Trade Patterns, FDI, and Industrial Restructuring of Central and Eastern Europe

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Introduction

This paper analyses changes in the trade patterns of Central/Eastern Europe and the former Soviet Union (FSU), and the potential role in the global/European division of labor of these transforming economies. In the reform period (1989-1995) trade pattern of Central and Eastern Europe has experienced significant changes. The most pronounced trend was the strong expansion of trade with the OECD countries, in particular with the European Union, whereas CMEA intraregional trade literally collapsed. This massive geographical reorientation of trade has determined also significant changes in the commodity composition of trade of CEE in the same period.

The first part of the paper will assess these patterns of microeconomic performances and structural transformations in the recent economic reform period in the last years (1989-1995) that are likely to have significant consequences in the role of Eastern Europe in the global division of labor and in their integration into the European economy. The main goal is to assess the different impact of trade liberalization and economic reforms on the trade patterns of the transforming economies in their relations with the market economies, in order to evaluate different industrial restructuring of the former CPEs in the transition period from central planning to market system. The aim is also to provide empirical evidence for different evolution of production and technological capabilities of the CPES in the recent period.

In this regard, a "structuralist"—"evolutionist" approach to economic growth and development is used in the paper, by drawing on recent conceptual and empirical works on the role of technology in economic growth and international trade specialization. The first section presents this evolutionary framework, and it stresses the importance of dynamic efficiency, technical infrastructure and an efficient process of generation and diffusion of technology to achieve long term growth. A related sectoral taxonomy is employed to analyze the relationship between technological capability and international trade performance of the former CPEs, to emphasize the main interindustry linkages at level of each individual country.

There is no doubt that within the group of the CPEs, three major transforming economies (Poland, Hungary and the Czech Republic) has registered, at least so far, a relatively greater success in their restructuring and trade specialization patterns. This has been certainly due to their different economic and social starting points, but it has been also the result of many other factors, like differences between countries in terms of the introduction of a market economy, the forms of private activity, the elimination of foreign trade restrictions, the introduction of more

realistic and flexible exchange rates. Foreign direct investment has also played a significant role in affecting individual trade patterns of the three eastern European countries. Although the CPEs as a whole had been able to attract only a limited amount of foreign capital out of global flow, the three most developed (Hungary, the Czech Republic and Poland) attracted about two third of the total.

Although all three central eastern European countries experienced significant restructuring, important diverging patterns of trade and production specialization have been taking place even within this limited group. This second part of the paper will assess these overall and bilateral trade specialization patterns of the three most advanced eastern European countries (the Czech Republic, Hungary, Poland), especially toward the EU. A highly disaggregated analysis of trade specialization patterns of the three largest transforming economies with regard trade with the market economies, based on an original industrial and technological sectoral taxonomy, is carried out in this section. The aim is also to analyze what kind of linkages (backward or forward) has been induced by restructuring in the three countries. Different linkage effects are going to determine different integration patterns of the individual eastern European countries into the global and European area.

In this regard, the specialization patterns of the three major eastern European countries will be compared in the third section of the paper with those of the four most advanced East Asian countries (Hong Kong, South Korea, Singapore and Taiwan), so to confront their evolution and respective roles in the regional and global division of labor. The final section provides some concluding comments on these findings.

Trade, Technology and Economic Transition

There is no doubt that the successful outcome of the transition to new market-type economies in the former CPEs still largely depends on their ability of ensuring an upturn in their medium-long term economic growth prospects. Above all this requires investment both to restructure and modernize production capacity, in such a way to generate endogenous sources of investment, innovation and economic growth. All that implies and requires structural changes in the economy.

In the traditional orthodox neoclassical framework, restructuring, in terms of structural change, can simply be considered a nearly automatic result of an efficient resource allocation among sectors, which is entirely driven by market incentives (a set of relatives prices) according

to individual country's comparative advantage (domestic versus world prices). In the traditional model the openness of the economy can be regarded as a very powerful device for rapidly importing efficient world prices and creating these strong incentives for efficiency in resource allocation (restructuring) and long-term growth. Trade specialization is not a problem, because there is always something each country can profitably produce and trade, as long as markets are open and domestic relative prices free to move.

There are well known theoretical and empirical arguments to cast serious doubts on this conventional explanation of the sequence between trade openness, structural change and economic growth-development. Although a proper set of market incentives such as those created by "outward oriented" growth strategy is very important, it can be at most considered a necessary condition for the restructuring process success. The structural features of industrial restructuring in a transition economy and the role played in it by technology calls for a more articulated approach.

The purpose of this paper is to move in this direction, by following what could be named an evolutionist-structuralist approach to economic restructuring and growth, which draws on recent theoretical and empirical works on the role of technology in trade specialization and economic growth. The structural approach stresses the central role of technological change and dynamic efficiency to explain countries' relative industrial and trade performance. Technological capability is considered a key factor driving international trade specialization and competitiveness of single countries; this capability is a combination of knowledge, skill and organization (Dosi, Pavitt and Soete, 1990; Freeman and Foray, 1993).

Whereas an efficient structure of incentives (price structures) is significant for industrial development, the ability to respond to those incentives depends on the skill and knowledge of the firms concerned, i.e. on their technological capability. At country level, the ability to cope with industrial technology depends on the rate of generation-diffusion of technology and on the structural changes that such progress requires (Ernst and O'Connor, 1989; Lall, 1990). The industrial development may be thus seen as a sequence of structural change within the manufacturing sector, contributing to the emergence of new sectors (Justman and Teubal, 1991). In this regard, structural change is a cause of growth and should not be considered an autonomous market driven result of trade openness and outward oriented growth. In this perspective, the generation of comparative advantages is also an articulated process, in which the

accumulation of physical capital interacts with the development of skill and technological endowments (Chesnais, 1986; Dosi et al. 1990).

Technology, however, can not be equated with "information" or ideas that are easily reproducible and passed from firms and countries who have them to the others as in the traditional neoclassical model. In fact, innovative activity is a cumulative process which is both country- and firm-specific, since it is differentiated in its technical characteristics and its market application (Amendola et al., 1992; Pavitt 1988; Cantwell 1989). Furthermore, processes of technological change tend to assume varying sectoral features, in terms of differences in technological opportunities, sources and appropriability conditions (Pavitt, 1984; Dosi et al., 1990; Guerrieri, 1992; Guerrieri and Tylecote, 1994). Thus there are systematic differences in both productivity levels and growth potential across industrial sectors. The case for the industrial restructuring of transitional economies turns essentially on this point.

To take into account this role of structural transformation in economic development, the industrial system of a country should not be considered as a merely list of sectors that are independent of one another; rather, it has a hierarchical structure, defined by a complex technological interdependence between its various component sectors (Rosenberg1982; Chesnais 1986; Scherer 1982). In this regard, the linkages between different industrial sectors assume great importance (Schmookler, 1966; Rosenberg, 1976, 1982; Pavitt, 1988), i.e. in terms of innovation user-producer relationships (Scherer 1982; Lundvall, 1988).

In other words, the industrial system could be viewed as national networks of inter-firm, intra-industry and inter-industry linkages that affect the ability of nations to transform opportunities for innovation into actual technological change (Lundvall, 1988; von Hippel, 1988). These innovation linkages occur within and between industries and to a large extent they constitute externalities, which increase the opportunity for technological spillovers across firms and sectors, generating a cycle of positive feedback and self-reinforcing growth (Arthur, 1990; Kaldor, 1981). Also the competitive advantages of individual countries are concentrated in these clusters of sectors connected through vertical and horizontal relationships at the technological and production levels (Porter, 1990; OECD, 1992; Guerrieri and Tylecote, 1994).

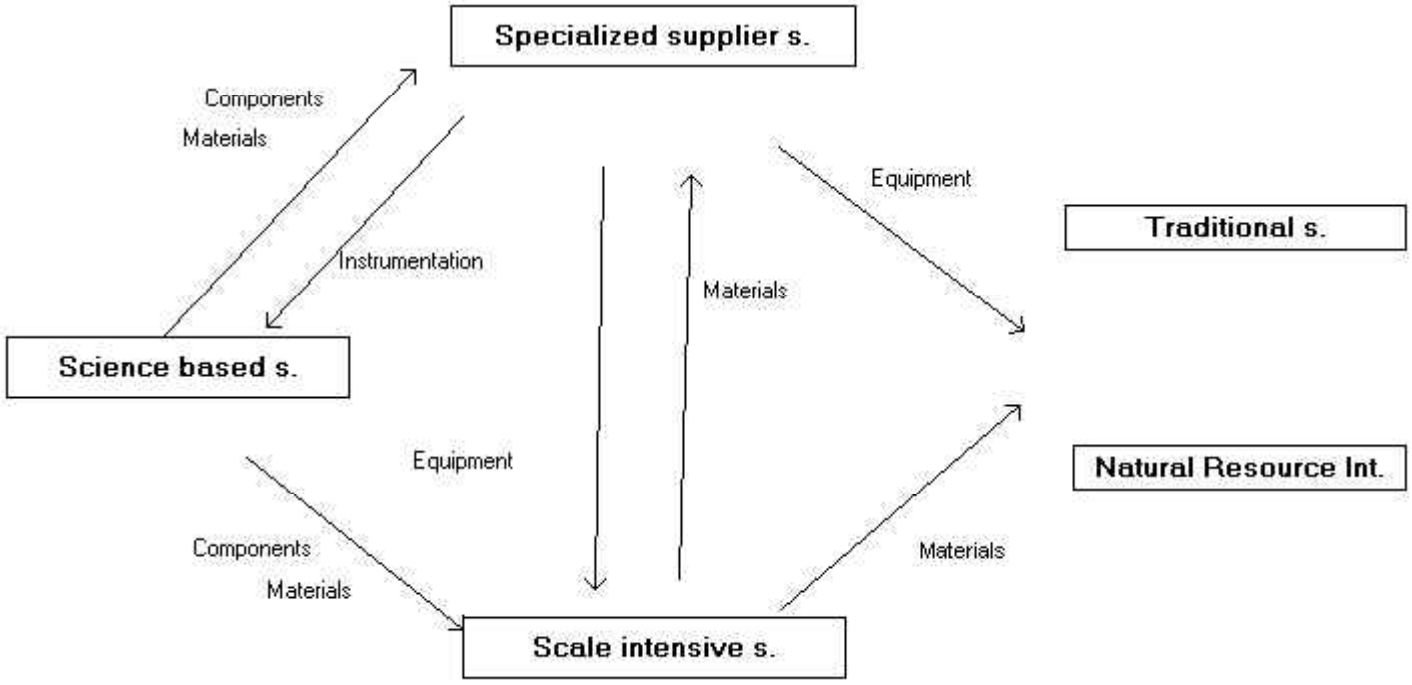
To try to individuate in an empirical analysis these potential flows of innovation learning between firms and between industries, we need an adequate taxonomy of industrial sectors to be used as a proxy of the complex technological interdependence characterizing an industrial structure. Following work by Pavitt (1984; 1988), elsewhere (Guerrieri, 1992b, 1993) I used an

alternative sectoral taxonomy to analyze the relationship between technological capability and international trade performance of the major countries, which is consistent with the above mentioned theoretical works on technological change and trade specialization. It identifies five type of industries, primarily through a combination of technology sources, technology user requirements and means of technology appropriation: *natural resource-intensive, supplier-dominated or traditional sectors, science based, scale-intensive* and *specialized suppliers.*

In the natural resource-intensive group the availability of abundant raw materials strongly influences production localization choice and countries' comparative advantage (e.g. *petroleum, refineries, non ferrous metal basic industries, pulp and paper*); the group of 'supplier-dominated' (traditional) sectors encompasses the more traditional consumer and non-consumer goods industries such as *textiles, clothing, furniture, leather and shoes, ceramics*, *the simplest metal products.* Both sectors are net purchasers of process innovations and innovative intermediate inputs from other suppliers of productive equipment and materials (see Figure 1); in these sectors technology is easily accessible, firms' competitiveness is notably sensitive to price factors, although in a few traditional sectors it is also influenced by 'non price factors' as product design and quality, and factor endowments have a major influence on the generation of comparative advantages.

