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SEGMENTATION OF THE MANUFACTURING SYSTEMS IN SOME OF THE ENLARGEMENT COUNTRIES AS A RESULT OF THE MULTINATIONAL ENTERPRISES' GLOBAL STRATEGY

E tanulmány a külföldi tőkével, illetve anélkül működő vállalatok strukturális változási mutatóit hasonlítja össze (hozzáadott érték, termelékenység, exportok alakulása). A dolgozat központi hipotézise, hogy a közvetlen külföldi tőkeberuházások (FDI) többé-kevésbé pozitív hatással voltak a közép-kelet-európai új EU tagállamok vállalatainak strukturális átalakulására, egy fontos mellékhatással: a feldolgozóipari szektor erősen szegmentálódott. A külföldi tőkével működő vállalatok ugyanis egyértelműen magasabb hozzáadott értékű termelést végeznek, termelékenyebbek, és magasabb az exporthányaduk is, mint a hazai tulajdonú cégeknek. Ennek alapvető oka vélhetően a multinacionális vállalati stratégiákban keresendő, azon belül is elsősorban abban, hogy milyen mértékben kapcsolnak be helyi cégeket globális termelési és elosztási láncaikba.

1. INTRODUCTION

At the beginning of the systemic transition in Central and Eastern Europe, it was expected that the introduction of the market would drive their economic growth. A key source of this expected growth was the increased pace of exports. However, almost immediately, the disappointing export results gradually exposed the limitations of a strategy of foreign insertion that centred around a pattern of specialisation based on traditional products (agricultural and food products, basic chemical products, leather, textiles and basic apparel, wood, building materials, glassware, metallurgy, etc). Consequently, the need to begin a large-scale process of structural change became clear.

Yet this necessary manufacturing transformation could not be financed with the scarce internal savings available in these countries. Within this context, foreign direct investment (FDI) was regarded as the best option to finance this restructuring, first because Central and Eastern European Countries had a certain appeal that led to forcasts that FDI would flock to these countries quickly and abundantly. The second reason is that in addition to providing financing and compensating for the lack of domestic capital, the presence of multinational enterprises (MNE) would provide other elements for restructuring - transfers of technology and business management methods - needed for the structural change sought by these countries and would speed up their integration into world exchanges.

A decade and a half after the beginning of these transitions, it is now an ideal time to take stock of how FDI inflows have contributed to the structural change in these economies. However, given the scope and heterogeneity of the countries in Eastern and Central Europe, we shall centre our analysis on some of the countries

that joined the European Union (EU) in May 2004 (Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia), which we refer to as the Enlargement Countries (EC).

To undertake this analysis, we shall compare their results on a variety of indicators of structural change (added value, productivity and exports) between the companies with foreign capital (Foreign Investment Enterprises, FIE) and companies without foreign ownership (Domestic Enterprises, DE) by industrial groups defined according to their technological intensities.

The article centres on the hypothesis that FDI has contributed positively to the structural change in the EC, but at the expense of having generated a segmented manufacturing system in which the sector linked to foreign capital clearly stands out as it provides more added value to manufacturing, higher levels of productivity and a greater propensity to export than the sector linked to domestic capital. Although this segmentation might be regarded as expected, at least in the short term, it also seems that the expected effects of FDI-based spillovers towards companies with domestic capital have not been especially meaningful to date. The cause for this seems to lie in the strategy implemented by the multinationals and in the way they integrate local companies into their global production and distribution networks.

The order of our argumentation is the following. In the section following this introduction we present the theoretical framework on which we base our analysis, as well as the role of FDI in the structural change in the EC. In the third section, we compare the statistical results of three indicators of structural change (added value, productivity and propensity to export) amongst FIE and DE, dividing the industrial sector into subgroups defined according to their technological intensities. In the fifth section, we attempt to identify the causes of the different results observed in the previous section between FIE and DE on the indicators chosen. Finally, we have included a section with conclusions.

To undertake this analysis, we have used information from diverse surveys and statistics on FDI, mainly the WIIW Database on FIE from the Vienna Institute for International Economic Studies, which presents the results distinguishing between FIE and DE. The sources of the WIIW's database, which covers the period between 1993 and 2001, were the statistical offices and other official institutions in the EC. The sectors examined according to the 2-digit ISIC classification were the manufacturing industries between codes 15 and 27.

2. THEORETICAL FRAMEWORK – THE RELATIONSHIP BETWEEN TERRITORIAL INSERTION OF MNC AND THEIR ECONOMIC EFFECTS

In a work of 1993, Pierre Veltz suggests that multinationals territorially insert themselves into the recipient countries following two possible logical extremes: the logic of creating resources, and the logic of exploiting resources. Along these lines, companies falling within the logic of exploiting resources view the host country as a "reserve" of resources available at low prices, which enables it to reduce its production costs. As a result, this logic brings with it a low commitment by the multination-

als to the setting as it is merely regarded as a source of factoral advantages that the company exploits as opposed to a structure capable of creating new resources. As a result, the company does not seek to foster its interactions with the host setting.

Multinationals falling within the logic of creating resources do not search for generic, immediately exploitable resources, rather they base their insertion on the presence of complex and specialised resources and in the host territory's ability to permanently generate advanced resources, such as highly specialised labour in a certain type of activity or a particularly transforming sector of research. In this logic, the multinational becomes involved in developing the domestic resources on which its dynamism will be progressively forged. The host territory thus becomes a key structure in the joint and permanent generation of new resources. As a result, within this logic, multinationals develop an active approximation to the setting and the time perspective of the insertion is long-term.

These two logics thus lead to different impacts on the territory receiving FDI. In the exploiting logic, foreign investment is content to simply guarantee the acquisitions within the subsidiary, while the possible relations forged with the local setting are scant - or even non-existent - and those that do exist are characterised by low intensity, imbalance and hierarchy - that is, by domination. On the contrary, in the creative logic, the company creates and develops cooperative relations with the local stakeholders, thus contributing to the creation of resources. The impact of this second logic of insertion is positive for the receptor economy since the multinational enriches the domestic competencies.

