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DIRECT INVESTMENT, EXPERIMENTATION, AND CORPORATE GOVERNANCE IN TRANSITION ECONOMIES

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Introduction

The transition of socialist to market economies has demonstrated the old lesson that social transformation is driven by both economics and politics. That the design of privatization schemes varies by political conditions across countries is not especially surprising in light of history. The persistence of the state and its administration, of cultural values, and of social and political institutions influences the set of feasible evolutions of even transitional states.

Of course, if there were a known best way to organize an economy, the influence of politics and social values might be seen as a constraint. But capitalism is not limited to any single type, nor can it be ruled out that a superior form of capitalist organization is yet untried. A desirable feature of any reform package is the allowance for an evolutionary path of trial, error, and adaptation.[1] Given the ambiguity in knowing the best elements to adopt

[1] See Frydman and Rapacynzski (1994) and Murrell (1992) for two alternative applications of evolutionary ideas to economic transition.

or create, politics and social institutions play an important role in guiding the process of evolution and transformation.

Foreign direct investment represents one of the most important ways by which knowledge of the relationship among organizational components is gathered and disseminated. One of the unique benefits of foreign direct investment is the experimentation of the core set of complementary practices that influence performance, and yet are transferable across borders. This role of experimentation is all the more valuable in environments where the rebuilding of institutions is still early.

It is not surprising that countries in transition from state socialism to capitalism are periodically ambivalent about direct investment. Foreign control is sometimes linked to the transfer of more productive methods that appear to violate social contracts or to displace other companies. If the perceived or real value is the transfer of wealth or control from a group of national citizens to foreign owners, the legitimacy of foreign direct investment is in question. Since multinational ownership concerns trade-offs among components in a transnational system, conflict potentially exists between national developmental objectives and the package of foreign control and better methods offered by direct investment.

In this chapter, I highlight the role that foreign direct investment plays in influencing the economic evolution of the East and Central European countries. The perspective I employ is evolutionary in the sense that social relationships inside and between firms are viewed as embodying economic knowledge and as governed by rules and institutions. Foreign direct investment contributes to the generation of new knowledge, partly through the provision of capital and technology and partly through its effect on the transformation of the rules and institutions that govern the organization of work. The entry of foreign firms sometimes results in the destruction of knowledge within and among existing domestic enterprises. This destruction can be positive when relationships among existing enterprises are depoliticized and when competition is increased. It can also be costly, such as when core firms in a supplier network disappear.

The paper is divided into parts. The first section presents an overview of the firm as governed by rules and embedded in a social context. In the next two sections, I review the theory of foreign direct investment, the data on investment in Eastern Europe, and examine statistically the relationship between economic growth and direct investment in general. In the next section, I analyze the influence of direct investment on the governance, organization, and institutions of transition economies. The analysis in this section draws upon field research in Russia, Poland, East Germany, and

Latvia.[2] The next section suggests a set of policies regarding competition and ownership policies toward foreign entry.

The conclusions of this paper endorse a liberal policy toward encouraging direct investment flows. In part, the positive contribution of direct investment is achieved through the transfer of control to motivated foreign investors. But in the larger perspective of the overall economy, the benefits of direct investment are generated through the participation of foreign firms in the process of entry of new firms, the creation of competitive incentives in the product market, and the provision of organizational solutions that serve as templates to be imitated by domestic firms.

Overview

In the few years since the turning toward capitalism, a number of important policy decisions have been introduced in the economies in transformation. Prices have been radically decontrolled in most countries, currencies have been made convertible, and the monopoly of international trade has been eliminated. The first policy target of getting the prices right by eliminating distortions has been achieved relatively early.

The subsequent stage of transformation involves a more complicated process. The issue is no longer creating prices that signal the relative scarcity of factors and goods. The challenge instead is the evolution of economic systems that encourage the acquisition and creation of new knowledge about organizing economic activities. In contrast to the ease by which the quality of information can be improved through decontrolling prices, the knowledge of *how* to organize and manage cannot be centrally mandated. The microeconomics of transformation are different from the macroeconomics of price determination.

Because knowledge of how to organize cannot be created through liberalization, the policy considerations are variables that can be only indirectly manipulated through reform policies regarding the decentralization of decision-making to firms. For a number of reasons, private ownership is a

[2] As part of a research project organized by the Stockholm School of Economics, I participated in round table discussions with multinational corporations held in Stockholm, Latvia, and Poland. In addition, structured interviews were held with managers of five American multinational corporations in Moscow and Warsaw in September 1994, as well as interviews with Russian entrepreneurs. A research associate, Andy Spicer, conducted 34 background interviews with foreign and Russian managers, as well as with officials and researchers at Russian government and research institutions.

policy objective that has been widely embraced as a way to depoliticize economic decision-making and to match ownership incentives with management.

In most Central and East European countries, privatization programs have returned small enterprises to private hands. Varying but still generally large proportions of the large industrial concerns have been sold off or transferred to private hands through vouchers. By the end of 1994, the Czech Republic, Poland, Hungary, and Russia had succeeded in privatizing from 60 to 80 percent of their economies (CS First Boston 1994; Economist 1994).

Given the abundance of well-educated workers, an obvious question is why are privatized firms not performing better in ~~transformation~~ economies. A candidate answer is that there is an absence of governance mechanisms to provide incentives to managers and workers to change their practices. The data and studies on transition economies point overwhelmingly to the persistence of the past, as well as to political impasses to change.[3]

Privatization does not, in any obvious way, generate knowledge about how to organize and manage economic activities. It does create the potential for what Oliver Williamson (1985) calls "high-powered incentives" to operate inside the firm. Oversight of top management by corporate governance is one, and likely important, element in the overall creation of incentives.

But the limits to change are not only political; they are also cognitive. The inherent difficulty in designing economic systems is that history has run only a small number of experiments. The past persists because change is, to use David Stark's expression, based on the recombination of what is already known. The strong tendency toward the status quo reflects the salience of social and cultural values, but also the limitations to identifying alternatives and working through their complex permutations. The incremental nature of change in economic development, as Nelson and Winter (1982) have eloquently argued, is a product of cognitive limitations in identifying and understanding alternatives. Because these limitations are constraining, an economy evolves partly through imitation, but also through a process of the birth and death of firms.

The difficulty of knowing what new practices to adopt and how to ~~do it~~ is even more complicated at the system level. The casual observation of the impressive wealth and capitalist variety of countries such as the United States, Germany, and Japan suggests that a frontier of best governance practices hardly presents the conventional smooth and marginal trade-offs that allow for a bit more of one feature at the expense of another. The

[3] See the studies by Coffee, Earle and Estrin, Pistor and Turkewitz, and Stark (in this vol. and vol 2).

complexity of the problem of finding the right elements in a governance system is characterized by trying to discover the existence of true versus fictional complements.

It is this linkage among elements that defeats the serial testing of individual institutional elements, as if they were components on a printed circuit board. Assume that an economic system consists of N possible elements, such as equity or debt financing, quality circles, work councils, firm unions, and so on. An attempt to figure out the optimal complements requires then a search among N! permutations. As Romer (1992) notes, a deck of cards presents 52!, or 10^{68}, permutations. Working out a best combination, given the cost of experiments, is likely to drive the search toward incremental and evolutionary improvement.

A governance system should not only provide monitoring and incentives for performance. It should also encourage experimentation, adoption, and diffusion of better practices. Incentives are not only monitoring devices, they are also signals of what is important inside an organization. In part, the problem of experimentation can be reduced to trying to match assets to owners with the appropriate knowledge of how to organize work. The issue is not only the provision of control, but also the establishment of a market for experimentation.

One of the important ways by which the complexity of search and experimentation is reduced is the role played by imitation. In this context, direct investment is more than the extension of ownership and governance across borders. It presents a template of the feasibility of alternative modes of organization adapted to the domestic environment. It has a quasi-public good characteristic insofar as other firms may observe the successful outcome of organizational experiments from proven companies.

Of course, observations are incomplete and prone to error. Because organizational knowledge is embedded in social relationships, it is difficult to replicate. Moreover, the knowledge of the firm spills over its boundaries to include its relations with suppliers and customers. A firm cannot easily imitate new ways because its existing economic knowledge is not separable from the social context. Direct investment, as a demonstration of an alternative model, is a powerful force for change because it acts as an "existence proof" of viable paths of development and as agent in the competitive process by which inefficient firms are eliminated. But the adoption and adaptation of new practices, because of the complexity of reorganizing social relationships, cannot be rapid, no matter what the competitive and governance incentives are.

Foreign Direct Investment

Direct investment is a complex phenomenon that represents the transfer of organizational knowledge, as well as foreign competition across borders. Because balance of payments are the principal source of data on international capital transactions, direct investment is frequently identified as a financial flow. Given the large demand for capital in transition economies, the typing of direct investment as a capital flow is particularly common.

This classification is unfortunate, for direct investment may occur without any financial flows. The value of a license granted to a subsidiary to use a parent's technology is frequently capitalized and treated as an equity stake. No money crosses borders, there is no balance of payments entry (except for future royalties and fees), and yet an equity transaction with a claim to some ownership control has occurred.

