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**THE VALUE OF DIVERSITY:
FOREIGN DIRECT
INVESTMENT AND
EMPLOYMENT IN CENTRAL
EUROPE DURING
ECONOMIC RECOVERY**

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THE VALUE OF DIVERSITY: FOREIGN DIRECT INVESTMENT AND EMPLOYMENT IN CENTRAL EUROPE DURING ECONOMIC RECOVERY

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Abstract

We examine the role of FDI in job creation and job preservation as well as their role in changing the structure of employment. Our analysis refers to Czech Republic, Hungary, Slovakia and Estonia. We present descriptive stage model of FDI progression into transition economy. Employment aspects of the model are next analysed. We conclude that the role of FDI in employment

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creation/preservation has been most successful in Hungary and than in Estonia. Yet, FDI can operate as complement rather than as substitute in employment generation/preservation. The paper shows that the increasing differences in sectoral distribution of FDI employment across countries are closely related to FDI inflows per capita. The bigger diversity of types of FDI is more favourable for the host economy. There is higher likelihood that it will lead to more diverse types of spillovers and skill transfers. If policy is unable to maximise the scale of FDI inflows than policy makers should focus much more on attracting diverse types of FDI.

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Introduction

Countries of central Europe (CE) face difficult task of structural adjustment to both the initial post-communist transition shocks and further disturbances linked to the process of EU accession. The policy-makers in those countries have high expectations towards foreign direct investment (FDI). It is expected that foreign investors will not only bring new technology and capital to accelerate structural changes, but also maintain employment. Indeed, during the last decade FDI started to play important role in the employment structures of CE economies (see Enderwick, 1996 and Hunya, 1998a). In this paper we analyse whether these anticipations have been fulfilled and what realistically these countries can expect from FDI as an agent of change in large-scale restructuring of employment.

We examine the role of FDI in job creation and job preservation as well as their role in changing the structure of employment. The data that form the basis of this chapter are from "Database on Foreign Investment Enterprises in Central European Manufacturing 1993 –1996", prepared by the Vienna Institute for Comparative Economic Research (WIIW). It covers 23 branches of manufacturing industry in these countries by main economic indicators from balance sheets and income statements. Data are presented separately according to the ownership of firms – domestic and foreign owned¹. Our analysis

¹ All firms with some foreign share in their nominal or equity capital are counted as foreign investment enterprises (FIEs). Information about FIEs comes from national databases, which contain data of the income statements of firms. In firms with minority foreign share the foreign investor usually has a real control over the management. In that respect, FIEs do represent a population of firms that are usually

refers to Czech Republic, Hungary, Slovakia and Estonia. In cooperation with the Estonian Statistical Office similar data about Estonia were added to the database covering period from 1995 until 1997 classified by 20 different branches of manufacturing industry.

In the first section we briefly provide a general introduction into the issue. In the second section we present descriptive stage model of FDI progression into transition economy. Some employment aspects of this model are next analysed in section 3. In section 4 we analyse contribution of FIEs sector to the overall employment. In section 5 we provide several insights on FDI and employment dynamics based on annual data. Section 6 is focused on Hungary and highlights some specific questions that emerge from the previous analysis. Finally, we provide several conclusions.

1. Foreign Direct Investment and Employment in Transition Economies

Multinational corporations (MNCs) are important employers of labour in the world economy. Employment within MNCs has increased from 45 million (mid-1970s) to 70 million (early 1990s). (See WIR, 1994). Beside their effects on aggregate employment, FDI has strong influence on domestic employment through types of jobs created, regional distribution of new employment; wage levels, income distribution, and skill transfer. These direct effects are complemented by indirect or spillover effects. Indirect effects take place through movement of trained labour from foreign firms to other sectors as well as through the increase of employment in domestic subcontractors. The integration of FDI into a local economy results often in a deep

defined as foreign direct investment (FDI). Nevertheless, we use the term FIEs whenever we explicitly refer to data on FIEs. For extensive methodological explanations see WIIW (1998).

social change. Movement of labour and links with domestic subcontractors enable transmission of business culture, which includes corporate values, organisational structures and management practices (Mirza, 1998).

Despite potentially positive effects of FDI on magnitude, and skill profile of employment in host countries the relationship between FDI and employment is far from being understood. This relationship is influenced by a plethora of different macro and micro factors, which makes their assessment in a comprehensive manner difficult. A review of employment effects of FDI by OECD (1995) points out that there is “no general conclusion (...) regarding neither the sign of employment effects nor their magnitude. The broad range of results is a reflection of both the complexities of the analysis and methodological shortcomings, combined with the generally poor data availability in most countries” (p. 140).

Yet, high expectations attributed to FDI in CE call for better understanding of its role. Given the task of large scale restructuring in these economies there is need to examine whether FDI is contributing to preservation and generation of new employment and how much the structure of employment is affected.

Under “real socialism”, excessive employment or “labour hoarding” was an endemic part of the economy of shortage (Kornai, 1986). Factor markets were as much affected by shortages as final product markets and the rational response of the enterprises was to hoard. It was the volume of production, not profit, which was maximised. With “soft budget”, this maximisation was not subject to financial but too real constraints (ibid.).

At the outset of economic transition it was obvious that it will be impossible to maintain levels of employment from socialist period. Hence, the slowdown of employment reduction and protection of employment has become one of the main objec-

tives of economic policy. Active labour market policies had positive micro results but they could not substitute for new job creation by private sector. Among employment-enhancing measures, privatisation contracts signed with investors (foreign in particular) had some effects (Lavigne, 1999). Those included guarantees for maintaining a specified level of employment for a period of time in exchange for either lower price or additional incentives. In particular, this policy played crucial role in East German privatisation, but it proved to be insufficient (Brucker 1997, chapter 5). Contracts with foreign investors, which guaranteed maintenance of specific employment levels, were adopted also in countries like Poland and Estonia. However, these direct policies could not be sufficient without employment generation in private domestic sector.

