

# **Foreign direct investment during transition. Determinants and patterns in Central and Eastern Europe and the former Soviet**

Line Tøndel

**WP 2001: 9**



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**Chr. Michelsen Institute** *Development Studies and Human Rights*

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## Introduction <sup>\*</sup>

Since the fall of the Berlin Wall in late 1989 great changes have taken place in the former socialist countries of Europe and the Soviet Union. The three communist federations Czechoslovakia, Yugoslavia and the Soviet Union disintegrated into 22 separate countries. An estimated 45.3 million people were left outside their ethnic states and there has been an outburst of ethnic conflicts.<sup>1</sup> Many of the new states had previously little experience with self-government and independence as they, along with the other former socialist countries, embarked on a path of transition towards market economy. The transition has been associated with a dramatic decline in income and growing poverty. The estimated decline in output for the region (1989-1996) represents the largest peacetime contraction of World output after the Great Depression of 1929-33 (Milanovic 1998).

Foreign capital inflows are viewed as being of fundamental importance both in transition and in economic development. Special interest has been paid to the inflow of foreign direct investments (FDI) which may increase the aggregate investment rate and activity in the region. There is also an emphasis on the possible positive externalities such as the transfer of technology.

This study aim at identifying determinants of the FDI inflow into 25 of the former centrally planned economies during the period 1994-1998. The countries included are the former Soviet Republics of **Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine** and **Uzbekistan**, and the ten Central and Eastern European countries **Albania, Bulgaria, Croatia, Czech Republic, FYR Macedonia, Hungary, Poland, Romania, Slovak Republic** and **Slovenia**. In spite of the vast potential of the region, the transition economies collectively received less FDI annually than did Mexico up until 1994.<sup>2</sup> FDI into the region is unevenly distributed, Poland receiving close to 25 percent of the inflow on average from 1994-1998. Excluding the

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\* I am grateful to Hildegunn K. Nordås and Arve Ofstad for valuable comments.

<sup>1</sup> Source: (CIA 1993).

<sup>2</sup> Source: (UNCTAD 1999).

three Baltic States the former Soviet Union accounts for 60 percent of total GDP and 70 percent of the population but only 30 percent of the total FDI inflow into the region.

The first part of the paper is devoted to a description of developments in the region; focus being on traits which may influence the ability of a country to attract foreign investment. The theoretical framework within which the analysis is performed is presented in the second part. Previous empirical findings on the impact and determinants of FDI in the region are reviewed in part 3, where hypotheses for empirical testing are suggested. Following a short descriptive analysis of the FDI inflow to the region 1994-1998, results from the regression analysis testing the suggested hypotheses are reported in part 5.



# 1 A review of economic and social developments

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The European Bank for Reconstruction and Development (EBRD) offers the following definition of transition: “*Transition is the process through which open market oriented economies are established. It involves changing and creating new institutions*” (EBRD 1994).

The former centrally planned economies faced great challenges as they embarked on the path of transition from command to market economy. Common problems were the lack of market-oriented infrastructure and little integration in the world economy. An introduction to the old regime is warranted providing insight to the challenges of transition. A short recapitulation on selected issues is therefore presented in section 1.1, followed by an account of recent trends, such as the progress in transition and some features of the economic and social development, that are of interest when addressing the presence of foreign capital.

## 1.1 The old regime

There is a continued debate as to when the Soviet decline in output growth started. Official statistics indicate it started in the 1970s, whereas other sources indicate it was apparent already in the 1960s (Desai 1987; Easterly and Fischer 1995). It is common to distinguish between two sets of factors causing the decline (IMF, et al. 1991). The first is related to choice of growth strategy and the second to deficiencies within the planning system itself. Soviet economic growth was of an “extensive” nature and depended upon increases in the quantity rather than the productivity of inputs.<sup>3</sup> The choice of strategy brought about a rapid mobilisation of labour, high savings and investment rates and an extensive use of natural resources. According to Desai (1987, pg.8 table 1.1) the growth rate of the workforce was lower than capital

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<sup>3</sup> The annual change in capital to output ratio 1950-1987 was 2.53 in the case of the Soviet Union (Easterly and Fischer 1995).

accumulation (1951-1980) and the capital to labour ratio consequently increased. Diminishing returns to capital and declining total factor productivity growth would then contribute to the Soviet decline in output growth. Easterly and Fischer (1995) claims that the low elasticity of substitution between capital and labour rather than growth strategy explains the poor performance.<sup>4</sup> Studies such as Bergson (1994) conclude that productivity in the communist economies (Hungary, Poland, Soviet Union and Yugoslavia) were 29.5-34.3 percent below the average of USA, Western Germany, France, Italy, the UK, Japan and Spain. Some have also suggested that the underdeveloped service sector, especially producer services, in the former socialist countries of Europe and in the Soviet Union contributed to the stagnation and breakdown of these economies (Fox 2000; Illeris 1996).

Central planning meant having more than 90 percent of production under direct state control (IMF, et al. 1991). Gosplan was responsible for coordinating the whole economic life of the country. By 1987 this implied harmonising the interests of over 37,000 enterprises and production associations, 26,300 collective and 23,000 state farms (Sakwa 1989). The primary target was specified in terms of physical volume of production and financial and efficiency objectives were of secondary importance. Rewards for managers and ministers were tied closely to plan fulfillment. Direct competition was being suppressed, loss-making enterprises were rarely shut down and production tended to be highly concentrated. The five-year plans established the balance between heavy and consumer goods, and set more detailed directives to individual plants. Heavy industry was along side the defense industry given high priority.<sup>5</sup> At the time of the launch of the first Sputnik in 1957 there was a lack of consumer goods in the Soviet Union. Intent on maintaining stability planners set producer and retail prices rather than allowing them to be determined by the market. The fixed prices led to

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<sup>4</sup> Weitzman (1970) found the elasticity of substitution to be 0.4 in the case of the USSR. A low elasticity of substitution was found also in the case of Yugoslavia (0.13) (Sapir 1980) and in the Czechoslovakian industry (0.1) (Rusek 1989).

<sup>5</sup> The share of GDP spent on defence was higher than that in the USA. Gates (1995) refer estimates varying between 15-30percent of GDP in the Soviet Union during the Cold War as compared to the US share of 6.3percent.

shortages, queuing and an extensive black market. There is a general belief that one of the major problems faced by reforming centrally planned economies today, organised crime, came as a result of the shortcomings of the planned economy (Anderson 1995;Voronin 1997).

Features of low productivity combined with a high level of human capital suggest a potential role for foreign investors, as does the high level of state ownership. Foreign capital may contribute in the privatisation process and in terms of introducing new technology. A high level of human capital implies that new technologies may be introduced at greater ease than in countries with a lower level of human capital. The privatisation process may to some extent invite foreign capital especially when there is a shortage of capital in the host country itself. The underdeveloped service sector holds a high potential for liberalisation and expansion, providing significant return on investment and efficiency gains in the economy. In particular there is a growing body of empirical literature implying a positive relationship between a well functioning financial sector and economic growth (King and Levine 1993a;b). The extent of crime, corruption and the unofficial economy on the other hand deter foreign participation in the domestic economy.

## **1.2 The new order**

The question of how to handle the transition from plan- to market economy has led to immense controversy as to the choice of transition strategy, how to define different strategies and consequently on which strategies the empirical evidence supports.<sup>6</sup> Sachs (1993) claims that the transition from a socialist to a market economy is a well-trodden path. Both Kuttner (1991) and Zuzowski (1998), on the other hand make a point of the uniqueness of this process. Kuttner (1991) claims that earlier transitions from authoritarian rule did not to the same degree imply having to reinvent “....capitalism from scratch.” Also Zuzowski (1998) points to the importance of the past in understanding the developments of today. He claims modern market economy was never present in the former socialist economies, with the exception of Czechoslovakia, even

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<sup>6</sup> For an insight to the debate see for example Jeffries (1996).

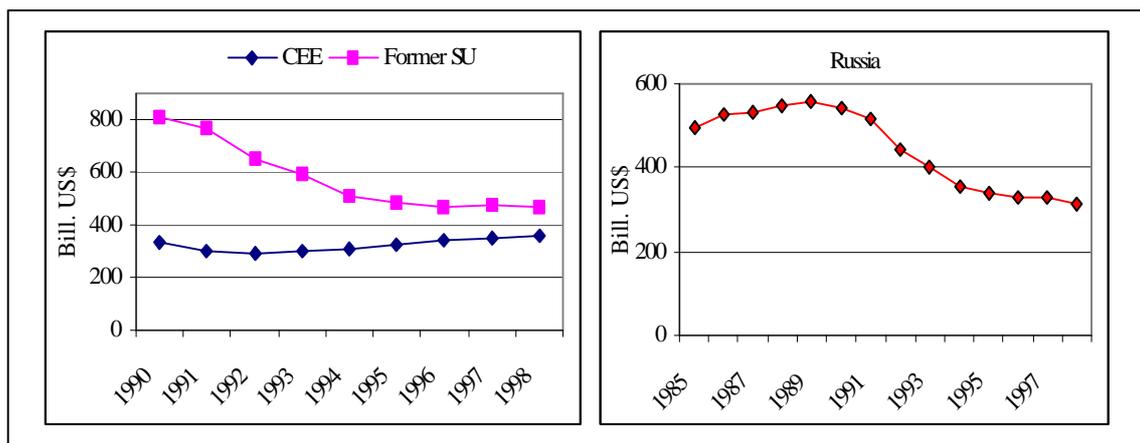
before communist rule. The countries are consequently facing the introduction, not reintroduction, of market economy and liberal democracy.

