

Riess, Armin; Uppenberg, Kristian

## Article

# The internationalisation of production: Moving plants, products, and people

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## ABSTRACT

*Introducing this volume of the EIB Papers and linking the various contributions, this paper emphasises that the internationalisation of production in Europe, which creates cross-border production networks, is an increasingly important element of globalisation, has been spreading to new EU members, and brings benefits very similar to those of globalisation in general. Popular fears that the geographical reorganisation of production comes at the expense of countries that see some of their activities moving to other countries are largely unfounded. In particular, “races to the bottom” in wages, tax revenues, and environmental standards do not seem to take place. On the contrary, the move appears to be up rather than down. That said, like any structural change, the internationalisation of production brings distributional challenges that need to be dealt with.*

Armin Riess (a.riess@eib.org) and Kristian Uppenberg (k.uppenberg@eib.org) are, respectively, Deputy Head and Economist in the Economic and Financial Studies Division of the EIB. The views expressed are strictly personal.

# The internationalisation of production: moving plants, products, and people

*"When I use a word," Humpty Dumpty said in a rather scornful tone, "it means just what I choose it to mean – neither more nor less"*

Lewis Carroll, *Through the Looking-Glass*

## 1. The internationalisation of production: what it is and what it means

When we use the term "internationalisation of production", we try to leave less scope for interpretation than *Humpty Dumpty*. For that reason, we simply note that when a firm organises its production of goods and services so that it takes place in more than one country, production becomes international. Two typical cases can be distinguished. On the one hand, there are transnational corporations (TNCs) that produce more or less identical goods and services in different countries with the aim of serving national or regional markets. In this case, the production of a TNC in plants outside its home country is a profit-maximising alternative to producing at home and exporting or to licensing foreign firms to produce its products. The cross-border investment undertaken by a TNC for this purpose is thus market seeking, and it has come to be known as "horizontal foreign direct investment". On the other hand, there are TNCs that carry out different stages of a production process in different countries with the aim of selling their output world-wide, i.e. in the global market place. Here, the decision to break down the production process into distinct stages and to locate them in countries where they can be carried out at minimum costs is a profit-maximising alternative to producing everything in one location. The investment undertaken by a TNC for this purpose is thus export oriented, and it is commonly called "vertical foreign direct investment".



**Armin Riess**



**Kristian Uppenberg**

There is ample evidence that the internationalisation of production has increased rapidly and, indeed, it is perhaps the most striking and distinguishing characteristic of the process of globalisation that we have witnessed over the last two decades.<sup>1</sup> This transpires clearly from the contribution of **Zbigniew Zimny** to this volume of the *EIB Papers*. To sketch some of the key trends: since the beginning of the 1980s, the share of TNC affiliates in global value added is estimated to have increased from 6 to 11 percent, the stock of their productive assets has gone up from 6 1/2 percent of global GDP to 22 percent, and foreign direct investment (FDI) flows have risen from the equivalent of 2 percent of global gross fixed capital formation to 10 percent. Not surprisingly, the importance of TNCs has also increased in terms of the employment they provide and, indeed, the number of people working for TNC affiliates has almost tripled since the beginning of the 1980s. As a result, TNCs affiliates are estimated to account for 14 and 20 percent of manufacturing jobs in the

<sup>1</sup> A word of caution should be added. Although we know what the internationalisation of production means, we need to be aware of the shortcomings in measuring it. While this applies to the level of TNC activity (e.g. output, exports, and employment), deficiencies in the data on FDI flows and stocks are particularly prominent. They become obvious in bilateral FDI statistics, for instance, when the inflows of a country do not match the outflows of its partner country. To glimpse at the reasons why data are not necessarily comparable across countries (for details see IMF 2003), it is useful to note that countries could differ, in particular, in terms of how they treat indirectly-owned enterprises, record inverse investment (i.e. instances when a foreign affiliate makes a loan to its parent), measure direct investment earnings, and value flows and stocks (book or market value).

United States and Europe, respectively. Zimny also emphasises that cross-border investment of TNCs is not the only aspect of the internationalisation of production. In addition, there are non-equity relationships between firms of different countries – such as franchising, technology partnerships, and contract manufacturing – that contribute to the expansion of cross-border production networks.

But what is driving the internationalisation of production? The paper by **Uppenberg and Riess** examines this question in more detail. At the risk of simplifying a little, we can narrow things down to two broad sets of factors. One comprises a variety of developments and policy measures that have reduced, if not removed, barriers to trade and capital flows. For instance, the creation of the Single European Market has arguably been a major impetus to the internationalisation of production, enticing a growing number of firms from one EU country to set up production facilities in another, but also prompting non-EU firms to open plants in the EU. The second set of factors includes those that have made it easier for firms to coordinate the activities of their geographically spread plants. A key aspect here has been the dramatic fall in communication cost resulting from advancements in information and communication technologies. Another driver, in particular for the spreading of distinct production stages over different countries according to comparative advantages, has been the fall in transport costs.

