FDI in Hungary – the first mover's advantage and disadvantage

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1. Introduction

Hungary – a small economy by global standards, but one of the largest in Central and Eastern Europe (CEE) – was among the first CEE countries to start rebuilding its market economy after more than 40 years of socialism. From the outset, foreign direct investment (FDI) was considered a key element in Hungary's transition from plan to market. In the first half of the 1990s, Hungary enjoyed the largest FDI inflows (initially in absolute terms but later only in per capita terms) of all the (former) transition economies. More recently, however, Hungary seems to have lost this position, with a decline in FDI inflows that started in 2002 and has continued since then.

Notwithstanding the recent slowdown in FDI flows, Hungary accumulated a substantial inward FDI stock. Given the early start of this accumulation, there is a good database for a deeper analysis of the characteristics and impacts of FDI inflows to Hungary. Having been a first mover in attracting FDI resulted in numerous advantages and disadvantages for the country. The paper has a double aim: first, to show the main characteristics, motivations and impacts of FDI in Hungary, second, to illustrate the advantages and disadvantages of being a first mover.

The remainder of the paper is structured as follows. The next section presents key facts about FDI in Hungary, stressing – among other things – the difference in the coverage of Hungarian FDI data and that of other CEE economies. Section 3 discusses the main factors that attracted FDI to Hungary, and Section 4 examines the effects of FDI on the Hungarian economy. Section 5 concludes and highlights the advantages and disadvantages of having been first among CEE countries in embarking on an FDI-based transition and development strategy.

2. Key facts about FDI in Hungary

2.1 The importance of FDI in the Hungarian economy

Hungary is one of most successful CEE countries in attracting FDI. In 2001, it was home to around 20 percent of the inward FDI stock of new EU members from CEE and 12 percent of the FDI stock of all (former) transition economies (including the former Soviet Union).[1] The country has attracted a significant amount of FDI relative to the size of the economy and its participation in world trade. The inflow of FDI constituted a high share of gross fixed capital formation even by international standards, and the stock of FDI in percentage of GDP has been similarly high.

As a result, foreign-owned firms now play an important role in the Hungarian economy, and – as Figure 1 shows – their contribution to economic activity has increased over time.[2]

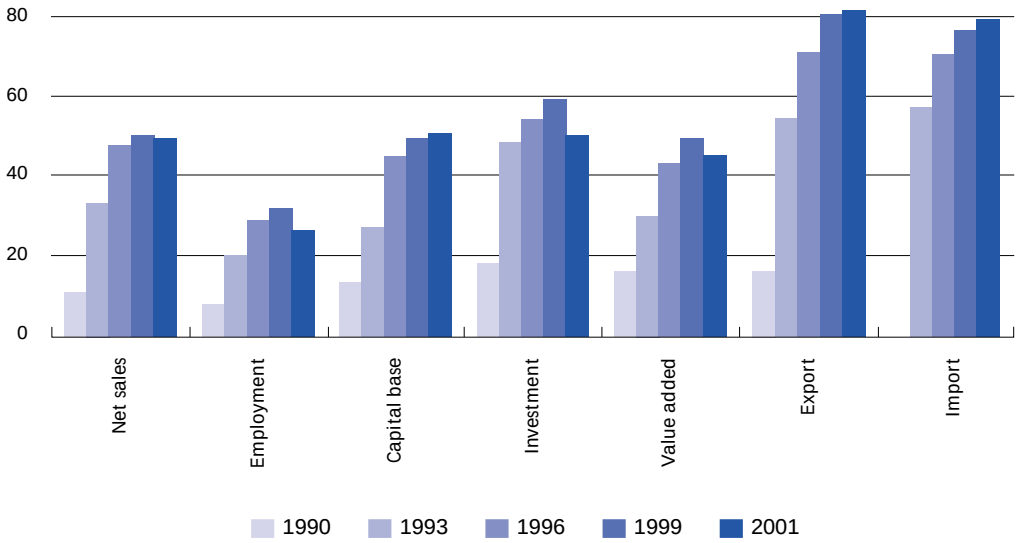
1 Own calculations based on UNCTAD data.

2 For the purpose of this paper, foreign-owned firms are defined as those firms that have a foreign participation of at least 10 percent. It is important to note that transfer-pricing practices make the comparison of the performance of domestic enterprises with foreign-owned firms problematic.

For instance, the 26,000 companies with foreign participation operating in Hungary in 2001 accounted for about 80 percent of international trade, half of gross fixed capital formation, and some 25 percent of employment. Overall, the contribution of foreign-owned firms to economic activity is substantial by international standards. But one needs to bear in mind that the importance of foreign-owned firms in the Hungarian economy is not only due to considerable FDI inflows. Another factor that has contributed to the increasing share of foreign-owned firms is the large incidence of bankruptcy among indigenous firms. In fact, Barta (2002) observes that only 20-25 percent of indigenous firms have survived since the beginning of transition and the gross fixed capital formation of the survivors was moderate. In essence, the disappearing indigenous firms provided room for foreign-owned companies to expand.

In the 1990s, Hungary experienced substantial FDI inflows, resulting in a share of foreign-owned firms in economic activity that is large by international standards ...

Figure 1. Share of foreign-owned firms in the Hungarian economy (in %), 1990-2001



Notes: Foreign-owned firms are firms with a foreign participation of least 10 percent; the vertical axis shows the share of foreign-owned firms (in %) in the respective economic activity.
Sources: Hungarian Central Statistical Office.

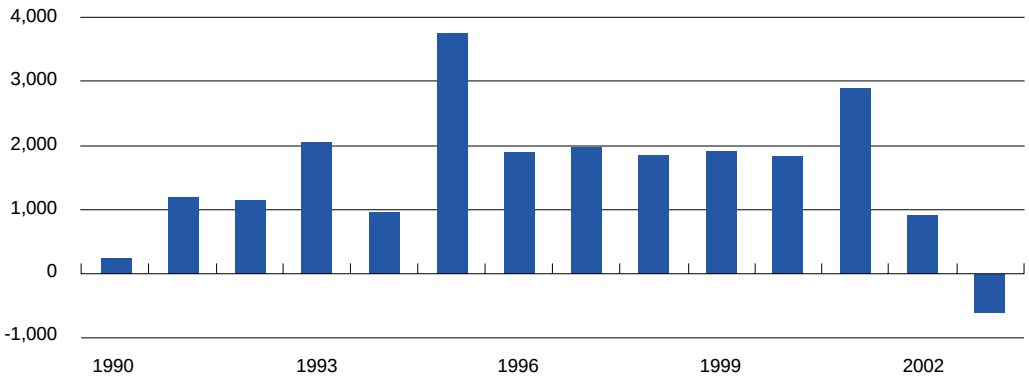
FDI flows to Hungary have not spread evenly over time since transition began, however. In fact, one may ask whether the first mover of the region stagnates. Balance of payments statistics for Hungary suggest very high FDI inflows in the first half of the 1990s (notably in 1993 and 1995 due to considerable privatisation deals) and in 2001, but a considerable drop in 2002-03 (see Figure 2). Remarkably, FDI flows to Hungary declined sharply not only relative to earlier inflows to Hungary but also compared to competitor countries in the region, especially the Czech Republic, Poland and Slovakia. More specifically, Hungary's share in FDI flows to all CEE countries[4] fell rapidly – from 35 percent in 1995 to almost 5 percent in 2002. Anecdotal evidence seems to confirm the relative decline of Hungary

3 Pula (2003) and data provided by the Central Statistical Office suggest a share of FDI in the total capital stock of the Hungarian economy of 34 percent (2001 figure). Using the estimated value for the stock of FDI including reinvested earnings, the ratio probably surpasses 40 percent.

4 This includes the eight new EU member states from CEE, Bulgaria, and Romania.

as a destination for FDI. For instance, in recent years, large greenfield-investors (especially in the automotive sector) have almost always chosen a location in the other three large CEE countries rather than in Hungary (Sass 2003c). Is it possible that the stock of FDI in Hungary has reached an upper limit where FDI flows start to stabilise at a lower level? Or are there other reasons for the apparent decline in inflows? These questions merit a closer look at the underlying FDI data.

Figure 2. Balance of payments data on FDI flows to Hungary (in millions of EUR), 1990-2003



Notes: 2003 data for the period through October.
Sources: Hungarian National Bank.

... but over the last two years, FDI inflows seem to haven fallen considerably.

