

Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn



Josef C. Brada, Ali M. Kutan and Taner
M. Yigit

**The Effects of Transition
and Political Instability On
Foreign Direct Investment
Inflows: Central Europe and
the Balkans**

**Working
Paper**

**B04-33
2004**

The Effects of Transition and Political Instability

On Foreign Direct Investment Inflows:

Central Europe and the Balkans*

Josef C. Brada

Arizona State University

Ali M. Kutan

Southern Illinois University - Edwardsville and ZEI, Bonn

Taner M. Yigit

Bilkent University, Ankara

Abstract

This paper examines the effect of transition and of political instability on FDI flows to the transition economies of Central Europe, the Baltics and the Balkans. We find that FDI to transition economies unaffected by conflict and political instability exceed those that would be expected for comparable West European countries. Success with stabilization and reform tends to increase FDI inflows. In the case of Balkan countries, conflict and instability have reduced FDI inflows below what one would expect for comparable West European countries, and reform and stabilization failures have further reduced FDI to the region. Thus the economic costs of instability in the Balkans have been quite high.

JEL Classification numbers: F21, F23, P52

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

*Brada's and Kutan's research was supported by a grant from the William Davidson Institute at the University of Michigan. We are indebted to Xiaolin Xue for capable research assistance and to V. Tomšík and J. Šohinger for helpful comments.

I. Introduction

The transition economies of Eastern Europe have seen a large upsurge in foreign direct investment (FDI) during the past decade (Henriot, 2003, EBRD, 1999). These inflows 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, 2000). This upsurge of FDI into the transition countries has spurred a large empirical literature on the determinants of FDI into the region. 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 East Europe 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, particularly in the ones that have already joined the European Union. 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 the 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

¹ A sample of such recent work includes Bevan and Estrin (2000), Brenton et al. (1998), Deichman *et al.* (2003), and Resmini (2000).

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 political instability of a fundamentally different nature from that faced by other countries. All transition economies have been plagued by some measure of uncertainty about the evolution of democracy, the stability and effectiveness of governments and the danger of social unrest, and many of the papers cited here introduce variables to capture the effect of such uncertainty on FDI inflows. However, some transition economies, specifically those in the Balkans, have faced a different type of political risk, caused by actual or potential warfare, whether interstate, intrastate or inter-ethnic as well as foreign economic and military interventions. 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 transition economies to show both its evolution over time and its geographic distribution. Then 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 non-Balkan 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. 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 Balkan countries, and argue that the large shortfalls

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.

from expected FDI inflows that we find are attributable to the added risks caused by regional strife. 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

Figure 1 shows FDI inflows into four Central European economies. All have experienced a rapid increase in FDI. 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 the negative image that foreign investors formed of 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. Since the defeat of the Mečiar government, investor sentiment has improved,

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

aided no doubt by the objective fact that the Slovak economy has performed quite well relative to its transition-economy neighbors.

Figure 1 also shows the volatile nature of FDI inflows into these countries. This volatility results from the fact that international mergers and acquisitions, a key vehicle for FDI, are greatly influenced by stock market fluctuations. In these transition economies, an additional source of volatility has been the privatization through FDI of large assets such as national telephone companies (Matav in Hungary, SPT Telekom in the Czech Republic) and other large firms and banks.

Foreign direct investment inflows into the Balkan region are lower than those to the Central European countries, and, as Figure 2 shows, there are greater inter-country differences in the volume of FDI inflows. Romania, Bulgaria and Croatia emerged as significant host countries for FDI in the second half of the decade. Progress with economic stabilization and economic and political reform no doubt played a role in these trends. However, at least Bulgaria and Romania are considerably bigger than the other Balkan countries, so an inter-country comparison of the levels of FDI requires some scaling to account for country size. Figure 3 provides the cumulated FDI from 1991 to 2001 divided by nominal GDP in 2001 for the Central European countries. With such a scaling, the Czech Republic and Hungary surpass both Poland and the Slovak Republic by a wide margin. Figure 4 provides a scaling based on population, providing cumulated 1991-2001 FDI inflows per capita. These reveal much the same picture, with the Czech Republic and Hungary leading Poland and the Slovak Republic on a per capita basis.