*The growing importance of international production networks raises concerns that are familiar from the debate about the pros and cons of globalisation.*

The way we have sketched the internationalisation of production leaves no doubt that its growing importance is part and parcel of a wider trend towards economic integration. It is thus raising concerns that are familiar from the debate about the pros and cons of globalisation. Economists largely agree that globalisation is welfare-enhancing, increasing the standard of living in countries that take part in it (for a recent defence of globalisation see Bhagwati 2004, for instance). In practical terms, the improved division of labour resulting from the free flow of goods, capital, and people increases global production and consumption possibilities for any given level of resources. But it is also clear that the economic adjustment triggered by globalisation does not proceed without friction and, as a result, the income of some people is bound to suffer, if only temporarily.

The question of who gains and who loses ultimately concerns individuals or certain segments of society. This is obvious from the double-faced image that TNCs have in both the country from where they originate (home country) and the country where they set up affiliates (host country). In home countries, some see TNCs with pride as globally competitive national champions; others consider them greedy scoundrels, who instead of creating jobs at home relocate production to other countries.<sup>2</sup> In host countries too, TNCs are looked at with ambiguity, being praised by some for bringing jobs, capital, and technology; others blame them for coming at the expense of indigenous firms, job security, and national sovereignty. Although we have said that it is ultimately necessary to tackle the issue of winners and losers at a fairly disaggregated level, a convenient way to approach the issue is to examine how the creation of cross-border production networks affects the home country of the TNC, on the one hand, and the host country on the other.

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<sup>2</sup> What is more, on this side of the Atlantic, it happens that politicians argue in favour of creating globally competitive national champions while at the same time calling them unpatriotic when they invest abroad rather than at home. On the other side of the Atlantic, the “outsourcing” US transnational corporation has been likened to Benedict Arnold, the traitor in the struggle of the American colonies for independence from England.

This largely sets the plan for the rest of this paper. In the next section, we will argue why the internationalisation of production is good for host countries and its citizens. Switching the perspective, we will then reason why the same process is good for home countries too. Finally, we get worried about races to the bottom sometimes associated with the internationalisation of production – only to conclude that there is probably little to worry about.

## 2. Why it is good for host countries and its citizens

A boost to economic growth and development is the main benefit that host countries expect to derive from the presence of TNC affiliates. Reviewing the theoretical and empirical literature on this, Uppenberg and Riess (this volume) conclude that while there is ample evidence for a positive correlation between host-country economic growth and inward FDI, it is much harder to tell whether an increase in FDI causes higher economic growth, or *vice versa*. Mirroring findings from the empirical growth literature, it may well be that economic growth and FDI are jointly driven by other factors such as a favourable economic policy environment, good infrastructure, and a well-educated workforce.

*One of the main benefits that countries hosting international production expect to derive is a boost to economic growth and development.*

Cognisant of these broad conclusions, it is nevertheless true that the potential for FDI to spur economic growth is probably higher in capital-importing countries,<sup>3</sup> notably when – in addition – there is considerable scope for improving the efficiency of using and allocating resources. This characterisation obviously applies to the countries of Central and Eastern Europe (CEE), which have all staged an impressive transformation from plan to market in a relatively short period of time. Examining the experience of Hungary, **Magdolna Sass** (Volume 9, Number 2) emphasises that Hungary was the first CEE country to open itself to foreign direct investors (even before the collapse of communism) and to privatise large state-owned enterprises to foreign strategic investors. She also highlights that due to limited national savings, FDI was the main engine of capital accumulation, economic growth, and industrial restructuring. Furthermore, she points out that FDI was instrumental in Hungary's impressive export performance since the beginning of the 1990s. In this context, she observes that imports have risen too, in part because they constitute intermediates for the export industries. The latter indicates that Hungary has become part of the vertical specialisation that has emerged, in particular between Germany and Austria, on the one hand, and CEE countries like Poland, the Czech and Slovak Republics, and Hungary on the other hand (Marin 2004).

The relation of EU-15 countries with CEE is characterised by geographical proximity and a considerable wage-cost differential. In general, these are ideal conditions for integrating new EU member states into EU-wide production networks. But obviously, the potential for integration is larger in the case of some CEE countries than for others. Reviewing the experience of Estonia, Latvia, and Lithuania, **Gábor Hunya** (Volume 9, Number 2) observes that foreign investors in the Baltic states have largely focused on non-traded services, by definition not an integral part of international production networks. That said, the Baltic countries have nevertheless experienced both rapid economic growth and, relative to GDP,

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3 We note here that the bulk of FDI flows between advanced countries, which tend to be net exporters of capital. For details see Zimny (this volume).

above-average FDI inflows. Evidently, coincidence does not prove causality. But with FDI estimated to have financed around one-fifth of gross fixed capital formation, it is sensible to suggest that growth would have been less impressive in the absence of FDI – unless one assumes not only that other capital flows would have materialised in the absence of FDI but that they could have played the same role as FDI. This takes us to one of the salient features of FDI that clearly sets it apart from other capital inflows.

