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**“FDI and Industrial Networks in Hungary”**

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# FDI AND INDUSTRIAL NETWORKS IN HUNGARY

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## **Abstract**

The paper summarises some of the key findings of research on the macro and microeconomic effects of FDI, the impact of the MNCs on development, industrial and trade restructuring, and presents a first attempt to draw a map of industrial networks in Hungary. It answers the question whether the rapidly increasing presence of the MNCs did, and will, increase the gap between indigenous and foreign-owned firms in Hungary, or not; and whether the negative effects of a dual-type of economic development could be revised or at least moderated by economic policy. Some policy conclusions on the competitive and strategic position of the interviewed firms and their "parents" are drawn from the results.

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## ***1. Introduction***

The goal of this paper is to review some of the main effects of FDI-inflows and the presence of the subsidiaries of multinational companies (MNCs) on Hungarian economic development in the last decade, and to formulate some policy conclusions.

The paper summarises some of the key findings of our research undertaken in 2000-2001<sup>1</sup> on the macro and microeconomic effects of FDI, the impact of the MNCs on development, industrial and trade restructuring (chapters 2-3), and presents a first attempt to draw a map of industrial networks in Hungary (chapter 4). It answers the question whether the rapidly increasing presence of the MNCs did, and will, increase the gap between indigenous and foreign-owned firms in Hungary, or not; and whether the negative effects of a dual-type of economic development could be revised or at least moderated by economic policy. Some policy conclusions on the competitive and strategic position of the interviewed firms and their "parents" are drawn from the results.

Our research results proved that in Hungary ten years were enough for foreign investors to reach almost the same dominant shares in most industrial sectors as in the Irish economy over a much longer period. However, the first signs of a dual type of economic development, with the foreign-owned firms taking preferential positions compared to the indigenous ones, also emerged sooner (as early as in 1996) than in the other countries (such as Ireland, Portugal, or Spain).

Since the first signs of duality in the economy emerged, indigenous firms have also recorded a rapid improvement in performance, in export-capability and productivity. Yet, the gap in some important economic indicators between indigenous and foreign-owned companies had not diminished by 1999. In fact, it had even increased in some respects.

For policy, it is important to bear in mind that the foreign firms (even large global multinationals) which produced this most dynamic development, were not the same firms during this period. Even the small sample of interviewed firms shows how narrow

is the room for policy makers to influence the strategy of firms with dominant foreign equity and highly integrated into global corporate networks.

As the time of the accession of Hungary to the EU approaches, a new wave of FDI can be expected. However, as the liberalisation of trade and FDI-inflows already took place ten years ago, the expected changes, i.e gains and losses, will be much smaller than in the countries that joined the EU earlier (such as Spain, Portugal, or Ireland).

The balance of gains and losses will depend much more on the ability of indigenous firms to close the gap, and to overcome their disadvantages compared to foreign-owned firms. Both the central government and local policy-makers must harmonise their desire to attract further FDI through generous incentives, with the aim of fostering the development of local indigenous enterprises and capital accumulation including positive discrimination in favour of local SME sector.

## ***2. FDI, trade and development***

The high level of FDI-attractiveness of Hungary is well-known. Partially, this is due to “first-comer advantages”, i.e. the fact that Hungary was the first country in the region to create the political, and legal conditions for FDI-inflows. In addition, relative political and economic stability, and the Hungarian way of privatisation, have contributed to high inflows of FDI.

The ten-year experience of FDI in Hungary suggest that the economic policy environment and the investment attractiveness of a host country are the main determinants of the activities and results of the MNCs (*Markusen's theses*)<sup>2</sup>. *Trade- and*

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<sup>1</sup> Hamar, J.: [2000] “Multinationals in Hungary and the expected effects of the EU-accession”, and Hamar, J.-Nagy, Á.: [2001] “The role of the FDI in the Hungarian economic development” (KOPINT-DATORG). .

<sup>2</sup> James R. Markusen – economic professor of the University of Colorado (USA) – presented a lecture “The theory of multinational firms and its relevance to transition” at the Hungarian Academy of Sciences in 1997. By highlighting the main features, directions and incentives of investment of the multinational firms abroad, he emphasised that the MNCs export mainly knowledge-intensive “intangible” assets abroad. The types of their activities, however, will differ whether the endowments of the parent and the host countries are identical or very different. The types of activities also will depend on whether the entry (trade) barriers are high, or if it is easy to enter the host country markets. The example of the GENERAL ELECTRIC–TUNGSRAM case shows the importance of changing trade policy of the host country.. At the beginning of the transition (1988-1989) the acquisition of TUGSRAM was perceived as a “hostile” take-over, but after the trade liberalisation in Hungary GE decided to develop new types of bulbs for global market.

*FDI liberalisation* can be identified as *the necessary first conditions* for fostering competitiveness, changing market structure and developing export-orientation. *The economic stabilisation process* (introduced in 1995) was a necessary condition for closing the gap between export-capability and import-intensity of the country, as the dynamics, changing market- and product structure of foreign trade proved it.

Chart 1. in the Appendix shows the high level and rapid increase in openness of the Hungarian economy after trade liberalisation. Annual average FDI reached about 4% of GDP in the whole periode The peaks occurred when specific privatisation initiatives were launched, such as that of MATÁV in 1993, and of the energy sector in 1995.

The shares of export- and import in GDP in Hungary have reached higher levels than in the less developed EU economies at the time of their accession to the EU.

The openness of the Hungarian economy can be illustrated by the share of exports (54%) and of imports (56%) of goods and services to GDP in 2000 which are much higher than they were in Spain (exports and imports together were 44%), or Portugal (69%), and Greece (55%) in 1985. The EU average was 61% at that time.

FDI-inflows helped to finance the deficit necessary to modernise the Hungarian economy throughout the whole decade (with the exception of 1993-1994). Chart 1 also demonstrates the importance of the economic stabilisation programme introduced in 1995 to close the gap between export-orientation and import-penetration. Since then, export-led economic growth has become the determining factor, without deterioration of the external balances.

Charts 2-4 in the Appendix illustrate trends in economic development and structural changes: GDP growth and production by main economic activities, the changing structure of the use of GDP, and the structural changes in industry in the 90s compared to the 80s. The volume indices of GDP (Chart 2) demonstrate the declining trend in the 1980s, the deep transitional crisis at the beginning of the 1990s, the recovery since 1992-1993, and significant growth since 1995. While agriculture is still shrinking, the main factor behind the dynamic growth has been the development of manufacturing industry. As Chart 4 shows, that has meant mainly engineering. Recently the service sectors has also contributed to the high level of the GDP growth. (Chart 2)

By comparing the trends in Charts 1-4, it is clear that the first recovery from the transitional crisis (in 1993-1994), when investment started to increase, followed the old (traditional) pattern of Hungarian economic development: an upturn in growth (and investment) increased the foreign deficit rapidly (fed mainly by public consumption). After the economic stabilisation, this old pattern of development was broken, and the export-led sustainable period of growth started. GDP growth has been based on increasing investment and exports, without significant deterioration of external balances, and even with an initial increase in private consumption from 1998. (Chart 3.)

Chart 5. in the Appendix shows the structural changes in Hungarian foreign trade (FT) based on product data. In these changes, FDI and the increasing presence of the subsidiaries of the MNCs had a leading role.

The rapid market reorientation and restructuring of production and exports were speeded up by the firms operating with foreign capital, as Table 1 shows.

**Table 1. The role of foreign firms\* in the Hungarian Foreign Trade**

at dollar base, percentage

Share of foreign firms in the total	1992	1993	1994	1995	1996	1997	1998	1999	2000
Exports	30,4	38,1	39,5	55,2	68,3	73,4	74,4	74,0	77,3
Imports	32,8	38,7	43,7	61,0	70,1	72,9	71,8	71,2	74,8

Notes: \* Partially or totally foreign-owned (double-entry accounting) firms.

Sources: Tax Office, financial reports of double-entry accounting firms, and Ministry of Economics (GM), customs statistics, author's calculations

In 2000, the increasing shares of the foreign-owned firms in exports and imports were due mainly to the newly emerging foreign-owned firms which were formed either by new green-field investment, or by acquisitions of already existing indigenous firms. Without them, the shares of foreign firms would only be 68.9% in exports and 67.9% in imports.

We can conclude that the transitional crisis would have been deeper and longer, the unemployment level higher, and the salary and wage level certainly lower, without foreign investment. (See Table 2)

**Table 2. The share of foreign firms in the Hungarian economy**

All double-entry accounting firms of the national economy = 100%

	Number of firms	Assets (AS)	FDI/AS	Investment	Net income on sales (NIS)	Exports*	Employment	Wages
	Percentage							
1989	9,3	7,1	1,7	11,0	4,7	10,0	No data	3,9
1992	21,4	17,8	10,1	30,2	24,4	37,3	15,3	19,1
1995	21,1	47,0	28,3	61,8	45,0	66,0	33,0	37,1
1998	16,2	49,1	37,6	61,1	51,6	79,0	31,7	45,3
1999	15,4	58,2	49,9	71,0	53,4	82,2	31,6	46,0

Notes: \* Export-shares here are different from those in the previous table. Here, 100% represents the exports of all double-entry accounting firms, while custom statistics include *all* firms

Source: APEH (Tax-office), Double-entry accounting firms, tax reports, author's calculations.

Huge FDI-inflows, followed by some privatisation scandals, caused some negative effects and sentiments, too, but *the final balance of the FDI effects is positive*. The higher than average export- and investment-intensity of foreign-owned firms (see the third and sixth columns of Table 2), speeded up structural change, and they became the “engine” of export-led economic growth.

By 1999-2000 Hungarian exports were already concentrated on the EU to a higher degree than was the case with the EU Mediterranean entrants (with the exception of Portugal) or Ireland in 1995.