### 1.2.1 Economic and social developments 1989-1998

Most empirical studies find the inflow of FDI to be positively affected by market size. The combination of low wages and high skills, such as is found in Central and Eastern Europe (CEE) and the former Soviet Union is also believed to attract FDI.<sup>7</sup> However, the region appears to have experienced a deterioration of human capital during transition.

The transition has been accompanied by low or negative GDP growth rate for a longer period of time. On average, the Commonwealth of Independent States (CIS)<sup>8</sup> has experienced six years of negative GDP growth during the period 1990-1997. The average for the Baltic (B) countries is five, and for CEE it is 3.5.<sup>9</sup> The development in GDP in constant 1995 US\$ is depicted in figure 1 along with the development in Russia alone from 1985 to 1998. It is evident that the CIS-countries have experienced a more negative economic development than the countries of CEE and B.

**Figure 1. GDP at market price in 1995 US\$<sup>10</sup>**



<sup>7</sup> See for example Koechlin (1992).

<sup>8</sup> Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

<sup>9</sup> Source: (Easterly and Yu 1999).

Milanovic (1998) states that the estimated poverty headcount has increased in all countries from 1987/88 to 1993/95. The greatest changes occurred in the CIS where the poverty headcount on average for the countries included were above 50 percent in 1993/5. Romania is the only CEE country to have such a high percentage.<sup>11</sup> In the case of Georgia the Gini coefficient rose from 0.3 in 1989/90 to 0.5 in 1995/97 (EBRD 1999m). The greatest change, from 0.15 to 0.4, occurred in Romania.

The overall wage inequality nearly doubled in Russia from 1991-1994 (Brainerd 1998). Several studies analysing the effects of the transition on income inequality and changes in wage structures have been conducted. In Poland and the Czech Republic evidence suggests that returns to education increased whereas the returns to experience fell during transition (Flanagan 1995; Rutkowski 1996; Vecernik 1995). Due to unique pension policies reducing the labour supply of experienced workers, returns both to education and experience increased in Slovenia (Orazem and Vodopivec 1995). Returns to education and experience both fell however in East Germany after reunification (Krueger and Pischke 1995). Despite an increase in returns to both measured (education and occupation) and unmeasured skills within groups, the skill premiums between groups became more compressed during Russia's transition. Wages of older workers have declined, as have female relative to male wages. Young educated males, acquiring new skills relevant to the new economy and taking advantage of the opportunities materialising in the new private sector, appear to be the winners. Older workers on the other hand have experienced a devaluation of their human capital and have fewer incentives to acquire new skills (Brainerd 1998).

The new economic environment that materialised encouraged individuals to seek alternative careers. You will thus find scientists driving taxies, engineers selling tourist souvenirs or finding employment abroad when possible. These phenomena are referred to as internal and external brain drain, the former posing a greater threat to the human capital of the nation than the second (Fan, et al. 1997; Kuznetsov 1999).

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<sup>10</sup> Source: (World Bank 2000).

<sup>11</sup> Albania, Croatia, Macedonia, Armenia, Azerbaijan, Georgia and Tajikistan is not included.

The former Soviet Republics have experienced a rather dramatic decrease in life expectancy since 1990. In Russia male life expectancy at birth was 57.6 years in 1994, having fallen by 6.2 years since 1990.<sup>12</sup> The Russian gender differential in life expectancy of 13.6 years in 1994 was the highest in the World. From 1989 to 1994 there was a 50 percent increase in deaths from cardiovascular disease. External causes of death such as accidents, injuries, poisoning and violence increased by 150 percent and there was a dramatic increase in deaths from preventable diseases such as tuberculosis, bronchitis, pneumonia and dysentery (Becker and Bloom 1998). Walberg (1998) concludes that the increasing rates of death between the ages of 30 and 60 years accounted for most of the fall in life expectancy for both men and women. There also appeared to be great geographical differentials, where the northern and eastern industrial regions and the large cities of the centre and north-west of Russia experienced a steeper increase in mortality rates than did the agricultural regions of the south. The study concluded that the main factors contributing to the decline in life expectancy was directly or indirectly associated with heavy alcohol consumption.<sup>13</sup> Shkolnikov (1995a;1995b) compare the trend in Russian mortality after the 1960s with the trends in France, England and Wales. He concludes that the increasing gap between Russia and the other two countries is largely due to diverging trends in mortality from cardio-vascular diseases.

*“It takes 50 000 US\$ to stall a criminal investigation in Moscow.” (Wolosky 2000).*

### **1.2.2 Crime and corruption**

There has been an increased extent of organised crime, corruption and unofficial economy in Russia and other economies in transition. These are all factors that may deter foreign presence.<sup>14</sup>

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<sup>12</sup> Leon, et al. (1997) concludes that the fluctuations in mortality are for real, and not an artefact.

<sup>13</sup> One of the effects of the anti-alcohol policy instituted by Gorbachev during 1985-1987 was a two-year increase in life expectancy. Once the campaign collapsed in 1987 decline in life expectancy resumed and fell from 69.9 in 1989 to 64 in 1995.

<sup>14</sup> See for example Lankes and Stern (1998).

Earlier the unofficial economy was believed to improve the efficiency of the Soviet economy. The population relied on an extensive network to obtain products that “in principle” did not exist. Today, the unofficial economy has developed into mafia activities and is less benevolent. Consequences of unofficial economic activity may be too little investment, poor use of resources (due to the need of hiding) and lost tax revenues for the government. Johnson (1997) estimated the size of the unofficial economy to be 15 percent of GDP in Poland and 50 percent of GDP in Russia and the Ukraine. The size of the unofficial economy today and the incentives for over-reporting during command economy may be two of the reasons why official numbers show such a poor economic performance. Also Johnson (1999) based on a survey including a sample of about 300 private firms in each of the countries Russia, Ukraine Poland, Slovakia and Romania found that the size of unofficial activity was much larger in Russia and the Ukraine. In these two countries, 90 percent of the respondents thought that it was common to pay for protection. The results were 14 in Slovakia, 8 in Poland and 1 in Romania. The respondents were also asked to state how large a percentage of sales were not reported to the government. In Russia 29 percent went unreported, while the numbers for Ukraine, Poland, Slovakia and Romania were 41, 5, 7 and 6 percent respectively. The increased extent of organised crime and unofficial economy may have been caused by the lack of a legal and regulatory framework needed for the functioning of a market economy.

Public services that should be free of charge are not because the persons performing the services ask for payment. In a situation where the economy is not functioning and outstanding wages become more common, people depend upon alternative sources of income.<sup>15</sup>

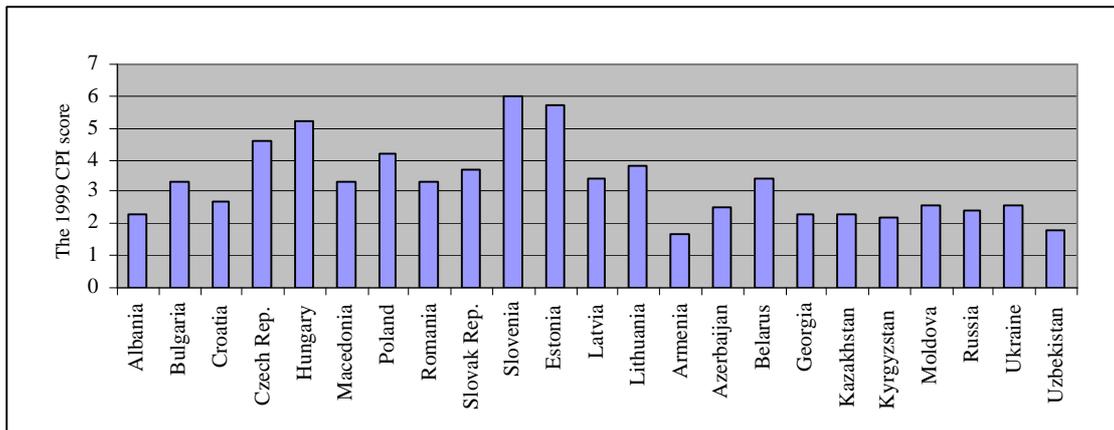
Corruption is frequently referred to as a serious deterrent to FDI. Campos et al. (1999) concludes that not only the level, but also the predictability of corruption matters. That is, if the bribe payer gets what he pays for, corruption will not be as damaging to FDI as if the outcome of paying a bribe is uncertain. The Corruption Perception Index 1999 included

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<sup>15</sup> More than 40 percent of the working age adults were owed back pay in 1994 and 1995, in 1996 the percentage had risen to 50 percent, (Zohoori, et al. 1998).

all CEEC<sup>16</sup> countries but Tajikistan and Turkmenistan. A high score indicates less corruption, the index running from 1 to 10. As can be seen from figure 2, Slovenia had the lowest perceived level of corruption and Azerbaijan the highest among the CEEC countries.

**Figure 2. The perceived level of corruption<sup>17</sup>**



This was ten times as many as the number in 1990 (785) (Dunn 1997). Some trademarks of the Russian Mafia are the willingness to use violence, ability to operate abroad and type of activity it is involved in. The Russian Mafia controls an estimated number of 50,000 enterprises and may account for as much as 50 percent of GDP (Dunn 1997). Many of the participants in the privatisation process had their origin in the shadow economy that existed during the Soviet period. Voronin (1997, pg. 55) states: “The distinctive features of contemporary Russian organized crime is its inseparable connection with phenomena of past Soviet life, especially the shadow economy.” There are close connections between big business and politics in Russia today, the most prominent oligarchs being Boris Berezovsky, Mikhail Khodorovsky, Roman Abramovich and Mikhail Fridman.

<sup>16</sup> CEE, B and CIS.

<sup>17</sup> Source: The Corruption Perceptions Index (CPI), Transparency International (1999).

