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THE IMPACTS OF RELOCATION ON THE SPATIAL PATTERN TO HUNGARIAN INDUSTRY

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Abstract: In the post-communist countries the phenomenon of relocation has only become common recently. The main purposes of the study are thus to demonstrate the major characteristics of relocation to and from Hungarian industry and to reveal its spatial impacts, i.e. the ways in which relocation has affected the post-communist spatial pattern formed for industry in the 1990s. The study also examines how relocation and reorganization of production were achieved at a transnational company (Flextronics), as well as the spatial and structural consequences of the changes. Of all the post-communist countries, Hungary forms one of the most important targets for relocation due to its favourable geographical location. In spite of this, the relocation noted to date has not been very intensive, and has not therefore affected the new spatial pattern of industry much either. In the long run, however, relocation can become more intensive and that can lead to relevant changes in the spatial pattern displayed by Hungarian industry.

Key words: relocation, FDI, industry, Hungary.

INTRODUCTION

Relocation is not a new phenomenon, although it has only recently become common, largely due to the fact that the past decade or so, has witnessed considerable changes in the globalizing world economy (Melachrinoudis *et al.* 2000). The movement of transnational companies (TNCs) has become more intense, the spatial order of production has gone through transformation, and the flow of international capital has intensified while also changing direction. As a consequence, regions previously deemed peripheral or semi-peripheral (e.g. Eastern Europe) have also now become the more and more frequent targets of international capital flows, and the location choice of transnational companies. This has resulted in a global shift in the spatial pattern of production (Dickens 1999), with the onset of a transfer of the mainly labour-intensive phases of industrial production from the developed countries (the traditional centres of industry, and so-called 'core economies') to the less-developed countries on the periphery or semi-periphery. Today, relocation of production is already thought of as a natural concomitant of globalization and a key element in the international division of labour. It is also becoming common for industrial plants to be relocated several times.

In Eastern Europe, post-communist countries might only link up with the processes of the world economy after the political changes of 1989. Foreign investment—an almost completely new phenomenon in this region—played an active part in integrating these countries' economies and dismantling inherited communist economic structure. As this part of the continent saw economic renewal and integration into the global economy taking place at the same time, the changes in question posed a major challenge and involved a rather profound and complex transformation that had considerable social consequences (Seliger 2004).

Hungary was in the vanguard when it came to introducing a market economy and changing the structure of the economy in East Central Europe as a whole, making it from early on a favourite target for foreign investors looking for new locations. Due to foreign direct investment (FDI), a new spatial structure for industry had appeared by the mid 1990s (Kiss 2002). However, in the past few years, it was more and more possible to hear about companies moving out of Hungary and relocating production to other countries. This is probably the reason why research into relocation has also aroused Hungarian researchers' (primarily economists') interest (Hunya and Sass 2005; Neumann 1997–98). So far, however, an analysis of the impact of relocation on space and on the spatial pattern to industrial production, has been excluded from research. That is why the present study has sought to emphasise the impacts of relocation on Hungarian industrial space.[1]

The study consists of five main parts. There are first a few words about the change in the spatial structure of Hungarian industry, in which foreign direct investment has played a significant role. Then, the concept and main features of relocation are presented, followed in two chapters by a summarizing of experiences with relocation to and from Hungary gained in Hungarian industry. Specifically, the way in which the new spatial structure of Hungarian industry formed in the 1990s is affected by relocated production is investigated. Finally, by making the reference to the case of Flextronics, the study also examines how relocation of production concomitant with the spatial reorganization of production was effected at a transnational company, and what consequences for spatial structure this had.

The study is partly based on the experiences presented in the professional literature, and partly on articles concerning relocation in industry published between 2000 and 2005 in the Hungarian economic dailies *Napi Gazdaság* (Daily Economy) and *Világgazdaság* (World Economy). The example of Flextronics is based on an interview given by the company's human resources (HR) manager in 2005.

At the beginning of the study it is also necessary to note that the concept of industry applied here means the second sector of the economy, i.e. the three branches of mining, manufacturing and electricity, gas, steam and water supply. Although, we use the term industry, it is manufacturing that is being referred to in most cases, since this is the most important part of industry including more than 94% of industrial enterprises and about 92% of industrial employees as of 2005.

THE ROLE OF FDI IN THE SPATIAL PATTERN TO INDUSTRY

While foreign investment shunned the countries of East-Central and Eastern Europe during the communist era, the years after 1989 saw this part of Europe become an important target for foreign investors. Thus, the share of foreign capital invested in this region increased considerably, from 0.2% to 4.6% of global FDI inward stocks between 1990 and 2005. During this period more than 61 billion USD was invested in Hungary. According to different estimates, about one-fifth of the capital invested between 2003 and 2005 can be connected with relocation (Fazekas 2006) (Table 1).

[1] Spatial pattern and spatial structure mean the same, namely the spatial arrangement or spatial (geographical) distribution of industry.

Table 1. FDI inward stock by host region with particular regard to Central and Eastern Europe, 1985–2005

Host region/economy	1985	1990	1995	2005
	(millions of dollars)			
World	913,182	1,871,594	2,911,725	10,129,739
Developed economies	568,670	1,382,978	2,021,303	7,117,110
Developing economies	344,463	484,954	849,915	2,756,992
Central and Eastern Europe	49	3,661	40,508	470,689
Albania	-	-	211	1,680
Belarus	-	-	50	2,383
Bosnia-Herzegovina	-	108	21	2,067
Bulgaria	-	-	445	9,173
Croatia	-	-	473	12,516
Czech Republic	-	1,363	7,350	59,459
Estonia	-	-	674	12,274
Hungary	49	569	11,919	61,221
Latvia	-	-	615	4,783
Lithuania	-	-	352	6,461
Moldova	-	-	93	1,129
Poland	-	109	7,843	93,329
Romania	-	766	1,150	23,818
Russia	-	-	5,465	132,491
Slovakia	-	81	810	15,324
Slovenia	-	665	1,763	8,064
Macedonia	-	-	33	1,880
Ukraine	-	-	910	17,209
Serbia and Montenegro	-	-	329	5,428

Source: World Investment Report 2004, 2006.

In the first half of the 1990s, it was Hungary among all post-communist states that attracted the largest amount of foreign capital. In other words, at that time the Hungarian economy itself determined the ability of the region as a whole to attract foreign capital (Kiss 2006). Each year industry gained about 40–50% of all invested capital. Naturally, a certain part of this capital reflected relocation. It is very frequent for relocation in industry to go together with the spatial rearrangement or reorganization of industrial production. This can also lead to spatial shifts in manufacturing. For example, after the 2004 EU enlargement, relocation from old member states (the West) to post-communist countries (the East) increased, this also in a certain sense denoting a spatial shift of industrial production from old member states to new (Marginson and Meardi 2000). It can or could also be the case that this spatial shift of industry meant/means structural

or sectoral shifts in industry too, because only certain branches of industry (e.g. textiles, electronics and cars) are being or have been relocated eastward. Oversimplifying considerably, knowledge-intensive branches can be said to remained in the West, while labour-intensive branches have been relocated to the East. It is also true to say that, while sectoral shifts in East Central European countries have often been analyzed, but spatial aspects of increasing economic integration have not yet been investigated in depth (Longhi *et al.* 2005).

