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Foreign Direct Investment in Hungary

Industry and Its Spatial Effects

ABSTRACT: *Foreign direct investment (FDI) has played a relevant role in the economic transformation of postsocialist countries, among which Hungary was one of the most attractive targets for foreign investors. This paper examines the major characteristics of FDI and enterprises of foreign interest with particular regard to industry, always an important sector for foreign investors. The spatial effects of FDI on the Hungarian economy, especially on the industrial sector, are also discussed. The future of Hungarian industry and its spatial structure, respectively, depend to a large extent on foreign capital flows and on the decisions and strategies of transnational corporations. It is also obvious that this extreme dependence is a characteristic feature of not only Hungary and the Hungarian economy, but of other postsocialist countries as well.*

Since the mid-twentieth century, radical changes have emerged in the world economy. The changes can be traced back to the fact that production processes and manufacturing activities, which were largely confined to and traditionally took place in individual countries, gradually started to cross national borders (Peck and Yeung 2003; Siebert 2002). In other words, economies began to internationalize. According to Dicken (1999) internationalization is a quantitative process resulting in a more extensive pattern of economic activity. A higher level of the internation-

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alization of the world economy is the process of globalization, representing a qualitative change (Dicken 1999; Simai 2002). From the 1980s onward, globalization, and thus, the transformation of the world economy, has been steadily gathering momentum. Major changes in the global economic environment have affected the manufacturing industry, international trade, and international capital flows. In recent years, mainly the latter has increased considerably. Capital is now flowing not only from one core economy to another, but also to and from other regions of the world, adding to the complexity of the issue. These peripheral and semiperipheral regions are now much better integrated into the network of international capital flows.

Globalization may be attributed to the combined effect of many factors, the most prominent of which is perhaps the arrival of transnational corporations (TNCs), which have played a decisive role in globalization by crossing borders and establishing new companies in several countries (Giddens 1997). Other factors that have contributed to globalization are the internationalization of the activities of financial institutions, the financial strength and economic power of such corporations—enabling them to disregard national interests altogether and thus stand above nation-states—and the rapid development of science and technology, especially of telecommunications technologies since the 1970s.

Globalization is not geographically uniform; different parts of the world have been involved in and affected by the processes of globalization to different extents, and as a result, different parts of the world economy exhibit varying degrees of globalization. The transformation of the European economy, which is fundamentally linked to the forces of globalization, began much earlier in West European countries than in East European countries (Dicken et al. 1994), as postsocialist countries could join the globalization bandwagon only after the fall of communism in 1989. In these countries, the emergence of foreign direct investment (FDI), profound economic and social transformation, and changes in the political system set in amidst the unfolding globalization process. Transitions from centrally planned economies to market economies posed a great challenge to these countries, as did globalization (Artisien-Maksimenko and Rojec 2001; Seliger 2004). Among Central and East European countries, Hungary was the most advanced in implementing political, social, and economic reforms, and therefore it was a primary target of FDI. At the same time, the Hungarian economy in general, and the Hungarian industrial sector in particular, experienced some relevant and significant changes in organization, structure, and ownership (Kiss 1999). The restructuring stage has already been completed. All of these changes, however, have had a great effect on the geographical distribution of industrial production (Hamar 1999; Szalavetz 2000).

This paper has two aims. The first is to demonstrate the main characteristics and the important driving forces of FDI in Hungary, with particular regard to the industrial sector, the most attractive investment target for foreigners. The second is to reveal the spatial effects of FDI on the Hungarian economy, primarily on industry, because the spatial pattern or the spatial distribution of industry has always played a major role in determining the overall spatial structure of the Hungarian economy. The issue of how the new challenges of the twenty-first century will affect and modify this structure, and what we may expect in the future, are also interesting questions. Having renewed its economic and industrial structure, and being one of the most advanced emerging countries in the region, Hungary may be representative of other Central and East European countries in the experience it has gained during economic transition.

Major Characteristics of Foreign Direct Investment

Between the second half of the nineteenth century and World War I, Central and East European countries were important targets of FDI, and their share was quite considerable compared to global FDI inward stock. Later, FDI inflow declined, and after World War II, it ceased altogether in this region of the world. During the socialist era, in practice, foreign capital flows shunned Central and Eastern European countries. Only after 1989 did this part of Europe again become an important target for FDI (Baráth et al. 2001). Due to this development, the share of foreign capital invested in this region increased considerably, from 0.2 percent to 3.2 percent of the global FDI inward stock between 1990 and 2003 (Table 1).