In the case of the Balkan countries, scaling becomes even more important given the greater differences in country size. Figure 5 provides data on cumulative 1991-2001 inflows relative to nominal GDP, and Figure 6 provides the same information on a per capita basis. A number of conclusions can be drawn from an examination of Figures 3-6. Perhaps the most striking is the gap in FDI inflows between the Balkan countries and their counterpart transition economies in Central Europe when we account for country size. Whether scaled by GDP or by population, with the exception of Croatia and, on a per capita basis, of

the Czech Republic as well, including VW's purchase of Škoda, the sale of SPT Telekom, the country's telephone company, and, more recently, the sale of large commercial banks such as Komerční banka.

Slovenia, the levels of FDI in the Balkan region fall far short of those found in the Central European transition economies. Only Croatia's FDI inflows relative to GDP and population are comparable to those of Poland and the Slovak Republic, although they fall well short of the inflows achieved by Hungary and the Czech Republic. Slovenia does poorly when scaled by GDP because of high per capita GDP levels, but it does better on a per capita basis, achieving levels comparable to those of Poland and the Slovak Republic.

Nevertheless, given Slovenia's and Croatia's level of economic development, the strong influence of foreign trade with Western Europe and even of foreign investors in these countries in the 1980s, the relative sophistication of their economic and financial institutions, and the experience of managers in these countries with market mechanisms, one might have expected these countries to do at least as well as, if not better than, the Czech Republic and Hungary as hosts for foreign investors. The performance of the other former Yugoslav Republics is much worse, especially when considered on a per capita basis, and Bulgaria and Romania do not have FDI inflows that distinguish them from this latter group of countries. Thus, the data clearly reveal what can reasonably be termed a shortfall in FDI for the Balkan countries.

The causes of this Balkan shortfall are manifold.⁴ Some of them can be attributed to the lower levels of development of some of the former Yugoslav Republics, though even Slovenia and Croatia, which have high levels of per capita income, also exhibit this shortfall. Some of the Balkan countries are small by any standard, which may limit FDI inflows relative to countries that can offer a large domestic market, but even large economies such as Bulgaria and Romania suffer shortfalls in FDI. Many, although by no means all, Balkan countries have been unable to implement or sustain cohesive reform strategies.⁵ Moreover, many Balkan countries are small and on the periphery of the EU.⁶ Some of the shortfall may be caused by failures in stabilization, such as those experienced by Bulgaria and Romania, but FYROM (Macedonia), Slovenia and Croatia have had low levels of inflation and relatively stable exchange rates, yet they have fared no better in attracting foreign investors. There were also problems in privatizing firms, with many of the former

⁴ For a thoughtful survey, see Slaveski and Nedanovski (2002).

⁵ Claessens *et al.* (2001) and Lankes and Stern (1999) stress the importance of reform progress in attracting FDI to transition economies.

Yugoslav Republics relying on variants of the so-called Markovic Law on privatization, which effectively put much of the productive property in these countries in the hands of insiders.⁷ Yet, different means were used in Bulgaria and Romania, with little evident effect on FDI inflows.

One common element affecting the Balkan region has been political instability, both among countries of the region and within many of the countries themselves. The early and partly violent breakup of the Republic of Yugoslavia and the continued fragmentation of what remained as Yugoslavia, culminating in the NATO intervention, are but the most visible example of political instability in the region. FYROM has suffered from inter-ethnic strife, a blockade by Greece, as well as from the enforcement of the blockade against Serbia. Albania, too, has experienced tensions with both FYROM and Greece, while Croatia has had continuing conflicts with Serbia in addition to its involvement in Bosnia. There have also been domestic instabilities, some based on inter-ethnic tensions or assassinations of political figures, others on failures in regime change and yet others on 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

⁶ On the geographic handicaps faced by the Balkan countries, see Petrakos (2002).

⁷ For some telling insights into the workings of privatization in the former Yugoslav Republics, see Šuklev (1996), Slaveski, (1997), Franičević (1999) and Hadžić (2002).

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 clear shortfall in the FDI inflows of the Balkan 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. 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 Balkans, would be to specify and estimate a model of FDI in the Balkan 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 Balkan 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 Balkan 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 clashes between countries, foreign trade embargos, economic sanctions or blockades, war or conflict in neighboring states, etc., that are so important for the Balkan region.