**Table 3. The share of the EU in the foreign trade of selected countries in 1988 and 1995**

Countries	Exports		Imports	
	1988	1995	1988	1995
Spain	68	71	60	65
Portugal	78	82	70	75
Greece*	68	57	67	68
Ireland	77	72	71	56
Hungary**	51	76-75	45	64-59

\* Data for Greece: 1988 and 1994 \*\* for Hungary: 1992, 1999-2000.

Source: Hamar: ‘Hungarian Foreign Trade and the EU-accession’ (*Külgazdaság*, 2000/6.)

As Chart 5 in the Appendix shows, the product structure of Hungarian foreign trade has also changed drastically in the 1990s. The best example of this is the balance of trade in machinery and transport equipment. It has shifted from a large deficit to a still modest, but increasing, exportsurplus. This reflects the increasing presence of the MNCs and



the rapid increase in the share of intra-industry trade. The disappearance of the deficit in engineering products is similar to the Spanish development after its accession to the EU, while the deficit in these items remained (or has even increased) in the cases of Portugal or Greece. The actual level of exportsurplus in the Hungarian foreign trade in high-tech products reminds us of the Irish pattern of development, where the exportsurplus in these product groups increased fast, in contrast to the other less developed EU economies.

The share of FDI in Hungarian manufacturing reached the same level in a decade as in Ireland over a period of several decades.

**Table 4. The role of foreign firms in Hungarian and the Irish manufacturing**

	Output	Employment	Exports/output	
			Indigenous companies	Foreign firms
Ireland 1996	77,1	46,6	48,0	91,0
Hungary 1999	73,2	48,2	20,7	59,7

Source: as for earlier tables and *Forfás Employment Survey*

The high level of economic openness and the dominant shares of foreign-owned firms in a number of economic activities, and in foreign trade, certainly have increased the sensitivity of the Hungarian economy to external demand, prices, and to developments on the capital market. However, radical changes in the product- and market structures of Hungarian foreign trade have improved the ability of the Hungarian economy to withstand and overcome crises, as the Russian financial crises proved. This seeming contradiction is resolved when we consider the evolving links of exporters to global corporate networks, with the increased share of FDI in exports.

At the beginning of the transition, firms that had long-term subcontracting direct links, especially with German firms, were able rapidly to increase their exports to Western markets. These were also the firms which benefited from the first wave of foreign investment. However, as Table 5 shows, the leading role of OPT (outward processing trade) in the sudden market-reorientation in 1991 was also highly sensitive to the recession in the EU which started in the late 1992 and deepened in 1993. Mainly as a result of falling external demand, Hungarian exports fell by 17% in 1993, mainly owing to decreasing OPT turnover. The strict bankruptcy law introduced in 1992 also aggravated the export positions of Hungarian firms.

As the share of the foreign-owned firms in the Hungarian foreign trade has increased, the role of the more traditional modes of direct linking to the global (EU) corporate networks (such as OPT) has faded out.

The Free Trade Zones (FTZ-s), especially after the economic stabilisation in 1995, offered equally, if not more, flexible advantages for firms to participate in intra-industry trade, as part of the global corporate networks. This is why the FTZs became the main locations of the MNCs' greenfield investment, especially in engineering.

**Table 5. The role of OPT in the total Hungarian exports (1992-2000)**  
percentage (at dollar base)

	1992	1993	1994	1995	1996	1997	1998	1999	2000
Exports	Shares, and annual growth in percentage								
OPT exports	23.5	19.1	22.8	24.1	23.7	20.3	20.9	20.2	18.6
FTZ exports	No data			11	19	27	36	43	45
Annual growth rate of total (index)	100	82.3	120	122	122	122	120	109	112
Imports	Shares , and annual growth in percentage								
OPT imports to total	17.0	12.3	12.3	16.3	17.6	16.5	16.0	15.9	14.7
FTZ imports/total	No data			8	14	19	25	31	32
Annual growth of total	100	112	116	107	117	117	121	109	115

Sources: Ministry of Economics (GM), Custom statistics, author's calculations

The actual level of economic openness and the presence of globally integrated firms in Hungary represent important advantages, but also disadvantages, to economic actors and policy makers in the context of Hungarian accession to the EU to the EU.

The fact, that the Hungarian economy has already substantially changed its sectoral structure in order to adjust to rapidly increasing competition, will produce *advantages* at the time of EU accession. Most domestic firms have already got accustomed to the presence of the MNCs, and to the competitive threat posed by them on global and local markets. Those companies which could not adjust to the radically changing conditions have already gone bankrupt, or foreign-owned succeeded in restructuring their production profiles and markets by becoming partially or totally foreign-owned. More and more indigenous private firms have also managed to enter global markets; however, they still suffer from clear disadvantages in terms of capital and credit-worthiness. The presence and the extent of the foreign-owned firms in Hungary

certainly will ease accession to the EU, as many of them operate as an integrated part of global MNCs or their networks. (See last section of the paper.) However, as the Table 4 shows, there is further room for increasing export-orientation for the foreign-owned company groups, too.

*The disadvantages* of the presence of the MNCs relate to their dominance in some economic activities, which inhibits others potential entrants who would like to enter the local market. As MNC strategies are formed abroad, this will reduce further the room for Hungarian economic policy-makers to influence microeconomic performance. Increasing dependence on international capital markets and on the global strategies of MNCs is the price of rapid catch-up. Policy makers, however, should reckon that further financing of the modernisation deficit by outside sources will be more and more difficult and costly.

### ***3. Rapidly improving company performance, but first signs of a dual economy***

*The massive FDI-inflows had significant effects: on the level of company performance, and, especially since 1995, on closing the gap between export-capability and import-intensity. But as a result of dominant foreign control, Hungarian manufacturing started to show the first alarming signs of a dual economy as early as 1996, with foreign-owned firms forging ahead strongly compared to indigenous private firms.*

All economic indicators demonstrate a clear improvement in productivity and company performance as early as 1992-1996. The improved performance was linked mainly to increasing export-orientation of firms. The firms that defined this trend were mainly those with foreign capital, with higher capital endowment and investment capability, with more possibilities for getting investment credits, and better market links and knowledge. (Table 2 in Annex). *The growth rates of foreign controlled firms have been extraordinary*, especially relative to indigenous manufacturing firms, during these four years. (Table 3./Annex.)

It is worth noting that *the share of indigenous private ownership*, which increased almost at the same pace during 1989-1992 as that of foreign firms, *had lost the rhythm by 1995 and even decreased in 1996.*

The relative share of foreign-owned firms by number did not increase. But in the space of four years their share in industrial investment doubled from 43% to 83%, while in assets it increased from 29% to 71%, and in exports from 32% to 79%. With less than 41% of all employees in manufacturing, they generated 86% of profit before taxation, and 91% after tax. Foreign firms' higher productivity levels enabled them to pay relatively higher wages and salaries (55% of the total wage bill compared to the 41% share of the number of employees).

Table 2/Annex. shows that indigenous firms, with almost 60% of manufacturing employees, paying less than 45% of total manufacturing wages, produced only 14% of profits before tax, and 9% after tax. They accounted for only 17% of total investment, and just 28% of the capital stock. They generated almost half of domestic sales, but their relative share in exports decreased from 68% to 21% 1992-1996.

The lack of capital in this group of companies, their modest, even decreasing, level of investment activity, and in the context of their limited creditworthiness and rapidly increasing level of debt, proved clearly that private firms were at a disadvantage. The proportion of short-term credit to their statutory capital doubled in four years, and in 1996 it was higher than the value of their total own capital stock. The ratio of shortrun liabilities to statutory capital had also increased (to 69%) in the foreign-owned group by 1996, but it was less than average for industry (78%), and, considering their much higher profit rate, (27% on assets) less dangerous. (See Table 4./Annex.)

However, each company group (on average) improved its performance considerably during the period 1992-1996. They all reached positive results before and after tax, and increased their levels of exports and total output. The relatively poor performance of the indigenous company group was partially due to loss-making state companies, and their scale of shrinking activities, besides the fast growing private firms and activities. But, the group of foreign controlled firms is also full of extreme cases. (See following sections.)

The expansion of the foreign-owned firms slowed down after the recovery from the transitional crisis. However, their aggregate exports still tripled and their investment and profits more than doubled 1996-1999. A number of individual firms in this group

fell away in performance, but in aggregate they further reinforced their leading position in manufacturing. (Tables 2-4/Annex.)

The most important, and for future the most encouraging, changes, however, happened in the indigenous company group between 1996 and 1999. The 100% Hungarian owned firms raised their profits before tax by 2.5 times, and after tax by 3.5 times, although their assets hardly increased and their employment further decreased, though at a slower pace than earlier. Their exports also increased by 41%, and investment by 78%, 1996-1999. This means that *the general view that productivity growth was due only to some (few) multinational companies cannot be fully maintained*. Although it is true that the relative gap between foreign and domestic firms increased, Table 4 shows that profit rate on assets increased from 16% to 24% in the indigenous group 1996-1999. Also, net income per capita rose for this group of firms by more than 50% (from 4 to 6.4 billion HUF per employees).

*The productivity and profitability indexes also show important improvements in the indigenous company group, although the gap between the two groups in favour of the foreign-owned firms remained significant*. For some indicators, the differences actually increased further. (Table 4./Annex.). However, in 1999, *increases in employment came much more from indigenous firms than from foreign owned and the level of investment activity of the 100% Hungarian firms surpassed that of the foreign-owned group*. (See the slightly decreasing share of foreign-owned firms in investment from 1998 to 1999 in Table 2.). *They achieved a spectacular improvement in profitability, as their profits before taxes reached 24% on assets and after taxation 31%, while the foreign-owned group on average had worse results than in earlier years*. This was partially due to the Russian financial crisis, which influenced the results of some food and pharmaceutical firms belonging to the large MNCs.