As the Hungarian economy was more open than those of other socialist countries before 1989, there was already foreign investment in Hungary during the socialist era, even if its amount was negligible. This was a unique feature among socialist countries. It is very likely that Hungary's openness also helped to make it the most attractive investment target among Central and East European countries in the early 1990s. In other words, in the first half of the 1990s, the Hungarian economy signifi-

Table 1

FDI Inflows by Host Region, 1985–2003 (millions of dollars)

Host region/economy	1985	1990	1995	2000	2001	2003
World	913,182	1,871,594	2,911,725	6,258,263	6,845,723	8,245,074
Developed countries	568,670	1,382,978	2,021,303	4,124,261	4,504,122	5,701,633
Developing countries	344,463	484,954	849,915	2,002,173	2,181,249	2,280,171
Central and Eastern Europe	49	3,661	40,508	131,829	160,352	263,270
Albania	—	—	211	578	759	1,091
Belarus	—	—	50	1,243	1,412	1,897
Bosnia-Herzegovina	—	108	21	355	519	1,153
Bulgaria	—	—	445	3,162	3,850	5,082
Croatia	—	—	473	5,155	6,597	11,351
Czech Republic	—	1,363	7,350	21,644	26,764	41,033
Estonia	—	—	674	2,645	3,155	6,511
Hungary	49	569	11,919	19,804	23,562	42,915
Latvia	—	—	615	21,081	2,216	3,320
Lithuania	—	—	352	2,334	2,665	4,960
Moldova	—	—	93	459	609	789
Poland	—	109	7,843	33,603	42,433	52,125
Romania	—	766	1,150	6,517	7,636	12,693
Russia	—	—	5,465	19,255	21,795	52,518
Slovakia	—	81	810	4,634	6,109	10,248
Slovenia	—	665	1,763	2,809	3,250	4,290
Macedonia	—	—	33	389	919	1,024
Ukraine	—	—	910	3,843	4,615	6,953
Serbia and Montenegro	—	—	329	1,319	1,484	3,319

Source: United Nations Conference on Trade and Development (UNCTAD) (2004).

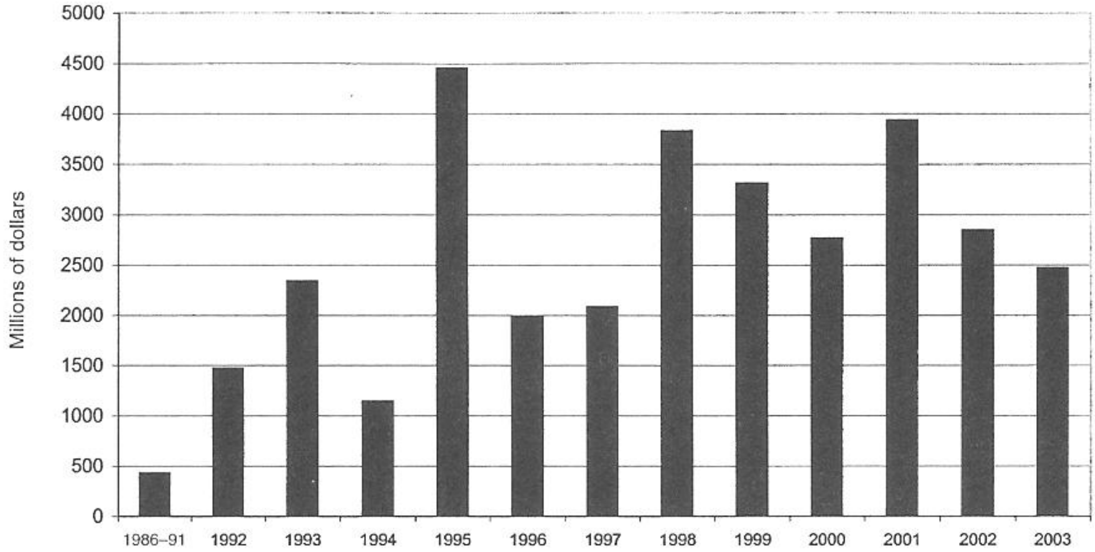
Note: — indicates no investment.

cantly determined the ability of Central and East European transition economies to attract foreign capital. By the second half of the 1990s, however, Poland and the Czech Republic overtook Hungary by far in attracting FDI inflows. Hungary became only the third-most attractive country in the region for foreign investors (Horváth 1996). Nevertheless, its ability to attract foreign capital remained relatively strong even after 2000.

The amount of foreign capital invested in Hungary differed from year to year, due to many factors. Fluctuation was particularly strong in the early years of economic transition, in the era of large-scale privatization; the country's ability to attract FDI largely depended upon what was being privatized. In Hungary, just like in any other country, there are two main forms of FDI: greenfield investment and mergers and acquisitions. The latter form—acquiring ownership and control over existing firms' assets—was most extensively used in the era of large-scale privatization. In Hungary, the largest total amount of FDI inflows in a single year—$4.4 billion—was observed in 1995 when the largest public utility companies were privatized. In the second half of the 1990s, as the privatization process was drawing to a close, the amount of annual FDI inflow became less volatile. After the turn of the millennium, the amount of capital invested began to decrease, partly because of the events of September 11, 2001, and partly because of changes in the global economy. Only very recently has the trend reversed, as FDI has started to pick up again. No exact data are available yet, but according to different estimates, about $3 to $3.5 billion have been invested in 2004 and 2005, respectively (Figure 1).