*“Interros-Neft owned by Potanin acquired control over Sidanko (oil company) for \$130 million, selling 10percent to British Petroleum for \$571 million. It is common to force the oil producing companies to sell to parent companies at below-market price. Then a portion is resold on the world market. Asset stripping has also victimised major international oil companies. Friedmans Tyumen Oil Company (TNK) allegedly stole Sidankos most valuable assets by manipulating the bankruptcy process. Sidanko shareholders included BP Amoco. BP Amoco also suffered a loss of at least 100 mill US\$ after being forced out of the Priobskoye oil field (largest undeveloped oilfield in Russia) by Khodorkovskys Yuganskneftegaz.” (Wolosky 2000).*

Capital flight poses a serious problem to the economies in transition. The problem is particularly pronounced in Russia where it has been estimated at 5 percent of GDP a year from 1994 to 1997 (Abalkin and Whalley 1999), FDI corresponding to less than 1 percent a year for that same period.<sup>18</sup>

Problems faced by business in the region include swindles and piracy. This may be a more pronounced problem to foreign firms, as their brands are often more expensive and there might be a higher demand. In a study involving 22 of their brand names The Brand Protection Group<sup>19</sup> found that piracy had cost them \$473 million in lost sales in 1999 in Russia alone (the fakes were found to have a market share of about 8.5 percent). According to James Balaschak<sup>20</sup>, the Russian government missed out on at least \$174 million in uncollected taxes on those goods. This amount equals just less than 1 percent of the country’s 1999 tax-collection (McChesney 2000).

According to Voronin (1997) the Russian economy has become dependent upon illegal rather than legal activities. As a consequence most new capitalists exist in a grey area between the unofficial and the official world. Lief (1999) in his study of Bulgaria, Hungary, Romania, and Ukraine concludes: “Even if businesspeople tried to be honest, in the four countries the team visited, it would be difficult to do because of a tangle of regulations and constantly changing government decrees and legislation.”

### **1.3 Progress in transition**

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<sup>18</sup> Several attempts have been made at estimating the size of capital flight. However, as there is dispute as to the definition of capital flight and data are difficult to obtain it has proved difficult (Sheets 1995). Loukine (1998) refers estimates varying from 10 to 30 billion US\$ a year.

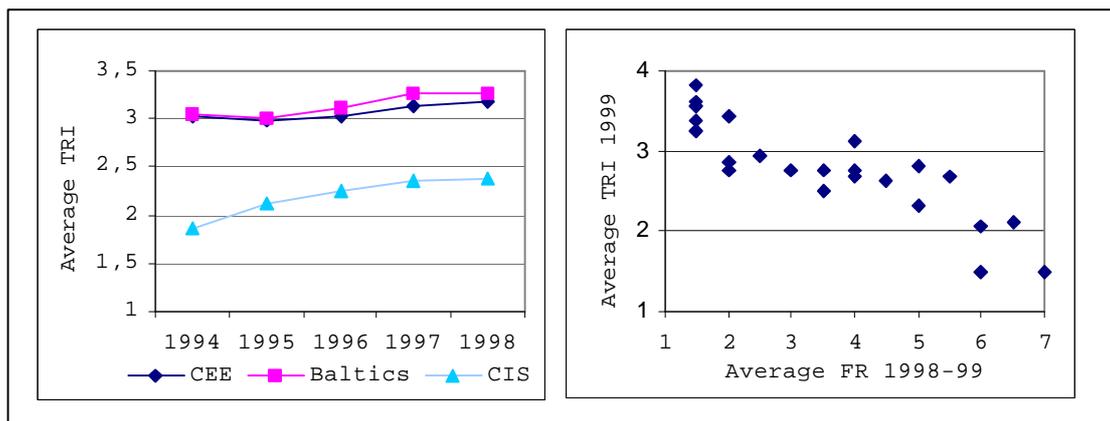
<sup>19</sup> Consisting of 12 members, among which are Nestli, Procter & Gamble and Philip Morris.

<sup>20</sup> Deputy general director of law firm Deloitte & Touche, which conducted the study.

CEE and B appear to be more successful both in their transition towards marked economies and towards democracy than the CIS. The development of transition indicators from 1994-1998 is depicted in figure 3, as is the relationship between progress in transition and Freedom Rating (FR) in 1998-99.

Progress in transition is represented by the average Transition Indicator (TRI) developed by the EBRD. Progress is measured against standards of industrialised market economies and the scale runs from 1 to 4. The value 1 implies that little change has been made and the value 4 implies closeness to the standards of industrialised market economies. The correlation between the average TRI in 1999 and the average FR 1998-99 was 0.88 suggesting a positive relationship between progress in transition and political development.

**Figure 3. Progress in transition and freedom rating**



Since 1972, the Freedom House has published annual assessments of freedom in different countries. The assessments are made by averaging political rights and civil liberties. Countries whose ratings average 1.0 - 2.5 are generally considered "Free", countries with average ratings between 3.0 - 5.5 are considered "Partly Free" and average ratings between 5.5 - 7.0 imply the country should be assessed as "Not Free".<sup>21</sup>

Progress in transition may serve as a proxy for the stability of the regime. The issue of political stability as a positive determinant of foreign direct investments has been examined in several empirical studies. Political stability

<sup>21</sup> <http://www.freedomhouse.org/ratings/>.

may be measured by a number of indexes or time dummies identifying periods of relative calm or unrest. The empirical results on political instability as a deterrent to investment has varied according to both sample and proxy for instability.<sup>22</sup>

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<sup>22</sup> The variance in results according to choice of proxy and countries examined has been addressed both by Brunetti and Weder (1997) and Sing and Jun (1995).

## 2 Theoretical background

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After examining somewhat closer which effects FDI is believed to have on the host economy, prevailing theoretical contributions to the study of international production are presented. The selection of possible determinants of FDI for further empirical testing is based on theoretical contributions reviewed in this section and previous empirical findings presented in chapter 3.

### 2.1 Host country impact

There is a common perception of FDI as an important factor in the transition process contributing to the restructuring of enterprises and the transfer of capital and know-how (IMF, et al. 1991). The inflow of foreign capital may help increase the aggregate investment rate and thus the overall level of activity in the economy. It may also exhibit a signalling effect as to the soundness of the economy.<sup>23</sup> Piatkin (1993) especially emphasises the potential of FDI to relieve social tensions in addition to the benefits of having foreign production of food and consumer goods, produced locally, replace import.

The standard theory of international trade and the theory of industrial organisation both provide theoretical frameworks for studying the effects of FDI on host countries. Emphasising different aspects of capital movements, the two approaches are not mutually exclusive. Whereas trade theorists have focused on the direct effects of FDI on factor rewards, employment and capital flows, the industrial organisation approach put emphasis on the indirect effects (externalities). Externalities are encountered in relation to the transfer and diffusion of technology and knowledge and to changes in the market structure and degree of competition in the host countries. However, it is likely that the extent to which FDI will enhance the transfer of technology depend upon the strategy of both the local authorities and the foreign investor. Local government may demand or encourage the development of local skills, and the strategy of the multinational corporation (MNC) determines to which extent it

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<sup>23</sup> For more on host country effects from FDI see for example Blomström and Kokko (1997).

will integrate into the local community. Large MNCs are known to adjust their technology to the localisation using different technologies in different locations. Technology transfers are more likely to take place once the technological level at any location is similar to the level of technology at the MNC affiliate. MNCs may choose to exploit the existing advantages and move on as these are eroded (UNCTAD 1999). MNCs entering the market may force local firms to reduce slack in the organisation (x-inefficiency). There may be job creation, added tax revenues and a supply of foreign currency associated with the presence of MNCs. When they produce for the local market MNCs are more likely to purchase inputs from local firms. As suppliers to MNC affiliates, local business may more easily reach the global market.<sup>24</sup> However, foreign presence may also be beneficial to local firms by increasing business opportunities and develop strong linkages or making factor markets more efficient. These benevolent effects are more likely to occur when FDI concentrates in undeveloped industries.

However, FDI may also exhibit negative effects such as the out-crowding of local industry increasing concentration rather than promoting competition in the long run. The development of local enterprise is of high priority to developing countries, making the crowding out of local industry a frequent issue of concern. Crowding out due to FDI may occur in both the product and factor market. Competition from foreign enterprises in the product market may prevent local enterprises from undertaking lengthy and costly learning processes. A reduction in the availability or increase in the costs of finance and other factors may be the outcome of foreign presence. As a consequence of reputation and size, local affiliates of MNCs may have privileged access to both finance and skilled personnel. There is also the danger of weak bargaining and regulatory capabilities on behalf of host countries resulting in an unequal distribution of benefits or abuse of market power by MNCs.

The impact of FDI on host economies may differ depending on the mode and motive for entry on behalf of the MNCs. Special concern has been raised as to the effect of mergers and acquisitions (M&A) as opposed to greenfield

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<sup>24</sup> Nordás et al. (2000) explore the potential for local SADC enterprises participation in global production networks or supply chains.

(new) investment. These concerns, being expressed both in developed and developing countries are caused by some special features of M&A. These, do not raise employment to the same degree as would greenfield investments. On the contrary, M&As may imply lay-off and/or the closing of some production and functional activities. These may include headquarters and research and development departments. The taking over of existing activity rather than establishing new also imply M&As will not immediately add to aggregated productivity. Strategic action to reduce competition in the host market, threatening local entrepreneurial and technological capacity building. Also, the transfer of ownership from domestic to foreign hands may not be appealing. Concerns are economic, cultural, political and social. M&As may also reduce rather than enhance local competition once it takes place as part of an aggressive strategy to impede domestic competition.