However, when theorising about the impacts of FDI based on the two possible logical extremes of insertion, these approaches pigeonhole multinationals into excessively strict categories, without bearing in mind the current complexity of large multinational groups. Within this current context of intense globalisation, multinationals develop what they call a "global strategy" (Andreff 1996), which is based on a global vision of the market, competition and production - that is, the global space is regarded as a single market. This type of strategy enables the different multinational groups to have a strong ability to adapt their behaviours to highly complex and variable contexts given that each stage in the value chain might be located in multiple settings, and the choice of location is made according to its contribution to the company's long-term goals as a whole, more than on their individual profitability in a certain country.

To develop this global strategy and give themselves the flexibility they need, the large multinational groups have consolidated corporate structures in the guise of global production and distribution networks, which enable them to combine as appropriately as possible their global corporate interests from both logical extremes of territorial insertion.

The different functions within the company also have different location needs (Dicken 1998). Certain functions, such as regional headquarters or R&D departments, require global communication and telecommunications networks in order to coordinate the activities on a worldwide scale. For this reason, multinationals prefer to relocate in territories endowed with advanced infrastructures as well as qualified labour. Often, these needs lead these functions to be left in the multinational's home country (Sachwald 1994). One important consequence of the presence of

these functions in the territory is that they require supplementary investments, such as in the area of training. That is, the centres that perform these activities mainly function on the basis of a logic of resource creation.

On the contrary, for functions with less added value, the companies minimise their cost of insertion, while the absence of supplementary investment enables them to relocate quickly. In this sense, the global strategy of rationalisation of production enables multinationals to displace the labour-intensive production processes requiring few qualifications to places with low labour costs - factoral advantages - and concentrate the qualified labour-intensive processes and advanced technologies - which, as we have said, require specific assets and supplementary investments, that is, high territorial involvement - to places that have structural advantages.

Thus, in the current multinational corporate structure in the guise of a global network, displacement of any segment in the production chain is possible at any time. As soon as there is awareness that the conditions in a country or region where individual segments in the value chain of the multinational are operating have changed, a new displacement can take place, with significant consequences related to the sudden shut-down of these operations.

In summary, this latter group of theories shows that the effects on local companies that make up the industrial system of the country receiving FDI are not the same depending on which of the two logical extremes of territorial insertion is preferred by multinationals in each territory. Likewise, we have seen that currently, multinationals combine the two logical extremes of territorial insertion in the most appropriate way possible given their global corporate interests. In this sense, the creative logic sets into motion active relations with the industrial system of the recipient country, while the exploitative option engenders a passive attitude by multinational companies in their relations with local companies. As a result, the creative option enhances the cumulative ability of local companies, and thus the country's economic growth, much more than the exploitative option.

3. FDI AND SEGMENTATION OF THE MANUFACTURING SYSTEM IN THE EC

Different studies have proven that FDI has positively contributed to the manufacturing transformation of the EC (Kaminski & Riboud 2000; Hunya 2004). In this section, our goal is to analyse whether the important presence of multinational companies in the EC has generated diffusion effects on domestic companies or whether, to the contrary, the positive impact derived from FDI is limited to companies with foreign ownership.

To accomplish this, we will compare the results of companies with foreign ownership compared to domestic companies in three relevant realms of the structural change: contribution to added value, productivity and propensity to export. To perform this analysis, we use the division of the manufacturing sector made by the OECD according to the technological intensities of the different subsectors (table 1.).

In terms of contribution to the total added value of each of the industrial groups defined in terms of technology in the six EC for which we have relevant information

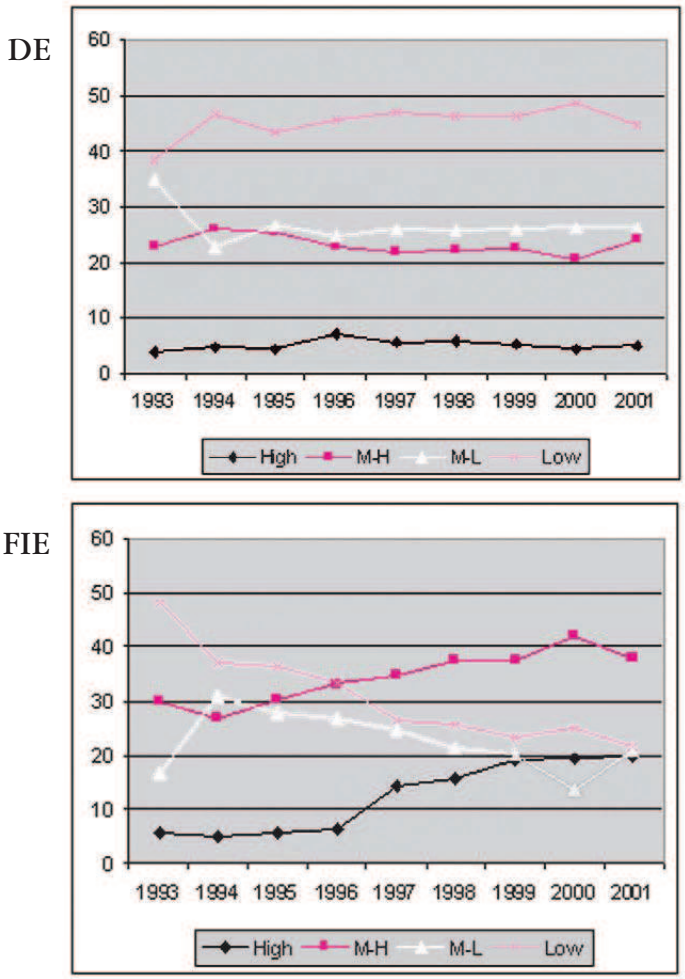
Table 1. OECD classification of manufacturing industries according to their technological intensities