Until the end of 2003, almost $43 billion were invested in Hungary. This amount is slightly in excess of that invested in Czech Republic, and four times higher than in Slovakia. It amounts to only 16 percent of total FDI inflow in this region of the world, yet it is a significant achievement for such a small country as Hungary, comparing particularly well to the share of Russia or Poland, which are much larger and more populous. It means that Hungary currently occupies third place behind Russia (19.9 percent) and Poland (19.8 percent), which used to have a higher share. As far as per capita FDI is concerned, Hungary's position is even more prominent. In 2003, the amount of per capita FDI inward stock was $4,231, ensuring Hungary's top position among its postsocialist competitors. The Czech Republic came second ($4,027), and Poland third ($1,637). These figures underpin the argument that Hungary has always been a popular and attractive target for foreign investors.

Figure 1. **FDI Inflows in Hungary**

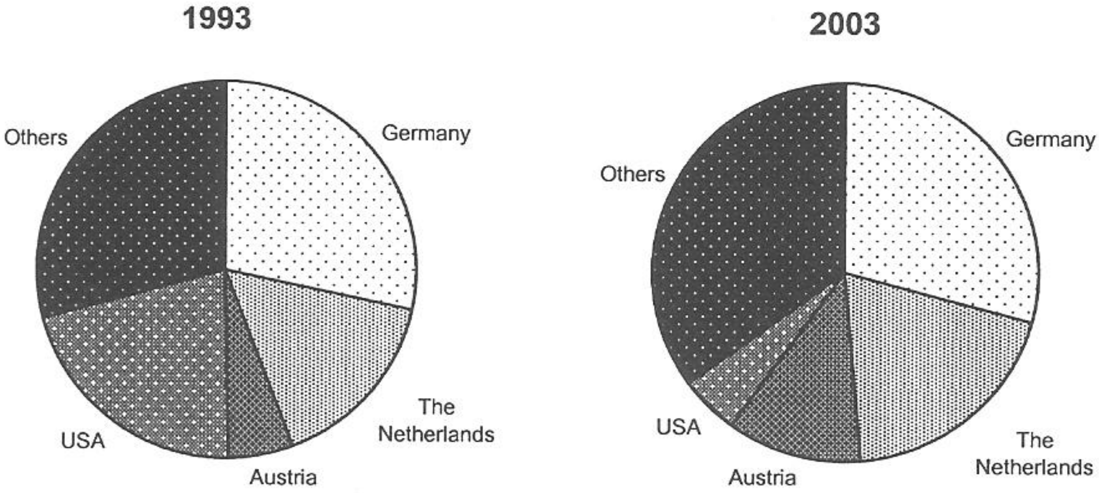


Source: UNCTAD (2004).

For Hungary, four countries—Germany, the Netherlands, Austria, and the United States—account for the lion's share of capital invested in the economy: 71 percent in the early 1990s and 65 percent ten years later. The decline is primarily attributable to the decrease in U.S. investments after 2001, though U.S. investors continuously decreased the amount of the capital invested between 1993 and 2003. Foreign capital investment in Hungary basically depends on investors from these four nations because of their high share in FDI. Since 1989, there have not been any significant changes in their ranking. Germany has kept its top position, though the Netherlands outpaced the United States, so that Germany and the Netherlands are the two major investors in Hungary at the moment, providing almost 50 percent of the foreign capital invested to date. After 2001, the Dutch increased the stock of their investments considerably as the Americans radically reduced theirs in the same period. Investment by Austrian firms was particularly intensive in the first half of 1990, after which their share stabilized at around 11 percent, ranking the country third (Figure 2).

Although preferring different sectors of the economy to varying degrees, the industrial sector has always been the most important target for major foreign investors. In the past fifteen years, about 40 to 50 percent of invested funds flowed into Hungarian industry, particularly

Figure 2. **FDI in Hungary by the Country of Origin**



Source: Central Statistical Office (1996); UNCTAD (2004).

manufacturing. This means that manufacturing was and still is the most attractive sector for foreign investors. In addition to manufacturing, Germans have mainly invested in transportation, postal services, storage and warehousing services, and telecommunications, whereas Austrians prefer manufacturing, financial services and intermediation, real estate, and real estate leasing. The Hungarian industry has always been an important target for U.S. investors, even if their share decreased during the last decade. In 1993, about 58 percent of investments by U.S. went to Hungarian industry, but ten years later, only 46 percent did. Otherwise, for each major European investor, the share of industrial compared to total investment was similar to the share of U.S. industrial investment as a percentage of total investment by Americans. Thinking of the considerable differences between the wages of developed countries and Hungary, this is also understandable.

In addition to the four largest investors addressed above, the investment of other countries is worth mentioning: Luxembourg (4.4 percent), France (4.3 percent), Italy (2.2 percent), Spain (2.2 percent), Belgium (2.0 percent), and Norway (1.3 percent) (all figures from 2003). Among Asian countries, Japan invested the most capital in Hungary. As with West European countries, Japan's primary target was the manufacturing sector.

