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Foreign Direct Investment in the Czech Republic:  
Environment, Structure and Efficiency  
in the Manufacturing Sector

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# Foreign Direct Investment in the Czech Republic: Environment, Structure and Efficiency in the Manufacturing Sector <sup>1</sup>

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## Abstract

In the period from 1991-96 there were large volumes of Foreign Direct Investment (FDI) directed to various Czech manufacturing industries and services. Our empirical analysis has shown that those enterprises in the manufacturing sector receiving foreign capital were generally both physical capital intensive and labour saving. At the same time, both capital and labour efficiencies in firms with FDI have been significantly above the domestic average. Another salient feature of the FDI enterprises is that they are very export intensive and, on the input side, have a higher proportion of material inputs. They thus have a relatively lower proportion of value added. They also show a very high level of investment per unit of output. This would imply that the enterprises with FDI will have much better capital endowments in the long run than those receiving no FDI. If combined with the significantly higher human capital in these firms, as indicated by their extremely high average wages the future leading position of enterprises with FDI in the Czech economy cannot be doubted. One of the most difficult obstacles for the Czech economy in becoming a standard industrially developed nation rests in overcoming its legacy of anti-market and counter-productive institutional arrangements inherited from the economic environment in place from 1939-1989.

## Abstrakt

V období 1991-96 proudily do českého zpracovatelského průmyslu a služeb značné objemy přímých zahraničních investic. Naše empirická analýza poukázala na to, že podniky se zahraniční účastí ve zpracovatelském průmyslu byly v souhrnu nadprůměrně náročné na fyzický kapitál a úsporné na pracovní sílu. Současně platilo, že produktivita práce a efektivnost kapitálu v zahraničních podnicích byly výrazně nad domácím průměrem. Jiným důležitým rysem těchto podniků byla jejich vysoká angažovanost v exportu. Na straně nákladů měly tyto podniky vyšší podíl materiálových vstupů a tím i nižší podíl přidané hodnoty na celkové produkci. Nejvýraznějším rozdílem v chování zahraničních firem oproti chování firem bez zahraniční kapitálové účasti jsou jejich vysoké investiční výdaje na jednotku výroby. To znamená, že už v blízké budoucnosti budou mít tyto firmy mnohem modernější vybavení. V kombinaci s jejich cílevědomým budováním lidského kapitálu, zejména ze strany nabídky výrazně lepších mzdových podmínek, tím získají výrazný náskok v konkurenční schopnosti svých výrobků oproti českým firmám. Jednou z největších překážek české ekonomiky a způsobu jejího zapojení do struktur evropské integrace však zůstává její neschopnost vyrovnat se s dědictvím institucí a návyků z dob socialismu a existence některých neefektivně fungujících trhů výrobních faktorů.

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## 1. Foreign Direct Investment in Central and Eastern Europe

For a variety of reasons, including a perceived lack of domestic capital of all kinds and isolation from world markets, the prevailing opinion (see Kekic [1996]) is that foreign capital inflows are a necessary condition for the process of transformation and a rise in economic prosperity for Central and East European countries (CEECs).<sup>2</sup> From the investors' standpoint, investments in Eastern Europe provide the opportunity to participate in a large market with 300 million inhabitants whose economic potential, both internally and in exports, can expand significantly in the near future. Although risky, many of the East European investment ventures have proven to be highly profitable and have led to quick capital gains.

There is a deep need for funds aimed at the restructuring of industries in the Czech Republic even though (or because) the buildup of physical capital was enormous during the 50 years of Communist misrule. The gap between domestically generated savings and investment needs became very wide, especially after 1992 when a market economy began to function. Capital needs for restructuring in order to resuscitate collapsing old productive capacities and building viable new ones are indeed proportional to extensive Communist industrial development. At the same time there is an intensive need for human capital inflows to complement the inflows of foreign investment.

The influx of foreign direct investment contributes to the improved technological endowments of enterprises. It can thus increase the elasticity of both the aggregate supply and the aggregate demand as expected in the given theoretical framework. It also integrates the domestic economy with world markets, provides necessary R&D, and helps establish world quality standards. Though not very high, if compared with FDI flows to the developed market economies or to selected newly industrialized countries in Asia, the amount of FDI to Central and Eastern Europe was significant. It was approximately zero in 1989, but \$7 bil. in 1993, \$7.5 bil. in 1994 and \$12.5 bil. in 1995.

UNCTAD (1995) estimates that total FDI in the world increased from \$226 bil. in 1994 to \$235 bil. in 1995. The CEECs' share, though sharply increasing, still represented only 5.3% of that amount. Their standing would have been even weaker if we had considered their share of total accumulated FDI which was estimated at \$2080 bil. in 1995. WIFO in Vienna estimates that total FDI to post-COMECON countries reached approximately \$38 bil. at the end of 1995. That would make 1.8% of the global total. There is also a wide variation in FDI absorption among CEECs. The main recipients belong to the CEFTA countries of Central Europe which received \$4.6 bil. in 1994 and \$8.5 bil. in 1995. The highest total absorption of FDI by the end of 1995 was in Hungary (\$12.7 bil.), Poland (\$6.5 bil.) and the Czech Republic (\$5.8 bil.). The other important recipients per capita

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<sup>2</sup> Not all economists share this positive view. Many practical businessmen preach a contrary doctrine. Howell (1995, p. 106) quotes the following statement: "There are only limited possibilities to improve return on capital employed in Eastern Europe. The restructuring of companies takes an enormous time and pay-back will never reach the ratios we obtain through UK and US investments". Some American investors, after having enquired about the conditions for green-field investments in the Czech Republic and in other CEECs, came to the conclusion that new investments are virtually impossible in that region due to enormous bureaucracies and regulation of production, employment, taxation and trading. All these considerations hinge on the question of whether the CEECs will or will not become firm parts of the European (or even world) economic order.

were Slovenia and Estonia. These countries represent a population of 63 mil. The remaining countries with a population of 250 mil. (Russia, Ukraine, Romania, etc.) have attracted significantly less FDI.

Investors' decisions and efficiency of FDI allocation are influenced by the political policies and the macroeconomic and microeconomic situation of the recipient countries. The key macroeconomic policies of economic reform in the Czech Republic were already underway by January 1991 when nearly all price controls were lifted,<sup>3</sup> the currency was declared to be "internally convertible" and foreign trade was liberalized. Conservative fiscal and monetary policies have produced a stable and reliable investment environment.

Privatization created numerous opportunities for foreign investors both after small scale privatization and by the standard methods of large scale privatisation (Mejstřík [1996]). However, in some cases it also created unclear restitution and bureaucracy in the approval process which slowed or otherwise deterred potential foreign buyers. The termination of voucher privatisation in 1995 was expected to simplify and speed up larger foreign capital influxes, especially those in the form of portfolio investments. Unfortunately, loopholes in legislation and failure in regulating the infant capital market did not create higher efficiency and the positive impacts of voucher privatization have therefore lagged behind expectations.

The accumulated amount of foreign direct investment in the Czech Republic reached \$2.1 bil. by the end of 1993 and \$5.8 bil. two years later. The share of funds used for the direct privatisation of state-owned enterprises (based on contracts with the government) is estimated to be approximately 60%. This is mainly due to four major privatization deals with the National Property Fund: Telecom, Skoda automobiles, Czech oil refineries and Tabak tobacco corporations. The most common forms of FDI are joint ventures with previously privatized enterprises and participation in the privatization process. Three quarters of joint ventures have occurred in the manufacturing sector. Financial services, hotels, telecommunications and business services, however, have also raised a substantial share. To a lesser extent, FDI has been directed towards green field investments. A rough estimate is around 25%. Until the end of 1994, joint ventures had been the dominant form of foreign investment. Subsequently, portfolio investment and financial loans have increased their share in Czech capital account receipts and have become, after FDI, the most substantial foreign presence in the Czech economy. Due to their inconspicuousness, it is difficult to assess their true role in ownership structure and local decision-making. It can be judged that a part of their presence is hidden, which causes underestimation of the real volume of FDI.

