

The Effects of Transition and Political Instability on Foreign Direct Investment in ECE Emerging Markets *

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Abstract

This paper examines the effect of transition and of political instability on FDI flows to the transition economies of Central Europe and the emerging CIS. We find that transition status tends to increase FDI inflows and the good reform performance of the Central European and Baltic countries enabled them to receive inflows that were several-fold those experienced by comparable West European countries; the same applies to the CIS countries despite their less impressive transition progress. The results for the CIS economies suggest that reform measures and their status as transition economies were of some advantage in attracting FDI when compared to what their economic performance alone would justify. Moreover, our results indicate that a large part of the shortfall in FDI into the CIS transition economies, measured relative to the Central European economies, is in fact attributable to the effects of regional political instabilities on the willingness of foreign investors to invest in these countries.

JEL Classification numbers: F21, F23, P52

Key Words: foreign direct investment, transition, political instability, political risk

* We are indebted to Xiaolin Xue for capable research assistance.

I. Introduction

A number of the transition economies of Eastern Europe and the CIS have seen a large upsurge in foreign direct investment (FDI) during the past decade while other countries in the region have been largely ignored by foreign investors (EBRD, 1999, Henriot, 2003). The inflows to the more successful countries have been dramatic both because of their dynamism, as these countries began the 1990s with practically no stock of FDI, and because FDI had important consequences for the transition process and for these countries' economic performance (see, *e.g.*, Bevan and Estrin, 2004). The large volume of FDI into the transition countries has spurred an extensive empirical literature seeking to uncover the determinants of FDI into the region and why it is directed more toward some countries than others. Virtually all of these studies are motivated by an interest in the effects of “starting conditions”, progress in economic transition to capitalism, economic policies toward FDI, general macroeconomic economic performance, and political stability on FDI flows.¹ Other studies, in addition to the foregoing explanatory variables, have also examined in greater detail the role of natural resources, agglomeration economies and infrastructure (Campos and Kinoshita, 2003); of corruption (Smarzynska and Wei, 2002); and of the methods of privatization, of specific policies that affect profitability of FDI and of host-country labor skills (Carstensen and Toubal, 2004). Yet other studies have been motivated by the desire to identify the long-term potential for FDI in the transition economies (Henriot, 2003), and to determine whether current FDI flows to these countries come at the expense of other potential host countries (Buch *et al.*, 2001, Galego *et al.*, 2004).

A common characteristic of most of these studies is that they follow a modeling strategy for explaining FDI inflows of the transition economies that combines explanatory variables suggested by the theory of FDI, such as host-country GDP, factor endowments, etc., with variables that serve as proxies for host-

country transition strategies, policies and performance. As such, these specifications serve as useful ways of capturing the dynamics of FDI into the transition economies during the past decade.

However, such an approach raises some methodological or conceptual questions that this paper seeks to address. The first of these is that the parameters of regressions that include both explanatory variables reflecting economic fundamentals as well as variables that reflect progress with transition are subject to significant instability over time. In an insightful paper, Polanec (2004) demonstrates that, from the start of transition through as late as 1998, important macroeconomic phenomena in transition economies were basically unrelated to economic fundamentals as proxied by variables suggested by economic theory, but easily explained by initial conditions and progress in reform and transition. Subsequent to that period, the variables suggested by economic theory play the dominant explanatory role, while transition progress becomes much less relevant. This suggests that, while a combination of economic and transition-related variables may well do a good job of explaining FDI flows to transition economies in the 1990s, these explanatory variables and parameter estimates may not be appropriate for explaining FDI performance in the future. In some of these countries, transition is largely complete, at least in terms of the transition progress indices often used in the empirical literature on FDI, so that retaining such indices in forecasts of future flows may miss many of the more subtle institutional changes taking place in these countries. More important, parameter estimates of the economic drivers of FDI may be biased due to the inclusion of these reform variables in the specification.

Another problem is that specifications that mix economic fundamentals and transition variables to explain FDI inflows are unable to answer the question of whether or not the observed FDI flows to transition economies have been abnormally high relative to flows experienced by non-transition economies of similar economic characteristics because of transition factors, such as the large number of firms available for acquisition through privatization, or abnormally low because of factors such as the

¹ A sample of such recent work includes Bevan and Estrin (2004), Brenton *et al.* (1998), Deichman *et al.* (2003),

lack of institutional infrastructure, etc., that characterize transition economies. While the presumption is that the conditions created by transition have been a barrier to FDI, some of the transition economies have had inflows of FDI in the 1990s that rival or even exceed those of similarly sized but wealthier and more institutionally developed capitalist neighbors. Whether such flows can be sustained in the future is thus an important issue.²

Finally, we note that some of the transition economies have faced greater political instability of a fundamentally different nature from that faced by, say, the Central European transition economies that have recently become members of the European Union (EU). All transition economies have been plagued by some measure of uncertainty about the evolution of democracy, the stability and effectiveness of governments and the possibility of social unrest, and many of the papers cited here introduce variables to capture the effect of such uncertainty on FDI inflows. However, many of the former Soviet Republics, the Baltic countries excepted, have faced greater and fundamentally different political risks that include succession problems in a one party system, terrorism, and even warfare, whether interstate, intrastate or inter-ethnic. Such risks are of a different order of magnitude from ordinary civil tensions and discord, and separating them from the “normal” political uncertainty that accompanies transition requires a more explicit recognition of the problem and modeling strategies that reflect the unique situation of the countries affected by such events.

In the next section of the paper, we briefly examine the pattern of FDI inflows for a sample of East European transition economies to present a baseline the potential FDI inflows to transition economies and to discuss some of the economic drivers of such flows. We then compare these FDI flows to those evident in a sample of emerging CIS countries: Armenia, Azerbaijan, Belarus, Georgia,

and Resmini (2000).

² Compare, for example, Henriot (2003) who argues that some transition economies are already oversaturated FDI, with Sinn and Weichenrieder (1997) who believe FDI in transition economies to be well below its potential and EBRD (1999) which finds FDI inflows to be high but not excessively so in the more attractive transition economies.

Kazakhstan, the Kyrgyz Republic, Moldova, Tajikistan, Turkmenistan, and Uzbekistan. Some of these countries have done quite well in their transition experience and others, not always the same ones, in attracting FDI. Others have attracted little FDI, and some have yet to deal with many of the first steps of transition. Many have experienced significant political instability, internal conflict and tensions with their neighbors. Because of their smaller size and peripheral location on the fringes of the former U.S.S.R., their FDI has received less attention than that of the Russian Federation and Ukraine, which we exclude from our inquiry.

In section III, we briefly review the literature that relates political risk to investment decisions. In Section IV we propose a way of disentangling the effects of economic factors and transition and political instability on the flow of FDI to transition economies. We do so by first estimating a benchmark model that yields estimates of FDI inflows to some East European and Baltic transition economies as if they were European economies not affected by transition. By comparing these benchmark estimates with actual flows of FDI to these countries, we are able to estimate the effects of their transition policies and achievements on FDI inflows. Our results are in general consistent with other studies of the effects of transition policies and outcomes on FDI. Finally, we use our estimates of transition effects on FDI to estimate expected flows of FDI to the CIS countries, and argue that the shortfalls from expected FDI inflows that we find are to some extent attributable to the added risks caused by regional strife in addition to the disadvantages caused by these countries location and skewed economic structures. In Section V, we sum up our findings, and we argue that the costs of FDI shortfalls are likely to exceed their monetary magnitude by briefly reviewing the literature on the effects of FDI in the transition economies of Eastern Europe.