2.2 Explaining the recent decline in FDI inflows

With regard to the question whether the stock of FDI has possibly reached an upper limit, the evidence is inconclusive. On the one hand, the penetration of foreign firms in Hungary is among the highest in the world, which could imply that an upper limit was reached. The large presence of foreign investors in many domestic-market-oriented activities leaves room for other investors only if the economy is growing rapidly for an extended period of time. In Hungary, many investors could not find further scope for profitably extending their activities and, thus, they started to invest in neighbouring countries, which from 1997 on even led to a considerable increase in outward FDI. Moreover, cost-reducing, export-oriented projects tend to choose other countries in the region with cheaper and more abundant (unskilled or semi-skilled) labour. On the other hand, there are numerous unused resources in the country. For example, besides the low labour force participation rate, the availability of unused pools of skilled labour in many regions of Hungary points at yet unexploited foreign investment opportunities.

A more fundamental observation is, however, that the decline in FDI inflows is not as strong as balance of payments data imply. In examining the FDI data for Hungary, it is important to note, first, that the underlying balance of payments statistics comprise only two out of three FDI components. FDI inflows ought to comprise equity investments, inter-company loans, and reinvested earnings. Hungarian balance of payments statistics comprise equity investments and, as from 1995, inter-company loans, but they omit reinvested earnings. This makes the comparison of flows and stocks across countries

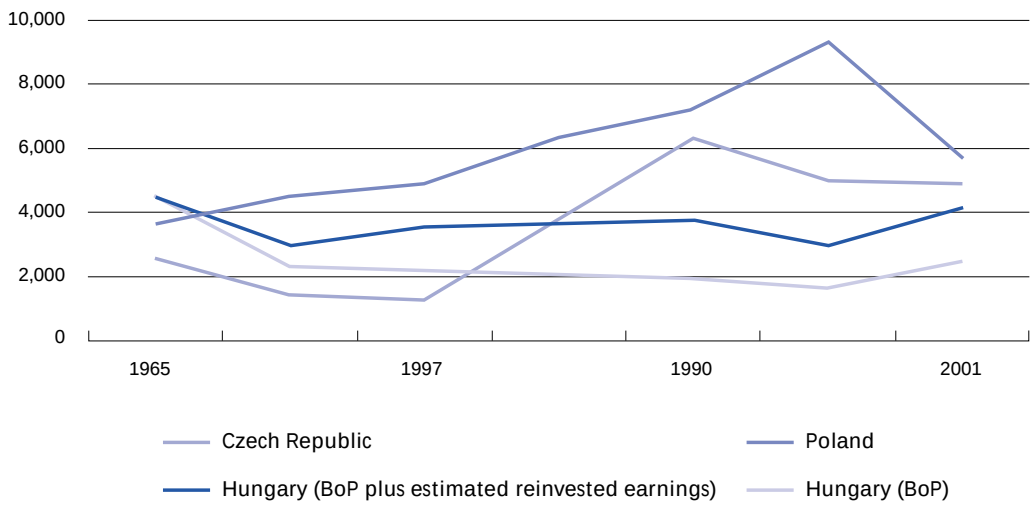
difficult and distorts the picture that we get when comparing Hungary to its main CEE competitor countries, whose balance of payments data comprise all three FDI components (Sass 2003c).

To get a more accurate picture of FDI in Hungary, we complement balance of payments figures with data on reinvested earnings available from national accounts statistics. While these statistics are believed to understate the true size of reinvested earnings of foreign-owned firms, they clearly show that such earnings are far from negligible. More specifically, in 1995-2001 – the period for which national accounts data on reinvested earnings are available – reinvested earnings are estimated to have ranged from 2 to 4 percent of GDP, implying considerably higher FDI flows and stocks than what balance of payments data suggest.[5]

One reason for the apparent drop in FDI flows is that official data exclude reinvested earning of foreign-owned firms...

This obviously has implications for the comparison of Hungary with other CEE countries. Figure 3 shows FDI flows to Poland, the Czech Republic, and Hungary – for the latter FDI flows are based on official balance of payments as well as those including estimated reinvested earnings. Two key messages transpire from Figure 3. One is that during 1995-2001 annual average FDI flows to Hungary may have been some EUR 1 billion higher than officially recorded. The other is that while other countries have indeed gained ground relative to Hungary, the relative decline in Hungary's position does not seem to be as pronounced as balance of payments statistics imply.

Figure 3. FDI flows to the Czech Republic, Poland, and Hungary (in millions of USD), 1995-2001



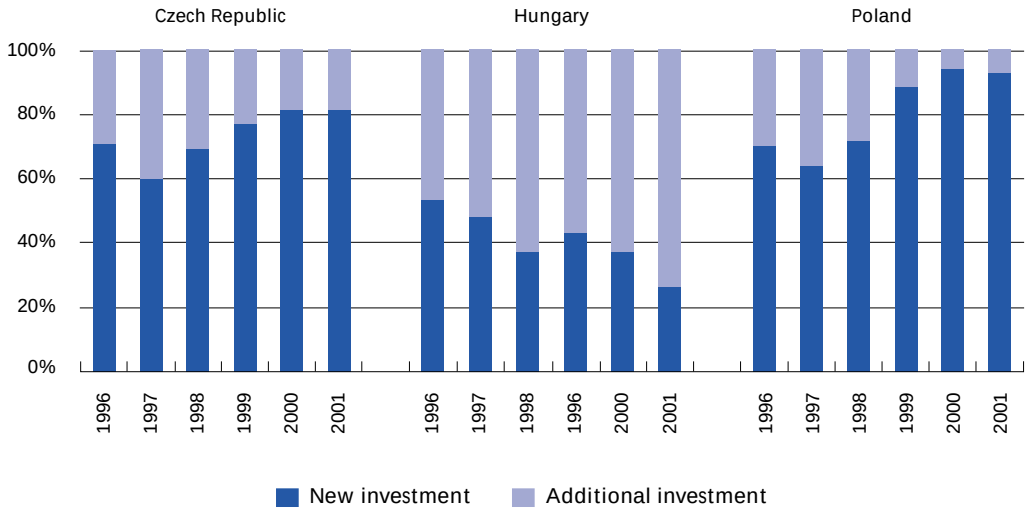
Sources: Balance of payments data provided by respective national banks.

5 As a result, the stock of FDI may exceed officially published data of close to EUR25 billion in 2002 by about EUR10 billion. The Hungarian National Bank presented full FDI data (with all the three FDI components) in March 2004 for the first time. These data indicate that our estimation of the size of the omitted component (reinvested earnings) was very close to what the Hungarian National Bank now reports.

The problems and distortions arising from omitting reinvested earnings in FDI data are getting bigger the more mature a country becomes as an FDI destination. With the stock of FDI gradually building up and eventually approaching some upper limit (relative to the size of the economy), the importance of reinvested earnings and inter-company loans can be expected to increase compared to equity investments. In essence, reinvested earnings and inter-company loans will become increasingly important in countries that already have a significant stock of FDI. By implication, first movers, such as Hungary, with a head start in attracting FDI are likely to experience sooner a change in the structure of FDI away from equity investments than latecomers. This can be clearly seen from Figure 4, which shows for Hungary, Poland, and the Czech Republic how total FDI inflows break down into "new" FDI (i.e. equity investments) and "additional" FDI (i.e. reinvested earnings and inter-company loans). Hungary has experienced a fall in the share of equity investments since 1996, and estimated reinvested earnings and inter-company loans have accounted for more than half of total FDI inflows. By contrast, in the Czech Republic and Poland, new (equity) investments still represent the bulk of annual inflows.

... resulting in a distortion of data that can be significant in countries like Hungary that have already accumulated a large stock of FDI.

Figure 4. The structure of FDI in the Czech Republic, Hungary, and Poland (1996-2001)



Notes: New investment is defined here as equity inflows; additional investment comprise the remaining components of FDI, i.e. inter-company loans and reinvested earnings.

Sources: Balance of payments data, provided by respective national banks; estimates of reinvested earnings for Hungary: national accounts data published by the Hungarian Central Statistical Office.