Some striking differences in the preferences of foreign investors toward geographic location may be observed by looking at the spatial pattern of their major investment projects. Each of them has preferred a certain part of the country, and this spatial structure has not changed over the years. Germans and Austrians have mainly invested in the northern part of Transdanubia (including Győr-Moson-Sopron, Vas, Zala, Komárom-Esztergom, Fejér, and Veszprém counties) and in the central region of Hungary—Budapest and Pest counties. The Dutch and Italians have primarily chosen investment locations in the northern great plain region (Szabolcs-Szatmár-Bereg, Hajdú-Bihar, and Jász-Nagykun-Szolnok counties), the Spanish in the central Transdanubia region (Veszprém, Komárom-Esztergom, and Fejér counties), and the French in the southern great plain region (Bács-Kiskun, Csongrád, and Békés counties). U.S. investors established their enterprises all over the country.

There are usually two main purposes of FDI (Shatz and Venables 2002). One is to better serve local markets, and the other is to find a location where production and operating costs are lower. On a global scale, the former market-oriented FDI prevails, which can be mainly observed in developed countries (Shatz and Venables 2002). In Hungary, however, market-oriented FDI plays a rather inferior role; as in other Central and East European countries, the other form of FDI, seeking lower costs, predominates, as wages and salaries in postsocialist countries are much lower than they are in their West European counterparts.

Many other factors have more directly influenced Hungary's ability to attract foreign capital, especially in the early 1990s. These are the following (not in order of importance):

- more favorable initial conditions in Hungary; compared to other countries in Eastern Europe, political, social, and economic transition in Hungary was smoother, and the country was more stable both socially and economically;
- central geographical location within the region, and relative closeness to major investors (Austria, Germany);
- cheap but qualified labor force;
- possibility of entering and accessing EU markets more easily;
- traditional and historically embedded relationship with Germany and Austria;
- cross-border family and ethnic links, friendships (e.g., Hungarians in Austria, German-speaking minority in Hungary);
- getting established in a relatively important and solvent market for consumer goods;

- various state subsidies and local supports provided by municipal councils;
- compared to other postsocialist countries, the infrastructure was in relatively good shape;
- other special advantages offered by various locations.

These factors may, of course, change over time and vary across space. Some might disappear, and new ones might emerge. Individual factors, or combinations of several factors, play a different role in each situation, according to the characteristics of individual investment projects. Some of the above mentioned factors were subject to change in recent years, which certainly played a part in the decline of FDI in Hungary since the turn of the millennium. The most important factors influencing FDI that have changed recently are the following:

1. Wages are much higher than they were in the early 1990s, both in absolute and relative terms. Consequently, the Hungarian labor force can no longer be considered extremely cheap. Nevertheless, low-cost FDI still prevails in the country. Nonwage labor costs are also high, as they increased very rapidly over the past years.
2. The approaching EU accession in the years following the turn of the millennium came with the prospect of various domestic (both government and local) subsidies being gradually reduced or phased out altogether before accession in 2004.
3. By the end of the twentieth century, Hungary's initial competitive advantages over its competitors vanished, as other Central and East European countries made big strides in social and political transition, making them more attractive targets for foreign investors. The privatization process in the Czech Republic and Slovakia began much later, only in the second half of the 1990s, while in Hungary, it was largely completed, and Hungary had already reached the next stage of development. A major qualitative restructuring process started in its economy, and in a certain sense, the era of low-cost greenfield investments came to an end.
4. In the wake of the events of September 11, 2001, FDI declined, and important political and economic changes have started to emerge in the world, creating a new environment for foreign investors.

A very good example of how quickly things can change in the global economy, and how fast a TNC can react to such changes, is the following:

a Taiwan-based company, Wistron, which is a subsidiary of the third-largest personal-computer (PC) manufacturer in the world, Acer, set up a new manufacturing unit in Hungary, in the town of Tatabánya (in Komárom-Esztergom county) in 2001. The company invested about $20 million, and construction work lasted only four months. But during this period, a big recession hit the global PC market, resulting in a sharp decline in the demand for PC equipment, whereupon the Taiwanese investor decided not to open the Hungarian plant, as it would yield nothing but losses. Since then, the Taiwanese owner has been looking for investors to utilize the very modern and well-equipped premises. Even if the investor managed to choose the best location, changes in other factors may jeopardize the complete realization of the investment.

In past years, traditional location factors, such as the availability of raw materials, were gradually pushed into the background by other considerations. But geographic location still matters; not everything can be produced anywhere. Recently, other factors, such as the time factor, accessibility, the quality of the built environment, safety, and reliability, have come to the fore. From the foreign investors' perspective, it will be very important how quickly the chosen location may be integrated into or hooked up to global networks. With global competition growing ever sharper, the spatial distribution or the flow of FDI will much more accurately mirror the foreign capital–attracting ability of various places within Hungary. In a certain sense, foreign investors' choice of location spectacularly indicates the "real value" of places.