II. FDI Flows to Transition Countries

Table 1 shows the stock of FDI for four Central European economies, the Czech Republic, Hungary, Poland and the Slovak Republic. All four countries experienced a rapid increase in FDI in the

1990s. Hungary was an early leader in FDI inflows, in part because of its more sophisticated economic relations with the West before the transition, which led many foreign investors to view Hungary as a country that had the infrastructure and economic savvy to accept foreign investments. Another reason for Hungary's early lead was its privatization strategy, which made sales of state-owned firms to foreign investors the preferred path to privatization. Poland's FDI inflows began to grow somewhat later than Hungary's, in part due to the delays in the privatization process in Poland as well as to its design. Nevertheless, for the second half of the decade, Poland experienced the largest FDI inflows of this group of countries, as it is also the largest economy in this sample group. Czech FDI inflows began to accelerate even later than Poland's due to the fact that the voucher privatization in the Czech Republic tended to favor domestic ownership over acquisitions of state-owned firms by foreigners. Thus, it took longer before foreign investors could come to own Czech firms through acquisitions, and, consequently, more foreign investment took the form of greenfield investments, which have a much longer gestation period.³ The Slovak Republic has the lowest levels of FDI, and it was also the last country to see a sharp upsurge in investments. These lower FDI inflows reflect the Slovak Republic's smaller size as well as early concerns that foreign investors had about Slovakia's domestic politics, its ability to manage its economy, to proceed with meaningful economic reforms, and to manage its external relations with neighboring countries and with the EU. More recently, investor sentiment has improved, aided no doubt by the objective fact that the Slovak economy has performed quite well relative to its transition-economy neighbors. When the stock of FDI is scaled for country size, whether measured by population or GDP, the Czech Republic and Hungary surpass both Poland and the Slovak Republic by a significant margin.

Foreign direct investment stocks of the CIS countries show greater inter-country than do those to

³ Greenfield investments mean the construction of new production facilities by the foreign investor while acquisitions involve the purchase of a controlling interest in an existing local firm. There were, of course, important acquisitions in the Czech Republic as well, including VW's purchase of Škoda, the sale of SPT

the Central European countries, as Table 2 shows. Kazakhstan and Azerbaijan have the biggest FDI stock, while Tajikistan has the smallest FDI stock. In the case of the CIS countries, scaling becomes even more important given the greater differences in country size. In terms of share of FDI stock in GDP, Azerbaijan and Kazakhstan perform the best, while Uzbekistan has the lowest share. When we consider the per capita FDI stock, Tajikistan and Uzbekistan are the worst performers, while Kyrgyzstan and Azerbaijan perform the best. Finally, when compare the emerging CIS countries' FDI stock to the levels of the four Central European countries, Kazakhstan is the only country that performs better than Slovak republic, but its level of FDI stock is still much smaller compared to other Central European economies.

The causes of both the shortfalls and the good performance of the various CIS countries are manifold. Shortfalls can be attributed to the lower levels of development of some of these countries, their slowness in privatizing, and their inability or unwillingness to put into place needed reforms.⁴ Location and the lack of a transportation infrastructure, exacerbated by the deterioration of roads and transportation infrastructure since the collapse of the Soviet Union, and compounded by the difficulties in shipping goods across national borders that sometimes present serious bureaucratic obstacles to the movement of goods and people, have also played a role in discouraging foreign investors. Finally, many of these countries' economies are specialized in specific industries, natural resources and crops, and in many cases these sectors' viability is based on a no-longer effective integration with the Russian economy. Much of the FDI that has come to the region is oriented toward the extraction and transportation of oil and natural gas. However, these investments offer little in the way of economic diversification, and they carry with them little in the way of job creation or the alleviation of poverty in

Telekom, the country's telephone company, and, more recently, the sale of large commercial banks such as Komerční banka.

⁴ Claessens *et al.* (2001) and Lankes and Stern (1999) stress the importance of reform progress in attracting FDI to transition economies.

the region. One common element affecting the CIS region has been political instability, both among countries of the region and within many of the countries themselves, the latter caused by inter-ethnic tensions, assassinations of political figures, failures to allow for regime change in a single party environment, and weak or ineffective governments that were unable to deal with domestic unrest and violence.

III. Political Instability as a Barrier to FDI

Investment, including FDI, is a forward-looking activity based on investors' expectations regarding future returns and the confidence that they can place on these returns. Thus, by its very nature, the FDI decision requires some assessment of the political future of the host country. There are two principal risks stemming from political instability in the host country that the investor faces. The first is that domestic instability or civil war or conflict with neighboring countries will reduce the profitability of operating in the host country because domestic sales or exports are impaired, or production is disrupted, or the facility is damaged or destroyed. The other consequence of political instability stems from the fact that it is likely to affect the value of the host country's currency, thus reducing the value of the assets invested in the host country as well as of the future profits generated by the investment.

There is a growing literature on the effects of this type of political stability on economic performance, both from a theoretical perspective and in terms of empirical work. Carmignam (2003) provides an excellent survey of the literature on the link between political instability and economic performance. The survey covers both theoretical modeling and empirical studies. Also, the papers in a supplement to *Journal of International Money and Finance*, edited by Lothian and Melvin (1991), examine the significance of political risk for investment decisions. Noteworthy individual studies include Citron and Nickelsburg (1987), who build a model of country risk for foreign borrowing that incorporates a political instability variable and Cherian and Perotti (2001), who construct a

theoretical political risk model of capital investment. Fielding (2003) constructs a model of investment in Israel that incorporates indicators of political instability and unrest. There are also related studies that examine the impact of political instability on economic growth and investment. Alesina and Perotti (1996) found that an increase in the intensity of political instability decreases investment, hence slowing down economic growth. Using a political instability index based on political assassinations, revolutions and successful coups, Campos and Nugent (2002, 2003) investigated the causal link between the index and growth and investment, respectively, using pooled panel data. Their results provide only weak evidence for the negative link running from political instability to per capita GDP but stronger causality from political instability to investment. Fielding (2003) showed that political instability during the *Intifada* had a significant effect on Israeli investment.

The link between political instability and asset markets and investment in the literature has been studied from several angles. One important strand of the literature emphasizes the importance of political risk in emerging markets. Robin, Liew and Stevens (1996) show that political risk is a more important determinant of asset returns in emerging markets than in developed markets. Bussiere and Mulder (1999), using a sample of 23 countries, conclude that including political variables in economic models significantly improves the ability of such models to explain economic crises. They also find that countries are more vulnerable to financial crises when election results are more uncertain.