Among post-communist countries, Hungary was untypical in having offered a possibility of enterprises with foreign interest being established since 1972. However, numbers only started to increase rapidly after 1989. In 2005, out of 24,787 enterprises with foreign participation, almost 3400 (about 14%) were operating in industry, mainly in manufacturing. In spite of the fact that the companies in question accounted for less than 7% of the total in industry, they were taking considerable share of industrial exports and also playing a key role in employment.

Most of the enterprises with foreign participation are concentrated in the northern part of Transdanubia, which consists of the three regions Western Transdanubia, Central Transdanubia and Central Hungary. Combined these make up hardly one-third of the country's area, yet 68% of the industrial enterprises and nearly 80% of capital invested in industry are operating there. These figures have remained largely unchanged in the past few years, and indeed the role of the region as the 'citadel' of industry has strengthened further (Table 2).

In fact, the northern part of Transdanubia is the country's new industrial area which has been formed country—in Castell's words—by flows of foreign capital. As a consequence, and as capital is in constant motion, can change very fast (Castell 1993) (Figure 1).

The industry of the communist period was based on the location of natural resources, mineral and energy sources, so its

Table 2. Enterprises with foreign participation in industry and foreign capital invested by region in Hungary, 2000–2005

Region	Enterprises with foreign interest		Share of all foreign capital invested in industry in 2000 (%)	Enterprises with foreign interest		Share of all foreign capital invested in industry in 2005 (%)
	their number in 2000	their share (%) in 2000		their number in 2005	their share (%) in 2005	
Central Hungary	1,699	41.9	44.4	1,350	39.8	35.8
Of which: Budapest	1,279	31.5	34.6	965	28.5	67.7
Central Transdanubia	435	10.7	12.9	399	11.8	20.0
Western Transdanubia	605	14.9	13.1	549	16.2	22.2
Southern Transdanubia	353	8.7	2.7	339	10.0	2.8
Northern Hungary	291	7.2	12.1	238	7.1	8.2
Northern Great Plain	224	5.5	6.8	199	5.9	7.9
Southern Great Plain	446	11.1	8.0	313	9.2	3.1
Total	4,053	100.0	100.0	3,387	100.0	100.0

Source: Regional Statistical Yearbook 2000, 2005. Central Statistical Office, Budapest, 2001; 2006.

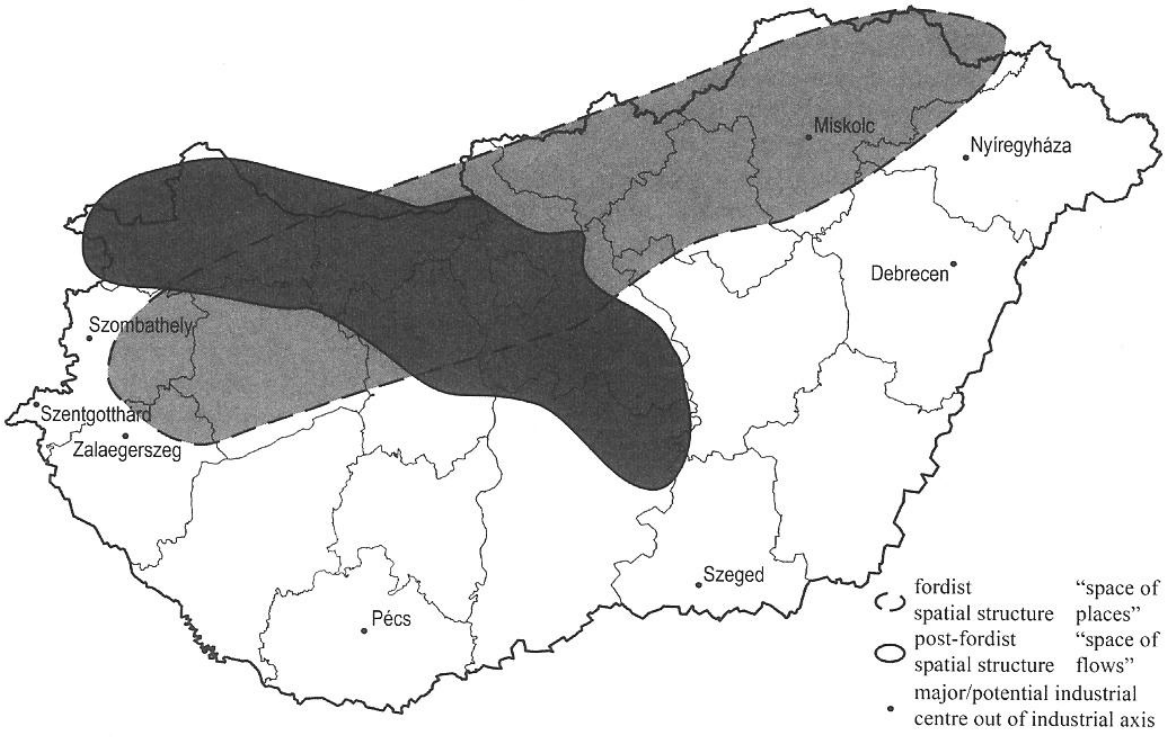

Figure 1. Transformation of the spatial structure of Hungarian industry in the middle of the 1990s
Source: elaborated by the author.

spatial pattern followed the occurrence of mountains running in a NE-SW direction. This region was the old industrial district of the country—in Castell's words again—'the space of places' (Castell 1993). By the mid 1990s, the old NE-SW industrial axis has been replaced by one with NW–SE orientation. Even nowadays this part of the country is the most important scene for industrial production. The change is also well reflected in the number of industrial employees per 1000 inhabitants (Figure 2).

THE CONCEPT AND MAIN FEATURES OF RELOCATION

In the economic literature, the term relocation is taken to imply a company locating, or transferring part or all of its production and/or services to another place (i.e. location) and setting it/them up there again (Kirkegaard 2005; Hunya and Sass 2005). The concept of relocation is mostly used in the international context: when relocations take place from one country to another. In fact, relocation of production means that the company involved ceases to exist in the country 'giving home' to it (usually the country of the parent company) and is set up in the 'host country' (where it is relocated). In the case of industry, relocation can actually be interpreted as deindustrialization in the country from which the company has been relocated and (re)industrialization in the host country (site of relocation).

