the enemies of globalisation and FDI. We are far from hearing the "giant sucking sound" of relocation of economic activities towards less developed countries. However, more evidence is certainly needed on such a sensitive issue.

The paper proceeds as follows. In Section 2 the different types of outward FDI are distinguished, in order to identify which ones are more likely to generate relocation concerns. Section 3 presents some stylised facts about FDI. Section 4 surveys the basic insights given by the scant theoretical literature on this issue. Section 5 reviews the main empirical results about whether outward FDI substitutes for home employment. Section 6 concludes the paper.

2 FDI determinants and home employment effects

To understand the phenomenon of relocation and its effects, one should first understand that not every investment abroad implies relocation of economic activities. In other words, the pure observation that a FDI occurs in a certain country tells us very little. Outward FDIs are characterised by different features and have very different potential of displacing home production and employment. In particular, we shall draw a distinction between

overall effects of outward FDI and relocation investment should also comprise the effects on consumers. Relocation in search of cheaper labour, for instance, will generally make goods sold on the domestic market cheaper, which in turn will benefit consumers.

vertical and horizontal FDI, and see which ones are more likely, by their own nature, to be complements (substitutes) with home production and exports.

2.1 Vertical FDI

Vertical FDI occurs when a firm invests either in an upstream or in a downstream stage of production which is *not carried out by the parent company yet*.[5]

Firms may add a downstream stage abroad to develop functions which are *specific of the market where the final good will be sold*, such as providing assistance, after-sales services and spare parts to customers, organising the distribution and the marketing activities, adapting the good to the tastes and needs of the foreign market (i.e. in the case of fashion-intensive products which are sensitive to frequent changes in market trends). Since these activities cannot be operated (or can be less efficiently performed) by the parent company and production remains at home, this kind of investment is unlikely to "destroy" domestic jobs. Conversely, after setting up a foreign subsidiary the demand for the firm's products should increase, thereby benefitting employment in the home country.

Alternatively, firms may invest upstream to have *access to raw materials and inputs* not available (or less efficiently produced) in their own country. Again, this kind of investment will not displace home production of the investing firm. Still, *if* such intermediates were supplied (at a higher cost) by domestic firms prior to the foreign investment, a negative impact on the home economy might arise. However, the FDI, by making the firm more efficient, should increase its competitiveness and market shares, rendering ambiguous the net effect of the operation on the home economy.[6]

Finally, a positive impact on home employment can be expected from investments decided not so much to exploit some advantage that firms already possess as to *acquire new technological knowledge*[7], thereby enhancing the whole MNE's competitiveness. Moreover, the new technology may spill over other firms in the home country, reinforcing the

[5] In the literature, vertical and horizontal FDI are also defined in a different way (see, for instance, Markusen et al. (1996)): vertical FDI refers to the location of different production stages in separate countries, and horizontal FDI refers to the case where the whole domestic process is duplicated abroad.

[6] Of course, one should ask the usual counterfactual question here: what would have happened in the absence of FDI? It is possible, for instance, that the less efficient domestic firms would have been displaced anyway by foreign competition...

[7] See Kogut and Chang (1991), Braunerhjelm and Svensson (1996), Teece (1992), Neven and Siotis (1996), Cantwell(1989), Cantwell and Hodson (1991) and Fors (1996). Fosfuri and Motta (1999) capture within a formal model the "technology acquisition" rationale for FDI.

beneficial effect of outward FDI.

Overall, vertical FDI is more likely to complement with, rather than substitute for, employment in the home country.

2.2 Horizontal FDI

Horizontal FDI, instead, reproduces abroad either a production stage or a whole process already existent at home. **Relocation** occurs in the particular case where the FDI is associated with the downscaling or the closing down of the domestic productive unit or segment.

Consider first the particular case of a horizontal FDI whereby an affiliate is created to serve a market that *has sofar not been served,* for instance because of high transport costs, tariffs, or non-tariff barriers that make exports unfeasible.[8] Further, some products are typically non-tradeable. Services are an example, as they need a close connection with customers and have to be produced where and when they are consumed.[9] In these cases, no reduction of domestic jobs is expected from outward FDI. In fact, it may have a positive impact on home employment. This effect may concern the *MNE itself*, if the presence of the subsidiary in the foreign market with a particular good exerts a positive spillover on the firm's whole range of products, as well as if the foreign subsidiary depends on the parent company for equipment to start the new plant as well as parts, intermediate inputs, services for production. Moreover, if the latter are provided by domestic suppliers or if the outward FDI stimulates a rise in jobs related to international business such as banking, consultancy and other advisory services also the *rest of the economy* may benefit from outward FDI. This observation highlights that in order to assess properly the overall effect of outward FDI, not only the within-MNE impact but also the full range of linkages with the domestic economy should be taken into account. However, the latter are typically neglected by the empirical works on this issue, as we will discuss more in detail in Section 5.

At the other extreme, consider now the case where foreign production replaces domestic production and there is a *direct effect* of *employment loss* when the horizontal investment

[8] Biased public procurement, discriminating government regulations or simply domestic preferences over locally manufactured good may also make FDI the only option to serve the foreign market.

[9] However, due the recent advances of communication technologies, also services partecipate in the electronic division of labour where physical proximity to users does not matter so much as before.

is done either to *enter a market that is currently served by exports* or to *exploit abundant and cheap factors of production* in foreign countries to then re-export to the home country. The latter are typically investments in developing countries in search for low-cost unskilled labour and generate the strongest concern of a negative impact on home labour market performances.

Unfortunately, to find such clearcut types of FDI is not easy in practice. Take for instance the first case, where an affiliate is open in a country where exports have not been done before. The proper counterfactual here, before concluding that this type of FDI does not displace home employment (and exports) is to understand whether exports might have been an alternative to FDI. If so, then one could argue that FDI might have some negative effects on the home economy.

Take now the second case, where some displacement of home employment appears to exist, whether because (a) FDI replaces exports as a mode of servicing the foreign market, or (b) production for the home market is relocated abroad. The net effects on home employment of these operations might not be so straightforward, though.

In case (a), by switching to FDI, the investing firm jumps tariff barriers and trade costs, gets closer to the customers learning to better satisfy their needs, develops stronger cooperation and interaction with buyers and brand's loyalty. All these elements enhance the firm's competitiveness in the foreign market, thereby increasing its market shares, which in turn may allow a better exploitation of scale and scope economies. This expansion of the subsidiary activity may also benefit production in the parent company, if some functions such as R&D, design and headquarter activities are kept at home. Finally it may stimulate the increase of domestic jobs related to the firm's international business. Therefore, there is an indirect effect which may compensate the negative one which is visible at first sight.

Similarly, in the case (b) of relocation in search of cheap labour, some production stages rather than the whole process are typically moved abroad. For instance, in the semi-conductors industry, blueprints and key components (such as chips) are designed and produced in the parent plants; then the chips are shipped to the testing and assembly facilities of subsidiaries in low-wage countries; the finished products are shipped back to the sales destinations. This decomposition of the economic activity implies that the direct

effect of job reduction at home may be partially offset. As relocation makes the firm more efficient, the company's final good demand increases. This expands production not only of the subsidiary but also of the parent plant, as well as of domestic suppliers of goods and services.[10]

To sum up, any evaluation of the employment effects associated to outward FDI should take into account two considerations. First, the impact of foreign investment to be considered should be not only on the investing firm but also on other domestic firms likely to be affected by the operation (competitors, suppliers, and buyers). Second, one should always compare with what *would have happened in the absence of international production*. For instance, the relocation of assembly stages in a developing country may well imply a reduction in employment at home, but some of these jobs would have been lost in the absence of investment abroad if market shares could not be maintained without FDI. Indeed, the decrease of employment might have been higher. The problem is that it is difficult to establish the correct counterfactual evidence, as we will discuss presenting the empirical literature in Section 5.