Another relevant strand of the literature examines the link between political instability and the behavior of stock markets on the not unreasonable assumption that the latter are a good mirror of investor reactions to political instability. Ketkar and Ketkar (1989) investigated the determinants of capital flight from Argentina, Brazil and Mexico and found that political risk was an important factor in all three countries. Bailey and Chung (1995) studied the impact of political risk on the Mexican stock market and found a significant link between political risk and the equity premium. Kutan and

Perez (2002) examined the significance of socio-political instability and organized crime in Colombia on that country's stock market prices and found a significant connection. Political instability has also been linked to the volatility of stock markets (Han and Wei, 1996; Bittlingmayer, 1998; and Aggarwal, Inclan, and Leal, 1999). Other studies that found significant evidence that political events affect asset markets are Willard, Guinnane and Rosen (1996) and Kim and Pei (2001).

There is also a large literature on the effects of political instability on foreign exchange markets, and this provides clear evidence that political instability both causes the value of country's currency to decline and makes the exchange rate more volatile. Kutan and Zhou (1993, 1995) show that the intensity of political unrest in Poland preceding and during the economic reforms introduced during late 1980s and early 1990s affected foreign exchange returns and bid-ask spreads. They found that events that reflected political turmoil caused substantial declines in the value of the zloty on the foreign exchange market and increased the bid-ask spreads on foreign exchange transactions, making them more costly for investors. Melvin and Tan (1996) studied the effects of social unrest on foreign exchange market spreads in South Africa and across 36 industrialized and developing countries. They also found that political unrest caused larger spreads. Crowley and Loviscek (2002) assessed the impact of political risk on the currency markets of six Latin American countries, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela, during the 1990s. They also reported a statistically significant relationship wherein instances of political unrest depressed a country's currency on foreign exchange markets for up to three months. The link between the depreciation of the currency and the increased foreign exchange market volatility is demonstrated in the foregoing literature, and a decline in FDI inflows in response to greater volatility is clearly shown by Kogut and Chang (1996).

IV. Estimating Transition Economies' FDI: Disentangling the Effects of Transition and Political Instability

Transition economies' FDI inflows differ from those of similar market economies due to the

effects of transition, but the possible shortfall in the FDI inflows of the CIS economies suggested by the data reviewed in Section II is related to an additional factor, the effects of political instability in the region on the decisions of potential foreign investors as well as the geographic disadvantages faced by some of them. The difficulty in disentangling these two effects drives our modeling strategy. One possible approach, appealing because it is direct and affords a clear test of the hypothesis that political instability has depressed FDI in the CIS region, would be to specify and estimate a model of FDI in the CIS countries that would have as explanatory variables not only the standard economic variables used to explain a country's FDI but also a set of variables describing the pace of system change and economic liberalization in each CIS country as well as a final set of variables that captures the political instabilities to which each country is subject over time. The expectation would be that the coefficients associated with the political instability variables would thus provide a quantitative measure of the effect of political instability on each country's FDI inflows, holding reform and economic characteristics fixed.

Indeed, there is a well-developed literature that examines the relationship between host country political instability and FDI inflows in precisely this fashion. For example, in addition to some of the studies cited in the introduction that include CIS countries in their sample, there is a broader literature that uses this approach. Bennett and Green (1972), Schneider and Frey (1985), Singh and Jun (1995), Globerman and Shapiro (2002) and Cho (2003) all add measures that reflect domestic political instability or risk as an explanatory variable to economic characteristics of host countries, and they all find that such risk variables help explain FDI inflows because increased political risk significantly reduces FDI. Deichman et al. (2003) find that indicators of the rule of law and of "general investment climate", both of which to some extent reflect political stability, are significant factors in the determinants of FDI inflows into Eurasian transition states.

While these results are germane and instructive for our work, there is one fundamental problem in the approach used by these studies. It is that the measures of political risk used in these

studies refer mainly to domestic political instability as quantified by strikes, riots, civil unrest, etc. However, these studies use no risk measures that reflect external sources of political risk, such as war or border tensions and clashes between countries, foreign trade blockages, and war or conflict in neighboring states, etc., that apply to some of the CIS countries in our sample.

Of course, it would be possible to follow in the path of the aforementioned studies by adding indicators of such external conflicts among CIS countries to our explanatory variables. However appealing such an approach may be, it also has serious drawbacks. The first of these is that there would be a large number of parameters to estimate, while, even with a panel of all CIS transition countries, the data set available to estimate these parameters is limited. An additional problem is that of quantifying the concept of external political instability. While political scientists have developed both aggregate and bilateral measures of the goodness of relations of countries, using these measures is difficult in a situation where the Soviet Union broke up into independent nations that have no "record" of external relations, and thus no data on them, and that may have relationships with their neighbors that differ considerably for those of the that existed when they were constituent parts of the U.S.S.R..

To overcome these problems, we adopt an indirect approach to quantifying the effects of transition and political instability on FDI in the CIS economies. In the first step, we establish the relationship between FDI inflows and country characteristics for European economies that are not undergoing transition and that are not subject to serious political instability. We include in our sample Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Spain, Sweden and Switzerland for the period 1980 to 2001. This panel of countries gives us sufficient observations to develop robust estimates of the relationship between country characteristics and FDI inflows in Europe. We restrict our sample to European countries because we believe these are an appropriate reference group for the transition economies and because of data availability for the sample period. These West European countries have higher per capita incomes than do the transition and CIS

countries, but our use of per capita GDP in PPP terms as an explanatory variable in our specification controls for this fact.

The specification of the equation to describe FDI inflows into our sample of non-transition European countries is drawn from the theory of foreign direct investment, and, as variants of it have been used in numerous studies, we claim no originality for it. Firms undertake FDI in order to exploit firm-specific competitive advantages that cannot be exploited as easily through foreign trade or through the licensing of technology and know-how (Dunning, 1974). Such investment can be classified as horizontal or vertical. In a horizontal investment, the firm replicates its home-country business activities in a foreign country, and thus country characteristics that describe the host country's appeal as a market, such as size, consumers' purchasing power, the pattern of consumption, and openness to trade are major drivers of FDI. While Markusen and Maskus (2002) suggest that horizontal investment is much more important in the world economy than is vertical investment, the transition economies were seen as quite attractive as hosts for upstream vertical FDI because of their advantageous factor costs and close proximity to, and prospects for membership in, the EU. In vertical investments, the firm locates upstream or downstream production activities in the foreign country so as to take advantage of differences in resource endowments and, thus, factor costs between countries in order to reduce its global costs of production. Given the natural resource endowments of some of the CIS countries, vertical FDI may play a more important role as, the availability, and where appropriate, the cost, of natural resources, of economies of scale and agglomeration, and of labor skills are important drivers of vertical FDI. Our specification of the relationship between FDI inflows and a country's economic characteristics thus reflects these two forces in the following specification:

$$LFDI_{i,t} = \alpha_0 + \alpha_1 LGDPPP_{i,t} + \alpha_2 LGDPPC_{i,t} + \alpha_3 LTRADE_{i,t} + \alpha_4 LSECOND_{i,t} + \alpha_5 LLAND_{i,t} + \alpha_6 LCITY_{i,t} + u_{i,t} \quad (1)$$

where the prefix L indicates the log operator and:

$FDI_{i,t}$ = foreign direct investment inflow into country i in year t in billions of current US\$

$GDPPP_{i,t}$ = GDP of country i in year t in billions of US \$ in 1995 PPP US\$

$GDPPC_{i,t}$ = per capita GDP of country i in year t in billions of 1995 PPP US\$

$TRADE_{i,t}$ = ratio of the trade of country i to its GDP in year t

$SECOND_{i,t}$ = secondary enrollment (% gross school enrollment) of country i in year t

$LAND_{i,t}$ = land area of country i in year t in square kilometers

$CITY_{i,t}$ = population of the largest city of country i in year t

$u_{i,t}$ = error term assumed to be iid for each country, but possibly cross-sectionally dependent.