Enterprises with Foreign Interest

Since 1972, it has been possible to establish enterprises with foreign interest in any sector of the Hungarian economy, but the number of such firms began to increase only after the change in the political system. In 1989, there were 1,350 enterprises with foreign interest in Hungary, but in 2003, their number already reached approximately 27,000. There was also a steady increase in the number of industrial enterprises with foreign interest. In 1989, 21 were in operation; in 1994, there were already 3,551 of them. Between 1995 and 2000, their number always exceeded 4,000, but then began to decline. In 2003, only 3,647 enterprises with foreign interest operated in the Hungarian industrial sector. This was partly because of the closing and relocation of industrial, primarily manufacturing establishments, and partly because in recent years, fewer new manufacturing enterprises with foreign interest were established in Hungary. Behind this trend, in fact, lies the ever-sharper competition between countries in the Carpathian basin. Consequently, the Hungarian industry seems to be less and less attractive compared to neighboring countries. In 2003, industrial enterprises with foreign interest accounted for 14 percent of all enterprises with foreign interest, and 8 percent of all industrial enterprises. Now both of these figures are in decline: in the former case, partly because the number of enterprises with foreign interest in the services sector, mainly in real estate, renting, and business activities, has increased much faster than in industry; in the latter case, primarily because the number of industrial enterprises has been continuously increasing since 1989, reaching 45,000 in 2003. Most industrial enterprises with foreign interest were established in the machinery industry—in the automotive industry, electronics, and telecommunications (Table 2).

When comparing the amount of foreign capital invested in each economic sector, we find that, year after year, industry received the largest share of FDI. In 2003, more than 50 percent of FDI in Hungary flowed into industry, particularly into manufacturing, though the number of industrial enterprises with foreign interest accounted for only 14 percent of all enterprises with foreign interest. This means that in industry, fewer, but still more, capital-intensive enterprises were set up. In trade, more enterprises were established that are less capital intensive. In 2003, commercial enterprises with foreign interest accounted for 41 percent of all enterprises with foreign interest, though their share in foreign capital invested was less than 10 percent (Table 3).

In the beginning of the 1990s an overwhelming majority of the enterprises with foreign interest was only partly foreign owned, but later, more and more enterprises with foreign interest came to be owned exclusively by foreign investors. The main reason for this type of co-ownership in the early stages of economic transition was that foreign investors taking part in the privatization process were generally more cautious, as they were unfamiliar with the political, social, and business environments in Hungary. Fearing political instability, their initial strategy was to acquire already existing firms' assets, or only one part of such firms' assets. As social and economic transition progressed, so did the degree of foreign ownership in previously co-owned enterprises. This trend can be observed today, and in each sector. Foreign investors strive for the largest possible extent of exclusive ownership and control. In 1993, almost 65

Table 2

Enterprises with Foreign Interest and Industrial Enterprises in Hungary, 1989–2003 (number of enterprises)

	Enterprises with foreign interest		
	All	Industrial	All industrial enterprises
1989	1,350	21	n.d.
1990	5,693	n.d.	n.d.
1993	20,999	n.d.	17,170
1995	24,612	4,302	21,735
1998	26,265	4,191	40,770
2000	26,634	4,053	43,499
2001	26,809	3,957	43,933
2003	26,793	3,647	45,438

Sources: Central Statistical Office, *Statistical Yearbook of Hungary* (1991; 1996; 2005); Central Statistical Office *Regional Statistical Yearbook* (1996; 2004).
n.d. = no data.

percent of enterprises with foreign interest were partly in foreign ownership. Ten years later, the same figure had dropped to 32.7 percent, because, at the same time, the share of exclusively foreign-owned enterprises in all enterprises with foreign interest exceeded 66 percent. In 2003, 96 percent of foreign capital was invested in enterprises where the share of foreign ownership was above 50 percent.

The share of exclusively foreign-owned enterprises varies from sector to sector. In 1993, the share of wholly foreign-owned enterprises in all enterprises with foreign interest was only 28 percent in industry, a figure that reached 55 percent by the end of 2003 due to the reasons mentioned above (though there was only a slight increase in the number of such enterprises, from 2,092 to 2,161). These industrial enterprises, which are in exclusive foreign property, concentrated about 62 percent of foreign capital invested in industry. Within industry, the share of foreign ownership as a percentage of total assets was 95 percent in transport equipment manufacturing; 66 percent in rubber and plastic products manufacturing; 62 percent in food products, beverages, and tobacco manufacturing; and 61 percent in textile and leather manufacturing in 2003.

Table 3

Share of Enterprises with Foreign Interest by Branches in Hungary, 1995–2003 (percent share)

Denomination	Year	Agriculture	Industry	Construction	Wholesale and retail trade, repairs	Real estate, renting, and business activities	Transport, storage, and telecommunications	Financial intermediation
Share of enterprises with foreign interest	1995	3.2	17	5	49	14	3	0.6
	2003	3	14	3.9	41	26	2.7	0.8
Share of foreign capital invested	1995	1.2	57	3.5	12	6	9	8
	2003	0.6	50.1	0.9	9.8	16.9	8.5	10.1

Source: Central Statistical Office, *Statistical Yearbook of Hungary* (1996; 2004).
Note: not all branches are indicated.

In 1993, partly or wholly foreign-owned enterprises produced 30 percent of the total value added in the economy. Ten years later, this figure stood at 43 percent. Again, the figures vary widely across sectors. In 2003, for example, there were branches of industry—transport equipment manufacturing, or electrical and optical equipment manufacturing—where wealth creation was almost entirely (84 to 90 percent) due to enterprises with foreign interest. This has been a characteristic feature of the branches mentioned for years. At the same time, there are some subbranches of Hungarian industry for which the proportion of wealth created by enterprises with foreign interest as compared to total wealth creation in that segment is much lower than in the case of the above branches. Such subbranches occur in chemical manufacturing (34 percent) and basic metals and associated metal-products manufacturing (42 percent).