3 Stylized facts about FDI

Different indicators (see UNCTAD 2000 and Figures 1 and 2) confirm that international production continues to gain importance in the world economic scenario. In 1999 over 680,000 foreign affiliates were in operation world-wide, established by about 60,000 parent companies. FDI have increased steadily in recent years and in 1998 world FDI flows have shown the highest growth rates since 1987 (45.6% and 43.8% for outflows and inflows respectively), despite numerous unfavourable conditions in the world economy[11] which could have slowed down the process. FDI flows have increased further in 1999. FDI stock in 1999 amounted to more than 4,000 billion dollars and rose by about 18%, and it has

[10] Another interesting question deals not with the overall absolute impact on the domestic workforce, but with relative demands for its components. If simple production stages of standardised goods are relocated, keeping skilled labour-intensive production at home, the indirect increase of domestic employment may be biased towards skilled workers and, even if overall unemployment should not increase, the unskilled workers might suffer from job losses and wage reduction. We will come back to this issue in Section 5.2.

[11] Recession in Asia, including Japan; instability of financial markets in Asia, the Russian Federation and Latin America; reduced bank lending; reduced privatization activity contributed to a slowdown in world economic growth in 1988 to an estimated 2%, compared to a growth rate of 3.4% in 1997 (see UNCTAD 1999).

1999	*Value at current prices (Billion dollars)*	*Annual growth rate (per cent)*
FDI inflows	865	27.3
FDI outflows	800	16.4
FDI inward stock	4772	18.8
FDI outward stock	4759	17.1
Cross-border M&As	720	35.4
Sales of foreign affiliates	13564	17.8
Gross product of foreign affiliates	3045	17.1
Total assets of foreign affiliates	17680	17.1
Export of foreign affiliates	3167	19.8
Employment of foreign affiliates (thousands)	40536	17.9

Source: UNCTAD 2000

Figure 1: *Selected indicators of FDI and international production, 1999.*

clearly increased over the last twenty years not only in absolute terms but also in terms of GDP.

However, there are striking disparities in the extent to which different regions, countries and industries are involved in international production. *Developed countries dominate the picture* both as the source and the recipient of FDI (see Figure 3). Their share in global outflows further increased from an already high ratio of 85% in 1996 to about 95% in 1998; it decreased slightly in 1999 (91.5%). Their share in inflows rose even more from 58% to 73%. Although there have been significant increases in FDI flows to developing countries over the past two decades, the basic fact that the bulk of FDI stock originates from, and is located in, developed countries remains unchanged. In particular, the FDI concentration in the so-called Triad (European Union, United States and Japan) increased over the past decade: some 63% of total outward stock from the Triad was located in the Triad in 1997, compared to 61% in 1988 (see UNCTAD 1999). It should be noted, however, that even though flows to the Russian Federation saw a sharp decline (60% in 1997), those towards the rest of the economies in transition of Central and Eastern Europe continued to increase. They are basically privatisation-led investments and two-thirds of total investors in these countries originate from the European Union.

As far as the sectoral distribution, in developed countries *services FDI* (in particular

Region/Economy	*1980*	*1985*	*1990*	*1995*	*1998*
World					
Inward	4.9	6.7	8.6	9.6	13.7
Outward	5.4	6.4	8.6	10.2	14.1
EU					
Inward	5.3	8.3	10.7	12.4	17.3
Outward	6.1	10.3	11.7	15.4	22.9
France					
Inward	3.4	6.4	7.2	9.4	11.7
Outward	3.6	7.1	9.2	12.0	15.9
Germany					
Inward	4.0	5.3	6.8	6.9	9.3
Outward	4.7	8.6	9.2	11.1	17.3
Italy					
Inward	2.0	4.5	5.3	5.8	8.8
Outward	1.6	3.9	5.2	10.0	14.1
Spain					
Inward	2.4	5.4	13.4	19.1	21.5
Outward	0.9	2.7	3.2	6.3	12.5
Sweden					
Inward	2.9	5.0	5.4	13.4	22.5
Outward	3.0	10.7	21.5	31.6	41.3
UK					
Inward	11.7	14.0	20.8	18.0	23.3
Outward	15.0	21.9	23.4	27.4	35.9
US					
Inward	3.1	4.6	7.1	7.6	9.5
Outward	8.1	6.2	7.8	9.9	11.5
Japan					
Inward	0.3	0.4	0.3	0.7	0.7
Outward	1.9	3.3	6.8	4.6	7.1
Mexico					
Inward	0.9	1.1	8.5	14.4	14.3
Outward	-	0.3	0.2	1.4	1.4

Source: UNCTAD 2000

Figure 2: *Inward and outward FDI stock as a % of GDP in selected countries.*

	Inflows				*Outflows*			
Region/country	*1996*	*1997*	*1998*	*1999*	*1996*	*1997*	*1998*	*1999*
Developed countries	**58.2**	**58.2**	**70.6**	**73.5**	**84.9**	**85.6**	**94.9**	**91.5**
Western Europe	30.4	29.4	38.2	26.4	52.3	52.2	64.7	66.6
EU	28.8	27.2	36.6	35.2	46.6	47.3	61.9	63.7
Other Westerns Europe	1.7	2.2	1.6	1.2	5.6	4.8	2.8	2.9
US	22.4	22.3	27.4	31.8	21.6	26.1	21.3	18.7
Japan	0.05	0.7	0.5	1.5	6.0	5.5	3.5	2.8
Other developed countries	2.8	4.0	1.9	2.4	7.7	7.5	4.3	3.7
Developing countries	**38.4**	**37.8**	**26.4**	**23.9**	**14.8**	**13.6**	**4.8**	**8.2**
Africa	1.5	1.5	1.1	1.0	0.02	0.09	0.05	0.03
Latin America and the Caribbean	12.1	14.6	10.8	10.4	1.4	3.2	2.4	3.4
Developing Europe	0.3	0.2	0.2	0.3	-	0.04	-	-
Asia	24.5	21.5	14.2	12.2	13.2	10	3.3	4.6
West Asia	0.6	1	0.9	0.8	0.6	-0.07	-0.6	0.1
Central Asia	0.5	0.6	0.5	0.3	-	-	-	-
South, East and South east Asia	23.3	19.7	12.8	11.1	12.6	10.1	3.9	4.5
Central and Eastern Europe	**3.4**	**4**	**2.9**	**2.5**	**0.2**	**0.7**	**0.3**	**0.3**
World	100	100	100	100	100	100	100	100

Source: UNCTAD 2000

Figure 3: *Regional distribution of FDI inflows and outflows, 1996-1999.*

financial services) has been growing over the past years at a faster rate than FDI in other sectors so that the share of services both in inward and outward FDI stock has experienced a remarkable growth, basically at the expense of the primary sector (see Figures 4 and 5; Source: UNCTAD 1999)[12]. For instance, the share of services FDI in total inward FDI stock passed from 45% in 1988 to 56% in 1997[13]. Also in developing countries services have gained importance in inward FDI (see Figures 6 and 7; Source: UNCTAD 1999), at the expense of the primary sector but with a decline also of manufacturing, which, however, still represents the single most important sector (59,5% in 1997).

The above observations suggest that ongoing economic integration, by increasing FDI outflows, should not make developed countries as a whole suffer from a significant loss of production and employment. Services are often non-tradeable and need proximity to the market to be provided. As already commented, they should not generate serious concerns of job losses at home, even though the advances in communication technology

[12] Since about three quarters of FDI stock from developed countries is located in other developed countries, the sectoral distribution of inward FDI stock in developed countries is more or less similar to that of their outward FDI stock.

[13] Note that the share of services in FDI is still lower than that in the value added of home countries, suggesting that there is still room for international production in certain service industries to expand.