Of course, it would be possible to follow in the path of the aforementioned studies by adding indicators of external conflicts among Balkan 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 Balkan transition countries, the data set available to estimate these parameters is limited because some countries lack data for the entire 1990s period. Moreover, the Balkan countries least affected by political instability, such as Romania, Slovenia and Bulgaria, have much longer sample periods than do the more impacted countries such as Bosnia. Thus, the regression results would be biased to reflect the experience of the former at the expense of the latter. Truncating the sample to a common time period would, on the other hand, exacerbate the problem of a small sample size relative to the number of parameters to be estimated. 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 nation states are breaking up into constituent parts 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 nation state from which they emerged. A good example of such a situation is that of Macedonia, whose relations with Greece were much more influenced by issues over its name and status that they had been when it was a constituent part of Yugoslavia.

To overcome these problems, we adopt an indirect approach to quantifying the effects of transition and political instability on FDI in the Balkans. 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 the appropriate reference group for both the transition economies and for the Balkan countries because they are similar in size, location, culture, structure economic characteristics. The sample countries have higher per capita incomes than do the transition and Balkan 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. Thus, 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, 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.⁸ 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 there are also 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 regression⁹. These classes of models can be estimated using pool objects

⁸ Lau and Lin (1999) find that a country's area serves as a surprisingly good proxy for its natural resource endowment.

⁹ Data were obtained from the World Bank's *World Development Indicators 2002* CD-ROM. We terminate our sample in 2001 due to lack of data for some countries, especially the Balkans.

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

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 NxT 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 city prevents us from being too much vulnerable to fixed effects bias.

Parameter estimates for Equation 1 are reported in Table 1. 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.¹¹ 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.¹² 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.

¹¹ Theory suggests that the costs of undertaking a foreign investment involve many costs that are independent of host country size, resulting in the greater attractiveness of host countries with large markets.

¹² This is not to deny that low wages in transition economies have been considered a major driver of FDI inflows to transition economies, although there is empirical evidence to the contrary, see Bevan and Estrin, 2000, p.18. We note that there has been both a rapid growth of real wages in transition economies as well as real appreciation of their currencies, and some FDI that was attracted to these countries by their low wages is now leaving because of wage increases. Thus, in the long run, we expect the relationship observed for West European countries to apply 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.¹³ However, because it narrowly misses significance at the 10% level and because the transition economies are somewhat more resource intensive in their endowments and production structure than are the West European countries in our sample, 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.¹⁴

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 than are the Balkan 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.¹⁵ Thus these countries set a standard of perhaps the best that economies in transition could hope to achieve in achieving attractiveness to foreign investors. Nevertheless, transition measures and the effort to stabilize their economies and develop functioning democratic systems did pose specific risks for foreign investors.

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

¹³ Campos and Kinoshita (2003) find natural resource endowments to be an important driver of FDI flows to Russia but not to East Europe. Given Russia's extensive natural resources, this result is expected.

¹⁴ The size of the largest city also reflects the size of other cities in the country as city primacy is relatively constant in Europe. See Petrakos and Brada (1989).

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

where *Expected FDI_{i,t}* is calculated using the parameters of Equation 1 and the economic characteristics of country *i* in year *t*. Table 2 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.¹⁶ 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.

¹⁵ Even if reformist governments were replaced by "reformed" communist politicians, political power was seen as legitimately contestable.

¹⁶ The rapid growth of expected FDI reported in Table 2 should be interpreted in light of the fact that foreign investors' behavior is driven by not only the levels of the explanatory variables of Equation 1 but also by their expected trends in the future. Since the limited time span of our sample does not allow us to investigate the dynamics of investor expectations, it may be that estimates of expected investment based only on the level of contemporaneous values of the explanatory variables may understate favorable developments in investor sentiments based on their expectations of future progress in these economies, suggesting even higher growth rates for predicted FDI.