At the end of 1995, the aggregated value of long-term foreign credits was nearly \$4 bil. Surprisingly, credit lines to large corporations represented a minority share. The majority of loans were to small and medium-sized enterprises. Such loans were often related to the establishment of new joint ventures and represented some degree of foreign control over management. In 1994 credits were used for investment in technology (30%), purchases of real estate (about 40%), trade activities (26%) and other investments. Most of the credits were provided by Germany.

The philosophy and rhetoric of the transformation process, as outlined during the existence of Federal Czechoslovakia, have been sustained in the Czech Republic even though the speed of implementation has gradually slowed. A value added tax was introduced in January 1993, the

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<sup>3</sup> The only prices which remained under full or partial state control and subject to subsidization were those concerning state housing, heating, land, electrical power, coal, railways and some agricultural products.

currency was divided smoothly in February 1993, a customs union with Slovakia was established, and the Central European Free Trade Association with Poland, Hungary, Slovakia and Slovenia has proven to be viable. At the same time, the Czech Parliament has passed many laws to regulate businesses and three major government privatisation schemes have been completed.

Until 1996, the Czech Republic had one of the lowest inflation rates among countries undergoing transformation and one of the lowest unemployment rates in the world (around 3% in 1994-96). The internal public debt per capita of \$1359 in 1995 is also one of the lowest in the world. Foreign exchange reserves could cover more than half of total imports in 1996. Real growth of GDP commenced in 1994, reached nearly 10% annually in the industrial sector for 1995-1996.

The credibility of the Czech Republic as a stable economy thus continued to be high until 1996 when a series of small private banks, investment funds and health insurance companies went bankrupt. It began to be apparent that the entire Czech banking and capital sectors were far from being anchors of stability. Their inefficiency and propensity for rent-seeking and insider trading became a threat to transformation. The legal and judicial systems proved to be largely inadequate in controlling such phenomena. This negatively influenced the behaviour of many economic agents and directed them away from productive aims. Foreign investors reacted by curtailing both portfolio and short-term investments. Whether the flows of FDI shall remain unabated can be questioned. Our estimates in October 1996 indicate that FDI for 1996 will return to its rising pre-1995 pattern - i.e. half of the exceptional 1995 figure - if the exceptional Telecom acquisition is omitted from the equation.

The aim of this study is to evaluate the role of FDI in the Czech economy and assess the environment for its further development. The core of our analysis will be presented in chapter 4 where we compare the performance of firms both with and without FDI. The analysis is based on a data set of 4308 enterprises with more than 24 employees. The size of firms, factor endowments, factor efficiency, export penetration, investment activities and level of debt were used as criteria for comparison.

## **2. Economic Policy Framework for FDI and Institutional Environment**

In choosing between a discretionary industrial policy to promote FDI or the establishment of a stable economic and political environment with equal footing for all foreign and domestic investors, the Czech government picked the latter approach. Refraining from using industrial policy (such as FDI incentive schemes) had also another aspect. The propensity to save is relatively high in the Czech Republic (approximately 26%), though still not high enough to fully finance investments which cover approximately one third of GDP. By offering equal conditions to domestic and foreign investments, the demand for domestic savings is not crowded out by excessive incoming flows of foreign capital. The Mexican financial crisis of 1995 was the final reminder of the importance of relying on local capital above all else.

Approval by the state (granted by a given industrial ministry, the National Property Fund and the Government) is not required for the establishment of a corporate body in which foreign investors can participate. The only exceptions are banks and insurance companies. The repatriation of profits and capital abroad has been guaranteed through various foreign currency and investment protection agreements. Foreigners may also freely repatriate any foreign assets in commercial paper and savings or yields in foreign currency related to their business activities in the Czech Republic.

While the key macroeconomic policy elements of the economic reform were installed very

quickly, the reform of the legal and institutional framework proceeded step by step and has developed in fits and starts. Czech law is rather unstable, as once approved laws are often amended and adjusted according to either the domestic economic situation, the norms of the European Union or pressure from particular lobbies. Unfortunately, though passing laws is difficult, enforcement of such laws has proven to be even more difficult. Enforcement, requiring much more human capital and demanding more resources, is clearly lagging behind the passage of new laws.

According to the present legislative system, foreign persons and foreign legal entities can, in principle, conduct business on the territory of the Czech Republic on equal footing with Czech investors. However, there are some exceptions to this rule. The scope of these special legal regulations is not large and their future proliferation is not probable.<sup>4</sup> The problem lies in the local capital market environment. Only approximately 10% of trade in shares is through local stock exchanges. Approximately 70% of shares are in hands of investment funds, banks and enterprise managers who are not keen to allow foreign owners to interfere with their business.

The Czech legal system is generally assimilating EU patterns. It is based on an extensive formal code which, due to its all-embracing nature, suffers from extensive over-regulation. The laws are often difficult to interpret and are rife with inconsistencies and loopholes. Enforcement is still in its infancy, and suffers from rent-seeking, procrastination and the bureaucracy of an overburdened state judiciary infrastructure, lacking both human and financial capital for adequate deployment. Many informal codes of ethical or cooperative behaviour, which complement a written code and make it efficient, are missing or are only slowly emerging.

A comprehensive tax reform was implemented in 1992-93. Measures include implementation of a value added tax as of January 1, 1993 and the introduction of a personal and enterprise income tax. The goal of taxation and budgetary policy in the transformation process is to reach standards compatible with those of the European Union. This should lead to a decline in the ratio of tax revenues to GDP.<sup>5</sup> In the meantime, lower rates of corporate tax have been introduced step by step along with tax allowances such as (very mild) accelerated depreciation for the emerging private sector. The tax rate on enterprise income has been gradually lowered from 65 % in 1989 to 39% in 1996. Though this trend is slowing down, it may finally end up lower than the 1996 OECD average of 37.7%.

The new taxation system introduced in January 1993 also includes the introduction of a 5% value-added tax (VAT) on services and basic foodstuffs and 22% on other goods. There is also a special consumer excise tax on such commodities as liquor, tobacco, petrol, etc. The tax on financial capital yields includes a 15% tax on interest earnings and a 25% tax on security earnings (including dividends). Wage payrolls are taxed a compulsory 48.5% for social security and health insurance.

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<sup>4</sup> A new regulation was established in 1995 for the procurement of public contracts where foreign firms can gain such contracts only if they offer a 10% lower price. An amendment to the Trade Licensing Act was passed in November 1995, where a representative of a foreign company (joint stock, limited liability or subsidiary office) must prove fluency in the Czech language by the end of 1996, produce proof of his/her unimpeachable character, and obtain Czech residence and work permits.

<sup>5</sup> Fiscal revenues represented 45.8% of GDP in 1995. Though much less than 67.2% in 1989, it is much more than what is standard in the EU countries with lower income per capita - Portugal with 31% of GDP, Spain with 35% or Britain with 34%. The tax burden in the Czech Republic thus remains among the highest in the world.

35.5% is paid by the employer and 13% by the employee.