Because the distinguishing feature of direct, as opposed to portfolio, investment is *control* over economic assets across borders, the standard treatment of explaining direct investment is to focus on the interaction among three sets of variables: location, ownership, and internalization (Dunning 1979). Location refers to the costs of producing in one country versus another. These costs consist of the payments to factors of input, of transportation and commercial policy (e.g. tariffs), and of the creation (or loss) of economies of scale.

Ownership captures the idea that a firm usually must possess knowledge that generates a competitive advantage. The Hymer (1960) condition states that since foreign firms are at a disadvantage relative to domestic firms, the profitability of a foreign investment must be based on the possession of an advantage that earns compensating economic rents. This advantage may represent a one-off discovery of a particular process or product. But more likely, it represents a firm's capability to innovate and adapt, to manufacture or service, or to advertise and distribute.

In any transaction unconstrained by law or national regulation, a firm faces the choice between exploiting its advantage by ownership or by contract. Internalization is the decision of a firm to extend its advantage through an extension of ownership control. When this extension of a firm's boundaries crosses national borders, direct investment is the outcome.

A complementary, but more dynamic, way to categorize direct investment explanations is to consider the interaction among firms and locational advantages by looking at strategic motives. Explanations tend to emphasize one of three motives: push of competition, pull of the foreign market, or the benefits of coordination and combination of international assets. Each of these motives holds particular implications for transition economies.

"Push" and the Transfer of Advantage

Direct investment frequently consists of the transfer of intangible knowledge or assets to a foreign market. Due to the importance of owning intangible competitive advantages, the multinational corporation prevails in industries tending toward oligopoly. The advantages that lead to faster domestic growth are those that promote expansion over borders and an extension of home rivalry to overseas markets. As a result, the push of home-created advantages toward new foreign markets results in the recreation of these oligopolies in overseas markets. At the international level, the expansion of oligopolies overseas can reduce competition, but most studies find that internationalization also has competitive effects in disturbing national oligopolies (Caves 1982, ch. 4).

The importance of oligopolistic rivalry is clear in the list of major investors in Central Europe. In table 7.1, the top investors are listed for Poland, the Czech Republic, and Hungary. The striking pattern is the prominent role played by a few industries (e.g. autos, consumer products, telecommunications) and a few firms (e.g. Asea Brown Boveri, Coca-Cola, and Proctor & Gamble). This pattern appears to replicate the distribution of flows in direct investment to Western countries; the sectoral distribution is highly correlated across countries (Anand and Kogut 1995).

"Pull" and Agglomeration Economies

Another motive for direct investment concerns the attraction exercised by particular locations. At the simplest level, this attraction exists through the importance of proximity to the market for selling and marketing of goods, or the attractiveness of a country as an export platform. Market access is an important motivation, particularly to avoid transportation and commercial barriers, such as tariffs.

Direct investment is also pulled toward certain countries in order to tap into localized pools of knowledge, much like the sourcing of raw materials. The difference is that access to knowledge in foreign markets usually requires the co-location of other knowledge resources, such as research and development or production. In this sense, agglomeration economies extend across borders, attracting foreign investment in local technological poles.

The evidence for this pulling effect is thin. Cantwell (1989) found mixed evidence that production was pulled toward countries leading in the creation of patented knowledge. Analyzing Japanese investments in the United States, Kogut and Chang (1991) noted that the primary driver of Japanese direct investment was the push effect of technological rivalry in the home market;

Table 7.1. Top Ten Foreign Investments in the Czech Republic, Hungary, and Poland, 1990-94

Investor	Local Partner	% Share	Investment (million $)	Sector
Czech Republic				
Volkswagen (Germany)	Skoda Automotive Works	70	700	Automotive
Linde (Germany)	Technoplyn	51	117	Industrial gases
Coca-Cola Amatil (Australia)	Nealko Kyje	52	82	Beverages
Asea Brown Boveri (Sweden/Switzerland)	Prvni brnenska strojirna	67	N.A.	
Food & energy				
Nestle/BSN (Switzerland)	Cokoladovny	53	95.5	Food/confectionery
Kmart (USA)	Various	100	120[a]	Retail
Philip Morris (USA)	Tabak Kutna Hora	70	187	Tobacco
Glaverbel (Belgium)	Sklounion	67	100	Plate glass
Air France (France)	Ceskoslovenske Aerolinie (CSA)	19.1	150	Aviation
Proctor & Gamble (USA)	Rakona	100	24	Consumer goods
Hungary				
Ameritech (USA), Deutsche Bundespost Telecom (Germany)	Matav	30	875	Telecommunications
General Electric (USA)	Tungsram	100	550	Lighting
Volkswagen-Audi (Germany)	Audi Hungaria Motor (greenfield)	100	420	Automotive
US West International (USA)	Westel, Westel 900 (JV-greenfield)	49	330	Telecommunications
General Motors (USA, Germany)	GM Hungary (greenfield)	67	300	Automotive
Suzuki, C. Itoh, International Finance Corp. (Japan, International)	Magyar Suzuki (JV-greenfield)	60	250	Automotive
PTT Netherlands, Telecom Denmark & other Scandinavian operations (various)	Pannon GSM (JV-greenfield)	100	250	Telecommunications

Allianz (Germany)	Hungaria Biztositoi (JV)	67	220	Insurance
Transroute International, Banque Nationale de Paris, Caisse des Depots, Strabag (France, Austria)	Hungaria Euro-Expressway	N.A.	200	Motorway construction & operation
Alco (USA)	Kofem-Hungalu subsidiary (JV)	51	165	Aluminum
Poland				
Fiat (Italy)	FSM	90	2000	Automotive
Coca-Cola (USA)	Greenfields; JV with Rignes (Norway)	100	230	Beverages
Polish-American Enterprise Fund (USA)	Various	[b]	227	Multisector
International Paper Company (USA)	Zaklady Celulozowo-Papiernicze	80	315	Paper
European Bank for Reconstruction and Development	Various	[b]	138	Multisector
Asea Brown Boveri (Sweden/Switzerland)	Zamech; Dolmel; Elta; Polish State Railways; Elektrim	76;76;51; 30 ;10	120	Power & energy, railways
Curtis International (USA)	Electronics plant; business center	100;20	100	Electronics, construction
Unilever (Netherlands)	Pollena Bydogoszcz; Olmex; Roma	80;70[c]	96	Food & consumer goods
Epstein (USA)	Animex (JV); Golub/USA & National Bank (JV)	51;49; (with Golub)	200	Construction, food
Proctor & Gamble (USA)	Greenfield	100	190	Consumer goods

Source: *Financial Times* Statistics; Polish Foreign Investment Agency, January 1994; *Business Europe*, 28 February 1994

[a] Includes Slovak investment

[b] Not applicable

[c] Investments include equity and loans granted

however, joint ventures tended to be pulled into sectors where U.S. firms relatively outspent their Japanese competitors on research and development. In a recent paper, Almeida and Kogut (1994) found that for certain regions (e.g. Silicon Valley), knowledge spillovers are localized, and that spillovers flow to foreign and domestic firms located in these regions with no discernible differences. Krugman (1992) points out that locational advantages may be created if the investments in one area of an economy generate economies of scale in related industries.

Because of these externalities, the social benefits may well diverge from the private returns. Not surprisingly, most East and Central European countries engage in various degrees of incentives to attract investment. However, there appears to be a fundamental difference between fiscal revenue and industrial policy concerns (Török, 1994). The Czech Republic has been most aggressive in eradicating all tax incentives for foreign direct investment (FDI). Poland has also eliminated tax holidays as of January 1994, while providing tax breaks for both domestic and foreign investors. Hungary and Bulgaria offer moderate tax incentives. Romania is unusual in offering rather attractive tax incentives with little restrictions, though it continues to require government approval and restricts the types of positions foreigners can hold.[4] Russia's policy on the registration and requirement of approval of foreign direct investment is unclear. According to the Vice Prime Minister Alexander Shokhin, tax holidays and free economic zones have been proposed (Shokhin, 1994). Free economic zones have been created in the Czech Republic, Hungary, Poland, Romania, and Bulgaria, as well as in other countries in transition.

The low emphasis on incentives of the Czech Republic and, to a lesser extent, Poland may be an outcome of their proximity to Germany, which is the leading trade partner of the region. About one-third of Czech exports are destined for Germany. In a calculation of geographic accessibility, Sachs (1993: 99) notes that Poland is closer than Spain to the high density location of West European industry. The Czech Republic is even more favored as a location if similar calculations are made. In Poland and the Czech Republic, Germany is responsible for 30 to 40 percent of the direct investment flow. To compensate for locational disadvantages, Romania, Bulgaria, and Hungary employ incentives, perhaps partly out of competition with countries closer to West European industry. The dominant Greek investment in Bulgaria highlights the fortuitous nature of proximity to strong economies.