Despite the improved performance of the indigenous company group, *most of the economic indicators of the foreign-owned firms (as unit values) still remain superior to the indigenous group (even if some convergence could be detected)*. (Table 4./Annex.)

Since 1995 there has been a relative decrease in the number of foreign firms, combined with an increase in their share of assets, in practically all of the sectors of the economy. (See Table 1./Annex.) This is most evident in trade, where the extension of large malls

resulted in a much more concentrated company structure than earlier. In manufacturing, the changing statistics and accounting regulations gave incentives to the MNCs to merge their Hungarian joint ventures. In contrast to the general trend in 1999, the expansion of foreign firms was significant in real-estate, in consulting, and especially in the financial sector.

#### **4. Industrial networks: the MNCs and links between foreign and indigenous firms (Summary of interviews)**

The *aim* of the interviews was to map the main features of the subsidiaries of the MNCs. How deep is the integration of firms operating with foreign capital into the global MNCs? Our questions focused on the degree of their globalisation and its effects on links between different firms. We wanted also to visit indigenous firms of similar size and activities, but which do not participate in a MNC network.

In in-depth interviews, we asked about the life-cycle of the main product, and the technological level, demand and market functions – input and output – links of the firm. By comparing this information with their ownership structures, and the main features of their parent firms further questions were posed, focusing on their role in strategy-making (where and by whom strategy is made), and on the potential effects, barriers and tools of adjustment to the changing requirement by the EU-accession.

Our research results – though the sample was extremely small, and the firms very different – delivered some interesting insights on this issue. The most important is that dependence on foreign headquarters, or on the network of the parent firm is much heavier than we expected. We could hardly find any independent firms, even among the SMEs. Second: the parent firms – according to their Hungarian subsidiaries – are not the most competitive firms at global level in several respects, especially in the case of foreign investors that own SMEs. From the policy perspective, it is important to bear in mind that the managers of Hungarian firms have little room for manoeuvre in strategy formation.

#### **The sample**

*The large firms were selected out of the list of the 100 largest exporters and importers.* Our expectation was that after interviewing the large firms, we would get a list of their foreign and indigenous firms. But the large subsidiaries of the MNCs in the sample had very few backward links with indigenous SMEs, or else their network was so dispersed with thousands of suppliers in food industry, for instance. Their purchases and sales were also organised mainly by, and with, the parent firms or their company groups. Therefore, the SMEs were cooperating only occasionally with MNC subsidiaries.

The sample included only 24 firms, of which 9 were large firms, which for simplicity reasons we call MNCs, and 15 SMEs. All, except one small firm, were established in the first half of the 1990s. There was only one firm among the SMEs in the sample which had a direct link to a subsidiary of a MNC, and its parent was also in the sample; another was part of an indigenous company group.

**Table 6. The distribution of the sample**

Number of firms	All	MNC	EXP	IMP	BOTH	Location of the headquarters				
						Budapest	West	Central	Northeast	South
Large	9	8	7	6	2	5	2	1	1	0
Small	15	9	10	12	11	3	3		4	6
All	24	17	22	18	13	8	5	1	5	6

Three large firms and three SMEs were established through privatisation, one large firm and two SMEs by acquisition. All other large firms, and four SMEs, were "green-field investment". One among the SMEs was a result of relocating production from Budapest to the countryside by a bankrupted firm.

Out of the 9 large firms, 7 belonged to the 100 largest exporters, 6 to the largest 100 importers and two to both groups. The SMEs were also highly export-oriented. Out of the 15 firms, only five operated exclusively on the domestic markets, of which one exported 90% of its output through the other Hungarian subsidiary of the parent firm.

Out of the nine large firms, eight were owned, for the most part 100%, by foreigners. The owners of six firms were among the largest global multinationals, and one had a foreign private individual as 100% owner. One was owned by institutional investors, and a small proportion was owned by the management and small shareholders. Each of them had foreign investors, at least indirectly, through the parent firm. In one case, the 100% owner was a totally foreign-owned Hungarian firm. Except two located in South and

North-East Hungary, the headquarters of the parent firms were abroad: two in the USA, three in Germany, one in Sweden, one in Brussels.

"Independent" firms were hardly to be found, even in the group of SMEs. One firm was 100% owned by a private person, and another by the management, with 34% foreign capital. Four had 100% Austrian, three German, and one Japanese parentfirms. Only seven firms had parent companies with headquarters in Hungary. Six firms did not have direct foreign ownership. One belonged to the Hungarian State Privatisation Agency, and two had Hungarian parent companies.

Only one MNC had subsidiaries abroad and in Hungary. Out of the 41, 10 were established abroad for sales promotion and marketing, while the other 31 were legally independent entities (Ltds) which were located in the same city around the parent firm, to deal with activities not directly relating to production.

In the case of most MNCs, the parent firms had more than one entity in Hungary besides the sample firm. They cooperated regularly but indirectly, only through the parent firm. Out of the MNCs, 3 had one units, while another had ten different production units in ten different cities. The most typical was a firm with two-three units. Two firms operated in the Free Trade Zones, and one had one production unit there. Two firms also used the facilities of the industrial parks.

#### **Market structure:**

The largest exporters were almost totally export-oriented (100, 99, 80% of their output). One food producer, which is the 95<sup>th</sup> largest exporter, also had a high export share - of more than 50%. In contrast to this, the two largest importers were oriented mainly to domestic markets, and their exports accounted for only 15%, and 10%, respectively, of their output. The latter firm mainly does research, experimental development, and provides technical services abroad.

The predominantly export-oriented firms usually purchase and sell through the parent firms, at least through the global network of the parent firm.

Three of the nine firms mentioned that theirs suppliers were not the same as their export-partners. In only two cases the partners did not belong to the company group of the MNC.



The relative importance of indigenous suppliers varied sharply between firms.

The firm with Hungarian parent did not import directly, which means that the share of indigenous suppliers was in this case 100%. The food-producing firm also took 90% of its supplies from Hungarian suppliers; the figure was 60% for another global-market-oriented firm. In the case of the two largest exporters, the share of indigenous suppliers was insignificant (0-5%). Half of the suppliers of the domestic-market-oriented – but also service – sample firms were located in Hungary, but some of them were owned by the same parent company. The firms having a higher proportion of Hungarian suppliers mostly had networks with indigenous small and medium-sized firms, or entrepreneurs except one, which had 100% Hungarian supplier networks, where purchasing went through their own firms.

*The regional distribution of both input and output markets* in the sample was dominated by the developed, mainly EU, countries but characteristically not Germany.

One of the German-owned large firms purchased 70% of its input from the USA, while an American subsidiary bought inputs from everywhere in the world for further processing, and exporting through Germany to the world.

One food producer indicated the US market as important direct export-target. However, the American share in its exports fell from 20% to 15% over a period of four years. This was the only firm which considered the Asian (Korean and Japanese) markets as important.

Only two sample firms mentioned the ex-socialist countries as export markets. The Russian market was significant for the food producer. As late as in 1997, half of its output was exported to Russia, but in 1998 only 1/3, and in 1999 only 8%. A clothing firm, with an 80% export-share of which 100% to Russia, stopped exporting directly to Russia when it became part of a global MNC in 1999. It exports through the headquarter of the parent firm in Brussels.

With the exception of one company, all firms, since their establishment, have formed *continuous contracting links* with their export-partners, and only one exports a small fraction under OPT (outward processing trade).

The market structure of the SMEs was very similar to that of the MNC group. The only difference is that the share of indigenous suppliers in this group was dominant in six out of 15 firms. Their external market relations were practically totally based on the European networks of the parent firms. Only the Japanese-owned firm had some minor links with Asian and ex-socialist markets.

Surprisingly, the subsidiaries of the MNCs in the sample hardly changed their activities over the time period covered, though some of them did supplement them with new ones.

Out of the large firms, five indicated that their export products have not changed at all since the formation of the firm in the first part of the 1990s. Four indicated some changes: the food processor company stated that their production became more labour-intensive and the input materials more costly, while in three other firms, the capital-, technology- and R+D (knowledge)- intensity increased.

Table 7. demonstrates the development of the large firms. By comparing the two parts of the table, we can see that the most export-oriented firms have turned out to be the most dynamics in terms of output growth. But only three of them were able to attain high growth parallel with the significant increase of employees.

**Table 7. The size of the subsidiaries of the MNCs**

a./ according to the number of employed (capita)

The sample "MNCs"	Number of employment, capita					Dynamics (%)
	1990*	1996	1997	1998	1999	1999/1996
In decreasing order of export sales						
1. transport equipment manufacturer		1011	2204	3425	4312	426,5
2. manufacturer of spare parts for computers		1500			6000	400,0
3. manufacturer of lighting equipment	14297	10500	10300	10200	11000	104,8
4. chemicals manufacturer	6532	4159	3439	3267	3304	79,4
5. food processing firm	2000	1700	1650	1600	1600	94,1
6. clothing firm**						No data
7. manufacturer of spare parts for trains		80	286	409	429	536,3
8. manufacturer of communication equipment and electrical machinery		Falling <sup>a</sup>			1-2000	No data
9. communications service company		506	611	595	559	110,5

Notes: \* the data of the acquired firm. The last two firms are only importers. \*\* Firm No.6 did not give data for employment. <sup>a</sup> Firm No.8 was privatised through a workers' buy-out.).

b./ according to net income from sales (million HUF)

Firms	Net income from sales, million HUF					Dynamics %	Exports to output, percentage ratio	
	1990*	1996	1997	1998	1999	1999/1996	1996	1999
1		52829	178749	479160	729000	1380	100	100
2**						No data	100	100
3	2000	6000	8000	10000	12000	200	90	95
4	33349	65550	90425	85187	89905	137	45	47
5	6300	13600	17900	18600	17800	131	50	54
6		7362	8573	9096	9464	129	66	80
7		388	2912	6985	7402	1908	99,6	99,7
8		12600	16000	27000	40000	318	3,6	1,5
9		20104	26534	28132	35848	178	6	11

Notes: \* as for the previous table, \*\* Firm No.2 did not give data on output.