One of the channels through which FDI may boost economic growth is when the presence of foreign-owned firms creates positive externalities, such as knowledge and technology spillovers to indigenous firms and the stimulation of competition among them. Uppenberg and Riess (this volume) note that the empirical support for the presence of such externalities is mixed. A key finding of the empirical literature is that the scope for externalities varies across industries – even firms – and, more important, very much depends on whether economic conditions in host countries provide an environment that enables indigenous firms to learn from and positively respond to the presence of foreign-owned firms (Blomström and Kokko 2003a, 2003b). This strongly suggests that the growth-enhancing and transformation-accelerating impact of FDI does not materialise automatically, but that appropriate economic policies need to accompany the inflow of FDI.

*The experience of many countries shows that the growth-enhancing impact of FDI does not materialise automatically, but that sound economic policies need to accompany the inflow of FDI.*

This is abundantly clear from the experience of Ireland, which **Frank Barry** discusses in his contribution (Volume 9, Number 2). Ireland can be considered an example *par excellence* for the success of an FDI-based development strategy, and many countries around the world – including the new EU members in CEE – strive to follow the Irish model. It is probably less well known, but clear from Barry's paper, that Ireland, though successful in attracting FDI since the 1960s, started to converge to higher living standards only towards the end of the 1980s, i.e. more than one and a half decades after its accession to the EU. While it is true that inward FDI to Ireland accelerated in the 1990s, the reorientation of economic policies in the second half of the 1980s – characterised by fiscal prudence, the maintenance of labour-market flexibility, and a focus on science-oriented human capital formation – seems to have been the more decisive factor for the birth of the "Celtic Tiger".

The success of Ireland inevitably brings up the role of FDI incentives. There seems to be agreement that Ireland's low-corporate-tax strategy was instrumental in attracting TNCs to the country. But it is also true that, in practice, this strategy did not discriminate much between foreign and indigenous investors, and remaining biases in favour of some types of activities are due to be phased out, resulting in a low, harmonised corporate tax for all firms. We will address the issue of tax competition between countries below. Here we shall simply claim that offering specific FDI incentives is perhaps not a promising policy strategy. At first glance, this may come as a surprise in light of the positive externalities expected to arise from the presence of TNCs. In principle, externalities – and other market failures – provide a classic case for public policies aimed at correcting market failure, here: to ensure that the private returns to foreign direct investors are aligned with the social returns. The arguments against specific FDI incentives go beyond the difficulties of identifying those investors that create externalities and of properly measuring them. Another concern is that by providing incentives, host countries pass on the benefit of the externality, if not more, to foreign investors (for more details see Uppenberg and Riess, this volume).

But are there not more benign policy instruments to attract and benefit from foreign investors? Barry (this volume) highlights the role of Ireland's Industrial Development Agency (IDA). In his account, the role of IDA comes across as a very successful example of well-designed industrial policies, with IDA correctly foreseeing goods and services with a global growth potential, identifying the human skills needed to produce them, convincing the government to develop such skills, and persuading leading TNCs to locate in Ireland. With hindsight, there is no doubt that Ireland was successful in mapping the development of its human capital with the requirements of dynamic sub-sectors in pharmaceuticals, software development, and electronics – for example. Still, one wonders what would have happened to the many science graduates, for example, had TNCs located elsewhere. That they opted for Ireland is undoubtedly also because of language and cultural links between Ireland and the United States – home of many TNCs operating in Ireland.

With specific FDI incentives potentially a waste of resources and IDA-type policies a hard act to follow in other countries, what shall we then conclude with respect to the role of economic policies in fostering FDI and ensuring that host countries benefit from it? Two broad conclusions emerge from the contributions to this volume of the *EIB Papers*. One is that government expenditure should focus on raising economic productivity across the economy, for instance by supporting the investment of foreign-owned and indigenous firms in R&D and human capital and by ensuring a modern infrastructure. The other conclusion follows straight from Ireland's experience, specifically from its disappointing economic performance prior to the reorientation of economic policies in the second half of the 1980s: avoiding fundamental policy mistakes has greater value than fine-tuning FDI promotion policies.

In addition to influencing host-country economic growth, the internationalisation of production relates to the distribution of income across different types of incomes, people and regions.<sup>4</sup> To concentrate on the regional dimension, two related questions come to mind: first, does the free flow of FDI exacerbate regional disparities and, second, is there scope for steering FDI to less developed regions?