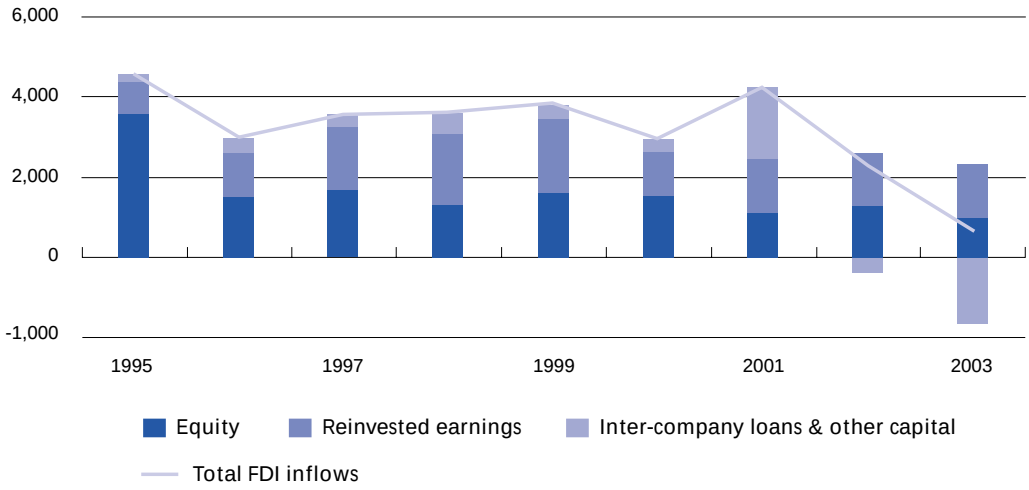
In trying to understand trends in FDI flows to Hungary, we also need to look at developments in inter-company loans. In general, this FDI component is a more important source of financing the extension of capacities and additional investments in a host country with a relatively large stock of FDI. However, international experience shows that inter-company loans can be very volatile, and a small number of large transactions can conceal underlying developments in FDI. To illustrate this in the case of Hungary, one inter-company loan of more than EUR 1 billion occurred in 2001, but the same loan was being repaid in subsequent years, causing large annual fluctuations in recorded FDI flows.[6]

6 This loan did not finance capital formation. It was provided by a German parent company to its affiliate, and the affiliate used the loan to buy out its US partner in a common project.

More generally, inter-company loans are also a means used by parent companies to withdraw capital during a recession. Figure 5 shows the effect of volatile inter-company loans on FDI in Hungary: it is clear that the large outflows of inter-company loans in 2002-03 go a long way in explaining the dramatic fall in FDI. That said, Figure 5 pictures that the more stable FDI components (i.e. equity investments and reinvested profits) have been on a downward path since 1999: annual inflows of equity and reinvested earnings gradually diminished from close to EUR 3 1/2 billion in 1999 to EUR 2 1/2 billion in 2002. Whether this is just a temporary phenomenon or a permanent trend remains to be seen, however.[7]

The repayment of inter-company loans also explains a good part of the recent decline in FDI inflows, while equity inflows have been remarkably stable.

Figure 5. FDI inflows in Hungary, by component (in millions of EUR), 1995-2003



Notes: 2003 data for the period through October.
Sources: Hungarian National Bank; estimates of reinvested earnings for Hungary: national accounts data published by the Hungarian Central Statistical Office; reinvested earnings for 2002 and 2003 are proxied by 2001 data

A reason why it could be a permanent trend is the decline in privatisation-related FDI. In Hungary, privatisation and FDI were closely linked during the period of transition (Kalotay and Hunya 2000), and a substantial amount of FDI came into the country as a result of privatising state-owned enterprises to strategic foreign investors. This distinguishes Hungary from many other CEE countries that chose different modes of privatisation or turned to cash sales to foreign investors only at a later stage. Obviously, once privatisation was coming to an end, the share of privatisation-related FDI declined substantially. In fact, 1997 was the last year a significant amount was registered in that respect.[8] In contrast, in Poland and the Czech Republic privatisation-related FDI increased only in the second half of the 1990s and still accounts for a significant amount of FDI flows to these countries.

7 In this context, it is probably worth pointing out that contrary to a widespread claim equity investments have not ceased but continue to flow into the country, averaging some EUR 1 1/4 billion a year since 1996.

8 Following a 5-year break, the privatisation process resumed in 2003, covering state-owned banks and other companies.

To summarise, data shortcomings and temporary effects help explain the decline in FDI flows to Hungary. That said, it is still true that privatisation-related inflows have largely run their course and that the attractiveness of Hungary as a destination for FDI has gradually diminished – compared to both the 1990s and other countries in the region. This is mainly due to the emergence of powerful competitors. Hungary lost its first-mover position as other countries in the region realised the potential benefits of FDI and followed Hungary in establishing a functioning regulatory environment, liberalisation, privatisation to foreigners, introducing FDI incentives, etc. But more recently, adverse economic policy developments have to take part of the blame for a decline in Hungary's attractiveness as a destination for FDI. Noteworthy are substantial real wage increases, uncoordinated fiscal and monetary policies, and the postponement of public expenditure reforms.

2.3. Sources, sectoral composition, and regional distribution of FDI

Like in other countries of Central and Eastern Europe, foreign investors from the EU-15 account for the bulk of Hungary's inward FDI stock, with Germany being the largest source country.

Like in other CEE countries, foreign investors from the EU-15 account for the bulk (around 75 percent) of Hungary's inward FDI stock. Obviously, geographical proximity and historical links explain the dominance of European investors. Among them, Germany (35 percent of the FDI stock) is by far the most important source country, followed by the Netherlands (15 percent), Austria (11 percent) and France (6 percent). The United States is not only the largest non-European source country (9 percent), but also plays a more important role than most European countries. Japanese investments account for less than 2 percent.[9] It is worth noting that geographical and cultural proximity is a particularly important factor for the investment decisions of small to medium-sized investors from Austria. German, Dutch and especially US investors, however, are usually large transnational corporations (TNCs).

With respect to the strategy of foreign investors, we note that foreign investors targeting domestic or regional markets often prefer the presence of a domestic partner because knowledge of the domestic market matters. In contrast, cost-reducing, export-oriented investors prefer to be the sole owner of the company they acquire or establish. Looking at the structure of ownership over time, this implies foreign investors may favour minority ownership during the early stages of FDI inflows, i.e. when the market-seeking motive dominates and companies attach a higher risk to the unknown location. Majority or wholly foreign-owned companies become more widespread, however, as and when the country starts to be considered less risky and cost reduction becomes a stronger investment motive. Such a pattern can be observed in Hungary: while the share of majority or wholly foreign-owned companies in the total number of TNC affiliates amounted to 63 percent in 1993, it had increased to 83 percent by 2001.

There has also been a change in the sector composition of FDI. At the beginning of the 1990s, the manufacturing sector was the main target of foreign investors. As from 1995,

9 This rank still holds if we take into account that registered countries of origin do not always correspond to the country of the parent of the transnational corporation because in many cases foreign affiliates realise the investments due to tax, strategic, geographical or cultural reasons. This is the case for some important Hungarian investments (e.g. Siemens invested through its Austrian subsidiary, General Motors and IBM through its German affiliate and the Italian Feruzzi through its Belgian or French affiliate). Accordingly, official statistics may underestimate the share of those countries that are registered homes of big transnational corporations.

however, services became more important. This was mainly due to the sequencing of privatisation, which started with manufacturing and then extended to public services. As in other CEE countries, the automotive industry is one of the main sectors of the Hungarian economy that attracted FDI, and foreign investors almost completely control the sector, holding some 95 percent of the sector's equity. It is also true that foreign investors have a rather low presence in relatively low-tech processing industries, such as clothing, textile and footwear.

The sector composition of the Hungarian FDI stock reveals more differences than similarities compared to other countries in Central and Eastern Europe.

However, the sector composition of the Hungarian FDI stock reveals more differences than similarities compared to other countries in the region. In Hungary, FDI spreads more evenly across sectors than in other CEE countries (Hunya 2001). This is mainly due to Hungary's early and comprehensive privatisation of state-owned enterprises. As Miczkiewicz *et al*. (2000) have pointed out, a relatively diverse structure of FDI has the advantage of spreading the benefits of FDI, e.g. employment creation and rising productivity, more evenly across the economy.

The share of services in general, and of specific services in particular, in total FDI reflects mainly two factors: for one thing, the timing and sequencing of privatising public services, state-owned banks and other financial institutions and, for another, the prices achieved in privatising these assets. As Hungary privatised such services earlier than other CEE countries, one would expect an earlier build-up in the share of services in FDI. However, since prices fetched for these assets were relatively low, the share of services in Hungary's inward FDI stock was still lower than in other CEE countries in 2001.

Switching the perspective from the question of how FDI spreads across sectors, we can also enquire about the importance of FDI in specific sectors. A noteworthy feature here is that the electronics industry has an exceptionally large share of foreign investors. The dynamic growth of the sector is mostly due to investments of IBM, Flextronics, Nokia, Philips and Samsung. Moreover, as Kalotay (2003) emphasises, in the period to 2001, Hungary attracted more than 60 percent of electronics suppliers (contract electronics manufacturing) that invested in CEE. As a result, the share of foreign ownership in Hungary's electronics sector reached 84 percent in 2001. The strong presence of a high-tech industry is arguably an asset, but it is important to note that the sector copes with overcapacities worldwide and there is a tendency to relocate production to Asia (Kalotay 2003). Similarly, Hungary's traditionally strong pharmaceutical sector also has a higher share of foreign investments compared to other CEE countries. Finally, among the Hungarian services sectors, FDI is of particular importance in trade, banking and other financial services.