Scale-intensive sectors includes typical oligopolistic large firm industries, with high capital intensity, wide economies of scale and learning, high technical or managerial complexity and significant in-house production engineering activities, such as *automobiles,* certain *consumer electronics* and *consumer durable*, the *rubber* and *steel* industries; while *specialized-suppliers*, which includes most producers of investment goods in mechanical and instrument engineering, such as the *machinery for specialized industries* (i.e. *machine-tools*), are characterized by a high diversification of supply, high "economies of scope", relatively medium to small companies and a notable capacity for product innovation that enters most sectors of scale-intensive and supplier-dominated groups as capital inputs (see Figure 1). Finally, the so called 'science-based' sectors include industries such as *fine chemicals, electronic components, telecommunications* and *aerospace,* which are all characterized by innovative activities directly linked to high R&D expenditures; a large number of other sectors heavily rely on them as capital or intermediate inputs, and their product innovations generate broad spill-over effects on the whole economic system (see Figure 1).

Figure 1 The Main Technological Linkages among Industrial Sectors



In these three categories of products (*science based, scale-intensive, specialized suppliers*) comparative and absolute advantages are dominated by technological activities, as shown by many empirical studies (Soete, 1987; Fagerberg, 1988; Amendola, Guerrieri, Padoan, 1992). Industrial restructuring and growth, as pointed out earlier, may be seen as a sequence within the manufacturing sector, a technology-driven structural change, depicting an evolution from traditional and resource-intensive to scale intensive, and from scale-intensive to science based and specialized supplier industries (Bell and Pavitt, 1995). In this regard, the different innovative linkages among groups of industries (the interactive learning among sectors) and the complex-related technological interdependency, as shown in Figure 1, are of great significance (Lundvall, 1988; Enos and Park, 1988; Katz, 1987). At least, this has historically been the case in the advanced countries (Rosenberg, 1982). This evolution, however, should not be considered inevitable. It requires a set of given conditions, and includes interactive roles and strategies by firms, governments and institutions of individual countries (Nelson, 1993; Lall, 1995). The evolutionist-structuralist approach and the related sectoral taxonomy—as later on shown—may be particularly useful for analyzing the current transition phase of the former CPEs.

Trade performances and structural changes in the former CPEs

In the present and following section the long-term trade performance of the former CPEs is analyzed by using the sectoral taxonomy presented above. The aim is also to provide empirical evidence for different patterns of restructuring and technological capabilities of the CPEs in the recent period. In effect, trade performance and specialization provide a relatively objective and convenient test of comparative efficiency in each industry for the countries considered. The analysis uses a variety of indicators and relies on the highly disaggregated SIE World Trade Database (see Appendix 1) comprising U.N. and OECD statistical sources expressed in current dollars (450 product classes, 98 sectors and 25 commodity groups) for more than 80 countries (OECDs, NICs, ex-CMEA and LDCs).

In this regard, our analysis will take into consideration only trade relations of the former CPEs with market economies (including both developed and developing countries), since they were carried out to a large extent on the basis of market incentives and were much less distorted than intra-CMEA trade. It follows that intra-CMEA trade flows are not included in our analysis. Furthermore, exports and imports of CPEs are calculated in the present analysis by using trade declarations of the all partner countries. The reason is that the original CPEs' declarations were either non available for the period until 1989 or not adequately broken down with regard to the more recent years.

In the reform period (1989-95) trade patterns of CPEs have been experiencing significant changes. The most pronounced trend was the geographical reorientation of the Eastern European countries from East to the West, through the dramatic increase of trade flows especially with the European Union, whereas CMEA intraregional trade literally collapsed (ECE, 1995A). The EU became very rapidly the leading trading partner of most Eastern European countries (ECE, 1996). This massive geographical reorientation of trade has been accompanied also by significant changes in the commodity composition of trade in most transforming economies. Trade patterns, however, have varied substantially across countries in the former CMEA group (see Tables 1-10). In this regard the CPEs countries could be divided into three groups: Poland, Hungary, the Czech Republic, and to some extent Slovakia are included in the first one, and these four are designated jointly as the CEE group; the second group is formed by Romania, Bulgaria and Albania; while Russia and the other ex-Soviet Republics forms the third group named as the FSU.

In the following we will assess these three distinct patterns of trade performances and structural transformations which are likely to have significant consequences in the future role of the former CPEs in the global division of labor and in their potential integration into the European economy.

Russia and the former Soviet Union (FSU)

The past five years have produced profound changes in Russia and in the other FSU states. On the macroeconomic side, prices and trade have been liberalized, inflation has fallen dramatically, capital market have developed significantly. But it is also true that industrial restructuring has been generally unsuccessful in these years, largely because the state remained the principal owner in most large enterprises and the state agencies that were asked to transform these firms into market-oriented enterprises did not have the power to do so. On the real side of the economy, therefore, production and investment have been continuously declining in this period, and only recently has Russia been able to stabilize its output level.

A first overall view reveals clearly defined comparative advantage patterns for the former Soviet Union and Russia. During the recent transformation process, this group of countries has consolidated its revealed comparative advantages in fuels and in primary resource-intensive sectors, such those connected with oil, gas and non-ferrous metals. Although Russian and FSU oil and gas product exports fell precipitously from their high level in the late 1980s (around 44 percent) to around 23 percent in the mid 1990s due to the political transformation, other sectors have increased their export capacity. Both scale intensive sectors (such as steel) and primary resource-intensive groups have made and consolidated export gains. Most recently, the FSU and Russia have even started showing strengthened comparative advantage in manufactured products, including mechanical engineering sectors, science-based and traditional manufactured products.

Romania and Bulgaria

Romania and Bulgaria show distinctive patterns with respect to the rest of Central and Eastern Europe. Their share of world exports declined significantly during the first part of the transformation process, and has only partially recovered the lost ground in the more recent years. This negative trend have characterized especially the industrial exports. A fundamental cause for poor export performance has been the small scale restructuring and its only limited success.

Consequently, trade specialization has not allowed Romania and Bulgaria to capitalize on their comparative advantage which exists primarily in traditional and resource-intensive industries. The transition thus far has favored products such as clothing and footwear but has accelerated the decline of other sectors that played a larger role during the socialist era, such as oil products. Moreover, specialized suppliers and science-based goods, which never thrived under the old system, have suffered even more in the transition. Exacerbating these trends has been the disappearance of Soviet oil, raw materials, and derivative imports that at one time supported the production of technologically more sophisticated products in Romania and Bulgaria.

The CEE countries: Czech Republic, Hungary, Poland, and Slovakia

With regard to trade performance, there has been a substantial increase of the four major Central and Eastern European (CEE) country's share in the world export in the period from 1989 to 1995 during the transition from central planning to a market system, after a relative decline in the past decade of the 1980s. Almost all manufactured product groups have been characterized by the new increasing export trend, whereas the agricultural, fuels and other raw materials have registered a symmetrically opposite path with significant losses in the recent years. Especially in the case of labor-intensive products (traditional products, as textiles, apparel, footwear, metal products, etc.) the CEE countries registered strong increase in the share of world exports from 1989 to 1995 (from 0,81 to 1,62 percentage points), and held a substantial positive trade balance in the same period (Guerrieri, 1994). In contrast, the CEE's share in the world exports of food industries and energy intensive products dropped significantly in the transformation process, and trade balances of these sectors have also been sharply deteriorating during the same years. One should also note that the share of import of the CEE countries in the world trade has strongly increased during the transition phase, outpacing the export growth. Thus the overall trade balance toward market economies, especially toward the EU, has substantially deteriorated over the same period (Guerrieri, 1994; ECE 1995). The recently large and increasing deficit of the CEE countries with the EU is mainly caused by trade in industrial products, which arrived to account for the majority of the CEE exports towards the EU by the mid-1990s (more than 70 percent).

Additional relevant insights on the structural change in the CEE's trade with the market economies and the EU can be drawn from their specialization pattern during the past one and half decade period, covering both the central planning phase and the more recent years (Table

11). During the 1980s under the CMEA trade regime the CEEs displayed sound comparative advantages in trade with market economies in: (i) labor-intensive or traditional goods—such as textiles, apparel, footwear, paper product-; (ii) natural resource-intensive sectors, such as basic metals and petroleum products (iii) fuels. In the resource-intensive sectors, the specialization of CEE increased sharply over the first half of the 1980s, when the low price of oil imported from the former Soviet Union benefited its exports of petroleum products toward Western market economies. In the food items and agricultural products the comparative advantage of CEE experienced sharp fluctuations over the 1980s, and rapidly increased to positive values by the end of the decade after a sharp decline in previous years.

In contrast, the weakest points of trade specialization of Eastern Europe towards the market economies were mostly concentrated in the mechanical engineerings (specialized supplier) and science based products. It should be noted that most of these sectors conversely represented the strong assets of the trade specialization of many CEE countries in intra-CMEA trade, and especially towards the Soviet Union (see Drabek, 1989; ECE, 1992). Thus, there was at that time a strong dual trade specialization pattern of CEE countries which provides clear evidence of their weak structural competitiveness in technologically complex sectors towards the market economies (Poznanski, 1987).

The recent trade pattern (Table 11) shows that the CEE's comparative advantage in trade with market economies has been strongly consolidating in labor-intensive 'traditional' products during the transition period. The CEE has substantially expanded their exports of simple manufactures such as clothing, footwear, furniture, light mechanical, and other product groups in which labor-cost rather than technology plays an important role. The share of 'traditional' or labor-intensive products in total exports of the CEE countries toward market economies has increased from 23,5 percent to 31,7 per cent in the period from 1989 to 1995.