The less export-oriented firms hardly increased (or even decreased) employment, even where their export-orientation increased somewhat.

*Dynamic growth, even in the SME group was also linked to the level of export orientation:* the seven export-oriented firms out of the 15 - with 70-80-90% export shares – doubled or almost doubled their output in four years. These firms were able to increase their employment, but at a more modest rate relative to the MNC group. Those which were totally or mainly domestic market oriented, could not extend their employment level or even reduced it.

### **Product-structure, market position, and company strategy**

We tried to explain the close correlation between the growth of output and export-orientation by collecting managers' opinions about the main features of their products.

*Life-cycle of products:* among the MNC sample firms, only one (the 7<sup>th</sup>) indicated that a small proportion of their output relocated to Hungary could be attributed to the first (*introductory*) period of the life-cycle. The mainly domestic-market-oriented firms judged their products (and some products of the previously mentioned firm) to be in the

second (growing) stage of the life-cycle – when the product is being already accepted by the market, the output and the profit are growing rapidly, and intensive sale-promotion activities and the extension of the channels for sales are continuing. *The large exporters considered their products to be mainly in the mature category.*

In this phase, the output level is more or less stable, the markets slowly become saturated, production costs are relatively low because the technology is already mastered, and profit-level is high. However, at the end of this period, profit starts to decrease as new competitors emerge and technology becomes widely available.

*Value added:* the interviewed managers described their products more or less in accordance with the below picture.

The "sensitive" or "low-value-added" category, was indicated only by the food producer. The chemical (No.4) firm and the railway spare parts producer (No.7) considered their products as "medium-value-added". The large exporters (transport equipment, computer spare parts, lighting, and electronic firms) and most of the domestic market-oriented firms judged their products to be in the "high-value-added" (or high-tech) category.

According to *the type of demand:* managers think that *they could dynamically increase the exports of products primarily on markets with "medium" demand.* Only three firms possess products for which *demand* is increasing (one in services, and one belonging to a global MNC).

*Type of technology:* firms that have products facing increasing demand, the largest transport equipment manufacturer, and the MNC owned by portfolio investors, estimated that their technological level has improved. *The food and clothing companies, altogether with the mainly domesticmarket-oriented firms judged their technology to be at the medium level.*

*Strategy:* very few firms in sample had the option of changing product-structure or market position.

Only one large firm indicated that strategy is decided inside the firm, or 100% by the local management. In another case, the regional and local strategies are decided in the Hungarian headquarters of the firm, while the global strategy is decided by the parent

firm. Most of the companies have virtually no influence at all over the the strategy decided by the parent firm. In one case, the management forms the strategy in coordination with the owners, which are international institutional investors.

Most of the firms in the sample considered their firms as an *integrated part of a global company group*.

The only firm which estimated itself as a dynamically developing firm, is the one owned by passive institutional investors. According to this firm, expansion or relocation of production to low cost regions is not relevant in improving their competitive position. The food-producing firm considered itself to be a stagnating firm.

The other firms could only describe the parent firms: most of them considered the parent company as an international, global-market-oriented company with high technology. One found its parent firm to be stable, but at relatively low technological level. The following chart lays out the answers of the sample firms to the question, what type of strategy the parent firms have in accordance with their market positions.

**Chart 1. The basic competition strategies according to the type of market position<sup>3</sup>**

Competitive advantage

		Costs	Differentiation
Target market	Broad	<b>"Cost-leader"</b> : the parents of four (No. 1., No. 3., No.5. and No. 8) firms	<b>Differentiating</b> : the parent firms of firms No. 1, 2, 3, 6 and 8 (at least in some products)
	Niche	<b>"Cost-Focus"</b>	<b>Focus on differentiation: firms No. 4.</b> ("the Hungarian MNC") and No.9

Concentrating

Explanations:

**Cost-leader**: large market, more than one sector; because of the low production costs, it can expand its market position through lower prices and large-scale production with

<sup>3</sup> Source: Porter. M. E.[1980]: Competitive Strategy. The Free Press.

low value added, or by selling at the same price as the competitors, but attaining higher profit per unit.

**Differentiating:** the product is differentiable in some respects and customers are willing to pay a higher price for its features. The differentiation is multifaceted, and can be either in terms of the quality of the product or service, or the reliability, flexibility or speed of the offered service, etc.

**Focused competitive strategy:** the firm focuses on a specific product segment through costs or differentiation advantages. In this way, the firm is able better to adjust to the specific requirements of the consumers.

*Firms in the SME sample were to a degree able independently to form their own strategy.* Out of the 15 SME firms, five formed their strategies on their own, two partially, and three were able to influence the strategy-making process to some extent.

However, their product structure and level of technology were clearly inferior when compared to the MNCs in the sample.

In terms of the product life-cycle the products of ten firms are in the mature stage, for two firms they are in the declining stage.

In terms of value-added, the main products of four companies belonged to the low-value-added (or sensitive) category, and all others, with the exception of three firms, considered their products to be medium-value-added.

In terms of demand: four firms had products facing sluggish demand, while only three firms had products with dynamic demand.

In terms of technology level, two firms operated with old technology, and all the others, with the exception of one firm, operated with medium-level technologies.

More SMEs in the same sample than in the MNC group were able to describe their main characteristics. One considered itself as "innovative", five as „dynamic, meeting special needs", one as a follower supplier, and one judged itself to be able to develop into a competitive firm when compared to other agricultural firms. Out of the 15, seven considered themselves as an integrated part of a global company.

It is worth mentioning that *only one* SME described its parent firm as *dynamic, with high tech*, while the others thought of them as being stable, but relatively low-tech companies. Based on the perception of *the competitive strategy of the parent firms* and their market positions, this sample shows that foreign firms that have invested in SMEs are in a relatively weak position.

There were no firms operating on large markets and following differentiation-based strategies. There are only three firms that follow cost-leader-based strategies. Three of the four indigenous firms focused on costs in niche markets, and four followed differentiation-based strategies.

### **Production organisation**

Nine out of six MNCs in the sample had an R&D department, of which one dealt with only applied research, while the basic R&D is done at the headquarter of the parent company. The largest two exporters and the clothing company did not have own R+D. All firms have some training activities, while the outsourcing of such activities was rather rare

Most often accounting and payroll administration were outsourced to external firms. In one case warehousing and in other advertising were outsourced. One clothing factory contracted out the marketing, and another the customs administration, logistic, and transporting activity to a small service firm (in the SME sample). Only two firms could give data on the costs of their "outsourcing" activities.

It is interesting that the production organisation in the SME sample was quite similar to the group of large firms. In the SME group, six firms have their own R&D department, and their outsourcing activities are very similar to that of large firms: the same activities (accounting, advertising, training) are 'outsourced' to external firms..

### **The main market drivers and barriers**

Tables 8-9 show the average and the standard deviations of the opinions in the two sample groups, MNCs and SMEs, about the factors which forced them to adjust, and about the main barriers to adjustment. There are no large differences in answers in terms of firm size or ownership structure. *The main differences* between the two sample groups are, *that the MNCs consider barriers to adjustment to be less important.*

*A quite new phenomena is the shortage of manpower which has appeared among the MNCs, which in the past was confined only to the top level of management, especially in finance. This factor has now appeared as a constraint at the middle management and workshop levels, too.*

**Table 8. Main market changes forcing firms to adjust in last four years**

	MNCs		SMEs	
	Average	Standard deviation	Average	Standard deviation
H. Price competition (home/abroad)	2,56	1,44	3,50	0,87
C. Falling demand (local or foreign)	2,00	1,33	2,46	1,25
E. Competition of neighbouring countries (home/abroad)	1,89	1,09	1,79	1,37
B. Over-dominance of the partner (foreign or local) on price-formation	1,89	1,27	3,14	1,09
D. Worsening/improving competitiveness (home/abroad)	1,78	0,98	2,14	1,18
F. The presence of MNCs in Hungary	1,72	1,17	1,71	0,90
A. Product restructuring forced by drastic changes of demand on local and foreign markets	0,89	0,71	1,93	1,53
G. The emergence of of MNC suppliers	0,75	0,50	1,58	0,96

Notes: The answers show the order of importance according to a 5 to 1 scale of marking. 5 is the highest mark. The average and the standard deviation are calculated according to the sample groups.



**Table 9. The barriers to adjustment**

in descending order according to 5-1 scale marking system

	MNCs		SMEs	
	Average	Standard deviation	Average	Standard deviation
G Administration / bureaucratic barriers	2,56*	1,95	1,71	0,90
B Lack of skilled employees at the top level of management	1,44	1,04	1,29	0,88
At the medium level	0,67	0,59	1,21	0,88
At the workshop level	0,78	0,52	2,21	1,36
C Technology	1,22	1,01	2,14	1,04
E Lack of market knowledge	0,89	0,79	2,71	1,53
D Old equipment	0,78	0,69	1,79	1,10
F Financial problems: barriers to credit	0,67	0,44	1,71	1,10
Exchange rate	0,78	0,86	0,21	0,34
A Lack of capital	0,56	0,49	1,79	0,90
H Intended changes against the Competition law (such as acquisition, price-cartel, etc.)	0,56	0,49	0,71	0,41
I Others	0,11	0,20	0,14	0,24

Notes: \* The administration is complicated and redundant, but there are signs of improvement. The worst problem is the lack of official control; even dangerous products can be imported and sold.

Regarding the effects of EU accession, there were characteristic differences among the MNCs.