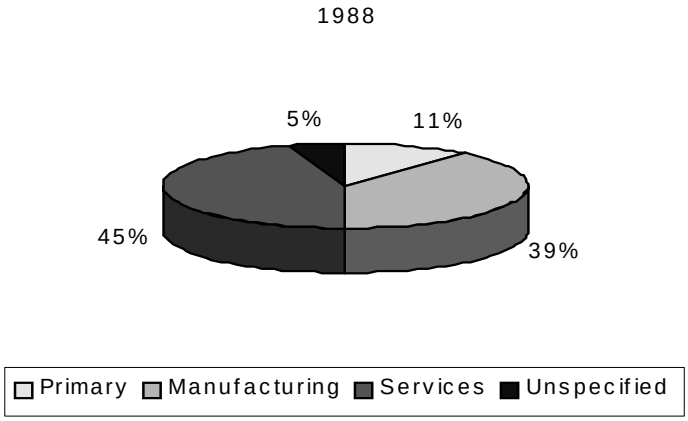

Figure 4: *Developed countries: Inward FDI stock by sector, 1988.*

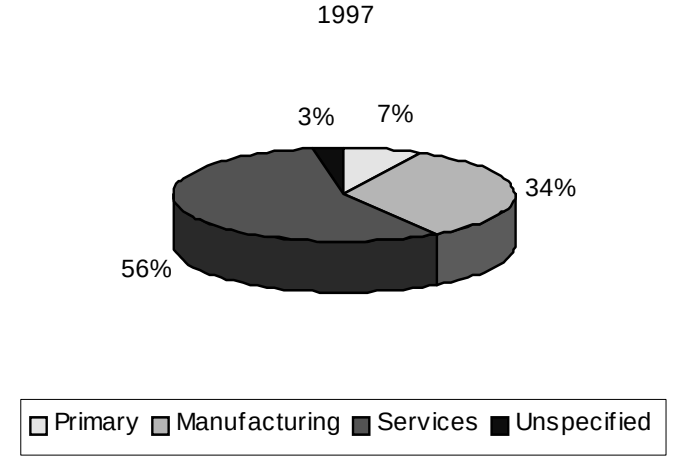

Figure 5: *Developed countries: Inward FDI stock by sector, 1997.*

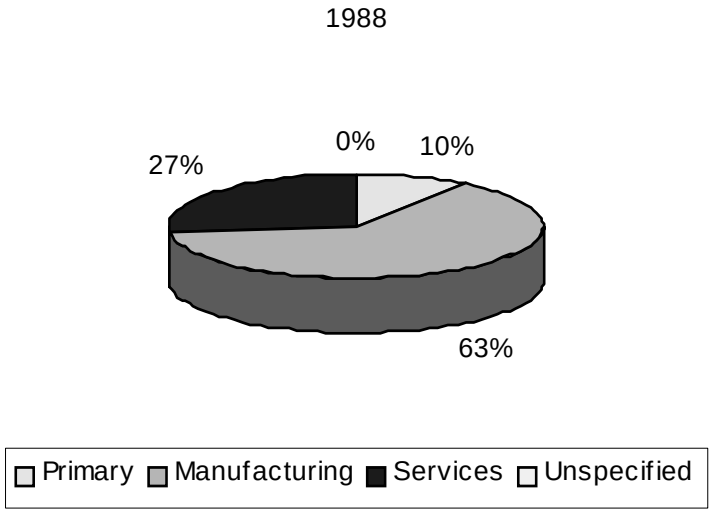

Figure 6: *Developing countries: Inward FDI stock by sector, 1988.*

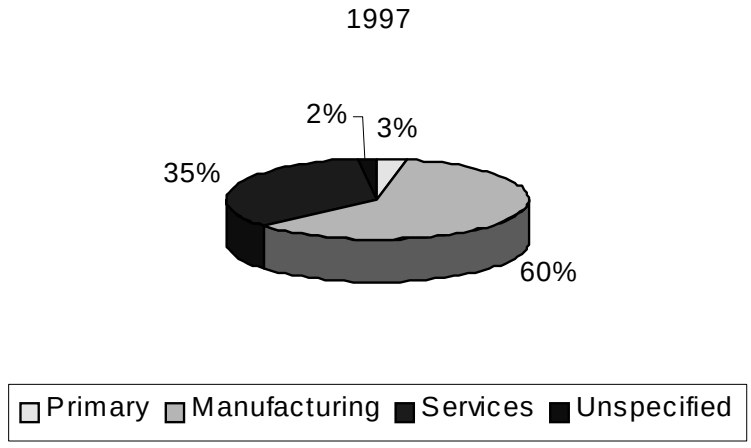

Figure 7: *Developing countries: Inward FDI stock by sector, 1997.*

might change the picture, as they are making easier and easier to provide services, for instance financial ones, from remote locations.

Moreover, most FDIs take place among developed countries. Hence, in principle, we must expect that most FDIs are market seeking rather than looking for cheaper labour and mutual flows between developed countries should at least partially compensate the eventual job losses.

Conversely, the FDIs having more potential for exerting a negative impact on domestic employment, that is FDIs flowing towards developing countries, have a (relatively) limited quantitative relevance and a large share of them is in the tertiary and the service sectors. Hence, the magnitude of relocation resulting from these operations is more likely to be low, also in relation with the size of labour markets in developed countries. Note also that, as emphasised by the latest UNCTAD Report, recently low-cost labour is diminishing its importance as a source of attractiveness for host countries. MNEs serving global markets increasingly look for world-class infrastructure, skilled and productive labour, an agglomeration of efficient suppliers, support institutions and services. The case of Sweden is emblematic of this: between 1990 and 1998 the number of foreign affiliates in Sweden increased by more than 52% and despite its population of only 9 million people, Sweden was the 5th largest recipient of FDI flows in 1995 and the ninth in 1998 (see UNCTAD 1999). This is an additional element to be considered against the prediction that relocation towards low-wage countries will reach such a magnitude to exert very strong pressures on labour markets in developed countries.

Aggregate data on *MNEs' employment* add little insight to the picture. Overall MNEs are estimated to account directly for a total of over 85 million jobs worldwide (see Figure 8), even though such employment constitutes only a negligible proportion of the world's labour force (about 3%). Almost two-thirds of MNE's employment is accounted for by parent companies' operations at home. As for the remainder, employment in foreign affiliates located in developing countries has shown a remarkable increase. However, aggregate data such as those of Figure 8 do not allow any conclusion about whether this expansion occurred or not at the expense of parent firms' employment.

Overall, the above stylised facts on FDIs do not seem to point to a likely massive relocation of production and employment out of developed countries. This is because the

	1975	*1985*	*1990*	*1992*	*1995*	*1998*
Outward FDI stock	282	674	1649	1932	2840	4117
Estimated employment in MNEs	40	65	70	73	78	86
Employment in parent companies at home	-	43	44	44	48	50
Employment in foreign affiliates	-	22	26	29	30	36
Developed countries	-	15	17	17	15	17
Developing countries	-	7	9	12	15	19
China		-	3	6	-	-

(Millions of dollars and millions of employees)

Source: UNCTAD 1999 and UNCTAD 1994

Figure 8: *World FDI stock and estimated employment in MNEs.*

aggregate data tend to indicate that less developed countries still receive a relatively low proportion of FDI, and that FDI in service sectors, less likely to be a substitute with exports and home employment, amounts to a great proportion of total FDI out of the developed countries.[14]

Of course, to quantify more precisely the phenomenon of relocation, one would need less disaggregated data, discriminating across countries, types of investments and so on.