Relocation differs from outsourcing insofar as that the former involves relocation of production and/or services within a company, while the latter sees production and/or services located outside the company located within the given country or abroad (offshore). In other words, what used to be done by the company concerned is now being bought from a company completely independent of it. Outsourcing does not involve

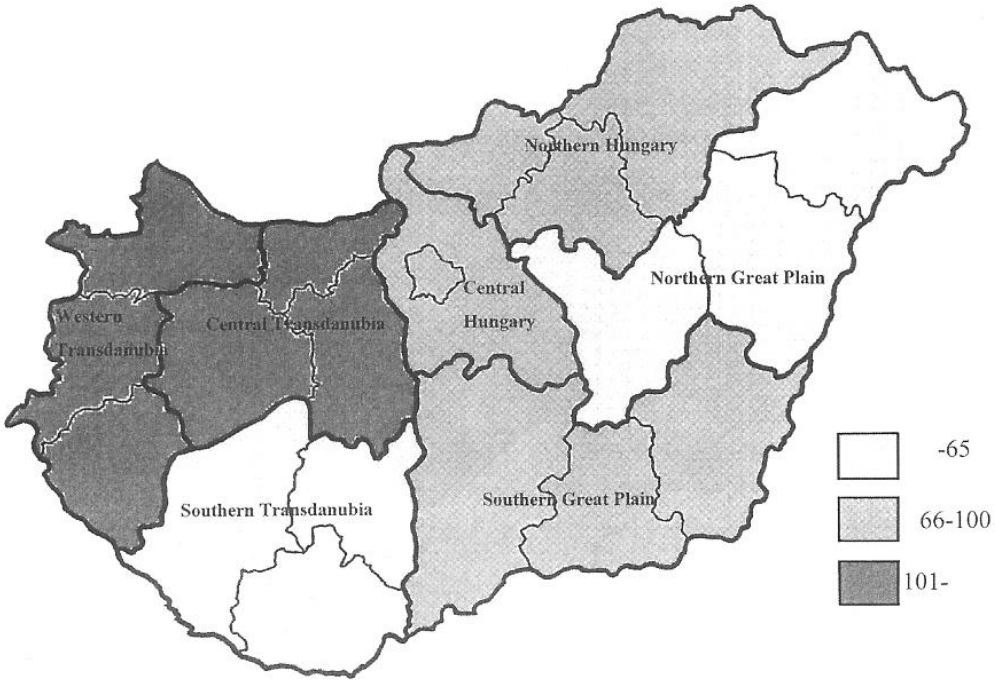

Figure 2. Number of industrial employees per 1000 inhabitants by region in Hungary, 2005
Source: Regional Statistical Yearbook 2005.

a flow of investment capital, whereas relocation affects the movements thereof. In fact, relocation of production is also relocation of capital to a place where costs are lower, it is foreign direct investment (FDI) to a certain degree. If relocation is carried out mainly in order to supply the local market in the place concerned, then it is market-oriented or horizontal FDI that is taking place. For in such cases, the transnational company sets up a production unit of the same kind in the area concerned as is already operating in other countries as well, making similar products. By producing locally, the company actually substitutes import in the given country. According to Shatz and Venables, this is one type of FDI (Shatz and Venables 2000).

The other (vertical) type of foreign direct investment is aimed at reducing costs and increasing efficiency, inasmuch as that it tries to relocate certain phases of the production process to various places with lower costs. It thereby contributes to the disintegration into smaller units of what had been an integrated production process, the smaller units being easier to mobilize and relocate to places where costs are generally lower.

Of the two motivating forces behind FDI relocation, the primary connection is with cost- or efficiency oriented investments. As among overall costs labour costs are an important element and because, there are relevant differences from this point of view, between developed western and less-developed eastern countries (in Europe also), labour costs are important reasons for West to East relocations, making this an extensive phenomenon (Meardi *et al.* 2006).

In the early stages, market-oriented FDI dominated in the post-communist countries. Foreign capital investments aimed at the expansion of the market. Later, however, efficiency-oriented FDI came to the fore, this serving to increase the significance of the cheap labour force. In Hungary, where the change in the political system took place very fast and the interest shown by foreign capital was great, the market-oriented FDI at the beginning of the 1990s also gave way to efficiency-oriented FDI (Hunya and Sass 2005).

Different research has investigated how a cheap labour force was the most important viewpoint in the first wave of relocation for efficiency seeking. But in the second wave the same emphasis was already being put on the quality and flexibility of the labour force and productivity as on costs (Radosevic *et al.* 2003). The first wave of efficiency seeking FDI is usually characterized by direct relocation, while in its second wave, relocation takes place among existing plants (locations), and thus often goes together with a spatial reorganization of production.

Relocation is induced by a complex interrelation of a great number of different factors (e.g. cheaper labour and lower costs in general, rationalization of product structure, reorganization of production, strategic reasons, changing technology, creation of an optimal size of plant). Nevertheless, today, as already noted decades ago—it is still basically motivated by differences in costs (Haynes 1970). Thus, relocation is not a driving force but rather a consequence. The difference in costs can express itself in, among other things, the price of labour, transportation and raw materials. Of these, it is mainly lower labour costs (lower wage costs) that put most in. By now, however, it has also become obvious that lower wage costs are not enough in themselves. If other factors (e.g. costs of moving, the price of the new unit, or the changes in costs over time) are also taken into consideration, it is not at all sure that relocation is cheap and worthwile for a company. It is highly important that the full costs of relocation be taken into consideration, including everything from construction costs to wages-related costs. Access from the new unit to customers, suppliers and transport infrastructure is also an important factor. In addition, possible tax advantages at the potential location, the overall tax burden, the quality of the business environment (especially business security), the quality of local labour and the relationship between staff and management should be taken into consideration (Melachrinoudis *et al.* 2000). Basic factors also having to be taken into consideration include the political stability of the host country and the reliable and predictable operation of its economy. It also has to be emphasised that the choice of new location (site) for the relocating plant depends on which cost-factor of all costs (wage costs or production costs) is considered the main target to be reduced in the host country. According to research carried out in Portugal, 'start-ups and relocations are not attracted by the same set of location characteristics' (Holl 2004). National market access and access to the regional motorway network are the most important factors for relocations compared with start-ups (Holl 2004).

From the point of view of both home and host countries, relocation of production has both favourable and unfavourable and direct and indirect effects. It affects most directly employment, trade and incomes, but also (via the latter) living conditions. This is to say nothing of the emotional, psychological and social consequences which can sometimes have an even more serious impact (e.g. jobs that become redundant because of relocation threaten the livelihoods of the local workforce and their families, while having to find a new job is a psychological burden). Due to relocation, home-country jobs become redundant, this exerting a negative impact on the supplier network and tending to increase imports. At the same time, costs can be saved on, and the competitiveness of the products (or firms) concerned can be increased by manufacturing them in a country where costs are lower. In addition, the labour thus becoming available can find better paid jobs. Simultaneously, in the host country new jobs are created, new technology is introduced, the economy can develop dynamically, incomes can increase and living conditions improve, revenues from taxes increase and infrastructure develops (Hunya and Sass 2005). Relocation can also affect industrial (economic) space. Particularly at the time, if too many firms are relocated from a certain area, this can modify the spatial distribution of industry, and finally the whole spatial structure of the economy. The spatial structure of industry can also change where an industrial plant to be relocated

also had extended supplier relations. Relocation, which is possible not only between already existing locations but also to entirely new ones, is often concomitant with spatial rationalization (Healey 1984).