Activities	NACE Rev. 1
High-tech industries	
Aircraft and spacecraft	35.3
Pharmaceuticals	24.4
Office, accounting and computing machinery	30
Radio, television and communication equipment	32
Medical, precision and optical instruments	33
Medium-high-tech industries	
Electrical machinery and apparatus	31
Motor vehicles, trailers and semi-trailers	34
Chemicals, excluding pharmaceuticals	24 (excl.. 24.4)
Railroad equipment and transport equipment	35.2 + 35.4
Machinery and equipment	29
Medium-low-tech industries	
Coke, refined petroleum products and nuclear fuel	23
Rubber and plastic products	25
Other non-metallic mineral products	26
Building and repairing of ships and boats	35.1
Basic metals	27
Fabricated metal products, except machinery and equipment	28
Low-tech industries	
Manufacturing and recycling	36 + 37
Wood, pulp, paper, paper products, printing and publishing	20 + 21 + 22
Food products, beverages and tobacco	15 + 16
Textiles, textile products, leather and footwear	17 + 18 + 19

Source: www.oecd.org

(the Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia), it can be seen that the ratio of low-tech and medium-low technology industries fell from 42.1% to 29.2% and from 28.2% to 22.6%, respectively, while on the contrary, the ratio of high-tech industries rose from a mere 4.4% to 15.0%, and the ratio of medium-high technology industries rose from 25.4% to 33.2%.

If we distinguish between companies with and without foreign ownership, we can see that the changes in levels of the two groups of companies jointly set forth in the previous section can fundamentally be explained by the results of the FIE, which showed a noteworthy increase in the ratio of high-tech industries between 1993 and 2001 (from 5.7% to 20.0%), and of medium-high technology industries (from 29.7% to 42.7%), mainly due to the reduction in the ratio of low-tech industries (from 48.0% to only 21.6% - see figure 1.). This process shows that the foreign investors in these six EC are increasingly investing in high-tech and medium-high technology industries, while the ratios in low-tech industries are gradually waning. Likewise, the increase in the ratios of the DE belonging to high-tech and medium-high technology industries were quite modest (1.3 and 1.5 percentage points, respectively), while the ratio of low-tech industries rose by 6.1 percentage points. That is, the changes in added value in the high-tech and medium-high technology industries have been curtailed in the FIE, while the restructuring of the DE seems to have been somewhat limited. In other words, the structural changes in terms of added value in DE has been much slower compared to the FIE and barely positive.



Source: WIIW Database on FIE

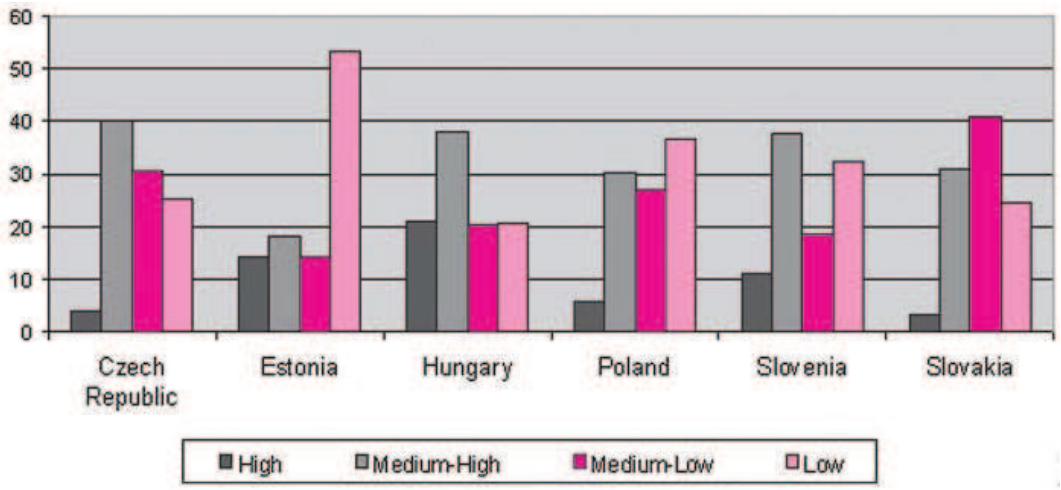
Figure 1. Contribution to added value of each industrial group by types of companies in six EC (in %)

Looking at individual countries, it can be seen that manufacturing activity has changed in all of them, in all industries. Moreover, in the six EC examined the processes of restructuring have been much less intense in the FIE than in the DE. Nevertheless, there are considerable differences amongst them in terms of the intensity of restructuring in the manufacturing sector, both in general and in terms of the FIE. Along these lines, the most pronounced degree of restructuring took place in Hungary, where its ratios to the overall contribution of added value in high-tech and medium-high technology industries rose by 20 percentage points between 1993 and 2001. What is more, this increase is basically attributable to FDI, given the fact that the FIE in these two sectors increased their contribution rates to the total added value contributed by companies with foreign capital by 28 percentage points in the course of the same period.

In other countries in the group, where the technological restructuring was much slower (in the Czech Republic, which comes in second place in terms of the intensity of change, it was only 3.8 percentage points between the high-tech and medium-high technology industries), this was also significantly affected by the FIE. In the

Czech Republic, the decrease in low-tech industries was largely accompanied by an increase in the high-tech and medium-high technology industries. In Estonia, the huge increase in high-tech industries has come hand-in-hand with an ever steeper decrease in medium-high technology industries. In Poland and Slovakia, much of the decrease in low-tech industries has been broadly counterbalanced by the increase in medium-low technology industries. In Slovenia, the steeper fall in medium-high technology industries has not been counterbalanced by an increase in the low-tech and medium-low technology industries. In this way, the FDI in Slovenia has shifted from medium-high technology industries to low-tech and medium-low technology industries. Thus, the positive overall technological restructuring in Slovenian manufacturing seems to have been generated through the restructuring of domestic companies, which makes it an exception in the group in terms of the general trend.

The structural changes due to FDI have led to considerable modifications in the distribution of added value of the FIE present in the manufacturing sectors of the EC (figure 2).



