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The Shape of the New Europe: Vertical Product Differentiation, Wage and Productivity Hierarchies

1. Introduction

The current process of east-west European integration is a particularly striking example of the re-emergence of strong trade and, more generally, production linkages between two groups of economies which, albeit geographically close to each other, have had minimal trade and FDI links over a forty-year period. The rapid and deep liberalization of external relations after 1989 (accentuated by the decline of economic activity in ex-CMEA countries due to 'transformational recessions') has led to a dramatic process of trade re-orientation and also to a rapid build-up of pressures towards a new pattern of specialization in accordance with global market pressures, mostly in conformity with predictions made by traditional trade theory. Thus, strong deficits in skill- and technology-intensive branches emerged, an accentuation of specialization towards labour-intensive branches and a decline of capital-intensive branches could initially be observed in central and eastern Europe's trade specialization with the west (see the evidence in *European Economy*, 1995 and Landesmann, 1995).

However, at the same time as global market pressures redirected industrial and trade specialization in the central and east European (CEE) countries in conformity with comparative levels of economic development, factor endowments, etc., there was also evidence of the impact of the embarkation of some of the CEE countries on a process of catching up with more advanced

western European economies (in organizational/institutional, technological and product-quality terms).

Two forces have thus been operating alongside each other: (a) the accentuation of patterns of inter-industry specialization, following the strong liberalization of trade, and (b) the beginnings of a process of catching up (very differentiated across the different CEE countries) which is traditionally associated with a decline in strong patterns of inter-industry specialization and an increase in intra-industry trade (for details on this argument and evidence, see Landesmann, 1995).

2. Diversity as a factor in catching up

Evidence on catching up suggests the emergence of strong heterogeneity across the CEE economies. For certain economies, notably Hungary and the Czech Republic, we observe strong increases in intra-industry trade with EU trading partners and a decline in the strong comparative bias against skill-, R&D- and, lately, capital-intensive branches. For other countries such as Romania and Bulgaria – with Poland occupying a middle position – patterns of inter-industry specialization compatible with differential factor endowment positions between eastern and western European economies are further reinforced. Comparisons of both industrial and trade structures of CEE countries with northern and southern European economies show that the more advanced of the CEE economies occupy a middle position between the industrially more advanced northern EU and ex-EFTA countries on the one hand and the southern European economies (Spain, Portugal, Greece) on the other (see Urban, 1997).

The cumulative evidence of development in transition economies indicates the great importance of geographical location: the CEE economies adjacent to western Europe absorb a much greater amount of FDI than those which are geographically (and culturally) more removed. They emerge sooner from 'transformational recessions', they obtain easier access to international finance and they stabilize – in a feedback relationship – more rapidly, politically and economically. All these are important factors for embarking upon a catching-up process.

The potential for and speed of catching up is relatively high in CEE precisely because of the inherited unbalanced nature of assets (such as good stocks of engineering skills, insufficient capabilities/capacities in design, marketing, communication infrastructure, etc.). This, implying bottlenecks in some assets/skills and excess capacities in others, has led to inefficient

utilization of existing capacities and under-performance[1]. Closing the existing gaps in skills and infrastructure, as well as in organizational and institutional structures, could thus lead to strong, positive externalities. Current developments (relatively rapid productivity growth and export growth with real appreciating currencies) in those CEE countries which have embarked upon growth are a testimony to their existence.

3. The presence of price/quality gaps in intra-industry trade

Trade theory tends to think of intra-industry trade as being of a largely horizontal type (i.e. producing differentiated products of rather similar quality but catering to differentiated tastes)[2]. This picture is, as one would expect, grossly misleading if one studies the evidence of evolving intra-industry trade between CEE and western Europe. This trade is characterized by enormous price/quality gaps in even narrowly defined product groups (for evidence on this, see Landesmann and Burgstaller, 1997). Hence, an analysis of 'vertical' product differentiation in intra-industry trade (i.e. trade with marked differences in the qualities of products supplied by the different trading partners) in these evolving trading relationships is appropriate. Catching-up processes can be described as gradual upward movements of the more backward producers in vertically differentiated product markets and, behind that, of producers operating under technologically differentiated production conditions. There is some evidence that such upgrading does occur in the more advanced of the CEE economies, Hungary in particular, and that quality upgrading correlates with the degree of cross-border corporate involvement by western firms.