The MNC owned by institutional investors and the food producer foresee deteriorating conditions; two firms do not expect anything, three large subsidiaries of the MNCs think that they will be faced with increasing competition on the domestic markets and abroad, too. One firm expects fierce competition on the home market.

Only one company (a transport equipment producer with American interests) emphasised the advantages of a larger market. In general, firms do not see major barriers in preparation for EU accession. Most of them consider themselves as "EU-mature". One firm complained that the parent firm already treats them as a "member-firm". Out of the nine MNCs, two do not have a strategy for preparation to the EU, anyway, they do not have any opportunity to influence the strategy.

The SMEs also had varying views in relation to the expected effects of EU accession.

Three companies do not expect any effects, considering that they are already in the EU. Two foresee increasing competition either on home or foreign markets. The three (mainly domestically-oriented) firms expect deteriorating conditions on domestic markets, and two of these expect the same abroad.

Six firms clearly foresee better prospects, mainly because of decreasing bureaucratic barriers, the simplification of trade and custom regulations, and the advantages of the larger markets. Four (out of the 15) have a strategy for preparation, the others consider it unnecessary, since they operate already within the EU trade regime. One stated that this kind of strategy would be needed, but that the head office of the firm has not done it yet.

The most important barrier to successful preparation – according to one small firm – is lack of capital; another firm mentioned the lack of information about the changing conditions in relation to EU accession. One firm is scared that large firms with capital strength could make it difficult for them to enter EU markets. The others do not see any barriers.

From the government, most of the sample firms want mainly stable and transparent economic conditions.

Three out of the nine MNCs would require more transparent conditions, one would want to see improved conditions for indigenous suppliers to get credit, one would like a decrease in the tax burden, and another wants investment incentives. One firm which is owned by passive investors would like market protection in whichever form, while the food producer suggests that the government improve the export-incentive system.

The SMEs also emphasised the need for a more entrepreneur-friendly economic policy, and reduced taxation. Two firms do not expect "any good". The Japanese-owned firm would like to see better legal and financial systems, while the one state owned company would like more protection for indigenous firms.

#### ***4. Conclusions***

1. The ten years of restructuring of the Hungarian economy has been sufficient to achieve the same or even higher level of openness and of presence on EU markets, and similar trade structures as in the South EU economies that joined earlier.
2. Policy changes have enabled rapid growth of FDI, but this has also led to alarming signals of a dual economic development in manufacturing.
3. Since the 1995 stabilisation and austerity programme, export-orientation increased rapidly, even in those company groups which earlier were not characterised by a high export-share.
4. The catching-up process has been accelerated by FDI-inflows and has been based on close integration into European corporate networks. The importance of OPT has faded, while green-field investment in the Free Trade Zones (especially in the engineering sector) has fostered the development of intra-industry trade and strengthened the export-capability of the country without damaging the external balance.
5. Together with the signs of the dual economy, some hopeful changes could be recognised in the indigenous company group as well. Domestically controlled firms have improved their performance, though the gap between them and foreign owned firms did not diminish.
6. On balance the FDI-inflows and the presence of the MNCs could be considered as positive. The transitional crisis would have been deeper, the unemployment higher, the restructuring and adjustment in the economy and especially in foreign trade, would have certainly been much slower and less successful. Since 1995, the subsidiaries of the MNCs have become the "engine" of export-led, fast and sustainable growth.
7. Our attempt to draw a map of the networks of subsidiaries of MNCs did not produce results which could be generalised, as the sample was too small for this. However, in-depth interviews gave important insight on this issue.

8. Differences within specific MNC groups such as between the large subsidiary of the MNCs, or the SMEs were bigger than differences between the groups. However, interviews have also revealed the weak position of the SMEs in some respects.
9. Performance differences were linked more to export orientation than to ownership structure. However, the foreign-owned firms focused more on export markets than indigenous ones.

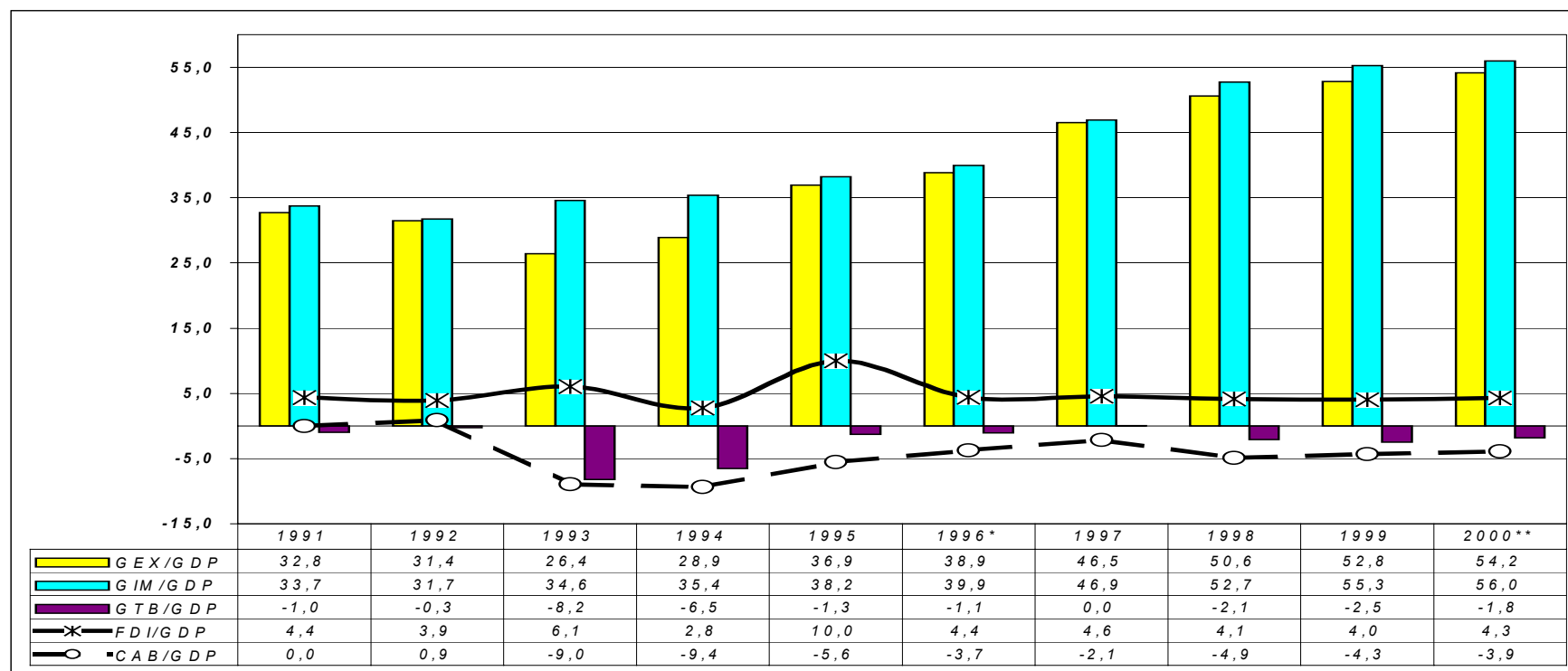
The type of product, the technological level, the type of demand and market positions of the sample firms, showed a less optimistic picture for further development than we expected, based on the analysis of the aggregated group average of the foreign-owned firms. For instance, the large exporters considered their products mainly "mature", but in high-tech sectors with "medium" demand. Only a few firms have new technology or technology in the expanding stage. On the other hand, few firms have "sensitive" or "low value added products". Food, clothing and domestic-market-oriented firms evaluate their technology as medium-level.

10. Most of the interviewed large firms consider their firms an integral part of a global company group, and characterise their parent firm as international, global-market oriented with high technology.
11. Several common features came out in the the sample SMEs. Among SMEs there is a heavy representation of those that produce "sensitive" products with "declining" life-cycle, or with "sluggish" demand. Only three SMEs had products facing dynamic demand, and only one described its parent firm as dynamic, with high technology.
12. The sample firms depend much more on the headquarters and/or on the global networks of the parent firms than we expected. Independent firms were difficult to find, even among the SMEs. Very few had scope to influence strategic decisions that relate to them.
13. The main policy conclusion coming out of our findings is that further development in terms of the catch-up process, and the balance between gains and losses of the EU accession process depends primarily on the ability of indigenous firms to close the gap with the foreign-owned firms. For this, the SME sector needs extra support from the central and local government rather than more global MNCs investment.