However, in the food sector, Hungary has a share of FDI that is lower than elsewhere in CEE. This may reflect the relative strength and resistance of domestic owners to foreign investors in the Hungarian food industry, which was set up as the main supplier of other socialist countries in the CMEA-era.[10] The share of FDI in sectors with structural difficulties (for example, steel and fabricated metal products) is also low. For comparison, in the Czech and Slovak Republics these sectors have a strong industrial tradition and they have attracted considerably more interest from foreign direct investors.

10 Council for Mutual Economic Assistance.

It is also interesting to observe that the nationality of the investor influences the choice of sectors. An analysis of Hungary's inward FDI stock reveals that investors from the EU-15 (especially Germany, the Netherlands, Austria, France and the United Kingdom) share their activities almost equally between manufacturing and services, while investors from outside the EU tend to prefer manufacturing: almost all US and Japanese foreign direct investments are in the manufacturing sector. Furthermore, there seems to be a match between the technological characteristics of the sectors where foreign investors invest in and their country of origin. Using the method applied in Resmini (2000), we find that scale-intensive sectors (e.g. manufacture of sugar, chemicals, and motor vehicles) are the dominant recipients of FDI (more than half of the FDI stock in 2000) – though their share in FDI has been decreasing. This is mostly due to large inflows from the EU-15. Traditional sectors (e.g. food, beverages and tobacco; textile, clothing and leather; and wood and furniture) are the other important targets of EU-15 investors, accounting for about one-third of the total FDI stock. Their importance has been rising over time. At the same time, non-European investors (mostly from the United States and Japan) invested in high-technology, science-based sectors such as pharmaceuticals, office machinery, computers and precision instruments. One reason for this is that FDI from these countries concentrates on a few large higher-technology projects.

The nationality of investors seems to have influenced their choices, with EU investors investing in both manufacturing and services and non-European investors concentrating on high-tech manufacturing.

The regional distribution of FDI in a country is usually determined by geographical considerations, labour endowment and the presence of adequate infrastructure. These are also the factors that are relevant in Hungary. Given that foreign investors prefer geographical proximity to their home countries, companies with foreign participation are – in addition to the capital region[11] – concentrated in the western part of the country along the Austrian border and in the north-western part of the country, especially in the town of Székesfehérvár. These regions are well endowed with skilled and relatively cheap labour (Barta 2002) and have good access to transport infrastructure, telecommunication facilities, and financial services. Overall, the regional distribution of FDI in Hungary changed little between 1993-2001, with the Budapest region currently accounting for around 54 percent of all FDI, followed by Pest (11 percent) and Győr-Moson-Sopron (9 percent).

3. Main determinants of FDI in Hungary

3.1 Economic fundamentals

When analysing determinants of FDI, two questions stand out: why do firms invest abroad and what makes them choose a specific location rather than another? In trying to answer these questions, Dunning (1993) combines insights from the industrial organisation literature with comparative advantage considerations of the trade literature. In a nutshell, industrial organisation explains why firms venture abroad and trade theory describes which location (country or region) they pick. Uppenberg and Riess (this volume) discuss the determinants of FDI in greater detail.

11 Data are somewhat distorted, however, because many companies have their headquarters registered in Budapest, but operate plant(s) located in the countryside.

Early in the transition process, speed and rigour in moving from plan to market were decisive in attracting foreign direct investors...

Specifically in the context of transition economies, most studies (as reviewed, for instance, in Holland *et al*. 2000) find the following host-country characteristics as particularly important determinants of FDI: market size and growth, relative factor costs (especially relative labour costs), skills and qualification of the workforce, trade barriers and access to markets, country risks, investment incentives (though there is less conclusive evidence for the importance of this factor), the scope and method of privatisation, and the share of the private sector in the economy. Many of these factors relate to the speed and rigour with which transition economies embarked on structural reforms to create a functioning market economy. As investors could choose among a number of CEE countries, they based their decision on the success of potential host countries in creating such an economy. The link between reform policies and FDI was especially significant in the case of governments' approach to liberalisation, privatisation, and regulatory and institutional reforms of the economy (see, for instance, Lankes and Venables 1996, Holland and Pain 1998, and Resmini 2000). Specifically, Altomonte (2000) argued that the design of an efficient, transparent, and enforceable legal and institutional framework is a crucial determinant of FDI. He also emphasised that the timing of reform is important. In this respect, Hungary certainly had a head start: foreign participation in joint ventures was made possible in 1972, and, in 1988, the country established rules for governing FDI; other CEE countries took similar steps only after 1990. Kalotay and Hunya (2000) demonstrate the determining effect of privatisation to foreigners on FDI inflows. Hungary already opted for this mode of privatisation at the beginning of the 1990s while competitor countries started to take this route some four to five years later. Overall, Hungary's first-mover advantage had translated into FDI inflows that were high compared to FDI flows to other countries. As the transition and transformation process advanced in the region, and countries became more and more similar to each other in that respect, the relative importance of structural reforms diminished in favour of other factors.

One of them is the quality and quantity of infrastructure. In transition economies both were clearly behind advanced-economy standards, but Hungary was among those CEE countries that had a relatively developed infrastructure, giving it an early advantage over other transition economies. The early privatisation of some services (especially telecom) to strategic foreign investors resulted in massive investments, considerably improving Hungary's infrastructure. Other areas of infrastructure (especially transport) received less attention, and here the involvement of private capital (in terms of concessionary agreements) did not bring success. The adverse effects of initial bottlenecks in the transport infrastructure become clear when we look at what happened after such bottlenecks diminished. For instance, the extension of motorways to remote regions proved to be a fairly powerful tool in attracting FDI to regions with a pool of suitably skilled, but relatively cheap workers. More generally, the extension and upgrading of motorways served as a means of reducing the distance of potential FDI locations from EU borders, thereby improving Hungary's attractiveness as a destination for FDI (Bartha and Klauber 2000).

Human capital is arguably another important determinant of FDI. Compared to countries with a similar per capita GDP, Hungary (and other transition economies) had, and still has, a relatively skilled and cheap labour force. This is true even after accounting for differences in labour productivity, and for a long time productivity growth exceeded real wage growth. However, starting in 2002, this trend was reversed, reflecting a huge nominal

wage increase in the public sector (some 50 percent), which had repercussions on the wages of the private sector as well. Because other CEE countries did not experience similar wage increases, Hungary is liable to have lost competitiveness and part of its attractiveness as a destination for FDI.

Since the beginning of transition, Hungary has also experienced a significant decline in the labour force participation rate. Standing at 56 percent (2002), the rate is now low by international standards (Fazekas 2003b). While official unemployment would be higher had the labour force participation rate not fallen, more and more foreign investors encountered problems recently in finding a suitably skilled workforce in the more developed regions of the country. In principle, labour mobility across regions could alleviate this situation, boosting overall employment. However, like in many other countries of the enlarged European Union, there is relatively little labour mobility across different regions in Hungary. The high cost of moving and commuting are partly responsible for this and, in fact, when commuting takes place, the employers of four-fifths of the commuters finance at least part of the costs of commuting (Bartus 2003).

Agglomeration effects are another force that has stimulated FDI flows to Hungary. In essence, a growing stock of FDI in itself attracts further investment (Csáki *et al*. 1996). In particular, in a first-mover country like Hungary the FDI stock could quickly reach a critical mass, influencing the decisions of other potential foreign investors. So what are the channels of further investments? First, competitors follow each other; second, smaller, more risk-averse and financially more vulnerable companies follow bigger ones; third, major investors are followed by their suppliers and service providers. Csáki (2001) also emphasises that a larger stock of FDI results in larger reinvested earnings and that investors are inclined to establish their regional headquarters, services, production or logistics centres in the first-mover country.

... but during the advanced stages of transition, factors such as the quality and quantity of public infrastructure and human capital, labour and transport costs, and agglomeration effects became more important.

So far, we have put together a long list of FDI determinants without considering the type of potential investment. A crucial distinction to make is that between market-seeking (horizontal) FDI and cost-reducing (vertical) FDI. Lankes and Venables (1996), for transition economies in general, and Éltető and Sass (1998), for Hungary in particular, have shown that differentiating between these two types of investments allows for a better identification of FDI determinants. For market-seeking investors, the size of the market and growth prospects are the most important and, in connection with these factors, macroeconomic stability (Éltető and Sass 1998). For export-oriented, cost-reducing investments, the most important factors are relative factors prices (especially labour costs) and transport costs.