The fiscal consequences of the tax incentives are suggested by the large

[4] See Gray and Jarosz (1993: 10,16). Frydman, Rapaczynski, and Earle (1993) have a useful review of the policies regarding direct investment up to 1992.

number of ventures registered as foreign. Siotis (1994) reports that these tax shelters in Romania have caused the number of projects with direct investment to soar from 1,600 in 1991 to 26,000 in 1993, though committed funds fell on a per project basis from $168,000 to $27,000. Meyer (1994) estimates that foreign joint ventures accounted for 41 percent of new enterprises in 1989 in Hungary; over 17,000 enterprises reported foreign equity participation by 1992. As noted in the literature on tax incentives, policies to attract foreign investment have ambiguous effects due to the distortionary and fiscal effects.[5]

The impetus to competitive bidding for investment arises partly out of the similarity in wages among Central European countries. Török (1994) notes that hourly wages vary from $1.14 in the Czech Republic to $1.82 in Hungary, with Poland as an intermediate case, but that social taxes increase labor costs by about 50 percent. Given the low costs of wages in East Asia and the expectation that labor costs will rise, polled investors cite low labor costs as a minor consideration for investment (Gatling 1993).

"Hybridization" and the Multinational Network

The multinational corporation is a particularly important mechanism of change because it bridges ~~geographic boundaries to the central tendencies in~~ different the knowledge of how to do things that prevails in countries. Direct investment is tied to the organizing principles of work that prevail in the source country at a particular time. The United States was a source of knowledge in the standardization of work and in mass production. Its expansion overseas was the transfer of this knowledge to other countries through the organizational extension across borders. Mass production systems were location-specific in origin, but firm-embodied in knowledge.[6]

An instructive case for understanding the effect of direct investment on transition economies is the Fawley Refinery in the United Kingdom, where Esso tried with success to implement a productivity incentive plan in its acquired operations (Flanders, 1964). The object of contention was not only the wage bill (which was improved under the new plan), but also the changed job and status classifications. In particular, the reclassification of the foreman from a union representative to a member of the managerial staff conflicted with the prevailing industrial relations norm.

This hybridization of different national organizing principles represents

[5] For a thorough review, see Guisinger et al. (1985).

[6] See Hounshell (1984) for a history of the slow evolution of mass production in the United States, and Chandler (1990) and Kogut (1992) for an examination of the expansion of U.S. firms on the basis of this knowledge.

the advantage of a multinational firm over strictly domestic firms. For a company with established foreign subsidiaries, incremental direct investment need not be motivated strictly by the push of home-created advantages or the pull to innovative locations, but potentially by the advantages of operating a multinational network.[7] Statically, coordination of this network generates an operating value through the shifting of production in response to exchange rates, or the transfer of technology from one site to another. More dynamically, the network creates the possibility of generating innovations in work practices through the hybridization of knowledge gained by operating in multiple sites.

For example, General Motors through its German Opel operations is transferring Japanese quality circles to its Eisenach plant in the former East Germany. The use of teams is curtailed in the institutional environment of West Germany due to the refusal of unions and work councils to agree to the innovation. The more fluid environment of eastern Germany permits greater experimentation with forms of work drawn from multiple national experiences. Similarly, Volkswagen has experimented more extensively with group work in its Chinese and Hungarian facilities than it has been able to attempt at its West German plants.

Data on Aggregate Trends

One of the weakest links in former socialist economies was the paucity of institutions to support international trade and investment.[8] Whereas the majority of goods traded in the Western world are between affiliated firms located in different countries, the Soviet bloc developed few multinational corporations. Yet, despite the need for foreign capital and technology, the levels of direct investment have not been high in the transition economies. In table 7.2, the small proportion of Central and East European countries in overall direct investment flows is shown.

Table 7.3 indicates the minor role played by direct investment in most countries. The balance of payment data show that Hungary, Poland, and the Czech Republic (Czechoslovakia) are responsible for over three-fourths of the flows into the transition countries. Since FDI is a stock, we can only get a rough measure of its importance by looking at its proportion of gross national product (GNP). The numbers are instructive, with Hungary standing out as having attracted the most direct investment in the early

[7] See Kogut and Kulatilaka (1994) for an explicit treatment.

[8] See Kraft (1977) for a conventional discussion of international economic cooperation among the Soviet bloc countries and its silence on the question of multinational enterprise activity.

Table 7.2. Stock of Foreign Direct Investment: Country and Region, 1988-93
(billions of U.S. $)

Outward	1988	1989	1990	1991	1992	1993*
France	51	75	110	130	161	186
Germany	104	121	152	171	187	201
Japan	112	156	204	235	252	266
United Kingdom	184	204	229	237	252	277
United States	346	390	432	467	489	529
World	1,179	1,393	1,628	1,817	1,988	2,165

* 1993 figures are estimates

Inward	1988	1989	1990	1991	1992
Developed countries	909	1,093	1,291	1,432	1,545
Western Europe	412	509	634	729	821
North America	401	478	538	574	586
Other developed countries	96	106	119	128	138
Developing countries	245	275	311	357	410
Africa	25	30	33	36	39
Latin America and the Caribbean	98	105	115	132	149
East, South, and Southeast Asia	123	140	163	187	219
Central and Eastern Europe	—	—	1	2	3
World	1,154	1,368	1,603	1,792	1,963

Source: United Nations Economic and Social Council. 1994. *Transnational Corporations in the Word Economy and Trends in Foreign Direct Investment to Developing Countries*, including in particular the "Interrelationship of Investment, Trade, Technology, and Development."
* 1993 figures are estimates.

period of transition. Of course, given the fall in gross domestic product (GDP) of some of these countries, this percentage has risen slightly in subsequent years.

Russia is reported to have attracted as much investment as Estonia, with an estimated stock of $2.7 billion. (See table 7.4 for a breakdown.) The machine building and metal working industry has attracted almost a quarter of the investment. Importantly, about 85 percent of total private capital flows to Russia has been in the form of direct investment.[9]

Despite the importance of large firms in accounting for the vast proportion of reported direct investment flows, the average investment size is not especially large. The distribution of size shows a dramatic drop-off after

[9] *Moscow Business Monitor*, "Foreign Investment in Russia Described in Report; Machine-Building in Lead," 5 July 1994.

Table 7.3. Foreign Direct Investment Inflows in Selected Countries

	Inflows million U.S. $		Four year stock per capita		
	1992	1993	million U.S. $[a] 1993	million U.S. $[b] 1993	as % GDP 1993
Bulgaria	42	62	164	18	1.7
Czechoslovakia (Cz Rep.1993)	1,073	568	2,414[c]	234[c]	7.9[c]
Hungary	1,479	2,339	6,009	583	16.4
Poland	678	1,697	2,749	72	3.2
Romania	77	48	178	8	0.7
Russian Fed.	700	1,100	1,800[d]	12[d]	1.0[d]
China	7,156	23,115	36,381	32	6.6

Source: International Financial Statistics, International Monetary Fund, February 1995; some FDI values for 1993 from Meyer (1994).
[a] Estimated as cumulative inflows.
[b] Estimate based on *Economist 1993 Yearbook* statistics.
[c] Includes Slovakia for 1990 to 1992.
[d] Missing data for 1990, 1991.

taking into account the largest investments (Meyer 1994). For example, Russia reported over $2.9 billion in direct investment for 1993 (though balance of payment data show $1.7 billion). At the same time, over 5,400 joint ventures were registered (Aslund 1994). Smaller investments are especially prevalent in service industries, where initial capital contributions can be low compared with the manufacturing sector.

To get a sense of the relative magnitude of direct investment in Central and East European countries, consider China, which is frequently cited as a far greater magnet for direct investment. In 1992 China attracted an estimated $7.1 billion in direct investment; in 1993, actual flows rose to $23.1 billion.[10] About 74 percent of these investments were in the industrial sectors. However, unlike other transition economies, the size of state-owned Chinese enterprises still dwarfs foreign affiliates. In 1992 it was estimated that 30 of the top 500 manufacturers were foreign affiliated. While foreign direct investment made up about 8 percent of total investment in 1992, the percentage surely rose dramatically in 1993. Yet, on a per capita basis, China has not fared better in attracting direct investment than Eastern Europe.

What is striking is the prominence of Hungary. To a large extent, its attractiveness lies in its longer history of openness; Hungary accepted a larger share of direct investment before 1989 (especially after the 1986 revision of

[10] The information in this paragraph is taken from Zhan (1993). Figures cited are balance of payment numbers from the IMF.