East Central Europe has now become one of the main destinations for foreign investment and relocation, though the extent of this still falls considerably behind other regions of the world. The great interest in this part of Europe is due to the favourable features of the region (relatively cheap and highly trained labour, geographical and cultural closeness to the developed Western countries, etc.). Another reason is that, through investment in East Central Europe, dependence on one single Chinese or Indian manufacturer can also be reduced. Where the cost factors are concerned, labour costs especially are much higher in Western Europe and North America than in Eastern Europe or the greater part of Asia, the main direction of relocation being from west to east. However, East Central Europe, the post-communist countries can also be attractive targets or destinations for relocation for the developed and less-developed countries of Asia, like Japan, South Korea and China. As a consequence, the East Central European region is in a favourable position from two directions with regard to companies planning to relocate production, and can, therefore, be considered an 'ideal' target region for relocation.

Relocation from Asia to the west (i.e. to East Central Europe) is presumably mainly motivated by easier access to EU markets, as well as by the presence of a labour force much more skilled than over the greater part of Asia, but still relatively cheap. Of the post-communist countries, Hungary is in a special position, primarily due to its central geographical location in the region, placing it in the 'central line' of relocation from West to East, or from East (Asia) to the West. In other words, Hungary is the 'coincident area' for international capital flows from different directions. Since the beginning of the 1990s, Hungary has been a popular target for foreign direct investment, but relocation has become common only in the past couple of years.The Hungarian experiences can serve as an example for other post-communist countries too.

RELOCATION TO HUNGARIAN INDUSTRY

Relocation can be examined from two points of view, depending on its direction. On one hand, the extent of relocation to Hungary can be analyzed—how many companies have been relocated to Hungary? On the other hand, the extent of relocation from Hungary is also analyzed—how many companies have been relocated from Hungary to other places? Also an important issue is whether there is any relevant difference in the effect on the spatial structure of the companies involved in relocation by their nationality (Hungarian or foreign). It is obvious, however, that this question can only be analyzed in the case of relocations from Hungary to other countries.

There are no exact data or any other reliable information about how many enterprises with foreign participation have been established in Hungary as a result of relocation. It can be presumed, however, that their numbers are not considerable. Even in 2005 the number of new investments exceeded the numbers of cases of relocation. The smaller number of relocations is based partly on global trends, and partly on the fact that, in the 1990s, and especially in the first part thereof, relocation must have been a fairly uncommon phenomenon, as that was a period in which enterprises with foreign interest had just started to appear in greater numbers in Hungary. At the time conditions in the country (cheap labour, different allowances, etc.) mostly favoured the establishment of new industrial plants, encouraging foreign investors to do that. This was also the consequence of the fact that market-oriented FDI dominated at the beginning of 1990s.

The experiences of the professional literature where relocations are concerned also confirm the idea that relocation has become common in recent years only. Between

January 2002 and June 2003, for example, a mere 10 more important cases of relocation were registered, while between June 2003 and September 2005 there were a total of 58 in various sectors of the economy, compared with the total number of foreign investment projects equalling 299 (Hunya and Sass 2005). At the same time, the number of relocations is much smaller in industry. For example, there were only 12 such industrial plants planned to be relocated to Hungarian industry from developed countries between 2002 and 2003, while the number of totally new establishments exceeded 50 during this period.

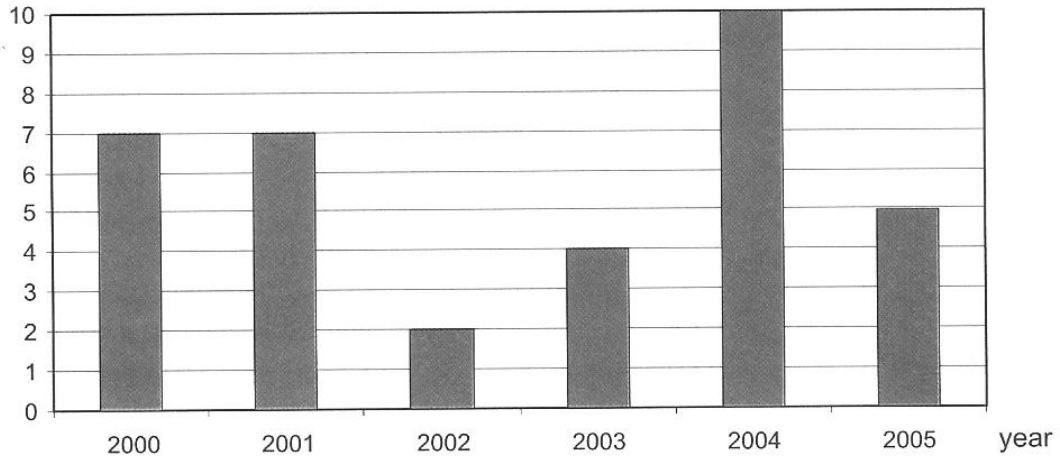

Figure 3. Number of firms relocated to Hungarian industry, 2000–2005
Source: Economic Daily Newspapers 2000–2005.

According to the data collected from the economic daily papers, 35 TNCs have relocated their industrial production partly or wholly to Hungary between the time of the turn of the millennium and the end of 2005. In the case of Hungary, relocation had started to assume sizeable proportions by the end of the 1990s. This process was temporarily broken by the events in the USA in September 2001. Later, due to the EU enlargement, the number of relocations increased once more. The eastern enlargement of the EU made it possible for Western European TNCs to organize their production on a pan-European scale, something that could have a significant impact on the spatial structure of each country's industry (Marginson and Meardi 2000). The increase in relocations was especially great in 2004 and subsequently. More than 40% of all relocations to Hungary took place in 2004 and 2005 (Figure 3).

In most cases relocation to Hungary was primarily motivated by increasing (production or wage) costs in the developed Western countries. Hungarian labour was very cheap, especially at the beginning of the 1990s, and remains relatively so. Even today, for example, a skilled worker at Electrolux in Sweden earns eight times as much as his counterpart at the company's factory in Jászberény. Besides cost-factors several other factors (decreasing demand on the global market, the attraction of government subsidies, dynamically increasing demand in the eastern part of Europe, a qualified labour force and the desire to use up capacity) have also contributed to relocation, although to different degrees depending on companies' strategic plans. An important motivating force in the cases of several firms (Beuer GmBH, Concash Incorporation, Coats Ltd, Kemira GrawHaow) was the desire to use up the maximum capacity of their Hungarian plants. At these

companies relocation has gone hand in hand with the spatial concentration of production, as they have concentrated their production at the Hungarian location.

Experience shows that those branches using labour which is less skilled and less well paid are much more mobile, making their relocation much more likely than in branches using highly- skilled labour. The greater part (about three-quarters) of planned relocations to Hungary are connected with manufacturing machinery (Figure 4).

these branches require a rather large but less-skilled labour force. In these branches, wage costs play an outstanding role in cutting costs. The relocation of companies using less skilled and cheap labour can also have a positive effect on the structure of Hungarian industry. It can promote the advancement within industry of the knowledge-intensive sectors.