The specialization pattern of the CEE in resource-intensive sectors is less clear cut. Net exports of these product groups have continued to provide a significant positive contribution to the trade balance of the four former socialist countries. There was, however, a sharp decline of natural resource-based industries in terms of percentage share in total export, revealing that adoption of market criteria has been increasingly penalizing the CEE supply capacity in this area. Furthermore, net exports of agricultural products have decreased significantly between the late 1980s and the mid-1990s, and the specialization in this product group has declined more recently. In this regard, it is quite evident that the Association Agreement with the EU and its

asymmetrical impact very negatively affected agricultural production and export patterns of the CEE.

On the other hand, absolute and comparative disadvantages of the CEE tend to concentrate in most capital goods and technological inputs, like specialized supplier and science based groups. They continue to represent the bulk of Eastern Europe net purchases on foreign markets and have maintained negative values in their specialization indicators. In the case of specialized suppliers, however, a relative improvement has been registered in the more recent period. One should also note that the export shares of the CEEs in the world trade both in specialized supplier and science based sectors have increased in recent years (Table 11). The exports of the two product groups arrived to account for more than 20 percent of the CEEs overall exports.

To sum up, the evidence presented above by comparing the performances of the CEE countries with the other two CPE groups, reveals a clearly different degree of industrial restructuring and trade specialization patterns. While Russia and the other FSU face serious delays in their transformation process, and the economic transition of Romania and Bulgaria are still at an early stage, the Czech Republic, Hungary, Poland, and to some extent Slovakia have substantially restructured their economies and present dynamic structural changes.

The relative success of the trade performance and economic transformation of the CEE countries are certainly due to their different economic and social starting points, but they are also the result of the restructuring process. The price system have been reformed, trade has been liberalized, private ownership has spread rapidly, more realistic and flexible exchange rates have been introduced. Foreign direct investment also played a significant role in affecting individual trade patterns of the CEE countries. The CPEs as a whole had been able to attract only a limited amount of foreign capital out of global flow, but the three most developed CEE economies (Hungary, the Czech Republic and Poland) attracted about two third of the total (ECE, 1995b). After initially concentrating on retail trade and services, foreign direct investment in the CEE group, especially the European FDI, have been mostly directed toward the manufacturing industries. One should note, however, that all three of these central eastern European countries experienced different industrial restructuring processes. Therefore, significant differences in trade and production specialization patterns have been taking place even within this small group.

Industrial Restructuring and Trade Integration of the CEE Countries

This section assesses the overall and bilateral trade specialization patterns of the three most advanced CEE countries (the Czech Republic, Hungary, and Poland) in trade relations with market economies and EU, through an highly disaggregated analysis of trade specialization patterns of the three eastern European countries, and by using the same sectoral and technological taxonomy previously employed. The aim is to get information about the economic restructuring and industrial changes taking place in individual CEE countries through recent developments of their trade patterns. A related goal is to analyze what kind of linkages (backward or forward) has been induced by restructuring in the CEE countries. Different linkage effects are going to determine different integration patterns of the individual CEE countries into the global and European area.

Tables 12-13 show the trade patterns over the past central planning decade (1980-89) and in recent years (1989-95) of the three major CEE economies, in their trade with developed and developing market economies. The evidence reported highlights both the country specific nature of trade performance and specialization and some common sectoral features. Over the entire transformation process (1989-95), the *Czech Republic* (given the period covered, treated here as a single country with Slovakia up to 1982) has produced the best trade performance in terms of increasing market share at the world level (+90%), with gains spread across industrial sectors, especially in traditional, scale intensive and specialized suppliers goods (Tables 1-10). This remarkable performance has been achieved by holding a relatively stable trade specialization pattern with comparison to that prevailing over the 1980s in trade with market economies (Tables 12-13). The comparative advantages of the former Czechoslovakia have been mostly concentrated in manufacturing trade, traditional and scale-intensive goods being the strongest areas of specialization. In recent years there was a consolidation in the "traditional sector" or labor-intensive product comparative advantage. At the same time, there was a relative decline in the value of the indicator of contributions to trade balance for the primary resource- and scale intensive groups. On the other hand, the specialized supplier and, to a lesser extent, science based industries continued to display high comparative disadvantages and increasing trade deficits during the recent period of economic reforms and transformation, although their share in total exports of the Czech economy has increased in recent years.

Thus, industrial restructuring has only slightly modified trade specialization patterns of the Czech Republic, and it appears to have mostly contributed to her trade performance through a

differentiation of export products across the existing industrial structure, from scale intensive sectors (as steel, chemical and autos), to some specialized supplier sector (in the electrical machinery and instrument activities), to labor-intensive traditional (as textile-clothing and wood products).

This increasing differentiation has been taking place through a substantial increase of intra-industry trade between the Czech Republic and the market economies. The Czech Republic among the CEE countries registered the highest level of intra-industry trade with the EU as a whole by the mid-1990s (Table 14). Conventionally, we think of intra-industry trade as being of largely horizontal type, trade in differentiated products of rather similar quality (Helpman and Krugman, 1985; Greenaway and Milner, 1987). In the case of the CEE countries, however, intra-industry trade is more typical of vertical style, in terms of both the exchange of vertically differentiated products (CEPII, 1996; Landesmann and Burgstaller, 1997) and inputs for more processed outputs (Hoekman and Djankov, 1996). The increase in intra-industry trade is certainly a sign of a closer links between Western, and especially European, firms and local Czech producers that have occurred in various ways, such as subcontracting agreements and joint ventures. Instead the role of FDI, at least so far, has been relatively less important, with the exception of the car industry (Table 16). In some cases, such as in traditional (such as apparel and clothing, footwear), scale intensive goods (vehicles), and specialized suppliers (electrical machinery), vertical intra-industry trade has been characterized by an upgrading of Czech exports, through an increase in their average unit values (Table 15; Hoekman and Djankov, 1996). Anyway, this upgrading shouldn't be overemphasized, if it is true that by the mid-1990s the average unit values of the Czech exports were still well below those of many developing economies in Europe and Asia (ECE, 1995; Drabek and Smith, 1995).

Poland shows a rather similar successful trade performance as the Czech Republic (Tables 1-10), but it seems to have followed a different type of restructuring process (Table 12). The Poland's world export share has increased significantly (+ 40 percent) all over the transformation period (1989-95). The major gains has been achieved by far in the traditional labor-intensive industries (+150 percent), with the resource and scale intensive sectors that have also registered substantial benefits (more than 80 percent). The trade specialization pattern of *Poland* displays significant changes with respect to that prevailing in the 1980s, during the socialist planning period, in trade with market economies. In recent years traditional-labor intensive goods, especially clothing and wood products, has become the most important asset in

the Polish trade specialization, by doubling their positive contribution to trade balance and strongly increasing their share in total export (+15 percent). Fuels that was the leading sectors of Polish specialization in the past has seen dramatically reduced its role. Resource-intensive product groups (such as non-ferrous metals) represent one of the few industrial activities that has been continuing to provide positive contribution to the Polish trade balance even during the transformation period. In contrast, in food items (foodstuffs) and industry after a period of increasing competitiveness over the 1980s, trade performance and specialization have been sharply deteriorating, particularly during the more recent years, and increasing trade deficits have occurred. The same negative trends (high comparative disadvantages and increasing trade deficits) characterized the specialized supplier and science-based sectors during the recent period of economic transformations. The increasing role of traditional sectors could be attributed, in the case of Poland, to an intense local activity, with also relatively intense subcontracting processes (OPT) of Western European firms. The role of FDI was in manufacturing quite marginal, with the only exception of car industry (Table 16). In this regard, Poland had a lower intra-industry trade intensity than the other two CEE countries with regard the EU between 1988 and 1994 (Table 14; ECE, 1995).

The case of *Hungary* lies somewhere between the two considered above, since consolidation and differentiation trends in trade patterns have gone hand in hand with significant changes in industrial and trade structure (Table 12). By the mid-1990s the latter seems to be characterized first by a persistent strength in agricultural products and food industries, although along a declining trend in recent years due, to the negative impact, also in this case, of European Association Agreement in this sector (Inotai, 1996). On the other hand Hungary has been trying either to abandon resource intensive goods (metal products), as it is confirmed by the decreasing contributions of these sectors to trade balance (although still in a positive value range), and to strengthen certain medium-high technology intensive productions as in the case of specialized suppliers and science based goods, with increasing shares in overall export for both groups and declining comparative disadvantages over time. One should also note that, like many other Eastern European countries, Hungary registered positive comparative advantage in traditional sectors, especially in the early phase of the transformation process.

Also in the case of Hungary there was a substantial increase of intra-industry trade of vertical type by the mid-1990s, accompanied by a significant ‘upgrading’ of Hungarian exports within certain product groups in scale intensive (vehicles), specialized supplier(electrical

machinery and instruments), traditional (apparel and clothing) (Hoekman and Djankov, 1996). It is confirmed by the marked increase of the weighted average unit value ratios in Hungary's trade with the EU by the mid-1990s (ECE, 1995)(Table, 15). Even in the case of Hungary, however, the comparison with the trade unit values of other developing countries in Asia show the huge gap still dividing Eastern European countries from other regions (Drabek and Smith, 1995).

The fact that Hungary had initiated market reforms well before the end of the socialist experience had certainly played a role in this increase of 'vertical' intra-industry trade cum up-grading of many export items. But a quite decisive contribution has derived from the fact that Hungary was able to attract by far the largest inflow of foreign direct investment with respect to the other CEE economies (Table 16). Capital inflow's role was particularly significant in the economic transformation of Hungary, also because green-field activities have attracted a large part of the FDI flowing into the country (Inotai, 1996). Furthermore, although the empirical evidence on the contribution of FDI to trade is very fragmented and incomplete, it can be shown that a relatively large share of Hungary's exports was provided by foreign firms, almost half of all export, and even in higher percentage in certain individual sectors (OECD, 1995).

But this deeply microeconomic adjustment, in terms of both reconversion of trade patterns and restructuring of the existing industrial sectors, has had, at least so far, an ambivalent impact on the trade performance of Hungary during the transformation process. Unlike Poland and the Czech Republic, the share of Hungary in the world export has stagnated during the transformation period and it has shown some progress only in those sectors (specialized suppliers and science based) where the presence of foreign company is very high (Tables 1-10). It would, of course, be grossly simplistic to establish a direct correlation between this sluggish overall trade performance and the relatively great role of foreign capital in the industrial restructuring of Hungary. The major benefits of deep restructuring and foreign investment are indeed in the long term, and can not be evaluated on a few year period. Even more so, since macroeconomic factors as nominal and real exchange rates variations has also played a very significant role in trade performance of Hungary and all other CEE countries (Halpern and Wyplosz, 1995). To sum up, diverging patterns of exports and production specialization have been characterizing the three most important economies of the CEE group over the transformation period. Poland appears to have experienced significant changes in terms of specialization and composition of her trade, mostly expanding "traditional" exports and registering relatively negative performances in medium-high technology intensive sectors; whereas the Czech Republic have undergone few

structural change pursuing a strategy of differentiating the existing production and export activities across various industrial sectors. Hungary differs from the other two CEE economy in that it followed an intermediate course, both changing and upgrading the composition of her trade, with less overall positive results, at least up to the mid-1990s, in terms of trade performances than the other two CEE economies, but with recent significant progress also in medium-high technology intensive sectors (specialized supplier and science-based sectors).