Table 7.4. Foreign Investment in Russia by Sector, by year-end 1993

	Accumulated (thousands of U.S. $)	No. of enterprises
Machine building and metal working	600,172	326
Fuel	396,980	55
Trade and food services	365,153	742
Construction	153,277	153
Other industrial	134,315	53
Woodworking, wood pulp, and paper	132,107	174
Construction materials	111,222	24
Health care and social security	97,081	64
Finance, credit, insurance, and pensions	82,735	35
Food	70,666	81
Science and research	63,868	171
Culture and art	61,906	32
Transport and communications	53,680	81
Foreign trade	48,210	20
Dwellings	46,466	31
Nonferrous metallurgy	45,773	21
Fish breeding	38,408	61
Marketing	32,492	3
Light industry	32,169	97
Chemical and petrochemical	29,882	37
Medical	16,978	36
Information and computing services	14,180	41
Other material production	12,713	87
Agriculture	8,059	34
Forestry	7,117	25
Ferrous metallurgy	6,846	20
Logistics and distribution	4,939	67
Management	3,982	22
Printing	3,875	24
Public education	3,035	25
Services	1,990	8
Public societies	1,783	7
Electricity	1,171	3
Glass and china	582	6
Purchases	133	5
Flour milling and mixed fodder	42	1
Total	2,683,987	2,672

Source: Moscow Business Monitor, 5 July 1994

the law governing joint ventures) than any other Central European country, but primarily in its consumer goods sector. The lower amounts to the Czech Republic and Poland are also reflections of their privatization process, which has restricted foreign investment more than Hungary. In 1992 about 80 percent of the privatization revenues in Hungary came from abroad, although the share fell to 50 percent in 1993 (UNCTAD, 1994).

Direct Investment and Growth

Does foreign direct investment matter for growth? There is considerable evidence that the growth of countries is not strongly related to direct investment flows. A striking aspect is the wide variation in the role that direct investment has played in Asian countries. Overall, direct investment in the region has grown quickly, from 10 percent of the world total in the early 1980s to 17 percent in the 1992 (UNCTAD 1994). Japan, Korea, and Taiwan have engaged in fairly restrictive policies; Singapore, Thailand, and Malaysia have actively pursued direct investment. In the period from 1980 to 1985, direct investment as a percentage of gross domestic capital formation was only .5 percent for Korea and 1 percent for Taiwan; the 1985 to 1987 period showed an increase to 1.4 percent and 3.3 percent, respectively. In countries such as Indonesia and Malaysia, the percentages for the same periods run at 11.1 percent and 14.4 percent for the former, and 8.2 percent and 8.7 percent for the latter. Yet, despite variation in policies toward direct investment, all these countries have grown at high rates.

To place these observations on a stronger footing, we re-estimated the model of Mankiw, Romer, and Weil (1992) in their study of growth rates of countries. They found that the Solow model augmented for human capital formation provides a rather good fit to cross-sectional data on the per capita income of 98 countries for the time period from 1960 to 1985. Using this estimated model, we calculated the residuals for these countries. These residuals were then correlated with the average direct investment flow (from the balance of payments) per capita.

The estimated model of Mankiw, Romer, and Weil is a cross-country regression of GDP divided by the working force in 1985 on the investment rate, working force growth (adjusted by income growth and the depreciation rate), and human capital investment proxied by the percentage of the working age population in secondary school.[11] Our estimates to this

[11] Working force growth rate is adjusted by the growth in per capita income and a capital depreciation rate; the sum of these two factors is set to .05. See Mankiw, Romer, and Weil (1992) for a discussion.

Table 7.5. Augmented Solow Model
(dependent variable: log GDP per working age person in 1985)

	Full sample (78 countries)		Non-OECD countries		OECD countries	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	4.78	5.72	4.92	5.77	7.74	6.68
	(0.59)	(0.42)	(0.65)	(0.48)	(1.39)	(1.28)
Log (investment	1.33	0.60	1.01	0.49	0.52	0.32
over GDP)	(0.19)	(0.157)	(0.23)	(0.18)	(0.43)	(0.38)
Log	-0.57	-0.47	0.11	-0.14	-0.12	-0.19
(workforce)	(0.14)	(0.09)	(0.31)	(0.22)	(0.15)	(0.13)
Log (school)	-	0.71	-	0.64	-	0.78
		(0.08)		(0.09)		(0.29)
No. of observations	78	78	56	56	22	22
R^2	0.57	0.79	0.28	0.63	0.10	0.35

equation are given in columns one and two in table 7.5 for the full sample of 78 countries. (The sample of countries is different from Mankiw et al., since we were unable to collect additional investment data for all countries.) The results, not surprisingly, correspond closely to table 1 in Mankiw, Romer, and Weil (1992).[12] Investment in human capital has a significant impact on GDP per capita, and its inclusion in the model improves the fit significantly.

The importance of including a measure of human capital in the estimates is particularly evident in the sample of non-Organization for Economic Cooperation and Development (OECD) countries. The fit improves dramatically, and the coefficient to the work force variable switches signs to the expected direction. (We would expect that an increase in the work force, holding capital constant, should lower per capita income.) Even in the small sample of OECD countries, the coefficient to investment in human capital (column 6) is significant.

As a speculative exercise, we apply the above estimated model to predicting the GDP per capita for East European countries based on 1991 data. Of the many caveats in this extrapolation, two are particularly important. The Mankiw et al. specification is derived from a steady-state model; clearly, the macroeconomic conditions in 1991 were in considerable fluctuation. Second, their estimates were calculated for the time period 1960 to

[12] Following the procedure and coding of Mankiw et al., we took out oil producing countries. Both Venezuela and Indonesia remain part of their non-oil producing sample. Removing them from the sample changes the magnitudes of the coefficients, but the significance levels are scarcely affected.

Table 7.6. Estimated GDP Per Capita of Eastern Europe in 1991 (in U.S. $)

	Actual GNP (per capita) (1)	Predicted GDP (per capita) (2)	Predicted with fixed human capital (estimate) (3)
Bulgaria	1,840	4,033	6,783
Ukraine	2,340	3,189	4,100
Romania	1,390	5,413	7,473
Poland	1,790	4,653	6,364
Czechoslovakia*	2,460	5,858	7,840
Russian Federation	3,220	5,263	7,006
Hungary	2,720	5,357	7,173

*Czech data for work force and human capital are average of Hungarian and Polish measures.

1985. We are essentially applying the estimated coefficients for predicting 1985 income to 1991 data.

With these caveats in mind, the exercise is useful in providing a heuristic comparison. We collected data on schooling from UNESCO's yearbook, using the same procedure used by Mankiw et al. in calculating the measure of human capital as the fraction of the population of working age adults between the ages (approximately) of 14 to 19 in secondary school. Domestic investment shares and labor force growth are taken from the World Bank's handbook on economic data for developing countries for 1993.

In table 7.6, we give the reported GDP per capita and the predicted value from the estimated model for the OECD countries. Of course, the monetary values are strongly affected by currency rates; high investment rates are a consequence of the fall in income (Romanian investment of GNP is estimated to have been 33.5 percent in 1991.) To provide some sensitivity to these estimates, the predicted values were re-estimated assuming a higher level of human capital investment; we used the value of 10, compared to a maximum of 12.1 in the overall sample and to the modal range in the actual data of 6 to 7. These results, which are given in column 3, serve the heuristic value of indicating the shortfall of the current performance of Eastern European countries in transition to their predicted potential.

An examination of the residuals from the regression given in column 2 of table 7.5 provides insight into other countries that underperform the predicted GDP per capita. The country outliers that are shown to be much poorer than predicted include several African countries (e.g. Ghana, Togo, and Zambia) and south and east Asian countries (e.g. India and Philippines);

Table 7.7. Correlation of Average FDI
(per capita and residual from table 5)

	Full sample (78 countries)		OECD countries		Non-OECD countries	
Regression col. no.	(1)	(2)	(3)	(4)	(5)	(6)
	0.115	0.11	0.33	0.34	-0.27	-0.34

of all countries, Jamaica is estimated to have most underperformed its prediction. Countries that performed better than the prediction include South Africa and Rwanda, Canada, and Guatemala.

To see if this variation reflects more than measurement error, we correlated the residuals from table 7.5 with a balance of payments measure of average foreign direct investment per capita for the period from 1965 to 1985—the International Monetary Fund (IMF) did not collect such data systematically for earlier years. The correlations between FDI per capita and the residuals corresponding to the columns in table 7.7 are given in table 7.5. An important result is that the correlations are quite different for non-OECD and OECD countries, positive for the former group and negative for the latter.

It should be kept in mind that the effect of foreign investment *as capital investment* is already captured in the estimation through the investment rate. Foreign ownership, arguably, brings something extra to the table in the form of technological and managerial knowledge. These externalities appear as particularly important for less developed countries.

Of course, there are several other possible explanations for these results. The residual can be interpreted as an estimate of total factor productivity. Direct investment is likely to be pulled toward countries where there are location-specific externalities.[13] The causality between direct investment and growth is, as a result, ambiguous.

To sort out some of the causality, a regression of the residual on both per capita GDP in 1960 and FDI was performed; initial GDP per capita was found to be significantly and positively related to the residual; FDI per capita is insignificant and its coefficient is of minor magnitude. Another specification was estimated by replacing GDP per capita in 1980 in the regressions reported in table 7.5 by the log difference in GDP between 1985 and 1960 for GDP per capita; the same independent variables were used, along with

[13] As in other studies, Kogut and Chang (1991) find that industry growth rate has a significant influence in attracting foreign investment. This result should be robust to an economy overall.

average FDI per capita. Average FDI per capita, once again, did not appear as significant.[14]

Since there is such variation in policies toward FDI, the speculative finding that direct investment does not appear to explain further growth when the effect of investment in physical and human capital is parceled out is not surprising. As noted earlier, such countries as Korea and Taiwan have been circumspect regarding direct investment. Convergence to a world production frontier does not seem to require direct investment.