For instance, the labour market impact of globalization may be country specific and some industries may be considerably affected. For instance, Italian comparative advantage lies in the traditional labour-intensive sectors (such as textile and clothing, footwear and food). The reason is that Italy is a labour-abundant country among developed countries (but capital abundant with respect to developing countries) and in the past, trade liberalization has been quite selective, in the sense that it favoured trade among developed countries. However, as economic integration with developing countries proceeds, Italian firms may feel stronger and stronger pressures to relocate production towards low-wage countries[15] and the potential for a significative negative impact on domestic employment is stronger than the one expected in a country whose comparative advantage is in high-tech industries like the US. Similarly, the greater ease of moving production around may have different implications in small open economies such as Finland, Sweden and Switzerland which tend to have a much higher concentration of foreign affiliates' employment in de-

[14] Note also that the aggregate data do not discriminate among the various types of FDI (eg., vertical vs. horizontal). Service-like, local-market oriented FDI done by manufacturing firms would count as manufacturing FDI, not "service" FDI in the figures above.

[15] Actually in the 90's Italy experienced a remarkable increase in outwards FDI. Investing firms were mostly small and medium enterprises, operating in the traditional sectors and moved especially to Central and Eastern Europe and Less Developed Countries.

veloped countries, mainly the EU[16], rather than in Japan where 60% of employment in foreign affiliates is located in developing countries, primarily in the Asian-Pacific region (UNCTAD, 1999). Hence, it would be interesting to compare the results of econometric studies conducted in different countries to investigate whether outwards FDIs exports jobs. Unfortunately, comprehensive data on MNEs activities are available almost exclusively in the US[17] and in Sweden. In Section 5 we will thus discuss the conclusions that can be drawn from the experience of these two countries, as well as from other countries where some data have been available and studied. Before doing this, in Section 4 we will describe the basic insights given by the economic theory on relocation.

4 The theoretical literature

Although there is a substantial theoretical literature on FDI (see Markusen 1995 for a recent review), there exists little theoretical work, at least to our knowledge, on the determinants and the effects of relocation FDI. Some of the papers written on the topic are motivated by the so-called "environmental" or "social" dumping, and look at the impact of environmental or labour market regulations on the location decisions of the firms. The first such paper is probably Markusen, Morey and Olewiler (1993), who analyse how different environmental policies would influence the location decisions of two firms, each "associated" with one country. In their paper, firms are not yet established at the beginning of the game, and decide on where to set up production after observing the (environmental) policy choices of the two country's governments. Note that a firm is not obliged to have a plant in the home country, and it might well decide to use its country capital to establish a plant in the other country, and serve both markets from it. In this setting, any policy affecting variable costs of production (environmental is one example, but other regulations or policies would have similar effects) can have a strong impact on firms' locations since a relatively small difference in policies might lead a firm not to locate in its home country.

This paper was then used by A. Ulph (1993) to calibrate the impact of an energy tax

[16] In 1990, 86.4% of Swedish foreign affiliates' employment was located in developed countries, 55.9% in the European Union. As for Switzerland, the percentage are respectively 79.5% and 46% (Unctad, 1994).

[17] The United States are the only country where data on home MNEs' activity are systematically collected: the Bureau of Economic Analysis (BEA) administers on a mandatory base the Annual Survey of U.S Direct Investment Abroad. Moreover, periodically it conducts a census of every American MNE.

on the fertiliser industry in Western Europe and the US. The study found that such a tax might have stronger effects than previous studies which had taken firms' location decisions as fixed.

However, results pointing to such a strong impact of policies over firms' location choices are clearly affected by the assumption that firms are "footlose" and have not incurred any country-specific sunk costs before the policies are announced.

Motta and Thisse (1994) analyse a similar situation as Markusen et al. (1993), but assume that firms are already established in their home country when the game begins. They find that a tough domestic environmental policy may deteriorate the domestic firm's competitiveness and may lead it to relocate towards the "dirty" country. However, in Motta and Thisse's model, the presence of *fixed costs* already *sunk* by firms in the home country significantly limits the likelihood of relocation. This paper invites to think that fears about the magnitude of massive relocation should not be exaggerated, since firms' sunk costs represent an obstacle to relocation.[18] Of course, however, a proper quantification of fixed sunk costs is difficult to carry out, and it should also be taken into account that technological progress, by rapidly making equipments and physical assets obsolete, may weaken the role of sunk costs in preventing relocation. In other words, the relocation impact of policies and regulations which affect firms' costs are better assessed over a long enough period.

Motta and Thisse also show that transport costs and tariffs play a role in the relocation choices of firms, and that *globalisation and market integration*, by reducing trade barriers, tend to favour relocation when one country chooses a stricter environmental policy than others. None the less, a protectionist trade policy does not necessarily allow a government to implement a more severe environmental policy without making the domestic firm relocate, since the latter may be indeed induced to exit the industry.[19]

[18] More generally, the literature on FDI emphasise the importance of investment costs as a key variable for FDI decisions. Such costs are not only related to the cost of building a plant, but also include the cost of running business in a country whose business and social rules, laws, language and regulation are less well known.

[19] In a general equilibrium setting, also Markusen (1996) concludes that there is no argument that trade barriers should be increased in response to a tougher environmental regulation. In his model trade barriers limit the decrease of production in a country induced by a cost increase related to green policies. However, protectionism seems to protect production but not welfare. Moreover, the assertion that MNEs make production and plant locations more responsive to costs is not valid. In other words, it is not true that when production is dominated by MNEs domestic production respondes more to a cost increase. In other words, reallocations among national firms through competitive market forces may be just as responsive.

Note also that, even in the presence of relocation, Motta and Thisse (1994) find that domestic welfare does not necessarily decrease relative to a situation where there is no strict environmental policy by the home government. Welfare might increase due to lower prices, lower (negative, due to pollution) externalities and profit repatriation.

Cordella and Grilo (1998) analyse welfare effects of relocation within a duopoly where firms produce vertically differentiated goods and where higher quality implies higher marginal costs. They compare welfare in the equilibrium where firms are free to move production abroad with the one arising in autarky when relocation is not feasible. They adopt a welfare function which tries to capture also welfare losses due to increased unemployment and which adds workers' surplus measured by the wage bill to consumer surplus and firms' profits. Domestic welfare (defined in this way) always decreases when both firms relocate in the "globalization" equilibrium. This is because the decrease in labour costs passed on to consumers via lower prices is not enough to compensate the welfare loss due to domestic job destruction and to the firms' relocation costs.

Instead, a welfare gain may arise when only one firm moves abroad, in particular when the firm producing the product variety toward which the economy is biased. This is because in autarky there is "too little" consumption of the preferred variety. For instance, if the economy is biased towards the high quality product, the firm producing it will become more efficient by relocating. It will increase its market share, thereby pushing the economy towards the optimal demand structure, resulting in an efficiency gain which contributes to welfare. Interestingly, the lower is the wage abroad the more likely that the net welfare effect of relocation is positive. Hence, relocation towards very low wage countries (i.e. Asia) should arise less concerns than those towards relatively higher wage countries, such as Central European ones.[20]

Basevi and Ottaviano (2000) consider the effects of relocation on industrial districts. Relocation may be welfare decreasing because it weakens the Marshallian externalities operating within the district, slowing down the pace for innovation.

[20] Of course, however, this holds given there is relocation, but one should recall that the lower the wages abroad the more likely relocation will occur.

5 The empirical evidence

The studies on the effect of outward FDI on employment in the home countries follows basically two approaches. There exist *business oriented* analyses, mostly based on case studies, as well as more recent *econometric studies*.

5.1 Old literature

The more business oriented analysis comprehends very old studies, carried out mainly with unsophisticated statistical techniques. The merit of these studies is that they try to capture the "counterfactual", in the sense that they evaluate the employment effect of FDI considering what would have happened if investment abroad had not been possible. However, the conclusions are strongly dependent on the specific scenario assumed in the absence of FDI. Moreover, it is questionable whether these results could be extrapolated to have a meaning today, in a very different economic environment.