The institution of tax holidays is not recognized by the present conservative government. The majority of earnings of foreign citizens in the Czech Republic is subject to the standard personal income tax. Its rates vary according to annual income, increasing progressively from 15% to the highest 1996 marginal rate of 39%. This tax is levied on all annual income of wage earners and sole proprietorships over approximately \$37,000. The combined impact of the personal income tax, social security payment, compulsory health insurance and the VAT is such that each **marginal net earning** in the top income bracket is subject to a previous fiscal withdrawal of 182 %.<sup>6</sup>

As a founding member of GATT, the Czech Republic applies import duties according to internationally recognized customs practices. The average level of tariffs (3.8% in 1995) is only marginally higher than that of the EU. There are significantly fewer quotas in the Czech Republic than in the EU. Since July 1993, joint venture companies in the Czech Republic with at least 30% foreign ownership (but no less than \$1.7 million USD) have been allowed one year of exemption from customs duties on raw materials or semi-processed goods imported through a foreign partner for further manufacturing in the Czech Republic. As an export promotion, the law also requires companies to export an amount of the resulting manufactured goods at a value at least that of the imported materials. This was practically the only significant FDI promotion scheme and was abolished at the end of 1996.

The Czech system of customs clearance, which is very bureaucratic and lacks transparency is one of the deterrents to foreign investment. Production in firms with FDI is typically both export and import intensive. As the import of semi-finished material is a significant part of the total costs, imposing a tariff twice on their value (on imports to the Czech Republic and on exports of the finished product by the importing country) can grossly endanger the profitability of FDI coming outside of EU. Until 1995 the Czech government had been rather reluctant to substantially change this arrangement which was especially harmful to non-EU foreign investors. The reluctance of investors from the Far East to invest in the Czech Republic can be explained by the existing customs barrier and strict rules of origin. A new approach has recently been considered by the government whereby tariff-free status of inward and outward processing could be extended to production intensively dependent on import-reexport operations.

A relatively low wage level is still one of the incentives for FDI entry into some industries despite increases since 1992.<sup>7</sup> According to Price Waterhouse, average wage rates at the end of 1993 were 16% and 40% lower than in Poland and Hungary respectively while the GDP per capita was higher in the Czech Republic. Czech wages in 1995 were still only one fifth to one tenth

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<sup>6</sup> In other words, each marginal gross earning of 282 CZK in the top income bracket results in a net earning of 100 CZK and a fiscal withdrawal of 182 CZK. This is equal to a combined marginal tax rate of 65%.

<sup>7</sup> The share of wages to GDP was notoriously low in all centrally planned economies since private consumption was not among the economic priorities. The natural decrease in investment and government expenditure on the GDP should therefore be visible in the rising share of wages to GDP. This trend has been apparent since 1990 when real wages were either falling slower than real GDP or nominal wages were growing faster than the cumulative rate of inflation and real growth. For example, in 1995 nominal wages rose by 18.5% while inflation (PPI) was 8% and real growth was 4.8%.

German wage rates, while the physical productivity (measured e.g. in tons per worker) in some sectors was approximately half the German level. However, the dollar export prices of the majority of products remained mostly unchanged after 1989.<sup>8</sup> The improvement in export unit prices is one of the main resources of future growth.

In its privatization policy, the government has been faced with the following dilemma: either (a) selling an entire domestic monopoly to one foreign investor, or (b) breaking-up the enterprise among several bidders. The former approach was used in practically all major acquisitions such as the cases of Philip Morris with Tabak, TelSource with SPT Telecom, Volkswagen with Skoda cars, Glaverbel with flat glass, Nestle with chocolate, Continental with tires and in the case of two Czech oil refineries. Many foreign owners thus enjoy a position of monopolistic power in the Czech market. The latter strategy was often applied in response to demand of particular foreign investors who did not want to be burdened with a number of inefficient plants.

In many cases, foreign investors were thus challenged from the beginning with only weak domestic competitors. There are no clear patterns as to how the government decided which route to take, although the development of competitive markets was an important consideration. In evaluating Czech FDI performance to date, it seems that it might have been preferable from the consumers' point of view to have exacted a lower price for enterprises, but to refrain from providing a high level of market power. The inefficiency of conceding market power to foreign capital (usually a transnational corporation) safeguarded by non-tariff advantages is discussed by Corado et al. (1996).

The Czech Republic has been one of the few countries in the world with practically no fiscal relief schemes for FDI. As investments become international and the competition for European FDI becomes subject to various incentive schemes offered by both Eastern and Western countries. Czech policy-makers have resultingly been pressed to discuss the meaning of "standard incentives" for FDI. As was reported by UNCTAD (1995, p. 293), of 45 European countries (20 Western and 25 Eastern) 35 offer FDI preferential tax rates, 26 offer tax holidays, 16 provide special accelerated depreciation schemes, 7 offer social security relief, 11 offer special tax deductible items and 20 have exceptions from tariff payments. Surprisingly, West European countries are even more active in providing such incentives than East European countries. The lack of Czech investment incentives is often criticized. One of the schemes under consideration has been a tariff and VAT relief for imports of machines and technological equipment. Some municipal governments have been more active in subsidizing the development of proper infrastructure for FDI, but coordination of industrial policy for FDI by the central government still seems to be, at least ideologically, an unacceptable commitment.

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<sup>8</sup> Many Czech export prices reached only 40-60% of the German wholesale level. While there was a general fall in the Czech prices per one ton of exports in 1991, the global weighted ton-price indices kept improving after 1992. Surprisingly, the main factor in this improvement was a change in export structure rather than in individual prices. This means that there was a reallocation of exports to commodities with a higher ton-price.



### **3. Empirical Evidence on Foreign Investment 1989 - 1996**

Until 1989, foreign direct investment (FDI) in the Czech Republic had been negligible, consisting of a few projects involving primarily the construction and reconstruction of hotels. The first wave of foreign investment began after 1990, when the new government committed itself to market reform. Except for small joint ventures negotiated directly with management, practically all important foreign entries into the ownership of Czech firms in 1990-92 were negotiated with the government. Ownership transfers were nearly always accompanied by transfers of equity shares directly from the National Property Fund. However, not all portfolio transfers to foreign owners can be classified as FDI. The condition of active managerial or decision-making roles cannot be explicitly satisfied in many cases. There may also be other cases where the criterial condition for FDI does not hold, but where foreign influence on the national economy could be exercised. An example would be the granting of a commercial loan from abroad covered by collateral where a degree of indirect control over the management of the firm is agreed upon in advance.

Other problems also exist concerning the estimates of Czech FDI flows. Czech FDI statistics compiled by the Czech National Bank are much more opaque and much less "user friendly" than the norms in Western countries. In particular, the CNB industrial disaggregation is gross and random, precluding any serious economic analysis of FDI. Czech statistics seem to diverge from similar statistics of other countries, making the Czech statistics underestimated. Methodological weaknesses may thus be combined with loopholes in reporting.

#### **3.1. FDI, Portfolio Investment and Foreign Loans Review**

The relatively reduced FDI inflow during 1993 and 1994 was more than compensated for by gains in foreign portfolio investment which reached \$1889 mil. during these two years. Though to some extent speculative, the majority of the foreign portfolio holdings are long or medium-run holdings, much of it in equity shares. Because of its sharply rising reserves, the CNB has discontinued its strategy of borrowing abroad and has also decided to pay off loans to its main international creditors even before their maturity. Due to its enormous buildup of official and other foreign exchange reserves deposited abroad, the Czech Republic has been a net creditor since 1994. Total reserves at the end of 1995 were \$14 bil. in the CNB, plus \$2.8 bil. in commercial banks.

In 1996, the yields of commercial paper denominated in CZK doubled from 1993 because of the need to sterilize the money supply generated by net foreign exchange inflows. According to CNB statistics, at the end of 1995 total foreign holdings of CZK denominated bonds and equity were valued at \$2.7 bil. Of that, 61% were equity shares, 23% government bonds and 16% securities of banks and enterprises. At the beginning of 1995, foreigners owned approximately 12% of all Czech bonds and securities.

The structure of total foreign portfolio investment by country at the end of 1995 is as follows: Britain 50%, USA 22%, Germany 6%, Slovakia 5% (voucher privatization holdings excluded), Austria 5% and other countries 12%. The industrial structure of the portfolio in 1995 was: banking (including Government bonds mediated through the Czech National Bank) 54%, energy 17%, transport 17%, construction 3% and other industries 9%.