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.¹⁷ 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

¹⁷ Our finding of $R > 1$ for the Baltic countries is consistent with Bevan and Estrin (2000), who use a different specification to reach the conclusion that "the Baltic states receive more FDI than one would expect given their fundamentals." (p. 19)

and, eventually, R approaches or exceeds one.¹⁸ 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.¹⁹ 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, faster progress on reform was seen by investors as signal that a country would be at the head of the queue for EU membership. Bevan and Estrin (2000), 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

¹⁸ If our data were to be extended, Slovakia's performance in raising its actual FDI would be more impressive. In 2003 and 2004 the country received large commitments for the construction automobile assembly plants from three automobile companies as well as numerous other smaller investments from abroad.

¹⁹ This is a theme raised quite emphatically by Henriot (2003) for all the advanced transition countries. While our results are somewhat more optimistic for the possibility of these countries keeping FDI inflows above the expected level in the short run, they do suggest a reversion to a level of FDI that reflects economic fundamentals rather than the one-time effects of transition.

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:

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

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 1993²⁰

$\text{LINFRA}_{i,t}$ = EBRD index of infrastructure reform of country i in year t

$\text{SPREAD}_{i,t}$ = lending minus deposit rates for country i in year t

$\text{BUDGBAL}_{i,t}$ = overall budget balance (% of GDP) of country i in year t

$\text{DCURACC}_{i,t}$ = change in current account (% of GDP) of country i in year t

$\text{DUNEMP}_{i,t}$ = change in unemployment rate of country i in year t

²⁰ The EBRD index and the PRIV measure were compiled from various issues of *Transition Report*.

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

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, 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 level of privatization, 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 capture this by means of the EBRD index of infrastructure liberalization. Liberalization, of course, 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 positive, then opportunities for effective financial intermediation exist. However, in some transition economies, governments suppressed the lending rate, either to aid troubled firms or to reduce their own expenditures on servicing government debt, but a low or even negative lending-deposit spread obviates the possibility of effective financial intermediation. Thus a positive spread should be seen as the mark of a functioning banking system by foreign investors, and it should prove attractive to them even if they are not dependent on the host country's capital markets at the outset. 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. 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. 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 2 over the indicated time period. The parameter estimates are reported in Table 3.

The regression results yield a satisfactory adjusted R-squared of 0.83 and generally significant coefficients. The coefficient for INITZINF, 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 deter FDI, suggesting that early insider-oriented privatization did serve as a barrier to FDI. Greater liberalization of the host country's infrastructure, as measured by the EBRD index, and a positive lending-borrowing spread both had a positive impact on foreign investment. The two measures of policy sustainability, the government deficit and the change in the current account balance also had significant and positive effects on investors.²¹ Increases in unemployment had a negative effect on FDI, suggesting that foreign investors prefer prosperous countries over those where real wages are out line with productivity or where there are incipient social and economic problems.²²

With the parameters for Equations 1 and 6 at hand, we can estimate the effects of political instability on FDI inflows to Balkan countries. We first use the parameters of Equation 1 to estimate the FDI inflows into the Balkans 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 first row of each country's entry in Table 4. The expected FDI inflows for the Balkan countries increase over time, reflecting the improvement, albeit small in some cases, in the economic conditions of the region. The second row for each country reports the expected FDI based on Equation 6, that is the country's expected FDI inflow if it were a transition economy such as the ones used to estimate the parameters for Equation 6.²³

²¹ Because much of the FDI took the form of acquisitions, we do not believe there is much simultaneity between the current account and FDI inflows.

²² Because of their inclusion in other studies of FDI to transition economies, we also tried several other variables in our specification, including measures of corruption, reform of other sectors, proximity to the EU, etc. None of these proved significant or useful in improving the explanatory power of our specification.

²³ In generating the estimates using the parameters of Eq. 6, we faced the problem that in the Central European and Baltic economies, initial declines in output reflected restructuring, a positive sign. In the Baltic countries, initial declines may have been the result of war, conflict, embargoes, etc., which would not have the same positive connotations for

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 not the case in the Balkans. For most of the countries in our sample, the FDI inflows projected by means of Eq. 6 are, in the majority of the years, less than those projected by Eq.1, with only Romania and Slovenia as significant exceptions to this generalization. This means that, for the Balkan countries, reform measures were much less effective than were those adopted by Central European and Baltic transition economies, and this lack of reform progress had a negative impact on foreign investors. Of course, it may well be that the inability to implement effective reform packages was in large part due to the political instability in the region. Indeed, a comparison of the two sets of estimates suggests that poor transition reform performance reduces expected inflows to about one-half of what would be expected for a West European economy, a result quite different from that of the Central European and Baltic countries, where reform performance boosted FDI inflows over those projected by Eq. 1 by as much as three- to four-fold.