Jordan and Vahlne (1981) compare the domestic employment effects of FDI with alternative ways to exploit the comparative advantage of a sample of Swedish firms. The alternatives considered are exports from Sweden, licensing and minority joint ventures. The analysis includes estimates of the market shares that can be captured under the alternative strategies, as well as differences in the ability to face and solve customer problems in the relevant markets, flows of royalties and license payments and differences in related product sales. Jordan and Vahlne overall conclusion is that FDI has a positive effect on Swedish employment because the establishment of foreign affiliates typically leads to large increase in the foreign market shares and in exports of intermediate products to affiliates and of related products. However, the result rests on very specific assumptions about the market share that could have been served by home exports (the so-called "survival rates" of exports). In some cases, for standardised products their assumed survival rates are as low as 2 to 8%[21]. Many other business oriented case studies have been based on very low survival rates. For instance, *Stobaugh et al. (1976)* study nine U.S. firms and conclude that FDI and home employment are complementary because the entire foreign market would have been lost within five years in the absence of FDI. However, the same

[21] A problem with these studies is that estimates of survival rates are often based on surveys and interviews with company officials, who naturally are interested in offering a positive image of the domestic impact of their foreign activities.

nine case studies, examined by other authors have lead to completely opposite results (see *Bergsten et al., 1978*). Another illustration of how results depend on assumptions about export survival rates is given by *U.S. Tariff Commission (1973)*. Assuming 100% survival rate, the Commission estimated that the total impact of U.S. FDI in 1970 was a loss of 1,1 million jobs. Assuming a 50% survival rate reduces the estimated loss to 400,000 jobs. Finally, the effects were recalculated under the assumption that U.S. exporters would have maintained the shares of world trade they held in 1960-1961 with a net job gain of 500,000 jobs.

An alternative is provided by *Frank and Freeman (1978)* who set up a model for the U.S. economy where survival rates are explicitly calculated from data on costs and revenues. The model yields estimates of survival rates ranging between 20% and 40% depending on industry. However, they rule out that the establishment of a foreign subsidiary may increase market size (in addition to market shares). Their survival rates may, then, be too optimistic. Using what they consider their best estimates of survival rates, they conclude that foreign direct investment has determined an annual loss of between 120,000 and 160,000 jobs. But, as we said, this overlooks completely the possible market expansion effect due to the investment.

Another approach (comparative approach) compares the performance of MNEs with the one of uni-national firms. The advantage is that no assumption on the alternative scenario is needed. The drawback is that uni-national firms and MNEs should be identical in any respect other than the decision to operate abroad, which is quite unlikely. At least, the compared firms should belong to the same industry. This is not always the case. For instance, in a study referred to Belgium, *Van de Bulcke and Halsberghe (1979)* find a stronger employment growth in MNEs rather than uni-national firms, but this maybe due to the fact that MNEs were concentrated in more expansive sectors.

5.2 Econometric studies

In this Section we will describe the empirical studies that, directly or indirectly, can help understanding whether globalisatioon is likely to trigger significant relocation of production and employment out of developed countries. Some econometric studies, rewied in Section 5.2.1, investigate the peculiar characteristics of relocating firms, i.e. of firms which invested abroad reducing simultaneously their activity in the home country. Other studies

analyse the effects of outward FDI on home employment. They focus on two different issues. One is whether outward FDI substitutes or complements domestic employment (Section 5.2.2). The other is whether outward FDI changes home labour intensity and in what direction (Section 5.2.3). As already mentioned, these studies basically refer to the US and Sweden, as they are the only countries where accurate and comprehensive data on MNEs' activities are available. Finally, Section 5.2.4 will deal with the link between outward FDI and exports.

5.2.1 Determinants of relocation

Since there are no countries that specifically collect data on relocation, most empirical studies have looked at the determinants of FDI without making a distinction between expansion investments and relocation decisions. An exception is Belgium, where each firm that has at least 20 employees and lays off more than 10% of its workforce needs to report such a dismissal to the Government. This has allowed Pennings and Sleuwaegen (2000a, 2000b, 2000c) to identify relocating firms among all downscaling firms in the country, and to build a data set to systematically investigate their peculiar characteristics[22].

These studies suggest the following results. Unsurprisingly, *labour-intensive firms* are more like to relocate activities from Belgium. High unit labour cost in the country puts labour-intensive firms at disadvantage and forces them either to close down or to relocate to low-wage countries. Moreover, capital intensity constitutes a barrier to relocation as relevant costs are sunk in specific plant equipment and intangible assets[23]. *Firms' size* has a positive impact on relocation as large companies profit more from the gain in efficiency induced by moving production abroad and have better capacity to finance and absorb the adjustment costs of the relocation investment. *Less profitable* firms are forced to restructure and hence, show a higher propensity to relocate. Companies *belonging to a MNE* group are more likely to relocate rather than firms whose relocation decision constitutes their first FDI. Finally, *uncertainty* (in the sense of variability of market sales) has a negative impact on relocation as, by postponing the decision, the firm can benefit from favourable changes at home.

[22] They build the data set by adding a sample of firms drawn from all the Belgian firms with a VAT-number to the sample of relocating firm. The decision to relocate activities is estimated on the ground of a logit model.

[23] See also Motta and Thisse (1994) previously discussed.

In Pennings and Sleuwaegen (2000b) a distinction is made between *regional relocation* (defined as the decision to move to a country close to Belgium and where factor costs do not differ substantially) and *global relocation* (defined as the decision to move to more remote countries where differences in factor costs are relevant). The result is that relocation to remote destinations is undertaken by companies that are even *less profitable* than firms relocating to adjacent regions. Moreover, non-adjacent relocating firms are of a *larger scale* and *more labour intensive* than firms moving close to the parent company, maybe because the former respond primarily to labour cost differentials. This explains why firms relocating to adjacent countries are found to consider incentives offered by the government as a decisive variable for relocation.

Finally, they study which factors distinguish firms that decide to restructure their domestic activity in the following ways: by relocating, by exiting and by simply downscaling (Pennings and Sleuwaegen, 2000c). *Relocating firms* tend to be less sensitive to profit declines but to react more strongly to differences in comparative cost conditions across countries. They have invested more in the recent past and belong dominantly to a MNE group than firms opting for downscaling or exit. *Downscaling firms* are more capital intensive than relocating firms while *exiting firms* are unprofitable young and small firms that are highly financially leveraged.

In Italy specific data about relocating firms are not available. Barba Navaretti et al. (2000) have collected data about Italian multinationals in the textile and clothing sector, where most of Italian FDIs take place, and have investigated the firm-specific factors which explain the *decision to invest in a low-wage country*[24]. On average, subsidiaries in low-wage countries are "labour-saving oriented" and are characterised by *low shares* of *skilled* workers. This can be explained by the fact that investing in a cheap labour country allows a firm to gain competitiveness, but as sophisticated skills are typically lacking in these countries, it is more costly to keep quality high. Hence, firms which are specialised in low-quality segments and are more exposed to competition of developing countries producers will find relatively more profitable to relocate production in low-wage countries.

[24] Which is not necessarily a relocation.

5.2.2 Does outward FDI substitute for home employment?

As for the US, *Lawrence (1994)* and *Slaugther (1995)* have analysed the 1977 and 1989 BEA census data on all American MNEs. The data indicate that in that period US manufacturing parent companies and their foreign affiliates have experienced a similar decline in employment (14%). This decline in foreign subsidiaries' employment was mainly due to shrinkage in the European operations of US MNEs (where total employment fell by 23%) while in affiliates located in developing countries an increase of 5.9% was recorded. However, the magnitude of this increase was small, especially if productivity differentials and the absolute size of MNE's employment in the manufacturing sector are considered: the aggregate rise was 60,000 while the drop in US parents was 1,7 million; the overall share of developing countries affiliates' employment in the worldwide employment of manufacturing MNEs increased from just 6.8% to 8.1%. Interestingly, in that period the ratio of production-to-non-production workers employed in US manufacturing operations worldwide has fallen precipitously. The declines are of similar magnitude in US parents (-15.7%) and in their affiliates in developing countries (-13.6%), even though, in relative terms, affiliates did become slightly more production-labour intensive than parents. The decline was particularly large in Europe (-24.2%) and in Australia, South Africa and New Zealand (-19.1%). Only in Mexico did the ratio increase. There were also declines in this ratio in most major industries except tobacco products (+15.7%), a subset of chemicals products (+25.4%) and computers and office equipment (+27.4%).