**Table 3.1.1:** Review of Czech FDI, portfolio investments, long-term credits and deposits from abroad (in \$ mil.)

Foreign financial inflow	1990	1991	1992	1993	1994	1995
FDI (\$ mil. )	49	595	1003	568	862	2559
Growth rel. to previous year as a %	-	1,214	169	57	152	297
Cumulated value of FDI	49	644	1,647	2,215	3,077	5,636
FDI / GDP in current prices (as a %)	0.09	2.45	3.53	1.80	2.39	5.45
FDI / total gross investment	0.7	10.7	14.1	6.5	7.4	16.3
Portfolio investment	n.a.	n.a.	-23	1062	827	1617
Long-term loans	n.a.	n.a.	215	348	690	3313
Short-term deposits change	n.a.	n.a.	-1274	535	-75	233
Factor payments abroad (incl. dividends)	n.a.	n.a.	-560	-646	-799	-1240

Source: Bulletins and Annual Reports of CNB (1993, 1994, 1995)

The number of registered joint ventures in the former Czechoslovakia increased from 60 at the beginning of 1990 to nearly 3,000 by the end of 1991. Out of the total number of joint ventures in the former Federation, 70 % were registered in the Czech Republic. The volume of FDI also increased significantly during 1992. Prospects indeed looked encouraging.

In the middle of 1992, however, due to the results of the June elections and consequent political uncertainties surrounding the separation of the Czech and Slovak Republics, foreign investment did not reach as high a level as was originally anticipated from the 1991 figures. Total FDI into the Czech economy fell short of that directed to both Hungary and Poland in 1993. Nevertheless, foreign investors demonstrated continued interest in other forms of investment in the Czech Republic, or at least developed a "wait and see" strategy. The number of joint ventures rose from 4,800 in July 1992 to 5,490 in March 1993, of which 4,109 were fully foreign controlled.<sup>9</sup> FDI recovered its previously rising trend in 1994. There were 10,065 joint-ventures with at least one foreign partner in the Czech Republic by November of that year.

One of the reasons for the rise in FDI in 1994 was investors' optimistic expectations for the second wave of the voucher privatisation programme. Among the reasons why investment was not even higher were the renegeing on the privatization contract and governmental re-purchase of the

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<sup>9</sup> Inconsistent tax regulations encouraged the establishment of "fake" joint-ventures, since the profit tax was 55 per cent for Czech firms and 40 per cent for joint ventures which had at least 30 per cent foreign participation. This regulation was abolished in 1993. The numbers on joint ventures are for the former Czechoslovakia and are derived from the number of FDI projects registered.

shares of CSA airlines originally sold to Air France, the opposition of Prague City Hall to the construction of a large Canadian hotel in the historical centre, refusal of foreign bids in the tender for modernizing Prague's airport, and the failure of Renault (and a US bid respectively), to privatize Czech truck makers.

1995 was the most successful year for FDI when the Czech Republic enjoyed high prestige in the international community for its macroeconomic achievements. This situation worsened in 1996 when it became apparent that Czech restructuring suffers from many microeconomic shortcomings including problems with bankruptcies of banks, debts of large firms, rent seeking and insider trading of investment funds, failing capital markets and a paralysed judicial system. Nonetheless, FDI for 1996 was relatively large and is estimated at approximately \$1250 mil.

One cannot say that FDI coming to the Czech Republic after, or even before 1993 was insufficient due to, for instance, excessive bureaucracy hindering privatisation bids. One would have to prove that the absorption capacity of the Czech economy was potentially higher than that which actually materialized. In such a case, the question of lowering barriers to FDI entry or increasing FDI incentives should be raised. The result of this would be an even more overheated economy with a falling level of FDI efficiency. Czech FDI has achieved rather satisfactory performance in terms of inflow per unit of GDP (at current rates of exchange) in the last 5 years compared to countries as successful as Spain or Portugal. The Czech average of 3.1% compares favourably with that of Spain (1.4%) and Portugal (2.5%) (see Corado et al. [1996]). A less satisfactory performance would be observed if FDI per capita is used as a criterion. In this respect, Czech FDI intake lags behind both Spain and Portugal but ahead of the majority of developing countries (Agarwal [1995], Howell [1995]).

Even though Hungary has been more successful in attracting greater FDI per capita than the Czech Republic, one should not take this fact as proof of poor Czech performance. The Hungarian anomaly is not a good case for setting a standard. FDI inflow into the Czech Republic compares well with that of Taiwan (1.2% of GDP in 1992) or Chile (2.5% of GDP between 1990 and 1994). A more serious question arises once we analyze the very low attraction in the Czech Republic for green-field foreign investments. The Hungarian lead has been overwhelming in this case. Was this situation caused only by the fact that more incentives to FDI were offered in Hungary, than in the Czech Republic where such incentives were almost nonexistent, or does it suggest that the whole Czech socio-economic environment was less conducive to economic expansion and trade? Let us leave the answer to this ambitious question open, at least for now.

### **3.2. FDI Structure by Size, Ownership, Investing Countries and Sectors**

#### **A) Ownership and Size Structure**

Let us first look at the share of foreign capital in the Czech industrial sector excluding services. In 1994 the manufacturing sector absorbed approximately half of all FDI. Table 3.2.1 presents the development in the structure of manufacturing enterprises (by the number of firms in each given category) registered in the Czech Business Register at the end of that year.

As a total, the share of foreign ownership in Czech manufacturing was not very high. This observation is understandable if we compare these results with the share of foreign ownership or partnership in the manufacturing sectors of other Western European countries which varies between 20 and 50%. However, it is the fact that the trend is rising which is important. It is also worth mentioning that there is a single feature of Czech FDI activity which differs from that of the

developed economies of the EU: its lack of outgoing FDI.

**Table 3.2.1: Czech manufacturing enterprises classified by ownership in 1993 - 1995**

Form of ownership	Share of total firms		
	1993	1994	1995 <sup>a</sup>
private	49%	60%	67%
cooperatives	8%	6%	5%
state owned	29%	20%	12%
<b>fully or partially foreign</b>	<b>6%</b>	<b>9%</b>	<b>12%</b>
mixed ownership	8%	5%	4%
TOTAL	100%	100%	100%

Source: computations from the database of the Czech Statistical Office, 1993, 1994 and 1995

<sup>a</sup> An estimate from a data set not fully consistent with statistics for 1993-94

The importance of foreign enterprises in the industry would not be much different if measured by the total assets of foreign owners rather than total number of firms. This is due mainly to the fact that, in contrast to public opinion, foreign investment is not concentrated in big firms but dispersed randomly to firms of all sizes. This observation is documented in table 3.2.2. Most FDI arrives in the form of joint ventures. Foreign investment was not exclusively limited to larger projects. One quarter of all reported foreign commitments were apparently very small. Foreign investments under \$18,500 (0.5 mil. CZK) are not registered in the official statistics and therefore do not figure into these statistics. We can only estimate that the size of the majority of foreign commitments in joint ventures has been rather small, often just meeting the minimum capital requirement of 100,000 CZK.

**Table 3.2.2: FDI by amount (in \$ per commitment), 1990-94**

Foreign investment in USD	Share of all enterprises receiving FDI
18 500 - 37 000	25.2%
37 000 - 370 000	22.3%
370 000 - 3 700 000	29.4%
3 700 000 - 37 000 000	21.1%
more than 37 million USD	2.1%

Source: Czech National Bank statistics, 1994.

We can conclude from the next table that foreign investments play an important role in sectors other than manufacturing. The following table shows that the highest relative amount of FDI was in trade and services. Foreign control is thus concentrated in such sectors as banking, insurance, real estate and retail sales.

