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**Article**

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CESifo Forum

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*Suggested Citation:* Widgrén, Mika (2001) : Eastern Enlargement: Trade and Industrial Location in Europe, CESifo Forum, ISSN 2190-717X, ifo Institut für Wirtschaftsforschung an der Universität München, München, Vol. 02, Iss. 2, pp. 14-18

This Version is available at:

<https://hdl.handle.net/10419/166077>

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## EASTERN ENLARGEMENT: TRADE AND INDUSTRIAL LOCATION IN EUROPE

MIKA WIDGRÉN\*

**E**astern enlargement of the EU is not an event. It is a process that started more than ten years ago. Trade and FDI between the incumbent countries and the CEECs are relatively free and, therefore, the current development is likely to give a rather accurate picture of what will happen after the applicant countries have entered. The entry may, however, create an additional impact but in the same direction.<sup>1</sup>

Much of the public debate on the EU's eastern enlargement is concerned with fears of industrial delocation. From the point of view of an incumbent country located far from the core of Europe, like Finland, this involves fears of the shift of manufacturing activities from that particular country either to Central Europe where the gravity of the enlargement and expansion of the Internal Market is or to the new accession countries with lower labour costs. Another fear often expressed by rich nations concerns industrial delocation from rich countries to low-wage nations. From the point of view of the applicant or outsider countries, the concern is delocation from non-EU countries to incumbent countries. All these aspects are relevant when thinking about the eastern enlargement of the EU, but in the following I shall concentrate on the first question.

A simple analysis of trade and FDI reveals that eastern enlargement and European integration in general takes place in three somewhat distinct regions. The Central Dimension, dominated by the German presence, is by far the region with the

biggest action. The applicants of this region consist of the Central European countries Poland, Czech Republic, Slovakia, Hungary and Slovenia which have the nearest location and the closest ties to the EU core. Their accession strengthens the core of Europe possibly at the expense of peripheral areas as bigger market size in the centre absorbs economic activity. Second there is the so-called Northern Dimension consisting of countries in the Baltic Sea region. Usually the countries that are counted as parts of the Northern Dimension are the Nordic countries, the northern part of Germany and Poland, the Baltic countries and parts of Russia that either share the coastline of the Baltic Sea or have a common border with Finland, Norway or the Baltic nations. Third, Romania and Bulgaria form a group of South Eastern countries, more distantly located and having the weakest trade-FDI link with the EU. These groups differ significantly in their economic size, and location clearly favours the group of Central European applicant countries. In the near future, this might have, and it already has, substantial effects on location. From the viewpoint of peripheral nations in Europe this may also be bad news since concentration to the core may shift economic activity from the North closer to the markets of Central Europe.

The Northern Dimension also serves as an example where all three above-mentioned fears have grounds to materialize. There are low-wage countries that are very close to richer nations having higher labour costs. A hydrofoil trip from Helsinki to Tallinn takes only 90 minutes. The Northern Dimension is itself like a periphery, especially if we exclude Germany and Poland, and Russia will not become a member of the EU in the foreseeable future. To illustrate the economic importance of the area to Finland we can, for instance, use intensity to trade indices, i.e. the ratio of a country's share in Finland's exports to the enlarged EU to the country's share of the enlarged EU's GDP. The figures for Finland's exports are 88.2 to Estonia, 17.0 to Latvia, 6.1 to Lithuania and 1.5 to Poland.<sup>2</sup>

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<sup>1</sup> For this argument see Baldwin et al. (1997).

<sup>2</sup> The figures are for 1998 and they are from a recent study Alho et al. (2001).

Fears involve the shift of production from the periphery to the core or delocation from rich to low-wage countries

Baltic states are the three countries with whom Finland trades most intensively in Europe – compared to the tiny size of the Estonian economy it is amazing that it is the seventh biggest export partner of Finland. For comparison, the highest intensity indices among the incumbent countries are 5.5 for Sweden, 2.2 for Denmark and 1.6 for the Netherlands. Among the applicant countries, the relative importance of Hungary, Czech Republic and Slovakia in Finland's exports exceeds one, the division line where trade share and import country's GDP share are equal.

Since opening up to trade with the Western European countries, applicant countries' trade structure has changed significantly. Hungary and the Czech Republic, the countries with the strongest industrial heritage, experienced the most rapid change but more recently the development in Poland and the Baltic states has followed the same pattern. On average, the relative importance of the EU as a trading partner is approximately at the same level in the applicant and the incumbent EU countries. As the figures for Finland demonstrate, geographical patterns of trade differ substantially.