A detailed examination of price/quality gaps between eastern and western European producers and of the general positions of CEE producers in quality-segmented product markets of intra-EU trade by Landesmann and Burgstaller (1997) contained three important findings (also see appendix A). First, the evidence suggests extremely high price/quality gaps and very little representation of CEE producers in the high-quality segments of trade with the EU. These gaps and under-representation in the high-quality segments are very

[1] The unbalanced nature of existing capacities/capabilities was revealed even more strongly following the liberalization process after 1989/90.

[2] There are exceptions to this description and analysis of intra-industry trade: see particularly the contributions by Shaked and Sutton (1982) and Gabszewicz and Thisse (1979), as well as the analysis of quality competition in models by Flam and Helpman (1987), Grossman and Helpman (1991), Taylor (1993), etc.

striking, also in comparison with those characterizing the less developed regions of Europe and those outside Europe. The measured gaps, which put CEE economies on par with the export performance (in quality terms) with the lowest-quality exporters (China, India, Turkey) indicate that there is substantial scope for catching up here.

Second, shifts in the positions of CEE producers with respect to the two variables above over the period 1988–90 to 1992–94 were rather dramatic in relation to other international competitors. These shifts show again a clear bifurcation in the developments of two groups of CEECs, the 'western' CEECs (comprising the Czech Republic, Hungary, Poland and Slovenia) and the 'eastern' CEECs (comprising Bulgaria, Romania, Russia and Slovakia). For the most recent period, 1994 compared to 1992, furthermore, substantial price gap closures could be found for many sub-branches of the engineering sectors, irrespective of the degrees and directions of exchange rate to PPP rate movements. Furthermore, substantial price gap closures (at current ECU exchange rates) proceeded with, at the same time, substantial improvements in the market share positions of CEE exporters.

Third, while upward movements in the exchange rate relative to the PPP rate relate in the general sample (comprising all economies exporting to the EU) positively with upward movements in the price/quality position of exporters during the early transition period, this relationship is much less visible amongst CEE exporters. For the more recent period, 1994 compared to 1992, furthermore, substantial price-gap closures could be found for many sub-branches of the engineering sectors, irrespective of the degrees and directions of exchange rate to PPP rate movements. Furthermore, substantial price-gap closures (at current ECU exchange rates) proceeded with, at the same time, substantial improvements in the market-share positions of CEE exporters. This evidence does seem to support the view that initial quality positions of CEE producers did not fully reflect underlying developmental levels.

4. Trade theory and catching-up

The evidence of strong vertical product and production differentiation between eastern and western European producers implies that some of the conjectures of traditional trade theory – Heckscher-Ohlin-Samuelson (HOS) theory – should be applied in a very cautious manner to draw out the implications of the fast moving process of east–west European integration. In particular, the Stolper-Samuelson theorem which conjectures that a strong global pressure towards factor price equalization would be exerted through competition

in the product markets, has to be applied only with very strong modifications. Catching-up economies, particularly those with very strong gaps in capability structures, are operating in different technological and organizational environments and, furthermore, are catering largely to different 'quality segments' of international product markets than are the more advanced western European producers. If quality segmentation is rather extreme (as the evidence mentioned above indicates) one should expect eastern and western European producers to operate in largely 'non-competing' product spectra or, at least, to sell with high quality discounts attached to their products, so that the situation is rather removed from a direct application of the Stolper-Samuelson theorem. Nonetheless, over time, as catching up gains momentum and as the linkages of cross-border corporate integration thicken, the strong quality segmentation gets reduced and a wider and wider range of products become 'competing products'. It is then that the pressures on western European factor markets increase; at the same time, of course, real-wage catching-up processes in eastern Europe are also in progress.

Evidence on wage rates, labour productivities, and labour unit costs shows a dramatic increase in the range of productivity levels, compensation rates per employee and in labour unit costs across the European continent as a result of east-west European economic integration. A recent study by Landesmann and Egger (1997) has compiled detailed wage-rate, productivity and labour-unit-cost data at the branch level for the entire range of east and west European economies and shows that the coefficients of variation of productivity levels and compensation rates have increased dramatically on the European continent and now approach the values which could be calculated for the range of Asian economies. Hence the picture of vertical differentiation discussed above with respect to product qualities supplied by east and west European producers has its complement in cost variables (compensation rates, productivity levels, labour unit costs) which traditionally point to international hierarchies in production conditions.