**Table 3.2.3: Shares of enterprises with foreign participation by sector, 1994**

Sector	Share of foreign enterprises of the total number of enterprises by sector
trade	13.9
services	14.9
manufacturing	9.0
construction	5.5
transport and communications	6.1
agriculture and forestry	0.7
mining	8.9
energy (including distribution)	2.7
others	4.3
TOTAL	8.6

Source: Czech Statistical Office, 1994

## B) COUNTRY STRUCTURE OF FDI

In 1995 the entire measure of FDI was skewed by a single transaction when Czech Telecom was taken over by the TelSource Group (from Switzerland and the Netherlands) for \$1450 mil. As shown in the following table, this transaction significantly altered the breakdown of FDI by country.

**Table 3.2.4: Breakdown of total FDI in the Czech Republic by Country**  
(in \$mil. and as a percentage of the total)

Country	1990-96* in \$ mil.	1990-96* in %	1995 in \$ mil.	1995 in %
Germany	1916	28.6	627	23.1
Netherlands	1023	15.3	737	27.1
USA	1011	15.1	136	5.0
Switzerland	855	12.8	684	25.2
France	550	8.2	186	6.8
Austria	389	5.8	99	3.6
Belgium	245	3.7	35	1.3
Italy	223	3.3	48	1.8
Other	492	7.3	168	6.2
<b>TOTAL</b>	<b>6,704</b>	<b>100.0</b>	<b>2,720</b>	<b>100.0</b>

\* stocks accumulated until September 30, 1996

Source: Statistics of the Czech National Bank, 1996

The position of Germany as the most powerful foreign investor<sup>10</sup> remained unchallenged. It should be stressed that Czech FDI statistics may not describe all foreign capital behaving as true FDI. Some purchases of equity shares may have completely escaped public monitoring or remained included in a group of portfolio investments. Some may not have even been reported as foreign buyouts. This would most likely be the case with takeovers of small firms (limited liability companies or partnerships). It would also be likely that the unidentified foreign owners of such firms would come from Austria or Bavaria, with whom traditional economic ties were quickly re-established. The effective impact of German and Austrian FDI on the Czech economy might thus

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<sup>10</sup> Before 1994-95 the Czech Republic was the sixth largest recipient of German FDI. With a total transfer of 1562 mil.. DEM, the Czechs became the largest recipients of German capital among all CEECs. With less than a third of all Czech FDI receipts, the German capital expansion to the Czech Republic is not overshooting the German share of Czech international trading and cannot be considered disproportionately high.

be underestimated by official Czech FDI statistics.

In 1994 and 1995 the "others" involved investments from the Bahamas (Stratton Investments), the European Bank for Reconstruction and Development, Britain, South Korea, Taiwan, Norway and Sweden. The USA, for the second consecutive year, has been losing further ground. The steady presence of EU countries can be contrasted with the rather limited inflows from Asian Pacific countries, with a share of only 3.5%. It seems that the Czech Republic is not considered a theatre for their potential activity. The share of German speaking countries (Germany, Switzerland and Austria) is 47%, EU countries 69% and OECD countries 97%.

### **C) SECTORAL STRUCTURE OF FDI**

As table 3.2.5 shows, distribution of FDI by sectors is not proportional to volume of production. The telecommunications (after deducting transport) and automobile industries along with consumer goods (including tobacco) absorbed 51% of all FDI inflows, while contributing a mere 10% to GDP. Only the chemical industry reveals a disproportionably high attraction of FDI.

It is interesting to note that foreign investment in traditional, labour-intensive industries has been relatively low, with the exception of construction and trade. The first two items in the above table (telecommunications and transport equipment) are both physical capital and human capital intensive. Other important physical capital intensive targets for FDI are chemicals, machinery and food processing. It is also surprising is that very little foreign investment has been channelled into industries which are normally considered attractive such as transportation infrastructure, glass, wood, furniture and paper. It is generally accepted that FDI in agriculture, textile and leather production will be marginal, even though these industries were traditionally prosperous during the 19th century and the first half of the 20th century. All manufacturing items in table 3.2.5 (transport equipment, consumer goods, tobacco and machinery), except for food processing, tend to be export oriented industries.

**Table 3.2.5: Sectoral structure of foreign investment in the Czech Republic**  
in \$ mil. and as percentages

Sector	Share of GDP as a % (1995)	1990-96* in \$mil.	1990-96* as a %	1995 in \$mil.
Telecom.and transport services	2.3	1582	23.6	1350
Automobiles and transportation equipment	3.3	1065	15.9	308
Consumer goods and tobacco	6.4	893	13.3	179
Construction	8.8	573	8.6	89
Chemicals	2.8	568	8.5	72
Banking and insurance	7.2	469	7.0	85
Trade and services	13.4	443	6.6	147
Food processing	6.2	438	6.5	122
Machinery	2.8	322	4.8	158
Other	46.8	352	5.3	49
<b>TOTAL</b>	<b>100%</b>	<b>6,704</b>	<b>100.0</b>	<b>2,559</b>

\* stocks accumulated until September 30, 1996

Source: Czech National Bank, FDI statistics

We can see from the above figures that until September 30, 1996, manufacturing industries had absorbed approximately 51% of incoming FDI, construction 8.6% and services 39%. Agriculture, forestry and mining have attracted less than 2%. The automobile industry has become the most attractive manufacturing industry for FDI. It can be characterized as technologically intensive, with a high level of R&D and human capital content. This leads to trade creation and intensive intra-industrial trade. It is also subject to brand differentiation and marketing under internationally recognized brand names, both of which can be assumed to be a weak link in Czech management.



#### 4. Comparison of Domestic and Foreign Firms in the Czech Manufacturing Sector

Building on a tradition of skilled labour, a large part of Czech manufacturing was considered internationally competitive even during the 1980s. However, the extent to which its competitiveness was erased during its separation from world markets under central planning can be questioned. In order to determine which manufacturing industries have retained their attraction to FDI, a global empirical analysis of data obtained from a database of 4308 manufacturing enterprises for 1994 can be examined. All Czech manufacturing firms employing more than twenty-four workers and are subject to regular statistical reporting are included in this analysis. Foreign firms are classified either as "fully foreign" where ownership is exclusively foreign or as "joint ventures" where foreign ownership is only partial and is shared with domestic partners. Unfortunately, in cases where more than one founder or owner exists, the Czech Statistical Office does not register the shares of each particular owner. It is thus impossible to determine the average share of foreign partners with any degree of certainty in cases of international ownership.<sup>11</sup>

It must be also stressed that many of the state-owned enterprises (SOEs) involved in manufacturing in 1994 were those assigned to be privatized in the second wave of the voucher scheme. The remaining firms were either assigned for purchase outside the voucher scheme (e.g. oil refineries) or exempted from privatization. Firms already privatized without foreign participation were mainly those privatized either in the first wave of the voucher scheme, through direct sales or competing tenders, or under restitution claims. By estimating the extent of changes during 1995, the number of SOEs could have decreased from 843 to approximately 600. This difference should be added to the number of private domestic firms. From provisional data for 1995, it can be estimated that the number of foreign firms with more than 24 employees could have decreased from approximately 375 to at least 530.

Table 4.1 shows the basic characteristics of firms with foreign participation classified by enterprise structure. The enterprise database includes all manufacturing firms employing more than 24 workers. The 375 "foreign" firms active in the manufacturing sector represent approximately 8.7% of the total number of firms, but over 11.2% of output and only 7.5% of total employment.

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<sup>11</sup> We have tested this problem by estimating the importance of the foreign investor in joint ventures through a special survey of 247 firms in the manufacturing sector in 1994. In this representative sample, 70% of all foreign investors owned more than 51% of equity. (See Zemplerová, Laštovička et al. [1995]). We can therefore assume that the foreign partners in joint ventures control decision-making in the majority of cases.