The overwhelming majority (86%) of relocations to Hungarian industry come from within the EU, from among the old

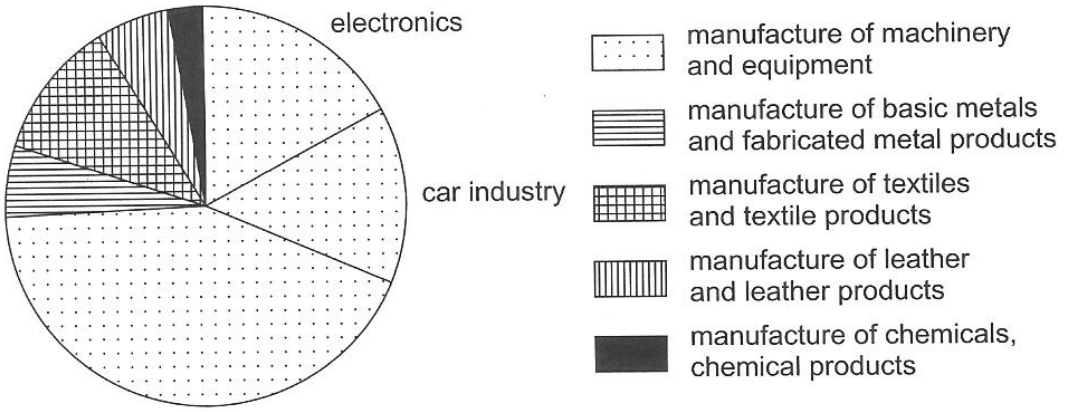

Figure 4. Share of firms relocated to Hungarian industry by branch, 2000–2005
Source: Economic Daily Newspapers 2000–2005.

Within the machinery industry it is electronics and carmaking that are branches in which relocation is more frequent (Dicken 1999). This is probably due, among other things, to the fact that these branches are typical assembly-line branches using a great number of different components to produce finished products. As a consequence, the various phases of production can be well divided in space, making relocation relatively easy. Relocation is also induced by the fact that these branches do not require a skilled labour force and are very cost-sensitive.

Among the light industrial branches it is textiles, the leather industry and shoemaking in which relocation takes place more frequently. The main reason for this is that

member states. In particular, the share taken by Germany is high, more than one-third of relocations coming from there. Then Great Britain, The Netherlands and Austria follow, with three cases in the years 2000–2005. Other Western countries have supplied only one or two relocations (Table 3).

Geographically, the relocation to Hungary was rather restricted in space, since relocation within the continent mostly dominated. Relocations mainly took place from the western half of the continent. Only three registered cases involved relocation from regions beyond the European continent. A German company relocated production from China. This is a special case of relocation as it can be considered 're-relocation'.

A Japanese car company (the ARRK Corporation) relocated production from Japan to Hungary in 2001 and Concash Incorporated carried out a relocation from USA in 2004.

gary was relatively large, the impact on employment has not been great, increasing the number of employees by just 3000 or so in an industry in which more than 750,000 people worked in 2005.

Table 3. Relocated firms in Hungarian industry by country of origin and destination, 2000–2005

Where from:	Number of firms relocated to Hungary	Where to:	Number of firms relocated from Hungary
Germany	12	China	6
Great Britain	3	Ukraine	2
Austria	3	Slovakia	2
The Netherlands	3	Austria	2
Spain	2	Bulgaria	1
France	2	Romania	1
Belgium	2	Germany	1
Italy	1		
Sweden	1		
Switzerland	1		
China	1		
Japan	1		
Western Europe and/or USA	3		
Total	35		15

Source: Economic Daily Newspapers 2000–2005.

Owners' nationalities regarding relocations to Hungary have differed very much from the origins of relocation. This is especially true for the German and American investors, who have mostly relocated production from their Western European factories, and not from Germany or the USA, in which their headquarters are located. The majority of investors (owners) were from Germany (34%) or the USA (26%). This is probably due to the fact that costs are highest in these countries.

Firms relocating to Hungarian industry can also be classified by the reference to the locations of their headquarters: 28% of these are in overseas countries (the USA, Japan) and 72% can be found in EU countries (Germany, The Netherlands, Sweden, etc.).

While the number of relocations to Hun-

In the case of the relocation of production to Hungary, the northern part of Transdanubia proved to be the most attractive, this region attracting about half of all relocations to Hungary. This is obviously no accident, being explicable in terms of numerous factors: favourable geographical location, good transport connections, closeness to major investors, historical links, good German-language knowledge, skilled labour force, good living conditions, plant already in existence. Relocation to Hungary reinforces the spatial structure of industry developed earlier, as the destinations for relocations are in this region. The second most attractive region of the country was the Northern Great Plain Region, in which one-fifth of relocations are concentrated. This

is probably due to the lower labour costs of this region, there being differences in wages between the western and eastern parts of the country. (On average, the wages in the west are 10–20% higher). But the closeness of the Ukrainian border may also have contributed to the attraction of the north-eastern region, and can later make it possible for further relocation of production to take place (Figure 5).

production from Sárbogárd to China, as costs in the latter were lower. It came as a shock to the workforce and to the local community because it meant not only the relocation of production, but also the complete wind-up of the factory, in spite of the fact that only a year earlier there had been plans to develop the factory further. Also, as 1100 jobs were to be lost in a small town every local family would be affected directly or

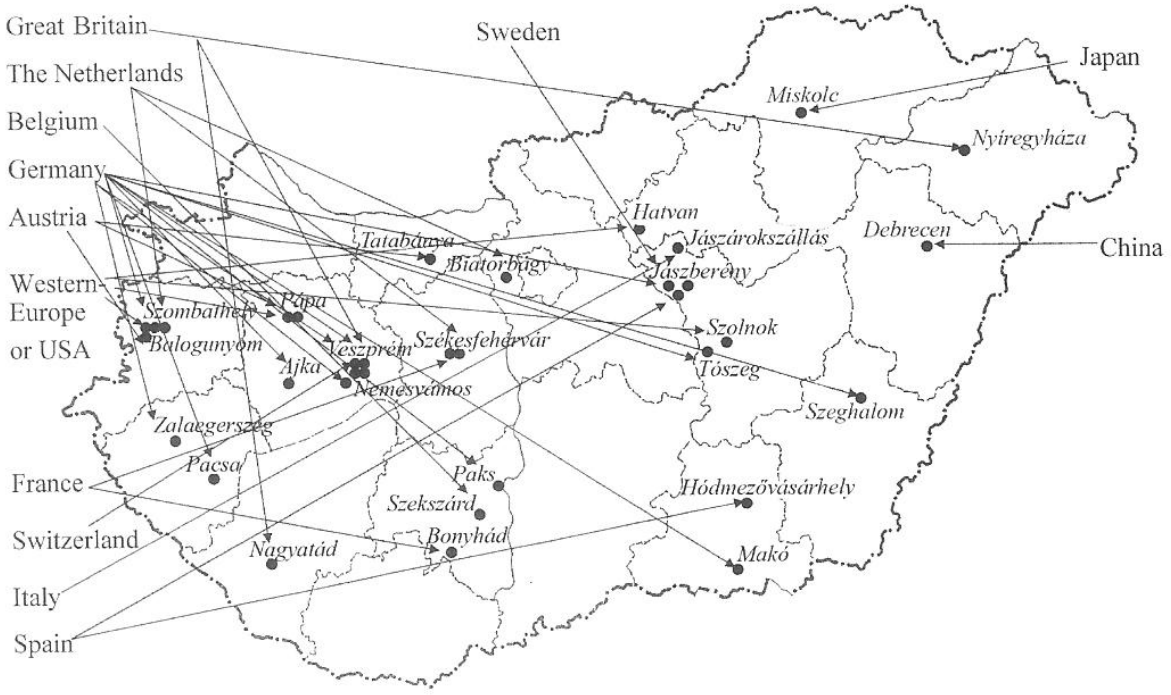

Figure 5. Relocation to Hungarian industry, 2000–2005
Source: Economic Daily Newspapers 2000–2005.