Yet, the convergence of a large group of poorer (largely Asian) nations points to the spilling of knowledge across borders. Pack and Page (1994) analyzed largely the same data as Mankiw et al. but tested the influence of export propensity on growth rates. They found that, in addition to human and physical capital investments, exports and a measure of openness (as captured through the equivalent of law of one price calculations) were significantly related to growth. Since multinational corporations are important agents in world trade, their findings do not imply a ranking of exports over direct investment as a preferred instrument to tap into a pool of world technology. But, rather, their results indicate that integration in the world economic community provides the opportunity for learning.

Direct investment dominates other alternatives for the absorption of technology when the acquisition of new knowledge is costly by other mechanisms. Teece (1976) estimated that the costs of technology transfer varied from 2 to 56 percent of total project cost. Transfer costs declined with the age of the technology and the number of users, that is, to the extent to which the technology was known and codified. Kogut and Zander (1994) found that knowledge that was difficult to codify would tend to be transferred within the firm rather than through licensing and would also transfer more slowly (see also Zander and Kogut (1995)).

These findings suggest that the borders of firms are the least permeable when knowledge is of a tacit or proprietary nature. The public good characterization of technology, as Romer (1992) and others have noted, confuses the traits of nonrivalry and excludability. The use of a chemical process by an American firm does not influence the costs of its use by a Korean firm. But nonrivalry does not mean that use of the formula cannot be excluded through patent protection or tacitness.

Direct investment occurs when a firm exploits its knowledge in a foreign

[14] These results conflict with the study by Blomstrom, Lipsey, and Zejan (1994) that indicates a significant and positive effect on growth for a particular sample of countries. Though using similar data and sample, I could not replicate the result using the Mankiw et al. specification with FDI added. We leave open the question of the relationship of growth and direct investment.

country within its boundaries than through a market. Failure of the market for technology is one reason why direct investment is preferred. But a more prosaic reason is simply that a firm specializes in the creation and transfer of particular kinds of knowledge that are better replicated inside the firm than between firms.

Governance and Direct Investment

The transfer of uncodified knowledge by direct investment is likely to be critical for transition economies. Though rich in scientific and technical training, these countries have inherited a stock of organizational knowledge that is poorly suited for competition in world markets. Knowledge of quality production, marketing, and customer response is lacking, since domestic competitive markets did not exist. Experience in exporting was usually isolated in foreign trade organizations that had little influence over the production and management of the production units. Marketing to developed countries was frequently conducted by Western firms, who sometimes acted as brokers in barter or compensation deals. Unlike the Asian economies whose firms evolved in competitive markets, the enterprises in the Soviet bloc did not, by and large, develop the expertise to compete in capitalist settings.

There are three ways in which the extension of equity-based control across borders influences the evolution of corporate capabilities in the foreign country:

1. Organizational capabilities: The investing firm has superior methods in the form of the knowledge of operations and in their control through supervision, authority, and incentives.
2. Organizational form and institutional governance: The foreign firm implements a superior method of organizing and external control, either indirectly through the form of financing (e.g. debt and equity structure) or directly through the re-creation of oversight institutions.
3. Competitive externalities: By increasing competition in the host country, the foreign firm generates information on the x-inefficiency of competitors in the local country and generates incentives for imitation.

The following analysis is informed by interviews held with managers of foreign multinational companies and with government officials. (See footnote 2.) A structured interview format was conducted with managers of five American multinationals operating in Poland and Russia, and

background interviews were held with other managers and officials. Questions were oriented toward identifying the role of work councils and unions, local and foreign representation on boards, and competitive effects on suppliers, customers, and competitors.

Organizational Capabilities

The considerable documentation of the difficulties of imposing new methods tends to obscure the fact that internal governance is easier to transfer than external governance for obvious reasons. Case studies and the managerial literature are replete with the conflicts between headquarters and subsidiaries regarding the reporting and control requirements. In certain cases, due to prohibitions on the transfer of data across borders, control systems conflict with local law. The legal or contractual right to implement certain bonus plans have not infrequently been opposed by labor unions and law. Control rights clearly are limited in cases of dismissal and of liquidation. The United States is, in this regard, far more the outlier than comparable European countries.

By and large, firms are given a relatively wide range of latitude in their control over their foreign managerial staffs. Whereas certain countries, such as Sweden, have both union and legal protection of managerial staffs, the restrictions on the task assignments, promotions, and employment of management are generally far weaker. (Gray and Jarosz (1993) report that only Romania restricts the types of positions that foreigners can hold.) Direct investment carries very strong implications for managerial control, especially for acquisitions.

An issue of some importance is the representation of workers and work councils in internal governance, and legal restrictions on severance and dismissal.[15] Poland has, surprisingly, moved toward a regime that has progressively weakened the power of work councils in corporatized companies (Weinstein 1995). The Russian privatization program has allocated a certain number of shares to workers, but the dispersion of these shares and the incentives for workers and managers to dispose of poorly diversified holdings appear to lead to an increasingly weakened voice of labor in enterprise decisions.

Interviews with foreign firms in Poland and Russia strikingly confirm the weakness of labor unions in their new (or "greenfield") operations. All the managers interviewed using a structured format at the five companies

[15] Both the Czech Republic and Poland have moved to ease these restrictions, especially easing the financial burden of restructuring by layoffs. See *Business Eastern Europe*, 4 April 1994 and 2 May 1994.

reported a condition almost of passivity on the part of workers. In the case of one company in Russia, employee relations were not up to par at one joint venture, but their wholly owned operations were without unions and work councils. For blue-collar workers, pay tends to be set near market conditions. Though 50 million of the 70 million workers in Russia are reputedly union members, the workers were described as poorly organized. Even in Poland, where the heritage of Solidarity has created a more active labor force, workers in the newly created ventures were viewed as unrepresented by unions or by work councils. Published reports of labor conditions in the Czech Republic and Slovakia also suggest labor conditions that are fairly docile.[16]

However, pay for white-collar workers in foreign firms in Poland and Russia is substantially above the market. At a large pharmaceutical company, most of the sales force hold medical degrees and earn three times the market norm. The age is young; in general, firms reported a preference for hiring younger workers. Sales incentives in kind, such as vacations, were initially resisted but were eventually accepted. Due to the high technical qualifications and requirements of the sales force, this company represents a polar extreme but is not unique. An American telecommunications company in Russia also paid a wage plus bonus for operators for their pager service business. Yet, again, qualifications matched the wage, as all operators were university graduates. In fact, within the first weeks of operation, several of the operators were moved into more advanced positions. The impression given by these trends is a widening gap between blue- and white-collar wages.

The transfer of technology and new methods of organizing were also extended to some suppliers. At a minimum, companies, such as a large food company, seek to establish a set of operating principles among their Polish and Russian bottle suppliers. The pharmaceutical company signed on the Institute of Biotechnology in Warsaw to package their drugs. To bring their supplier up to standard, Western technology was imported, along with quality circles. Clearly, the company is able to pursue a policy of skimming the cream, both in terms of hiring qualified doctors as sales agents and of contracting to one of the more sophisticated companies in its sector. However, all interviewed managers stated a clear preference for working with a foreign rather than a local bank as soon as it was permitted, partly due to the required expertise in handling foreign exchange, but also due to the excessive inefficiency of the local banking system.

[16] An example is the successful negotiation by Kmart with its Czech union that resulted in an agreement setting up performance bonuses. The union in the Slovakian stores turned down the offer, insisting on a standardized wage package unrelated to performance. Kmart, which is the largest foreign investor in Slovakia, refused, and implemented the Czech plan successfully without union interference. See *Business Eastern Europe* (1994).

Corporate Form and Governance

Direct investment is channeled through two organizational forms: joint ventures or single firm dominated investments. (In some cases, a firm may have less than a 100 percent equity position, but the outstanding shares are dispersed among many shareholders who do not exercise control.) A joint venture can be defined to include the creation of a legally independent concern, or as a minority stake in an existing enterprise. An acquisition can be used as a means to establish a joint venture position or single control position. Alternatively, an investment may be in new operations. Each of these investment kinds, which are obviously not mutually exclusive, raises particular implications for governance and for political sensitivity regarding foreign ownership.

Through acquisition, direct investment has played a major role in the privatization programs of many transition economies. In the process of evaluating these companies, foreign suitors have required stronger regulations and laws regarding accounting standards, protection of intellectual property, and the repatriation of profits. In this sense, they have been an active force in institution building (McMillan 1993).