This illustrates three basic facts:

- Labour-intensive Czech industries generally do not attract FDI.
- Foreign participation in Czech manufacturing industries is still significantly below the West European average. It also signals that there is high potential for increased flows of FDI into Czech manufacturing industries, especially if full EU membership becomes likely.<sup>12</sup>
- Foreign enterprises tend to restructure faster. They have been proven to shed redundant employees more quickly and invest more in advanced technology.

**Table 4.1:** Distribution of Ownership of Czech Manufacturing Firms in 1994  
Output is in mil. CZK in current prices, labour is in number of workers

Ownership group	No. of firms	Number of firms as a %	Output	Output as a %	Labour	Labour as a %
Private domestic	2582	59.94	299329	33.42	490364	39.14
Co-op	274	6.36	13531	1.51	42959	3.43
SOEs	843	19.57	349026	38.98	461091	36.81
<b>Fully Foreign</b>	<b>104</b>	<b>2.41</b>	<b>16914</b>	<b>1.89</b>	<b>16701</b>	<b>1.33</b>
<b>Joint Ventures</b>	<b>271</b>	<b>6.29</b>	<b>83538</b>	<b>9.33</b>	<b>77151</b>	<b>6.16</b>
Mixed Ownership *	234	5.43	133000	14.85	164398	13.12
Total	4308	100.00	895338	100.00	1252664	100.00

Source: Czech Statistical Office, database of enterprises, 1994

\* Remark: Mixed ownership is a combination of private and state ownership. Some large firms were still under this ambiguous arrangement in 1994.

As can be seen in table 4.2, the value added in firms with foreign participation is 9.3%, which is less than their 11.3% share of gross output. This can be taken as a sign that FDI is more concentrated in industries with a higher share of material inputs in total production. Many of these industries are those using resource-intensive production techniques and employing "lower" technologies. In the 1970s and 1980s this type of comparative advantage was prevalent in trade with capitalist countries (see Benáček [1987]). This was again confirmed in a study by Hanel (1995) which revealed that Czech exports to the West were generally intensive in the natural resource

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<sup>12</sup> In the cases of Spain and Portugal (see Corado et al. [1995]), FDI accelerated rapidly as these countries were granted full EU membership. The association agreement had a much weaker impact on foreign investors in these countries than did full membership in the EU.

contents of their production. This means the Czech economy in the early 1990s still behaved as if it were better endowed with natural resources in comparison to its supply of labour, human capital or physical capital.

Another explanation for the high share of material inputs in FDI firms' production is high import dependence. There is a marked tendency among some foreign owners to rely predominantly on assembling final products from imported parts. Unfortunately, Czech statisticians abandoned the practice of reporting imports by input industry and purchaser. This has prevented testing a hypothesis valid for Hungary (see Corado et al. [1995]) that the import propensity of foreign firms is significantly higher than that of domestic ones. The high export performance of foreign firms should then be adjusted for high import inputs. The **net** export contribution of these firms would most probably be much less appealing.

**Table 4.2:** Manufacturing Firms under Different Types of Ownership - 1994  
Values are in mil. CZK at current prices

Ownership group	Value added	Value added %	Physical capital	Physical capital %	Capital per firm	Labour per firm
Private	84552	34.72	354337	29.81	137.23	164
Co-op	4774	1.96	17553	1.48	64.06	156
SOEs	96332	39.56	510288	42.94	605.32	538
<b>Fully Foreign</b>	<b>4152</b>	<b>1.71</b>	<b>18683</b>	<b>1.57</b>	<b>179.64</b>	<b>136</b>
<b>Joint Ventures</b>	<b>18589</b>	<b>7.63</b>	<b>102123</b>	<b>8.59</b>	<b>376.84</b>	<b>268</b>
Mixed Ownership	35097	14.41	185503	15.61	792.75	681
All firms	243495	100.00	1188487	100.00	275.88	271

Source: Czech Statistical Office, database of enterprises, 1994

As far as physical capital endowments are concerned, shares of the total endowment for both fully foreign firms and joint ventures are slightly less than their shares of gross output.<sup>13</sup> A similar feature can be observed in domestic private firms. The SOEs and domestic firms with mixed ownership show higher capital endowment shares relative to their share of production. However, it must be remembered that the prices used to measure capital stock are merely purchase prices unadjusted for inflation. Many of these prices are relics of the Communist period. The true market prices of machines and buildings in many SOEs may be significantly lower than indicated.

Table 4.2 points to another characteristic concerning the size of firms measured by the number of employees. Firms fully owned by foreign capital use on average significantly fewer

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<sup>13</sup> Physical capital statistics are based on physical assets in purchase values adjusted for neither depreciation nor inflation. The value of a new asset may be much higher than the value of an identical old asset.

workers than Czech firms on average. They even tend to be smaller than the Czech private firms. This can be interpreted as follows: even though some foreign capital has been invested in very large enterprises such as Škoda or Tabak, the majority of foreign investment has been targeted at small and medium sized firms. Restructuring has been much easier to accomplish in such firms. Even small Czech businesses have recently been discovered to be functioning more efficiently than large firms (see chapters by Zemplerová and Benáček in Mejstřík [1996]).

The next two tables (4.3 and 4.4) again show that the value added is not the strongest factor in the orientation of foreign investments in the Czech Republic. Joint venture capital is especially concentrated in firms or industries with a high content of material inputs. This represents the difference between total output and value added. At the same time, labour hired by foreign firms was used quite intensively to process those abundant material inputs.

**Table 4.3:** Some Efficiency Indicators in Firms under Different Type of Ownership in 1994  
Values in the K/L ratio are in thousand CZK.

Ownership group	Value added/ output %	Profit/ output %	Profit/ capital %	Capital/ labour	Average depreciation %
Private	28.27	13.03	10.99	678	47.38
Co-op	35.28	15.58	12.01	317	50.24
SOEs	27.60	12.76	8.73	905	52.10
<b>Fully Foreign</b>	<b>24.55</b>	<b>14.94</b>	<b>13.53</b>	<b>1045</b>	<b>27.60</b>
<b>Joint Ventures</b>	<b>22.25</b>	<b>-0.72</b>	<b>-0.59</b>	<b>1203</b>	<b>31.02</b>
Mixed Ownership	26.39	12.73	9.13	948	49.15
All firms	27.20	11.67	8.80	827	47.93

Source: Czech Statistical Office, database of enterprises, 1994

The persistence of very low (on average even negative) profit per unit of output return in joint ventures is quite surprising. Some analysts see this as a sign that illicit profit transfers abroad may be taking place. The transfer pricing is usually accomplished by overinvoicing imported material supplies (e.g. from the foreign mother company) and underinvoicing exports back to the owner's own foreign marketing subsidiaries. If the foreign mother company succeeds in avoiding taxation in its own country (which can be substantially higher), this would be equal to an income tax holiday of the type the Czech government has been so reluctant to grant to foreign investors.

A similar picture is sketched in the profit per unit of capital indicator column. Fully foreign firms are leaders in this parameter of efficiency with 13.5%. This is a more than 50% higher return than the Czech average. At the same time, joint ventures again show the least encouraging figures unless their low profits are taken as a sign of intensive restructuring. We believe such restructuring may indeed be taking place as analysis of provisional data for 1995 has revealed that the profitability of joint ventures is improving sharply. This would be consistent with an intuitive notion that foreign

owners might be able to restructure the best- performing state owned firms within approximately three years.