Given the highly differentiated patterns followed by the three major CEE economies during the transition period it is not very easy to provide an overall evaluation of these individual developments, especially with regard to changes in technological capability of the CEE, so to assess the prospects for their economic integration into European area. The future role of the CEEs economies in the world division of the labor will mostly be that of subcontractor for a foreseeable future, especially with regard the EU. In order to qualify this role and create endogenous sources of accumulation and technological change it is evident that "supply side" upgrading has a vital role to play. Therefore, specialization should concentrate more and more on high productivity and high technological content products rather than on labor intensive ones. Even more so given that in the 1980s during the former CMEA trade regime there was a sharp deterioration of East European countries technological capability, with net export towards market economies being increasingly characterized by relatively low utilization of new technologies (Poznanski, 1987; Guerrieri, 1994).

To this technological supply-side "upgrading", a major contribution could derive from closer Western integration and links with Western enterprises, especially in the EU. In more recent period, between 1988 and 1995, the share of intra-industry trade in total CEE-EU trade in manufactures, as already emphasized, increased substantially, especially in the case of the Czech Republic and Hungary (ECE, 1995), confirming closer links between Western (and especially EU) and CEE producers. Various channels have been used to strengthen these connections. Amongst them, as outlined above, the role of FDI as source of reconversion and technological changes, has been rather limited up to the mid-1990s, with the exception of Hungary and the car industry.

Despite the favorable legislation introduced to attract foreign direct investment, as already recalled, the CEE economies have not seen a large influx of FDI. As of 1995, the transforming economies have been able to attract about 12 billion US dollar of foreign direct investment, that is less than 4 percent of yearly flows of FDI (Unctad, 1996). Other emerging

countries, in particular in Asia and in Latin America, has performed much better in this regard. On the other hand, in many sectors, especially in the case of traditional goods (mostly textiles-clothing and leather-footwear) and a few scale intensive and specialize suppliers (as electrical machinery and instruments), non-equity based linkages as subcontracting activities and outward processing (OPT) of Western European firms greatly contributed to the rapid expansion of the CEE trade (Hoekman and Djankov, 1996). Subcontracting has been often preferred by Western European firms as a more flexible device than FDI, especially in those "traditional" sectors where specific advantage lies in markets access, rather than in proprietary technology or production management.

As well known both FDI and non-equity based linkages could produce great advantages for the local CEE economies, by developing "backward linkages" and integrating local firms into networks of large foreign firms, by contributing to improve local levels of managerial, organizational and technical skills, by favoring the development of new comparative advantages. There is no doubt that such a positive impact has already occurred and significant progress towards reciprocal economic penetration between Western and Eastern Europe has certainly been made. On the other hand, if one looks at the current pattern of specialization of CEE countries the local technological impact of both FDI and non-equity based activities, especially in terms of backward linkages, appears still rather limited and restricted to certain low-technology and labor intensive sectors. With the only partial exception of Hungary in more recent period, the persistent extremely low degree of competitiveness of Eastern European economies in both specialized suppliers and science based goods is illuminating in this regard.

It is evident that this weakness of trade-technological specialization of Eastern Europe could be a cause for concern with regard to the prospects for economic integration of the CEE economies into the European space. In this regard, the success in recent years of East Asian strategy of industrialization and technological upgrading, given also the important role of FDI in it, could be fruitfully reviewed in order to assess the opportunities and risks of future growth patterns of the CEE economies.

The CEE and the East Asian NICs: Trade and Technological Patterns

In many respects, the successful modernization of East Asian economies through their increasing integration into world markets could be extremely valuable for Eastern European countries. First, it is important to note the positive trade performances of South-East Asian

countries—Hong Kong, Singapore, South Korea and Taiwan (East Asian NICs)—over the entire period (1980-95), in terms of rapidly increasing market shares). Such remarkable trade performance may be connected with the export-led growth strategies followed by Asian NICs countries since the end of the 1960s. A massive re-allocation of productive resources in those industrial sectors with the highest export potential was the main goal of these strategies. In addition, either state interventions or incentive and subsidy policies were used on a large scale and in different forms (Amsden, 1989; Wade 1990). The industrial development of these countries was initially supported by the production and export of consumer goods requiring large amounts of unskilled labor in which these states had the strongest comparative (and absolute) advantages (Tables 17-18).

After growing consistently up to the late 1970s, however, the contribution of traditional goods to the trade balance decreased significantly throughout the last decade. This trend stems from the diversification process of manufacturing output and radical changes in trade patterns cum upgrading of exports (increasing average unit value) that have been taking place in the period from the late-1970s to the mid-1990s in some Asian NICS, especially Taiwan and Singapore. Consequently, these two countries were able to improve their specialization in scale-intensive sectors (*iron and steel, shipbuilding and petrochemicals*) through the first half of the 1980s, and most of all in science-based sectors (*electronics, components and investment goods*) from the second part of the 1980s up to the mid-1990s. Such gains confirm that the industrial development strategy of Taiwan and Singapore—based initially on competitive poles comprising production and exports of labor-intensive consumer goods—have gradually carried out a process of diversification and upgrading of industrial structure toward a strengthening, first, of highly capital-intensive productions, and, more recently, of technology-intensive products. One should also note that primary resource intensive goods shifted into the comparative disadvantage area of all Asian NICs over the second half of the 1980s.

Further evidence of the specialization pattern of East Asia can be drawn from the competitive patterns of the Asian NICs countries in single product groups related to the taxonomy previously outlined . Indicators show a sharp strengthening of the NICs competitive positions on international markets in all main industrial categories in terms of a rapidly rising shares in world exports, especially in traditional industries until the second half of the 1980s, and in science based goods, over the past decade. Within the latter group, the significant achievements of the Asian NICs in many electronics sectors is emblematic (Guerrieri, 1995).

Finally, in specialized-supplier sectors, and particularly in *mechanical engineering*, the NICs have achieved rising export shares in recent years. The import dependence of Asian NICs has also greatly decreased, as shown by substantial improvements in trade balance contribution indicators of this sectoral group.

These overall trends, however, mask sharp differences in trade patterns of East Asian countries. Singapore and Taiwan (Table 18) achieved the most advanced results within the East Asian group, in terms of radical changes cum upgrading of their trade specialization toward science based goods, and especially electronics activities. This was due to deep structural changes in the two countries' trade patterns since the early 1970s, when comparative advantages were concentrated in traditional goods and food industry in the case of Taiwan, and in primary resource and agricultural products in the case of Singapore (Guerrieri, 1993). But South Korea, for example, has a much less diversified trade pattern, and focuses mainly on scale intensive goods. At the same time, it has held traditional goods as strong assets in its specialization pattern throughout the entire period considered (Table 18). Finally, Hong Kong also distinguishes its position for the remarkable stability the specialization pattern (Table 17). It maintained its trade patterns based mainly on traditional products, so that by the early 1990s strong specialization points were still labor-intensive sectors such as textiles, clothing, furniture, consumer electronics, and so on.

There is a sharp contrast between the performance of Eastern Europe and the Asian countries, which are also net exporters of manufactured goods, over the past decade and half. In the 1980s, Eastern Europe's exports have been falling behind those of the newly industrializing countries of Asia (Asian NICs) in most manufactures groups. The Asian NICs have surpassed Eastern Europe in many industries, not only in traditional product groups, but also in other more technologically sophisticated sectors. The widest gap between East Europeans and Asian NICs industries, especially those of Taiwan and Singapore, was in specialized- suppliers and, particularly, in R&D-intensive (science based) sectors, which are the two manufacturing groups with the highest technological content. In the more recent period the trade performance of the CEE countries has fallen further behind that of Asian NICs, with only a few sectoral improvements. As to the trade patterns, both groups of countries have undergone deep changes in recent years but in different directions, mostly as a result of industrial restructuring in the period considered.

In the case of Taiwan and Singapore, scale intensive goods, science based goods (electronics), and, to a lesser extent, specialized suppliers have played a key increasing role. This diversification has had a far reaching implications in terms of technological capability of these two countries. Let me explain it by using the conceptual framework presented at the beginning of this paper. As shown in Figure 1, mechanical engineerings (specialized suppliers) have a notable capacity for product innovation that enters most sectors of scale-intensive, supplier dominated and natural resource-intensive groups as capital inputs (Lundvall, 1988; von Hippel, 1988; Rosenberg 1976); in addition, the product innovations of R&D intensive sectors generate broad spill-over effects on the whole economic system, and a large number of other industries heavily rely on them for capital or intermediate inputs (OECD, 1992). As the experience of many developed countries with abundant natural resource fully confirm, these vertical linkages can play a very important role in the consolidation phase of the industrialization process (Patel and Pavitt, 1991). As a consequence, technological change patterns were influenced by intersectoral linkages which in turn became sources of comparative advantages for many advanced industrialized countries. Taiwan and Singapore, within the Asian Nics group, experienced similar trends.

As shown in Figure1, the industrialization process starting from traditional goods and resource intensive goods was able to move forward towards science based goods, generating linkages and broad spill-over effects, strengthening the whole industrial system of the two East Asian economies. Traditional goods and natural resource intensive products were fully integrated into the industrial development of Taiwan and Singapore. Thus, technological change was positively influenced by these intersectoral linkages, which were sources of new externalities and competitive advantages. FDI played an important role in the development of these two economies(Urata, 1993)because the electronics sector was the central pillar of their industrial and technological development (Borrus, 1994). Electronics products are complex systems based on a number of critical components and therefore are particularly favorable to a network firm organization spread across countries (Ernst, 1994).

As many studies have shown, FDI and production networks based on strong intra-regional interdependence as regards inputs and sales, and often part of global production strategies of USs and Japanese medium-large firms, have played a very important role in the East Asia's overall competitiveness and intra-regional trade (see Zysman, Doherty, Schwartz, 1997). Part of East Asian FDI, as shown in the "product cycle" model, has aimed at taking advantage of

local natural resources, skills, and relatively low wage costs. But interest in the region has not been motivated only by the search for new low-wage localization costs. The same multinational companies that set up as "footloose" industries have pursued a more lasting involvement in the region (Guerrieri, 1995). Therefore, other important inputs related to both economics and technology have played a dominant role in the network firm organization, such as the expansion of East Asian FDI, subcontracting and outsourcing (Borrus, 1993). The increasing importance of intra-industry trade in the region could also be attributable to an increasing division of labor within multinational companies. Thus, in many cases, foreign direct investment in the East Asian region has generated trade, and trade opportunity, in its turn, has attracted new foreign investment (Ernst and Guerrieri, 1997).

In the case of Eastern Europe, these technological linkages among firms and sectors were weak and performed very poorly during the socialist period, and therefore contributed to the deterioration of the long term competitive position of Eastern European economies (Guerrieri, 1994; Poznanski, 1987). More recently, trade expansion in the reform period—from 1989 to 1995- does seem to have only partially compensated for these with this structural weaknesses.