GDP in purchasing power parity (PPP) dollars captures the size of the host country's economy and thus the potential market for the investor's products. We use purchasing power parity GDP not so much because the nominal and PPP values of West European countries' GDPs differ excessively over the sample period but rather because the transition economies to which we later apply the parameter estimates of Equation 1 display very large differences between official and PPP GDPs, with the latter a better measure of the size and purchasing power of their domestic market. GDP is an important driver of horizontal FDI, and a coefficient greater than one means that countries that offer large markets are able to attract disproportionately higher shares of FDI inflows. PPP GDP per capita income serves as a proxy for the level of development and for wages in a country, and thus reflects the purchasing power of individual consumers. Because wages and per capita GDP are highly collinear for our sample of countries, we are not able to distinguish between market-seeking FDI, which would be positively related to higher per capita incomes, and vertical FDI motivated by a search for lower wages. The trade-to-GDP variable measures the openness of the country to international trade. A low value of this variable may signal high tariff barriers or transportation costs,

which would attract horizontal FDI, while a high value would indicate openness to trade, which the literature suggests should be attractive to foreign investors (Caves, 1996) in part because it is a sign of international competitiveness. Variables primarily associated with vertical investment include the proportion of students in secondary education, an indication of the quality of the country's labor force and thus its attractiveness as a place to manufacture goods or provide sophisticated services. Land size serves as a proxy for natural resources. Finally, we use the population of the largest city to reflect agglomeration economies and congestion costs. Large cities offer external economies from backward and forward linkages between firms, from opportunities to benefit from supplies of skilled but immobile labor, and from information spillovers (Krugman, 1991); at the same time, congestion costs associated with large cities that may act as a deterrent to FDI.

While additional variables, such as proxies for communications and transportation infrastructure, national market structure, inflation, political instability, etc., have also been used as explanatory variables in exercises such as this, the reader should bear in mind that the sample of European countries that we use is relatively homogenous and thus, for many such additional variables, there are very small differences, if any, over time and across the countries in our sample. Introducing such variables into the specification raised standard errors of the parameters without materially improving the explanatory power over that achieved by the more parsimonious specification.

The estimations for Equation 1, as well as for Equation 6 below, are carried out using feasible GLS (FGLS) pooled-panel regression. These classes of models can be estimated using pool objects

$$y_{it} = \alpha + x_{it}' \beta_i + \varepsilon_{it} \quad (2)$$

where y_{it} is the dependent variable, and x_{it}' and β_i are vectors of non-constant regressors and parameters for each cross-sectional unit $i = 1, \dots, N$ and time period $t = 1, \dots, T$. We use FGLS due to the very likely cross-sectional heteroskedasticity existent in the data. The weighting and the heteroskedasticity correction, $(X' \Omega X)^{-1} X' \Omega Y$, is done by using the covariance matrix

$$\Omega = E(\varepsilon\varepsilon') = \begin{pmatrix} \sigma_1^2 I_{T_1} & 0 & \dots & 0 \\ 0 & \sigma_2^2 I_{T_2} & 0 & \vdots \\ \vdots & 0 & \ddots & 0 \\ 0 & \dots & 0 & \sigma_N^2 I_{T_N} \end{pmatrix} \quad (3)$$

Even though contemporaneous correlation is also highly likely as well, we refrain from using seemingly unrelated regression (SURE) due to possible problems unless T is considerably greater than N . Beck and Katz (1995) show that, in a SURE weighting, the Ω matrix turns into

$$\Omega = E(\varepsilon\varepsilon') = \begin{pmatrix} \sigma_{11}^2 I_T & \sigma_{12}^2 I_T & \dots & \sigma_{1N}^2 I_T \\ \sigma_{21}^2 I_T & \sigma_{22}^2 I_T & & \vdots \\ \vdots & & \ddots & \\ \sigma_{N1}^2 I_T & \dots & & \sigma_{NN}^2 I_T \end{pmatrix} \quad (4)$$

so there are $N(N+1)/2$ contemporaneous covariances to be estimated using $N \times T$ observations. This means that each element of the Ω matrix is estimated using $2T/N$ observations. This ratio is around 3 for our largest dataset, leading to significant overconfidence in the Parks standard errors. The benefits of accounting for the contemporaneous correlation are dominated by the false inference probability, which causes us to only correct for heteroskedasticity in our panel FGLS.

We also avoid the introduction of any fixed effects or lagged terms or using dynamic panel data estimation to formulate a more “universal” model of FDI. Introduction of these terms might add to the explanatory power of the regression models; however, the introduction of these variables makes the projection of the estimated parameters on another set of countries that much more difficult, either due to different inertia or strength of instruments. Including time-invariant variables such as land size and population of largest renders our results less vulnerable to fixed effects bias.

Parameter estimates for Equation 1 are reported in Table 3. The regression achieves a satisfactory fit, with an adjusted R-squared of 0.83, and all the coefficients, save that for LAND, are statistically significant. GDP has a positive coefficient greater than one, indicating that larger

countries receive relatively more FDI than do small ones. Per capita PPP GDP also has a positive impact on FDI, which indicates that high consumer incomes and the broader range of products that high income consumers demand have a strong positive impact on inward FDI, offsetting higher wage costs for our sample of countries, especially if such high wages are offset by correspondingly high productivity. The trade openness variable also has a positive and significant coefficient, suggesting that, at least in Western Europe, foreign investors are more interested in seeking out locations for their production facilities in markets that are open to competition and in countries that have a demonstrated ability to compete on global markets rather than in leapfrogging tariff barriers. To the extent that most of the countries in this sample are members of the EU and a large share of their FDI inflows is also from other EU members, such a finding seems logical. Because some of the transition economies have already joined the EU and others have signed trade agreements to sharply reduce barriers to trade with the EU, this result should carry over to transition economies as well.

Of the variables pertaining to vertical FDI, LAND, the proxy variable for natural resources, is not significant, reflecting the rather homogeneous distribution of resources in the sample countries. However, because it narrowly misses significance at the 10% level and because the East European economies are somewhat more resource intensive in their endowments and production structure than are the West European countries in our sample, and because of the even greater importance of natural resources for some of the CIS countries, we retain this variable for estimating potential FDI flows to the transition economies. The proportion of eligible students in secondary education is significant and positive, reflecting the importance of an educated work force to competitiveness in modern manufacturing and service activities. Finally, the coefficient for city size is negative and significant; congestion diseconomies dominate economies of agglomeration in our sample of West European countries.