2. Changing Types and Level of FDI and Their Effects on Employment

After ten years of post-communist transition, the differences among central and east European economies (CEECs) in terms of restructuring and role of FDI have become significant. Much of these differences are correlated with the scale and nature of FDI that enter these economies. Survey by Lankes and Venables (1997) shows that there is not smooth functional relationship between *levels* of FDI and progress in transition. However, there is a strong relationship between *type* of FDI and progress in transition of CEECs. Exporters and wholly owned subsidiaries are more present in advanced economies in transition while distributors, local suppliers and joint-ventures are more present in economies lagging in institutional transformation and recovery.

Thus, first, the type of FDI is changing as the transition progresses. And FDI is important not only as generator of new employment but also as agent that can change the structure of

employment in the direction that would be more favourable for a long-term growth of CEECs. This is more likely to happen if FDI is diversified. Second, if there is no smooth and functional relationship between levels of FDI and transition progress, which factors could account for country differences in contributions of FDI to national employment? Starting from these issues we want to examine what are the effects of FDI on the structure and levels of employment in four central European economies.

We will outline a stage model of the changing relationship between employment and FDI during the transition process, which resemble some of the empirical conclusions of Lankes and Venables (1997). This model is based on few stylised facts of FDI in CEE that are relevant for understanding the employment effects of FDI:

First, market seeking dominates among types of FDI entering the CEE. Factor cost considerations are secondary (Lankes and Venables, 1997; Meyer, 1998). Only jointly with attractive markets do lower factor costs attract inward FDI (Meyer, 1998).

Second, sequencing of types of FDI suggests that horizontal type FDI projects enter CEE economies relatively early. This maybe linked to the fact that first mover advantages are highly relevant for distributors, i.e. in sales strategy rather than in production or acquisition of assets (local suppliers or exporters) (Lankes and Venables, 1997).

Third, the progress in transformation will make more CEEs host to vertical FDI (exporters) bringing them into EU and world production networks rather than to horizontal (distributors, local suppliers).

Fourth, in advanced economies in transition, FDI is mainly exports oriented, more integrated into MNCs, and more likely to be wholly owned. Countries further in transition have relatively

more export supply oriented projects and relatively more fully foreign owned projects (Lankes and Venables, 1997)

Fifth, FDI enter into branches that have relatively stable and promising or growing domestic markets (Hunya, 1997). They are not yet entering into collapsing branches with shrinking domestic markets.

Thus, the initial wave of FDI in all CEECs was focused mainly on domestic markets and was confined on distribution parts of value-chain. This process was dominated by investment in trading, business support services and consumer goods operations targeting local markets. As confirmed by business surveys first mover advantages are essential for such activities (Lankes and Venables, 1997).

High institutional instability and market uncertainty in the first stage of transition are important but not insurmountable obstacles for this type of FDI. This explains the presence of this type of FDI in those CEE economies (for example, Ukraine) where high business risks would generally inhibit large-scale FDI inflows (Stern 1997). Investors have opportunity to captivate local markets by being first. However, these advantages have to be balanced against economic risk and uncertainty. As a result of these opposing concerns, capitalisation of FDI and their technology content are low, yet often include significant inflow of human capital in the form of transfer of managerial know-how, new organisational structures, management and marketing skills, access to distribution networks etc. However, in this stage the overall impact of FDI on the aggregate levels of employment is quite insignificant. Still, FDI brings entirely new types of skills, which are critical for marketisation process.

In the second stage, the basic conditions for FDI operations are improving. Factor cost advantages, skill endowments combined with opportunity to serve local market directly rather than through export become an important consideration for locational decisions of foreign investors. In this stage foreign investors are

setting up local suppliers to serve domestic market. When compared to the previous stage the effects of FDI are much more positive in several respects. First, capitalisation of investment projects increases and their time horizon expands which increases the absolute numbers of foreign-controlled employment. Second, investments embody more technology than is the case with FDI focused on distribution. This requires diversified skill structure. In short, the effects on employment are more substantial than in the previous stage, both in terms of scale as well as structure.

In the third stage, individual CEE economies are used as export platforms for labour intensive activities, which have been, delocalised from home countries. In this stage, the effects on labour market of CEECs are even stronger than in the previous stage. Foreign investors start to shape employment according to the locational advantage of host economies. Inflows of Western technology, deepening co-operation with parent firms and better access to the distribution networks on the world market increase productivity in industry. These increases may be parallel to reductions in employment in newly acquired firms but often result in increase in those enterprises, which are subcontractors of foreign firms.

In addition, in the third stage, portfolio of FDI expands through the emergence of strategic investments in utilities (telecommunications, energy) and through export-oriented investments. More generally, decreasing risks in CEE countries, growing domestic markets and cost differentials (in case of export oriented FDI), lead to expansion of FDI and diversification of sectoral and skill structure. As the share of FDI in employment increases and as domestic firms also start to offer higher wages for skilled labour, wage differentials get reduced. This equilibrating effect of competition for labour enables movement of labour from foreign to domestic firms and that leads to diversified spillover effects.

This stages-based model suggests that the relationship between FDI and employment is changing during the transition process. Progressively, as more functional types of FDI (distributors, local suppliers, exporters) enter into economy, the relative wage levels between domestic and foreign firms change as well as the skill structure of labour force employed in foreign controlled sector, and that leads to competitive reactions of domestic firms. As shown by Lankes and Venables (1997) the scale and timing of this interactive process depends to a great extent on progress in transition. Given that four countries we want to analyse are advanced transition economies we would expect the structure of FDI to be already diversified. Moreover, since our data refer to 1993-96 period much of distributor- and local supply-type FDI has already entered these economies. However, this may be not the case yet with export oriented FDI.