## **2.2 Determinants of FDI inflow**

The two main streams of literature explaining international production are rooted in the theory of industrial organisation and the theory of international trade respectively. The former initiated by Hymer (1960), the second by Vernon (1966). Recognising the specific characteristics of FDI, later research has focused on (1) the location of production, (2) the sources of firm (ownership) specific advantages and (3) the reasons for integrating different business units in one firm. Three attempts at explaining the activities of MNCs were made in the mid-1970s. Both the internalisation theory of MNCs and the eclectic paradigm are micro-economic or behavioural explanations. The macro theory of FDI seeks to explain which activities are best undertaken in different countries rather than analyse the why of engagement by MNCs. Other recent contributions to the study of international trade and production include the integration of MNC into trade models and the rediscovery of economic geography.

Being the first to distinguish between portfolio and direct investments **Hymer** (1960) focused on the difference in terms of control by investor and in development over time. The decision to engage in FDI was determined by the

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firm-specific advantages of the firm, and hence primed by market imperfection. Internalisation implying elimination of competition was identified as a factor that would encourage FDI (as an alternative to tacit collusion). Diversification was also promoted as a motive for FDI as the profit in activities may be inversely correlated to the profit related to other activities. He found that investments would be concentrated in certain industries across countries rather than in countries across industries. Essentially an extension of the neo-classical trade theory, **Vernon** (1966) developed a theory for FDI based on the product cycle. He focused on the prospect for cutting costs by locating the production in low-cost countries. The need for cutting costs would arise as production standardised, imitation became easier and competition sharpened. Based on the insights of these early works several strands of research have developed.<sup>25</sup>

**Internalisation theory** explains the emergence of MNC as a result of market failures. The market failures, which exist prior to the engagement in international production, give rise to ownership specific advantages. These advantages are thus exogenous to the firm. A static approach, the basic hypothesis states that enterprises will engage in FDI once the transaction costs associated with external trading of intermediate products exceed the cost of internalisation (Buckley and Casson 1976; Caves 1971; McManus 1972; Swedenborg 1979). Engagement in international production may also cause market failures and ownership specific advantages, and thus be considered strategic actions aimed at creating or exploiting market failures rather than overcome them (Buckley and Casson 1985; 1988; Buckley and Casson 1991). Another line of research, the “Uppsala school” focuses on the gradual increase in international involvement by enterprises (Johanson and Vahlne 1977; 1990). The country specific knowledge of an enterprise will enable the recognition of business opportunities and reduce market insecurity. Such knowledge can only be achieved through experience and active

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<sup>25</sup> There are also other approaches not directly related to the two main streams attempting to explain MNE activity, and thus identify the determinants of FDI. Examples are the risk diversification hypothesis (Agmon and Lessard 1977) and the macro-financial and exchange rate theories (Aliber 1970; Frost and J.C. 1989). See Dunning (1993) and Meyer (1998a) for comprehensive surveys of the literature.

involvement. Thus, previous resource commitment, at a foreign location, and the resulting country specific knowledge determine the current engagement of the enterprise. This view of internationalisation of enterprises has three important implications (Meyer 1998a). First, firms will follow a sequence from a low to a higher mode of involvement. Second, firms first enter new markets that are close in terms of “psychic distance”. Psychic distance includes the geographical, cultural, political and linguistic distance between the home and host economy. Third, the initial investment in a new location may serve the function of accumulating experience and knowledge or develop brand loyalty with customers.

**The eclectic paradigm** provided by Dunning (1977) integrates many theories into a general, eclectic paradigm. Within this framework FDI is undertaken provided three conditions are fulfilled. The MNC has some specific *ownership advantage* as compared to the domestic/local firm making it more competitive. There has to be a *location advantage* of producing in the foreign country rather than producing at home for export. There also has to be some *internalisation advantage*. The ownership advantage may be referred to as the “why” of MNC activity, *location advantage* the “where” of production, and *incentives to internalise* the “how” of involvement. The eclectic paradigm argues that two kinds of market imperfections must be present. Structural market failure discriminates between firms in their ability to gain and sustain control over property rights or to govern multiple and geographically dispersed value-added activities. Failure of intermediate product markets to transact goods and services at a lower net cost than within the enterprise also has to incur. Dunning (1993) identifies four main types of MNC activity; resource seeking, market seeking, efficiency seeking and strategic asset or capability seeking. The resource seeking enterprises invest abroad to acquire particular and specific resources (physical resources, well motivated skilled or semi-skilled labour and technological capability) at a lower real cost than could be obtained in their home country. Market seekers invest in a region or country to supply goods or services to markets in these or adjacent countries. The efficiency seekers wishes to rationalise the structure of established resource based or market seeking investments in such a way that

the investing company can gain from common governance of geographically dispersed activities. That is to exploit economies of scale and diversify risk. Strategic asset seekers usually engage in FDI by acquiring the assets of foreign corporations to promote their long-term strategic objectives. These may be to sustain or advance the international competitiveness. Increasingly, strategic and rationalising investments go hand in hand. An overview of the OLI advantages for each type MNC activity is provided in Dunning (1993, table 4.2, 4.3). Determinants of foreign activity will thus depend upon the type of activity an enterprise seeks to engage in.

***The macro theory of FDI*** compares the costs and benefits of producing in different locations. At a macro-economic level, the FDI flow of a firm can be considered a function of the desired capital stock in a given foreign location, or rather the difference between the desired stock of capital at time  $t$ , given the actual stock at time  $t-1$ . The desired capital stock depends upon the profitability of the firm. The profitability of production in any specific location in turn depends upon the general level of technological development, the level of human and the more general business environment. This includes political instability (risk), liberalisation, privatisation, taxes (including corruption). As FDI is generally considered irreversible, these flows are sensitive to changes in the economic environment and to uncertainty. Changes in the environment change the flow of FDI temporarily while MNCs adjust to the new level of desired stock of foreign holdings. Reaching a new level may be associated with substantial adjustment costs, implying time lags driving a wedge between the desired and actual stock of FDI. Anticipated as well as real changes can influence the choice of desired stock and thereby the changes in FDI flow. Temporary changes may inhibit long-run implications for the stock of FDI due to the path dependence of the economy and the phenomenon of hysteresis. “The failure of investment decisions to reverse themselves when the underlying causes are fully reversed can be called economic hysteresis” (Dixit 1994, pg. 17). After having entered the market and undertaken sunk costs an enterprise will not necessarily withdraw immediately following a negative change in profitability. Considering the exit option (disinvestment) of a firm, its optimal investment decision is characterised by two thresholds. A sufficient

rate of return to enter the market and a sufficient loss to justify exit from the market. When the current profitability lies between these two the decision to become operative or not will depend upon the recent history. Once profitability passes the upper threshold the firm invests. Empirical evidence suggests firms will not invest until expected returns are four times the capital costs (Dixit 1994, pg. 17). Should profitability fall back to its former level, not crossing the lower boundary this would not warrant the exit of the enterprise from the market.

The neo-classical theory of international trade can explain issues related to FDI only by dropping the assumption of perfect competition (Brainard 1993; Horstmann and Markusen 1992; Markusen and Venables 1998). The ***new trade theory*** (industrial organisation approach to trade) represented by Markusen (1998) allows for MNCs to arise endogenously. MNCs are found to hold an advantage over national enterprises when the overall market is large (world income is high), markets are similar in size (countries are similar in income) and relative factor endowments, firm level economics of scale are large relative to plant-level economics of scale and transportation costs are high.

Agglomeration of economic activity is studied within the framework of ***economic geography*** (Krugman 1992; Krugman and Venables 1994). Fixed costs within the industry, regional dispersion of markets and costs of transportation determine industry-concentration. Thus, industrial structure appears to be a major determinant of inward FDI. For example, banks and consultants are traditionally believed to follow their customers upon entering new markets. However once established these also provide services to other investors. Suppliers and a technologically specialised work force may act as comparative advantages to related firms and competitors (Silicon Valley). This would warrant a strategic asset or capacity building type of investments as described by Dunning (1993).

The review of these theoretical contributions provides a framework for our empirical study. At an early stage FDI in the newly opened economies, may be expected to originate in countries in close psychic distance. The mode and level of investment will start at a low level and increase over time as

companies acquire more knowledge on these markets. The study is performed at an aggregate level assessing the costs and benefits of operating in different countries. Factors such as the level of technology, of human capital and the business environment are suggested to be important determinants for FDI. Industrial structure may also influence the FDI pattern, and the importance of different determinants of FDI varies by motive. These insights are combined with findings from earlier empirical studies to provide hypothesises for testing in chapter 5.

## 3 Previous empirical findings

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First, results from studies on the impact of FDI are reported. Then follows a presentation of previous work on determinants of FDI in the region. Hypotheses for empirical testing are derived based on the theoretical framework presented earlier and empirical findings presented here.

### 3.1 Impact

For CEEC, the inflow of FDI is suggested to have improved management of technical change, sourcing, marketing and training, and capability enhancement. New products have been introduced and “old” products have been upgraded and assimilated to Western standards. Foreign presence has made an impact in terms of automation and packaging, rationalisation of existing production lines and introduction of new technologies. It has also been suggested that FDI has made an impact in terms of market-extension (subcontracting) and increased productivity and quality as investing firms insist on “helping” subcontractors cut costs and fulfil the specifications imposed (Dyker 1999).