*The internationalisation of production also relates to the distribution of income across different types of incomes, people and regions.*

As to the impact of FDI on regional imbalances, **Ari Kokko** and **Patrik Gustavsson** point out that the liberalisation of international trade and investment tends to strengthen centripetal forces and, as a result, economic activity is likely to become geographically more concentrated. One channel through which this takes place is FDI, in particular cross-border mergers and acquisitions, with TNCs gravitating to regions with locational advantages such as favourable factor endowment, proximity to major consumer markets, and a sound economic environment; by implication, economic activity in disadvantaged regions may fall further behind. Yet, looking at developments in the regional distribution of manufacturing employment in Sweden in the 1990s, the authors find only a modest increase in the share of employment in core regions relative to the periphery.<sup>5</sup>

4 Concerning the link between regional income disparities and the relative income position of people, we should note that regional income comparisons usually rest on GDP per capita data. As there is considerable cross-regional commuting, however, the average disposable income of people will differ less across regions than GDP per capita. A study by Behrens (2003) on EU countries suggests that regional disparities based on incomes are up to one-third smaller than the ones derived from GDP data.

5 More striking is that the share of employment in foreign-owned firms doubled, reaching one-third of total manufacturing employment by the beginning of the new millennium.

*Empirical evidence suggests that regional policies are largely ineffective in influencing the geographical distribution of FDI within a country.*

Another message of Kokko and Gustavsson is that liberalisation is likely to have a particularly large impact on the regional distribution of FDI if the degree of freeing trade and investment flows is large. Obviously, the regime shift in transition economies is a case in point, and it is thus not surprising that Sass (this volume) emphasises both the high regional concentration of FDI in Hungary (with about 80 percent of the FDI stock located in the Budapest region, the western part of the country along the Austrian border, and in the north-western part of the country) and the rise in regional income and employment disparities.

This takes us to the question of whether regional policies could steer FDI to the less developed regions within a country. The answer coming from the contribution of **Thierry Mayer** (Volume 9, Number 2) is unambiguous: they cannot. Examining the location choices of foreign investors in France, he shows that foreign investors are, to a large extent, not sensitive to public investment incentives and are primarily driven by conventional forces such as the market potential, labour costs and agglomeration effects in the region considered for investment. Examining the case of Sweden, Kokko and Gustavsson (this volume) arrive at similar conclusions as to the ineffectiveness of regional policies in directing FDI to less developed provinces. However, they also observe that other studies (Basile *et al.* 2003, Clark 2000, Mihir *et al.* 2003, Taylor 2000) reach the opposite finding, namely that FDI flows are attracted to countries and regions where subsidies are available.

A variety of reasons could explain why empirical findings as to the effectiveness of regional policies in directing FDI differ. For instance, Breuss *et al.* (2001) point out that regional policy can have a variety of effects. To illustrate, it could reduce transport costs to and from remote regions or firm set-up and production costs in remote regions. How this influences location choices depends on the nature of investment. In the case of vertical FDI, both a fall in transport costs and a decline in firm set-up and production costs work in favour of investment in remote regions. However, in the case of horizontal FDI, a fall in transport costs would change the cost-benefit trade-off against FDI in remote regions, while reducing firm set-up and production cost would improve it. In light of this, observed differences in the effectiveness of regional support on FDI across regions and countries could well reflect differences in the regional policy mix and the type of investment that potential investors consider.

Kokko and Gustavsson (this volume) offer another possible explanation. They note that the relative strength of agglomeration forces and subsidies probably varies between countries and regions, and – at the same time – there is substantial cross-industry variation in the relative importance of agglomeration forces. This implies that in some circumstances relatively moderate regional investment incentives can influence location choice while in others they need to be large to overcome other forces determining the location of FDI in a country (Mayer, this volume).

To conclude, host countries stand to gain from participating in the internationalisation of production, although gains may not spread evenly. But are these gains coming at the expense of home countries? This is the question to which we turn next.

### 3. And why it is good for home countries too

The most contentious question for the home country is how the foreign investment of national TNCs affects home-country output, employment, and wages.<sup>6</sup> Without doubt, EU enlargement has renewed interest in this question, as evidenced by growing fears that TNCs from high-wage EU countries relocate their activities to new EU member states. In addressing the issue, it is crucial to be clear about the counterfactual; in other words, one needs to envision what would have happened to home-country output, employment, and wages in the absence of FDI. To illustrate, if a TNC shifts part of its production to a newly created foreign affiliate, the direct effect is a decline in output of the parent firm. But to infer from this that the underlying foreign investment comes at the expense of home-country output assumes that the level of output in the parent firm would have remained unchanged otherwise, which is unlikely to be true.