Our data are at branch level and may seem too aggregate for analysing the changing types of FDI, which is best discerned through business survey data. Nevertheless, we think that variations in foreign presence across branches reveal interesting aspects of their increasing diversification or absence, which may shed new light on conclusions from business surveys. This may also reveal interesting aspects of contribution of FDI to employment in CEE.

3. Structure of Foreign Direct Investment and Its Effects on Employment

With the opening of the CE economies, FDI has become an important mechanism of their integration into world economy, especially EU. Starting from the level of only 2.4bn USD in 1990 (1.5% of GDP), FDI has increased to 61.2 bn USD or 25 times (see Table 1). Among CEECs, the relative importance of FDI is by far the highest in Hungary. Partly, a high relative penetration of FDI in this economy could be explained by early inflows of FDI, which started immediately in 1990.

Table 1

Cumulative Stock of FDI in Central Europe, 1990 – 1998 in Billions of US dollars.

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central Europe	2,375	5,215	9,180	13,255	18,444	30,476	39,525	46,739	61,243
Hungary	569	2,107	3,435	5,585	7,095	11,926	14,668	15,882	18,255
Czech R.	72	595	2,889	3,423	4,547	7,350	8,572	9,234	13,457
Slovak R.	N/A	43	231	453	762	1,066	1,361	1,558	1,888
Poland	353	600	1,125	2,840	4,715	8,374	12,872	17,780	24,780
Estonia	N/A	N/A	82	419	696	955	1,026	1,148	1,822

Source: Hunya, G., Stankovsky, J.(1999) Foreign Direct Investment in Central and East European Countries and the Former Soviet Union. WIIW-WIFO Database. Vienna

Next early target country for foreign investors was Czech Republic. In mid-1990's Poland took over the position of the main destination of FDI among CEECs and has maintained it until now.

FDI inflows per capita give somewhat different picture of country inflows (see Figure 1). However, differences among CEECs remain ranging from very high importance of FDI in Hungary to their very low importance in Slovakia.

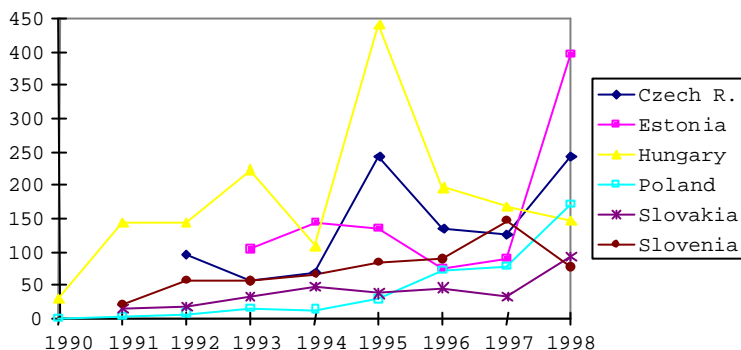


Figure 1. FDI inflow per capita, US dollars

Similar to Table 1 and Figure 1, differences in the employment shares of foreign investment enterprises (FIEs) in manufacturing among CE economies are also significant (see table 2). Already in 1993, more than 31 percent of employment in Hungary was in foreign owned firms, a level which other CE economies are unlikely to reach quickly. Although the share of foreign controlled employment in other CE economies ranges only from 6-13 percent the rising trend is present in all four countries.

The structure of FDI shows that the main targets are technology-intensive electrical machinery and car industry. Textiles, clothing and leather industries are less internationalised through FDI than other activities.

Table 2

The shares of foreign firms in total employment of manufacturing industries (percentage)

ISICCode	Industries	Czech Repub.		Hungary		Slovakia		Estonia		Standard deviation*	
		1993	1996	1993	1996	1993	1996	1995	1996	1993	1996
15-16	Food products, beverages	13.3	17.3	36.6	36.2	11.5	11.3	11.1	11.9	10.70	10.10
17	Textiles	0.4	8.8	28.8	29.1	13.4	21.8	26.3	68.4	11.34	22.22
18	Wearing apparel, dressing	1.7	5.9	29.4	28.5	5	9.3	8.5	14.5	10.81	8.62
19	Tanning and dressing of leather	2.6	3.1	24.1	39.2	0.6	6.5	0	0	10.02	15.76
20	Wood	2.9	8.7	17.6	22.4	3	6.2	5.7	9.6	6.05	6.29
21-22	Paper products and publishing	4.9	14.5	31.6	29.5	15.1	17.1	0	0	12.09	10.48
23-24	Petroleum and chemicals	4.4	7.8	31.4	77.7	17.4	20.8	15.3	16.7	9.61	27.51
25	Rubber and plastic	12.6	31.1	33	34.8	0	5.4	0	0	13.49	15.30

ISICCode	Industries	Czech Repub.		Hungary		Slovakia		Estonia		Standard deviation*	
		1993	1996	1993	1996	1993	1996	1995	1996	1993	1996
26	Other non-metallic minerals	11.8	23.1	40.4	41.6	5.2	10	32.3	35.8	14.41	12.18
27.28	Basic metals	2.5	5.9	20.7	23	8.1	12.4	0	0	7.99	8.53
29-33	Machinery & equip	2.9	12.2	25.9	23	4.8	10.8	1.8	12.4	9.90	4.89
34-35	Transport equipment	18.1	25.7	38.3	45.2	16.4	25.8	0	0	13.59	16.06
36	Furniture	0.9	8.8	20.9	20.4	2.9	12.7	0	11.1	8.57	4.35
37	Recycling	0	25.4	26.9	22	0	0	0	0	11.65	11.91
Total Manufacturing		5.9	13.1	31.7	36.1	8	13	13	18.9	9.44	10.20
Standard deviation		5.57	8.56	6.58	14.4	6.01	6.84	10.3	18.2		

*Estonia: 1995

Source: WIIW Database on Foreign Investment Enterprises, Vienna, 1998 and Database on Foreign Investment Enterprises in Estonia 1995-1997, Tartu, 1999

However, foreign investors penetrate also industries with relatively stable domestic markets, e.g. food, beverage and tobacco.² Branches, which have typically low foreign penetration world-wide, have high foreign involvement in CE, for example, production of construction materials (see “other non-metallic minerals” in Table 2)³. On the other hand, foreign presence is still relatively small in branches with great structural difficulties and oversized capacities, like steel industry.