FDI as percentage of GDP might give an idea as to the relative importance of foreign investment in the economy. Averaging over the period (1994-1998) five countries receive FDI the equivalent of less than one percent of GDP. These are all CIS group countries (Belarus, Russia, Tajikistan, Ukraine and Uzbekistan). In 1997 Azerbaijan received FDI at a level close to 29 percent of GDP. Averaging over the period, Azerbaijan is the largest receiver of FDI (17) followed by Estonia (6), Latvia (5.7), Hungary (5.2) and Kazakhstan (5) the rest receiving less than four percent of GDP. However, high FDI rates as compared to GDP are not a prerequisite for growth. Among the four most successful NIC's (Hong Kong, South Korea, Singapore and Taiwan) only Hong Kong and Singapore has had a high FDI percentage of gross fixed capital formation.<sup>26</sup>

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<sup>26</sup> Source: (UNCTAD 1999).

Enterprise restructuring is of vital importance to the transition from planned to market economy. Evidence suggests that whereas domestic firms do undertake passive restructuring such as the downsizing of employment, foreign ownership imply strategic restructuring in terms of new products and production facilities, marketing and entry into new markets (Carlin 1995; Djankov 1999; Djankov and Pohl 1998; Estrin 1995; Estrin, et al. 1997). Provided there is active restructuring of an enterprise, foreign ownership positively affects the probability of undertaking training by the employees (Berger 2000).

Radosevic (1999) concludes that most often, new production and innovation networks in the CEE are foreign-led. Considering the impact of FDI on market relationships in terms of networks and enterprise transformation. Meyer (1998c) studies the production network of Skoda. In April 1991 the Czechoslovakian government chose Volkswagen to be the foreign partner of Skoda. Following their partnership, Skoda is said to have pressured its local suppliers to link with Western partners and VW to urge its global suppliers to invest in the Czech Republic. Since 1991 about 50 Czech and Slovak suppliers have formed joint ventures or been acquired by established multinational automotive suppliers, whereas 20 foreign firms engaged in greenfield investments. The first tier suppliers to Skoda are usually, at least in part, foreign owned. The second tier suppliers are locally owned enterprises which failed to attract foreign investors, and thus to a lesser extent benefit from technological transfers. They are the most vulnerable partners in the network. VW imposed tough requirements for cost and quality, and worked closely with suppliers to help them achieve the required standards. The Octavia, released in 1996, was actually built in a new production plant based on global VW supply chain management. Following the entry of VW the Czech automotive industry has been exposed to competition by worldwide research and production networks as Skoda imports intermediates from VW affiliates and suppliers abroad. However, some local Czech suppliers have also become global suppliers of VW.

The expanding use of barter, particularly in the CIS but also in CEEB, has been referred to as one of the most puzzling paradoxes of the transition. In

1997 more than 40 percent of all taxes paid to the Russian federal government were made in non-monetary form (Gaddy and Ickes 1998b) and by 1996 the percentage of the working age adults that were owed back pay had risen to 50 (Zohoori, et al. 1998).<sup>27</sup> The share of barter in industrial sales in Russia increased from under 20 percent in 1995 to around 50 percent in 1998 (Aukutsionek 1998).<sup>28</sup> The use of barter is associated with little or lack of enterprise restructuring (Carlin 2000; Commander and Mumssen 1998; Estrin and Rosevear 1999; Gaddy and Ickes 1998a; Makarov and Kleiner 1997), whereas foreign ownership is. This may imply that foreign owned enterprises are more reluctant to involve in (and less dependent upon) barter transactions. Barter networks thus may act as a deterrent to FDI inflow.

Having stated some potential advantages and disadvantages associated with foreign presence we will now move on to identifying the determinants and structure of FDI inflow.

### **3.2 Determinants**

There appeared to be quite a few a priori reasons for investing in the former socialist economies, at the outset of transition.<sup>29</sup> Earlier, customers had little access to consumer goods and brands that were available in other countries at similar per capita income. Due to the high western media penetration, European and American products enjoyed a very high status (e.g. McDonalds), implying possible brand loyalty even prior to the introduction of the product. From a strategic point of view, penetration of these new markets would help sustain or enhance the global position. Also, governments in general encourage foreign investments to upgrade telecom, power generation and distribution and transportation infrastructure.

Market access has been identified as the prime motive for entering emerging markets in several surveys. Low labour costs and an educated labour force however, does not appear to play any significant role in attracting

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<sup>27</sup> In 1996, Chelyabins Oblast, the monthly benefit for dependent children in the “Agrokalibr” association was four bottles of vodka (Makarov and Kleiner 1997).

<sup>28</sup> Estimates on the scope of barter vary from 20-90 percent of total volume of industrial output (Makarov and Kleiner 2000).

<sup>29</sup> (see cha. 1.1 pp 3-4).

foreign participation. Neither does the availability of natural resources. This however, may be due to the fact that surveys have concentrated on CEE and the western parts of the former USSR where resources are not as important. Also each investment project is considerable in size, but the number of projects may be low. Foreign investors are attracted by a transparent tax system, rather than tax incentives. Major obstacles reported are political and economic instability, poor physical and institutional infrastructure and problems with the bureaucratic administration in addition to the legal and regulatory policy.<sup>30</sup>

*"The Federal Treaty of Russia allows the constituent parts of Russia to enter into agreements and treaties with foreign entities as long as they do not contradict the Russian constitution. They may also participate independently in foreign trade (import and export a variety of raw materials and manufactured products) without obtaining permission from central ministries. By 1996 each region had signed an average of 20 trade agreements with foreign countries, with some co-operating with firms from more than 100 nations. Regional administrations also have passed legislation to promote foreign investment in specific locations." (Nunn and Stulberg 2000).*

The relative importance of access to markets as a major motivation for investment was noted in one of the earliest surveys presented in Collins and Rodrik (1991). The survey was conducted on a sample of 54 larger companies operating in the USSR in the winter of 1990-91. Market potential and first-mover advantage were the most commonly reported motivations for entering Russia. Some also reported the proximity to the European Community as a motivating factor. In line with later surveys, little importance was attached to the level of human capital and low labour costs. Major obstacles were political and economic instability alongside the lack of protection for private property. Lankes and Stern (1998) refer a survey presented at the EBRD annual meeting in 1997. As enterprises engaged in business worldwide were asked to give their assessment as to which were the most severe obstacles for doing business the survey allowed a comparison of regions. Corruption and high taxes/regulations were deemed as the major deterrent by 80 percent of the respondents, followed by policy instability (52), crime and theft (48), and lastly costs of regulations (44) in the case of CIS. The order of obstacles being the same as in the case of developing countries, a higher percentage of the respondents considered each obstacle more severe in the case of the CIS.

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<sup>30</sup> For an overview of surveys see (EBRD 1994; Meyer 1998c).

Part of the legal and regulatory problems faced by foreign investors could be attributed to the inconsistent publication of laws and regulations combined with reluctance on part of the officials to put anything in writing, fearing that it would backfire. It has also been suggested that the existence of separate spheres of law (relationship, substantive and bureaucratic) makes “who one knows” more important than what the law actually says (Thornton and Mikheeva 1996). The need for knowledge about the system and contact with key personnel promoted the use of local partners upon entering the market (McCarthy and Puffer 1997).

In spite of a general perception of low labour costs as an unimportant factor in attracting FDI, surveys suggest human capital may attract foreign investments in Hungary (Szanyi 1998) and Russia (McCarthy and Puffer 1997). However, there appears to have been a severe deterioration of human capital accompanying the transition (Clarce and Metalina 2000). Some surveys do report the availability of natural resources as motivating factors (Maurseth 1997; McCarthy and Puffer 1997). Looking closer at the distribution of FDI between the Russian regions Brock (1998) found the flow of FDI to be relatively larger where markets were larger, risk and crime were lower. Once the two cities Moscow and Saint Petersburg were excluded cheap labour was not a significant determinant. Meyer (1998b) reports that only five of the 229 enterprises included in his survey gave low labour costs as their only motive for investing. Most investors caring about labour costs also cared for the potential of the market. Enterprises involved in machine manufacturing were to a greater extent paying attention to the labour costs (41 percent) than enterprises in the chemical industry (19 percent). Small and medium sized enterprises (SME) from neighbouring countries operating within certain industries such as textiles; clothing, furniture and musical instrument are to a greater extent than others attracted by lower factor costs (Meyer 2000).

Lankes and Venables (1996) found a positive correlation between the average TRI in 1995 and accumulated FDI that same year (0.65). Upon differentiating enterprises seeking new markets (horizontal), and those seeking to reduce production costs (vertical), they conclude that countries that have progressed in terms of transition attract relatively more of the second type,

than those that have not reached as far in the transition process. Differences between countries in terms of locational advantages thus suggest a role for the distinction types of investors made by Dunning (1993). Lankes and Stern (1998) claim that FDI is driven by the progress in transition, unleashing the potential of the countries (human capital, natural resources and geographical situation). Thus, whereas FDI early in the transition process was about entering the new market, the FDI attracted will be of a more integrated type as the country progress. First mover advantage will be more important to market-seeking investors, whereas efficiency-seeking investors depend upon higher stability in order to lower their production costs.

In 1997 fewer than 40 foreign mine companies were active in the Central Asian Republics of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan combined (Clark and Naito 1998).<sup>31</sup> Reported obstacles for involvement in the mineral sector coincide with other findings. They arise due to lack of a comprehensive legal framework and experience in dealing with foreign mining corporations and their practices. Problems faced include a high rate of turnover in senior government positions making negotiations difficult and increasing the need for renegotiations, a lack of transparency in the decision making process resulting in delays and uncertainty, a lack of contractual security, favouritism of domestic companies and corruption. Corruption increases exponentially upon approaching development and construction activities. Other obstacles include the fundamental differences between the soviet (technological) and western (economic) classification of reserves, failure to recognise the fundamental difference between the quality and value of resources in the ground and reserves, traditional separation of responsibility for various geologic and mining related activities between and within agencies.