There is, again, wide variation among countries regarding the treatment of foreign participation in privatization. Of the 52 large privatizations in Poland by 1992, 25 had large shares of foreign ownership, with 12 cases of shares greater than 80 percent and 10 more greater than 50 percent; however, foreign participation in the privatization of small firms was restricted. The Czech Republic also excluded foreign firms from participating in the first wave of privatization. Hungary, on the other hand, has sought active foreign involvement in its privatization program.

Russia, which has allowed 100 percent foreign ownership since 1991 but has heavily restricted until this year participation in privatized companies, has established a liberal policy allowing foreign companies to purchase shares of privatized companies. Recent estimates indicate that 10 percent of such shares are held by foreign companies (GKI Press Release, #298-4678, 1994).[17] Again, Romania represents the other end of the spectrum with only three privatizations including foreign investors in the years just after transition (Odle 1993); however, as noted earlier, foreign investments in joint

[17] Of course, fact has surpassed fiction, for Russian law lags behind actual practice. In an unpublished EEC report, the consultants Arés Associés (1994) note that in reference to a particular law that ". . . because of the fact that the Law was adopted rather long ago, this article isn't designed for the specifics of portfolio investment in the shares of joint-stock companies. Most of the clauses of the chapter wasn't [sic] developed in sub-laws and regulations and hardly are ever applied in business practice."

ventures with state-owned and privatized companies have been frequent. All in all, UNCTAD estimates that 67 percent of direct investment flows were related to privatization activities between 1988 and 1992 (UNCTAD 1994).

The participation of foreign firms in the privatization process has merits and a few demerits. On the plus side, the foreign firm brings managerial and technological expertise to the firm. On the minus side, during a period of transition when domestic savings have largely eroded due to inflation, values of enterprises can be depressed because of wealth constraints or market imperfections, especially the difficulty of selling the securities. Frydman and Rapaczynski (1994) argue that an advantage of a mutual fund scheme (which permits foreign capital) is that it prevents a "fire sale" of assets. The role of foreign capital in resolving problems of capital shortage is, of course, not unambiguous, as liquidity is gained at the cost of the transfer of shares, and potentially, ownership to foreign buyers at depressed prices.

The data regarding depressed prices are startling. Boycko, Shleifer, and Vishny (1993) make some rough calculations indicating that the Russian manufacturing industry has a dollar value between 5 to 10 billion, roughly the size of smaller firms in the Fortune 500. The ZIL company, with 100,000 employees, has a valuation of $16 million. In an unpublished study, CS First Boston generated similar numbers, estimating Russian equity to be valued at $8.5 billion. To provide some comparability, they calculate that the productive capacity of a ton of Russian cement is worth two-thirds of a percent of a ton of a Western company; a megawatt of electricity capacity has a worth of 4 percent; and even a barrel of proven oil reserve is valued at less than 1 percent of a Western operation (CS First Boston 1994).

There are, of course, some situations that suggest that direct investment into privatizing companies is not taking advantage of a "fire sale" as suspected. First, given adequate foreign suitors, the price of the assets should be bid up to reflect their value in a world market unconstrained by illiquidity. The only commodity production valued close to Western valuations, according to First Boston, is tobacco-related activities, reflecting the large Western equity position in the Russian tobacco industry. Second, the value of the enterprise, because it will benefit from foreign technical assistance that might necessitate that property rights be guaranteed by ownership, will often be worth more to foreign buyers.

It is not surprising that the value of newly privatized stocks rises dramatically given their lower initial valuations and the influx of Western capital. The recent valuations of Russian companies that have floated shares in Western markets show remarkable capital gains. The price of acquired companies in the more open markets of Central Europe is close to Western valuations (CS First Boston 1994).

The low asset valuations are clearly fueling speculations in the Russian market. In an interview, the president of one of the mutual fund associations noted that 10 to 20 percent equity share is frequently sufficient to provide a swing vote for many privatized concerns. Even minority shares held by foreign firms can play a major role.[18] But he also observed that local capital preferred to keep foreign investors out during a period of low asset values. Not surprisingly, an interview with an investment entrepreneur who acted to find foreign buyers for companies in the second wave of privatization took the opposite position. If the notion of liquidity trading is a distant concept to the highly imperfect Russian capital markets, the importance of information trading between a foreign investment sector and domestic sellers was well understood.

The problem of insufficient information also hampers the foreign buyer in efforts to avoid overpaying. One reported solution has been issuing convertible bonds with a low par value and no interest. If certain performance targets are not meant, the debt is converted into equity (Gatling 1993: 107). Still, this financial structure only provides a floor to the foreign investor if the equity is worth something.

An alternative to acquisition through privatization programs or other means is the prevalent use of joint ventures. Before 1989 a few countries, particularly Hungary, allowed and encouraged foreign joint ventures. Since then, joint ventures have become common to all the transition economies. In table 7.8, estimates of the frequency of joint ventures for the largest countries are provided. (The data are to be taken as indicative.) Russia, due largely to its initial legal restrictions on foreign ownership, has favored joint ventures the most. Poland, on the other hand, has a large number of greenfield (i.e. new plant) investments, though the value is only 13 percent of the total.

A joint venture accomplishes four important tasks. First, it provides a foreign party with a legal governance structure by which to enforce *organizationally* its claim to technology and its use. Second, because a joint venture is an enterprise as opposed to a sale of technology license, it serves as a vehicle to transfer tacit knowledge for which markets are inadequate. Third, a joint venture allows a foreign party to isolate the more attractive assets and to avoid potentially acquiring a large labor force that would have to be restructured. Lastly, joint ventures invariably have exit clauses that define rights and priority of acquisition among the parties. Western experience shows that joint ventures are very often acquired, especially when the market turns out

[18] By an appeal to a Shapley-value argument, the foreign firm places a high value on its purchase of share exactly because of its swing role in determining the winning coalition in a given dispute. A more placid observation is that a 25% share provides, as in Germany, the legal position of minority veto rights.

Table 7.8. Number of FDI Projects in Selected Central and Eastern European Countries, 1 October 1991 to 31 March 1993 (by type of transaction)

Number of projects and percentage

	Acquisitions		Joint ventures		Greenfield investments		Total investments	
Country	No.	%	No.	%	No.	%	No.	%
Czech Republic	62	34	60	33	59	33	181	100
Hungary	121	36	121	36	92	28	334	100
Poland	48	30	46	28	68	42	162	100
Russian Fed.	113	3	285	71	106	26	402	100

Millions of U.S $ and percentage

	$	%	$	%	$	%	$	%
Czech Republic	880	63	444	32	66	5	1,390	100
Hungary	1,093	35	1,141	36	929	29	3,163	100
Poland	3,135	56	1,706	31	722	13	5,560	100
Russian Fed.	1,167	11	9,239	88	152	1	10,559	100

Source: Anthony Robinson, "Ex-Soviet bloc attracts $42bn," *Financial Times*, 28 September 1993; *World Investments Report*, 1994.

to be good and the legal right to acquire is exercised by the dominant party (Kogut 1992). It is at the time when new capital investments are required that partners to a joint venture are forced to reconsider their commitments and the relative value of the venture to each side. A common outcome is that one party sells out to the other and walks away with capital gains; the other party gains full control.

This option-like feature is often present as well in minority equity stakes. In Russia many direct investments, partly due to the lock on shares by entrenched management and employees, in corporations take a minority share. For example, Siemens bought 10 percent of the Kaluga Turbine Plant; BAT bought a minority position in the Saratov Tobacco Factory through a tender offer, with $40 million committed to be invested; Procter and Gamble bought 14 percent in the Novomoskovskbythim joint stock company, with a promise to invest $50 million in capital equipment; and Zellstoff und Papier purchased 30 percent of Zhukovsky Cold Storage in 1993, with a realized increase in production of 32 percent over the following year. In all of these cases, capital and technology were transferred to struggling concerns and serve to establish a foothold for future expansion. It can be expected that some of these ventures, in their role of providing a future option to expand, will be converted to full ownership as capital markets develop.

An area of conflict, however, between foreign owners and a country concerns the use of external control over a subsidiary's operations. There is surprisingly little known about the local governance of foreign subsidiaries, except that they tend to adopt local practice while subject to control of the foreign parent. Generally, national laws have held the parent responsible for the debt and financial claims owed by the subsidiary. As a result, high debt of a subsidiary does not carry the disciplinary incentive assumed in the general literature on governance.

The companies interviewed all reported that supervisory oversight was carried out by regional headquarters outside the country of location. Only one joint venture with two state-owned enterprises associated with a ministry in Russia reported a local board of significance; yet, the composition of the board was dominated by the foreign company. (Board positions were unpaid.)

In summary, the impact of direct investment on wider governance institutions is mixed. Joint ventures and acquisitions, in particular, have required changes in law and have increased pressure to create more perfect and efficient capital markets. However, since foreign-owned subsidiaries largely act independently of governance oversight in the local economy, they cannot serve as models for legal reform regarding boards of directors or banks invested with powers of oversight. Where they do influence institutions is

through their efforts to influence regulatory and standard-making policy, as well as laws to improve the efficiency of capital markets, especially regarding such issues as the registration and transfer of equity-share ownership.