These stylised facts do not provide evidence that on balance large number of jobs are shifting away from the US towards the developing countries and a common technological change (skilled-biased labour-saving technological change) seems to lie behind the trends emphasised by the data. There may have been some relocation but the quantitative effects are too small to have determined employment and wage shifts of the size they are alleged to[25]. However, the basic assumption is analysed more rigorously by the econometric studies presented in what follows, which estimate either price elasticities or cross elasticities of labour employed in different locations to evaluate whether foreign employment substitutes

[25] In principle it is possible that MNE were relocating heavily but that technological change dominated this, such that the overall effect seems consistent with technological change only. But this would have required much larger effects of technological change in affiliates than in parents. Moreover, the required magnitudes of the effects of technological change are quite unlikely.

or complements employment in the parent company.

Slaughter (1995) derives the factor demand equations for US MNEs from a translog cost function[26] which treats domestic and foreign factors of production as distinct and jointly chosen. From this function, by using the BEA dataset, he estimates the *price elasticity* of demand of total domestic and affiliate labour. It appears that in the long run, when capital is treated as a variable input, parent and affiliate labour are price complements: as affiliate wages fall, demand for parent labour actually rises, not falls. Instead, in the short run, when firms cannot decide on capital and it is treated as a fixed input, parent and affiliate labour are weak price substitutes: in the "worst scenario" a nearly drop of 6% in affiliate compensation costs is required to lower parents' demand for labour by only 1%. However, these data are *industry-distributed* which means that important information at firms-level is lost.

Brainard and Riker (1997a) use *firm-level data* from the BEA between 1983 and 1992. They adopt the translog cost function approach but they distinguish labour employed in different subsets of foreign plants, grouped according to some common economic characteristics, in particular the level of development (industrialised vs developing countries[27]) and the geographical position (western vs. eastern hemisphere). The estimates suggest that the expansion of employment in any of these four country groups *slightly threatens* employment in the US. *Cross-elasticities* between parents and *all* types of affiliates are well below one. *Price-elasticities* tell a similar story: parent employment responds very little to changes in affiliate wages[28].

Braconier and Ekholm (2000a) investigate this issue for Swedish MNEs[29] from 1970 to 1994[30]. Apparently, Swedish workers should not be concerned by competition of workers in

[26] The translog cost function is essentially a second-order log-linear approximation of an unspecified general cost function. Its popularity stems from the fact that the functional form imposes few restrictions on factor substitution.

[27] Distinguished according to the level of income.

[28] The estimated price-elasticities range between 0.009 and 0.125.

[29] In Sweden the relative importance of MNE's employment at home has decreased over time. Employees in foreign affiliates abroad as a proportion of total employees in Swedish industrial MNEs rose from 41% in 1986 to 61% in 1990. At the same time, employees in operations at home declined sharply, both in absolute terms and as a share of total industrial employment. It is mainly the group of high-income countries that have gained employment in relative terms despite in these locations wages have risen more than in Sweden (UNCTAD 1999 and Braconier and Ekholm (2000a)).

[30] They adopt a different econometric approach, the same as in Brainard and Riker (1997b). They derive the labour demand of an affiliate by solving a model where a firm can set up plants in a number of countries, and chooses a geographical configuration of production and employment with respect to the location of

developing countries; rather they are threatened by other developed countries. Actually, no substitution between employment in Sweden and in low-income locations is found. Indeed, substitution seems to take place between domestic employment and employment in affiliates located in other high income locations (a decrease in wages in high-income locations of 10% would decrease employment in Sweden by 8%[31]), but only for firms that have affiliates in both type of locations. There is no evidence of such relationship for firms with affiliates only in high income locations. A possible explanation for this result is that these are firms mainly operating in natural-resources intensive and capital intensive low-tech sectors and maybe that changes in labour cost differences between locations have a weak effect on labour demand. *Braconier and Ekholm (2000b)* distinguish further between affiliates in Europe and outside Europe, both for high-income and low-income locations. In contradiction with the previous analysis, they do not find evidence of substitution or complementarity between employment in Sweden and the various affiliates.

The same pattern of production allocation is found to operate also between *foreign affiliates*, even though with striking differences among Sweden and the US. In the US (see *Brainard and Riker (1997a))* there appears to be complementarity or negligible substitution between labour in locations at different level of development belonging respectively to the western and eastern hemisphere while labour *substitution is strong* between affiliates at similar levels of development, especially between affiliates in developing countries (and closer to the parent)[32]. Hence, the increase of employment in Mexican plants, instead of concerning workers in the US should concern much more other developing countries for instance in Asia, while it raises employment in an advanced country in the same hemisphere, such as Canada. *Brainard and Riker (1997b)* confirm the previous findings. They find a significant North-South complementarity in labour demands: a 10% decline in wage in developing countries affiliates result in an increase in employment in industrialised countries' affiliates by 1.9%. Instead, the same decline in affiliate wages in industrialised countries

product demand and the set of relative factor prices. Labour demand in each affiliate is derived from the international trade in intermediate and final goods that links the firm's production locations.

[31] Note that the effect is stronger than the one estimated by Brainard and Riker (1997a) for the US, where the same increase in wage in high income locations in the western and in the eastern emisphere would decrease US parent employment respectively by 0.1% and 1.25%.

[32] The same conclusion is obtained from price-elasticities: employment at affiliates in developing countries is very sensitive to wage variations in other developing countries while it expands when wages in countries at a different level of development falls.

decreases employment in alternative industrialised affiliates by 1.5%. Finally, employment appears to be more "footloose" between affiliates located in developing countries (the estimated elasticity is -0.225). When sectorial differences are taken into account, North-South complementarity appears in the electronic components, food products, plastic products, glass products, service industry machinery, apparel, photo equipment and medical instruments industries. The first four of these industries exhibit also South- South substitution. On the other hand, the labour demand of affiliates in resource-intensive chemical industries do not appear to be linked internationally.

Instead, in Sweden *Braconier and Ekholm (2000a)* find mainly a relationship of complementarity between employment in the different foreign affiliates. First, affiliate employment in high-income locations complements with employment both in high- and low-income affiliates. One possible explanations is that in a small and skilled-labour abundant country as Sweden MNEs are vertically integrated to a larger extent than US ones. Second, the complementarity is stronger with affiliates in other high-income locations, in particular between affiliates in high-income Europe (*Braconier and Ekholm (2000b)*)[33]. A possible interpretation is that trade costs really matter for the vertical decomposition operated by Swedish firms. Higher trade costs with low income countries offset the potential gains from lower production costs so that vertical decomposition is larger between affiliates in different high-income locations[34]. Moreover, the MNE's decision to invest in a location in high-income Europe is not affected by the existing production structure, even if it is strongly affected by potential competing locations non-served in high-income Europe. Hence, there seems to be strong evidence of substitution between *potential* host countries (*Braconier and Ekholm (2000b)*)[35].

These studies seems to suggest that MNEs vertically decompose production across the parent company and foreign affiliates and across the different affiliates. Hence, the expansion of foreign production stimulates also production and functions operated in the parent plant, the overall effect being of complementarity or of weak substitution. There-

[33] They also find that within high-income Europe vertical integration seems to have become increasingly more important.

[34] This result is somehow puzzling as in Swedish MNEs substitution appears between the parent company and affiliates in developed countries, while complementarity results among developed countries' affiliates.