Enterprises with foreign interest play an important role in job creation and employment. In 2003, they employed about one quarter of all employees, an increase of 5 percent over a ten-year period. During this period, the number of enterprises with foreign interest increased as well, resulting in more people being employed by such enterprises. In absolute terms, the number of such employees climbed from 436,000 to 555,000. In 2003, as in 1993, the portion of individuals employed by enterprises with foreign interest was much higher in the industrial sector than in other sectors. Within industry, the machinery industry employed the greatest share of individuals (58 percent), as lots of enterprises were created in this branch over the past fifteen years to make use of the relatively cheap Hungarian labor force (Table 4).

Taken as a whole, FDI or enterprises with foreign interest have had many favorable effects. One is in promoting the structural renewal of the Hungarian industry, particularly manufacturing. The enterprises have also helped to introduce new branches, such as the manufacturing of passenger cars. It is always to great advantage if renowned investors decide to set up a firm in a given country, as the investment induces other well-known TNCs to establish subsidiaries in the same region. In addition to promoting local economic development, such large-scale investments create job opportunities and thus enable local individuals to earn money for their livelihoods. Other beneficial effects of FDI and TNCs in the industrial sector include furthering technical development and modernization, as well as inducing spatial structural changes in Hungarian industry.

Table 4

Number of Employees at Enterprises with Foreign Interest in Hungary, 1993–2003

	1993 Employees		2003 Employees	
Denomination	Number	Share (percent)	Number	Share (percent)
Agriculture	4,950	2.2	5,348	4.7
Industry (A + B + C)	239,207	11.0	348,110	34.8
A: Mining and quarrying	2,825	11.6	792	12.4
B: Manufacturing	234,425	30.6	329,080	42.4
Food industry	55,992	36.0	42,551	33.2
Textile and leather industry	35,510	27.4	34,450	34.5
Chemicals	28,218	31.1	37,899	47.4
Metals and metal products	15,766	19.6	23,147	27.6
Manufacture of nonmetallic mineral products	12,997	40.0	10,707	36.7
Machinery and equipment	63,425	34.7	164,190	58.4
C: Electricity, gas, steam, and water supply	1,957	2.1	18,238	29.6
Construction	23,883	14.5	10,600	6.5
Trade, hotels, and restaurants	82,270	21.2	104,809	21.1
Transport, communications	31,501	11.9	26,551	16.0
Financial intermediation	29,983	47.3	n.d.	n.d.
Real estate, renting, and business activities	18,786	14.1	40,937	14.9
Others	5,052	8.9	7,180	8.1
Total	435,632	—	543,535	—

Source: Central Statistical Office, *Statistical Yearbook of Hungary* (1994; 2004).

Note: n.d. = no data.

The Spatial Pattern of FDI

The location pattern of enterprises with foreign interest is generally closely correlated with the spatial distribution of the foreign capital invested. As a result, most enterprises with foreign interest and the largest share of FDI invested in Hungary can be found in the central region and in the northern part of Transdanubia, including the central and western Transdanubia regions. The capital city, Budapest, stands out, as almost 53 percent of enterprises with foreign interest were concentrated there in 2003. This vast propensity to invest in the Budapest area is due to several features making the city an attractive investment target: the availability of qualified labor, a developed infrastructure, the favorable geographic location, the existence of a large consumer market, good possibilities for maintaining contacts, and other factors. The northern part of Transdanubia attracted the second largest portion (16 percent) of enterprises with foreign interest. The three regions combined occupy only about one-third of the country's area, yet they attracted 76 percent of all enterprises with foreign interest set up in Hungary. Their share in total FDI is even higher, reaching almost 84 percent. This indicates a high degree of geographic concentration of foreign capital invested. Put differently, only 24 percent of enterprises with foreign interest, and a mere 16 percent of foreign capital invested, are distributed over the remaining two-thirds of the country. This also means that the regional differences in the spatial pattern of FDI have sharpened the regional differences within the country. Otherwise, the three regions have the highest per capita FDI in the country (Table 5).

Many factors underlie such spatial disparities, the most important being perhaps the change in attitudes toward geographic location. Since 1989, the position of the western and eastern part of the country has changed. The western part of the country has come to the front, and being in that region has become an advantage, as it is closer to the Western countries, especially to the major Western investors, notably Germany and Austria. A further advantage of this part of Hungary over other crisis-stricken regions with declining heavy industries is that western Hungary was largely left out of the forced industrialization pursued during the socialist era. Thus, traditional heavy industries (e.g., mining and metallurgy) were not characteristics of this part of the country. Other factors, such as better infrastructural supply and living conditions and a qualified and German-speaking workforce, have helped these regions

Table 5

Enterprises with Foreign Interest in Hungary, 2003

Region	Enterprises with foreign interest		Share of all FDI invested in Hungary (percent)	FDI per inhabitant (US$)
	Number	Share (percent)		
Central Hungary	15,569	60.4	62.0	8,957
Of which: Budapest	13,518	52.5	46.8	11,234
Central Transdanubia	1,668	6.5	9.9	3,655
Western Transdanubia	2,499	9.7	11.9	4,869
Southern Transdanubia	1,289	5.0	1.8	754
Northern Hungary	745	2.9	5.3	1,694
Northern great plain	2,544	9.9	5.1	1,338
Southern great plain	1,440	5.6	2.4	713
Total	25,754	100.0	100.0*	4,043

Source: Central Statistical Office, *Regional Statistical Yearbook* (2004).