Given the theoretical framework, previous results imply two hypotheses that warrant empirical testing: 1) foreign activity in CIS is primarily of a market seeking and resource seeking character; 2) foreign activity in CEEB is increasingly of an efficiency seeking character. This is done

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<sup>31</sup> This is fewer than in Indonesia or the Philippines individually. Based on risk weighted with respect to the geological potential the ranking of the four counties in terms of most attractive to foreign involvement were found to be Kazakhstan, Uzbekistan, Kyrgyzstan and Tajikistan

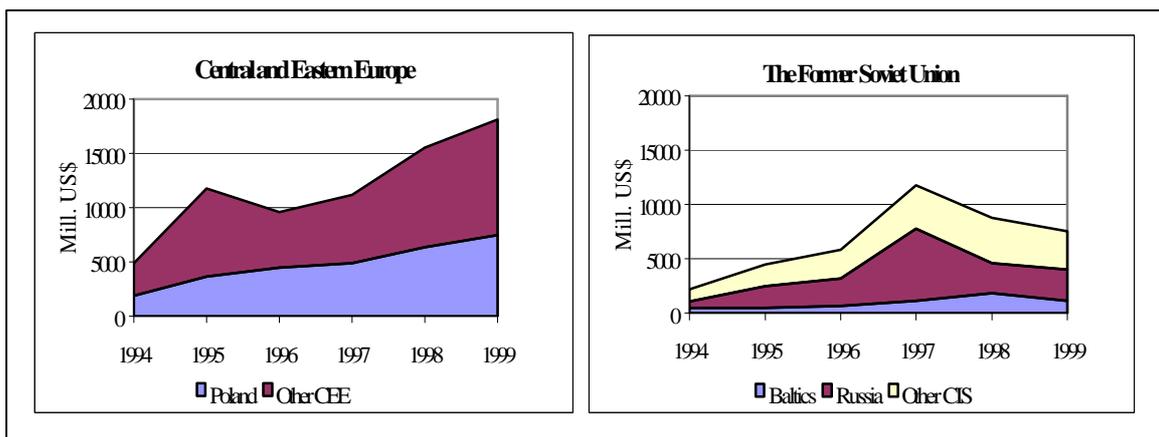
in chapter 5, following and account of the actual inflow that has been registered to the CEEC since 1994 in chapter 4.

## 4 The recorded inflow

*“Slovakia’s government .... Also plans to change Slovakia’s image as a sometimes difficult, non-transparent place to do business to a country doing whatever it takes to attract western companies committed to investing over the long run.” (EBRD 1999i, pg. 16).*

Most FDI flows between developed countries, which accounted for more than 60 percent of world inflow and 90 percent of world outflow of FDI in 1998. In absolute terms, the inflow of FDI to the 25 countries included in this study has increased from US\$7 billion in 1994, exceeding US\$20 billion in 1997 and 1998. However, viewed in light of potential and expectations at the outset of transition, the region has received a relatively modest share at about 4 percent of world FDI inflow from 1994-1998. In 1997 the share reached an all time high of 4.8 percent, dropping to a mere 3.4 percent following the crisis in the Russian economy in August 1998. The regions share of world outward FDI was 0.3 percent in 1998. The outward-inward ratio being 0.09. Russia stands out as the outward-inward ratio increased from 0.16 in 1994 to 0.47 in 1998.

**Figure 4. FDI inflow to the region 1994-1998<sup>32</sup>**

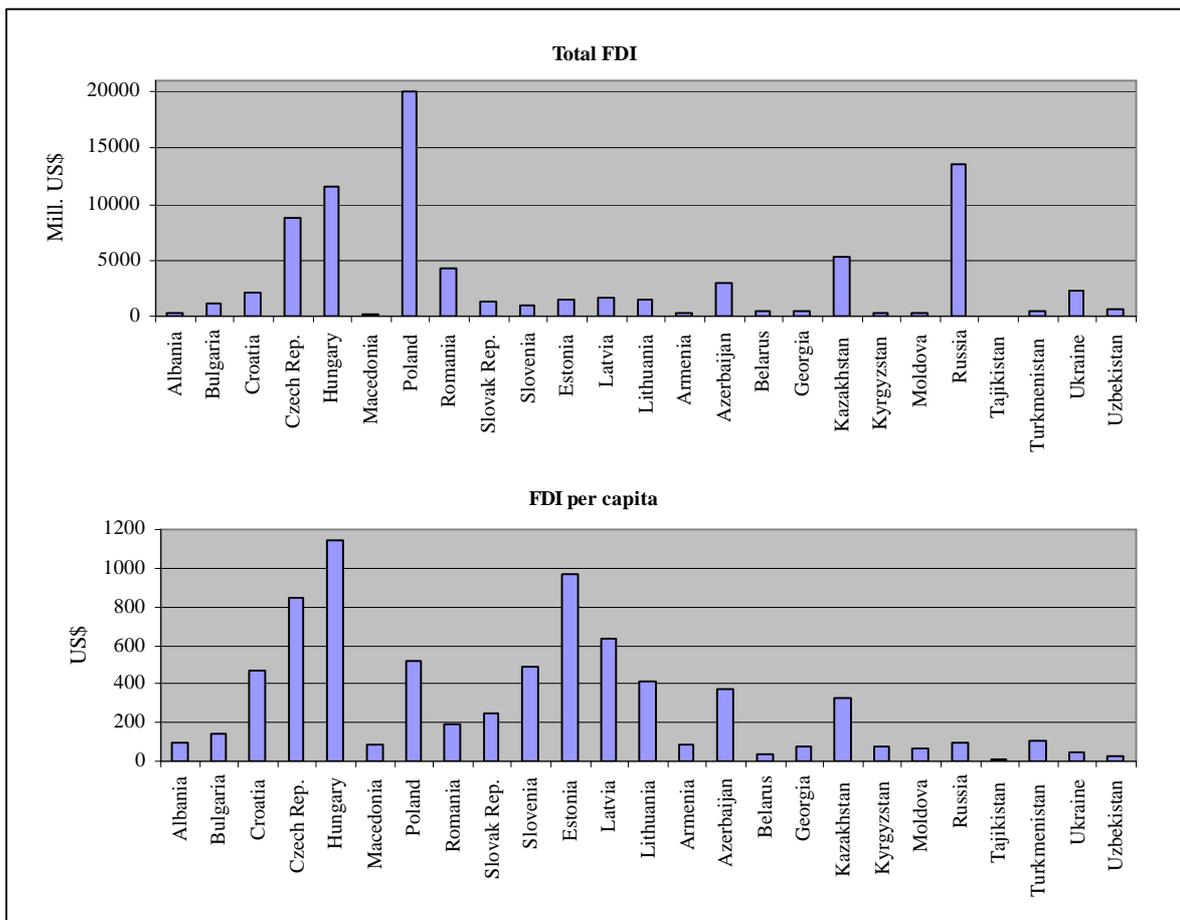


The distribution of FDI within the region is uneven. The major receiver of FDI between 1994 and 1998 in absolute terms is Poland (in excess of 24 percent),

<sup>32</sup> Source: (UNCTAD 2000).

followed by Russia (16), Hungary (14) and the Czech Republic (10). The CEE region accounts for as much as 67 percent of the FDI inflow, but only 42 percent of the total GDP for this period. However, there is a more positive trend in terms of GDP growth for this group of countries as compared to the CIS. Also, a little less than two thirds of the total population lives in the CIS, implying a larger relative market (GDP per capita) in the CEE. There is also a concentration of investments within Russia, where as much as 77 percent of FDI in 1997 went to Moscow City. In addition to Moscow Oblast, St. Petersburg City and Leningrad Oblast, resource-rich areas like Magadan (gold and silver) received around or more than 1 percent. Figure 5 shows the inflow of FDI for each country in total and per capita numbers for the period 1994-1998.

**Figure 5. Dispersion of FDI 1994-1998<sup>33</sup>**



Up until 1996 approximately one third of the accumulated FDI in CEE had originated in Germany. Germany figures among the top three source countries in eight of the CEE countries, and only four of the fifteen former Soviet republics.

**Table 1. Source countries.**

Host economy	Year	Source country		
		1	2	3
Albania <sup>b</sup>	1996	Italy	Greece	Na.
Bulgaria <sup>a</sup>	1998	Belgium-Luxembourg	Germany	USA
Croatia <sup>a</sup>	1998	USA	Austria	Switzerland
Czech Rep. <sup>a</sup>	1997	Germany	Netherlands	Austria
Hungary <sup>a</sup>	1997	Germany	USA	Netherlands
Macedonia <sup>a</sup>	1997	Germany	Austria	Greece
Poland <sup>a</sup>	1997	Netherlands	Germany	USA
Romania <sup>a</sup>	1998	Netherlands	Germany	France
Slovakia <sup>a</sup>	1998	Austria	Germany	United Kingdom
Slovenia <sup>a</sup>	1997	Austria	Croatia	Germany
Estonia <sup>a</sup>	1998	Sweden	Finland	USA
Latvia <sup>a</sup>	1998	Denmark	USA	Russia
Lithuania <sup>a</sup>	1998	Sweden	Finland	USA
Armenia <sup>b</sup>	1998	Greece	France	Canada
Azerbaijan <sup>b</sup>	Most FDI takes place within the oil and gas sector. In 1994 “the deal of the century” was signed involving AIOC, dominated by British and American influence. The Azeri government is involved along with firms from Russia, Turkey, Norway, Japan and Saudi-Arabia. In 1998 six contracts worth close to US\$17 billion were signed involving Italy, Japan, Spain, Canada, UK, USA, Norway. Excluding oil, the US and Turkey are the most important investors.			
Georgia <sup>b</sup>	1998	USA	United Kingdom	Azerbaijan/Russia
Byelorussia <sup>a</sup>	1998	Germany	Netherlands	USA
Kazakhstan <sup>b</sup>	1998	USA	Japan	Turkey
Kyrgyzstan <sup>b</sup>	1998	Canada	Turkey	China
Moldova <sup>a</sup>	1998	Russia	USA	Germany
Russia <sup>b</sup>	1998	Germany	USA	France/United Kingdom
Tajikistan <sup>b</sup>	Enterprises having made the most significant investments originate in Canada, USA, UK, South Korea, Germany, Switzerland, Italy, Austria, Hungary and Russia.			
Turkmenistan <sup>b</sup>	The latest years more have been invested in the oil- and gas-sector, enterprises originating in the US, UK and Malaysia.			
Ukraine <sup>a</sup>	1998	USA	Netherlands	Germany

<sup>33</sup> Source: (UNCTAD 2000).