Source: WIIW Database on FIE

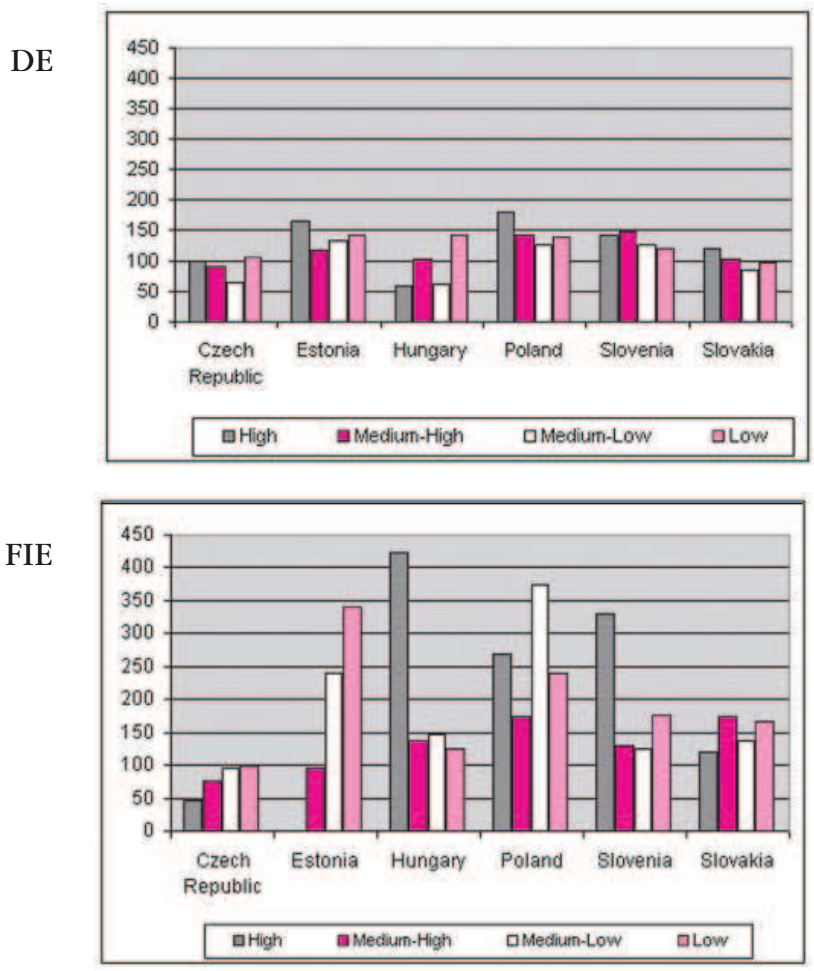
Figure 2. Distribution of the FIE added value in manufacturing sector of six EC in 2001 (in %)

The most advanced structure seems to be that of the FIE in Hungary, a country where in 2001 high tech and medium-high technology industries concentrated 59.1% of the total added value contributed by the FIE to the manufacturing sector of this country. Hungary is the only country of the EC-6 to show a clear, constant trend towards an increase in the ratio of high tech and medium-high technology industries within the total added value of the manufacturing FIE. It is followed by Slovenia (48.9%) and the Czech Republic (44.3%). In the high-tech industrial sector, these two latter countries in particular have experienced a significant structural delay compared to Hungary. The ratio of high-tech and medium-high technology industries in the activities of the FIE in Poland, Slovakia and Slovenia is much lower.

Likewise, in terms of productivity (measured as the added value per employee) it can be seen that, given the fact that both companies acquired by international and greenfield investors have headed mainly towards capital-intensive industries with

technology aimed at saving labour, this has led to a significant increase in productivity in these countries. Although the domestic companies have also improved their productivity rates, the increase may have been greater in the companies with foreign ownership.

In this sense, the figure 3 shows that the growth in productivity in manufacturing in the six EC which we have taken into consideration during the 1990s is broadly attributable to FDI. The growth in productivity of the FIE was on average much higher than in the DE, and additionally, the FIE tend to exceed the DE in all the industrial groups defined technologically and in all the EC for which we have data. The exceptions to this general rule, that is, industrial groups in which the productivity of the FIE grew more slowly than in the DE, are the high-tech industries in the Czech Republic and Slovakia, the medium-high technology companies in the Czech Republic, Estonia and Slovenia, the medium-low technology industries in Slovenia and the low-tech technology industries in Hungary.



(*) Average accumulated growth rates in the added value per employee within their respective technological sectors
Source: WIIW Database on FIE

Figure 3. Accumulated change in work productivity by industrial groups in six EC (in %)*

The highest growth in productivity can be seen in the FIE in the high-tech segments. On average, they grew around 40% more quickly than the medium-low and low-tech industries, while the growth in productivity in the medium-high technology industries was lower. The FIE outpaced the DE the most in the high-tech industries (by a factor of 1.87), and in the medium-low technology industries (by a factor of 1.86), followed by low-tech industries (by a factor of 1.54), and by medium-high technology industries (by a factor of 1.12). In relative terms, the pronounced rise in work productivity in the FIE in high-tech industries was clearly influenced by the unusual situation of Hungary. If we exclude this country from the calculations, the FIE would outpace the DE in the high-tech industries only by a factor of 1.35, a result lower than that of the medium-low and low-tech industries. What is more, despite the fact that the medium-high technology industries in the EC-6 have attracted the greatest percentage of FDI, their growth in productivity has been lower than that of the FIE in the medium-low technology industries.

Finally, in terms of the impact of FDI on exports of manufactured goods, the analysis by industry confirms the gradual increase in importance of groups with a higher level of technology in this sector, given the fact that the weight of the high-tech and medium-high technology industries in exports in the six EC studies rose considerably in the period from 1998 to 2001; from 4.0% to 21.1%, and from 39.3% to 45.7%, respectively.