Competitive Externalities

One of the most important influences of direct investment is on the incentives for competing domestic companies to improve their performance. Blomstrom and Wolff (1994) found that direct investment in Mexico increased the productivity in the sectors in which foreign firms compete. But, they could not sort out whether these effects were due to the elimination of weak firms, spillovers in the form of learning by domestic companies, or the creaming of a higher quality labor force in the foreign sectors. In a case-oriented study, Dunning (1986) found some evidence that the adoption of Japanese methods in England was promoted more by competition than by British suppliers learning from Japanese assemblers. Blomstrom and Wang (1989) show, moreover, that competition engenders increased incentives to learn by competing firms.

As stated earlier, there is little empirical evidence to show that direct investment is required for economic growth. The Asian experience, which has large national differences, shows that reliance on export markets for competitive discipline, along with human and physical capital accumulation, has served as a successful strategy for a number of countries that have restricted inward investment. Yet, an important difference in the Asian and transition economies experiences is that the latter are far more bereft of the accumulation of managerial knowledge in their enterprises. Direct investment brings an immediate transfer of Western practice to companies with adequate technical levels, but poor managerial expertise.

The negative side is that direct investment has been largely oriented, when measured in value, toward the acquisition of large companies. Whereas many of these companies show the fastest growth rates, they also appear in the more oligopolistic sectors of these economies. To a certain extent, the acquisitions of the larger concerns reflect the extension of oligopolistic competition to Eastern Europe. The purchase of one auto company in Czechoslovakia leads to a rival purchase or joint venture in Poland. Similar patterns, as seen in table 7.1, can be discerned in the food and telecommunication industries.

These acquisitions are potentially troublesome due to long-standing policies in the socialist countries to concentrate production in highly specialized groupings of companies. There are, consequently, some indications that these purchases are partly motivated by defensive and monopolistic consid-

erations. General Electric acquired the Hungarian company Tungsram in one of the first acquisitions. Since selling its shares in Osram, General Electric had seen rapid entry through acquisition by European competitors into its home American market. The acquisition of Tungsram achieved an offsetting position in the European market, while at the same time eliminating a potential low-cost entrant in the lucrative light bulb market. GE has invested an additional $400 million in Tungsram.

The acquisition of Lehel in Hungary by Electrolux is a natural outcome of a long contracting relationship between the two parties. However, Lehel is the only other producer in Europe of a small refrigerator that does not rely upon a compressor. Though the work force fell by 40 percent following the acquisition, productivity and exports have increased. Only one product line has been added to replace the divested products, and the factory remains highly specialized. The distribution channels are being used to support the introduction of the Electrolux-branded lines. Currently, the company is very profitable, with about a 90 percent market share in Hungary.[19]

One of the most impressive investment strategies has been carried out by the Swedish-Swiss concern, Asea Brown Boverie. By May 1994 it controlled 58 companies in 16 countries. In Poland it owns four out of the five makers of power-generating equipment. In Russia, it controls eight companies, plus is a partner in four joint ventures.[20] These operations have been integrated into a world production system, while providing ABB with important and unique access to these markets.

The acquisition of potentially monopolistic positions is especially troubling in the service sector of the smaller or regional economies. The telecommunications company in Estonia, for example, reached a joint venture agreement with a Swedish company to help manage the network. An attractive feature of a telecommunication contract is that due to international pricing and tariff regulations, East European countries earn foreign currency in the transmission of foreign calls. Consequently, a deal with a local telephone company generates foreign earnings, plus monopolistic control in a highly regulated local market. The incentive for investment by the Swedish partner in local service in Estonia is not very large and has been modest.

However, even in the case of the purchase of monopolistic positions, there is an important contribution played by foreign companies in lessening the historic holdups between suppliers and buyers. Frydman and Rapaczynski

[19] See the case "Electrolux AB Enters Hungary," Kjell Nordstrom and Jan Erik Vahlne, Stockholm School of Economics, 1994.

[20] See "ABB'S Big Bet in Eastern Europe," *Fortune*, 2 May 1994.

(1994) note that the transition to capitalism poses the danger of exposing firms, which stood in an administrated relationship to each other before, to potential exploitation of one by the other due to the dependence of one party on the other. Partially by bringing in the knowledge of the sources of supply in a world integrated economy, foreign investment acts as an effective curb on the hazards of small numbers haggling. The bridging role of the multinational corporation across borders opens the narrowly specialized relationships among firms to wider competition.

But the cost of world integration is the erosion of dense national networks among firms. Since the capital of any enterprise is partly its position in a network and knowledge of other firms, this process of change can eliminate otherwise viable enterprises in a period of transition.[21] To believe that transporting a firm from one setting to another does not diminish its economic value underestimates the value of knowing the environment. In the process of transition, the competitive process destroys valuable knowledge between firms and institutions.

This knowledge is, in many ways, valued and preserved through the acquisitions and joint ventures that are targeted by foreign concerns. Motorola, for example, has entered into multiple contracts with the telecommunications university in Moscow, both as a way to fund research and to develop useful contacts for recruiting and sales. Its joint venture with two groups attached to the Ministry of Telecommunications has also established important inroads into the licensing and regulatory process. Because it recognizes the value of existing relationships, direct investment provides the resources to maintain otherwise bankrupt institutions.

The implications of the competitive role played by direct investment, when duly qualified for the potential of monopolistic abuse, are best appreciated in speculating for the long term. Direct investment plays two roles through new firm startups and through acquiring the more promising enterprises in the traditional sectors of an economy. The self-reported growth rates of the interviewed firms are impressive. One firm in Russia reported growth at a rate of 200 to 300 percent per year. Another company in Poland expected market penetration rates to approach West European levels in a few years.

To give an appreciation of the implications, consider a recent study by Kennedy (1994), who looked at two sectoral clusters in the Polish economy. The first cluster consisted of private firms that grew from 29 to 80 percent of output between 1989 and 1994 and its share of GNP rose from 49 to 53 percent between 1989 and 1993; a second cluster showed a growth of only 9

[21] See Pistor and Turkewitz in vol. 2, as well as Grabher (1990) and Kogut et al. (1992).

percent to 23 percent of the private enterprise share. The more dynamic cluster was characterized by a tripling of the number of firms due to new entry, with privatization playing a small role in new firm formation. In the stagnant sector, the total number of firms fell. An important difference is the pattern of direct investment, which was roughly in equal proportions in both clusters, but was twice the size in the more stagnant sector. Direct investment is about equal in the dynamic and stagnant sectors. However, given the declining output in the stagnant sector, direct investment plays the major role of acting as a powerful force for restructuring older enterprises.

The implied projections of this process of transformation point to a growing share for new firm entries; a shrinking traditional sector will give way to faster growing enterprises, many with substantial foreign involvement. A rather small percentage of the existing industrial base can generate a substantial transformation of the existing economy by the force of its own growth, as well as its spillover effect on the rest of the economy.

It would be fanciful to suggest at this juncture that foreign investment in these countries has caused new hybridization of work practices. By and large, the investment process is driven by the push of existing advantages into these new markets. The largest investor in Poland is Coca-Cola, which is pursuing a standard strategy of securing bottle suppliers while investing in bottling plants, a strategy recently extended to Russia. Given the productivity advantage of Western practices, the transfer of the advantage to local markets is bound to be the principal objective.

There are modest signs that in the process of solving problems unique to the transition economies, organizational innovations are created. For example, the Italian metal company Lucchini has acquired a 51 percent stake in the steel works Huta Warszawa. The work force has been reduced from 12,000 to 3,000. Yet, many of the workers were severed by spinning off divisions into cooperatives that were then contracted by Huta Warszawa. As a result, Huta Warszawa has built up satellite cooperatives operating under worker–owner incentive structures (see the description in *Business Eastern Europe* (1993)).

Policy Implications

In considering policy objectives for Eastern Europe about direct investment, this potential for innovation and hybridization – even if dimly recognizable amid the gigantic task of restructuring the economy – should be an important guiding light. Frydman and Rapaczynski's (1994) observation that design should be evolutionary in principle is fundamental. Policy creation

should not lock into a narrow set of objectives during this period of rapid transformation, and objectives should be influenced by the political and social values of a country. An important consideration remains choosing the policies that move reform forward.

There are four types of recommendations ~~to make~~ that respect the principle of permitting the process to organize itself while establishing boundaries of tolerance:

1. *Competition policy.* A primary objective of transformation is to establish competition. In Hungary, 48 of the 114 cases examined by the monopoly office involved abuses of dominant power – though most cases were dismissed (Langenfeld and Yao 1994). One of the most important elements in the Polish transformation was reducing tariffs to allow for international competition to hold down monopolistic pricing during a period of extreme industrial concentration (Sachs 1993).