Still, the major part of the trade between the applicant countries and the EU is based on comparative advantage and hence on country differences. However, one of the key elements in recent structural change has been a surprisingly rapid increase in intra-industry trade (IIT), i.e. exports and imports of similar products. Intra-industry trade is usually observed in trade between countries that are relatively similar in terms of their income levels, size and economic structure and having close geographical location. Contrary to this usual picture, IIT between the applicant countries and the EU stems from re-organisation and fragmentation of the production process where, for example, labour intensive parts of the process have been shifted to countries having cheaper labour. This kind of trade is sometimes referred to as intra-product trade (IPT).<sup>3</sup> Typically this also means that the unit-values of exported and imported goods differ significantly from each other and often IPT consists of transactions within one single firm. To a large extent, intra-firm trade also contributes to the recent increase in world trade in general.

The Table shows the shares of intra-industry trade of applicant countries' total trade and in their EU

trade. When intra-firm trade is a consequence of re-organisation of production processes, it usually means that this has substantial implications on foreign investment flows and, thus, firm location. The third column of the table presents inward foreign direct investment flows to the applicant countries as percentages of GDP. Both figures are using 1998 data. Intra-industry trade figures are computed using Harmonised System (HS) 4-digit classification.

The relative shares of IIT in applicant countries' trade are not generally very high: between 25 and 45 per cent. In intra-EU trade, typical shares are as high as 70 per cent but Finland and other more peripheral EU nations have much lower figures: about 40 per cent in the case of Finland. The highest shares among the applicant countries have thus reached the level of the respective numbers in EU countries with the lowest shares of IIT in their EU trade. A somewhat special feature in the applicant countries' IIT with the EU countries is its intra-product nature but it is worth noting that IIT shares are the highest in countries where the process of catching-up has been successful. Hence, trade structures of the incumbent countries and the applicant nations are becoming more similar.

FDI figures relative to GDP are very high in almost all CEECs. Part of this can be explained by the low level of GDP but still CEECs receive substantial amounts of FDI. This development has taken place especially during the latter half of the decade and can be partially explained by the new Pan-European Accumulation Agreement which strengthens EU based firms' incentives to locate production units of the same supply chain in different CEECs or to outsource to other CEECs (see e.g. Kaminski 2001).

At first sight, the figures in the Table do not reveal any significant link between IIT and FDI. The Czech Republic and Hungary, countries that belong to the richest applicant countries' receive about the same amount of FDI proportionate to their GDP as Bulgaria and Romania, the poorest applicant nations. The Baltic countries receive substantial amounts of FDI relative to their GDP although their trade is relatively more based on inter-industry trade than is the case for Central European applicant countries. The Table seems to suggest that income levels that are closer to the EU average indicate higher intensity of intra-industry trade, which is consistent with what one should expect.

Rapid increase in intra-industry trade and inward FDI flows

<sup>3</sup> See e.g. Kaminski (2001).

**IIT as a share of total EU-trade and inward FDI flows relative to GDP in applicant countries**

Country	Intra industry trade as a share of countries' EU trade, 1998	Inward FDI flows relative to GDP in 1998,%
Czech Republic	56.6	4.5
Slovakia	37.0	2.5
Hungary	44.5	3.1
Poland	33.9	4.2
Slovenia	49.5	0.8
Estonia	34.8	11.0
Latvia	19.3	5.9
Lithuania	16.9	8.6
Bulgaria	24.1	3.3
Romania	23.0	5.4

Source: Alho et. al (2001).

Another significant feature is that intra-industry trade tends to be more intense in trade between two countries that are located close to each other. This is consistent with the normal gravity model of international trade flows. A closer look at the data shows that this is also the same for FDI flows. Despite the fact that Germany has a dominant role in both IIT and as an investor in the applicant countries<sup>4</sup>, proximity and IIT go hand in hand in Europe confirming the link between IIT and FDI.

Figures 1 and 2 show how CEECs' openness to trade with incumbent EU countries and FDI flows from EU countries to CEECs are interrelated. Openness is measured by exports from the EU to the applicant countries relative to CEE-countries' GDP (Fig. 1) and by exports from CEECs to the EU15 relative to CEE-countries GDP (Fig. 2). With some exceptions, both figures demonstrate that trade and FDI seem to be complements. Among the CEECs, those who trade more intensively with the EU than average seem to receive more FDI than average as well. Note that FDI seems to fluctuate more above and below the average, which is normalised to one, than exports or imports. The Czech Republic receives 1.6 times and Hungary twice as much FDI relative to their GDP as an average CEEC. It is somewhat surprising that the FDI bar of the Baltic nations lies below the average. There are, however, substantial differences among the Baltics.