5. The importance of diversity in attracting FDI

The picture of vertical product and producer differentiation is also essential for understanding the dynamics and pattern of FDI and of cross-border corporate integration between eastern and western Europe. The analysis of FDI flows and cross-border corporate integration is complex, as the enormous theoretical and empirical literature on this topic testifies (for an overview, see Markusen, 1995). However, there are a number of tendencies in FDI

developments in CEE which support the arguments made above: First, as mentioned above, there were and are clear gaps in CEE's production capabilities and, also, gaps in catering for domestic demand structures once these could be expressed more freely in the market after the transition. The closure of these gaps through FDI activities and cross-border corporate integration is an important factor explaining early patterns of FDI. Second, as can already be seen from evidence in those countries and industries in which more dramatic FDI and OPT (Outward Processing Trade) activities have developed, the presence of foreign enterprises, through FDI, joint ventures and OPT activities, plays an important role in the upward movement within the vertically differentiated structure of east–west European production and trade relationships. In countries which receive a relatively high inflow of FDI, enterprises with foreign participation account for an overproportionate amount of export (and import) and investment activity (see Hunya, 1996, Zemplínerová, 1996). Wage levels are generally higher in enterprises with foreign participation, they attract skilled manpower more easily and they are prime customers of financial institutions.

Corporate strategies in the current era are designed to exploit vertically differentiated production conditions globally. A variety of studies (see, e.g., Borrus, 1995, Doherty, 1995) have pointed out that, in order to organize their operations worldwide, US and Japanese firms, in particular, have built up corporate cross-border networks (sometimes with and sometimes without ownership control) which have exploited the differentiation in technological capabilities and cost conditions across south-east Asian countries and regions. As the degree of differentiation of production conditions has vastly increased in Europe as a result of east–west European integration, it is quite likely that similar networks initiated by western European (but also US, Japanese and Korean) firms will evolve as part of the overall economic integration process of western and eastern Europe.

6. The relationship between trade, FDI and the labour market

The relationship between trade structures, FDI flows and labour-market developments has recently occupied many economists in the west (for an overview of this – largely American – literature, see e.g. Baldwin, 1995; for a review of the debate see Wood, 1995). Careful studies (see, e.g., Murphy and Welch, 1991; Borjas, Freeman and Katz, 1992; Leamer, 1994; Sachs and Shatz, 1994) found significant effects of evolving international trade patterns, FDI and migration flows on employment and wage structures in the west. These studies mostly concern developments in the 1980s and concentrate on north–south trade

and migration patterns. It is clear that this topic is of great relevance for east-west European relationships and particularly for countries with close geographical proximity to each other.

However, as mentioned under 4 above, there is a danger in applying standard trade theory in too simplistic a manner to the situation of increasing trade and corporate links between catching-up and more advanced economies. Development processes in central and eastern Europe are characterized by rather strong heterogeneity: certain regions, segments of the company sector and of the labour market are developing rather rapidly, other regions and segments are stagnating or lagging strongly behind. Consequently, the evolution of demand structures, the access to capital markets and to skilled labour show strong features of segmentation. In such circumstances, competitive pressures are strong within segments but weak across segments, although the boundaries between segments are shifting as modernization gains momentum in the CEE economies.

There is evidence of a rather dramatic increase in inter-industry wage differentials in CEE since the onset of transition, approaching in some economies the type of wage dispersion observed in the west. However, more work is required to reveal the evolution of wage structures within industries (across firms), across skill groups, etc. The simple differentiation between skilled, semi-skilled and unskilled segments of the labour force, which is adopted in the literature on the impact of 'globalization' on labour markets in advanced and catching-up economies, is, probably, insufficient to grasp the complexity of the gradual and problematic restructuring of the existing skill structure of the labour force in eastern Europe. As mentioned above, while the general standards of education are high (see e.g. Hamilton and Winters, 1992), there are severe gaps in the availability of certain skills as the existing skill structure has been built up over a long period in which it did not have to comply with the requirements of an open, market-oriented economy. Hence, just as with the physical capital structure, so does the stock of human capital undergo a difficult process of adjustment; and the evolving wage structure in central and eastern Europe reflects this, with very high spot prices showing up the short supply of certain professional skills (accountancy, management, legal practice) and with low wages (and/or deteriorating job prospects) reflecting the redundancy of other types of acquired skills.

From the available evidence it does look as if the longer-term comparative advantage of some of the more advanced of the CEE countries might not necessarily be cheap labour *per se* but a relatively cheap skilled labour force although due account has to be taken of the gaps in the skill structures mentioned earlier. Furthermore, exploitation of this potential presumes that

necessary structural skill-adjustment processes proceed successfully (supported by suitable government schemes of training and retraining and an overhaul of educational and training structures) and without too much effect of high transitional unemployment on skill erosion. The current emphasis of FDI on more capital- and technology-intensive activities in manufacturing (which are also areas in which the complementarities between capital and skilled labour are particularly high) in some of the CEE countries can be taken as evidence that their longer-term comparative advantages do not seem to lie exclusively in low-tech, low-skill production.