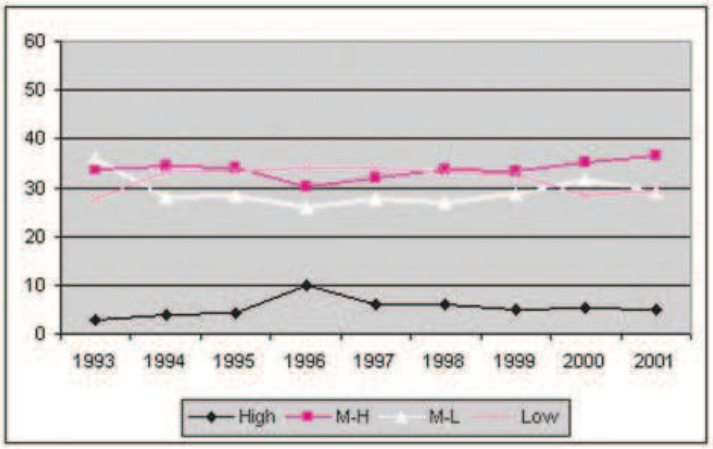
However, once again we must consider whether there are remarkable differences between the domestically-owned industries and companies with foreign ownership. To this end, in figure 4 we can see that the trend of increasing exports with greater technological density is mainly explained by the actions of the FIE, given the fact that not only are the highest exports of the FIE in 2001 concentrated in the high-tech and medium-high technology industries (75.8% as a whole), but in the period 1993-2001 exports by the FIE experienced an intensive restructuring in favour of high-tech industries. Along these lines, in 1993 the FIE belonging to medium-high technology industries concentrated 47.0% of manufacturing exports, and this ratio had risen to 49.0% by 2001, while the rate for the FIE in high-tech industries had increased from a mere 5.6% to 26.8% in the same period. This increase is reflected in the fall in the rate of low-technology FIE (from 16.6% to 11.0%) and more particularly, in the slump suffered by the low-tech industries, which fell from 30.8% to a mere 13.2%. That is, in short, FDI has been one of the principal factors contributing to increasing the dynamism of exports in the EC and the technological level of the products exported.

Nevertheless, the small increases in the ratios of high-tech industries (2.8% in 1993 to 5.1% in 2001) and medium-high technology industries (from 33.7% to 36.4%), as well as the decrease in the ratio of medium-low technology industries (from 35.7% to 29.1%) in case of the DE should be noted. On the contrary, the ratio of low-tech industries rose by 1.5 percentage points to a significantly high level (29.4%).

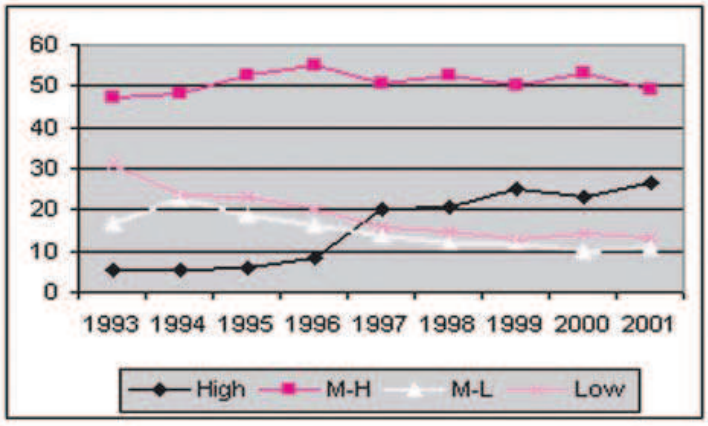
An analysis of the propensity to export, also by industrial group defined technologically, confirms this trend (figure 5).

Along these lines, even more noticeable is the growth of the propensity to export in the FIE in the same period in high-tech industries (from 31.5% to 89.2%) and

DE



FIE



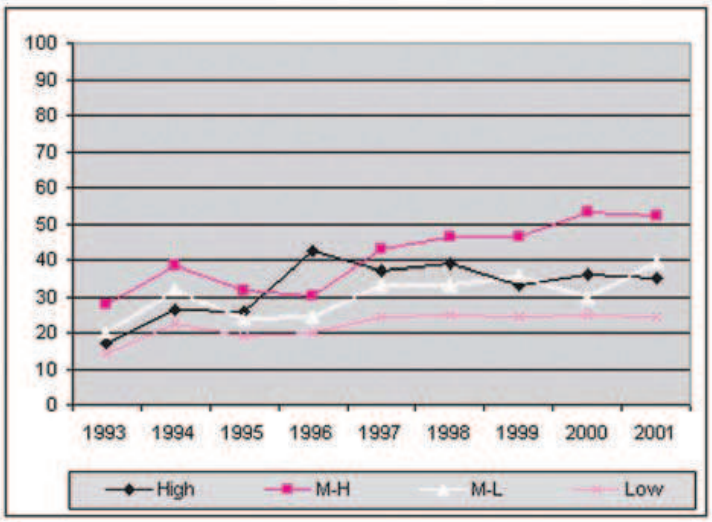
Source: WIIW Database on FIE

Figure 4: Distribution of exports by industrial groups in six EC (in %)

medium-high technology industries (from 44.4% to 81.0%), while the propensity to export of low-tech industries (37.4% in 2001) and medium-low technology industries (36.0%) remained at much more modest levels. What is more, the propensity to export in DE in high-tech industries (34.9% in 2001) and medium-high technology industries (52.3% in 2001) was much lower and also increased much less during the period in question. The FIE also showed a greater propensity to export in low-tech industries, while in the group of medium-low technology industries the DE propensity to export was higher than the FIE.