RELOCATION FROM HUNGARIAN INDUSTRY

In recent years, there have also been more and more cases of the relocation of production from Hungary to other countries. The first such case can be identified accurately (from July 2000), on account of to the fact that it caused quite a stir and was given wide publicity when Mannesmann VDO Car Communication decided to relocate

indirectly. Another factor was that relocation was a completely new phenomenon for the local community and society as a whole. People living in post-communist countries believed that foreign investment projects would be lasting. (Mannesmann had owned the factory since 1997. Earlier it was owned five years by Philips). They were soon forced to realize, however, that enterprises with foreign interest did not come to settle here 'forever', and as soon as they found more favourable conditions somewhere else, they

would move immediately, relocating production and closing down their plants opened in a post-communist country only a few years earlier. Not having had similar experience, the community in Sárbogárd took it as a bitter pill that a well-known transnational company can close down its factory from one day to the next, and relocate production to another country in which wage-related costs are lower.

Although since the turn of the millennium there have been similar cases almost every year, they have not had such repercussions. This may reflect a 'learning process', as the peoples from the post-communist countries have come to realize that it is part and parcel of the fierce competition characteristic of market economies that companies relocate production and services to countries in which costs and other factors and conditions are the most favourable. This is also a key element of globalization, and it is asserting itself more and more strongly, as global competition is sharper today than ever before. In global competition transnational companies can move 'freely', almost without 'restrictions', and it should always be kept in mind that capital will go where the conditions are more favourable and costs are lower.

While there are no reliable data on the extent of the relocation of production from Hungary either, various sources available suggest that such cases have so far been much more uncommon than relocations to Hungary. Between June 2003 and September 2005, seven cases of relocation from Hungary were registered in the whole economy (Hunya and Sass 2005). At the same time, as data from the economic daily papers were being collected, 13 such cases in industry came to light between 2000 and 2005. The majority (70%) of companies leaving Hungary relocate all their production to another country. In contrast, where companies relocate to Hungary this share is only 50% (Table 4).

The decision of the companies relocating their production from Hungary to another country was also mostly motivated by lower wage-related costs. For example, Flextronics, which supplied Microsoft, relocated its plant from Sárvár to China in 2002, in order to cut production costs. But the fact that the majority of component parts were produced in China also contributed to their decision. In 2002, Japan's TDK, producing electronics goods, decided to relocate part of its production from Rétság to Ukraine, as wage-costs in the latter were just one third of those in Hungary. At that time, the average salary in Ukraine was EUR 195, while in Hungary it was nearly EUR 600. In 2004, the Kaposvári Ruhagyár Kft. producing textile products came to a similar decision with the aim of reducing production costs. This latter case is also remarkable because it indicates that the companies relocating abroad are now also including Hungarian ones. This means that it is not only the relocation of production by foreign companies operating in Hungary that should be counted on, but also the commencement among Hungarian enterprises of a trend to make use of the opportunity to relocate to countries where labour is cheaper. It is also worth mentioning that Hungarian labour is not as cheap as it was in the 1990s.[2]

Besides cost-factors there are many other reasons contributing to the relocation of TNCs (e.g. new market conditions due to EU enlargement, lower demand owing to the recession in the given branch, increasing transport costs). Japan's Shinwa has relocated its production to China because it was very labour-intensive and because its major customers had also relocated there. The lack of skilled workers in certain branches or in regions of the country can also be an important reason for relocation out of Hungarian industry. Even today there are some 20,000 Slovaks working in the northern part of Transdanubia, mostly in industrial plants, as the domestic labour market is not able to supply sufficient skilled workers in this area. Growing labour costs and a lack of skilled workers are to be reckoned with even more in the future than today, which means that the relocation of production from Hungary may become even more frequent.

[2] The net average salary increased 10-fold, from EUR 45 to EUR 450 between 1990 and 2005.

Table 4. Relocation from Hungarian industry, 2000–2005

Name of enterprise	Relocation where from:	Relocation where to:	Branch	Reason for relocation	Year of relo-cation	Number of redundant/ dismissed employees
Mannes-mann VDO Car Commu-nication	Sárbogárd	China	Manufacture of electrical equipment	-much lower wage costs, -lower prices of components	2000	1100
Shinwa Co. Ltd.	Miskolc	China	Manufacture of electrical equipment	-lower wage costs -its buyer up closed down its firm -its buyer up is not obliged to buy components manufactured in Europe	2000	850
Henkel Group KGaA	Barcs	Romania	Manufacture of chemicals	-transport of special chemical products is too expensive from Hungary to Romania, therefore a plant was established there	2001	about 50
Videoton Holding Rt.	Székes-fehérvár	Bulgaria	Manufacture of electrical equipment	-continuously increasing production costs -global recession in electronics	2001	-
Perion Akkumulá-torgyár Rt.	Budapest	Slovakia	Manufacture of chemicals	- the planned new Hungarian plant could not have been built because of local protests	2001	250
TDK Elektronika Magyar-ország Kft.	Rétság	Ukraine	Manufacture of electrical equipment	-wage costs are much lower in Ukraine -to increase competitiveness - excessive production costs in Hungary	2002	200
Flextronics Internatio-nal	Sárvár	China	Manufacture of electrical equipment	-to save transport costs -to reduce production costs -to locate producing and assembling units close to each other	2002	850
Royal Philips Electronics	Szombathely	China	Manufacture of electrical equipment	-sharpening competition on global market -decreasing demand	2003	500
Alcoa Fujikura	Mór	China	Manufacture of basic metals and metal products	-world economic recession -decreasing demand	2003	137
Kaposvári Ruhagyár Kft.	Kaposvár	Ukraine	Manufacture of textiles and textile products	- much lower production costs in Ukraine	2004	-
OK.Magyar Kesztyű-gyártó és Kereske-delmi KV.	Pécs	China	Manufacture of leather and leather products	-lasting lack of skilled labour -constantly increasing production costs	2004	200
Kraft Foods	Budapest	Slovakia Austria	Manufacture of food products	-to save costs -new market conditions owing to EU accession	2004	320
Tchibo Hungaria Kft.	Budapest	Austria Germany	Manufacture of food products	-development of Hungarain factory too costly - further production of Hungarian plant does not fit into development strategy of company	2005	48

- no data.