7. Quality segmentation and phases of catching up

As regards the impact of eastern European developments upon western European labour markets, we would expect the type of dynamics analysed in the north-south trade and FDI literature to gain momentum over time, as eastern European producers gain weight in western European markets[3] and in intra-corporate European production chains; as the 'quality segmentation' in product markets weakens and, hence, as east European producers (or subsidiaries of western companies in eastern Europe) start to compete directly with western producers over a wider range of products in western and home markets. Theory suggests that the strongest pressure of adjustment in the west would be exerted by the emergence of a strong pattern of inter-industry specialization; this, we feel, however, will not be characteristic of the more advanced of the eastern European economies, given the scope for catching up in these economies. There, the already growing tendencies for intra-industry trade will tend to build up and strengthen the pressures for a quality- (and skill-) upgrading process on producers in the western economies. In this context we should reiterate that real wage catch-up is as much a feature of an overall catching-up process and, hence, what are now considered as extraordinarily high wage gaps between eastern and western Europe will get eroded over time. The competitive challenge is a function of the relationship between 'real cost' and 'quality' catching up, and here, we expect that eastern European producers are going to differ from the east Asian 'miracle economies' in that these latter economies managed to mount a strong challenge to western producers by allowing, for considerable periods, quality catching up to outstrip real cost catching up; this is less likely to be the

[3] In 1996, the combined market share of all CEE countries in EU markets in manufacturing as a whole hardly exceeded the market position of a small advanced western economy such as Austria.

case in eastern Europe where social aspirations and political possibilities tend to exert a stronger pressure towards rapid real income growth.

The analysis of the impact of evolving industrial specialization patterns between eastern and western Europe (involving both trade relationships and direct corporate integration) upon the labour markets in both parts of Europe becomes an extremely important topic when there are quality gaps present. In the context of a potential process of catching up, specialization structures (reflected either in trade flows or in intra-corporate production-location decisions) are symptomatic only of specific phases of that catching-up process and differ between the phases (see the by now voluminous literature on the south-east Asian development process). As there is evidence already (see above) that catching up is and will continue to proceed at widely different speeds (if at all) in different regions of central and eastern Europe, the pattern of industrial specialization is differentiated both across the time dimension (following the phases of a development process) and the regional dimension. Hence the impact of east–west European integration and of industrial specialization upon labour markets in both western and eastern Europe should be seen in the context of this dynamic and differentiated process.

For some time to come, competition from CEE producers will exert significant pressure upon the lower-cost, lower-quality segments of west European production. This will contribute towards additional pressure on industrial and skill upgrading, particularly in the countries which are geographically more exposed to such competition. From the point of view of longer-term industrial development, such a move – if successfully managed – should have a positive impact on 'endogenous' growth in the more advanced western European economies. Government policies in the west should be directed to support the necessary skill and technological upgrading process.

On the part of the CEE economies, one has to consider the impact of the integration of substantial segments of their economies into the chains of international production interlinkages. Attention will increasingly focus on the extent of 'spillover effects' between the activities with foreign corporate participation and the rest of the domestic economies. Evidence from Asian experience suggests that the depth and breadth of these spillovers are vital for the overall development process. On another issue, one also has to pay attention to the impact of selective migration flows of higher-skill categories ('brain drain') on the endogenous growth process. The interdependence between upward movements in the sophistication of the industrial structure and the demand for skilled labour and reduced incentives for selective migration is important here. The evolution of the 'push factor' of migration from eastern Europe will be as much a function of the expectations concerning the

characteristics and the time horizon of the economic and social catching-up process as of the actually observed initial income gaps.

8. Conclusion

There is still great uncertainty about the longer-term characteristics of east–west European integration. The argument made here is that these characteristics depend particularly upon the extent, speed and nature of catching-up processes of CEE economies. Consequently, one should be careful in drawing conclusions from applications of relatively static theories of trade and industrial specialization to the process of east–west European integration; this care should extend to the analysis of the implications of this integration process for the structural dynamics of eastern and western European labour markets.

Looking at the integration process from a dynamic perspective, one should pay increasing attention to the potential impact of the economic integration process of these two complementary parts of the European continent upon the dynamism of the European economy as a whole which, in the current global context, is of vital importance for Europe's future position in the world economy. Concern for the analysis of the timeframe of catching-up processes in the current liberalized conditions of east–west European relations, of the factors which constrain the embarkation upon speedy catching up including the extent, geographical coverage and characteristics of cross-border corporate linkages and of the emerging regional diversity of growth processes in this region should become paramount.

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