*To assess the impact of outward FDI on the home country, we need to ask what would have happened to home-country output, employment and wages in the absence of FDI.*

Spinning this thread a little further, we need to ask whether the production shifted abroad complements or substitutes for home-country production, and here it is useful to come back to the distinction between horizontal and vertical FDI. Horizontal FDI is market seeking and, in essence, an alternative to producing at home and exporting to the country that hosts the TNC affiliate. This seems to be a clear case where production abroad substitutes for home production. Even here, however, things can be less straightforward as they seem because exporting may not really be a viable alternative if high transport costs make exports from the home country uncompetitive relative to host-country or third-country production. The market-seeking investment that overcomes prohibitive transport cost increases the overall output of the TNC and may raise demand for inputs provided by the TNC parent.

Vertical FDI, which reflects firms' strategy of finding for each distinct production stage the country where this stage can be carried out at least costs (after accounting for transport and intra-firm coordination costs), is also unlikely to hurt home-country output and employment – contrary to widespread fears. To see why, it is useful to distinguish between direct and indirect effects of relocating part of the production abroad and to think of the relevant counterfactual. Obviously, if the said production stage used to be carried out in the home country, the direct effect of vertical FDI is a drop in the output of the parent firm. However, if the firm did not locate its production where it can be carried out at least costs, it would risk being pushed out of the market altogether, with a complete loss of output and employment in the home country. And then, there are positive indirect effects of vertical FDI that arise precisely because firms cease the opportunity to arrange the geographical distribution of their production in a cost-minimising way. Suppose only the home-country TNC shifts part of its production abroad, thereby reducing its overall production cost. In this case, it will gain market share and expand total output, including intermediate products produced by the parent firm in the home country (e.g. headquarter services). Of course, competition will force TNCs from other countries to relocate part of

<sup>6</sup> In what follows we draw on Barba Navaretti and Venables (2004) unless otherwise indicated. Another home-country effect, not discussed here, is the possible sourcing of technology through outward FDI. The typical illustration is that of computer- and information-technology firms locating in Silicon Valley to access technology and to transfer it to the home country. Reviewing the empirical literature, Barba Navaretti and Venables (2004) observe that the evidence for technology sourcing is mixed. A recent contribution to the debate (Love 2003) finds little support for the technology-sourcing hypothesis.

their production as well and, thus, the home-country TNC will not be alone in realising lower production costs. While this may leave the market share of the home-country TNC unchanged, it benefits from a growing overall market as and when falling production costs result in lower prices and thus higher demand.

In sum, economic reasoning suggests home-country output and employment effects of FDI that are in complete conflict with popular beliefs. On the one hand, while public opinion seems to be dispassionate, sometimes pleased, about market-seeking FDI as it opens or expands new markets for home-country TNCs, economists envisage this type of FDI to substitute foreign for home-country output and employment (unless, that is, exporting is not a viable option). On the other hand, while conventional wisdom seems to take it for granted that cost-reducing FDI is detrimental to economic activity at home, economists expect this type of FDI to complement rather substitute for home-country output and employment. But does empirical evidence support economic reasoning?

Overall, it does. To lead into the topic, we shall start with survey evidence coming from a recent study by Marin (2004) who investigates home-country employment effects of German and Austrian FDI in Eastern Europe.<sup>7</sup> Given the geographical proximity of Germany and Austria to Eastern Europe, concerns about the possible relocation of jobs are particularly high in these countries. The survey reflects information on 2,200 investment projects of 660 firms, covering all Austrian FDI and four-fifths of German FDI in 1990-2001. Based on firms' answers concerning the motivation of their FDI in Eastern Europe, the author calculates direct job losses in Germany and Austria of 90,000 and 24,000, respectively, which is equivalent to around 0.25 percent of total employment in Germany and 0.75 percent in Austria. Duly recognising the author's warning that such estimates are inevitably crude, it is fair to claim that they indicate everything but an exodus of jobs to Eastern Europe. We will come back to some of the finer points of this study when discussing the broader empirical evidence of home-country effects of outward FDI, to which we now turn.

The empirical literature broadly falls into two categories. One strand of the literature focuses on home-country output effects; the other specifically investigates employment effects. In exploring output effects, researchers have looked at the link between exports of TNC parents and the sales of their foreign affiliates. Controlling for factors that affect both parent exports and affiliate sales (such as the overall level of economic activity and trade liberalisation), results commonly point at a positive association between the two, which suggests that activities transferred to affiliates complement parents' output. This seems to be true especially for affiliates in low-income countries and parents in high-income countries, implying – contrary to conventional wisdom – that home-country output is threatened the least when labour-intensive production stages are relocated to low-wage countries. A qualification of these results comes from studies that distinguish between particular types of foreign affiliates. For instance, if the production of affiliates is not part of a vertical production chain, it tends to substitute for rather than complement home output. The same has been found for affiliates producing final goods without processing intermediates supplied by their parents.

<sup>7</sup> In addition to new EU members from CEE as well as Bulgaria and Romania, Marin includes countries such as Croatia, Russia, and Ukraine in her definition of Eastern Europe.