There are signs of positive development, as in the case of Hungary, but overall unsatisfactory trends still predominate, as shown by negative evolution and highly competitive disadvantages in specialized supplier and science-based sectors over the past decade. Because both sectoral groups are able to generate broad spillover effects (externalities) across the whole economic system, this competitive failure might create obstacles to the diffusion of innovations and technological changes.

Conclusions

The paper has assessed changes in the trade patterns of Central/Eastern Europe and the former Soviet Union (FSU) over the reform period (1989-95), and the potential role in the global/European division of labor of these transforming economies. A "structuralist"-"evolutionist" approach to economic and industrial development is used in the paper. In this conceptual framework the role of dynamic efficiency, technical infrastructure and an efficient process of generation and diffusion of technology is considered very important indeed in order to achieve long term growth in individual countries.

Not only is there variation among the three main groups of eastern European states, but even within the most successful group, there is substantial variation in the degree to which

Poland, Hungary and the Czech Republic have restructured their economies and pursued trade specialization. The weaknesses of trade-technological specialization of Eastern Europe could be a cause for concern in regard to the future economic integration of the CEE economies into the European space. The role of the CEEs economies in the European division of labor will be mostly that of subcontractor for a foreseeable future. In order to use this role to create endogenous sources of accumulation and technological change a "supply side" upgrading has a vital role to play. In this regard, useful suggestions stem from the strategies of industrialization and technological upgrading of some East Asian NICs. In Taiwan and Singapore in particular, traditional and natural resource intensive products were fully integrated into their industrial development strategies. As a consequence, technological change was positively influenced by these intersectoral linkages, and this in turn became sources of new externalities and competitive advantages. Therefore, specialization should concentrate increasingly on high productivity and high technological content products rather than on labor intensive ones.

In the case of Eastern Europe these technological linkages among firms and sectors were weak and performed very poorly in the past. More recently, aside from a few positive developments, overall trends remained far from being satisfactory. All in all, if it is true that "supply side" upgrading has a vital role to play in future growth of the CEE countries, the Asian experience seems to suggest that a technological upgrading depends particularly upon the extent to which production and trade patterns can be shifted in such a way as to generate endogenous sources of innovation and accumulation in the long term, mainly through innovative intersectoral linkages across firms.

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APPENDIX 1 : SIE-World Trade Data Base

The foreign trade statistics used in this paper stem from the *SIE-World Trade* data base, which provides detailed information on export and import of 83 countries with respect to 450 product groups, 98 sectors, 25 broad commodity groups and 5 main product categories. The data base includes trade statistics with respect to the 26 OECD countries, the newly industrializing countries (NICs), the other developing countries and the former CMEA countries, and makes it possible to examine and analyze the entire world trade matrix. The source for the basic trade statistics of the *SIE-World Trade* is the tapes of OECD and UN.

The *SIE data-base* is organized in different product group classifications at various levels of disaggregation (450 product groups, 98 sectors, 25 categories, 5 branches) according to the three Standard International Trade Classifications (SITC), *Revised, Revision 2, Revision 3,* defined by the Statistical Office of the UN (1961, 1975, 1985 as to the periods 1961-75, 1978-87, 1988 on).

The broad product groups classification used in this paper is based on the 450 product groups of the SIE-World Trade. A summary list of the product groups included in each class of products is below provided:

1) *Food items and Agricultural raw materials* (41 product groups): Food—Live animals—Animal oil and fats—Natural rubber—Vegetable and animal textile fibers—Cork and Wood—Skins.

2) *Fuels* (4 product groups): Coal—Petroleum oil —Gas.

3) *Other raw materials* (17 product groups): Iron ore—Ores of base metals—Other crude minerals.

4) *Food industry* (36 product groups): Meat and meat preparations—Dairy products—Vegetables and fruit preparations—Cereal preparations—Sugar preparations—Other edible products.

5) *Science Based* (59 product groups): Synthetic organic dyestuffs—Radio-active and associated materials—Polymerization and co-polymerization products—Antibiotics and other pharmaceutical products—Nuclear reactors—Automatic data processing machines & Units—Telecommunications equipment—Semiconductor devices—Electronic microcircuits—Electronic measuring instruments—Electric power machinery and apparatus—Internal combustion piston engines—Aircraft & associated equipment—Medical instruments—Optical instruments Photographic apparatus and equipment.

6) *Scale Intensive* (88 product groups): Organic chemicals—Inorganic chemical products—Other chemical materials and products—Medicinal and pharmaceutical products—Rubber manufactures —Iron and steel—Television, radio, other image-sound recorder and reproducers—Household type electrical equipment—Ships and boats—Railway vehicles & equipment—Road vehicles.

7) *Specialized Suppliers* (43 product groups) : Agricultural machinery—Machine tools for working metals—Metal working machinery—Other machine tools for specialized particular industries—Construction and mining machinery—Textile and leather machinery—Paper and paperboard machinery—Other machinery for specialized particular industries—Other general industrial machinery & equipment—Electrical equipment and components—Measuring, checking, analyzing instruments—Optical goods—Other miscellaneous products

8) *Resource Intensive* (18): Paper and paperboard—Petroleum products—Non metallic mineral manufactures—Non-ferrous metal products

9) *Traditionals or Supplier dominated* (76 product groups): Textile products—Articles of apparel and clothing accessories—Leather manufactures—Footwear—Wood manufactures—Furniture—Paper and printed products—Article of ceramic materials—Glass products—Miscellaneous manufactures of metal (structures, tools, cutlery and other articles)—Jewellery, goldsmiths—Imitation jewellery—Musical instruments—Sporting goods—Toys & games—Other miscellaneous products

10) Residuals : Other product groups n.e.s.