In trying to understand the pattern and determinants of FDI, we also need to bear in mind that in transition economies scope for market-seeking FDI emerged earlier than the potential for cost-reducing (vertical) FDI. Indeed, many studies found that at the beginning of the transition process, investors were almost exclusively driven by market-seeking motives. Studies on transition countries, including Hungary, reaching this conclusion include Lankes and Venables (1996), Pye (1998), and Resmini (2000), for example. Lankes and Venables (1996) emphasised that the advantage for companies that moved fast was more important for market-seeking investors than for cost-reducing, export-oriented ones. This explains the rapid flow of market-seeking investments to Hungary. Within the group

of market-seeking investors of the early 1990s, some were motivated by tariff jumping, e.g. in the food sector and the automotive industry.

As the move to a market economy progressed, the interest of foreign investors expanded from market-seeking to export-oriented investment.

As the transition to a market economy progressed, export-oriented projects appeared, eventually dominating annual FDI inflows. Csáki *et al*. (1996) and Hunya and Stankovsky (1999) provide evidence for this shift towards export-oriented FDI in the case of Hungary. In line with the sequencing of horizontal and vertical FDI, export-oriented projects appeared first in the most advanced transition countries, notably in Hungary, which was relatively well positioned compared to other CEE countries due to its proximity to Western Europe; openness to international trade and investment; a large pool of low-cost, skilled labour; the existence of a functioning legal and regulatory framework; and, last but not least, an investment-friendly business environment, including favourable foreign investment regulations and incentives.

To elaborate further on the need to distinguish between market-seeking and export-oriented FDI, it is worth noting that they are usually of different size: market-seeking investments tend to be smaller than cost-reducing, export-oriented ones. What it is more, export-oriented investments are normally more labour intensive, which implies that they are footloose compared to the market-seeking investments – looking for greener pastures in the event of unfavourable changes in relative labour costs. In the case of Hungary, a few export-oriented investments have indeed moved on, mainly to China. In a sense, the flip side of being a first mover in attracting FDI is that once living standards and, thus, wages in the first-mover country increase, some foreign firms move on to countries that are still further down the value added chain.

In addition to factors that generally make a favourable economic environment (economic and political stability, judicial effectiveness, market size, geography and relative factor endowment), there are often direct government incentives aimed at attracting FDI by enhancing the financial return to foreign investors or reducing the risk of the underlying investment. The FDI-enhancing role of such incentives has been widely discussed in the empirical literature, which – all in all – does not point to conclusive results regarding the impact of incentives on FDI flows. Most authors are of the view that incentives cannot compensate for an unfavourable economic environment, but incentives can play a role in the choice of location among similarly attractive countries or regions. This consideration may be increasingly valid for the most advanced CEE economies, which have more or less completed the transition process. Thus, more generous incentives may influence the choice of FDI among similar locations in Central and Eastern Europe. It is against this background that we now briefly review FDI incentives in Hungary.

3.2 The changing nature of FDI incentives

A key point to make here is that the relative generosity of FDI incentives in Hungary has changed over time. The Hungarian government has been offering such incentives since the beginning of the 1990s, and three periods can be distinguished: the first running through about 1996, the second covering the years 1996-2002, and the third starting in 2003. The three periods are characterised by different economic and political circumstances, policy aims, FDI policies, and/or impacts of other policies on FDI inflows. However, all three periods can be characterised by a complex set of incentives, including fiscal incentives

Box 1. A very brief history of Hungary's industrial free trade zones [12]

Industrial free trade zones (IFTZs) were introduced in 1982 with the objective of attracting export-oriented, high-technology FDI to Hungary. International examples of similar schemes are the export processing zones of developing countries and the customs free zones of Ireland and the United States. Another objective was to integrate the companies operating in IFTZs as much as possible into the host economy and, thereby, reduce the risk of a dual economy evolving.

The regulation of Hungary's IFTZs was unique. Any company could set up its own zone without geographical restrictions of any kind under license by the customs and finance authorities. IFTZs were considered extra-territorial for purposes of duties, foreign exchange regulations and other legislation. The dutiable goods and means of production (excluding building and auxiliary material) were not subject to customs duties and value-added tax.

Why was the regulation especially attractive for (export-oriented) greenfield investors? As from 1996, contribution-in-kind for investments in IFTZs could be transferred to the country duty- and VAT-free. For large investments, paying the duties and VAT would have meant high additional costs (here it is important to note that in the EU investment goods can be imported duty-free.) Another reason for the growing number of companies in IFTZs was that companies operating there needed a special permit to buy their inputs from the domestic economy and could do so only up to a certain amount. Thus, their traditional suppliers followed them to Hungary and established their affiliates in an IFTZ as well.

An IFTZ could be set up in any area inside Hungary after fulfilling the conditions required by the regulation. Main conditions were as follows: firms had to (i) produce for exports, largely based on imports, (ii) cover an area of at least 2,000 square meters, (iii) allow customs control, and (iv) pay the customs deposit. A company could set up more than one IFTZ. This was an extremely attractive regulation for assembly companies using only local labour, as it enabled them to bring in high-value equipment duty-free for their own use.

Starting in 1990, the number of IFTZs established in Hungary increased rapidly. First, a number of transnational corporations carried out greenfield investment (for example General Motors, Suzuki, and Philips). Later their competitors and/or suppliers followed, establishing their Hungarian affiliate in an IFTZ (e.g. Ford, Audi, IBM, Nokia, LEAR Corp., United Technologies, Sony, Zollner). But there were also companies like Benetton, which identified CEE as an attractive investment location.

At the end of 2001, more than a hundred IFTZs existed. Philips operated more than one IFTZ (e.g. one for computer monitors and another for telecommunication products), so did the LEAR Corp. (car seats, other car parts). Estimates (based on company interviews) suggest that out of the 115 IFTZs operating in Hungary at that time about 70-75 were established through a greenfield investment; the share of foreign capital in the total capital of IFTZ companies was estimated to have exceeded 90 percent.

With the accession of Hungary to the EU, all companies operating in IFTZs have become part of the customs territory of Hungary.

12 Box 1 follows Antalóczy and Sass (2003a).

(tax holidays and tax reductions, deductions of certain costs from the tax base, and – until 1993 –exemption of import duties on imported capital), financial incentives (grants supporting R&D, job creation, environment protection, and the construction of infrastructure as well as preferential credits) and other incentives (institutional support, industrial free trade zones – IFTZs, explained in more detail in Box 1 – and industrial parks). As far as the relative importance of the three groups of incentives is concerned, Hungary has relied more on fiscal (and on other) incentives than on financial ones and, in that sense, its policy has been more akin to that of developing rather than developed countries (Antalóczy and Sass 2003a).

In the first period, a particular goal of the FDI incentive system was to attract a few blue chip companies. To this end, individual bargains were struck with foreign investors, sometimes assuring them of monopoly positions or at least fairly strong market positions. Overall, in this period, the FDI incentive system was generous by the standards of the CEE region (Sass 2003a).

The nature of FDI incentives offered by the Hungarian government changed over time, gradually becoming less generous, more transparent, and performance-linked.

In the second period, besides attracting foreign investors, the policy aim was to increase the benefits of FDI for the host economy. Furthermore, FDI was also increasingly considered a means of achieving other policy objectives (e.g. industrial and regional development, strengthening the country's trade balance, the promotion of R&D, and job creation). In particular, FDI incentives targeted export-oriented, large investments in manufacturing and aimed at increasing backward linkages with local companies. At the same time, the incentive system became more transparent and less generous compared to both the previous period and the incentive schemes of other CEE countries. Fiscal incentives (notably tax allowances) and other incentives (especially the IFTZs) remained the main FDI policy tools. In order to reap the benefits of FDI more fully for the host economy, performance requirements got stricter, demanding foreign investors to invest in particular regions, sectors, and activities and meet certain employment creation and sales targets in order to qualify for more generous incentives. To illustrate, a special programme was initiated that aimed at increasing domestic suppliers' share in the production of TNCs. Another noteworthy feature of the second period was that the system essentially gave preference to large investments, evidenced by the fact that less than 50 enterprises enjoy the maximum benefit of a zero-percent company tax rate.

The third period is marked by the very final stages of the accession process and EU accession itself. EU membership called for a complete restructuring of the incentive system. This applies especially to the IFTZs, which have been basically abolished. In addition, tax allowances have been made compatible with EU regulations governing state aid. Given that there is incentive competition between CEE countries (if not across the enlarged EU), the need to comply with EU regulations will result in a more level playing field, which should be beneficial for Hungary given that the country has been offering less generous incentives than other CEE countries since about 1998. That said, one of the unique features of the Hungarian system (i.e. the IFTZs), which other CEE countries were not able to catch up with, will be lost.