# 1. Chart. The economic openness: export-orientation, import-penetration, FDI and the Current Account Deficit

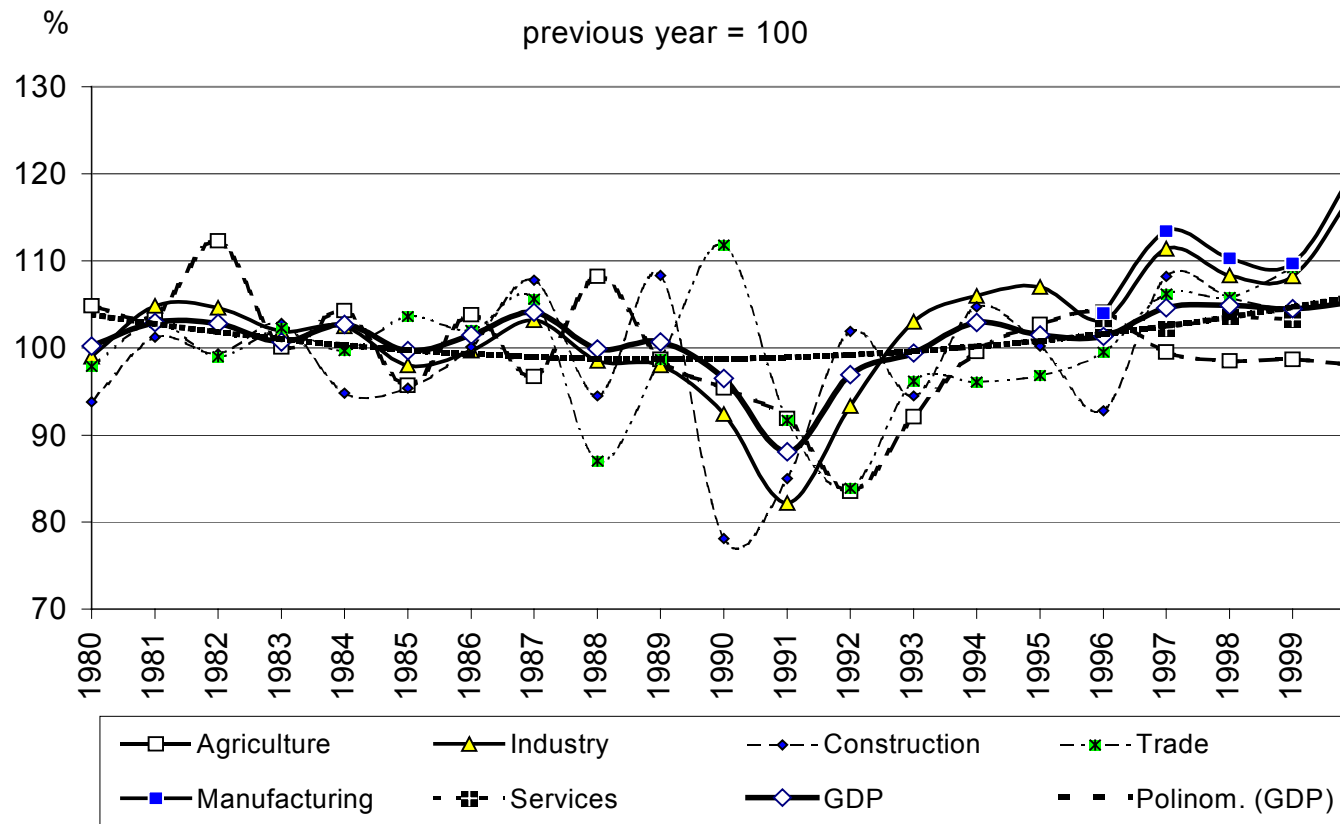
GDP = 100%



Notes: preliminary GDP data for 2000, GEX, GIM, GTB = Exports, imports and trade balance of goods and services according to the GDP statistics. FDI = Foreign Direct Investment inflows, and CAB = Current Account Balance

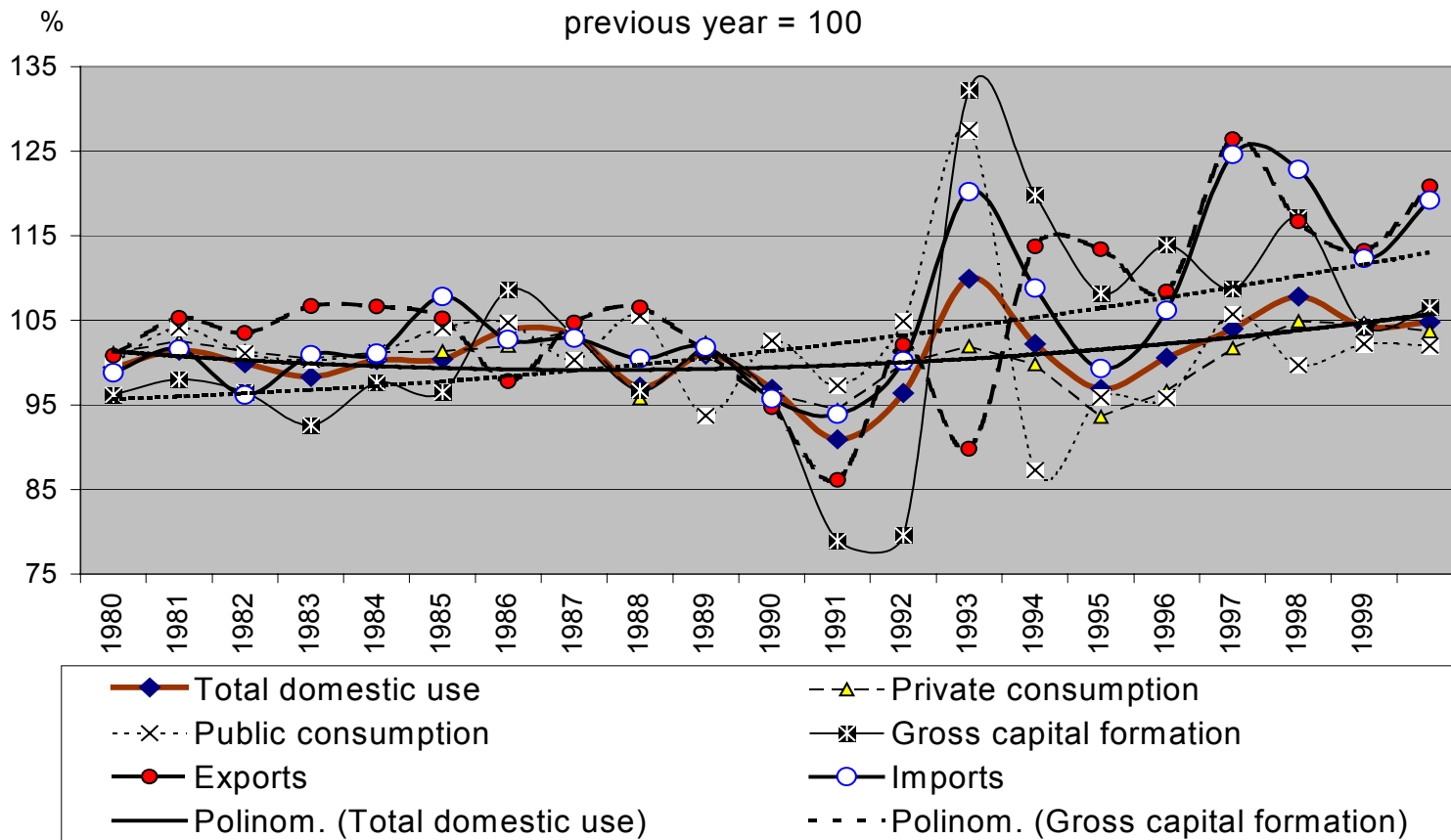
Sources: CSO, National Accounts and Hungarian Statistical Yearbook, and HNB, Monthly Reports.