Given the positive effect of outward FDI on home-country output, notably in the case of vertical FDI, it is reasonable to expect a positive impact on home-country employment too. The empirical literature concentrating on the link between outward FDI and home-country employment largely meets this expectation. The approach commonly taken investigates whether employment in TNC affiliates complements or substitutes for employment in TNC parent firms, and it infers a complementary relationship if a fall in wages paid by affiliates increases employment in parent firms; in contrast, if parent-firm employment declines in response to falling affiliate wages, employment in affiliates is taken to substitute for parent-firm employment. The paper by **Jozef Konings** is one contribution to this literature.

Using data for the period 1993-98, Konings addresses, in particular, concerns that TNCs from high-wage EU-15 countries relocate jobs to low-wage CEE economies. The descriptive part of his analysis reaches three key conclusions. First, the share of affiliate employment in total employment of European TNCs increased and, by extension, the share of employment in parent firms declined. Second, the employment share of affiliates in CEE did not change very much, which implies that affiliates in the EU-15 account for most of rise in affiliate employment. Third, the rising share of EU-15 affiliates in total TNC employment is largely due to an increased fraction of employment in affiliates located in high-wage economies of the EU-15. Overall, these patterns suggest that most of the job relocation took place between EU parent firms and their affiliates located in high-wage EU-15 countries. Obviously, this is at odds with conventional fears that jobs are exported to low-wage CEE countries.

In his econometric analysis, Konings examines how employment in parent firms responds to changes in wages paid by affiliate firms, distinguishing between affiliates in high-wage and low-wage EU-15 countries and low-wage CEE countries. It transpires that a decline in affiliate wages tends to reduce parent-firm employment. However, the effect is statistically significant only in the case of affiliates in high-wage countries. This implies that job relocation within TNCs is a rich-country affair and that competition from low-wage locations does, on average, not constitute a threat to parent employment.

Konings' finding that employment in affiliates located in low-wage countries does not come at the expense of home-country employment is in line with other studies. What is more, a number of studies indicate that a decline in affiliate wages is even associated with an increase in parent-firm employment. The aforementioned paper by Marin (2004) is one of them. More specifically, her estimates show that, on average, a 10-percent decline in affiliate wages in CEE countries leads to a 1.6-percent increase in parent-firm employment in both Austria and Germany.

*... in fact, there is evidence that outward FDI supports home-country output and employment, in particular when FDI is in search of lower production cost.*

There is one feature of the empirical literature on the link between employment in parent firms and their foreign affiliates that must be mentioned. The literature does not investigate the home-country employment effect of the investment decision as such, i.e. the direct effect of outward FDI. Rather, what it concentrates on is the degree of job relocation in response to changes in affiliate-firm wages conditional on the foreign investment haven taken place already. As we have pointed out above, leaving aside the appropriate counterfactual, the direct effect on home-country employment of transferring part of the production abroad is negative. A recent study by Barba Navaretti and Castellani (2003) tries to account for the direct employment effect of the foreign investment

while setting the right counterfactual. They compare the employment dynamics of Italian firms that have been investing abroad for the first time with the employment dynamics of firms that have not. They do not find that changes in employment of first-time foreign investors are significantly different from indigenous firms, which again suggests that outward FDI is not to the detriment of home-country employment.

This takes us to the last issue in this section, namely the implications of outward FDI for the distribution of income, specifically the position of low-skilled workers. From the perspective of high-wage home countries, the increasing internationalisation of production means that more and more of the low-skill-intensive production stages are transferred to low-wage countries, leaving high-wage countries to focus on high skill-intensive activities. As a result, one would expect home-country demand for skilled labour to increase and for unskilled labour to fall and, hence, income distribution to change in favour of skilled labour.<sup>8</sup> But is there empirical evidence for such a skill upgrading of production in high-wage countries?

The answer seems to depend on whether the underlying empirical approach rests on industry-level data or firm-level data. Studies using industry-level data do not point to an increase in the demand for skilled labour. By contrast, analyses based on firm-level data suggest a positive and statistically significant impact on the skill-intensity of TNC production in high-income home countries. There are also indications that skill upgrading in home countries rises with the share of affiliate employment in low-wage host countries. A different and very intriguing picture emerges from the study by Marin (2004). She finds that German and Austrian outward FDI to Eastern Europe is skill- and R&D-intensive, which suggests a relative scarcity of human capital in Germany and Austria.

To conclude, the widely-held view that outward FDI impairs home-country output and employment is mistaken. On the contrary, economic reasoning and empirical evidence suggest that outward FDI supports output and employment at home and, thus, is a good strategy not only for investing firms but for the home country at large. Interestingly enough, the favourable feedback on home-country activities may be particularly high when it is least expected, namely in the case of cost-reducing vertical FDI to low-wage countries. Though not examined here, there are also indications that foreign investment enhances the productivity of investing firms relative to those that do not venture abroad. That said, like other aspects of economic integration, outward FDI to countries well endowed with low-skilled labour is likely to change the distribution of income, weakening the income position of the unskilled in the home country. This may have many policy implications. One is surely public support for human capital investment to ensure that initial losers of globalisation become winners before too long.