Capital per worker endowments (K/L) are undisputedly highest in the joint ventures (45% above the average). The fully foreign firms follow with the second highest rank. A high K/L indicator suggests either that the foreign capital is concentrated in firms with technologies subject to high capital intensity (e.g. in the chemical industry or in metallurgy) or that the foreign owners have invested in enterprises with a more than average endowment of capital stock. The average depreciation rate reveals that this could indeed be the case. Joint ventures (and even more evidently fully foreign companies) seem to be much more modern than, for example, the SOEs. We can presume that the foreign investors have either concentrated on privatizing SOEs with the most recent equipment or recently invested heavily into new technologies while liquidating antiquated assets to a larger extent than Czech firms. We can then expect that the efficiency of the stock of capital in foreign firms (measured, for example, by output per capital ratio) should be above average. This is indeed confirmed in table 4.5.

**Table 4.4:** Some Efficiency Indicators of Firms under Different Types of Ownership in 1994  
Values are in CZK of current prices

Ownership group	Value added (VA) in mil CZK	Value added /labour in '000 CZK	VA/L as a % of the national average	Value added / capital in mil CZK	VA/K as a % of the national average
Private	84552	172	88.66	.239	116.59
Co-op	4774	111	57.22	.272	132.68
SOEs	96332	209	107.73	.189	92.20
<b>Fully Foreign</b>	<b>4152</b>	<b>249</b>	<b>128.35</b>	<b>.222</b>	<b>108.29</b>
<b>Joint Ventures</b>	<b>18589</b>	<b>241</b>	<b>124.23</b>	<b>.182</b>	<b>88.78</b>
Mixed Ownership	35097	214	110.31	.189	92.20
All firms	243495	194	100.00	.205	100.00

Source: Czech Statistical Office, database of enterprises, 1994

Upon observation of table 4.4, analysis of the value added further reveals that the efficiency of labour in foreign firms is much higher in comparison to the domestic firms than it is in the case of the efficiency of physical capital. It is especially apparent in the case of joint ventures where the value added per unit of capital is the lowest. This feature can be explained by the superior endowments of foreign firms in capital and by the labour-saving strategies of such firms. Indeed, the foreign firms in the Czech Republic have a reputation for being much more inclined to shed inefficient labour than domestic firms. The latter usually suffer from labour hoarding. To illustrate, the highest VA/K indicator is in the co-ops which are notoriously lacking capital. This is

compensated through the use of cheap (and very inefficient) labour (see table 4.7). The co-ops are also known for their strategy of labour hoarding which keeps employment high, but harms efficiency.

As table 4.5 indicates, the capital/output ratio is lowest in fully foreign enterprises. This indicates that capital is most efficiently used in this type of enterprise. Joint ventures have only a slightly higher K/Q ratio than Czech private firms. Nevertheless, both are still significantly below the national average for the manufacturing sector. High K/L ratios in both SOEs (which practically all became private or "mixed" in 1995 due to the voucher privatization scheme) and in firms with mixed ownership clearly show that either the Czech system of privatization (for both domestic and foreign owners) was biased in favour of enterprises with low capital requirements per unit of production, or the behaviour of producers in privatized firms changed in such a way that their physical capital suddenly became more efficient.

**Table 4.5:** Capital/Output Ratio, Productivity and Revenue per Unit of Labour

Firms Under Different types of Ownership in 1994. Values are in thousand CZK, current prices.

Ownership group	Capital-output ratio K/Q	Output/ labour Q/L	Q/L as a % of the national average	Sales/ labour	Sales/L as a % of the national average
Private	1.18	609.7	85.30	575.4	80.67
Co-op	1.30	315.0	44.07	298.6	41.86
SOEs	1.46	757.0	105.91	736.0	103.18
<b>Fully Foreign</b>	<b>1.10</b>	<b>1,012.8</b>	<b>141.70</b>	<b>1145.7</b>	<b>160.62</b>
<b>Joint Ventures</b>	<b>1.22</b>	<b>1,082.8</b>	<b>151.49</b>	<b>1206.3</b>	<b>169.11</b>
Mixed Ownership	1.39	809.0	113.19	861.6	120.79
All firms	1.33	714.7	100.00	713.3	100.00

Source: Czech Statistical Office, database of enterprises, 1994

It may be useful to pose a hypothesis regarding the significant difference in the performance of Czech firms under different types of ownership. The high efficiency of capital (measured as Q/K) under foreign ownership is most probably achieved despite the fact that these firms also have high capital per labour (K/L) endowments (see table 4.3). The greater the capital per unit of labour in foreign firms, the more efficiently such capital is used. On the other hand, the domestic private firms also reveal a high level of capital efficiency. This, however, could be achieved through its low initial K/L endowment. Domestic privatization in the small and medium-sized groups of firms (e.g. those privatized through restitution or the first wave of the voucher scheme) could have been biased in favour of labour intensive production.

The productivity of labour in firms with foreign capital involvement is markedly higher than

in the rest of the economy. As the previous tables help to explain, this is due to such firms' high endowments of capital and above-average efficiency in the use of capital. A similar trend can be found in the sales per unit of labour indicator. However, it should be noted that in comparison (as a percentage) to the national average, the latter is higher for the both types of foreign firms than for the private or SOE sectors. This means that the foreign firms could boost their revenues by selling their inventories while the others are building up their own inventories.

Table 4.6 confirms the hypothesis that firms with FDI are prone to rapid restructuring through investments in physical capital. Their share of the total investment is higher than, for example, their share of gross production. In 1994 approximately one fifth of their physical capital was newly formed, while their domestic competitors (on average) were seriously falling behind in the refurbishment race. This seems to confirm the hypothesis analyzed by Benáček, Shemetilo et al. (1995) that the Czech domestic firms' strategy for survival in 1990-94 relied on living off the existing inefficient and cheaply acquired physical capital. Although this strategy may have produced some additional "profit" (received at the expense of the partial depletion of depreciation revenues), it was detrimental to long-term development. In fact, it equals the shrinking of such firms' production capacities for the future. **The firms associated with FDI thus show much more aggressive, more efficient and more long-term oriented development. This is one of the crucial discoveries of the study and also carries important policy implications.**

**Table 4.6:** Investment and Debt Characteristics. Firms Under Different Ownership in 1994. Values are in CZK, current prices.

Ownership group	Investment (I) share as a %	I / K ratio in %	I/L in '000 CZK	I/L ratio as a % of the national average	Debt per equity ratio
Private	19.0	9.5	65	83.33	136
Co-op	5.1	6.5	21	26.92	74
SOEs	37.6	7.2	65	83.33	92
<b>Fully Foreign</b>	<b>4.0</b>	<b>27.0</b>	<b>282</b>	<b>361.54</b>	<b>42</b>
<b>Joint Ventures</b>	<b>18.6</b>	<b>21.1</b>	<b>254</b>	<b>325.64</b>	<b>126</b>
Mixed ownership	15.7	6.7	64	82.05	232
All firms	100.0	9.4	78	100.00	81

Source: Czech Statistical Office, database of enterprises, 1994

The high level of investment into physical capital in the firms receiving FDI is also reflected in their level of investment per unit of labour in value terms, which is more than four-fold when compared with investments by domestic firms. The last column in the table depicts how the investments (and other inputs) have been financed. Joint ventures are generally much more in debt than domestic firms. This means that in addition to funds brought in by the foreign partner, there

were more funds borrowed from banks. This also reveals a further advantage of foreign ownership or partnership: the FDI firms have easier access to loans because these firms have both greater credit and easier access to guarantees (e.g. through their foreign partner).

**Table 4.7:** Wages and Export Performance by Firms Under Different Types of Ownership in 1994. Manufacturing only. Values are in current prices.