Source: Economic Daily Newspapers 2000–2005.

Of course, in case of relocation from Hungarian industry too, it is the representatives of the cost-intensive sectors (the textile industry, electronics) that make up the bulk of the companies relocating from Hungary. The relocation of companies requiring less-skilled labour can have a favourable impact on structural change in Hungarian industry, bringing knowledge-intensive branches to the fore.

There are considerable differences in destinations of relocation between Hungarian and foreign-owned companies. Probably because of their smaller size and lack of international experience, Hungarian-owned companies prefer to relocate into neighbouring countries which are relatively close but at the same time have lower production costs. Ukraine, Bulgaria, Slovakia and Romania are the primary relocation targets for Hungarian firms. The business environment of these countries is more familiar. Among the owners of firms relocated from Hungary, Germans (31%) were the most frequent, then Hungarians (23%) and the Japanese (23%) followed.

The choice of new locations by companies moving out of Hungary also shows how important cost factors are, as almost every company wanted to relocate production to countries (e.g. China, Ukraine, Romania) in which wage-related costs are much lower. Of the new targets, China is especially important, being chosen by half of the relocating firms. This is due, not only to lower wages, but also to the huge local market. Regarding the destinations for industrial relocation, the geographical space becomes much wider and countries providing more favourable conditions can become destinations, regardless of the continent they are to be found in, as opposed to relocation to Hungary which is restricted to countries of origin on the European continent (Figure 6).

There are also cases of the production of a Hungarian plant being relocated to two countries. For example, Kraft Foods has relocated the labour-intensive part of

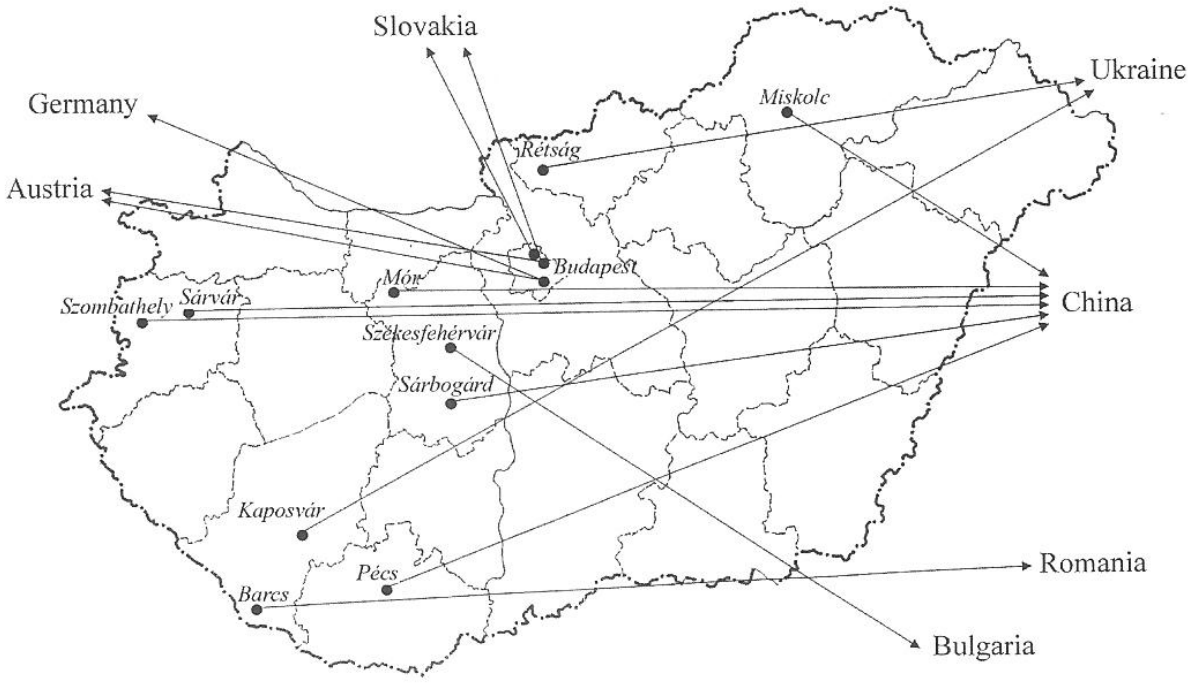

Figure 6. Relocation from Hungarian industry, 2000–2005
Source: Economic Daily Newspapers 2000–2005.

its production to a lower wage-cost country (Slovakia), while the other part of production requiring skilled labour went to a more-developed country (Austria).

So far, the relocation of production from Hungary to other countries has not affected the new spatial pattern of industry greatly, primarily because of the small number of such cases (the number of relocations to this region is much higher). About one third of relocations from Hungary have been from such regions of the country as do not belong to the new industrial axis and are also less developed. As a consequence, relocation from these areas can threaten the economic development of the area and livelihoods in the local community. It can also increase regional disparities between the more-industrialized northern part of Transdanubia and other parts of the country.

THE CASE OF FLEXTRONICS

Flextronics is one of the world's largest contract manufacturers in electronics. Its headquarters are in Singapore, but it has factories employing thousands of people in some 30 countries. The choice of this company can be explained by the fact that it has carried out relocations within the country too. As Flextronics has several locations in Hungary, it is a good example of how a company organizes its production among different sites. The case of Flextronics is also good, because contract manufacturers are more sensitive to changes in locating factors and the world economy. They are highly flexible in adapting to demand, and always locate manufacturing from one country to another in line with customers' requirements. They may thus even relocate production several times a year, with simultaneous changes, not only in the spatial organization of production (as described by Dicken), but also in the spatial location of production units and types of products manufactured therein (Dicken 1999).

Flextronics appeared in Hungary in 1993, almost exclusively because of the presence of cheap labour, though traditions, earlier experiences of industrial culture, the high volume of available labour and labour mobility also contributed to a limited extent to Flextronics choice of Hungary within the Eastern European region. At the outset, Hungary was considered in its corporate strategy system as a country suitable for cheap mass production. Later, however, the company was increasingly likely to locate knowledge-intensive activities in Hungary also, with only the highly labour-intensive units being located further east.

First, Flextronics set up plants in three towns in Transdanubia (Zalaegerszeg, Sárvár and Tab) in the 1990s. Later, in 2000, it built a factory as a green-field project in the town of Nyíregyháza situated in, in the north-eastern part of the country, on the Great Plain. At present, the company has six factories in these four towns, each of these with its own profile, and locating in local industrial estates. As the factory in Nyíregyháza was set up, two factors played an important role. One was the difference in salaries, since, as the HR manager said, the northern part of the Great Plain region had labour about 10% cheaper than in Transdanubia.[3] The other reason why the plant was established was the favourable geographical location. Namely, Nyíregyháza is situated close to the Ukrainian border, which makes it possible to obtain cheap labour from Ukraine or, in the case of a local shortage of labour, to have access to an adequate volume of labour. In addition, the Nyíregyháza plant could also later (and the management did take it into consideration from the start) promote relocating of production to Ukraine. Production lines from Sárvár and Zalaegerszeg were transferred to Nyíregyháza, together with those products that were highly labour-intensive.