Overall, this section and the previous one convey a fairly upbeat message about the benefits of international production, and apart from distributional concerns there seems to be little to worry about. Or is there?

<sup>8</sup> Note that the deterioration in the income position of the unskilled comes about through lower wages (when labour markets clear) or unemployment (when there is downward rigidity of wages), or a combination of the two.

*A key policy challenge for high-income countries is how to respond to the decline in demand for unskilled labour possibly resulting from outward FDI.*

#### 4. Races to the bottom that do not seem to have taken off

Like other facets of globalisation, the internationalisation of production is often feared to end in a “race to the bottom”. In fact, critics see the race taking place in many fields: wages – more generally standards in the workplace – tumbling in response to global competition, corporate tax rates plummeting as countries compete for investors, and – for a similar reason – environmental regulations gravitating towards the lowest standard. In essence, we have discussed the “wage race” in the previous sections, arguing that the internationalisation of production seems to encourage a race to the top rather than the bottom, but emphasising as well distributional implications and the need for economic policies to address them. That leaves potential races to the bottom in the fields of corporate taxation and environmental standards.

The impact of company taxation on the direction of FDI flows is clearly high on the political agenda of some EU member states, in particular with the accession of low-tax CEE countries to the EU.<sup>9</sup> A recent study by Ernst & Young and ZEW (2003) indeed shows low effective average corporate tax rates in CEE countries, ranging from about 13 percent in Lithuania to some 25 percent in Poland, which compares to a rate of 37 percent in Germany, for instance. Austria, which seems to be especially exposed to competition due to its geographical proximity to the new EU members, has already reacted, cutting its statutory corporate tax rate from currently 34 percent to 25 percent from 2005 on; with this cut, the Austrian effective average tax rate is estimated to fall to 21 percent. Are other countries bound to follow and, more important, is there a risk of declining tax revenue, widening fiscal deficits, and governments running out of funds to finance public investment and the welfare state?

The work of Devereux, Griffith, and Klemm (2002) and Devereux, Lockwood, and Redoano (2002) on tax reforms in industrial countries and the impact of such reforms on the investment of TNCs provides some guidance in answering these questions: first, the decision of firms where to invest seems to be influenced by effective average tax rates, whereas the decision how much to invest appears to be affected by the effective marginal tax rate; second, over a period of two decades, effective average tax rates have declined in almost all countries, while effective marginal tax rates have hardly changed. The influence of effective average tax rates on the direction of FDI and their decline in recent years can be taken as a sign of tax competition between countries. That said, the work of Devereux *et al.* also shows that despite declining effective average tax rates, corporate tax revenues have remained constant relative to GDP,<sup>10</sup> though they have fallen relative to other tax revenues. Overall, indications are that there is tax competition between countries, but this does not appear to have undermined their capacity to generate corporate tax revenues.

*While many countries have lowered company tax rates, this has not undermined their ability to generate company tax revenues.*

In any event, the very notion that some EU countries engage in unfair tax competition, even tax dumping, and that corporate tax rates should be harmonised is questionable.

<sup>9</sup> Financial Times (2004). “Germany and France to call for EU corporate tax revamp”. May 13, 2004.

<sup>10</sup> Tax reforms were generally characterised by cuts in statutory rates coupled with a broadening of the tax base; this helps explain why corporate tax revenues have not changed much relative to GDP.

*The heterogeneity of countries in an economically integrated area speaks against harmonising company tax rates across countries.*

The case against tax harmonisation at a common rate has been made by Baldwin and Krugman (2004), for instance. Their argument rests on the observation that countries differ, with “core” countries enjoying locational advantages over countries at the “periphery”. Locational advantages include an established infrastructure, proximity to markets, and positive agglomeration externalities. These advantages pull investment to the core and, in fact, enable core countries, within limits, to impose higher taxes on capital than the periphery without deterring investors. In essence, by levying higher taxes, core countries extract the locational rents that would otherwise accrue to investors.