In addition, there are some country specificities in foreign penetration across branches. For example, in Hungary, the coke and petroleum industry is practically taken over by foreign controlled firms (99.8% share of FDI in employment). Branches where the foreign presence is very high are electrical machinery (72.2%), chemicals (69.3%) and transportation equipment (57%). In the Czech Republic the major areas for FDI is motor vehicles industry (39.9% share) followed by rubber and plastic (31.1% share), electrical machinery (24.4%) and other non-metallic minerals (construction materials) (23.1%). In Estonia the main areas, where foreign owned firms have relatively high share in total employment as compared with domestic producers are paper and paper products (56.7%), textiles (55.4%), electrical machinery (30.1%) and construction materials (33.7%).

In section 2 we pointed out that FDI operate as a vehicle of changes in the structure of employment. This change comes not only through aggregate levels of FDI but even more important, through types of FDI with diversified skill structure, which then may lead to larger spillover effects (Meyer and Pind 1999). We outlined the stage model of FDI, which is based on sequencing and different functional types of FDI: distributors, local suppliers and exporters. The increase of FDI is unlikely to be based on

² For detailed analyses on these problems see G.Hunya (1998b).

³ The growing construction activity in the region attracts acquisitions of cement and similar factories.

one type of FDI only. For example, a high share of FDI in Hungary is not based on relatively higher presence of distributors only when compared to, for example, Czech Republic. The difference in levels of FDI is more due to higher share of both local suppliers, and, in particular, of exporters. With higher level of FDI inflows, we would expect that the structure of FDI types becomes more diversified. The data for Hungary shows that the high level of FDI is accompanied by very high share (75%) of foreign investment enterprises in exports (Hunya, 1998). Also, we would expect to find out an increasing differentiation of FDI types among transition countries as differences in FDI presence become larger across region. Data on branch structure of FDI may show some aspects of this diversification process.

In Table 3 we present correlation coefficients between four analysed countries based on shares of FDI in employment.

Table 3

The correlation coefficients for shares of FDI in employment

1993	Cz	Hu	Sl	
Cz	1.00	0.78	0.30	
Hu	0.78	1.00	0.43	
Sl	0.30	0.43	1.00	
1996	Cz	Hu	Sl	Es
Cz	1.00	0.04	-0.13	-0.17
Hu	0.04	1.00	0.47	0.07
Sl	-0.13	0.47	1.00	0.07
Es	-0.17	0.07	0.07	1.00

Table 3 shows that the similarity in foreign penetration across sectors was moderate or strong in 1993. This is expected as newly open CE markets attracted primarily market-seeking FDI. In 1996, as we would expect, their similarity becomes low (except moderate and basically unchanged similarity between Hungary and Slovakia). Why increasing differentiation in the sectoral structure of FDI followed after initially strong similarity? . As pointed out in section 2 in this stage FDI presence starts to reflect differences in locational advantages of individual CE economies. The increasing differentiation in relative sectoral presence is accompanied by increasing differentiation of FDI types, in particular by an increasing share of local suppliers and exporters in countries with larger presence of FDI.

A closer analysis of Table 3 for 1993 reveals, that “transport equipment” is the typical sector of early entry whose share is either the largest or second largest for Hungary, Czech and Slovak Republics. Also, in 1993, “food products and beverages” are amongst the first five in terms of FDI presence in all four countries. Both industries have been initially very strongly oriented to domestic market, i.e. dominantly of local supplier type. This is still the case with food industry, while in “transport equipment” the initial orientation to domestic market has been complemented with increasing exports. Our data do not cover period before 1993 where we would expect a higher share of distributors in these sectors.

In Table 2, last row, i.e. standard deviations in branch structure of FIE employment, show that there is increasing dispersion in their penetration. Moreover, the increase in dispersion basically follows country differences in FDI per capita in figure 1. So, for Hungary, Estonia, Czech R, and Slovakia the increase in dispersion of FDI presence between 1993 (1995 for Estonia) and 1996, as expressed by the ratios of standard deviation, is 220%, 180%, 150%, and 110% respectively. Similarly, for pooled data the average dispersion across branches between 1993 and 1996 shows increase. The average standard deviation

increases by 16% from 10.72 in 1993 to 12.44 in 1996. However, as we would expect, the increase in dispersion across countries is significantly higher than across sectors (169% vs. 116%) (see table 4). Although, in 1993 (1995 for Estonia) differences in dispersion were by 50% higher across sectors than across countries we see that dispersion across countries has increased substantially and even surpassed the average dispersion across sectors.

In summary, increasing differences in sectoral distribution of FDI employment across countries are closely related to relative order of FDI inflows per capita across countries.

Table 4

Average standard deviations for 1993 and 1996

	1993	1996	Ratio
Average standard deviation across countries	7.11	12	168.78%
Average standard deviation across sectors	10.72	12.44	116.04%
Ratio	150.77%	103.67%	

Source: based on Table 2.