Uzbekistan <sup>b</sup>	1997	United Kingdom	Malaysia	Turkey
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a. Source: (UNCTAD 1999).

b. Source: (EBRD 1999a;b;c;e;f;g;h;j;k;l).

There is also a more significant presence of FDI originating in other European countries such as the Netherlands and Austria as compared to the former Soviet Union (SU). The US is a heavy investor in the former SU figuring among the most important source countries in twelve out of the fifteen former republics. In the three Baltic States there is a relatively strong Scandinavian presence. In the Turkish speaking areas of Central Asia and the Caucasus there is a notable Turkish presence. Asian investments in Central Asia may not exceed in size those flowing to CEE, however as compared to other source countries there is a greater relative importance. The concentration of FDI thus appears to be high both in terms of host and source country.

The pattern observed in regard to host and source country of FDI inflow is greatly consistent with the predictions of the Uppsala School. Most FDI flow from Western Europe to the CEE. These are closer in terms of psychic distance than Western Europe and the CIS. Also these countries were in general more open than the Soviet Union during the previous socialist period.

The developments within the automotive industry in Poland (Fiat, Daewoo, General Motors) and the Czech Republic (Volkswagen, Renault, Daewoo) in particular supports the hypothesis of industrial structure as a major determinant of FDI as suggested within the discipline of economic geography.

## 5 Testing the hypotheses

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Based on the theoretical contributions and previous empirical findings two hypotheses were suggested for empirical testing in chapter 3. 1) Foreign activity in CIS is primarily of a market seeking and resource seeking character; 2) foreign activity in CEEB is increasingly of an efficiency seeking character. It is possible to test these using macro-economic data.

Investors seeking market access and resources value a first mover advantage more than efficiency seeking investors who are more concerned about risk and stability. Assuming that the perceived risk associated with investment decreases as countries make progress in terms of transition, seems reasonable. Such an assumption implies that upon identifying determinants of inward FDI to the regions, the size of the market should be more important in CIS whereas the transition indicator would be more important in the case of CEEB.

Thus, to test the hypothesis, market size and progress in transition have to be included in the empirical model. From theory we know that investments are assumed to be sensitive to the level of human capital. A combination of low wages and a high level of human capital should thus attract vertical investments. Due to data constraints the testing requires two empirical specifications:

The basic-models:

$$\begin{aligned} \ln fdi_{it} = & u_i + \mathbf{b}_1 \ln gdp_{it} + \mathbf{b}_2 GG_{it} \\ & + \mathbf{b}_3 \ln TRI_{it} + \mathbf{e}_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \ln FDI_{it} = & u_i + \mathbf{b}_1 \ln GDP_{it} + \mathbf{b}_2 GG_{it} + \mathbf{b}_3 \ln TRI_{it} \\ & + \mathbf{b}_4 \ln W_{it} + \mathbf{b}_5 \ln EDUS_{it} + \mathbf{b}_6 \ln EDUS_{it} + \mathbf{e}_{it} \end{aligned} \quad (2)$$

Definitions of the variables included in the regressions are reported in table 2. The first model considers the importance of market size and progress in transition. The model is specified in a log-linear form and per capita terms. To confirm the hypothesis, GDP and growth in GDP should be significant in CIS, whereas the transition indicator should be significant in CEEB. The second model evaluates the importance of wage and educational level. Due to high correlation between wage and GDP per capita, the model is specified in total rather than per capita terms. Also, data on wages only cover the period 1994-1997, making the number of observations smaller. Significance of the wage and educational variables in the CEEB group support the hypothesis stating FDI to the region are vertical.

**Table 2. List of variables and definitions.**<sup>34</sup>

<b>Variable</b>	<b>Definition</b>
<i>FDI</i>	Real total foreign direct investment
<i>fdi</i>	Real foreign direct investment per capita
<i>GDP</i>	Real gross domestic product
<i>gdp</i>	Real <i>GDP</i> per capita
<i>GG</i>	<i>GDP</i> growth
<i>TRI</i>	Transition Indicator
<i>W</i>	Real wage
<i>EDUS</i>	General secondary enrolment rate
<i>EDUT</i>	Tertiary gross enrolment rate

## 5.1 Methodology

Data sets combining time-series and cross-sections are called panel or longitudinal data sets. As compared to time-series and cross-sectional data sets, panel data set provides a larger set of observations thereby increasing the number of degrees of freedom as well as reducing collinearity between the explanatory variables. Thus, the use of panel data sets improves the efficiency

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<sup>34</sup> Sources: *GDP* deflator, population, *GDP* and *GDP* growth; World Bank (2000), *FDI*; UNCTAD(1999), *TRI*; EBRD (1994;1995;1996;1997;1998), *W*; EBRD received by fax Nov.

of econometric estimates. Differences across units within the sample that cannot be observed and included in the analysis are referred to as unobserved heterogeneity. In the case of panel data, heterogeneity across units is an integral part of the analysis. The basic assumption of panel data models is that: given the observed explanatory variables the effects of all omitted variables are driven by individual time-invariant, period individual-invariant and individual time-varying variables (Hsiao 1986). Variables varying between units being constant across periods may refer to climate, geography, natural resources and so forth. The second type of omitted variables may refer to external economic shocks occurring at a specific time, affecting all countries in the sample.

Two basic frameworks are used to analyse panel data sets. These are the fixed and random effect assumptions. The fixed effect specification assumes that the heterogeneity between countries can be captured by differences in the constant term, whereas random effect specifies the country-specific effect as a disturbance term. Searching for general answers, making a random selection from a larger population, applying the random effect specification is preferable. However, here the sample in question is specifically chosen, and any results refer only to the countries included. Thus, applying the fixed effect assumption is appropriate. The country specific constant terms can be modelled by dummy variables:

$$y_{it} = d_i u_i + \beta' \mathbf{x}_{it} + e_{it}$$

Thus,  $y_{it}$  is the dependent variable for country  $i$  at time  $t$ ,  $d_i$  is a dummy variable indicating country  $i$ ,  $\beta'$  is a vector including  $K$  coefficients which are to be estimated,  $\mathbf{x}_{it}$  is a vector consisting of  $K$  explanatory variables and  $e_{it}$  is a disturbance term varying across  $i$  and  $t$ . This is usually referred to as the least squares dummy variable (LSDV) model. The estimator  $\beta$  is called the within-group estimator as only the variation within each country, as deviations from the mean, is utilised in forming the estimator. This implies

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1999 supplemented by (ILO 1998), (IMF 1999) and (Easterly and Yu 1999), *EDUS* and *EDUT*: UNICEF (2000).

that coefficients for explanatory variables that do not vary over time will not be estimated. They will however be included in the country specific term.

The rationale for dividing the sample in two groups was tested by allowing a dummy-variable distinguishing between the two to interact with the explanatory variables, and determine whether the difference in estimated coefficients for the two groups are significant. This is done by estimating the model:

$$y_{i,t} = \mathbf{j}_i + \mathbf{a}_i D_i + \mathbf{\beta}' \mathbf{x}_{it} + \gamma' \mathbf{x}_{i,t} D_i + \mathbf{e}_{i,t}$$

Then the zero-hypothesis  $H_0 : \gamma = 0$  is tested against  $H_1 : \gamma \neq 0$ . If  $H_0$  is rejected there is reason to divide the sample. The dummy-variable is assigned the value 0 for CEEB-group countries and 1 for CIS-group countries.

The panel used in the analysis is of a rather small size. This should be borne in mind as well as taking into consideration the fact that fewer observations make it harder to identify correct and significant variables. Even so some results do materialise.

## 5.2 Results

The results, reported in table 3, appear to be supportive of the hypotheses considering the different types of investments in the CEEB and the CIS.

**Table 3. Results from estimation of model (1)**

Dependent variable: <i>fdi</i>	Full sample		CEE B		CIS	
	<i>ln gdp</i>	3.29*** (0.85)	1.83** (0.87)	1.48 (1.27)	-0.67 (1.83)	4.73*** (1.21)
<i>GG</i>	0.03** (0.01)	0.02 (0.01)	-0.02 (0.02)	0.00 (0.02)	0.05*** (0.01)	0.02 (0.01)
<i>ln TRI</i>	2.03*** (0.52)	0.90 (0.56)	5.64*** (1.64)	1.66 (2.65)	1.40** (0.58)	0.66 (0.57)
Constant	-22.83*** (6.24)	-11.65* (6.45)	-14.18 (9.22)	2.22 (2.60)	-30.31*** (8.23)	-28.47*** (7.49)
Time		0.22*** (0.05)		0.21 (0.12)		0.30*** (0.09)
F - test; $H_0 : \text{all } u_i = 0$	F(24,97)= 8.32	F(24,97)= 8.32	F(12,49)= 4.05	F(12,48)= 4.22	F(11,45)= 12.59	F(11,45)= 12.59

$R^2$ within	0.3754	0.4643	0.3171	0.3545	0.5510	0.6386
Number of observations, T, and countries, n.	T=5 n=25	T=5 n=25	T=5 n=13	T=5 n=13	T=5 n=12	T=5 n=12

*The coefficients are given as well as the standard error in parenthesis. \* imply 10 percent level of significance, \*\* imply 5 percent level of significance and \*\*\* imply 1 percent level of significance*

All variables are significant at no less than the five-percent level for the whole sample. However, once the time trend is included, growth in GDP and the transition indicator lose significance. The average transition indicator varies little over time. Also progress in transition will to some extent be time dependent. This may in part explain the loss of significance once time is included. The F-test on whether all coefficients equal zero is rejected at the one-percent level for all models reported in table 3. So is the F-test on whether the coefficients of the country specific effects equal zero. A division of the sample is supported by a one-percent level rejection of the zero-hypothesis that coefficients for the two groups are the same.