Row three 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 2. The source of this variability is partly the same as in other transition countries, that is, the privatization of large state-owned assets such as banks, telecommunications companies, etc.²⁴ Because there are fewer greenfield investments and acquisitions of medium and small-sized firms by foreign investors, these one-off large privatizations tend to dominate the data in way that we do not observe in Central European countries. In the Balkan countries there are additional sources of volatility, of which political instability is an important one. Note, for example, the sharp drop in Albanian FDI inflows in 1997-1999 as a reaction to the crisis caused by the collapse of the financial pyramid schemes in 1997 and 1998 and the Kosovo crisis of 1999. A similar reduction in 1999 inflows can be seen for FYROM and Romania, also

foreign investors. Thus for Bosnia, Croatia, FYROM we used the average Central European and Baltic GDP decline, which tends to produce an upward bias to expected FDI computed by Eq. 6. We also used the average of Central European and Baltic interest rate spreads to 1995 for Croatia and FYROM to account for banking system instability.

perhaps reflecting the Kosovo crisis. At the same time, positive developments, such as the Dayton Peace Accords, had a strongly positive influence on the inflows to Croatia starting in 1996 as did reduced instability and better economic stabilization, as well as the one-off privatization of major banks, telecommunications firms and the sale of mining concessions, in Albania at the end of the decade and in Bulgaria starting in 1997 perhaps reflecting positive expectations caused by Bulgaria's successful switch to a currency board regime after the 1997 crisis. Another important source of variability is the major changes in privatization policy, which occurred in the Balkans during the mid-1990s, not at the beginning of the decade as in the Central European countries. Thus, the decision to push ahead with large privatization transactions in Albania in 2000 and the change in policy in favor of foreign investors in 1998 in Croatia and in 1997 in Romania are also amply evident in the data.

Despite the rather poor reform performance of the Balkan countries, some of them received FDI inflows that exceeded expectations. In the case of Albania, actual inflows are much greater than predicted either by Eq. 1 or Eq. 6, the result of investments by the many ethnic Albanians living abroad.²⁵ Albania thus reflects much the same behavior as the Central European and Baltic transition economies in that its FDI inflows exceed those expected for a West European market economy, though perhaps for somewhat different reasons. In the case of Bosnia, actual investments lagged predicted for 1995 through 1997, after which they increased and then come to exceed the predicted value. Bulgaria and Romania also exhibit FDI inflows well below predicted through 1996, after which there is an increase in inflows to well above the predicted level although Romania continues to lag behind what would be expected based on its reform performance. Croatia also has below predicted levels through 1995, and then experienced a large increase in inflows to levels well above predicted, most probably due to Dayton Peace Accords. FYROM shows no clear pattern, reflecting the various sources of instability faced by that country. Slovenia, the ex-Yugoslav Republics the least affected by regional conflict, has inflows well below predicted, which reflects the result of its privatization policies.

²⁴ See Hunya (2002) and Šohinger and Harrison (2004).

²⁵ Also noteworthy is the jump in Albania's expected FDI on the basis of Eq. 6 starting in 2000 as the result of the stabilization of the economy.

Two conclusions can be drawn from these patterns. The first is that countries affected by regional conflict or serious political turbulence do suffer significant shortfalls in FDI inflows, so that their inflows of FDI are a half or less of what would be predicted either for West European economies or for economies in transition, suggesting that the costs of instability in terms of foregone FDI inflows are quite high. On the other hand, once these conflicts are brought to an end, investment inflows increase quite rapidly, so that, in these countries, as in the transition economies of Central Europe, 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 reduced FDI inflows into the transition economies of Central Europe and the Balkans. Nevertheless, 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. Moreover, our results indicate that a large part of the shortfall in FDI into the Balkan transition economies, whether measured relative to the Central European economies or to a hypothetical European market economy, 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.

²⁹ Fan (2002) provides a useful survey of the literature on technology spillovers in transition economies. Aitken and Harrison (1999), Blomstrom and Persson (1983) provide useful case studies.