Tables

TABLE 1 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Total Trade (1)									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.73**	**0.62**	**0.61**	**0.59**	**0.74**	**0.76**	**0.86**	0.26	-0.13
Hungary	0.17	0.16	0.18	0.18	0.21	0.18	0.20	0.02	0.01
Poland	0.33	0.24	0.25	0.24	0.32	0.31	0.34	0.10	-0.09
Czechoslovakia	0.22	0.21	0.20	0.17	0.21	0.27	0.32	0.15	-0.05
Czech Rep.						0.22	0.24		
Slovak Rep.						0.05	0.08		
Other Eastern Europe**	**0.31**	**0.28**	**0.30**	**0.21**	**0.13**	**0.15**	**0.18**	-0.02	-0.10
FSU	**1.48**	**1.68**	**1.08**	**0.98**	**1.00**	**1.04**	**1.11**	0.13	-0.49
Russia						0.89	0.94	0.94	0.00
NICs in Asia	**3.80**	**5.30**	**6.52**	**7.96**	**8.17**	**10.23**	**10.83**	2.87	4.16
Singapore	1.05	1.32	1.16	1.54	1.70	1.98	2.40	0.85	0.50
Korea	0.95	1.48	1.79	2.15	2.08	2.17	2.53	0.38	1.21
Taiwan	1.30	1.73	2.22	2.41	2.46	2.70	2.53	0.21	1.11
Hong Kong	1.07	1.33	1.83	2.53	2.85	3.62	3.52	1.00	1.46
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
(1) The sum of the nine product groups reported below									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 2 Share of Selected Countries and Areas in World Trade*A62									
(Percentage share in current values)									
Agricultural Products									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.77**	**0.72**	**0.73**	**0.93**	**1.09**	**0.85**	**0.73**	-0.19	0.15
Hungary	0.24	0.27	0.30	0.35	0.39	0.29	0.27	-0.08	0.11
Poland	0.34	0.30	0.42	0.48	0.56	0.33	0.30	-0.18	0.14
Czechoslovakia	0.19	0.14	0.13	0.10	0.14	0.22	0.16	0.07	-0.10
Czech Rep.						0.18	0.14		
Slovak Rep.						0.04	0.02		
Other Eastern Europe**	**0.25**	**0.18**	**0.19**	**0.14**	**0.19**	**0.19**	**0.20**	0.06	-0.10
FSU	**1.37**	**1.10**	**1.10**	**1.33**	**1.27**	**2.09**	**2.75**	1.42	-0.04
Russia						1.65	1.97	1.97	0.00
NICs in Asia	**3.13**	**3.50**	**4.11**	**4.07**	**3.72**	**3.92**	**3.61**	-0.46	0.94
Singapore	1.63	1.46	1.22	1.17	1.02	0.93	1.01	-0.16	-0.46
Korea	0.65	0.80	0.98	1.07	0.97	0.81	0.78	-0.29	0.41
Taiwan	0.74	1.05	1.42	1.31	1.53	1.71	1.38	0.20	0.57
Hong Kong	0.47	0.64	0.91	1.12	1.03	1.00	0.93	-0.19	0.65
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 3 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Fuels									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.40**	**0.43**	**0.37**	**0.52**	**0.47**	**0.48**	**0.27**	-0.24	0.12
Hungary	0.01	0.01	0.02	0.01	0.00	0.01	0.00	-0.01	0.00
Poland	0.33	0.36	0.57	0.44	0.39	0.39	0.22	-0.23	0.11
Czechoslovakia	0.06	0.06	0.10	0.07	0.08	0.08	0.06	-0.01	0.01
Czech Rep.						0.08	0.06		
Slovak Rep.						0.00	0.00		
Other Eastern Europe**	**0.02**	**0.01**	**0.02**	**0.00**	**0.02**	**0.01**	**0.00**	0.00	-0.01
FSU	**3.61**	**5.03**	**5.44**	**5.51**	**4.49**	**3.95**	**3.92**	-1.59	1.90
Russia						3.84	3.88	3.88	0.00
NICs in Asia	**0.02**	**0.08**	**0.04**	**0.04**	**0.06**	**0.07**	**0.10**	0.07	0.02
Singapore	0.02	0.08	0.04	0.03	0.04	0.05	0.07	0.04	0.01
Korea	0.00	0.00	0.01	0.00	0.01	0.01	0.02	0.02	0.00
Taiwan	1.18	1.17	1.20	0.92	1.06	0.95	0.92	-0.04	-0.26
Hong Kong	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 4 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Other Raw Materials									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.92**	**1.45**	**1.47**	**1.08**	**1.13**	**1.05**	**0.74**	-0.34	0.15
Hungary	0.15	0.18	0.15	0.15	0.08	0.06	0.04	-0.10	0.00
Poland	0.62	1.07	0.95	0.69	0.78	0.66	0.45	-0.24	0.08
Czechoslovakia	0.16	0.20	0.27	0.24	0.27	0.34	0.23	-0.01	0.08
Czech Rep.						0.25	0.16		
Slovak Rep.						0.09	0.07		
Other Eastern Europe**	**0.18**	**0.17**	**0.24**	**0.19**	**0.16**	**0.21**	**0.24**	0.04	0.02
FSU	**0.75**	**0.78**	**0.66**	**0.80**	**1.08**	**1.43**	**1.27**	0.47	0.05
Russia						1.10	1.02	1.02	0.00
NICs in Asia	**1.05**	**1.58**	**1.05**	**1.24**	**0.87**	**1.51**	**1.21**	-0.03	0.19
Singapore	0.35	0.67	0.31	0.20	0.18	0.52	0.26	0.06	-0.15
Korea	0.24	0.22	0.27	0.37	0.33	0.37	0.21	-0.16	0.13
Taiwan	0.31	0.47	0.35	0.31	0.38	0.43	0.35	0.11	0.00
Hong Kong	0.41	0.59	0.34	0.52	0.25	0.35	0.54	0.02	0.11
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 5 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Food Industries									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**1.18**	**1.04**	**0.92**	**1.33**	**1.34**	**0.94**	**0.76**	-0.57	0.14
Hungary	0.49	0.47	0.50	0.59	0.57	0.38	0.29	-0.30	0.10
Poland	0.55	0.40	0.50	0.51	0.57	0.40	0.35	-0.17	-0.04
Czechoslovakia	0.14	0.17	0.18	0.22	0.20	0.16	0.13	-0.09	0.09
Czech Rep.						0.14	0.11		
Slovak Rep.						0.02	0.02		
Other Eastern Europe**	**0.31**	**0.24**	**0.23**	**0.19**	**0.13**	**0.15**	**0.14**	-0.05	-0.12
FSU	**0.18**	**0.18**	**0.17**	**0.18**	**0.20**	**0.21**	**0.26**	0.08	0.00
Russia						0.16	0.16	0.16	0.00
NICs in Asia	**2.58**	**2.65**	**3.24**	**3.88**	**4.26**	**4.54**	**4.37**	0.49	1.31
Singapore	1.00	0.85	0.88	1.14	1.19	1.32	1.24	0.09	0.14
Korea	0.46	0.39	0.47	0.54	0.43	0.48	0.53	-0.01	0.07
Taiwan	1.31	1.25	1.26	1.21	1.27	1.19	1.08	-0.09	-0.10
Hong Kong	0.29	0.59	0.75	1.18	1.56	1.61	1.59	0.41	0.89
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 6 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Traditional industries									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**1.16**	**0.94**	**0.96**	**0.81**	**1.21**	**1.43**	**1.62**	0.81	-0.36
Hungary	0.31	0.27	0.25	0.24	0.33	0.32	0.29	0.05	-0.08
Poland	0.41	0.25	0.29	0.29	0.50	0.58	0.72	0.44	-0.12
Czechoslovakia	0.44	0.41	0.36	0.28	0.38	0.52	0.61	0.33	-0.15
Czech Rep.						0.41	0.46		
Slovak Rep.						0.11	0.15		
Other Eastern Europe**	**0.50**	**0.49**	**0.53**	**0.33**	**0.27**	**0.35**	**0.44**	0.10	-0.16
FSU	**0.63**	**0.46**	**0.48**	**0.41**	**0.36**	**0.34**	**0.43**	0.03	-0.22
Russia						0.28	0.31	0.31	0.00
NICs in Asia	**10.84**	**14.42**	**16.21**	**17.08**	**16.46**	**17.91**	**16.24**	-0.83	6.24
Singapore	0.78	0.94	0.75	0.94	0.97	0.91	0.94	0.00	0.17
Korea	3.26	4.33	4.60	4.87	4.12	3.54	3.17	-1.71	1.62
Taiwan	3.70	5.39	6.18	5.66	5.37	5.01	4.17	-1.02	1.95
Hong Kong	4.10	4.87	5.89	7.06	7.97	9.00	8.34	1.29	2.96
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 7 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Resource intensive industries									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.93**	**0.69**	**0.68**	**0.83**	**0.97**	**0.92**	**1.12**	0.29	-0.10
Hungary	0.16	0.20	0.29	0.25	0.25	0.20	0.18	-0.06	0.08
Poland	0.49	0.23	0.26	0.33	0.51	0.45	0.61	0.28	-0.16
Czechoslovakia	0.27	0.26	0.27	0.25	0.21	0.28	0.33	0.08	-0.02
Czech Rep.						0.21	0.23		
Slovak Rep.						0.07	0.10		
Other Eastern Europe**	**1.13**	**1.00**	**1.06**	**0.71**	**0.21**	**0.23**	**0.33**	-0.39	-0.42
FSU	**4.27**	**5.76**	**3.95**	**3.69**	**4.15**	**3.79**	**4.69**	1.00	-0.58
Russia						3.39	4.33	4.33	0.00
NICs in Asia	**3.62**	**4.74**	**4.57**	**5.28**	**6.49**	**7.86**	**7.68**	2.41	1.66
Singapore	3.22	3.94	3.32	3.60	4.48	4.37	3.39	-0.22	0.38
Korea	0.16	0.51	0.70	0.72	0.93	1.18	1.35	0.62	0.56
Taiwan	0.36	0.32	0.39	0.61	0.69	0.95	1.17	0.43	0.25
Hong Kong	0.18	0.19	0.38	0.72	0.89	1.44	1.82	1.10	0.54
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 8 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Scale intensive industries									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.76**	**0.61**	**0.63**	**0.53**	**0.69**	**0.80**	**0.95**	0.41	-0.23
Hungary	0.19	0.15	0.14	0.15	0.16	0.15	0.18	0.03	-0.04
Poland	0.30	0.20	0.15	0.19	0.27	0.31	0.36	0.17	-0.11
Czechoslovakia	0.27	0.26	0.22	0.19	0.26	0.33	0.4	0.21	-0.08
Czech Rep.						0.27	0.28		
Slovak Rep.						0.06	0.12		
Other Eastern Europe**	**0.29**	**0.26**	**0.27**	**0.22**	**0.15**	**0.17**	**0.21**	-0.01	-0.07
FSU	**0.48**	**0.48**	**0.43**	**0.44**	**0.62**	**1.07**	**1.21**	0.76	-0.04
Russia						0.82	0.91	0.91	0.00
NICs in Asia	**3.43**	**4.95**	**4.99**	**6.39**	**6.62**	**8.57**	**8.65**	2.26	2.96
Singapore	0.69	0.82	0.66	1.10	1.22	1.46	1.54	0.44	0.41
Korea	1.33	2.43	2.22	2.61	2.65	3.04	3.24	0.63	1.28
Taiwan	0.89	1.13	1.35	1.54	1.46	1.49	1.40	-0.13	0.66
Hong Kong	0.75	0.82	0.94	1.42	1.76	2.64	2.50	1.08	0.67
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 9 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Specialized suppliers industries									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.64**	**0.50**	**0.53**	**0.43**	**0.56**	**0.64**	**0.86**	0.42	-0.21
Hungary	0.13	0.12	0.12	0.13	0.19	0.19	0.23	0.10	-0.01
Poland	0.24	0.13	0.15	0.15	0.17	0.18	0.24	0.09	-0.09
Czechoslovakia	0.27	0.24	0.19	0.16	0.20	0.27	0.39	0.23	-0.11
Czech Rep.						0.24	0.33		
Slovak Rep.						0.03	0.06		
Other Eastern Europe**	**0.15**	**0.12**	**0.10**	**0.07**	**0.08**	**0.08**	**0.11**	0.03	-0.08
FSU	**0.19**	**0.17**	**0.26**	**0.14**	**0.16**	**0.20**	**0.11**	-0.02	-0.06
Russia						0.18	0.09	0.09	0.00
NICs in Asia	**1.82**	**3.12**	**3.42**	**4.88**	**4.76**	**8.50**	**8.82**	3.94	3.06
Singapore	0.70	1.07	0.76	1.24	1.27	1.45	1.84	0.60	0.54
Korea	0.28	0.51	0.53	0.87	0.91	1.43	2.41	1.54	0.59
Taiwan	0.73	1.32	1.61	2.14	2.25	3.23	2.56	0.78	1.41
Hong Kong	0.39	0.59	0.84	1.41	1.43	2.44	2.03	0.62	1.02
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 10 Share of Selected Countries and Areas in World Trade*									
(Percentage share in current values)									
Science based industries									
	1980	**1983**	**1986**	**1989**	**1991**	**1993**	**1995°**	**89-95**	**80-89**
CEE	**0.29**	**0.22**	**0.22**	**0.17**	**0.25**	**0.26**	**0.39**	0.22	-0.12
Hungary	0.07	0.05	0.06	0.06	0.09	0.10	0.18	0.12	-0.01
Poland	0.09	0.06	0.06	0.05	0.07	0.06	0.08	0.03	-0.04
Czechoslovakia	0.13	0.10	0.08	0.06	0.09	0.10	0.14	0.08	-0.06
Czech Rep.						0.09	0.11		
Slovak Rep.						0.01	0.03		
Other Eastern Europe**	**0.06**	**0.07**	**0.05**	**0.04**	**0.02**	**0.03**	**0.03**	-0.01	-0.03
FSU	**0.45**	**0.22**	**0.17**	**0.10**	**0.12**	**0.18**	**0.14**	0.04	-0.35
Russia						0.17	0.13	0.13	0.00
NICs in Asia	**4.83**	**6.64**	**7.86**	**10.83**	**11.17**	**14.77**	**17.82**	6.99	6.00
Singapore	1.35	1.92	2.00	3.01	3.30	4.35	5.83	2.82	1.66
Korea	0.82	1.13	1.59	2.28	2.24	2.44	3.34	1.06	1.46
Taiwan	1.15	1.72	2.33	3.07	3.30	4.02	4.27	1.05	1.92
Hong Kong	1.84	2.21	2.33	3.20	3.28	4.07	4.39	1.19	1.37
* Ratio of national exports to world exports (percentage)				°Provisional data					
** Bulgaria, Romania and Albania									
FSU is the former Soviet Union									
SOURCE: OECD and UN trade data from SIE - World Trade Data Base									