A number of intriguing insights follow from the Baldwin-Krugman analysis. First, differences in locational characteristics of EU countries imply that optimal corporate tax rates vary across countries. Second, low corporate tax rates in the periphery of the EU do not necessarily indicate unfair tax competition. Rather, they can be seen as a strategy of the periphery to offset locational disadvantages. As Kokko and Gustavsson (this volume) put it almost poetically: “...locations with unfavourable climatic conditions (e.g. northern Sweden and Finland) will look for ways to compensate for the handicap of long, cold, and dark winters.” Third, given that the core can afford high tax rates without deterring investors and because agglomeration forces may get stronger pulling more and more FDI to the core, tax rates could race to the top rather than the bottom. Fourth, tax harmonisation at a common rate between the highest and the lowest optimal rate is bound to be welfare reducing for almost all counties. And, finally, setting a tax floor just below the lowest optimal corporate tax rate is welfare improving for the core without hurting the periphery. Clearly, tax-floor harmonisation results in a minimum rate far below the level that policy makers in core EU countries have in mind.

To wrap up our brief discussion of tax competition issues in the EU: although statutory corporate tax rates and effective average rates have fallen, they have not raced to the bottom and the government tax take has not declined; more important, there are good reasons for a variation in tax rates across economically integrated but heterogeneous regions; while some countries continue to argue in favour of harmonising tax rates, the focus of the European Commission (and the OECD) has turned to avoiding harmful tax practices (such as distortions in the taxation of capital income) and increasing transparency by harmonising tax bases.

This takes us, finally, to the claim that the liberalisation of trade and investment makes environmental standards race to the bottom. As far as FDI is concerned, the worry is that firms facing tough environmental standards at home relocate production to “environmental havens”, thereby exerting pressure on home and host countries to soften their environmental regulations. Is this a problem and to what extent is it relevant for FDI in an enlarged EU?

As to the first part of the question, it is worth pointing out that the optimal degree of regulating local environmental pollution differs across countries for a number of reasons, including cross-country variations in income and thus preferences for a clean environment and differences in the marginal ability to absorb pollution. Against this background, a relocation of locally polluting industries to countries with lower environmental standards could well increase global welfare and, as and when the income in host countries grows, the demand for a cleaner environment. Empirical support for a dispassionate, if not positive, assessment of the impact of international production on the environment comes from a variety of sources. For instance, examining US outward FDI, Leonard (1988) found that pollution-intensive investment did not grow more rapidly than other manufacturing

FDI and that the share of pollution-intensive investment in total US FDI to developing countries was not higher than the corresponding share in FDI to advanced countries. And then, the OECD (2002) observes that there is little empirical evidence suggesting that, on average, the activities of TNCs weaken environmental standards. What is more, the World Bank (2001) refers to empirical evidence indicating that a rise in FDI does not coincide with a decline in environmental quality.

There is also reason to be confident that EU enlargement will not trigger an environmental race to the bottom – on the contrary. With accession to the EU, CEE countries have adopted the *acquis communautaire*, which includes a variety of directives aimed at improving environmental quality in the EU. It is true that these directives do not, and perhaps should not, cover all areas that give rise to environmental concerns and that derogations allow new members to phase in the implementation of these directives. However, the additional time to fully comply with EU environmental directives is five to ten years and the risk that TNCs from the EU-15 will seize this period as an opportunity to transfer pollution-intensive industries from west to east is probably small, notably when TNCs already apply environmentally less damaging technologies elsewhere in the EU (Lundan 2004). In any event, EU environmental regulations, even when phased in, are probably more demanding than what new members would have chosen had they not joined the EU. In that sense, environmental standards are pulled up rather than racing to the bottom.

*There is reason to expect the internationalisation of production to foster a cleaner environment rather than a race to the bottom.*

In the context of environmental issues it is of interest to take a fresh look at the link between transport cost and the growing internationalisation of production. We have pointed out above that low transport costs foster the geographical distribution of different production stages. But it is also well known that transport generates negative externalities, notably noise, congestion and air pollution. Estimates suggest that the external costs of transport are possibly large, amounting to 8 percent of EU-15 GDP (INFRAS 2000). Road transport is reckoned to account for more than 90 percent of total external costs, and light duty vehicles and heavy duty vehicles alone are estimated to be responsible for some 30 percent; aviation and rail are estimated to account for about 6 percent and 2 percent, respectively. Such estimates are surrounded by a fair degree of uncertainty, but they nevertheless raise the question whether the internationalisation of production may have gone too far, thriving on transport costs that do not tell the economic truth. The short answer is no, mainly because a good part of the external transport costs caused by international production seems to be internalised.

We base this judgement on Nash *et al.* (2001), who review case studies on main trans-European transport corridors. Given the large share of road freight in total external cost, this transport mode is of particular importance from the perspective of the internationalisation of production in Europe. As to road freight, Nash *et al.* find only some degree of over-pricing on some corridors, and under-pricing on others (with over-pricing meaning that transport users pay more than the sum of private and external costs of transport; in the case of under-pricing, they pay less). Another result relevant for our topic is that the impact of optimal pricing on the volume and the means of transport is likely to be confined to traffic in urban areas, which is certainly of little importance for the internationalisation of production.

To summarise our reporting from the racetrack: race there is, but it seems to be in a direction that critics of the internationalisation of production do not expect.

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