Direct investment should be subjected to a well articulated competition policy that is applied to domestic and foreign enterprises. A screening of investment applications traditionally results in conflict among ministries, much as the Exon-Florio amendment in the United States that establishes the right of the U.S. government to reject acquisitions threatening national security tends to pit the departments of defense and commerce against one another. It is fairly well established that the assignment of which ministry should regulate direct investment has tangible effects on the degree to which a government opens its borders to foreign firms (Vernon 1985).

Establishing an appropriate regulatory framework is a priority for foreign companies. Standards in the local markets are required to conform to international norms and to permit easy exporting to other countries. Moreover, because of their visibility, foreign companies usually apply high environmental and quality standards. Regulation forces these costs onto local firms as well, and thus removes them as factors in competition. The demand for regulation may, contrary to expectation, be greatest in the sectors in which multinational corporations are active.

Langenfeld and Yao (1992) argue that regulatory and competition policy-making functions should be assigned to different agencies. There is an inherent conflict in the task to regulate competition and to assure competition. The tendency of ministries to assume a regulatory role over enterprises with state shares, as observed in Russia by Pistor and Turkewitz (in vol. 2 of this book), is an example of such conflict.

2. *Privatization and ownership.* An important question is whether a nation should preserve ownership over a few key enterprises. In this regard, the

privatization of other countries provides a wide range of models, with the strategy of France to preserve a strategic share for domestic investors (the so-called *noyaux durs*) being of particular interest. Except for restricting particular sectors (e.g. the Russian defense industry), none of the transition economies has articulated a clear vision of the limits to foreign penetration.

There are complex economic arguments for why ownership should matter, but there are also important political considerations, especially in light of the public scrutiny that caused the collapse of well-publicized sell-offs in the Czech Republic and Hungary.[22] The tolerance of direct investment is also embedded in historical considerations, especially about German investment in Polish and Czech real estate.

The economic arguments boil down to a few. One is the question whether innovative resources are reinforced or depleted in the host country if foreign firms take over research-intensive enterprises. (See Tyson (1992) for one statement.) Another argument concerns the creation of industrial concentration to tip a region or nation toward agglomeration. (See Krugman (1992) for a cautious evaluation.) Finally, imperfections in capital markets, which surely plague transition economies, raise important issues regarding valuations.

The danger of policy restrictions on foreign direct investment is especially great in countries with highly politicized firms and weak governments. In the initial period of transition, a primary role of direct investment is not only to provide the capital and managerial knowhow, but also to secure the process of reform. A restrictive policy can threaten reform during a period of vulnerability, especially in Russia where foreign capital is providing one of the few spearheads to break up the equity coalition of workers and managers.

However, as the process matures, a policy on ownership may be politically required to maintain public confidence. The Czech experience provides one implicit model, whereby a liberal policy encourages foreign portfolio investment in mutual funds but a more guarded policy is applied to foreign acquisitions. A more forceful policy is to adopt the French model by finding domestic firms to take strategic positions in newly privatized enterprises. But this model is likely to be sorely deficient in application if both the capital resources and managerial skills are lacking among these strategic investors. (See Coffee in this vol.)

If there is a choice about how much foreign investment should be allowed, then the implicit issue is what should be the criterion of choice. A rule consistent with the studies on growth and the absorption of technologies is to let foreign capital enter in those industries where domestic knowledge is most lacking and where the purchase of the relevant technologies on world markets is the most difficult. Pharmaceuticals is a good case: where research

is costly, heavily patented, and the knowledge of discovery often tacit, direct investment provides an important conduit to the world technological frontier. Steel, while potentially benefiting from direct investment, consists of technologies that can often be purchased and that the local country has the expertise to absorb.

A policy less open to distortionary effects and corruption is for the state to hold shares in a privatized company. As Pistor and Turkewitz (in vol. 2 of this book) note, after the first wave of privatization in the Czech Republic, the government still held 28 percent of equity on average; in Hungary the government share in large privatized compares is estimated at 34.2 percent; and in Russia the government share ranges from 10 to 31 percent. But this pattern is not unusual and corresponds to privatization experiences elsewhere (Perotti and Guney 1993). To sell a privatized company, as noted by Earle and Estrin (in vol. 2 of this book), gives away the option to sell later at a higher price. But also, by holding a stake in the firm, the government retains a credible interest in refraining from engaging in policy acts that damage the economic value of its shares.

3. *The rate of transition.* A subtle problem in transformation is that restructuring requires unemployment in the process of change. Poland is vastly ahead of Russia in its transformation, but it suffers a 16 percent rate of unemployment compared with 2 percent in Russia. A survey conducted by the *Economist* of 87 Western companies found that overstaffing is estimated to range from 20 to 50 percent (Gatling 1993: 25). It is a good maxim that long-term unemployed workers are more likely to challenge reform than employed workers in secure jobs. In this environment, foreign firms are critical actors in the reform process.

What are the policies for direct investment that maintain the political acceptability of transition at a maximum speed? A simple answer is to encourage direct investment while restricting the layoff of employees. It is obvious that such restrictions, insofar as they incur operating expenses for the investing firm, deter investment and transformation. The critical watershed is to generate expectations that transformation will succeed rapidly and that unemployment is an investment in a better future. The dilemma is that the rate of change is predicated on moving workers out from losing enterprises, while expectations are negatively influenced by the amount of unemployment (Aghion and Blanchard, 1994).

An example of using direct investment to preserve the privatization process is the policy of avoiding decisions to shut down firms due to imperfect capital markets or perverse incentives. Perotti (forthcoming) has argued that a flaw in transition arises from the funding of unprofitable enterprises

that are heavily in debt to banks. The attractiveness of lending to failing firms arises due to the probability-weighted value of providing incremental funding in the hope that a turnaround will result in a repayment of the outstanding loan. Banks, or the state, end up investing in losing firms in preference to profitable ones.

Trying to sell politically sensitive cases to foreign investors to relieve the problem is, obviously, one of the most important elements in a privatization strategy. The wisdom of requiring restructuring before privatization, gathered from the U.K. experience, has the unwanted result of reserving the worse prospects for last or of creating a state-owned portfolio of companies that represent especially thorny political problems (Sacks 1993). However, selling unstructured firms at large discounts transfers potentially large capital gains to private, and sometime foreign, investors.

Stiglitz (1992: 171) has noted that it is senseless to pay the private sector for bearing the political risk of restructuring if the state controls the policy variables. Particular policies may be difficult for the state to enact, such as the closure of large mines. But some restructuring policy decisions bear lower political consequences.

A good candidate policy for achieving restructuring prior to privatization is the elimination of bank debt. A program of equity for debt swaps that securitizes the value of these failing firms and sells the instruments to foreign investors succeeds even in the absence of restructuring, but at the same time, opens the door to the formation of investors to acquire strategic positions. Removing the debts of failing firms from banks' balance sheets should be a primary objective.

4. *Experimentation.* Because multinational investment transports practices from foreign sites, it represents a quasi-experiment in which the experiences of subsidiaries from different countries serve as templates of successful practices in the local environment. To benefit from this process of adaptive learning, hasty adoption of restrictive laws should be viewed with suspicion. A good example is the potential adoption of labor laws based on the German model, which would mandate work councils. While group or team work is increasingly being adopted in Europe, work councils in Germany often object to their loss of control. Agnosticism is not a bad policy when there is superstition regarding what practices belong together.

There is another aspect to experimentation that cautions policies that are too proactive in championing new markets. Experimentation demands that results of the experiment be observed. A policy that too quickly subsidizes investment in particular areas has the unwanted outcome of discouraging entrants with better ideas. In Poland, for example, the growing market

rtgage loans has received international subsidization that has placed
lvate (and foreign) entrants at a disadvantage. In a time of efficient
flows across borders, public sector subsidies to new growth markets
: negative impact of driving out variation and entry.

lusions

ıent is attracted to growth. There is, consequently, a self-reinforcing
by which investment and economic development are coupled in a
usality. Direct investment, not surprisingly, also flows to those sectors
growing rapidly.

ssue facing transition economies is how to start this growth process.
ınvestment is believed to be more important than domestic invest-
ecause it brings with it technology and management. By serving as a
ul template in the local economy and through large-scale training
ns, the foreign company acts to loosen the cognitive constraints to

atile issue is the effect of multinational corporations on the political
es of interested groups. By establishing efficient productive units in
l economy, multinational corporations place competitive pressure on
ing firms to adopt similar practices. Economic pressure will alter the
balance between labor and management, as well as between
hed managers and strategic investors. Economic change is a difficult
because it requires shifts in power among political groups.

y to attenuate these conflicts is to increase the potential gains as a way
ıcting from zero-sum conflict between more efficient and failing
ır between qualified and redundant labor. A strategy of exports is
e from a strictly economic view as one of the mechanisms that
investment through growth. And it is through export growth that
to cooperation and change can be realized with lower redistribu-
ɔsts.

ıis reason, it is useful to consider direct investment in the context of
all evolution of the economy and the agglomeration of new indus-
he dynamic potential of new and foreign firm entry provides the
long-term hope for transformation. It is as an agent in social experi-
on, as well as a conduit of capital and technology, that multinational
tions play an important role in the transformation of the formerly
countries.

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