Dispersions across countries have become substantially more significant during the transition process. We think that the increasing unevenness in FDI presence is accompanied by an increasing unevenness of types of FDI. We would expect that the deeper penetration of FDI is accompanied by more diversified structure of types of FDI, i.e. a higher share of exporters as compared to distributors and local suppliers. What are the implications of these trends for employment? Obviously, more

diversified structure of FDI types will have more beneficial effects through direct and indirect links to domestic labour force. Higher share of exporters brings with it easier access to foreign markets, ensure more training and quality improvements.

From policy perspective it is important to note that the structure of FDI types would diversify automatically with increased FDI levels. Hence, the best policy is to maximise inflows of FDI in general. However, in those CEE countries that cannot count on large-scale inflows of FDI policy makers should focus much more on attracting diverse types of FDI rather than on inflows of FDI as such.

4. FDI , Job Creation and Job-Preservation

The issue of whether and how FDI can contribute to employment creation and preservation ranks high on policy agenda in CE economies. Whether FDI is a driving force in employment or job destroyer? Are there country differences in this respect and how they can be explained? In order to analyse these issues we calculated changes in employment in different branches of manufacturing industry for 1993-1996 and separated contribution of FDI to net balances (see Table 5). Due to the lack of comparable data, the analysis of Estonia is restricted to 1995-1997 period.

Figure 2 compares the total change in employment with that of foreign investment firms (FIEs) only. We want to analyse the extent to which foreign investment enterprises have contributed to job-creation or job-preservation. We will not analyse changes in employment behaviour of domestic vs. foreign firms, as we would face serious problems in their interpretation. If we were to focus on distinction between domestic vs. foreign we would be measuring the aggregate effect of both the changes in ownership of enterprises and changes in their employment behaviour.

Table 5

Changes in employment, the manufacturing industries, 1993-1996

	Hungary		Czech Republic		Slovak Republic		Estonia [*]	
	Total	FDI	Total	FDI	Total	FDI	Total	FDI
Food products, beverages	-10792	-4645	-1198	3928	-3106	-457	-955	-149
Tobacco	19	85	-472	-323				
Textiles	7332	2243	-16393	5851	-7846	996	-2053	2191
Wearing apparel, dressing	9301	2077	-913	1111	-3039	1097	-812	588
Tanning and dressing of leather	-533	3778	-12627	-205	-17391	1155	-406	0
Wood	2683	1624	-5242	949	-1046	432	821	595
Paper and paper products	-519	-1227	515	1186	-971	289	245	0
Publishing, printing	1558	674	1862	2415	0		253	0
Coke and petroleum	-4275	15562	-8816	0				
Chemicals	-571	11045	6310	1651	-10523	-747	-2324	-31
Rubber and plastic	5635	2393	4373	6144	-3301	838	160	0
Other non-metallic minerals	2896	1586	-11791	5287	-8764	779	-1685	-322

	Hungary		Czech Republic		Slovak Republic		Estonia[*]	
	Total	FDI	Total	FDI	Total	FDI	Total	FDI
Basic metals	8390	3913	-5449	639	-1260	2344	447	553
Fabricated metals	468	-131	-404	5079				
Machinery and equipment n.e.c.	44005	6840	-43617	5217	-13879	725	-1110	-212
Office machinery	1306	-207	-226	471				
Electrical machinery &app.	7348	7281	4877	10557	2292	4188	225	2531
Radio, TV sets	2402	4744	295	3063	-2642	837		
Medical,precision& opt. instrum.	1676	1281	-287	1570	-5535	-256		
Motor vehicles, trailers	-709	1644	-6925	4682				
Other transport equipment	-1820	-534	-4365	22	-4047	2031	-1163	0
Furniture, manufact. n.e.c.	584	-29	-7515	3534	-5687	1201	174	948
Recycling	544	103	-454	938	-210	0	-143	0
TOTAL	76928	60100	-107990	64089	-86955	15452	-8371	6031

*) For Estonia 1997 is compared with 1995

Source: Calculations from the WIIW Database

This is especially risky given very short time period for which data is available. Also, data do not allow us to differentiate between created and preserved jobs. We interpret such lumped data as the “employment capacity” of sector, which we define as the ability to maintain the existing or generate new employment.

Table 5 shows several interesting features. First, unlike the initial period of transition (see: Mickiewicz, Bell, 2000), the employment generation is on the agenda only in Hungary. With 76920 newly created jobs in 1993-96 period this economy stands apart from other three where the dominant mode of adjustment is still passive adjustment through lay-offs. Second, despite big relative difference foreign controlled sector has better employment capacity than domestically controlled sector in all four countries. In all of them FIE sector operates as buffer to further erosion of employment. In Hungary its contribution to new job creation is very high, 78.1%. Also, in Estonia, Czech Republic, and Slovakia FIEs sector has reduced the negative balance of employment by 72.0%, 59.4% and 17.8% respectively (see Figure 2).

In Hungary, the 78.2% share of FIEs in employment shows that the foreign controlled sector plays a crucial role in what possibly corresponds both to more advanced phase of restructuring and the more advanced stage of FDI presence. In the case of Czech Republic net reduction of 107990 jobs was accompanied by 64089 jobs created or maintained by foreign investment firms. Thus, the foreign sector was not able to outweigh the job destruction in the domestic sector. The continuous process of downsizing of Czech manufacturing strongly suggests that between 1993 and 1996, the country was still in the early phase of restructuring and inflow of FDI did not change the situation. Similarly, Slovakia has been affected by serious job cuts: net loss of 86955 jobs and only 15452 opened or taken over by FDI owned firms. In case of Estonia, the total trend corresponds to

reduction in employment by 8371 jobs. Again, job creation in the foreign sector though substantial was not strong enough to reverse it. However, these are substantial contributions to employment generation/preservation assuming that FIEs sector will not start to lay-off employees after initial preservation period.