To estimate the effects of transition on inflows of FDI, we use the parameters of Equation 1, which gives the expected FDI level for a non-transition, politically stable European market economies, to estimate the expected levels of FDI for a sample of transition economies that are experiencing less political instability and greater transition progress than are the CIS countries. The sample countries are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and the Slovak Republic, and we estimate their expected levels of FDI for the period 1993 to 2001. Although these countries followed different transition and stabilization strategies, they were among the more successful countries both in terms of system change and in terms of achieving economic and political stability, and they were the first transition economies to become members of the European Union. Thus these countries set a standard of perhaps the best that economies in transition could hope to achieve in attracting foreign investors. Nevertheless, transition measures and the effort to stabilize their economies and develop functioning democratic systems did pose some risks for foreign investors, and we shall address the effect of these below.

We then define the transition shortfall in FDI for these transition economies in year t as:

$$R_{i,t} = FDI_{i,t} / \text{Expected}(FDI_{i,t}) \quad (5)$$

where $\text{Expected } FDI_{i,t}$ is calculated using the parameters of Equation 1 and the economic characteristics of country i in year t . Table 4 reports the expected and actual yearly FDI inflows for our sample of transition economies as well as the ratio of the two values, $R_{i,t}$. The expected levels of FDI based on the parameter estimates of Equation 1 are reported in the first row of each country's entry. The expected levels of FDI inflows increase steadily from 1993 to 2001 for all the transition economies in the sample, reflecting improving economic performance in all of these countries. Expected FDI inflows increase two-fold for Lithuania, three-fold for the Czech Republic and from four- to six-fold for the other transition countries. This is a significant finding because it shows that a large part of the growth of FDI inflows to these countries can be accounted for by the significant

macroeconomic and structural progress that these countries have achieved in terms of the variables included in Equation 1. Recall that the expected level of FDI depends exclusively on the economic characteristics of these countries, and it is unrelated to the progress that these countries have made in implementing transition measures and privatizing their economies. This means that the rapid increase of FDI to these countries is not due to a pent-up desire to invest in the region caused by a stock-adjustment process to make up for the pre-1989 inability of foreign investors to undertake FDI in the region or to one-time events like mass privatization of state-owned assets. Rather, based on these countries' macroeconomic economic performance and structural characteristics, much of the growth of FDI inflows that occurred in the 1990s is what we should expect to see in any European country with similar macroeconomic performance.

Whatever the potential inflows of FDI may be for the countries in our sample, the amount of this potential realized, or more directly, the actual level of FDI observed, does depend on the kinds of transition policies that individual countries adopted and the success they had in implementing them. We report for each country the actual volume of FDI as well as R , the ratio of actual to predicted FDI. For the Czech Republic, Latvia, Lithuania and Slovakia, actual FDI inflows grew more rapidly over the sample period than did predicted inflows, suggesting that, in these countries, transition policies and their effects in general improved the possibilities for FDI over time, enabling more of the potential FDI to be realized. On the other hand, actual FDI inflows for Estonia and Hungary did not grow as fast as these countries' potential, while Poland's actual and predicted FDI inflows generally kept pace with each other over the sample period. Before concluding that transition policies in Estonia and Hungary were somehow inferior to those of the other countries in our sample, it is necessary to examine the levels of R for our sample countries as well. We note that Estonia and Hungary, along with Lithuania, had values of $R > 1$ either early on in the sample period or for the entire sample period. This means that, even early in the transition, these countries implemented

policies that caused actual FDI inflows to be above, and in some cases well above, potential inflows. That is, because they were transition economies and because they followed a specific set of transition policies, they were able to attract higher levels of FDI inflows that we would expect to see going to a West European country with similar economic performance. Thus it should not be surprising that these countries would not be able to sustain the rapid expansion of such above-normal inflows over the entire decade. Indeed in the case of Hungary, from 2000 on, actual FDI inflows are less than the country's expected inflows, reflecting, according to some observers, the exhaustion of attractive opportunities for the acquisition of state-owned firms. In the case of the Czech Republic, Lithuania and Slovakia, early in the transition, R is less than one, but increases as FDI-friendly policies are implemented and, eventually, R approaches or exceeds one. Thus, transition policies do have a strong effect on the actual FDI inflows of a country, and it is also evident that, at least for some time span, appropriate transition measures can boost FDI inflows well over what we would consider the normal level appropriate for a similar non-transition European economy. Only Poland and the Slovak Republic are exceptions to this finding. Thus both good macroeconomic performance and good transition strategies, to the extent that the two can be separated, have contributed to the growth of FDI to these transition economies. The results for Hungary, however, suggest that exceeding this expected level of FDI is unlikely to continue indefinitely, and it is not surprising, given Hungary's early success in attracting FDI that the decline of FDI flows to levels approaching West European experience should first be evident for Hungary as well. Overall, most of the transition economies have values of R converging toward one, suggesting that the current rates of FDI inflows are sustainable for the future so long as appropriate policies are followed.

Because Equation 1 already takes into account the effect of each country's economic characteristics on FDI inflows, the difference between actual and predicted FDI for our seven transition economies should reflect the different policy paths that these countries have taken toward creating a stable and

prosperous market economy characterized by private property. A transition economy's actual FDI inflows thus depend both on macroeconomic and structural characteristics captured by Equation 1 and on the pace and success of transition. Moreover, because many investments were made in transition economies with a view to their future entry into the EU, investors saw faster progress on reform as signal that a country would be at the head of the queue for EU membership. Bevan and Estrin (2004), who investigate the determinants of FDI in eleven transition economies of Central and Eastern Europe during the 1994-98 period, find that key announcements on progress in EU accession had a significant and positive impact on FDI inflows to these countries. The establishment of the rule of law also played an important part in investors' considerations, because the security of their investment was likely an important locational consideration. Finally, the pace of FDI should have been strongly influenced by the measures that were taken for privatization. Thus, we would expect that a country that has made greater progress in transition to a market economy should achieve inflows of FDI that are closer to its potential FDI inflows as given by Equation 1, and thus have a higher value for R , than would a country that has made little progress in transition.. However, a transition economy's appeal with respect to transition characteristics depends not only on measures taken to reform and liberalize the economy; it also depends on the starting conditions from which policy makers begin the transition process. Thus in our specification, we take both starting conditions and progress with transition into account, and we use the following specification for the ratio of actual to predicted FDI inflows:

$$LR_{i,t} = \beta_1 \text{INITLINF}_i + \beta_2 \text{INITDLGDP}_i + \beta_3 \text{INITLPRIV}_i + \beta_4 \text{LPHONE}_{i,t} + \beta_5 \text{SPREAD}_{i,t} + \beta_6 \text{BUDGBAL}_{i,t} + \beta_7 \text{DCURACC}_{i,t} + \beta_8 \text{DUNEMP}_{i,t} + \beta_9 \text{DLPRIV}_{i,t} + \varepsilon_{i,t} \quad (6)$$

where L is the log and D is the difference operator and

INITLINF_i = cumulative inflation in country i between 1990-93

INITDLGDP_i = cumulative GDP decline in country i between 1990-93

$INITLPRIV_i$ = share of private sector in GDP of country i in 1993

$LPHONE_{i,t}$ = number of telephone mainlines per 1000 population in country i in year t