To summarise, the key determinants of FDI in Hungary are largely consistent with broader international evidence on FDI determinants. Generally speaking, this means that in Hungary too FDI has primarily been attracted by the local market's growth prospects,

by the presence of skilled labour, adequate infrastructure, privatisation and a generally business-friendly economic policy and regulatory environment.

But attracting FDI and benefiting from it is not necessarily the same thing, and we thus need to investigate what FDI has brought to the Hungarian economy.

4. The impact of FDI on the Hungarian economy

4.1 The particular role of FDI in transition economies

In general, FDI has considerable potential to promote economic development. A key channel in the case of countries that lack national savings is the acceleration of capital formation made possible by the inflow of FDI. In addition, by transferring management skills and technology, FDI can contribute substantially to raising the productivity and competitiveness of the host country. In the case of transition countries, FDI can be expected to have been of particular importance, essentially accelerating the transition from a planned to a market economy. This is because it helps speed up industrial restructuring and the development of markets and market-oriented behaviour of economic agents. In fact, as Lankes and Venables (1996) have pointed out, FDI has often been viewed as a potential catalyst for the transition from plan to market.

While FDI has considerable potential to foster host countries' economic performance, the growth-enhancing and transition-accelerating effect of FDI is not automatic.

However, the growth-enhancing and transition-accelerating impact of FDI is not automatic. Companies with foreign participation may form a separate island in the economy, having very limited links with local enterprises. They may preserve the technological backwardness of the host country by transferring low value-added activities. They may lead the host country to overspecialise on a few products, thus exposing it to the business cycles of the world economy. They may raise political issues as well. But which factors determine whether or not the benefits of FDI materialise? In what follows we try to give an answer for the Hungarian case, focussing on five topics: how the type for FDI shapes its effect, the linkages between the foreign-owned and indigenous firms, the transfer of technology and the scope for spillovers, the role of FDI for the export performance of the Hungarian economy, and – finally – the effect of FDI on employment, wages and regional disparities.

4.2 The type of FDI shapes its effects

Different types of FDI have different effects on the host economy. Distinguishing between greenfield investment, privatisation-related investment, and cross-border mergers and acquisitions, we note first that by establishing a new plant, greenfield investments contribute more to gross fixed capital formation than both privatisation-related FDI and M&As. Greenfield investments immediately create new jobs; they are usually more export-oriented than other investments, use more advanced production technologies (thereby creating opportunities for technological spillovers), and they concentrate in certain sectors, e.g. in the electronics sector and the automotive sector. The setting up of new production plants by a foreign TNC also often entices foreign suppliers of the TNC to invest in the country as well, thereby enabling the TNC to start operating more rapidly to its own standards. This helps TNCs to become more efficient, but it slows down the creation of

networks of indigenous suppliers – an issue to which we will come back below. The share of greenfield FDI in Hungary's total inward FDI stock is estimated to amount to 25-30 percent (Antalóczy and Sass 2001 and Csáki 2001), which is similar to that in other CEE countries. [13]

In principle, greenfield investment contribute more to capital formation and employment than privatisation-related FDI; in transition economies, the difference seems to be smaller.

But in a transition economy, the difference between the impact of greenfield investments and other types of FDI is not so straightforward, as Antalóczy and Sass (2001) argue in a study on Hungary. Reflecting the results of company interviews, the authors show that foreign investors who have acquired a Hungarian company through privatisation carry out upgrading and restructuring investments that are a very similar to greenfield investments. This is because many privatised enterprises essentially have to be rebuilt from scratch. Moreover, subsequent to – or in connection with – rehabilitating existing plants, production capacities are extended to allow for a higher output.

Hungary has seen few cross-border M&As so far, but their number has been increasing recently – a trend that could continue with accession to the EU. The M&As that occurred seem to have improved the competitiveness of the merged companies without decreasing the overall level of competition significantly (Csáki *et al*. 2001).

A final observation concerning the link between the type of FDI and its impact on the economy: while cost-reducing, export-oriented investments are more footloose than market-seeking investment, they are more likely to transfer technology, know-how, quality control, marketing and management skills to host countries. In Hungary, many investments of this type have been located in IFTZs. They export the majority of their production, and many of them produce high-tech products (see section 4.5); some of them (the most notorious case was that of IBM) left the country when their incentives expired and their costs (especially labour costs) started to rise.

4.3 Linkages between TNCs and the indigenous economy

One of the channels through which indigenous enterprises are expected to benefit from the inflow of FDI (in terms of increased productivity and competitiveness) is their link as suppliers to foreign-owned companies. However, such backward linkages have remained below expectations in Hungary. Table 1 shows backward linkages for selected TNC affiliates. Overall, the share of indigenous supplies in total supplies to TNC affiliates is higher than in developing countries, but lower than in more advanced economies (Szanyi 2001).

One reason for the limited input-output linkages are large differences in the characteristics of foreign-owned firms, on the one hand, and indigenous firms on the other hand (Hunya 2001). In general, in an environment where the two groups of companies form separate segments inside an economy, the evolution of forward and backward linkages may be hindered. However, this obstacle to linkages may wither over time as companies

13 In the Czech Republic, according to Zemplinerova and Jarolim (2001), this share amounts to at least 20 percent. For Poland, the Polish Investment Agency (PAIZ) estimates that greenfield FDI accounts for more than 30 percent of the total FDI stock.

with foreign participation become more established and more familiar with the functioning of the economy and as the performance of indigenous companies improves.

In Hungary, both groups of firms continue to differ considerably, notably in terms of company performance (profitability, competitiveness, and export-orientation, for instance). A narrowing of these differences could boost the development of linkages, but empirical evidence is inconclusive as to whether differences in performances have narrowed. For example, Novák (2002) finds no evidence of a decrease in the difference, while Hamar (2001) argues that the performance of both groups became more similar towards the end of the 1990s.

Privatisation-related FDI is more likely to result in linkages between foreign-owned firms and indigenous ones than greenfield investment.

But it should be noted that the degree of linkages varies across sectors and seems to be influenced by the type of FDI. Sass (1997) finds for privatisation-related FDI that privatised companies retained their original domestic suppliers after restructuring, particularly if they focussed mainly on the domestic market. For example, in the case of Tungsram (an investment by General Electric to produce light bulbs), the share of local suppliers exceeds 60 percent (Table 1). The share of indigenous suppliers is similarly high in the output of TNC affiliates in the food sector.

Table 1. Share of indigenous supply in total supply to foreign-owned firms (in %)

Company	Type of investment	Share of local supplies
Audi	Greenfield	< 10
Ford	Greenfield	>20
GM	Greenfield	10-20
Philips	Greenfield	about 10
Suzuki	Greenfield	about 40
GE-Tungsram	Privatisation	60-70
Electrolux	Privatisation	40-50
Sony	Greenfield	< 5
Opel cars	Greenfield	7
Opel gears	Greenfield	40-45
Rába	Publicly traded	40-45
Lear Corp/United Technologies Automotive	Greenfield	about 10

Note: Rába was privatised through the stock exchange.
Source: Szanyi (2001, p. 14) and author's own estimate.

In contrast, in the case of greenfield investments, it can take considerable time to build up a local network of suppliers. Barta (2002) finds evidence that new networks created by greenfield investors in the Hungarian economy have indeed emerged over time. There are also signs of agglomeration effects, with clusters of suppliers developing around foreign-owned firms in the Northern Transdanubia and the Budapest region (Buzás 2000, Grosz 2000, Barta 2002). These networks belong to international networks of TNCs; they concentrate in regions where most of the FDI stock is located and consist mainly of

companies with foreign participation (TNCs' traditional suppliers that followed their main customer to Hungary). Indeed, many of the greenfield investors have a limited number of indigenous suppliers, although in most cases the share of indigenous suppliers increased over time. In the case of Audi (automotive industry), for example, the share of indigenous suppliers has increased from less than 1 percent to around 10 percent today.

The degree of linkages between foreign and indigenous firms also differs across sectors and tends to be weaker in the case of TNC affiliates that are tightly controlled by their parents.

The degree of linkages between foreign-owned and indigenous firms also differs across sectors. Some sectors involve local suppliers more than others. A case in point is the machinery industry, especially the automotive and electronics sectors. However, according to Meyer (1998) even these industries operate more and more in the production networks of international partners. One strong partner usually dominates these international networks, which essentially replaces integrated TNCs. Long-term supply contracts characterise these networks, making it difficult for indigenous firms to make inroads into them. Overall, the key challenge for indigenous industries in a transition economy is to become part of these production networks. Box 2 sketches to what extent indigenous firms in Hungary have successfully integrated with the foreign-owned automotive industry.