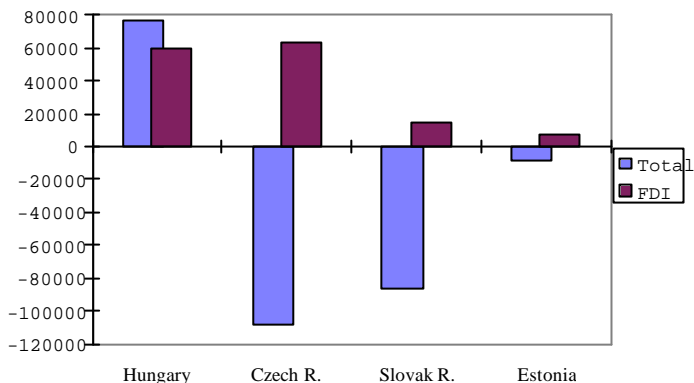


Figure 2. Employment changes in manufacturing industries of some transition economies 1993-1996 (in absolute figures). *Source: EBRD, Transition Report, 1997-1999.*

A very striking difference between Hungary and other three countries in employment generation call for better understanding of its causes. Are these differences related entirely to different behaviour of FIEs or to different behaviour of domestically controlled corporate sector? We approach to that issue through analysis of employment changes within manufacturing industry, in particular employment behaviour of FIEs. We classified all branches of manufacturing industry into four groups depending on their relative contribution to employment creation/preservation:

First group consists of branches of industry where employment, both total and in FIEs, is decreasing (Type 1). This may suggest

that **rationalisation in the sector is taking place to a great extent through layoffs in both domestic and foreign controlled firms.**

Second group includes branches, where total employment is declining, but employment in FIEs is increasing (i.e. the FIEs sector is not strong enough to balance a decline of the domestic enterprises) (Type II). These are **sectors undergoing heavy restructuring** process after privatisation, where growth in FIEs” employment may result from new job creation but also from take-overs of the existing domestic firms.

Third group includes those sectors where the overall employment is increasing but where FIEs record decline in employment (Type III). In this group, domestic firms have strong “employment capacity” , while FIEs firms are reducing employment. This is **a sector, where competitive advantages of FIEs are either small or there are important structural differences between the domestic and FIC sector and logic of growth of FIEs is different from domestically controlled firms.**

Fourth group consists of branches where both, overall and FIEs net employment, is increasing (Type IV). These are sectors, which have **passed initial restructuring** and have **good prospects for development.**

The results are presented in table 6, where all branches of manufacturing industries of Hungary, Slovakia and Czech Republic and Estonia are classified according to four types of employment changes. Results from Table 6 are summarised in Table 7, which shows the frequency of changes.

Table 7 shows marked differences between countries in types of employment changes. In most of Hungarian branches the growth of the overall employment is accompanied by growth of employment in FIEs” sector.

Table 6

Classification of branches of manufacturing industries in Hungary, Czech and Slovak Republic and Estonia by the type of employment change

	Hungary	Czech Republic	Slovak Republic	Estonia^a
Food products, beverages	Type I	Type II	Type I	Type I
Tobacco	Type IV	Type I	Incl.in pr	Incl.in pr
Textiles	Type IV	Type II	Type II	Type II
Wearing apparel, dressing	Type IV	Type II	Type II	Type II
Tanning and dressing of leather	Type II	Type I	Type II	Type II
Wood	Type IV	Type II	Type II	Type IV
Paper and paper products	Type I	Type IV	Type II	Type IV
Publishing, printing	Type IV	Type IV	Incl.in pr	Type IV
Coke and petroleum	Type II	Type I	Incl.in pr	Incl.in pr
Chemicals	Type II	Type IV	Type I	Type I
Rubber and plastic	Type IV	Type IV	Type II	Type IV

	Hungary	Czech Republic	Slovak Republic	Estonia^a
Other non-metallic minerals	Type IV	Type II	Type II	Type I
Basic metals	Type IV	Type II	Type II	Type IV
Fabricated metals	Type III	Type II	Incl.in pr	Incl.in pr
Machinery and equipment n.e.c.	Type IV	Type II	Type II	Type I
Office machinery	Type III	Type II	Incl.in pr	Incl.in pr
Electrical machinery and app.	Type IV	Type IV	Type IV	Type IV
Radio, TV sets	Type IV	Type IV	Type II	Incl.in pr
Medical, precision, opt. Instruments	Type IV	Type II	Type I	Incl.in pr
Motor vehicles, trailers	Type II	Type II	Incl.in pr	Incl.in pr
Other transport equipment	Type I	Type II	Type II	Type II
Furniture, manufacturing n.e.c.	Type III	Type II	Type II	Type IV
Recycling	Type IV	Type II	Type II	Type II
All manufacturing	Type IV	Type II	Type II	Type II

a) 1995-1997

Incl.in pr.- included into previous branch of manufacturing industry

In 13 out of 23 branches FIEs have complemented the general trend of growth in employment (type IV). In Estonia, similar to Hungary, in 12 out of 23 branches there was increase in both the overall and FIEs' sector employment. On the other hand, in Slovakia and Czech Republic in 17 and 14 branches respectively employment in FIEs increased while the overall employment went down.

These differences suggest that there is a more complementary type contribution of FIEs to employment generation/preservation in Hungary and more substitutive type in Slovakia and Czech Republic. That may also suggest more advanced stage of restructuring, after the first phase of general reduction in excessive initial employment levels (see: Mickiewicz, Bell 2000).

Table 7

Summary of changes in employment based on 4-types classification

	Hungary	Czech Republic	Slovak Republic	Estonia
Type I	3	3	5	6
Type II	4	14	17	6
Type III	3	0	0	0
Type IV	13	6	1	12

However, the most interesting pattern is the complete lack of type III changes in Czech R, Slovakia and Estonia. This shows that in none sector in these three countries FIEs decreased employment while the overall employment went up. The existence of such sectors (4) in Hungary may suggest that domestic

firms are able to expand employment in areas where FIEs are either not able or not interested.