An analysis of the data by individual countries seems to prove that the size of the countries has largely determined, at least until now - this could change significantly with these countries' joining the European Union - the FIE propensity to export. In this sense, in 2001, Estonia and Slovenia (the smallest of the six countries examined) registered the highest orientation towards exports amongst the FIE - including exports from all the different types of industries, while in Poland (the largest country in the EC-6) these companies are less oriented towards exports in all the technological groups. In Hungary the FIE orientation towards exports in high-tech and medium-high technology industries is much more pronounced than in the low-tech

DE



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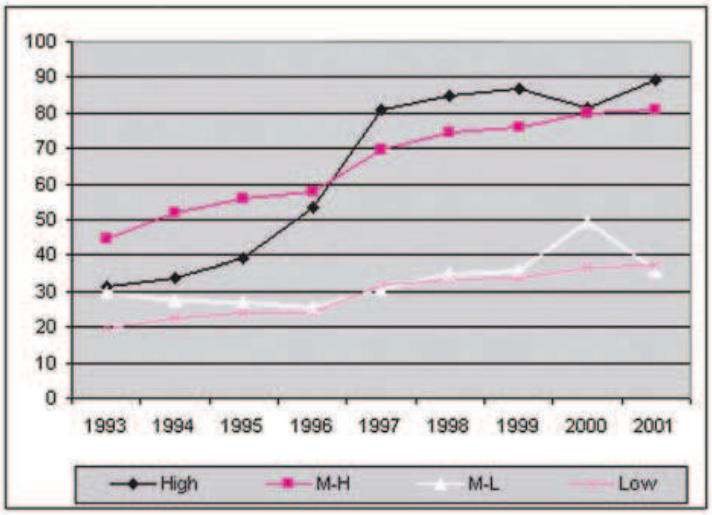

Source: WIIW Database on FIE

Figure 5. Propensity to export (ratio of exports / sales) by industrial groups in six EC (in %)

and medium-low technology industries. Thus, the combination of the restructuring in favour of medium-high and high-tech industries and the fact that these two groups of industries are much more oriented towards exports than medium-low and low-tech industries explains the strong exporting behaviour of Hungarian FIE. Specifically, in 2001, Hungarian FIE in high-tech and medium-high technology industries were the most export oriented of all the EC analysed.

In summary, the FIE have noticeably stepped up their orientation towards exports in both high-tech and medium-high technology industries present in the EC. In fact, with all probability, one of the main contributions of the FIE to the structural change in these countries has been their impact on exports, thus confirming the extraordinary orientation towards exports of the FDI flows directed towards them.

4. CAUSES OF SEGMENTATION IN MANUFACTURING SYSTEMS IN THE EC

In this section, we analyse the causes of segmentation in the manufacturing systems of the EC examined in the previous section. To accomplish this, based on the theoretical framework of the study, we shall attempt to identify the model of territorial insertion of multinationals in EC, distinguishing between the degree of integration of multinationals' subsidiaries present in these countries into the global production and distribution networks and that of domestic companies in these same networks.

4.1 THE INTEGRATION OF MULTINATIONAL SUBSIDIARIES IN THE OVERALL PRODUCTION AND DISTRIBUTION NETWORKS

Different studies have revealed that in their territorial insertion in the EC, multinationals have strongly integrated their subsidiaries into the global production and distribution networks (Krifa & Vermeire 1998; Richet & De Sousa 2001). To do so, they have transferred technologies, they have included them in their quality certification procedures and they have transferred their knowledge and know-how to them, including administration and management techniques.

Technological transfers from the head office to the subsidiaries of multinationals present in the EC vary according to manufacturing sectors. In the low-tech and medium-low technology industries, transfers tend to be limited to technologies that have already been superseded in the multinational's home country. This option is mainly chosen by the companies attracted by the low labour costs in the EC. Conversely, the companies active in sectors in high-tech and medium-high technology industries transfer more advanced technologies (Krifa & Heran 1999). For example, in the automotive industry, technology transfers have been so intense that the result has been that multinationals' subsidiary automobile plants present in the countries analysed are technologically as advanced as the other subsidiaries located in western European countries (Meyer 2000).

For their part, foreign companies' commitment to the process of quality certification supplies yet another indicator of their contribution to introducing technical progress. For example, at the Volkswagen plants in the Czech Republic and the General Motors plants in Hungary, the quality control measures are extremely stringent, while in the agro-food sector and the pharmaceutical industry, control laboratories verify the quality throughout all the phases of the production process. The number of quality controls is thus at least as important as in the western countries. This quality requirement can mainly be explained by two facts. First, the products are mainly exported to Western Europe and must thus compete in terms of quality with products manufactured there; and secondly, an increasing part of manufacturing is integrated into flows of captive exchanges within the global production and distribution networks, which obliges all subsidiaries and companies participating in the network to obey the same rules of quality. This commitment has led a large number of multinational subsidiaries in EC to obtain some sort of ISO certification (Krifa & Vermeire 1998).

In the same domain of technology transfer, one factor that must be valued are transfers of R&D activities to subsidiaries, since the accumulated stock of expenditures on these activities in a country positively correlates with its productivity and thus constitutes a key factor for the country's long-term economic growth (Stern 1991). Generally speaking, in the EC it is impossible to identify a clear relationship between multinational activity and expenditures on R&D. For example, in the pharmaceutical industry, which has a longstanding tradition in Hungary and is now predominantly in the hands of foreign companies, which also performed 40% of the country's total R&D activity in the end of the 1990s (Éltetö 2000), these laboratories have more quality control units for the production and hygiene units than units that come from some type of applied research. Even in sectors with greater technological density, in which multinationals spend very high amounts on R&D, this type of activity mainly remains absent from these countries.[1] The only large company which we have proof has transferred significant R&D activities to its subsidiaries in EC is Tungsram, a General Electric subsidiary in Hungary. In this case, the head office has installed some of its basic and applied research operations in its Hungarian subsidiary, thus transforming it into one of the groups "centres of excellence" (Csaki 1997).

This low relationship between R&D activities and multinational activity can also be observed in other Central European countries. In an econometric study on innovation in Slovenia, Radosevic (1997) noted a clear relationship between innovation and R&D activity, but not between innovative activity and multinational activity. Through a simple linear regression model based on a sample of twenty manufacturing companies, a clear relationship was shown between companies that undertake R&D activities and those that innovate, but not between companies with foreign investment and innovative activities.

Thus, despite the fact that some foreign companies have located certain research activities in EC in recent years, this function is generally kept highly centralised in the head office units which are usually located in western countries.[2] The consequence of this is that the potential positive impact of transfers of advanced technologies towards Central European subsidiaries on the economic growth of these countries will be lower, and more long-term, than what could have been expected due to the absence of the involvement of foreign capital in local R&D processes.