<sup>4</sup> A recent empirical study that confirms this is Bevan & Estrin (2000). See also Widgrén (2000) for similar argument.

Estonia receives more FDI relative to her GDP than average whereas Latvia and Lithuania receive less. This corresponds to the result that among the applicant countries those who have proceeded faster with economic reforms receive more FDI than those proceeding more slowly.

There are at least four potential sources that affect firms' location. First, concentration of demand tends to explain concentration of production. The bigger the markets the more industries tend to locate close to them. Second, comparative advantage has an important influence. Since comparative advantage plays the main role in trade between the incumbent countries and the applicant countries within the Baltic Sea region this seems to be a potentially important source of specialisation within the area. Third, input-output linkages within industries tend to have an impact as industries generate their own demand through them. Fourth, the higher the non-tariff trade barriers, the more concentrated is production as firms find it advantageous to locate production close to the EU core.

The eastern enlargement of the EU increases the relative economic size of the core regions in Europe. For peripheral areas like the Northern Dimension this may be bad news as the bigger the markets the more industries tend to locate close to them. Indeed, in a recent study by Haaland et al. (1999)<sup>5</sup> it was pointed out that market size plays a dominant role in industrial location. Moreover, the higher the non-tariff trade barriers, the more firms

<sup>5</sup> See also Midelfart-Karvik et al. (2000). For discussion see also Widgrén 2000, Baldwin 2000.

Trade and FDI are complements for most CEECs

**Figure 1**

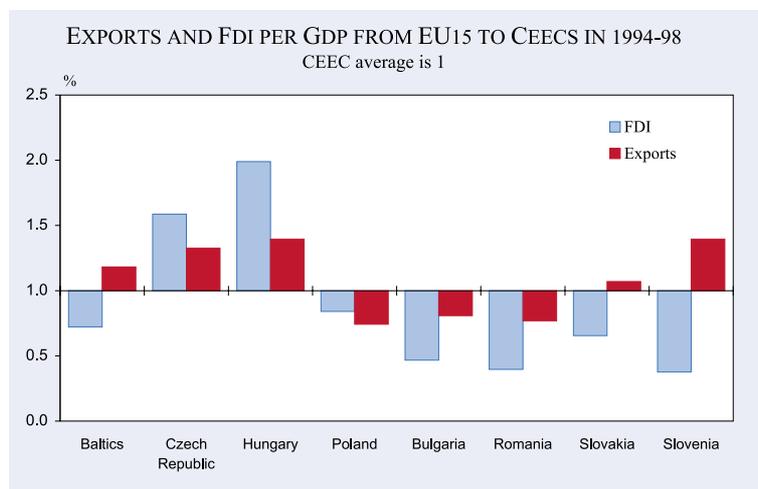
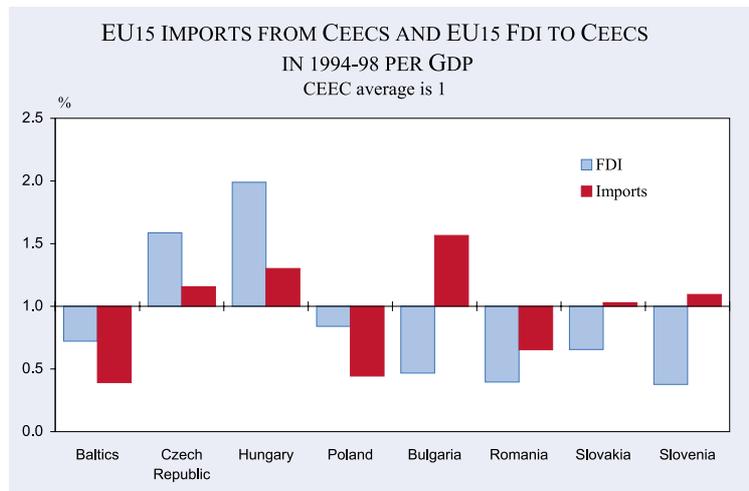


Figure 2



will locate production close to the bigger markets. As high non-tariff barriers can be interpreted as a proxy for relatively loose trade integration in the respective industry, one can expect that the most substantial effects take place within such industries.

The nations in the Baltic Sea region are located in a relatively large area and some parts of the area are far from the centre of the EU. The first explanation of industrial location works against the Northern Dimension and the South East applicant countries and in favour of Central Europe as production shifts towards demand. Recent empirical evidence finds that concentration of demand is the most important explanatory variable of concentration in Europe.