2. Chart. Volume indices of GDP production)

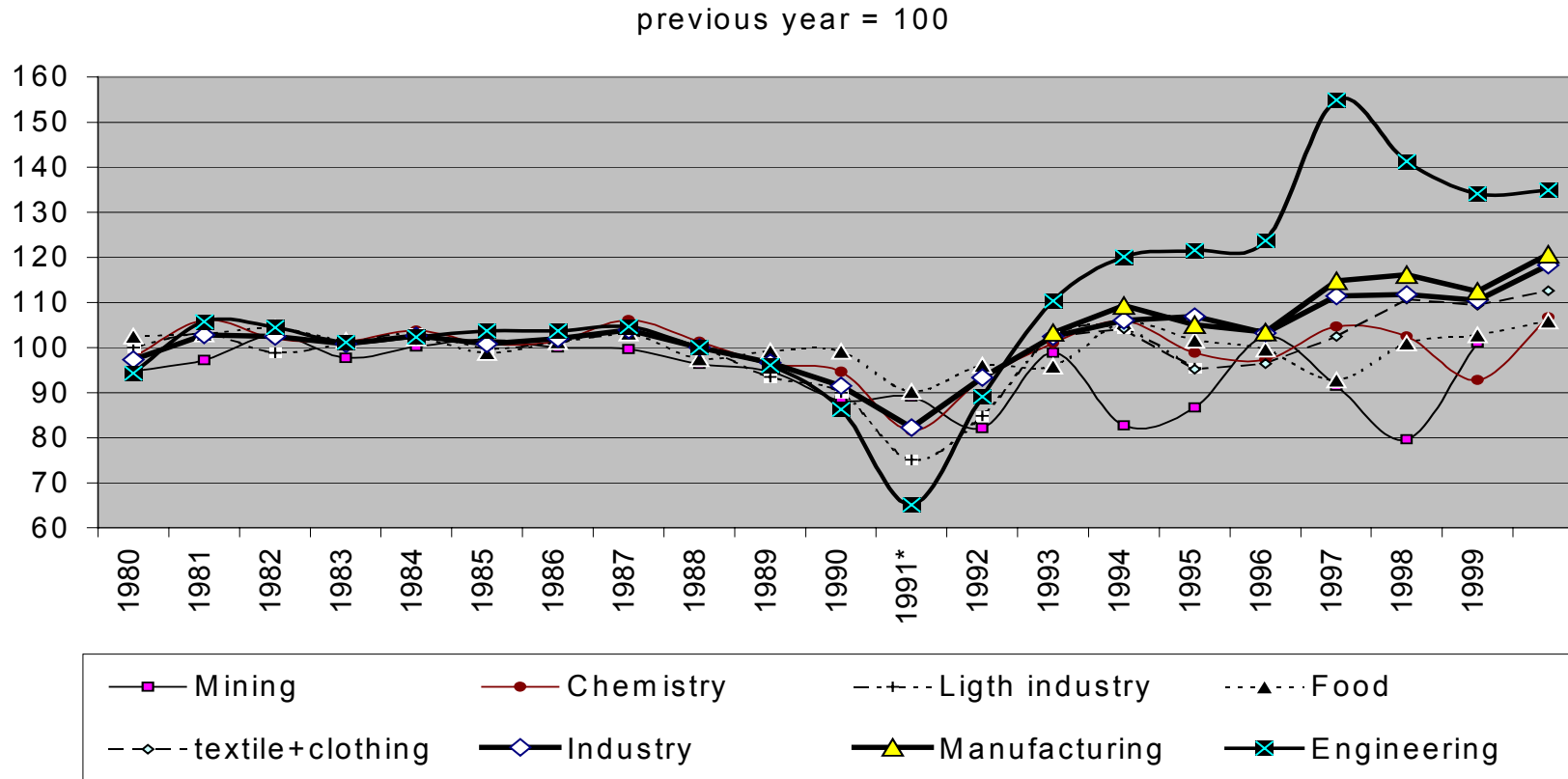


### **3. Chart. Volume indices of GDP: consumption and investment**

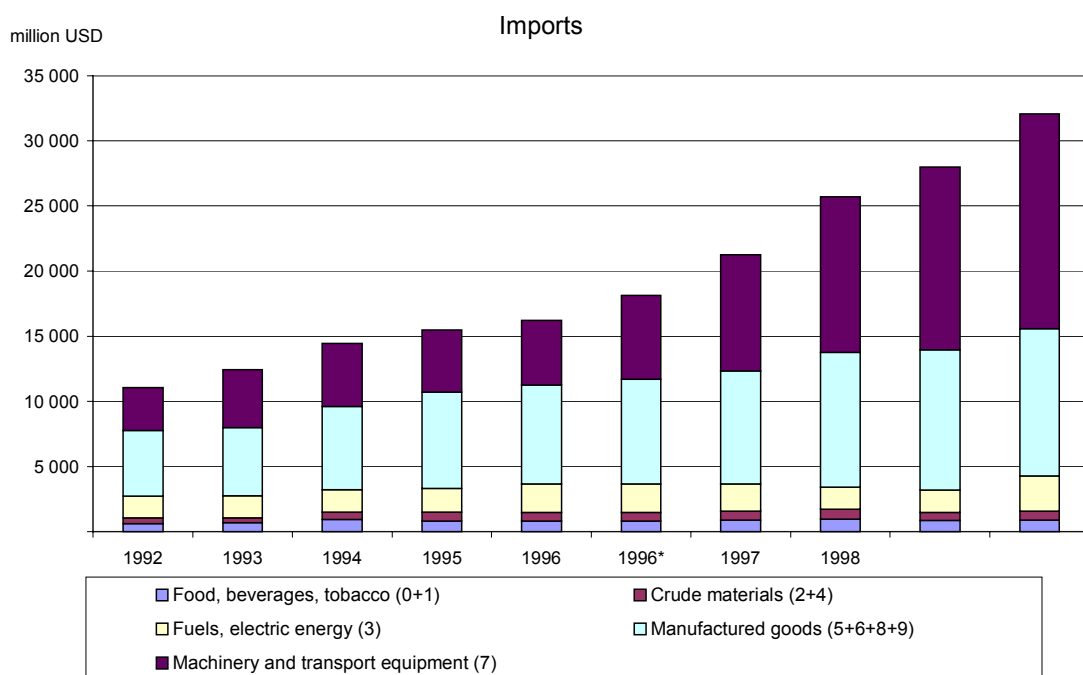
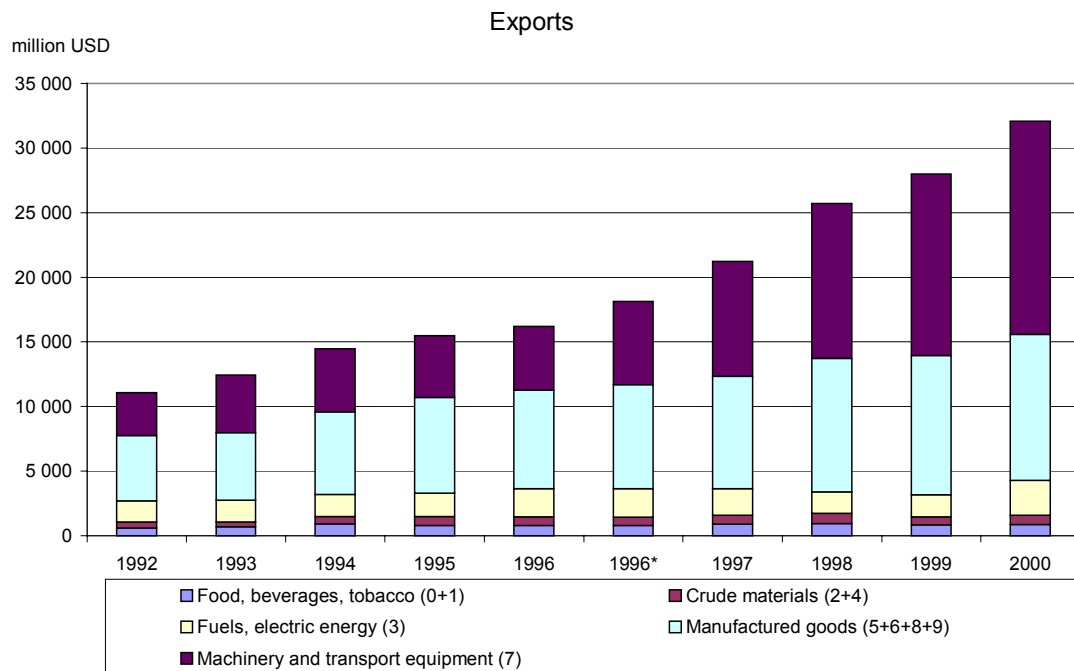


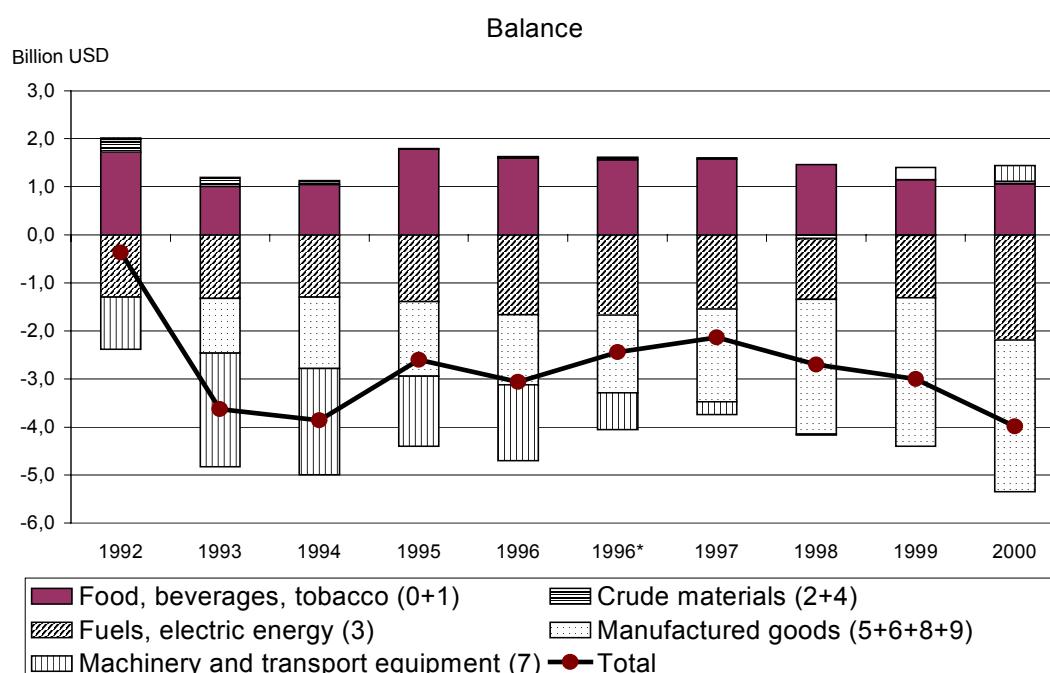


4. Chart. Volume indices of Industrial Production by sectors



## 5. Chart. Structural changes in the Hungarian Foreign Trade 1992-2000



**Chart 5. (cont.) Structural changes in the Hungarian Foreign Trade 1992-2000**

Source: CSO, Custom statistics

**1. Table. Changing role of the foreign-owned firms by economic sectors  
1992-1996-1999**

Sector	Number of foreign firms			Share of foreign firms in all by number			FDI share in the assets of the sector percentage		
	Pieces			percentage			percentage		
	1992	1996	1999	1992	1996	1999	1992	1996	1999
A.	164	677	735	5,3	9,4	10,9	0,8	6,1	9,8
B.	2	12	12	4,7	13,2	11,4	1,5	12,3	5,9
C.	45	74	67	32,8	31,8	22,3	15,0	34,9	28,6
D.	2548	3893	3800	21,9	21,3	17,7	20,5	51,1	60,2
E.	13	37	52	8,6	10,8	11,9	0,3	21,4	28,4
F.	693	928	799	12,5	10,6	7,3	16,8	41,5	24,8
G.	5422	9271	8600	27,5	25,2	20,1	14,9	36,2	70,2
H.	433	739	764	23,7	21,4	16,3	15,9	38,6	30,1
I.	516	698	707	23,1	17,4	13,5	2,6	22,9	29,2
J.	110	213	231	17,9	15,8	14,1	22,1	43,6	65,5
K.	1923	3064	4283	19,7	14,7	13,4	5,6	20,5	55,8
M.	91	101	79	24,8	15,0	8,3	30,6	12,7	9,2
N.	334	128	103	19,8	12,0	5,6	7,3	45,6	27,3
O.	69	442	398	20,4	11,0	7,3	6,6	5,2	18,4
Total	12363	20278	20632	21,6	19,2	15,4	10,1	31,6	49,9

Notes: A. Agriculture, wild animal and forestry, B. Fishing, C. Mining, D. Manufacturing, E. Electric-energy, gas-, stem-, water supply, F. Construction, G. Trade, H. Hotel, and catering, I. Transportation, warehousing, post, and telecommunication, J. Financial services, K. Real-estate, consulting, M Education, N. Health and social care, O. Other public services.