* 1.6 percent is not allocated.

attract more foreign capital and established the most enterprises with foreign interest within them, mainly in industry. It was also important for foreign investors that the local labor force was already somewhat familiar with Western working culture and working standards, as many individuals had previously worked in Austria or Germany. The Danube River as a cheap means of transportation and the motorway between Budapest and Vienna as a reliable and fast transport link between the two cities have also furthered the development of adjacent regions.

Compared to the spatial structure of all enterprises with foreign interest as described above, two basic differences can be separated in the spatial pattern of the industrial enterprises with foreign interest. These are the following:

- Industrial enterprises with foreign interest are not so strongly concentrated in space as are other enterprises with foreign interest in other economic sectors.
- The role of Budapest in attracting industrial enterprises with foreign interest is much smaller than in the case of nonindustrial enterprises. In 2003, only 29 percent of all industrial enterprises with foreign interest were based in the capital city, because, among other reasons, industrial site prices are much higher, there are fewer building grounds and plots, labor is more expensive, and the development of industrial activity is not among prioritized development policy objectives of the local authority (Table 6).

There are also some differences in space depending on where major foreign investors come from. This statement is underpinned by the fact that both German and Austrian investors strongly prefer to establish their enterprises in the northern part of Transdanubia. They set up their new firms mostly along the Danube, or along the M1 motorway between Budapest and Vienna—in other words, in the "Golden Triangle" consisting of Budapest, Vienna, and Bratislava—mainly for the reasons mentioned earlier. U.S. industrial investors, however, scatter their enterprises all over the country. Factors such as government and local subsidies, the quantity and quality of the workforce available, transport links, infrastructural supply, and future development are likely to have influenced their location choice. Another important difference between German-speaking investors and Americans is that the former established a large number of relatively small enterprises, whereas the latter implemented fewer but larger-scale firms that are generally more capital intensive (Kiss 2002).

Table 6

Industrial Enterprises with Foreign Interest in Hungary, 2003

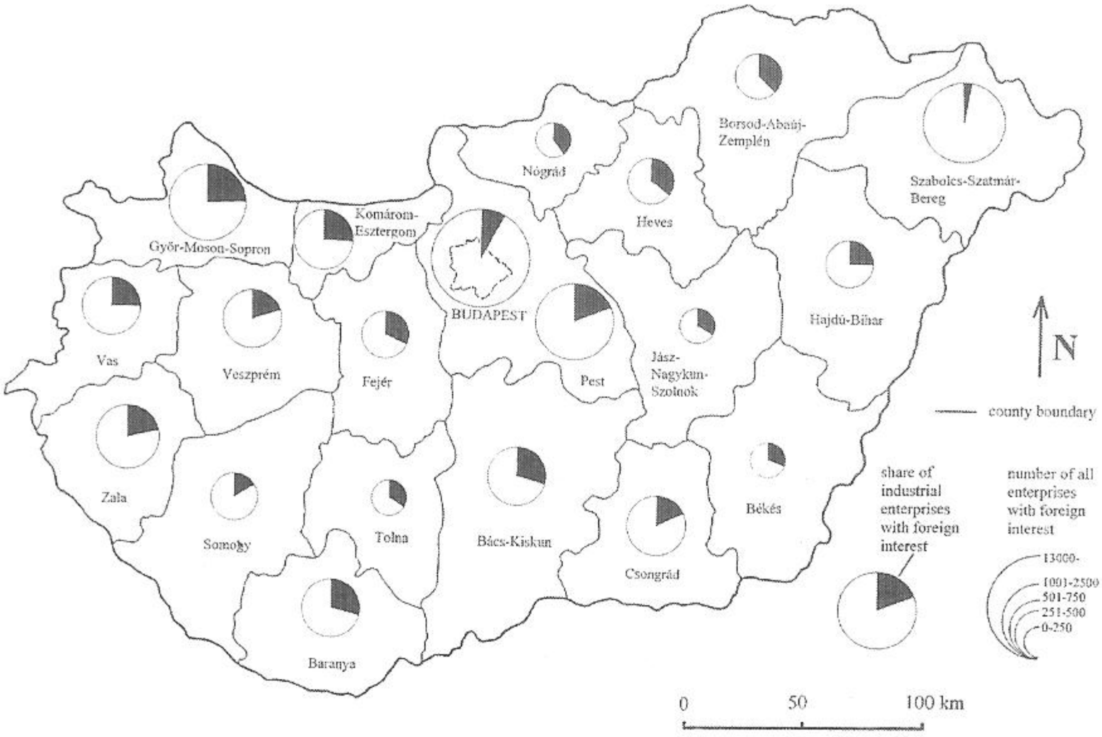
Region	Industrial enterprises with foreign interest: Number	Industrial enterprises with foreign interest: Share (percent)	Share of all FDI invested in industry (percent)
Central Hungary	1,454	39.9	42.4
Of which			
Budapest	1,061	29.1	32.7
Central Transdanubia	418	11.5	15.8
Western Transdanubia	597	16.4	13.1
Southern Transdanubia	328	8.9	2.6
Northern Hungary	277	7.6	12.3
Northern great plain	213	5.8	6.3
Southern great plain	360	9.9	7.5
Total	3,647	100.0	100.0

Source: Central Statistical Office, *Regional Statistical Yearbook* (2004).