[35] They also find complementarity between affiliates in low-income countries in Europe and other affiliates in low-income locations, while employment in low-income locations in Asia and Latin America does not respond to wages in other locations.

fore, it does not seem that employees in industrialised countries need to fear the expansion of MNE's activities abroad and, in particular, their search for even-cheaper sites, and it appears unlikely that MNEs will downscale intensively in parent companies while aggressively expanding in foreign plants, especially in developing countries. Indeed, the stronger evidence of substitution among the parent company and foreign affiliates has been found in Sweden, but with affiliates in other developed countries.

Some remarks on these conclusions are needed. First, as already mentioned, it is not possible to compare the estimated effect on employment with what would have happened in the absence of FDI. Without FDI, firms' competitiveness might deteriorate so much that the loss of domestic job would be indeed higher than the one eventually determined by the investment abroad.

It is also possible that firms' investments abroad increase the demand for intermediates provided by domestic suppliers and stimulates a rise in jobs related to international business. However, the impact of wage changes in foreign locations on domestic employment different from MNEs' employment is not taken into account in the studies previously described and the effect of outward FDI on domestic employment might be more beneficial than the one found there.

At the same time, it appears that MNEs are increasingly resorting to outsourced intermediate inputs (UNCTAD 1999). Hence, there may be a crowding out of domestic activities and a negative impact on home employment that is not captured by data on FDI.

Finally, due to data limitations, the previous studies cannot analyse the effect on unskilled and skilled labour separately. If unskilled-labour intensive operations are shifted to subsidiaries in low-wage countries, unskilled workers in developed countries may suffer from job losses or from increased wage divergence with respect to skilled workers, even though total employment in the country does not decrease.

Actually, the role of tecnhological change and of trade in explaining the growing gap in skilled-unskilled wages has received considerable attention in the literature[36]. The role of MNEs, instead, has been underestimated despite the empirical fact that direct investment has grown much more rapidly than trade over the last decades. An exception is the

[36] See Krugman and Lawrence (1994), Freeman (1995), Richardson (1995), Wood (1995), Baldwin (1995) and Feenstra and Hanson (1995a).

paper by *Markusen and Venables (1996)* which addresses this issue theoretically. MNEs are found to export less-skilled jobs from the skilled-labour-abundant country where the skilled-unskilled wage gap increases.[37] Under some circumstances, however, also in the unskilled-labour-abundant country the skilled-unskilled wage gap is enhanced[38]. Instead, when countries differ in size, MNEs shift production from the large to the small country, and the return to skilled labour falls in the large country and rises in the small one. Interestingly, trade barriers do not protect unskilled labour in the skilled-labour-abundant country. By inducing a regime shift to MNEs, trade barriers protect skilled labour in the country abundant in this factor and possibly in the scarce country as well. Indeed, the existing empirical evidence does not support the role of MNEs in US skill upgrading. *Slaughter (2000)* uses *industry-level* data to estimate directly the effect of MNEs' affiliates activity on the industry's skilled-labour share of the total wage bill. The data do not support the hypothesis that increased MNEs' foreign activity has contributed to wage divergence in the US. The affiliates' activity results hardly significant; in fact, when it is significant, the greater affiliate's activity actually reduces US skill upgrading. Overall, these results suggest that restrictions on outward FDI can do very little, if anything, to slow down skill upgrading within US industries. This issue is indirectly addressed for Sweden also by *Blostrom, Fors and Lipsey (1997)* who find that Swedish MNEs seem to shift abroad skilled-labour intensive activities. However, more empirical works about this issue would be welcomed in order to understand who is going to bear the costs associated to the transition towards the new international division of labour that free trade and free movement of factors are inducing and in order to identify the proper scope for policy intervention.

[37] See also the classical paper by Helpman (1984).

[38] This result is consistent with the empirical analysis of *Feenstra and Hanson (1995b)* which shows that the growth of inward Mexican FDI is positively correlated with the relative demand for skilled labour.

The rising skilled-unskilled wage gaps in both countries is modelled also by *Feenstra and Hanson (1995a)*. They consider a continuum of intermediate inputs used in an undustry, ranked in terms of skilled-unskilled labour intensity. Some are produced in a country abundant in skilled labour (the North), others are produced an a country abundant of unskilled labour (the South). Investment liberalisation moves capital to the South and shifts the dividing line in the continuum in favour of more inputs produced in the South. The shifted inputs are skilled-labour intensive in the South, but unskilled labour intensive from the North's point of view, hence the relative demand for skilled labour rises in both countries.

5.2.3 Does outward FDI decreases labour intensity at home?

The literature on the domestic employment effect of FDIs has also tested the impact of an increase of foreign production on home employment, keeping home production fixed. If more foreign output means less employment at home, given domestic production, MNEs can be interpreted as allocating abroad more labour-intensive production stages and maintaining at home more capital-intensive ones. This is found to happen in the US by *Blostrom, Fors and Lipsey (1997).* In particular, the negative effect comes from the allocation of labour-intensive production stages to affiliates located in developing countries. *Lipsey (1999)* confirms these findings. Focusing on manufacturing MNEs, he finds that the negative effect appears to be associated with production in developing countries with relatively inward-looking trade policies. These results raise the possibility that the location of production there has been biased by host country rules. Within manufacturing, only in transport equipment, mainly motor vehicles, there is strong evidence for the allocation of labour intensive production to affiliates. Viceversa, the relation is positive in the machinery industries. There is also evidence that small affiliates tend to have higher home employment for supervision or other headquarters functions while large affiliates are used as locations for labour-intensive activities.

Different results emerge in Sweden. According to *Blostrom, Fors and Lipsey (1997),* there is no evidence that production abroad by Swedish firms involves the allocation of labour-intensive operations to affiliates[39]. Conversely, given the parents' activity, MNEs with more production abroad (especially in developing countries) will also have higher employment at home. However, this effect seems to have decreased overtime for operations in developed countries. Swedish data allow to distinguish between blue-collar workers and white-collars workers. Surprisingly, foreign expansion by Swedish MNEs in developed countries is positively associated with the parents' employment of blue-collar workers and negatively associated with (or not associated) the number of white-collar workers in the

[39] *Lipsey, Ramstetter and Blomstrom (2000)* estimate that also in Japan there is little support for the idea that firms allocate labour-intensive operations to their affiliates. It would appear that the need for supervison or other home activities needed for overseas production are the dominant influence on home employment. Furthermore, only affiliates' activity in developed countries has a negative impact on home employment but there seemed to be a trend toward positive coefficients. Also in Italy, MNEs operating in the textile and clothing industry that expanded employment abroad are found to use more labour-intensive production methods in their home plants, as estimated by *Barba Navaretti et al. (2000).* However, the positive relationship nearly desappears for those firms whose investments are located only in low wage countries.

parent. The explanation may be that skilled-intensive and capital intensive production stages are increasingly located by Swedish MNEs in developed countries (where Swedish firms have most of their investment). However, this seems in contrast with Swedish being a skilled-labour abundant country. Instead, expansion in developing countries is associated with increases in both kind of employment in the parent company. Hence, in the case of affiliates located in developing countries there seems to be some support that more white-collar workers are required in the parent company to coordinate and support the MNE's activity. The difference between the two countries may lie in the fact that US produce much more of their foreign output in developing countries than Swedish firms. Moreover, the Swedish affiliates located in developing countries appear to be largely import substituting, while US affiliates are considerably more oriented towards world markets. Thus, the US affiliates in developing countries appear to be much more a part of an allocation of the MNE's production worldwide to take advantage of factor price differences.