In summary, multinational companies have proceeded to quickly transfer to their subsidiaries located in the EC the most modern technology in their respective sectors, especially in those in the high-tech and medium-high technology industries.

1 Such as Audi's R&D activities in Hungary, Volkswagen's in the Czech Republic and Fiat's in Poland are mainly concentrated in the head offices or other western subsidiaries (Boillot & Lepape, 2002).

2 Some multinational groups have even shut down research departments of privatised companiesy acquired through foreign investment in favour of a corporate strategy of concentrating technological capacities at the headquarters, generally located in the multinational's home country or in another developed country. Certain cases like this are referenced by Csaki (1997), especially in the Hungarian pharmaceutical sector.

However, this positive assessment must be tempered by the absence of foreign investors' involvement in the realm of R&D.

Something similar takes place in the case of transfers of knowledge and know-how. That is, the processes of transferring these factors between multinational companies and their subsidiaries located in EC is also common in terms of both professional training and management techniques. More specifically, in the case of professional training, the multinationals have based their transfers on processes of formal learning more than on learning "on the floor", by organising stints at research centres for workers usually located abroad (Dallago 2000; Sereghyova 1998). These actions have been facilitated first by the fact that the discrepancy between the EC and, for example, the EU-15 countries was much lower than what existed in the realm of technology. Thus, to a large extent, the fact that the foreign companies have organised learning processes for workers and technicians can be explained by the pre-existence of well-trained human resources. For example, in the Fiat subsidiary in Poland or the General Motors subsidiary in Hungary, the initial level of training of local salaried workers was quite similar to that of their western counterparts (Husan 1997). The foreign companies thus faced a work force with an ability to rapidly assimilate knowledge. The second factor is the proximity to Western Europe, from which - as we have seen - the majority of the FDI targeted towards the EC comes, which has notably reduced the costs of sending salaried workers abroad.

For their part, the transfer of management techniques has been a more decisive factor in the process of transforming the EC, since the systematic transition entailed the need to create a business management class capable of operating in a market economy setting. This has led to the majority of training processes organised for executives. Along these lines, information on this issue shows that despite the fact that the foreign companies present in the EC have entrusted a large part of the positions of responsibility to local personnel, the multinationals have kept expatriate staff in the highest echelon of responsibility (Director General, Managing Director, etc.) (Zemplinerova 1998; Krifa & Vermeire 1998; Meyer 2000; Dallago 2000).

This frequent recourse to native Central European managerial staff can be explained by a variety of reasons (lower salaries, etc.). Yet certainly the most important factor is once again the high level of initial training of local workers, many of whom had previously studied in university programmes, which facilitates their internal training. In this sense, it seems that the multinationals have preferred to use the younger generations' ability to be trained as opposed to "requalifying" executives from older generations, deemed as too deeply permeated with the ways of operating in planned economies. Young local executives' ability and desire to learn has led them to swiftly reach the level required by the multinationals. The training activities that have been held have been supplied by both specialised schools belonging to the companies themselves or by business schools which have opened branches in the EC.

Summarising, multinationals appear to be the quickest means of transferring knowledge and know-how, and consequently, they represent the most important path towards the training of a local executive elites as the local staff gradually takes on more and better managerial positions.

4.2 THE DISCONNECTION OF DOMESTIC COMPANIES IN THE EC FROM THE GLOBAL PRODUCTION AND DISTRIBUTION NETWORKS

In the present section, we analyse local companies' degree of integration into global production and distribution networks. To this end, the case studies examined show first that the large multinational groups, the majority of which are present in the EC, make it a priority to undertake their daily procurement of supplies from other multinationals. This phenomenon takes place in all stages of the value chain, from supplying components to financing activities, including activities such as consulting services and advertising or even building construction.

In fact, when multinationals use local suppliers, it is due fundamentally to two things: either they do it because it is indispensable (there is no choice) - this would be the case, for example, of the agro-food sector, in which foreign companies may have no other alternative than to supply themselves from farms in the country, as in some cases these products deteriorate quickly - or to procure the most elementary components with the least added value in the product's value chain.

That is, generally speaking, faced with the need to supply themselves with an intermediate good - especially those with greater added value - or a service, multinational subsidiaries present in the EC prefer to do so from other multinationals, often those with which it already has built trust based on relationships consolidated previously in other countries and which make their fellow multinationals preferable to local actors. Multinationals then tend to act at once as suppliers and customers of other multinationals. From this organisation there emerges a network-type of structure that facilitates multinationals in coordinating complex inter-company relations and procuring goods adapted to their needs and specific demands from suppliers who are already familiar with them. Thus, by operating in consolidated networks, multinationals economise the costs of searching, negotiating and monitoring while they also create a high level of stability in their relationships. What is more, if this preference is the outcome of customer relation strategies, the cooperation is particularly close. This latter factor is extremely visible in the automotive sector, in which western component companies have been the first to set up shop in the EC, following their traditional customers.

Often the option of preferentially obtaining supplies from other multinationals is justified by the absence of a system of small and medium-sized local companies that can act as suppliers. However, some studies on this subject show that even when this network of potential local suppliers does already exist, as in the case of Poland or the Czech Republic in the automobile sector, things have not gone noticeably better for local companies because in these cases, the trend has been to gradually reduce the number of these local suppliers and replace them with multinational companies from the automobile components sector (Husan 1997; Meyer 2000; Sereghyova 1998). In this case, with the previous presence of a local system capable of acting as suppliers for multinationals, the basic argument for not resorting to small and medium-sized local companies as suppliers is that they do not have sufficiently advanced competencies, which prevents them from having sufficient capacity to handle the imposition by the foreign investors of the same demands as their usual suppliers (in their home countries or the rest of the world).