Box 2. Supplier contacts in Hungary's automotive industry

Numerous foreign car producers have established production facilities in Hungary, mostly through greenfield investments (e.g. Suzuki, Opel/GM, Audi, and Ford). Unlike other CEE countries, Hungary did not have a passenger car industry before the collapse of communism (the country produced busses only), but there were companies producing spare parts and components. Production networks around the affiliates of foreign car producers evolved relatively rapidly. These networks include mainly foreign suppliers that followed car manufacturers to Hungary and only few indigenous suppliers. Indigenous firms that serve as first-tier suppliers are usually relatively large, while indigenous small and medium-sized firms are engaged in the network only as second-tier suppliers. Second-tier suppliers are involved to a lesser extent in the development of a component and they usually specialise on relatively low-tech products, which curbs the transfer of technology. Second-tier suppliers are in a weaker position than first-tier suppliers, and usually they are not exclusively linked to one major customer. The difficulty indigenous firms have in becoming part of the production network for cars essentially reflects the head start of foreign-owned suppliers in terms of producing components on time, of the right quality, and at the right price.

The extent of local linkages also depends on the affiliate's position vis à vis its parent firm (Vince 2001). Two groups of affiliates can be distinguished. The first comprises majority foreign-owned affiliates that are tightly controlled by large TNCs. Many greenfield investments belong to this group. In this case, inputs and outputs are traded inside the TNC, and the share of indigenous suppliers is low and often limited to providing services. The second group consists of affiliates that belong to moderately sized TNCs. These affiliates were mainly acquired through privatisation rather than created as greenfield investment. There is evidence, in part reflected in Table 1, that this type of affiliate relies more on indigenous suppliers.

The special regulation of IFTZs had also an impact on the formation of local linkages. On the one hand, given the uniqueness of the regulation, companies operating in IFTZs are more spread geographically in Hungary than in other countries. This may have facilitated

building up local contacts with indigenous firms. On the other hand, technical and customs barriers still existed between companies in customs territories and affiliates in IFTZs. Large, greenfield, export-oriented IFTZ investors (as for example Audi, GM, and Philips; see Table 1) have few linkages with indigenous suppliers and, instead, receive inputs from companies with foreign participation, which followed their traditional partner to Hungary and set up their own IFTZ.

4.4 Technology transfers and spillovers

FDI has the potential of transferring modern technologies to the host economy, not only directly to TNC affiliates but also indirectly as and when modern technology and knowledge spills over to the economy at large. The empirical evidence of direct technology transfers and spillovers in transition economies is mixed, however. For instance, Damijan *et al*. (2003) found that only direct effects of FDI have a significant productivity impact on host-country economies in CEE; Konings (2001) arrived at similar conclusions. Specifically discussing the case of Hungary, Novák (2003) argued that the introduction of new technologies in the economy had only a negligible impact on the performance of indigenous firms. That said, he observed that enhanced competition and backward linkages resulting from the presence of TNC affiliates had a significant impact on the performance of indigenous firms. Along similar lines, Schoors and van der Tol (2002) concluded that the increasing density of companies with foreign participation in Hungary had a significant positive effect on the productivity of indigenous firms. But it should be noted as well that some studies have found negative rather than positive spillovers (e.g. Djankov and Hoekman 1998).

The empirical evidence of technology transfers and spillovers is mixed, but it is encouraging that many TNCs have transferred part of their R&D activities to Hungary.

There has also been some interest in the role of FDI on activities in research and development (R&D) in the Hungarian economy. Again, the results seem to be inconclusive. On the one hand, the R&D centres of firms acquired by foreign investors were closed down in most cases (but one should not forget that the effectiveness and marketability of R&D carried out in these centres during the socialist era was probably questionable). Nevertheless, surveys show that the R&D intensity of companies with foreign participation is much higher than that of indigenous companies; furthermore, the R&D expenditures of the former are growing much faster than that of the latter. At the same time, there is little scope for spillovers because of the limited R&D cooperation between foreign-owned companies and indigenous ones (Inzelt 1998, 2000, and Szalavetz 1999). That said, cooperation in this field seems to be rising (see Csáki 2001 and Sass 2003b), spreading to sectors as diverse as electronics, telecom equipment, pharmaceuticals, and food processing.

On the other hand, since the mid-1990s, many TNCs operating in Hungary have transferred parts of their R&D activities to Hungary. For example, firms like Ericsson, Nokia, Siemens, Compaq and Knorr-Bremse enlarged existing R&D units or opened new ones. This bodes well for the future as it indicates that Hungary has the capability to attract high-value-added foreign direct investment.

4.5 Spectacular growth and change of exports

The type of foreign direct investment also influences the trade balance. Export-oriented investors have a positive impact on the balance of trade. In Hungary, some 15-20 percent

of the total stock of FDI and 35-50 percent of manufacturing FDI are estimated to be export-oriented (Antalóczy and Sass 2003b). The production of export-oriented TNC affiliates resulted in high export growth rates but also triggered a rapid increase in imports (Darvas and Sass 2002). In fact, Hungarian exports have more than tripled since 1992, and in the second half of the 1990s, Hungary experienced the most rapid export growth of all OECD countries, gaining considerable market share.

Table 2. Hungary's top ten export products (2002)

Product	Share in total exports (in %)		Exporting company with foreign participation?	High-tech product?
	2002	1992		
Telecom. appliances	7.8	0.1	Partly	Yes
Reciprocating piston engines	6.2	0.0	Yes	No
Cars	4.3	0.2	Yes	No
Input or output units	2.2	0.0	Partly	Yes
Parts for TV, radio	2.1	0.3	Yes	No
Storage units for computers	1.6	0.0	Yes	Yes
Television receivers	1.6	0.2	Yes	No
Video recording appliances	1.5	0.1	Yes	Yes
Parts for automatic data processing machines	1.5	0.1	Partly	Yes
Electric conductors	1.3	0.4	Partly	No

Source: Antalóczy and Sass (2003b).

The activities of foreign-owned firms have radically changed the composition of Hungary's exports and have led to a significant increase in exports of high-tech products...

The activities of TNCs have also led to a radical change in the composition of exports. As Table 2 shows, the share of what are now Hungary's top three export products (telecom appliances, reciprocating piston engines, and cars) has increased from virtually zero in 1992 to around 18 percent ten years later. During the same period, the share of high-tech products in total exports has grown significantly and is now among the highest in CEE (about 22 percent). It is also worth noting that many of the top ten exporters export virtually all of their output (Table 3).

Table 3. Hungary's top ten exporters (2002)

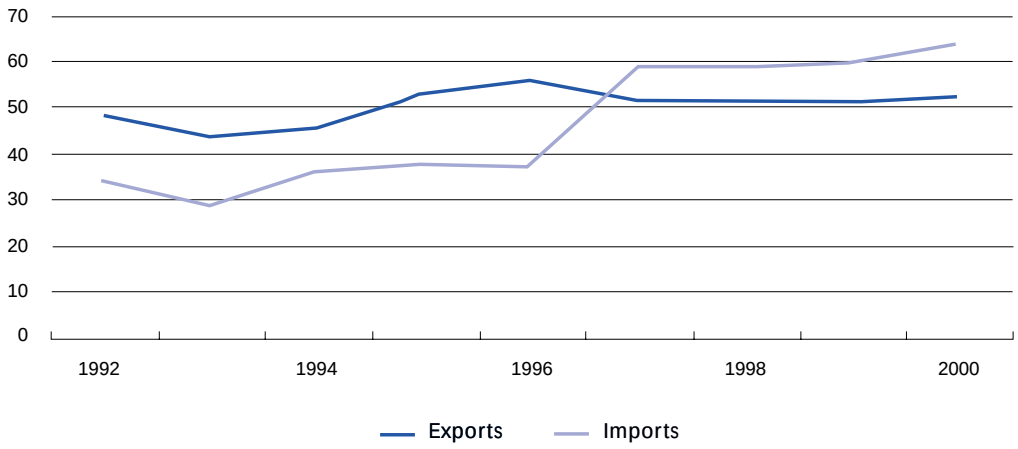
Rank	Company	With foreign participation?	Exports in % of total sales
1	Audi	Yes (greenfield)	99
2	Flextronics International	Yes (greenfield)	99
3	Philips Hungary	Yes (greenfield)	98
4	GE Hungary	Yes (privatisation)	94
5	MoI	Partly (publicly traded)	23
6	IBM Storage Products	Yes (greenfield)	100
7	Opel Hungary	Yes (greenfield)	100
8	Samsung Electronics	Yes (greenfield)	82
9	Borsodchem	Partly (publicly traded)	81
10	NABI	Yes (greenfield)	99

Note: Includes only those companies that provided data on their activities.
Source: Antalóczy and Sass (2003b).