In overall, the number of branches in which FIEs positively contributed to employment (types IV and II) is relatively even (Hungary 16, Czech R 20, Slovakia 18, Estonia 17). However, the differences in contributions of FIEs to employment are significant with regard to whether FIEs sector operate as a substitute or complement to the overall job creation. In that respect, Hungary's indigenous "employment capability" seems to be distinctively higher than in other three economies (see Table 5).

In Estonia, the number of type IV sector is high but the overall capability of economy for employment generation/preservation seems weaker than in Hungary.

The types of changes are mainly country specific reflecting country differences in the presence of FDI and their indigenous restructuring activities. However, if we define as a common trend the same change that occurs in three out of four countries we can discern several common patterns.

First, in electrical machinery and apparatuses in all four countries, both the overall employment and employment in foreign controlled sector, has risen (Type IV). In three out of four countries this direction of change took place in radio and TV sets, publishing and printing, and rubber and plastics. This suggests that in sectors where there is a mutual favourable interaction of demand, technological factors and opportunities - both, domestic and foreign, investors have invested and maintained or expanded the volume of employment.

On the other hand, in both food and tobacco industries foreign presence in CE has considerably increased but it did not lead to maintenance or increased employment in three out of four countries. Both, domestic and foreign controlled sectors are restructuring to a great extent through layoffs (type I).

Table 8

Most common types of employment changes

	Hungary	Czech R.	Slovakia	Estonia
Electrical machinery and app.	Type IV	Type IV	Type IV	Type IV
Radio, TV sets	Type IV	Type IV	Type II	Type IV
Rubber and plastic	Type IV	Type IV	Type II	Type IV
Publishing, printing	Type IV	Type IV	Type II	Type IV
Textiles	Type IV	Type II	Type II	Type II
Wearing apparel, dressing	Type IV	Type II	Type II	Type II
Tanning and dressing of leather	Type II	Type I	Type II	Type II
Other transport equipment	Type I	Type II	Type II	Type II
Recycling	Type IV	Type II	Type II	Type II
Food products, beverages	Type I	Type II	Type I	Type I
Tobacco	Type IV	Type I	Type I	Type I

In clothing, leather and other transport equipment the overall decrease in employment is accompanied by increase in foreign controlled employment. This shows that FIEs are able to buffer the overall loss of employment.

It is interesting that changes in employment of type III do not represent a common tendency in any of the branches. We do not observe a situation where increase in total employment would be accompanied by decrease in foreign controlled employment. This may suggest that any recovery in CEE is most often either FDI- led or FDI assisted.

Significantly higher frequency of type II change in Czech R. and Slovakia confirms the general impression about delayed micro restructuring in these two economies where foreign investors substitute for domestic structural weaknesses (see Table 5). Contrary to this, Hungary is the case of the mature stage of FDI and restructuring where relatively much of active restructuring seems to be domestic led. At the other extreme is Slovak Republic with only one branch – electrical machinery – belonging to the fourth group. In general, employment capacity of Hungarian and Estonian manufacturing seems to be significantly stronger than of the other two economies.

Table 5 show the size of gains or losses incurred by FIE's sector in relation to overall employment change across individual sectors. We pointed out earlier that in all four countries in "electrical machinery and app." both foreign controlled and the overall employment have increased (type IV). This branch seems to be attractive for foreign investors as well as with domestic comparative advantages. It is interesting that among type IV branches we can find branches of diverse technological patterns. This suggests that the integration of CEE into wider European economy will not follow one pattern, be it labour or technology intensive, but will be more complex following several technological trajectories. This is quite compatible to our analysis of technological patterns of CEE – EU trade where, similar to

Table 5, we find simultaneous expansion in technology intensive, labour intensive and commodity-type branches (see Radosevic and Hotopp, 1999).

The most interesting difference between Hungary and other three economies is employment generation in “machinery and equipment n.e.c”. In Czech R., Slovakia and Estonia this branch is in crisis with foreign investors succeeding to preserve some employment. In overall this branch is the biggest loser of employment in Czech Republic, second biggest loser in Slovakia and among group of considerable losers in Estonia. In Hungary, contrary to this bleak picture, this branch is the biggest generator of new employment. Moreover, foreign controlled sector generates only smaller part of new employment in this branch.

5. Dynamics of Foreign Investment Enterprises and Employment Generation/ Preservation

In continuation, we focus on annual changes in order to get a general sense of direction of contribution of FIEs to employment generation/preservation. Table 9 presents data on changes in employment of FIEs’ firms during the period of 1993-1996 (for Estonia 1995-97)⁴.

Our data cover a relatively short period in the overall restructuring period of CE economies. However, the first year of our data is the year which is usually perceived as the end of “transformation recession” (Kornai) and 1994 brought beginning of recovery in all CE countries, with exception of Estonia, which still experienced 2% fall in GDP (EBRD 1999).

⁴ Due to short time period and erratic data movements the analysis of employment across branches had produced little value and will not be presented here.

Table 9

Changes in employment in manufacturing industry**

	Total 1994-93	FIEs1994-93	Total 1995-94	FIEs 1995-94	Total 1996-95	FIEs 1996-95
Hungary	-25847	31280	59483	21508	43292	7312
Slovakia	-16486	5630	-14930	11224	-55539	-1402
Czech R	-23045	12074	-38029	22041	-46916	29974
Estonia*	-7291	4311	-1080	1720	-8371	6031

* 1995-97

** FIE = foreign investment enterprises

The issue is whether employment data can tell us something new regarding the sustainability of this recovery.