TABLE 11												
PATTERNS OF TRADE SPECIALIZATION AND COMPOSITION												
						FSU						
	Export Composition				Import Composition				Trade Specialization*			
	1980	**1989**	**1992**	**1995****	**1980**	**1989**	**1992**	**1995**	**1980**	**1989**	**1992**	**1995**
Agricultural prod.	6.7	7.9	9.0	11.3	21.0	17.8	15.1	3.6	-14.3	-9.8	-6.0	7.5
Fuels	44.5	34.5	30.8	16.8	0.1	0.0	0.0	0.0	44.4	34.2	30.7	16.3
Other raw materials	1.0	1.0	1.1	1.0	0.8	1.0	0.9	0.5	0.2	0.0	0.1	0.4
Food industries	0.7	1.0	1.3	1.3	10.5	7.6	15.4	20.2	-9.8	-6.6	-14.1	-18.4
Traditional ind.	5.7	7.0	5.6	6.5	11.3	9.7	15.4	18.9	-5.6	-2.7	-9.7	-12.0
Resource intensive ind.	28.9	30.0	22.6	27.8	5.3	4.1	2.2	2.5	23.6	25.7	20.3	24.6
Scale intensive ind.	7.0	11.4	19.1	27.2	25.4	28.4	20.4	22.0	-18.4	-16.8	-1.3	5.1
Specialized suppliers ind.	1.1	1.4	1.8	1.1	15.6	19.4	16.9	14.9	-14.5	-17.8	-15.0	-13.5
Science based ind.	3.3	1.8	4.2	2.7	7.5	8.7	10.4	14.1	-4.2	-6.8	-6.2	-11.1
Others	1.1	4.1	4.5	4.4	2.6	3.4	3.3	3.3	-1.5	0.7	1.2	1.1
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0
					OTHER EASTERN EUROPE							
	Export Composition				Import Composition				Trade Specialization			
	1980	**1989**	**1992**	**1995**	**1980**	**1989**	**1992**	**1995**	**1980**	**1989**	**1992**	**1995**
Agricultural prod.	5.8	4.0	7.2	5.0	14.6	9.1	7.8	2.4	-8.7	-5.0	-0.6	2.6
Fuels	0.9	0.1	1.4	0.1	2.3	3.8	4.1	3.0	-1.3	-3.6	-2.6	-3.0
Other raw materials	1.1	1.1	1.0	1.1	4.6	5.0	1.8	1.3	-3.5	-3.8	-0.9	-0.2
Food industries	5.9	5.0	5.8	4.2	6.6	7.4	13.8	8.1	-0.7	-2.3	-7.9	-4.0
Traditional ind.	21.8	27.3	39.1	39.7	8.9	15.5	18.8	29.3	12.8	11.5	20.2	10.4
Resource intensive ind.	36.5	27.6	7.9	11.7	9.7	6.9	4.1	4.2	26.7	20.2	3.8	7.5
Scale intensive ind.	20.1	27.2	26.9	28.1	26.6	21.5	19.5	22.8	-6.5	5.6	7.4	5.3
Specialized suppliers ind.	4.4	3.5	4.9	6.1	15.8	18.3	13.8	15.7	-11.4	-14.5	-8.9	-9.6
Science based ind.	2.2	3.2	4.2	3.4	9.1	10.0	13.6	11.0	-6.8	-6.7	-9.3	-7.5
Others	1.3	1.1	1.5	0.7	1.7	2.4	2.7	2.1	-0.4	-1.3	-1.2	-1.4
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0

						CEE						
	Export Composition				Import Composition				Trade Specialization			
	1980	**1989**	**1992**	**1995**	**1980**	**1989**	**1992**	**1995**	**1980**	**1989**	**1992**	**1995**
Agricultural prod.	7.7	9.0	5.8	3.9	17.4	8.2	3.6	2.9	-9.7	0.8	2.2	0.9
Fuels	10.0	5.3	3.8	1.5	0.0	0.1	1.9	0.9	9.9	5.2	1.8	0.6
Other raw materials	2.4	2.2	1.4	0.7	2.8	1.7	0.8	0.4	-0.4	0.5	0.6	0.3
Food industries	9.6	12.4	8.1	4.9	6.9	7.5	6.0	4.7	2.7	5.0	2.1	0.1
Traditional ind.	21.7	23.0	31.3	31.6	12.1	14.9	20.7	23.1	9.6	8.0	10.5	8.5
Resource intensive ind.	12.8	11.2	9.1	8.6	7.0	5.6	4.9	4.5	5.8	5.6	4.2	4.0
Scale intensive ind.	22.3	22.9	24.8	27.6	25.1	24.8	25.9	28.7	-2.8	-1.9	-1.1	-1.0
Specialized suppliers ind.	7.8	7.3	7.9	10.5	17.8	21.8	18.1	16.5	-9.9	-14.5	-10.1	-5.9
Science based ind.	4.4	5.1	6.1	8.9	8.2	13.1	15.6	16.4	-3.8	-8.0	-9.5	-6.5
Others	1.4	1.5	1.6	1.7	2.7	2.3	2.6	1.8	-1.3	-0.8	-0.9	-1.1
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0
* Indicator of comparative advantage (>0) or disadvantage (<0). For the formula see text. ** Provisional data.												
Source: SIE-World Trade Data Base												

TABLE 12											
PATTERNS OF TRADE SPECIALIZATION AND COMPOSITION											
						HUNGARY					
	Export Composition				Import Composition				Trade Specialization*		
	1980	1989	1992	1995**	1980	1989	1992	1995	1980	1989	1992
Agricultural prod.	10.0	11.3	7.2	6.3	6.8	3.3	2.4	1.7	3.2	8.0	4.7
Fuels	0.8	0.2	0.1	0.0	0.0	0.1	0.2	0.0	0.8	0.2	-0.1
Other raw materials	1.6	1.0	0.3	0.2	0.8	0.7	0.3	0.2	0.8	0.3	0.1
Food industries	16.8	18.3	13.3	10.0	4.4	4.1	4.8	3.7	12.4	14.2	8.5
Traditional ind.	24.5	22.3	30.3	27.1	19.7	19.1	24.5	25.6	4.8	3.1	5.9
Resource intensive ind.	9.4	10.9	7.7	6.0	9.4	6.0	4.4	4.3	0.0	4.9	3.3
Scale intensive ind.	23.5	21.5	20.7	23.3	26.9	29.9	28.9	28.9	-3.4	-8.4	-8.3
Specialized suppliers ind.	6.9	7.2	10.0	12.0	18.3	21.1	16.5	15.6	-11.4	-13.9	-6.5
Science based ind.	4.5	6.0	9.1	12.8	11.3	14.0	16.3	18.4	-6.8	-8.0	-7.2
Others	2.0	1.4	1.3	1.9	2.4	1.7	1.7	1.5	-0.4	-0.3	-0.4
Total Trade	100	100	100	100	100	100	100	100	0	0	0
						POLAND					
	Export Composition				Import Composition				Trade Specialization		
	1980	1989	1992	1995	1980	1989	1992	1995	1980	1989	1992
Agricultural prod.	7.4	11.5	6.8	4.0	23.3	10.7	4.3	3.6	-15.7	0.7	2.5
Fuels	18.1	11.2	7.2	3.0	0.0	0.2	4.3	2.0	17.9	11.0	2.9
Other raw materials	3.5	3.4	2.1	1.1	3.5	1.7	1.2	0.6	0.0	1.7	0.9
Food industries	9.8	11.8	8.5	5.6	9.1	10.3	7.5	5.4	0.7	1.4	0.9
Traditional ind.	16.7	20.0	30.4	35.5	9.4	14.7	22.5	24.5	7.3	5.3	7.8
Resource intensive ind.	14.7	10.9	11.4	11.8	4.7	4.4	5.5	4.7	9.9	6.5	5.9
Scale intensive ind.	19.3	20.1	22.7	26.4	26.0	23.8	24.6	28.8	-6.6	-3.6	-1.9
Specialized suppliers ind.	6.3	6.1	5.2	7.3	15.1	19.0	14.2	13.8	-8.7	-12.8	-9.0
Science based ind.	3.0	3.6	4.0	4.7	6.3	12.2	12.7	14.4	-3.2	-8.6	-8.6
Others	1.1	1.4	1.8	0.6	2.6	3.0	3.1	2.2	-1.5	-1.5	-1.3
Total Trade	100	100	100	100	100	100	100	100	0	0	0

					CZECHOSLOVAKIA								
	Export Composition				Import Composition				Trade Specialization				
	1980	**1989**	**1992**		**1980**	**1989**	**1992**		**1980**	**1989**	**1992**		
Agricultural prod.	6.4	3.2	3.5		15.8	9.7	3.5		-9.4	-6.5	0.1		
Fuels	4.8	2.3	2.3		0.1	0.0	0.0		4.7	2.3	2.3		
Other raw materials	1.4	1.7	1.3		3.3	2.7	0.6		-1.9	-1.0	0.7		
Food industries	3.7	7.2	3.8		5.0	6.7	4.8		-1.3	0.5	-1.0		
Traditional ind.	27.0	28.0	33.3		10.2	10.5	15.6		16.8	17.5	17.6		
Resource intensive ind.	12.4	11.9	7.3		9.2	7.2	4.3		3.2	4.7	2.9		
Scale intensive ind.	25.9	28.3	30.7		21.4	20.4	25.4		4.5	7.9	5.2		
Specialized suppliers ind.	10.9	9.2	9.7		22.9	27.2	24.3		-12.0	-17.9	-14.5		
Science based ind.	6.2	6.5	6.4		9.1	13.7	18.9		-2.9	-7.2	-12.5		
Others	1.3	1.7	1.7		3.0	1.9	2.5		-1.7	-0.2	-0.8		
Total Trade	100	100	100		100	100	100		0	0	0		
* Indicator of comparative advantage (>0) or disadvantage (<0). For the formula see text. ** Provisional data.													
Source: SIE-World Trade Data Base													

TABLE 13												
PATTERNS OF TRADE SPECIALIZATION AND COMPOSITION												
					CZECH REPUBLIC							
	Export Composition				Import Composition				Trade Specialization*			
	1993	**1994**	**1995****		**1993**	**1994**	**1995**		**1993**	**1994**	**1995**	
Agricultural prod.	3.8	3.6	2.6		3.5	2.9	2.8		0.3	0.7	-0.2	
Fuels	2.3	3.1	1.1		0.0	0.3	0.1		2.2	2.7	1.0	
Other raw materials	0.9	0.7	0.6		0.2	0.2	0.2		0.6	0.5	0.4	
Food industries	3.6	2.9	2.4		4.5	4.7	4.6		-0.9	-1.8	-2.1	
Traditional ind.	32.5	31.7	32.3		19.1	19.9	19.9		13.3	11.8	12.2	
Resource intensive ind.	6.0	6.2	6.2		5.0	5.4	4.7		1.0	0.8	1.5	
Scale intensive ind.	30.9	28.6	29.0		24.7	26.5	27.9		6.1	2.1	1.1	
Specialized suppliers ind.	11.0	11.6	14.6		24.0	20.8	20.6		-12.9	-9.1	-6.0	
Science based ind.	7.7	8.8	10.1		17.4	16.9	17.5		-9.6	-8.0	-7.3	