While it is beyond the scope of this paper to quantify the economic costs of foregone FDI inflows for the Balkan 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 Tomšik, 2002). Given the low savings rates in many of the Balkan 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.²⁹

As a result, it is likely that the costs of lost FDI to the Balkan 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 Balkan countries are a positive sign.

References

- Aggarwal, R., Inclan, C. and Leal, R. (1999). Volatility in emerging stock markets. *Journal of Financial and Quantitative Analysis* 34(1), 33-55.
- Aitken, B. J. and Harrison, A. E. (1986). Do domestic firms benefit from direct foreign investment? Evidence from Venezuela. *American Economic Review* 89(3), 605-618.
- Alessina, A. and Perotti, R. (1996). Income distribution, political instability, and investment. *European Economic Review* 40, 1203-1228.
- Bailey, W. and Chung, Y. P. (1995). Exchange fluctuations, political risk, and stock returns: Some evidence from an emerging market. *Journal of Financial and Quantitative Analysis* 30(4), 541-561.
- Beck, N. and Katz, J.N. (1995). "What to do (and not to do) with time-series cross-section data." *American Political Science Review*, 89(3), 634-647.
- Bevan, Alan A and Estrin, Saul (2000). The Determinants of Foreign Direct Investment in Transition Economies. William Davidson Institute Working Paper 342.
- Bennett, P.D. and Green, R. (1972). Political instability as a determinant of direct foreign marketing investment. *Journal of Marketing Research* 9, 182-186.
- Bittlingmayer, G. (1998). Output, stock volatility and political uncertainty in a natural experiment. *Journal of Finance* 53, 2243-2258.
- Blomstrom M. and Persson, H. (1983). Foreign investment and spillover efficiency in an underdeveloped country: evidence from the Mexican manufacturing industry. *World Development* 11(6) 493-501.
- Brenton, P., Di Mauro, F. and Lücke, M. (1998). Economic Integration and FDI: An Empirical Analysis of Foreign Investment in the EU and Central and Eastern Europe., Kiel Working Paper No. 890, Kiel Institute of World Economics.
- Buch ,C. Kotka, R. M., and Piazzolo, M. (2001). Does the East Get What Would Otherwise Flow to the South? FDI Diversion in Europe. Kiel Working Paper No. 1061, Kiel Institute of World Economics.
- Bussiere, M. and Mulder, C. (1999). Political instability and economic vulnerability. *IMF Working Paper*, No.46.
- Campos, N. and Kinoshita, Y.(2003). 'Why Does FDI Go Where it Goes? New Evidence from the Transitional Economies'. CEPR Discussion Paper no. 3984. London, Centre for Economic Policy Research. <http://www.cepr.org/pubs/dps/DP3984.asp>.
- Campos, N.F. and Nugent, J. B. (2002). Who is afraid of political instability? *Journal of Development Economics* 67(1), 157-172.
- Campos, N.F. and Nugent, J. B. (2003). Aggregate investment and political instability. *Economica* 70(279), 533 – 549.
- Carmignani, F. (2003). Political instability, uncertainty, and economics. *Journal of Economic Surveys* 17(1), 1-54.
- Carstensen, Kai and Toubal, (2004). Foreign direct investment in Central and Eastern European countries: a dynamic panel analysis. *Journal of Comparative Economics* 32(1), 3–22
- Chan, Y. and Wei, J. (1996). Political risk and stock market volatility: the case of Hong Kong. *Pacific Basin Finance Journal*, 259-275.

Cherian, J.A and Perotti, E. (2001). Option pricing and foreign investment under political risk. *Journal of International Economics* 55(2), 359-377.

Cho, H.J. (2003). Political risk, labor standards, and foreign direct investment. <http://www.anderson.ucla.edu/research/ciber/intsemanr/ciber-jeecho.pdf> (July 17, 2003).

Citron, J. and Nickelsburg, G. (1987). Country risk and political instability. *Journal of Development Economics* 25(2), 385-392.

Claessens, S., Oks, D., and Postari, R. (2001) Capital flows to Central and Eastern Europe and former Soviet Union. Econ. <http://www.Worldbank.org/439.pdf> (May 18, 2001).