Ownership group	Average monthly wage in CZK	Monthly wage as a % of the total	Annual labour costs in USD <sup>1</sup>	Export/sales as a %
Private	6269	94.5	3,761	25.92
Co-op	5049	76.1	3,029	25.19
SOEs	6702	101.0	4,021	32.54
<b>Fully Foreign</b>	<b>7440</b>	<b>112.2</b>	<b>4,464</b>	<b>32.48</b>
<b>Joint Ventures</b>	<b>8240</b>	<b>124.2</b>	<b>4,944</b>	<b>42.91</b>
Mixed Ownership	7022	105.9	4,213	31.30
All firms	6633	100.0	3,980	31.36

Source: Czech Statistical Office, database of enterprises, 1994

<sup>1</sup> Remark: The annual labour costs in USD include annual wages, plus social security and health insurance paid by the employer.

As table 4.7 describes, the higher labour productivity in the foreign firms is reflected in their higher average wages. The lead of 31% by the joint ventures over the Czech private firms is a significant attraction for the local workers. Therefore, the foreign firms are able to attract more skilled workers, though they do not pay them proportionally to the much greater differences in their average labour productivity. At the same time, the foreign firms seem to be more leveraged on the capital investment side. Thus, especially in joint ventures, the higher capital and labour costs can more than compensate for the higher efficiency of both the labour and the capital. This impact can explain their low profitability. The advantage for many Czech firms is in their very low expected rates of return on physical capital (for more explanation see Benáček, Shemetilo et al. [1995]). The last column of table 4.7 shows that export orientation in the joint ventures is very high. Firms under full foreign ownership do not seem to differ from the national average in that respect. Czech private firms, on the other hand, show their sales to be orientated towards the domestic market.

Table 4.8 deals more closely with labour costs and the difference in wages for all firms (i.e. not only for manufacturing as in the previous table). As shown, direct gross wages are not the exclusive costs incurred by employers and workers. Similarly, the share of direct net wages on total personal disposable income has become less important over the last three years. It was observed, on average, that net wages represent only half (or even less) of disposable income. The role of interest, dividends, rents and various fringe benefits from after-job activities has grown enormously between 1990 and 1995. The role of direct wages as an incentive has thus sharply decreased. With



10% inflation the nominal payroll rise of 20-25% above the average is not considered sufficient incentive for the workers to change their socialist work habits. In fact, similar pay raises have taken place since 1992. Their impact on the economy has caused more inflationary pressure than increased productivity. An increase in wages of more than 30% (as introduced by many foreign companies) would be prohibitively costly to the vast majority of local firms and would deplete their falling profits even further.

**Table 4.8: Monthly labour costs in the Czech Republic in 1994.** All industries.

Averages in CZK per employee for gross wages before income tax

Type of firms	Total labour costs	Direct wages	Share of wages of total L costs as a %	Other personal benefits	Insurance <sup>a</sup>
National average	10244	6546	63.90	1 080	2 618
All domestic private firms	9913	6451	65.08	916	2 546
Private with 1-10 workers	11429	7617	66.65	885	2927
SOEs	10074	6344	62.97	1 153	2 577
<b>foreign firms</b>	<b>17661</b>	<b>10947</b>	<b>61.98</b>	<b>2 392</b>	<b>4 322</b>

<sup>a</sup> Insurance payments include compulsory social and health insurance payments by employers. Source: Enterprise Statistics of the Czech Statistical Office, 1994 (all industrial firms except banking).

Foreign enterprises in the non-financial sector have higher average wages than those in Czech enterprises by over 50%. The wage advance in foreign firms outside the manufacturing sector is even more striking. The higher salaries reflect higher labour productivity in foreign firms. Foreign firms are thus able to attract more skilled workers and managers. Their lead in the human capital endowment will thus be sustained.

One of the most damaging legacies of the communist past is the devastation of workers' morale. The continuing very low level of unemployment in the Czech Republic (sustained by a combination of ineffective bankruptcy laws, bail-outs of indebted commercial banks, and labour hoarding tendencies in large Czech firms) is not pressing the need for change in workers' discipline. The unemployment rate of 2.8% in 1995 for a country undergoing intensive transition equals practically full employment. Adopting more flexible wage incentives would greatly improve the situation. However, such incentives' impact on performance and discipline crucially depends on the strength of negative alternatives. Unemployment should become a deterrent. Throughout the Czech transition, the transaction cost of finding a new employee is often significantly higher than the transaction cost of finding a new employer. The rigidity of the Czech labour market is one of the most important barriers hindering FDI penetration. This has other implications as well.

The problems with the Czech labour market are not only that the wages are rising faster than productivity, workers expect a soft, regular 8 hour shift, or that workers lack the proper education or skills. Even more damaging a lack of workers' identification with their job and with their firm.

Workers are not accustomed to cooperating with their bosses in an informal way, and are averse to taking risks, initiative or personal responsibility. Private property is still generally treated in a negligent or personally utilitarian way, similar to how the people used to treat public property during the Communist past. This means that Czech labour often lacks that essential cooperative spirit, motivation and loyalty required by the modern organization of business.

**Table 4.9:** Labour Costs in Dollars in Various Countries per Hour in 1995

Country	Total labour costs	Direct wage	Other labour costs*
West Germany	32.0	17.6	14.4
Austria	26.1	13.0	13.1
France	19.5	10.8	8.7
USA	17.8	12.7	5.1
Britain	14.4	11.0	3.4
Spain	13.2	n.a.	n.a.
Portugal	6.2	n.a.	n.a.
Czech Rep. - foreign firms	4.0	2.5	1.5
Czech Rep. - domestic firms	2.7	1.7	1.0

Source: *Hospodářské noviny*, May 7, 1996, p. 1 and personal estimates.

\* Other labour costs include contributions to social security, health insurance, holiday supplements, etc.

Table 4.9 brings the level of Czech wages to an international comparison. It is confirmed that Czech wages, or even total labour costs, still remain low when compared to those of other OECD countries. Unfortunately, this gap in wages often reflects the low Czech productivity of labour in money terms. The sharply rising nominal wages, as observed since 1992, may gradually eliminate the Czech advantage in unit labour costs, especially in Czech domestic firms. Pressures on the imperfectly functioning labour market, insufficient improvements in labour productivity and/or slow restructuring of former state owned enterprises (as has recently happened) may undermine the competitiveness of the Czech economy. This may increase the costs of entry and thus undermine the motive for new FDI inflows.

## 5. Conclusions

FDI inflows to the Czech economy were quite large from 1991-96 and have contributed substantially to the performance of the Czech economy. A similar pattern can be observed in the foreign portfolio investment and the long-term loans from abroad. In this way, the Czech Republic

has partially solved its chronic shortages of both domestic resources (capital, liquidity and human capital) and mechanisms with which to allocate these resources to particular ventures. It is evident that the performance of manufacturing firms with FDI is rapidly improving. Their restructuring was faster and their productivity became higher than that of purely Czech firms. If the high FDI inflows persist, the Czech Republic should have the opportunity to become one of the leading countries among those with transition economies in terms of both per capita foreign investment absorption and economic efficiency.

Unfortunately, entering the club of leaders in Eastern Europe does not imply that such a country will be able to rapidly catch up to the Mediterranean countries of the European Union. One of the most difficult obstacles keeping the Czech economy from becoming a standard industrially developed nation is its legacy of anti-free market and counter-productive institutional arrangements, inherited from the economic systems of 1939-1989. Among such institutions, the legislative, legal and judicial systems are lagging furthest behind. The buildup of human capital necessary for high-tech conversions is also slow. The system of taxation is too complicated, non-transparent and subject to ideas of the welfare state and rent seeking. The economic policy of FDI promotion is not deployed as a universally valid long-term instrument and suffers from discretionary bias in decision making. The shaky nature of the Czech capital and banking sectors is also adding to the instability of future FDI inflows. However, it should be kept in mind that the process of transformation was initiated only in 1991 and is certainly a difficult process. However, the changes in the Czech economic environment more favourable to investment activities, should come rather sooner than later.

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