Source: KOPINT-APEH, The double-entry accounting firms' balance sheets. the author's calculation

**2. Table. The role of the FDI\* in manufacturing industry 1992-1999**  
proportion, percentage

Manufacturing	The share of the foreign firms to the total number of companies, percentage			
	1992	1996	1998	1999
Percentage				
Number of companies	21,9	21,3	18,4	17,7
A. Gross assets	29,2	71,4	76,9	77,2
Investment	42,5	82,5	85,3	84,7
D. Statuary capital	28,0	72,3	78,0	78,3
I. Net Income on sales	27,4	64,3	71,0	73,2
Net income on domestic sales	25,7	56,5	58,1	58,3
Net income on exports	31,7	78,8	86,4	88,7
IV. Expenditure on material inputs	26,5	62,5	70,7	73,4
V. Wages and salary type costs	26,6	55,1	59,9	61,0
VI. Depreciation	28,5	76,6	78,8	78,5
A. Profits (own activities) <sup>a</sup>	-25,2	78,8	84,2	83,7
E. Profits before taxation <sup>a</sup>	+18,0	85,8	87,3	84,3
F Profits after taxation <sup>a</sup>	+19,9	91,0	89,9	86,5
Assets	34,9	68,0	73,7	73,6
Out off it: state ownership	13,7	49,8	55,0	52,7
Average number of employees	24,5	40,6	47,5	48,2

Notes: \* Partially or totally foreign-owned firms compared to all double-entry accounting firms. \* In the first column, the negative sign is due to the fact that the results in the total manufacturing industry as average were negative, while the foreign firms as average produced positive ones in 1992. The + signs show the percentage rate of the negative results of the foreign firms compared to the total.

Source: KOPINT-APEH, The double-entry accounting firms' balance sheets.

**3. Table. The role of the FDI\* in manufacturing industry 1992-1999**  
1992-1996-1998-1999, dynamic growth, percentage

Manufacturing	Foreign firms		Indigenous firms		All companies	
	Growth rate, 1992 =100, and 1996 = 100%					
Percentage	1996/ 1992	1999/ 1996	1996/ 1992	1999/ 1996	1996/ 1992	1999/ 1996
Number of companies	168,6	97,6	163,8	122,5	164,8	117,2
A. Gross assets	400,3	191,8	63,1	141,4	158,3	177,4
Investment	611,1	208,9	95,6	178,2	314,5	203,5
D. Statuary capital	419,9	197,9	62,3	143,2	162,2	182,8
I. Net Income on sales	666,8	215,2	139,8	141,4	284,1	188,8
Net income on domestic sales	612,3	151,7	163,2	142,3	278,8	147,1
Net income on exports	1078,5	301,0	134,8	141,2	434,3	267,4
IV. Expenditure on material inputs	690,3	225,4	149,5	136,2	293,0	192,0
V. Wages and salary type costs	429,0	182,0	127,0	142,7	207,3	164,3
VI. Depreciation	490,2	205,4	59,5	184,5	182,3	200,5
A. Profits (own activities) <sup>a</sup>	4833,8	216,1	-261,7	156,9	-1545,6	203,5
E. Profits before taxation <sup>a</sup>	-1265,8	224,4	-46,0	253,1	-265,8	228,5
F Profits after taxation <sup>a</sup>	-910,0	226,7	-22,3	358,9	-198,9	238,6
Assets	256,1	134,0	64,8	102,1	131,5	123,8
out off it: state ownership	125,1	41,6	19,9	37,1	34,3	39,3
FDI	327,9	145,9	0	0,0	327,9	145,9
Average number of employees	144,9	122,0	68,8	89,3	87,5	102,6

Notes: \* Partially or totally foreign-owned firms compared to all and to the indigenous firms. <sup>a</sup> In the first column, the negative sign is due to the fact that the results in the total manufacturing industry as average were negative, while in 1996, each group had positive results.

Source: KOPINT-APEH, The double-entry accounting firms' balance sheets.

**4. Table. The main economic indicators by company groups in manufacturing  
1992-1996-1999**

Main economic indicators	Foreign firms			Indigenous firm			All companies		
	1992	1996	1999	1992	1996	1999	1992	1996	1999
Percentage and billion HUF									
Number of employees per companies (capita/pieces)	89	76	95	72	30	22	75	40	35
Net income on sales per capita (billion HUF/capita)	2,3	10,6	18,7	2	4	6,4	2,1	6,7	12,3
Exports/capita (billion HUF/capita)	0,6	4,5	11,1	0,4	0,8	1,3	0,5	2,3	6,1
	Percentage								
Exports to the output	26,3	42,5	59,5	21,3	20,6	20,7	22,7	34,7	49,1
Gain/losses to the statutory capital (Profit on own activity to capital stock)	1,5	17,6	19,3	-3	12,4	13,6	-1,7	16,2	18,0
Profit (own activity) to the assets	1,4	27,2	43,8	-3,8	15,5	23,8	-2,0	23,4	38,5
Investment/statuary capital	6,8	9,9	10,5	3,6	5,5	6,8	4,5	8,7	9,7
Investment to the all assets	7,2	15,3	23,8	4,8	6,9	12,0	5,6	12,6	20,7
Investment to the FDI-stock	10,9	20,3	29,1	0	0	0	25,7	24,6	34,4
Profit after taxation to profit before taxes	-126,8	91,2	92,1	-112,2	54,5	77,3	-114,8	86	89,8
Long run liability to the statutory capital	22,8	24,3	21,4	10	17,5	18,8	14	22,5	20,8
Short run liability to the statutory capital	62,3	69,2	68,8	56,2	101,1	96,5	57,9	78	74,8

Notes: since in 1992 both company groups as average had negative results before and after taxation, the negative sign here, means, how much taxation increased the losses. In the next years, both groups as average had positive results, the indexes show, how much the taxation decreased the gain.

Source: the same as at the previous tables.

**5. Table. The role of the foreign-owned firms in manufacturing by sectors**  
1996-1999

D	A3	Output (Net income on sales)				Number of employees			
		Distribution by sectors		Share of the foreign firms in the sectors		Distribution by sectors		Share of the foreign firms in the sectors	
		1996	1999	1996	1999	1996	1999	1996	1999
DA	Food, drink and tobacco	24.5	17.4	53.5	60.5	17.9	16.7	39.9	43.1
DB	Textiles	3.7	3.6	47.9	56.4	12.6	13.7	35.6	39.6
DC	Leather and footwear	0.9	0.8	47.1	64.4	3.1	3.2	44.8	57.5
DD	Wood products	1.6	1.5	47.9	45.8	2.7	3.2	27.3	21.4
DE	Paper, printing and publishing	7.0	5.3	63.7	50.5	5.0	5.1	33.7	31.0
DF	Mineral products.	9.7	7.3	99.2	99.9	2.3	2.0	99.8	99.5
DG	Chemicals	9.6	7.1	79.9	84.6	5.9	5.2	71.5	73.9
DH	Rubber and plastic	3.4	3.4	56.0	59.3	3.4	4.4	39.0	50.3
DI	Non-metallic minerals	3.2	2.8	64.0	71.0	4.5	3.9	44.8	49.5
DJ	Metal products	9.8	9.2	38.8	47.6	10.5	11.7	28.2	36.8
DK	Machinery and equipment	7.2	5.3	55.9	56.7	14.2	8.4	23.0	43.6
DL	Electric equipment	12.0	20.6	77.6	88.0	11.1	14.4	59.4	65.7
DM	Transport equipment	5.9	14.3	81.4	94.7	3.5	4.7	44.9	67.4
DN	Other manufacturing	1.4	1.6	34.4	37.9	3.2	3.4	25.4	27.8
	Total	100	100	64.3	73.2	100	100.0	40.6	48.2

Source: the same as at the previous tables

**Table 5. (cont.) The role of the foreign-owned firms in manufacturing by sectors**  
**1996-1999**  
**distribution and shares in percentage**

	Exports				Exports to the output (%)			
	Distribution by sectors		Share of the foreign firms in sectors		Foreign firms	Indigenous firms	Foreign firms	In
	1996	1999	1996	1999	1996		1999	
Food, drink and tobacco	13.7	6.5	62.6	71.0	22.7	15.6	21.4	
Textiles	5.1	4.1	58.9	72.0	58.2	37.2	71.9	
Leather and footwear	1.3	1.0	65.3	84.9	71.7	34.0	85.3	
Wood products	1.5	1.1	71.3	70.3	49.8	18.5	58.2	
Paper, printing and publishing	4.8	1.4	93.6	71.7	35.0	4.2	19.0	
Chemical products.	4.2	2.1	100.0	100.0	15.0	0.3	13.9	
Chemicals	10.2	6.3	89.5	91.3	41.3	19.3	47.3	
Rubber and plastic	3.6	2.9	61.6	70.6	40.3	31.9	50.3	
Non-metallic minerals	1.9	1.3	74.3	79.9	23.9	14.7	25.5	
Metal products	10.4	8.5	54.2	65.0	51.9	27.8	62.1	
Machinery and equipment	9.4	4.5	81.6	81.5	66.8	19.1	59.7	
Electric equipment	19.9	33.2	93.9	96.9	69.7	15.8	87.4	
Transport equipment	12.5	25.8	87.7	98.3	78.3	48.2	92.3	
Other manufacturing	1.4	1.2	61.3	65.8	58.0	19.3	64.5	
Total	100	100.0	78.8	88.7	42.5	20.6	59.5	

Source: as at the previous tables.



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