In the case of CEEB the transition indicator is the only significant explanatory variable. In other words, the countries more successful in transition will also be more successful in terms of attracting more foreign capital. The investments will also be more sensitive to risk than investments in the former Soviet Union. There is however correlation between progress in transition and geographical position. The most advanced countries in terms of transition are most often geographically closer to Western Europe. The fact that geographical position is not explicitly controlled for in the regression may lend significance to the transition indicator.

Investments in CEEB are to a greater extent performed by SME from neighbouring countries. Smaller firms, whether market or efficiency seeking will probably be more vulnerable to instability and a less friendly business environment than the larger multinational companies.

An example from Belarus underlines the importance of size and bargaining power on behalf of the foreign investor once operating in a new market. Having invested US\$ 42 million by 1998, Coca-Cola was the largest single investor in Belarus. They entered the market as early as 1994 and by 1995 wished to establish a manufacturing plant. As foreign investors were not

allowed to own property this posed a problem, and early in 1996 the Belarus Parliament voted in favour of letting Coca-Cola buy a plot of land in Minsk (EBRD 1999d). A smaller company would probably not have been able to achieve this.

FDI in CIS are thus primarily of a market seeking character. Unlike in the case of CEEB time seems to matter. Ideally the regression model should include a lagged variable (dependent or independent), however due to the short time span this was not possible. The importance of time in the regression may reflect the increasing knowledge and opening up of these markets to the foreign investor. Again, progress in transition is time dependent, and once time is included, the transition indicator is no longer a significant determinant of FDI in CIS.

Richness of resources is not included in this regression. However, according to IMF estimates, between 75-82 percent of total foreign direct investments were in the oil and gas industry in Azerbaijan (EBRD 1999c). Also, thirty cent of each dollar invested in other parts of the economy was related to investments in the oil and gas industry. In cumulative per capita terms Kazakhstan which have recorded the highest foreign investment flow in the CIS, second only to Azerbaijan. Here also most investments have been directed towards the natural resource sector. By 1998 investments in oil and gas accounted for 47.5 percent of total foreign investments since 1993, followed by investments in non-ferrous metals at approximately 24.1 percent (EBRD 1999f). Thus, the importance of natural resources in attracting foreign participation should not be underestimated in case of the resource rich countries of the CIS.

Resource seeking investments do not seem to be particularly sensitive neither to progress in transition nor to the level of corruption. Controlling for size, FDI per capita and FDI-GDP ratio, Azerbaijan and Kazakhstan are the top receivers of FDI in the CIS. At the same time, Azerbaijan is deemed the most corrupt and Kazakhstan the fourth most corrupt of the CIS countries according to the 1999 Corruption Perception Index. Belarus on the other hand is the least corrupt country in this region. Even so, the investment level is very

low. The correlation between the 1999 CPI-score and FDI 1994-1998 for the CIS countries is negligible both in total and per capita terms.

There are several possible explanations. Any index is only able to provide an inaccurate description of reality. Also, in the resource rich countries investors may be willing to pay for access, whereas they might have to be paid in terms of favourable conditions to invest in countries offering poorer investment opportunities. Investments in resources may be more sensitive to conditions in the world economy than to local determinants. Production is export oriented, and prices are determined at the world market. As any oil, gas or other extracted resources have to be transported; logistics is also of major importance. The lack of infrastructure has for example inclined oil companies to withdraw from Azerbaijan.

To assess the importance of an educated and low-wage labour force in attracting FDI, wage and education level is included in the analysis. The smaller sample combined with a larger set of explanatory variables imply less degrees of freedom. Again, the F-test on whether all coefficients equal zero is rejected at the one-percent level for all models and so is the F-test on whether the coefficients of the country specific effects equal zero.

As is evident from table 4, including secondary and tertiary education and wage to control for low labour cost returns much the same results as model 1. However, the rationale for splitting up the sample is no longer as strong, the hypothesis being rejected at the five- percent level as opposed to the one- percent level. Time is no longer significant, the average transition indicator being the only significant variable in the case of CEEB and wage in the case of CIS.

**Table 4. Results from estimation of model (2)**

Dependent variable: <i>FDI</i>	Full sample		CEEB		CIS	
<i>ln GDP</i>	-0.12 (1.25)	-0.37 (1.22)	-0.52 (1.99)	-1.64 (2.62)	1.56 (1.74)	2.03 (1.83)
<i>GG</i>	0.01 (0.01)	0.01 (0.01)	-0.03 (0.02)	-0.02 (0.03)	0.05** (0.02)	0.03 (0.02)
<i>ln TRI</i>	0.76 (0.63)	0.19 (0.66)	5.68*** (2.07)	4.40 (2.84)	0.20 (0.73)	0.70 (0.75)

ln $W$	0.62** (0.27)	0.51* (0.27)	0.57 (0.80)	0.60 (0.81)	0.56* (0.31)	0.37 (0.38)
ln $EDUS$	2.14* (1.24)	2.05* (1.20)	1.31 (2.34)	1.40 (2.37)	2.08 (1.48)	2.02 (1.49)
ln $EDUT$	-0.01 (0.74)	-0.5 (0.75)	-0.41 (1.25)	-0.68 (1.32)	-1.02 (1.09)	-0.70 (1.14)
Constant	-4.07 (10.60)	-0.48 (10.48)	-1.99 (16.78)	10.42 (25.14)	-15.45 (14.80)	-20.15 (15.78)
Time		0.19** (0.08)		0.12 (0.17)		0.18 (0.20)
F - test; $H_0 : \text{all } u_i = 0$	F(24,66)= 8.00	F(24,65)= 7.96	F(12,31)= 4.68	F(12,30)= 4.63	F(11,29)= 8.30	F(11,29)= 8.30
$R^2$ within	0.4361	0.4776	0.3914	0.4003	0.6105	0.6105
Number of observations, T, and countries, n.	T=4 n=23 T=2 n=1 T=3 n=1	T=4 n=23 T=2 n=1 T=3 n=1	T=4 n=12 T=2 n=1	T=4 n=12 T=2 n=1	T=4 n=11 T=3 n=1	T=4 n=11 T=3 n=1

*The coefficients are given as well as the standard error in parenthesis. \* imply a 10 percent level of significance, \*\* imply a 5 percent level of significance and \*\*\* imply a 1 percent level of significance*

The information available on FDI in the CEEC offers support for the sequential entry hypotheses of the Uppsala school at an early stage of internationalisation. All of the former socialist countries are at this early stage, implying the insights gained may well describe the development and predict the evolution of internationalisation in these areas. The need for local knowledge may prompt the use of local partners at an early stage of entry. Countries in close psychic distance appear to be more important sources of FDI in the region. Also, the level of investments is rising over time and the type of FDI appears to be changing.

Summing up, the results indicate a difference in motive for investing in CIS and in CEE and BS. Whereas size of the market is a significant determinant in CIS, only progress in transition seems to influence the inflow of FDI in the CEE and BS. Natural resources were not included in the empirical analysis due to lack of data. However, the experience of countries such as Azerbaijan and Kazakhstan clearly indicate an important role for resource seeking activities in the area. The findings thus support a hypothesis of market seeking and resource-seeking investments prevail in CIS. Investments in the CEE and BS on the other hand appear more risk sensitive suggesting a role for the efficiency-seeking or vertical investments. Thus, as an economy progresses in transition

and knowledge on the country is accumulated and available, market insecurity is reduced changing the nature of investment and increasing the level of investment.

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# Summary

This paper provides an analysis of foreign direct investments to the countries of the former Soviet Union and 10 of the former socialist economies in Central and Eastern Europe (CEE). Foreign direct investments to the region is highly concentrated, Poland receiving close to 25 percent of the inflow on average from 1994-1998. There also appears to be a rather striking relationship of close psychic distance between host and source countries. Germany in particular, but also other Western European countries are the most important source countries for FDI in CEE. The Scandinavian countries are important in relative terms in the Baltic (B) countries. So is Asia in the Central Asian and Turkey in the Turkish speaking countries of the Commonwealth of Independent States (CIS). A regression analysis of data from 1994-1998 is performed to identify determinants of FDI. The results indicate a difference in motive for investing in CIS and in CEE and B. Whereas size of the market is a significant determinant in CIS, only progress in transition seems to influence the inflow of FDI in CEE and B. Natural resources were not included in the empirical analysis due to lack of data. However, the experience of countries such as Azerbaijan and Kazakhstan clearly indicate an important role for resource seeking activities in the area. The findings thus support a hypothesis of market seeking and resource-seeking investments prevail in CIS. Investments in CEE and B on the other hand appear more risk sensitive suggesting a role for the efficiency-seeking or vertical investments. Thus, as an economy progresses in transition and knowledge on the country is accumulated and available, market insecurity is reduced changing the nature of investment and increasing the level of investment.