$SPREAD_{i,t}$ = lending minus deposit rates for country i in year t

$BUDGBAL_{i,t}$ = overall budget balance (% of GDP) of country i in year t

$DCURRACC_{i,t}$ = change in current account (% of GDP) of country i in year t

$DUNEMP_{i,t}$ = change in unemployment rate of country i in year t

$DLPRIV_{i,t}$ = change in share of private sector in GDP in country i in year t ¹⁵

ε_{it} = error term assumed to be iid within each country, but possibly cross-sectionally dependent

By starting conditions we mean the measures that had been taken to implement transition and stabilization measures prior to the start of our sample period as well as the state of the economy, as measured by monetary imbalances and distortions in the structure of production that existed prior to transition. Many, but not all, of the transition economies in our sample pursued a policy of aggressive price liberalization at the beginning of transition. The greater the monetary imbalances in the country prior to transition and the greater the distortions in relative prices, the greater was the rate of inflation in these countries. Other countries either pursued a more gradual price liberalization strategy or, in fact, resisted price liberalization so as to cap inflation, or, like Hungary, had been reducing monetary overhangs and distortions in relative prices even before transition. We capture the extent of pre-transition monetary and price disequilibrium and the pace of price liberalization by means of the variable $INITLINF$. A second aspect of starting conditions has to do with rapid or slow liberalization, the mismatch between emerging demand and existing production, the financial viability of firms and trade liberalization. Some transition governments acted quickly to reduce government subsidies to firms

as markets were liberalized while others sought to cushion the shock of collapsing CMEA trade and falling demand for the products of heavy industry. While the “big bang” approach may have inflicted greater short-term pain in terms of production declines, it may have served as a signal to foreign investors that structural change was rapid and credible. The financial distress output declines imposed on domestic firms may have reduced their price to foreign investors as well. The final variable that we use to capture starting conditions is the share of the private sector in GDP in 1993. Foreign investors doubtless preferred to locate in an economy where private property predominated, so how fast privatization had proceeded by 1993 is an obvious marker. On the other hand, much of the early privatizations involved so-called insider privatization that put firms into the hands of workers or managers, making FDI through acquisitions difficult. Thus, we cannot sign this coefficient *a priori*. We also include in our latter set of explanatory variables the year-to-year change in the share of the private sector in GDP, since investors desire both a high level of, and continuing progress in, privatization.

However attractive a country may have been in 1993, FDI decisions are driven by expectations of future performance, and thus we also include important markers of current economic performance as a determinant of the ratio of actual to projected FDI inflows. Inadequate infrastructure, especially telecommunications and transportation, were seen as major barriers to doing business in the region, so we proxy this by means of the number of telephone lines per capita. Improvements in infrastructure often also involved opening up sectors such as transportation and telecommunications to foreign investors, so there should be both direct and indirect effects from this variable. Another important institution of interest to foreign investors is the banking system, whose performance we capture by means of the lending-deposit spread. If this spread is too large, then opportunities for effective financial intermediation may not exist if high lending rates reflect uncertainty over political developments and high levels of risk of default, a lack of creditor rights or high rates of future inflation. Depositors will be

unwilling to trust their money to financial institutions because perceived risks are not covered by the deposit rate, and banks will be reluctant to lend and firms to borrow. The budget balance as a proportion of GDP is also an important marker for foreign investors, as large deficits are a likely harbinger of future tax increases or financial instability. On the other hand, if such deficits are not covered by money creation, they may reflect the government's ability to finance its spending on domestic or foreign capital markets. Investors are also likely to consider the country's international competitiveness, both for the standpoint of its ability to serve as source of production for the investor and in terms of its ability to maintain a stable real exchange rate. Because the transition economies all ran current account deficits in the 1990s due to capital inflows, it is likely that the appropriate marker was the year-to-year change in the country's current account, which might signal growing capital inflows or foreign financial assistance. Finally, we examine the change in unemployment from year to year. Higher unemployment levels may attract foreign investors by signaling an absence of strong pressures for wage growth, or they may discourage foreign investors by signaling economic problems and low purchasing power in the host country.

The parameters of Equation 6 were estimated using data for the seven Central European countries, which are listed in Table 4, over the indicated time period. The parameter estimates are reported in Table 5. The regression results yield a satisfactory adjusted weighted R-squared of 0.96 and generally significant coefficients. The coefficient for *INITLINF*, the initial cumulative inflation rate is negative, meaning that foreign investors likely viewed countries with high inflation rates as being more risky because of the potential inability of governments to stabilize their economies successfully and due to likely popular resistance to governments' inability to bring inflation down to moderate levels. On the other hand, investors preferred countries that had undergone large declines in production early on in the transition, presumably for the reasons we discussed above. Higher levels of privatization in 1993 tended to encourage FDI, suggesting that early insider-oriented privatization did not always serve as a barrier

to FDI, and a large private sector attracted foreign investors. A better infrastructure, as proxied by the number of telephone lines in the host country clearly attracted FDI. A large lending-borrowing spread had a negative impact on foreign investment, likely less because foreign investors needed to tap domestic host-country capital markets and more because it was a sign of financial repression. The two measures of economic policy, the government deficit and the change in the current account balance also had significant and negative effects on investors, suggesting that more credible regimes were able to finance deficits, a sign of confidence from domestic and foreign lenders. Increases in unemployment had a positive effect on FDI, suggesting that foreign investors saw this as a sign of restructuring. Finally, growth in the share of the private sector in GDP was also attractive to foreign investors who likely saw it as a sign of general progress with reform

With the parameters for Equations 1 and 6 at hand, we can estimate the effects of political instability on FDI inflows to CIS countries. We first use the parameters of Equation 1 to estimate the FDI inflows into the CIS countries that would be expected if they were normal European countries, undergoing no transition and experiencing no exceptional political instability. These estimated values of FDI are reported in the second row of each country's entry in Table 6. The expected FDI inflows for the CIS countries increase over time, save for Azerbaijan, Georgia, Moldova. These latter countries appear to have been unable to generate much progress in terms of the economic parameters included in Equation 1. For the other countries, the improvement in expected FDI inflows was quite small when compared to the Central European and Baltic transition countries.

The third row for each country reports the expected FDI based on Equation 6, that is, the countries' expected FDI inflows if they were transition economies such as the ones used to estimate the parameters for Equation 6. Recall that, in the case of the Central European and Baltic countries, appropriate transition measures enabled these countries to enjoy FDI inflows well in excess of what would be expected on the basis of Equation 1 alone, that is, for a West European non-transition

economy. This is clearly also the case in the CIS countries. FDI inflows projected by means of Eq. 6 are much greater than those projected by Eq.1. This means that, for the CIS countries, reform measures and their status as transition economies were of some advantage in attracting FDI when compared to what their economic performance alone would justify.