Others	1.3	2.8	1.0		1.5	2.4	1.6		-0.2	0.4	-0.6	
Total Trade	100	100	100		100	100	100		0	0	0	
						SLOVAKIA						
	Export Composition				Import Composition				Trade Specialization			
	1993	**1994**	**1995**		**1993**	**1994**	**1995**		**1993**	**1994**	**1995**	
Agricultural prod.	3.9	4.0	1.4		4.8	5.2	2.9		-0.9	-1.1	-1.5	
Fuels	0.1	2.9	0.0		0.0	0.3	0.0		0.1	2.7	0.0	
Other raw materials	1.5	0.8	0.8		0.4	0.6	0.8		1.1	0.2	0.0	
Food industries	2.0	1.3	1.1		4.5	4.4	4.0		-2.6	-3.1	-2.9	
Traditional ind.	39.7	32.8	32.1		5.0	4.9	4.1		19.3	13.1	12.6	
Resource intensive ind.	9.7	9.6	8.5		20.4	19.6	19.5		4.7	4.8	4.4	
Scale intensive ind.	30.5	33.4	40.0		20.8	24.5	30.3		9.6	8.9	9.7	
Specialized suppliers ind.	6.5	6.3	8.6		26.1	18.7	18.8		-19.6	-12.4	-10.2	
Science based ind.	5.0	6.5	7.4		16.1	18.8	18.3		-11.1	-12.3	-10.9	
Others	1.3	2.4	0.2		1.8	3.1	1.4		-0.6	-0.7	-1.2	
Total Trade	100	100	100		100	100	100		0	0	0	
* Indicator of comparative advantage (>0) or disadvantage (<0). For the formula see text. ** Provisional data.												
Source: SIE-World Trade Data Base												

TABLE 14

INTRA-INDUSTRY TRADE BETWEEN THE EU AND THE CEE COUNTRIES*

	1988	1991	1993	1994
Czechoslovakia	0,38**	0.46		
Czech Republic			0.57	0.59
Slovakia			0.40	0.43
Hungary	0.39	0.49	0.50	0.50
Poland	0.33	0.34	0.38	0.39

*Manufacturing trade only

**Grubel - Lloyd indices

Source: ECE (1995)

TABLE 15

Weighted average unit-value rations in CEE trade with the EU

	Total Trade			
	1988	**1991**	**1993**	**1994**
Czechoslovakia	1.74	0.77		
Czech Republic			0.91	0.64
Slovakia			0.71	0.76
Hungary	0.71	0.96	1.01	1.13
Poland	0.88	0.78	0.76	0.74

Source: ECE (1995)

TABLE 16

FDI in the CEE Countries

	Flows of net FDI (mn USD)						Cumulative inflows FDI (mn USD) 1995	FDI flow/GDP% 1995
	1990	**1991**	**1992**	**1993**	**1994**	**1995**		
Czech Republic	120	511	947	517*	842*	2,500	5,881	6.9
Hungary	311	1,459	1,471	2,328	1,097	4,410	11,394	10.7
Poland	10	117	284	580	542	1,134	2,751	1.2
Slovakia	18	82	100	134*	170*	180*	704	1.4

* Excluding flows between the Czech Republic and Slovakia

Source: Inotai (1996), data from ECE various issues

TABLE 17												
PATTERNS OF TRADE SPECIALIZATION AND COMPOSITION												
						EAST ASIAN NICs						
	Export Composition				Import Composition				Trade Specialization*			
	1980	1989	1992	1995**	1980	1989	1992	1995	1980	1989	1992	1995
Agricultural prod.	6.0	3.0	2.1	1.5	10.5	6.4	4.6	3.7	-4.5	-3.4	-2.4	-2.2
Fuels	0.1	0.0	0.0	0.0	15.0	5.6	6.0	4.4	-14.8	-5.6	-5.9	-4.3
Other raw materials	0.5	0.2	0.1	0.1	1.1	1.0	0.7	0.6	-0.6	-0.9	-0.6	-0.5
Food industries	4.0	2.7	2.9	2.2	5.1	3.8	3.7	3.2	-1.1	-1.1	-0.8	-1.0
Traditional ind.	38.7	36.3	32.8	25.1	13.9	17.9	18.8	16.9	24.7	18.4	14.0	8.2
Resource intensive ind.	9.5	5.3	5.0	4.7	7.4	7.4	7.0	7.1	2.1	-2.1	-1.9	-2.5
Scale intensive ind.	19.2	20.4	20.7	20.0	19.0	20.6	19.9	19.5	0.2	-0.2	0.8	0.5
Specialized suppliers ind.	4.2	6.1	6.5	8.6	10.0	11.8	11.4	10.9	-5.7	-5.6	-4.8	-2.3
Science based ind.	13.8	24.0	27.6	35.4	16.5	23.8	25.1	31.0	-2.8	0.1	2.4	4.5
Others	4.0	2.1	2.1	2.3	1.5	1.8	2.8	2.7	2.5	0.3	-0.7	-0.4
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0
						HONG KONG						
	Export Composition				Import Composition				Trade Specialization			
	1980	1989	1992	1995	1980	1989	1992	1995	1980	1989	1992	1995
Agricultural prod.	3.2	2.6	1.6	1.2	9.5	5.0	3.4	2.7	-6.3	-2.4	-1.8	-1.5
Fuels	0.0	0.0	0.0	0.0	0.2	0.5	0.4	0.2	-0.2	-0.5	-0.3	-0.2
Other raw materials	0.7	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.5	0.0	0.0	0.0
Food industries	1.6	2.6	2.9	2.5	6.9	5.0	4.3	3.7	-5.3	-2.4	-1.5	-1.2
Traditional ind.	52.1	47.3	45.2	39.7	29.9	35.7	33.5	30.4	22.1	11.5	11.7	9.2
Resource intensive ind.	1.7	2.3	2.6	3.4	8.8	5.2	4.7	4.9	-7.1	-2.9	-2.0	-1.5

Scale intensive ind.	15.0	14.3	16.4	17.8	17.3	17.0	19.1	19.8	-2.3	-2.8	-2.7	-2.0
Specialized suppliers ind.	3.2	5.6	6.4	6.1	6.7	7.2	7.5	6.9	-3.4	-1.6	-1.1	-0.8
Science based ind.	18.6	22.3	21.8	26.9	18.7	22.1	22.1	28.0	0.0	0.2	-0.3	-1.1
Others	3.9	2.9	3.0	2.4	2.0	2.0	4.9	3.3	1.9	0.9	-1.8	-1.0
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0
* Indicator of comparative advantage (>0) or disadvantage (<0). For the formula see text. ** Provisional data.												
Source: SIE-World Trade Data	Base											

TABLE 18												
PATTERNS OF TRADE SPECIALIZATION AND COMPOSITION												
						SINGAPORE						
	Export Composition				Import Composition				Trade Specialization*			
	1980	1989	1992	1995**	1980	1989	1992	1995	1980	1989	1992	1995
Agricultural prod.	11.3	4.4	2.8	1.9	7.8	4.2	3.0	2.1	3.4	0.2	-0.3	-0.2
Fuels	0.4	0.1	0.1	0.1	23.7	9.4	8.8	5.2	-23.0	-9.2	-8.6	-5.1
Other raw materials	0.6	0.2	0.1	0.1	0.5	0.3	0.2	0.2	0.2	-0.1	-0.1	-0.1
Food industries	5.7	4.1	4.1	2.8	5.6	4.2	4.1	3.1	0.1	-0.1	0.0	-0.2
Traditional ind.	10.0	10.3	9.2	6.6	10.5	11.1	10.8	9.1	-0.5	-0.8	-1.5	-2.5
Resource intensive ind.	30.7	18.6	15.0	9.3	7.6	9.4	8.9	7.0	22.8	9.2	6.1	2.3
Scale intensive ind.	14.0	18.1	18.8	16.1	16.5	19.2	19.3	18.0	-2.5	-1.1	-0.5	-1.9
Specialized suppliers ind.	5.9	8.0	7.6	8.1	10.3	11.0	11.4	11.3	-4.3	-3.0	-3.8	-3.3
Science based ind.	14.0	34.4	40.6	52.5	16.0	29.2	32.0	42.6	-2.0	5.2	8.5	9.9
Others	7.5	1.7	1.6	2.6	1.6	2.0	1.4	1.4	5.8	-0.3	0.2	1.1
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0
						TAIWAN						
	Export Composition				Import Composition				Trade Specialization			
	1980	1989	1992	1995	1980	1989	1992	1995	1980	1989	1992	1995
Agricultural prod.	3.7	2.4	2.6	1.7	10.3	6.3	5.1	4.9	-6.5	-3.8	-2.5	-3.1
Fuels	0.0	0.0	0.0	0.0	0.4	1.4	1.1	2.1	-0.4	-1.4	-1.1	-2.0
Other raw materials	0.1	0.1	0.1	0.1	1.0	0.7	0.6	0.5	-0.9	-0.6	-0.5	-0.4
Food industries	6.6	3.3	3.9	2.4	1.9	3.0	3.0	3.1	4.6	0.3	0.9	-0.8
Traditional ind.	49.6	40.9	35.8	26.7	6.4	7.1	8.1	9.7	42.6	32.7	27.5	16.7

Resource intensive ind.	0.7	1.1	0.8	3.1	7.1	8.1	7.5	8.2	-6.3	-6.8	-6.6	-4.9
Scale intensive ind.	18.9	18.5	15.0	14.5	29.9	30.1	28.6	22.6	-11.0	-11.3	-13.6	-8.0
Specialized suppliers ind.	5.4	7.8	7.7	11.3	18.1	16.2	16.4	12.6	-12.6	-8.1	-8.7	-1.3
Science based ind.	12.0	23.6	32.0	38.5	22.4	24.3	27.1	33.1	-10.3	-0.6	4.9	5.3
Others	3.1	2.4	2.2	1.8	2.5	2.8	2.5	3.3	0.5	-0.4	-0.4	-1.5
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0
						KOREA						
	Export Composition				Import Composition				Trade Specialization			
	1980	1989	1992	1995	1980	1989	1992	1995	1980	1989	1992	1995
Agricultural prod.	5.0	2.9	2.1	1.4	14.4	9.8	7.5	5.9	-9.3	-6.9	-5.3	-4.5
Fuels	0.0	0.0	0.0	0.0	27.4	11.0	15.0	11.1	-27.0	-11.0	-15.0	-11.1
Other raw materials	0.5	0.2	0.1	0.1	2.7	2.7	2.2	1.6	-2.2	-2.5	-2.0	-1.5
Food industries	2.9	1.4	1.2	1.1	4.5	2.4	2.8	2.8	-1.5	-1.1	-1.6	-1.6
Traditional ind.	46.7	38.3	30.9	20.9	5.4	8.6	9.2	9.3	40.7	29.6	21.7	11.6
Resource intensive ind.	1.7	2.7	3.6	3.5	6.1	8.0	8.5	9.8	-4.3	-5.3	-4.9	-6.3
Scale intensive ind.	30.0	30.8	33.3	32.0	17.9	20.3	16.7	18.5	12.0	10.5	16.6	13.4
Specialized suppliers ind.	2.6	4.0	5.1	10.0	8.9	15.1	14.5	15.1	-6.2	-11.1	-9.4	-5.1
Science based ind.	9.4	18.7	22.5	28.4	12.2	21.3	22.5	23.3	-2.7	-2.6	0.0	5.1
Others	1.2	1.1	1.2	2.5	0.6	0.7	1.1	2.5	0.5	0.4	0.0	0.0
Total Trade	100	100	100	100	100	100	100	100	0	0	0	0

* Indicator of comparative advantage (>0) or disadvantage (<0). For the formula see text. ** Provisional data.												
Source: SIE-World Trade Data Base												