5.2.4 Does FDI substitute for exports?

The effect of the MNEs' foreign activity on the domestic economy has been analysed also by a literature dating from the 1970's which focuses on the relationship between affiliate production and exports from the home country. According to these studies there seems to be a positive effect of outward FDI on exports and this was taken to indicate that FDI tends to generate intra-firm trade because of the vertical nature of the firms' activities. However, this positive effects does not necessarily imply that an expansion of foreign activity by benefitting exports also expands domestic employment. For instance, if a downstream activity were relocated from the home country to a foreign location, there could very well be a positive effect on home country exports even though home country employment was reduced. Hence, some caution should be taken in interpreting the results presented in this Section.

As anticipated, the empirical works in this area almost invariably shows a net complementarity relationship between exports and foreign production (or foreign affiliate sales) *across a variety of data sets. Lipsey and Weiss (1981)* and *Graham (forthcoming)* are examples of studies that find affiliate sales positively correlated with exports at the *aggregate country or industry level.*

Other studies have examined the relationship between affiliate sales and exports us-

ing *firm-level data.* For instance, *Swedenborg (1979)* focuses on a sample of some 100 Swedish MNEs with more than 300 foreign affiliates in 1974. Adopting a two-stage least squares estimation, she does not find any significant overall effect of foreign production on the exports of Swedish parents that year, but the aggregate data hide two significant, but opposite effects. Foreign production seems to substitute for some exports to sales affiliates and non-affiliated customers in the host-country, but there is a simultaneous (larger) positive effect on the exports of goods to producing affiliates (both intermediates and finished products). *Swedenborg (1982)* adds observations for three more years (1965, 1970 and 1978) with very similar result. *Blomstrom, Lipsey and Kulchycky (1988)* argue that Swedenborg's results are uncertain because her first-stage estimations had low explanatory power, so that much of the relevant variation in the affiliates' production is neglected in the second stage. They examine Swedish exports and FDI for 10 aggregate industry groups in 1978 as well as changes between 1970 and 1978, in a conventional OLS framework. Moreover, they look at total Swedish exports in each industry, rather than only the parent corporations' exports. This means that they may capture some instances where the affiliates' activities have substituted for other firms' exports, but also cases where FDI has facilitated other Swedish firms' exports to the host market. Yet, the findings differ little form those presented by Swedenborg. There are no sign of substitution between Swedish exports and foreign production for any of the industries included. *Head and Ries (1999)* have largely confirmed this. *Lipsey and Weiss (1984)* use information on intermediate vs. finished products within the firms in their sample. They find a strong complementarity relationship with respect to affiliate production and exports of intermediate goods as one would expect, but no evidence for either complementarity or substitution with respect to finished goods affiliate production and finished goods exports.

More recently, *Svensson (1996)* challenges the results of the earlier research. He argues that it is necessary to account for the foreign affiliates' exports to third countries because they are likely to substitute directly for parent exports. Doing this, he finds that increased foreign production replaces parent exports of finished goods and complements parent exports of intermediates. In contrast to earlier empirical studies the net effect is found to be negative. The negative net effect is, however, never significant in the case of affiliates production for local sales, while it stems from affiliates sales to third countries.

However, Svensson investigates the effect of FDI on the ratio between parent exports and the company's (parent + foreign affiliates) sales. Since FDI typically increases the denominator of his dependent variable, there is reason to expect a negative estimated effect of FDI even though nothing at all happens with parent exports. Th us, what he finds is simply that exports from the home country become relatively less important when the size of foreign operations increases. On the other hand it should be taken into account that recently MNEs have increasingly relied on takeover as a mode of entry in foreign markets. In contrast to greenfield operations, acquired affiliates tend to be less integrated with the parent and, thus, to attract less exports of intermediate product from the parent. For this reason one can expect a higher degree of substitution to emerge in recent years. Another reason for substitution to emerge has been emphasised by *Belderbos and Sleuwaegen (1998).* They find evidence of substitution between foreign production and exports for Japanese electronic firms in the EC during the late 1980s. This period was characterised by rising EC protection against these firms which, therefore, have resorted to local inputs instead of exports from the home country.

Blonigen (1999) goes one step further in the level of disaggregation to analyse *product-level data*. The advantages of this level of disaggregation are that it allows to naturally test in the same equation a complementarity effect from vertical production linkages separately from the substitution effect of affiliate production for exports. In addition, demand complementarities across products are not masked by the data. He considers a specific group of Japanese automobile products. In contrast to previous empirical work, the results show strong evidence of substitution between Japanese automobile parts produced in the US and US imports of Japanese automobile parts. Moreover, a positive relationship is found between Japanese automobile production in the US and imported Japanese automobile parts. However, the strong substitution effect could be driven by the Japanese-US automobile voluntary export restraints and the politically-motivated push for high local domestic content in this trade-sensitive industry. Thus Blonigen uses product-level data on eleven final consumer products which were not subject to such US government scrutiny over the sample period. The results suggest substitution of local production for exports with most of these consumer product as well.

A support to the argument that FDI does not desplace exports is also given by the

similarity between the world trade pattern and the world direct investment pattern. Even at the industry level, there exists a great deal of two-way FDI among rich nations as well as of intraindustry trade[40]. In particular, according to *Rugman (1985)* the industries which show a great deal of intraindustry FDI show also a lot of intraindustry trade. *Greenaway, Lloyd and Milner (1998)* provide a more detailed picture of this similarity which is explained theoretically by *Baldwin and Ottaviano (2001)* .

6 Concluding Remarks

This paper addressed two questions. The first is whether developed countries should expect more and more outward FDI and relocation of production, particularly in developing countries, as a consequence of globalisation. The second deals with the likely effects of relocation and more generally outward FDI on the home countries.

These questions are mainly empirical questions, since theory offers little guidance on such issues. Unfortunately, data limitations constrain empirical analysis so that also the answers given by the empirical literature are not fully satisfactory. In particular, the effects of outward FDIs on domestic employment may dramatically vary across countries. Further, at present data do not allow to estimate separately the effects of outward FDIs on the different categories of workers and thus to identify who may be harmed by them.

Despite such limitations, our review of existing work suggests that: first, a massive relocation of production whose magnitude may exert strong pressures on labour markets in developed countries is unlikely. Second, no convincing evidence exists that outward FDI

[40] See, for instance, Markusen (1995) and Greenaway, Lloyd and Milner (1998).

and relocation of operations are actually harmful on average.

Several considerations have led us to these conclusions. FDIs flowing out of a country are characterised by different determinants and only some types of FDI do rise concerns of substitution with home production. For instance, a reduction of domestic jobs is not expected from FDIs aimed at organising the distribution of the firm's product in a foreign market, at avoiding prohibitive tariff barriers or at providing goods and services that need proximity to customers.

The high and growing importance of FDI in service sectors should also be stressed, as foreign investment in such sectors, often producing non-tradeable goods, are less likely to displace home production (even though technological advances might allow to provide more and more services from distant locations).

Moreover, as stylised facts have emphasised, FDI is a phenomenon concerning primarily developed countries. Hence, in principle most FDI will more likely to be market seeking than in search for cheap labour, and will involve mutual flows between developed countries. Overall, FDI towards developing countries has sofar had a relatively limited quantitative relevance, so that strong employment and wage changes in developed countries are unlikely to result from relocation to less developed ones.

Even when a direct effect of employment loss occurs, the outward FDI may induce indirect positive effects on home employment, both in the parent company and in the rest of the economy, so that job destruction may be less relevant than feared. The econometric studies referred to the US and Sweden tend to confirm this view. They suggest that MNEs vertically decompose production across the parent company and foreign affiliates so that the expansion of foreign production stimulates also production and functions operated in the parent plant as well, the overall effect being one of complementarity or of weak substitution between the foreign affiliates and the parent company.

Finally, economic theory emphasises that the loss of domestic jobs is not the only element to take into account when considering the impact of relocation upon welfare. A better allocation of resources and consumer welfare gains associated with the relocation might offset the losses imposed on workers so that relocation may be welfare improving.

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