Crowley, F.D. and Loviscek, A. L. (2002). Assessing the impact of political unrest on currency returns: a look at Latin America. *Quarterly Review of Economics and Finance* 42(1),143-153.

Deichman, J.I, Eshghi, A., Haughton, D.M., Sayek, S., Teebagy, N.C. (2003). "Foreign direct investment in the Eurasian transition states." *Eastern European Economics* 41(1), 5-34.

EBRD (1999) *Transition Report 1999*, European Bank for Reconstruction and Development, London

Fan, E. X. (2002). *Technological Spillovers from Foreign Direct Investment -A Survey*. Asian Development Bank ERD Working Paper No. 33.

Fielding, D. (2003). Modeling political instability and economic performance: Israeli investment during the Intifada. *Economica* 70, 159-186.

Franicevic, M. (1999). Privatization in Croatia: legacies and context. *Eastern European Economics* 37(2), 5-54.

Galego, A, Vieira, C., and Vieira, I. (2004) The CEEC as FDI attractors: A menace to the EU periphery?" *Emerging Markets Finance and Trade* 40(5), 75-92.

Globerman, S. and Shapiro, D. (2002). National political infrastructure and foreign direct investment. Industry Canada/Industrie Canada Working Paper No. 37.

Hadzic, M. (2002). Rethinking privatization in Serbia. *Eastern European Economics* 40(6),6-23.

Henriot, Alain (2003). Prospects for the Location of Industrial Activities after EU Enlargement. Centre d'Observation Economique Documents de Travail No. 61. <http://www.coe.ccip.fr>.

Hunya, G. (1996). *Foreign Direct Investment in Hungary: a Key Element of Economic Modernization*. The Vienna Institute for Comparative Economic Studies, Research Report No. 226.

Hunya, G. (2002). *FDI in South-Eastern Europe*. The Vienna Institute for International Economic Studies.

Hymer, S. (1976). *The International Operations of National Firms: A Study of Direct Foreign Investment*. Cambridge: MIT Press.

Ketkar, S.L. and Ketkar, K.W., 1989. Determinants of capital flight from Argentina, Brazil and Mexico. *Contemporary Policy Issues* 7(3), 11-29.

Kim, H. Y and Mei, J. P. (2001). What makes the stock market jump? An analysis of political risk on Hong Kong stock returns. *Journal of International Money and Finance* 20, 1003-1016.

Kogut, B. and Chang, S.J. (1996). Platform investments and volatile exchange rates: direct investment in the U.S. by Japanese companies. *Review of Economics and Statistics* 78(2), 221-231.

Kutan, A. M. and Zhou, S. (1993). Political turmoil and financial market behavior in reforming market-oriented economies: the case of Poland. *Applied Economics* 25, 757763.