But as the concomitant rise in imports suggests, the net effect of export-oriented FDI on the external trade balance can be considerably smaller. In this respect it is again useful to distinguish between export-oriented TNC affiliates that largely use imported intermediate products and those that process domestically produced goods (Meyer 1996.) The first type is by far the most important among Hungary's foreign-owned export-oriented firms. In essence, this type of firm carries out assembling activities, with relatively little value added generated in Hungary. Using machinery (SITC 7) as an example, Figure 6 illustrates the importance of assembling activities of TNCs for exports and imports. We can see that "parts and components" account for a large share of machinery exports and imports; at the same time, there has been a large increase in intra-company trade in machinery parts and components. It is also true that behind the above-mentioned increase in exports of high-technology products there is a significant increase in the import of their components. A good illustration is the high growth in the export of video recording apparatus and a similarly high growth in the import of one of its main components. Lest that not sound too pessimistic: while local value added is small in most of Hungary's export-oriented TNC production, empirical evidence shows that it has been growing over time (e.g. Somai 2003)

... but as many of Hungary's exports are based on the processing and assembling of imported intermediate goods, imports have risen strongly too.

Figure 6. Parts and components in % of machinery export and imports, 1992-2000



Sources: Own calculations based on foreign trade data provided by the Hungarian Central Statistical Office.

4.6 Strong impact on employment and wages

During the transition process, there is a changing relationship between FDI and employment that reflects the sequence of market-seeking FDI being followed by cost-reducing, export-oriented investment (Mickiewicz *et al*. 2000). As the latter has stronger employment effects than the former, first movers like Hungary are also first to fully enjoy the positive employment effect of FDI. Today, foreign-owned firms employ almost half of Hungary's manufacturing workforce, i.e. about a quarter of the total workforce.

During the period of transition, labour market changes were initiated mainly by demand-side factors and, thus, foreign investment had a major impact in that respect. During the first years of transition, about 1.5 million jobs disappeared. Some 80 percent of the net employment creation between 1993 and 2000 was due to the activities of companies with foreign participation (Fazekas 2003a). In 2001, companies with foreign participation were the most important employers in manufacturing and the trade sector. The contribution of foreign-owned firms to employment is especially high in electronics, the chemical industry, and in the production of transport equipment; in these sectors, foreign-owned firms account for more than 60 percent of employment. About one-third of "foreign" employment is realised in manufacturing, and within foreign-owned manufacturing electronics, tobacco, and textile and clothing are of particular importance.

What can we say about wages in foreign-owned companies? In 2001, companies with foreign participation paid, on average, 50 percent higher wages than indigenous firms. According to Kertesi and Köllő (1997), one-third of the difference in wages can be explained by the higher productivity of people employed by companies with foreign participation. These are mainly workers who are younger and better educated than the average manufacturing employee. Analysing a longer time period, Kertesi and Köllő (2001) confirm their earlier finding of higher productivity and wages of younger and skilled workers in companies with foreign participation. Kőrösi (2002) emphasises the role of skills, showing that jobs were created almost exclusively for skilled workers.

Inward FDI has contributed markedly to employment creation and rising labour income; but not surprisingly, the increase in living standards has not spread evenly across regions and people.

Given the importance of FDI for the creation of employment, it is natural to examine the impact of FDI on the regional distribution of employment and income. The findings here are relatively obvious: as FDI has flown largely to Hungary's more developed regions (about 80 percent of the FDI stock are located in Budapest and in the North-Transdanubia region), it is not surprising that FDI has increased regional income and employment differences (Nemes-Nagy 2000). In this context, it is worth noting that while wages in the developed regions are higher than in the periphery, this does not apply to unit labour costs, which are lower because of relatively higher productivity in developed regions (Fazekas 2003a). In sum, regional income and employment imbalances increased during the 1990s. Although the location choices of transnational corporations have contributed to this, growing regional imbalances could be seen as almost unavoidable in a country that is catching up with richer parts of the world from a position where a relatively egalitarian distribution of income was an explicit policy objective.

But here the question arises whether special incentives could help directing FDI to less developed regions. Like many other countries, Hungary has tried this, but with only limited success. Such incentives were offered through special programmes (offering grants and preferential credits for FDI in particular regions) and fiscal incentives (such as significantly reducing the minimum investment required for tax holiday eligibility or the granting of tax allowances for investment in regions with high unemployment). In spite of these measures, foreign investors invariably chose locations in the developed parts of the country. Extensions of motorways to regions with suitably skilled labour proved to be a more powerful tool. Proactive local governments could also be an attractive factor for FDI, as demonstrated by the success of Szekszárd, a town in a less developed region.

5. Conclusions

Hungary was the first CEE country to open itself to foreign direct investors. The process already started in the 1970s, and an FDI-conducive regulatory framework had been put in place by the end of the 1980s. The country was also the first to privatise large state-owned enterprises to foreign strategic investors. With limited national savings, indigenous capital accumulation was limited too; in these circumstances, FDI was the main engine of capital accumulation, economic growth, and of industrial restructuring.

To elaborate on the last aspect, the large inflow of FDI resulted in the creation of many new companies (many of them using advanced technologies), which contributed to the market exit of many old, state-owned companies that were using obsolete technologies. With large export-oriented foreign investors on the scene, exports grew rapidly and their structure changed fundamentally. The rapid growth of exports was mostly due to a surge in machinery exports, mainly targeting markets in the EU-15.

Given the early inflow of FDI, Hungary had reached ahead of other CEE economies a situation where agglomeration effects attract further investment. But it is also true that the relative maturity of FDI in Hungary has changed the composition of flows, with equity flows falling relative to inter-company loans and reinvested earnings. As the latter are not yet captured by Hungary's balance of payments statistics, cross-country comparisons on the basis of official statistics give an exaggerated impression of the decline in FDI flows to Hungary relative to other CEE countries.

Reflecting a bit more on Hungary's first-mover position, one should mention the country's growing role as a provider of outward FDI. Since the liberalisation of outward FDI in 1996, Hungary has been the leading FDI home country of the region, both in absolute and per capita terms. In 1997-2002, outward FDI flows amounted to an annual average of about EUR 400 million; preliminary estimates for 2003 suggest a surge in outward investment to more than EUR 1,400 million. Hungary's foreign direct investors comprise both affiliates of TNCs and indigenous firms, including banks. These are either market-seeking investors or companies transferring the labour-intensive parts of their production to neighbouring countries with lower labour costs (Antalóczy and Éltető 2002). This takes us to the disadvantages, or rather challenges, of being the first mover.

Having been the first target of foreign investors in CEE, Hungary now faces the challenge of cost-reducing, export-oriented projects – notably footloose ones – moving to greener pastures. In part, this is a sign that Hungary is moving up the value-added chain in the internationalisation of production, but it nevertheless makes it necessary to cope with changes in the structure of the Hungarian economy. In this context, it is worth recalling that rapid initial FDI inflows were partly responsible for exposing the economy to a fast structural transformation in which many jobs disappeared and many workers left the labour market. What is more, regional disparities increased since foreign-owned firms, which created the bulk of new jobs, invested mainly in the better-off regions of Hungary. So far, no adequate economic policy response has been found to address growing regional imbalances and the decline in Hungary's competitiveness in activities based on cheap, unskilled or semi-skilled labour.

Overall, Hungary's FDI strategy has been beneficial to the country and the challenge is now to remain an attractive destination for FDI further up the value-added chain.

Another possible disadvantage of the first mover is that the privatisation of largely unrestructured, inefficient state-owned enterprises in a context of considerable uncertainty resulted in significantly lower privatisation revenues compared to other countries, which started privatisation to strategic foreign investors at a later stage and sold mostly recapitalised, restructured enterprises. In this sense, moving first and speedily on the FDI-cum-privatisation front translated into low privatisation revenues.

In sum, the fact that Hungary was the first CEE country to open up to FDI has brought advantages and disadvantages. But what is the balance? Expert opinions cover the full range, from those who believe that opening up was the best that Hungary could have done to those who think that the country could not have done worse. Critics of the FDI strategy claim that the massive inflow of transnational corporations turned the country into a colony of foreign capital. Experts at the other end of the spectrum posit that FDI (and the free-market economy in general) solves all possible economic and social problems. Of course, the truth lies somewhere in between. All in all, we believe that Hungary's FDI strategy was beneficial for the country. This does not mean that economic polices could not have been implemented better. But before judging too lightly, one needs to bear in mind that the transition of Hungary (and other CEE countries) from plan to market was without historical precedent and, thus, a model to learn from. In these circumstances, there was surely scope for making mistakes. In any case, the strong and weak spots of Hungary's economic performance since the beginning of transition cannot be attributed to FDI alone, but rather reflect initial conditions at the onset of transition, a host of economic policy decision, and exogenous events.

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