Row one for each country reports the actual FDI inflows. These also tend to vary considerably from year to year, in percentage terms much more so than do actual FDI inflows for the transition countries covered by Table 4. The source of this variability is partly the same as in other transition countries, that is, the privatization of large state-owned assets but also from investments in large natural resource related projects. These one-off large investments tend to dominate the data in way that we do not observe in Central European countries, where there are more small and medium sized foreign investments as well. In the CIS countries there are additional sources of volatility, of which political instability is an important one. For a number of countries FDI inflows have tailed off toward the end of the decade, a worrying sign.

Despite the rather poor reform performance of the CIS countries compared to the reference Central European and Baltic countries, many of them received FDI inflows that fell short of what would be expected of transition economies with such reform performance. Comparing the FDI predicted by Eq. 6 with actual FDI shows that most countries received FDI inflows well below that predicted for transition economies. Only Azerbaijan, Moldova and Turkmenistan experience FDI inflows greater than those predicted by Equation 6. For the rest, evidently factors such as political instability served to depress FDI inflows. The difference shortfall of actual FDI from that predicted by Equation 6 thus represents a serious loss of potential benefits for the CIS countries. .

An important conclusion can be drawn from these patterns. They show that countries affected by regional conflict or serious political turbulence do suffer significant shortfalls in FDI inflows, so that their inflows of FDI are considerably less than what would be predicted comparable for economies in

transition, suggesting that the costs of instability in terms of foregone FDI inflows are quite high even if their actual FDI inflows tend to significantly exceed what would be expected if they were typical West European economies.

IV. Conclusions and Policy Implications

Our research has demonstrated that both economic transition and political instability, whether of domestic origin or stemming from international conflicts and tensions, significantly affected FDI inflows into the transition economies of Central Europe and the CIS. Transition status tends to increase FDI inflows and the good reform performance of the Central European and Baltic countries enabled them to receive inflows that were several-fold those experienced by comparable West European countries; the same applies to the CIS countries despite their less impressive transition progress. Moreover, our results indicate that a large part of the shortfall in FDI into the CIS transition economies, measured relative to the Central European economies, is in fact attributable to the effects of regional political instabilities on the willingness of foreign investors to invest in these countries. Although our estimates of expected FDI have to rely on a static view of foreign investor behavior, which may somewhat understate our estimates of the negative effects of transition and instability on FDI, the general goodness of fit achieved in Equations 1 and 6 suggests that the orders of magnitude of our estimates of the FDI shortfall are relatively robust.

While it is beyond the scope of this paper to quantify the economic costs of foregone FDI inflows for the CIS countries, the literature on the effects of FDI on transition economies suggests that these costs must be quite high because of the important benefits that FDI brings. The most obvious one is that FDI can serve as a supplement to domestic saving and investment, and all transition economies sorely need additional investment to raise their productivity and living standards. It is true that much of the FDI that has come into transition economies has been used to purchase existing firms rather than to finance new greenfield investments. Nevertheless, even FDI for mergers and acquisitions has a positive

effect on domestic capital formation (Šohinger and Harrison, 2004) because investors do contribute additional capitalization to their acquisitions. Moreover, as Hunya (1996) shows in the case of Hungary, foreign firms have higher profits and reinvest a much higher share of it than do domestically-owned firms, thus increasing capital formation in the future. Finally, there is little crowding out of domestic investors (Misun and Tomšík, 2002). Given the low savings rates in many of the CIS countries, larger FDI inflows would thus have made an important contribution to economic growth. Another benefit of FDI is that it brings in new technology and managerial skills. Thus, foreign-owned firms are likely to be more productive (Hunya, 1996, Sgard, 2001) and to use more advanced technologies (Voicu, 2004). Moreover, there are likely to be important spillovers of these technologies and managerial skills from foreign-owned firms to the domestic economy.

As a result, it is likely that the costs of lost FDI to the CIS economies are much greater than the shortfalls in FDI that we have shown in our study. Consequently, the restoration of peace to the region and the elimination of tensions, both internal and among the countries of the region should bring important economic benefits. Certainly, the demonstrated positive response to reduced tensions and instability shown by the FDI flows to the CIS countries are a positive sign.

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Table 1: FDI Stocks in 2001 for Four Central European Transition Economies

<i>Table 1: FDI Stocks in 2001 for Four Central European Transition Economies (billion US\$)</i>			
	<i>Total</i>	<i>Total/GDP</i>	<i>Total/Population</i>
<i>Czech Republic</i>	27.09	47.37	26498.6
<i>Hungary</i>	23.34	45.02	22908.7
<i>Poland</i>	41.25	22.20	10674.4
<i>Slovakia</i>	4.84	23.16	8949.3

Source: UNCTAD (http://www.unctad.org/sections/dite_dir/docs/wir_instock_gdp_en.xls) and authors' calculations.

<i>Table 2: FDI Stocks in 2001 for Emerging CIS Economies (billion US\$)</i>			
	<i>Total</i>	<i>Total/GDP</i>	<i>Total/Population</i>
<i>Armenia</i>	0.577	26.28	1870.17
<i>Azerbaijan</i>	3.962	69.37	4884.60
<i>Belarus</i>	1.397	11.25	1401.40
<i>Georgia</i>	0.533	16.65	1020.30
<i>Kazakhstan</i>	12.917	58.35	8695.50
<i>Kyrgyzstan</i>	0.427	27.99	862.44
<i>Moldova, Republic of</i>	0.600	40.54	1405.15
<i>Tajikistan</i>	0.155	14.94	249.67
<i>Turkmenistan</i>	1.114	17.11	2360.51
<i>Uzbekistan</i>	0.782	6.73	313.21

Source: UNCTAD (http://www.unctad.org/sections/dite_dir/docs/wir_instock_gdp_en.xls) and authors' calculations.

Table 3: Parameter Estimates for Equation 1 (Dependent variable: Log FDI)

	Const.	LGDPPP	LLGDPPC	LTRADE	LSECOND	LLAND	LCITY
Coeff.	-24.03	1.48	0.77	1.13	2.29	0.15	-0.49
(t-stat)	(-7.29) ^{***}	(15.58) ^{***}	(3.80) ^{***}	(4.83) ^{***}	(4.59) ^{***}	(1.58)	(-3.23) ^{***}
$\bar{R}^2 =$	0.83			F-stat =	228.40		
				Prob. (F-stat.) =	0.0000		