A plant in the town of Beregszász (Berechove) in Ukraine opened in 2005, and is the result of Flextronics's further eastward extension beyond Hungary's borders. This unit

[3] According to official statistics, the difference in the average monthly industrial net salary between the northern part of Transdanubia and the northern part of Great Plain was 19% in 2005.

belongs to the eastern Hungarian Industrial Estate and operates under its management. Productive machines and equipment which require a large volume of low-skilled labour were transferred to the plant in Ukraine from Nyíregyháza.

The company has created a special division of labour among its various factories. The units using highly-skilled staff (e.g. design centre, prototype centre), which are capable of producing any of Flextronics's products, are to be found in western Hungary, while the factories in the eastern part of the country and in Ukraine focus on more labour-intensive phases of production. New models as well as products requiring highly-skilled labour are first manufactured in the western part of Hungary, then, when production has already reached a mass scale, the company starts making them in the other factories as well.

The manufacture of the different parts of colour printer well illustrates the special organization of production among the plants with different fundamentals. The most important feature of production organized on the basis of vertical integration is that the 'finished products' manufactured at the different factories are delivered to the assembly plant, where the end product is made (Figure 7).

The main phases and locations of colour printer production are as follows:

• Manufacturing of printed circuit boards in the Zalaegerszeg factory of Flextronics.

Reason: it is the factory with the highest level of technology; knowledge-intensive work phase.

• Producing plastic castings at the Sárvár factory, the largest plastics-casting plant in Hungary.

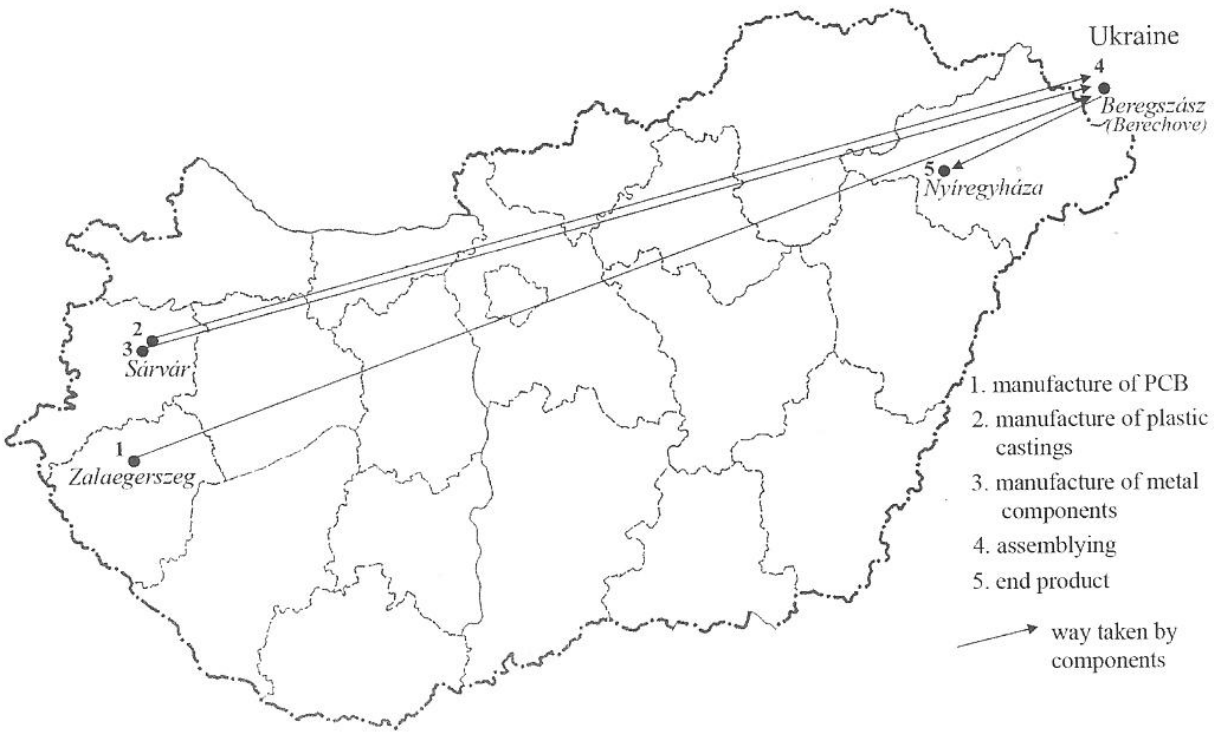

Figure 7. Spatial distribution of the phases of production of colour printer among different sities of Flextronics, 2005

Source: Interview with HR manager of Flextronics in 2005.

Reason: application of expensive equipment and tools, their maintenance requires highly-skilled labour; a capital and knowledge-intensive work phase.

- Manufacturing precision metal components by the French firm Amtech, a Sárvár-based supplier of Flextronics.

Reason: the technology and manufacture of the products are not among the basic activities of Flextronics; a knowledge intensive-process.

- Assembling components in the Beregszász plant. The components manufactured at different locations are delivered to Ukraine, where they are assembled into finished products.

Reason: it requires a high volume of low-skilled labour; a labour-intensive work phase.

- Manufacturing, testing and boxing the end products at the Nyíregyháza plant.

Reason: this work phase requires a higher level of knowledge and skill than the workforce available in Ukraine possesses; a knowledge-based work phase.

The plants of Flextronics located in Hungary have not had a noteworthy impact on the spatial pattern of industry at either than regional, or local levels. This is primarily due to the fact that they are mostly located outside the new industrial district, in the northern part of Transdanubia, and they are operating in old industrial facilities established before the 1990s. The other reason why they have not had any significant impact on industrial space is that relocation of production has taken place among already existing plants. Doubtless, however, the setting up of a plant in the less-developed north-eastern part of Hungary, has allowed Flextronics to contribute greatly to economic development and, even if only to a small extent, to the industrialization of this area, as well as to the reduction in regional disparities in industry.

CONCLUSIONS

In Hungary, like other post-communist countries, foreign capital investment as well as relocation appeared as a relatively new phenomenon after 1989. However, while the former was quite intense as early as in the 1990s, the latter has become common only after the turn of the millennium. Despite this, relocation in industry is still relatively limited. This is especially true in the case of relocations from Hungary to other countries. This can be regarded as a positive feature in a certain sense, because it means that so far Hungarian industry and the post-communist or postfordist industrial space have not had to face the threat of 'deindustrialization', the moving of industrial plants out of the country in large numbers. And, considering the extent of relocation so far, it is not something to be reckoned with in the near future either. In the short run, at least, a sharp intensification of relocation is unlikely to take place. In the long run, however, relocation from Hungary may become more intensive, and this may have a significant impact on the current spatial structure of industry, especially where TNCs located in the northern part of Transdanubia leave the country.

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