On the other hand, comparative advantage may work as a counter-force against concentration. When trade barriers become low enough, the agglomeration forces become weaker and then any exogenous factor, like a country's comparative advantage, starts to dominate location choices.<sup>6</sup> From the point of view of the Northern Dimension it thus seems that deeper overall integration may be advantageous as comparative advantage of the region as a whole is likely to be, at least broadly speaking, rather different from the core of Europe. Developing this further leads to more general considerations of which industries are likely to cluster in the Baltic Sea region. Both Finland's and the Baltic states' trade with the EU is more of inter-industry than intra-industry trade indicating differences in their comparative advantage from the cen-

tre. This suggests that economic integration would strengthen specialisation in industries where they have a comparative advantage.

The third aspect behind industrial location is industries' mutual links. In a recent simulation study, Forslid et al. (1999) find some evidence of an inverse U-shaped relationship between integration and concentration. Industrial production is dispersed when trade costs are either very high or low while intermediate trade costs

indicate more concentration. An inverse U-shaped relationship is due to dispersion forces that work against the usual agglomeration forces that are due to forward and backward linkages in industries. On the one hand, upstream firms find it advantageous to be located close to downstream firms as their demand is there. On the other hand it may also be advantageous for the downstream firms to be located close to the upstream firms since they provide the downstream firms with inputs.

Applicant countries' opening up to trade with the EU countries and eastern enlargement in general are changing the picture of input-output linkages and hence location in Europe. Outsourcing of industrial production from the incumbent EU countries to the applicant countries is clear evidence of that.<sup>7</sup> Downstream and upstream firms with strong ties tend to locate close to each other but not necessarily in the same country. The more of its own production an industry uses, the more concentrated it should be. In the case of the Northern Dimension – and Central and Eastern Europe in general – relatively high degrees of IIT between close neighbour countries suggest that input-output linkages may occur on a cross-border basis. Good examples are Finland and Estonia and Germany and Poland. This may decrease country-based concentration but increase area-based concentration. To continue this process requires that trade is and remains free, which is likely to speed up the integration process between the incumbent countries and accession nations, because protectionist pressures would harm both sides.

Industrial location depends on concentration of demand, comparative advantage and industries' mutual links

<sup>6</sup> See Forslid & Wooton 1999, Forslid et al. 1999.

<sup>7</sup> For analysis see Alho et al. (2001) or Kaminski (2001).

The Baltic Sea area can be seen as a natural trading area within the EU where countries have closer economic ties with each other than they have with other EU countries on average. This can be confirmed by using IIT and FDI data as above. Although the economic size of this area is small, enlargement and positive development in the Baltic Sea region make Finland and Sweden less peripheral than as EU members today.

The trade-creating effect of FDI shows that outsourcing of production phases also has a complementary effect on the investor's economy. Consequently, the term transfer of production is somewhat biased, it should be named re-organisation of production. This, in turn, creates better opportunities to exploit economies of scale and is also likely to speed up the process of catching up in the accession countries and, therefore, will even reduce the incentive to migrate.

## References

- Alho, K., Kaitila V. & Widgrén, M. (2001). The Impact of Eastern Enlargement on Finnish Firms (in Finnish with English summary), The Research Institute of the Finnish Economy Series B 178.
- Baldwin, R., Francois, J., Portes, R. (1997). The Costs and Benefits of Eastern Enlargement: the Impact on the EU and Central Europe, *Economic Policy* 24, 127-176.
- Baldwin (2000): Discussion, in Alho, K.E.O. (ed.): *Economics of the Northern Dimension*, The Research Institute of the Finnish Economy, Series B 166, 79-82.
- Bevan, A., Estrin, S. (2000). The Determinants of Foreign Direct Investment in Transition Economies, CEPR Discussion Papers 2638.
- Forslid, R., Wooton, I. (1999). Comparative advantage and the location of production, CEPR Discussion Papers 2118.
- Forslid, R., Haaland, J., Midelfart Knarvik, K. H. (1999). A U-shaped Europe? A simulation study of industrial location, CEPR Discussion Papers 2247.
- Haaland, J., Kind, H.J., Midelfart Knarvik, K.H. ja Torstensson, J. (1999). What determines economic geography in Europe, CEPR Discussion Papers 2072.
- Kaminski, B. (2001). How Accession to the European Union Has Affected External Trade and Foreign Direct Investment in Central European Economies, World Bank, Working Paper No. 2578.
- Midelfart-Knarvik, K.H., Overman, H. & Venables, A. (2000). Comparative Advantage and Economic Geography: Estimating the Location of production in the EU, CEPR Discussion Papers, No. 2618.
- Widgrén (2000). Comparative advantage, intra-industry trade and location in the Northern Dimension, in Alho, K.E.O. (ed.): *Economics of the Northern Dimension*, The Research Institute of the Finnish Economy, Series B 166, 59-78.