*** = significant at 1% level

** = significant at 5% level

* = significant at 10% level

Table 4: Predicted and Actual FDI Inflows in Transition Economies (billion US \$)										
	FDI	1993	1994	1995	1996	1997	1998	1999	2000	2001
<i>Czech Rep.</i>	Predicted by Eq. 1	1.57	1.76	2.58	2.51	2.04	2.01	2.60	4.29	4.80
	Actual	0.65	0.87	2.56	1.43	1.30	3.72	6.32	4.99	4.92
	Actual/Predicted (R)	0.42	0.49	0.99	0.57	0.64	1.85	2.43	1.16	1.02
<i>Estonia</i>	Predicted by Eq. 1	0.06	0.07	0.09	0.10	0.16	0.18	0.18	0.21	0.25
	Actual	0.16	0.21	0.20	0.15	0.27	0.58	0.31	0.39	0.54
	Actual/Predicted (R)	2.78	3.00	2.16	1.49	1.63	3.21	1.70	1.87	2.18
<i>Hungary</i>	Predicted by Eq. 1	0.43	0.53	0.76	0.88	1.02	1.31	1.70	2.45	2.71
	Actual	2.34	1.15	4.45	2.28	2.17	2.04	1.94	1.64	2.41
	Actual/Predicted (R)	5.44	2.17	5.87	2.59	2.13	1.55	1.14	0.67	0.89
<i>Latvia</i>	Predicted by Eq. 1	0.03	0.02	0.03	0.03	0.04	0.05	0.05	0.07	0.08
	Actual	0.04	0.21	0.18	0.38	0.52	0.36	0.35	0.41	0.20
	Actual/Predicted (R)	1.38	9.35	7.12	12.22	13.07	7.34	6.90	6.04	2.66
<i>Lithuania</i>	Predicted by Eq. 1	0.15	0.08	0.11	0.13	0.16	0.19	0.16	0.24	0.31
	Actual	0.03	0.03	0.07	0.15	0.35	0.93	0.49	0.38	0.45
	Actual/Predicted (R)	0.21	0.39	0.68	1.17	2.15	4.97	2.98	1.58	1.43
<i>Poland</i>	Predicted by Eq. 1	2.28	2.89	3.96	4.79	6.27	8.27	9.15	13.45	12.01
	Actual	1.72	1.88	3.66	4.5	4.91	6.36	7.27	9.34	8.83
	Actual/Predicted (R)	0.75	0.65	0.92	0.94	0.78	0.77	0.79	0.69	0.74
<i>Slovak Rep.</i>	Predicted by Eq. 1	0.43	0.51	0.68	0.84	0.74	0.91	1.02	1.41	1.63
	Actual	0.17	0.25	0.20	0.25	0.22	0.68	0.39	2.08	1.48
	Actual/Predicted (R)	0.39	0.48	0.29	0.30	0.30	0.75	0.38	1.47	0.91

Table 5: Parameter Estimates for Equation 6 (Dependent variable: Log R)

	INITLINF	INITDLGDP	INITLPRIV	LPHONE	SPREAD
<i>Coeff.</i>	-0.00152***	-2.11***	0.605	0.533***	-0.0052***
<i>(t-stat)</i>	(-4.37)	(-4.39)	(1.13.)	(9.78)	(-3.61)
	BUDGBAL	DCURACC	DUNEMP	DLPRIV	
<i>Coeff.</i>	-0.127***	-0.0079**	-0.0209	1.09***	
<i>(t-stat)</i>	(-4.57)	(-1.97)	(0.84)	(3.71)	
$\bar{R}^2 =$	0.96		F-stat =	238.79	
			Prob. (F-stat.) =	0.0000	

*** = significant at 1% level

** = significant at 5% level

* = significant at 10% level

Table 6. Actual and Predicted FDI Inflows for Emerging CIS Markets (billion US\$)

		1993	1994	1995	1996	1997	1998	1999	2000	2001
<i>Armenia</i>	<i>Actual FDI</i>	0.0001	0.0008	0.0025	0.0018	0.0052	0.0221	0.0122	0.0104	0.0070
	<i>eq1</i>	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002
	<i>eq6</i>		0.0982	0.0436	0.0424	0.0177	0.0214	0.0318	0.0327	0.0311
<i>Azerbaijan</i>	<i>Actual FDI</i>	0.0000	0.0022	0.0330	0.0627	0.1115	0.1023	0.0510	0.0130	0.0227
	<i>eq1</i>	0.0013	0.0009	0.0003	0.0003	0.0004	0.0004	0.0004	0.0007	0.0010
	<i>eq6</i>		0.0800	0.0144	0.0205	0.0225	0.0142	0.0122	0.0219	0.0300
<i>Belarus</i>	<i>Actual FDI</i>	0.0018	0.0011	0.0015	0.0105	0.0352	0.0203	0.0444	0.0119	0.0096
	<i>eq1</i>	0.0082	0.0068	0.0036	0.0036	0.0051	0.0063	0.0067	0.0093	0.0102
	<i>eq6</i>		0.1084	0.0593	0.0577	0.1095	0.1313	0.1489	0.1702	0.2517
<i>Georgia</i>	<i>Actual FDI</i>	0.0000	0.0008	0.0005	0.0045	0.0243	0.0265	0.0082	0.0131	0.0110
	<i>eq1</i>	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
	<i>eq6</i>		0.0899	0.0388	0.0481	0.0516	0.0461	0.0588	0.0392	0.0542
<i>Kazakhstan</i>	<i>Actual FDI</i>	0.1271	0.0660	0.0964	0.1137	0.1321	0.1151	0.1587	0.1283	0.2835
	<i>eq1</i>	0.0276	0.0194	0.0151	0.0143	0.0180	0.0145	0.0221	0.0413	0.0484
	<i>eq6</i>		2.2509	0.9536	1.2268	1.2669	1.0064	1.3262	1.6777	2.6756
<i>Kyrgyz Rep.</i>	<i>Actual FDI</i>	0.0010	0.0038	0.0096	0.0047	0.0084	0.0109	0.0044	-0.0002	0.0005
	<i>eq1</i>	0.0002	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0003	0.0002
	<i>eq6</i>		0.0243	0.0186	0.0102	0.0115	0.0132	0.0138	0.0133	0.0092
<i>Moldova</i>	<i>Actual FDI</i>	0.0000	0.0012	0.0026	0.0024	0.0079	0.0076	0.0038	0.0129	0.0100
	<i>eq1</i>	0.0003	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	<i>eq6</i>		0.0308	0.0379	0.0333	0.0252	0.0120	0.0099	0.0073	0.0077
<i>Tajikistan</i>	<i>Actual FDI</i>	0.0009	0.0012	0.0010	0.0018	0.0018	0.0025	0.0021	0.0022	0.0010
	<i>eq1</i>	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
	<i>eq6</i>		0.0044	0.0007	0.0054	0.0053	0.0026	0.0031	0.0057	0.0059
<i>Turkmenistan</i>	<i>Actual FDI</i>	0.0079	0.0103	0.0233	0.0108	0.0108	0.0062	0.0089	0.0131	0.0150
	<i>eq1</i>	0.0024	0.0015	0.0009	0.0015	0.0007	0.0007	0.0009	0.0017	0.0020
	<i>eq6</i>		0.0224	0.0414	0.0195	0.0239	0.0169	0.0153	0.0311	0.0318
<i>Uzbekistan</i>	<i>actualFDI</i>	0.0048	0.0073	-0.0024	0.0090	0.0167	0.0140	0.0121	0.0073	0.0570
	<i>eq1</i>	0.0009	0.0004	0.0007	0.0008	0.0009	0.0007	0.0007	0.0010	0.0014
	<i>eq6</i>		0.0223	0.0251	0.0334	0.0229	0.0212	0.0159	0.0228	0.0338