Most industrial enterprises with foreign interest are based in the northern part of Transdanubia, although their share of all enterprises with foreign interest is not the highest in the country. The same can be said about the share of foreign capital invested in industry, which is generally between 20 and 50 percent in each county. The share of foreign capital invested in industry (of all invested foreign capital) was the lowest in Pest county (13 percent) and the highest in Csongrád county (94 percent). In the former case, this is because the service sector is more developed and it is more attractive for FDI. In the latter case, it is because other economic sectors were not so attractive for FDI (Figure 3).

In 2003, 28 percent of industrial enterprises with foreign interest, concentrating 29 percent of foreign capital invested in the industrial sector, were located in the northern part of Transdanubia. Since the beginning of economic transition, the industrial development of this area has been very dynamic, due to its favorable local social and economic conditions, mentioned above. Many of the largest TNCs, such as General Electric, General Motors, Siemens, and Ford, established subsidiaries in this part of the country. Most of the industrial enterprises with foreign interest were established as greenfield investments, and they are still

Figure 3. **Number of All Enterprises with Foreign Interest and the Share of Industrial Enterprises with Foreign Interest by Counties in Hungary, 2003**



Source: Central Statistical Office, *Regional Statistical Yearbook* (2004).

experiencing relatively high growth rates. The majority of these new industrial firms are located in industrial and business parks launched as greenfield projects themselves, with the intention of selling plots to prospective investors. Industrial parks were a new phenomenon in Hungary and in other postsocialist countries. The first industrial park was established in the northwestern part of the country, in the town of Győr in 1991.

Even today, the northern part of Transdanubia is a very important target for foreign industrial investors. This is perhaps best exemplified by the fact that in two-thirds of the thirty-six most important investment projects that were or are set to be implemented in Hungarian industry after 2003, investors eventually decided to locate their enterprises in the northern part of Transdanubia (Bálint 2003). Data collected from daily economic newspapers published in Hungary in 2004 and 2005 also prove the importance of this region to industry. During this period, twenty-five new industrial establishments were planned in Hungary, most (fifteen) in the northern part of Transdanubia.

In addition to northern Transdanubia, Budapest and its greater metropolitan area have significant industry. The capital region—primarily Budapest—is the most important industrial center of the country, although its role has considerably decreased in the past fifteen years. In 2003, about 40 percent of all industrial enterprises with foreign interest, representing 42 percent of FDI in industry, were based in the central region of Hungary. The greater Budapest area and the northern part of Transdanubia together form the new industrial district of the country. The industrial belt, comprising about one-third of the country's area, contains 68 percent of industrial enterprises, with foreign interest representing 71 percent of FDI in industry. This indicates perhaps most spectacularly the importance of the area within Hungarian industry. It also means that other parts of the country are less industrialized, and not so attractive for foreign investors.

Industry, primarily manufacturing, is developing much slower in the southern part of Transdanubia and in the eastern part of the country. Although many factors underlie this phenomenon (e.g., less FDI, lack of motorways), the basic problem can be traced back to the social and economic differences between the western and eastern parts of the country. The relatively small number of industrial enterprises with foreign interest, and little FDI in general, are both the reasons and the consequences of the low industrialization of these areas.

Conclusions

FDI has played an extremely important role in the renewal of the Hungarian economy, its modernization, and its catching up with Europe's core economies. Due to FDI, very favorable changes have taken place since 1989, and now, the Hungarian economy—particularly the industrial sector—is characterized by a certain duality. Enterprises with foreign interest are generally larger, better equipped, more competitive, and usually producing goods for export. These features can be applied to Hungarian-owned enterprises to a much lesser extent. Duality can be observed in space too, because FDI and transnational corporations are very strongly concentrated in certain parts of the country, predominantly in the central and northwestern regions. The two regions may be considered the new postsocialist—or, in other words, postfordist—industrial or economic belt. The new spatial structure of industry or the economy does not depend on the spatial distribution of minerals and natural resources, but on the location choice of foreign investors.

In the short run, this spatial structure is not likely to change, but in the long run, anything can happen, as Hungarian industry and the economy very much depend on FDI, and foreign capital flows and transnational corporations are very sensitive to global political and economic changes. It is also obvious that radical changes in the current trend of FDI in Hungary, and in the strategy pursued by TNCs, would have unforeseeable effects on Hungarian industry and the economy, to say nothing of social and other consequences.

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