In 1994, in all four countries there was a considerable decrease in the overall employment. Also, in all four countries this has been partly compensated by FIEs, which preserved from 30% to 100% of potential employment loss and generated up to 20% new employment. In subsequent years in most of cases FIEs have operated as buffer to employment decrease. It is only in Hungary that total employment generation surpassed increase in foreign controlled employment. It seems that for Hungary, 1994 indeed represents the switch from a period of rapid downsizing and restructuring to the period of job creation/preservation. Also, aggregate employment and unemployment data for Hungary conform to this picture. Unemployment peaked in 1993 to 12.3% and 1994 was the first year of a decrease (10.4%).

Also, reversal in employment trends took part in 1994. It was the first year of significant slowing down of decrease in employment from -5.7% in 1993 to -1.2% in 1994.

Unlike in Hungary, in other three economies employment generation/preservation remains big structural problem. In Czech Republic FIEs employment has continually increased and partly compensated for continuous decrease in overall employment. In that respect, FDI policy seems to operate as successful buffer against further structural deterioration. Slovakia, which under Meciar government has been hostile towards FDI, used FDI generated employment as buffer only to a moderate extent. As long as it could control the overall employment policy was not pressed to attract FDI. However, the problem opened in 1996 with 55000 decrease in employment which very marginal positive contribution of FIEs could not match. Hence, in the future we may expect increasing pressure to use FDI as a mechanism of employment generation/preservation. In Estonia, there does not seem to be a clear trend over 1993-96 period. However, at

least so far, it seems that FIEs' employment could successfully substitute for decrease in the overall employment.

So far we painted Hungarian "employment capability" in rather rosy tones. Indeed, in that respect the behaviour of this economy is significantly different from other three. The only worrying sign for Hungary is decrease in both, 1995 and 1996, years in employment generation/preservation of both overall and FIEs' employment. Have opportunities for employment generation/preservation by FIEs been exhausted? Could domestic led restructuring compensate for decreasing contribution of FIEs to employment generation/preservation?

Conclusions

Before we provide conclusions there are two questions which our analysis raises. First, why Hungary is so much better in “employment capability” (i.e. capability to generate and preserve employment) when compared to other three economies. An important explanation could be its structural similarity to developed economies. Namely, Hungary is, among CE economies, a country which has already the structure of employment most similar to the most developed European “North” (see Jackman and Pauna, 1997, Mickiewicz and Bell, 2000). This structural similarity suggests that Hungary is the best prepared to create and absorb potential, which come from links with foreign firms.

Second, why other countries have not used FDI more successfully as a buffer for generating/preserving employment in the conditions of the overall decrease in employment? Probably, differences in privatisation methods significantly affect FDI inflows. Also, the political commitment and quality of State governance do play a role.

Many transition countries (Czech Republic in particular) used *vouchers (privatisation securities)* as the fastest method for implementing the privatisation reform. It proved to be relatively quick method, but made participation of foreign investors difficult. Estonia and Hungary are the two countries, which have chosen the direct sales method as the major mode, giving equal access to all bidders, including foreign investors. Enterprises were sold to the local or foreign buyers, most often provided that they guarantee certain amount of investments and jobs during next years. Many analysts initially perceived this piecemeal approach to privatisation as time consuming and not very

promising. However, already by the end of 1995 there were only 15 percent of all enterprises in Estonia left in the state hands.

Yet, the method itself may be secondary and the quality of State governance in these two countries may be more important as explanation than the method itself (see EBRD, 1999 on this issue).

In conclusion, our analysis shows several interesting features of restructuring and the role of FDI in this process, in particular.

First, in all four economies FIEs operated as an important buffer by either generating new or preserving the existing employment and thus preventing further erosion of employment. However, the use of FDI as substitute for almost inevitable reduction in overall employment was quite different in each of the four economies. It has been the most successfully applied in Hungary and than in Estonia. We have discussed above which factors could have played a role in these different country patterns.

Second, despite their important role as buffer to the overall decrease of employment it seems that FDI cannot operate as a complete substitute for domestic led restructuring. In Hungary FDI operated so successfully in employment generation/preservation exactly because the overall employment has improved since 1995. This could not be possible without domestically led restructuring. As a result in 1993-96 period in many sectors in Hungary foreign controlled employment contributed only partially to the overall improvement in employment. Moreover, in absolute terms the contribution of FIEs to employment in Czech Republic was higher than in Hungary (64089 vs. 60100). This suggests that at its best FDI can operate as complement rather than as substitute in employment generation/preservation.

Our evidence gives more support to a view that FDI can contribute to domestically generated employment and recovery rather than to a view that FDI can lead growth or generate the

bulk of manufacturing employment. This conclusion is entirely restricted on FDI as employment generators and does not relate to their role in technology transfer and in various other aspects of their impact.

Third, we showed that the increasing differences in sectoral distribution of FDI employment across countries are closely related to relative order of FDI inflows per capita. The more countries receive FDI inflows it is more likely that the various types of FDI will emerge. Our evidence for this micro phenomenon comes from increasing sectoral dispersion of employment in FIEs in 1993-96 period. We think that the increasing unevenness in FDI presence across CE economies is accompanied by increasingly diverse types of FDI. The deeper penetration of FDI is we would expect that it is accompanied by more diversified structure of types of FDI, i.e. a higher share of exporters as compared to distributors and local suppliers. This points to important effects of the structure of FDI on employment in host economy. So far, the focus of policy and analysts has been mainly on FDI as an aggregate.

Fourth, the bigger the diversity of types of FDI is more favourable for the host economy. There is higher likelihood that it will lead to more diverse types of spillovers and skill transfers. If policy is unable to maximise the scale of FDI inflows than policy makers should focus much more on attracting diverse types of FDI.

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