Thus, one relevant factor to bear in mind in the analysis of the role of FDI in the structural change of the EC is to what extent multinationals contribute to increasing the local companies' capacity to join the global production and distribution networks with a more active role than what they have seemed to have to date, that is, by acting as a supplier to the network as a whole with products with greater value added. This contribution will largely depend on the cooperation relations forged between the subsidiary of the multinational group and the domestic companies in the recipient country (Veltz 1993).

And in this sense, in the case of the EC, it can be seen that foreign investors also forge their principal strategic alliances with other foreign companies. That is relationships of technological cooperation, exchanges of information and in some cases joint production are actively developed amongst foreign companies. Similar relations are rarely consolidated with local companies, and when they are, they are decidedly asymmetrical and unstable.

Ever since their insertion, many multinationals have merged their wealth to gain control of the best privatised companies. For example, the leading Czech agro-food manufacturer, Cokoladovny, was jointly acquired by Nestlé and Danone, direct competitors in world markets. Likewise, Deutsche Telekom and Ameritech Co. acted jointly to become the owners of the Hungarian telecommunications company Magyar Com, with an aim to gain a foothold in the Hungarian operator Matav. In other cases, the option has been to merge once they are present in the new country in order to undertake joint projects. For example, the Swiss company Solco Basel reached an agreement with the French firm Rhône-Poulenc to jointly produce pharmaceutical products in Poland once both companies already had investments in the country.

On the contrary, in the survey of CEPE ("Centre Economie et Politiques Européennes" of the Unviersity of Lille) of 44 multinationals present in Hungary, the Czech Republic and Poland, and summarised by Krifa & Vermeire (1998), the cooperation relations (technological, training, etc.) with local companies were quite informal given the fact that the majority of them took place in sectors with lower technological intensity, and they had been limited to providing some type of help aimed especially at ensuring that the local supplier could meet the group's international standards.

Thus, the weak local contents of the goods manufactured by foreign companies in the EC (according to the study by Boillot & Lepape (2002), and despite the fact that the foreign companies tended to increase their supplying from local companies the longer they had been in a country, the local share of manufacturing of European companies in the automobile sector present in the EC continued to represent less than 10% of the total in 2001[3]) can be explained largely by this absence of relationships and mutual aid between the multinational groups and their local outsourcers.

3 The companies from countries outside the EU-15 are a completely different case. For example, the Suzuki assembly plant in Hungary, which has been in operation since 1992, was obligated to meet the requirement of 60% European content in order to avoid higher customs duties. What is more, the agreements reached with the Hungarian government for tax concessions obligated Magyar Suzuki to manufacture using at least 50% domestic content starting in 1994.

It thus seems that the strategy pursued by the large multinational groups in their insertion in the EC has been based on systematically giving preferential treatment to relationships amongst multinationals, especially in those activities which require more advanced technologies and know-how, which serves to consolidate relationships amongst multinational networks at the expense of a lower integration of local companies into these same networks. Should these local companies manage to gain a certain foothold in these networks, it is limited to supplying the goods with the least value within the product's value chain.

Thus, it becomes clear that foreign investment takes advantage of opportunities that the host economy offers, but that it also has very limited restructuring impact on the local manufacturing system. Domestic companies' autonomous ability to adapt to the conditions imposed by the networks is what leads them to or excludes them from the possibility of initiating relationships with the foreign companies and thus to integrate or not into these global production and distribution networks.

In summary, we have seen that the high degree of integration of subsidiaries located in the EC into the global production and distribution networks is combined with a relatively high disconnection between the subsidiaries of these multinationals and local companies. This disconnection is basically the outcome of two facts: first, the multinationals' subsidiaries present in the EC use other multinationals as their main suppliers; and secondly, the relations of cooperation amongst the foreign companies' subsidiaries and local companies are either highly unstable or simply nonexistent.

5. CONCLUSIONS

After the fall of the Berlin Wall and the gradual opening of trade and financial liberalisation of the economies in these countries, FDI aimed at the EC began to pick up pace. Traditionally, industry has been the sole sectorial recipient chosen by foreign capital, although in recent years, the service sector has gained in importance.

These inflows of FDI have been one of the engines of the structural change that has taken place in the EC throughout the 1990s, given that it has contributed to changing the manufacturing and trade patterns in these countries and increasing their levels of productivity. However, the FDI in EC has generated a certain segmentation in the local manufacturing systems, with one segment identified with foreign, the other with domestic capital. The former sector is centred fundamentally on the high-tech and medium-high technology industries, which regularly contributes more to the added value of these countries, progressively increasing their productivity levels and exports more than the companies linked to domestic capital, which have a lower weight in the total added value, are less productive and have a lower propensity to export and are more centred on the low-tech and medium-low technology sectors.

The main cause of the segmentation in the local manufacturing systems observed is the multinationals' model of territorial insertion when settling in the EC, which combines a high integration of the multinationals' subsidiaries into the global pro-

duction and distribution networks and a relative disconnection between them and the local actors in the host territory.

The transfers that FDI was expected to bring in its wake (capital, technology, knowledge), which were to contribute to increasing the productivity of the country's factors, are divided, in turn, into two processes: a first process of direct transfers to the multinationals' subsidiaries, and a second process of spread towards domestic companies. If the latter takes place, FDI will lead to both an increase in the performance of domestic production and in the added value contained in their productions. If it does not take place, a segmented structure is consolidated in which the multinationals' subsidiaries enjoy a high level of technology while the domestic companies remain specialised in the production of goods and services with low added value.

This second scenario is what seems to be identified in the case of the EC, given the fact that through our research we have observed that the transfers linked to FDI have been limited to those flowing from the head office to their subsidiaries, with the majority of the local companies being left outside of these flows. The result has been the cohabitation of companies, multinationals' subsidiaries, which are modern and integrated into the global production and distribution networks, alongside domestic companies forced to pursue untenable strategies of survival either outside or on the margins of these same networks, by basically supplying the goods and services with the least added value within the production's value chain. This segmentation will most likely not be resolved spontaneously through the manufacturing activities of the multinational firms, rather it will require endogenous efforts, which poses significant challenges to the economic policies of the recipient countries and the European Union's economic institutions.

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