- Kutan, A. M. and Zhou, S. (1995). Socio-political instability, volatility, and the bid-ask spread: Evidence from the free market for dollars in Poland. *Open Economies Review* 6, 225-236.
- Kutan, A. M. and Perez, S. M. (2002). Does organized crime affect stock market development? Evidence from Colombia. The Emerging Markets Group, Working Paper 4/02, Cass Business School, London.
- Lankes, H., and Stern, N. (1999) Capital flows to Eastern Europe. In M. Feldstein, ed., *International Capital Flows*. Chicago: University of Chicago Press.
- Lau, K.T. and Lin, S. (1999). The world's distribution of natural wealth. *Annals of Asian Geographers* 18(2) 117-144.
- Lothian J.R. and Melvin, M.T. (1991). Political influences in international economic models. *Journal of International Money and Finance* 10(1), supplement, S 1-S 122.
- Markusen, J.R., Maskus K.E. (2002). Discriminating Among Alternative Theories of the Multinational Enterprise. *Review of International Economics* 10(4) 694-707.
- Melvin, M. T. and Tan, K. H. (1996). Foreign exchange market bid-ask spreads and the market price of social unrest. *Oxford Economic Papers* 48(2), 329-341.
- Misun, J. and Tomšik, V. (2002). Does foreign direct investment crowd out or crowd in domestic investment? *Eastern European Economics* 40(2), 38-56.
- Petrakos, G. (2002). The Balkans in the new European economic space. *Eastern European Economics* 40(4), 6-30.
- Petrakos, G. and Brada, J. (1989). Metropolitan concentration in developing countries. *Kyklos*, 42(4) 557-578.
- Polanec, S. (2004). Convergence at Last? *Eastern European Economics* 42(4), 55-80.
- Resmini, L. (2000). The Determinants of Foreign Direct Investment into the CEECs: New Evidence from Sectoral Patterns. *mimeo.*, LICOS and L.Bocconi University.
- Robin, L.D., Liew, J. M., and Stevens, R. L. (1996). Political risk in emerging and developed markets. *Financial Analysts Journal* 52, 71-76.
- Rojec, M. and Svetličič, V. L. (2000). Tobačna Ljubljana, d.o.o.. In S. Estrin, X. Richet and J. Brada, eds., *Foreign Direct Investment in Central Eastern Europe: Case Studies of Firms in Transition*. Armonk and London: M. E. Sharpe.
- Schneider, F. and Frey, B.S. (1985). Economic and Political Determinants of Foreign Direct Investment. *World Development* 13(13) 161-175.
- Sgard, J. (2001). *Direct Foreign Investments and Productivity Growth in Hungarian Firms, 1992-1999*. Centre d'Etudes Prospectives et d'Informations Internationales Working Paper No. 19.
- Singh, H. and Jun, K.W. (1995). Some new evidence on determinants of foreign direct investment. World Bank Working Paper 1531.
- Sinn, H.W. and Weichenrieder, A.J. (1997). Foreign direct investment, political resentment and the privatization process in Eastern Europe', *Economic Policy*, Vol.24, April, pp.177-98
- Slaveski, T. (1997). Privatization in the Republic of Macedonia. *Eastern European Economics* 35(1)31-51.
- Slaveski, T. and Nedanovski, P. (2002). Foreign direct investment in the Balkans. *Eastern European Economics* 40(4), 83-99.

Smarzynska, Beata K. and Wei, Shang-Jin. (2000). Corruption and Composition of Foreign Direct Investment: Firm-Level Evidence. http://papers.ssrn.com/paper.taf?abstract_id=223594

Šohinger, J. and Harrison, G. W. (2004). The implications of foreign direct investment for development in transition economies. *Eastern European Economics* 42(2) 56-74.

Šuklev, B. (1996). Privatization in the Republic of Macedonia. *Eastern European Economics* 34(6), 5-17.

Transition Report, various issues, *EBRD*.

Transparency International, <http://www.transparency.org/>

Voicu, I. (2004). Are foreign subsidiaries technologically superior to local firms? Evidence from Romania. *Eastern European Economics* 42(4) 5-32.

Willard, K., Guinnane, T., and Rosen, H. (1996). Turning points in the Civil War: views from the Greenback market. *American Economic Review* 86, 1001-1018.

Table 1: 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 2: Predicted and Actual FDI Inflows in Transition Economies (billion US \$)										
	FDI	1993	1994	1995	1996	1997	1998	1999	2000	2001
Czech Rep.	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
Estonia	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
Hungary	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
Latvia	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
Lithuania	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
Poland	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
Slovak Rep.	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 3: Parameter Estimates for Equation 6 (Dependent variable: Log R)					
	INITLINF	INITDLGDP	INITLPRIV	LINFRA	SPREAD
<i>Coeff.</i>	-0.08**	-2.99***	-0.69***	0.98***	0.09***
<i>(t-stat)</i>	(-2.00)	(-6.89)	(-3.60)	(3.80)	(4.05)
	BUDGBAL	DCURACC	DUNEMP	DLPRIV	
<i>Coeff.</i>	0.05*	0.05***	-0.08***	1.13	
<i>(t-stat)</i>	(1.68)	(2.90)	(-3.12)	(1.63)	
$\bar{R}^2 =$	0.83		F-stat =	34.38	
			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 Balkan Transition Economies (billion US \$)										
	FDI	1993	1994	1995	1996	1997	1998	1999	2000	2001
Albania	Predicted by Eq. 1	0.0020	0.0010	0.0010	0.0020	0.0030	0.0060	0.0090	0.0130	0.0160
	Predicted by Eq 6	0.0015	0.0007	0.0021	0.0013	0.0001	0.0005	0.0072	0.0259	0.0285
	Actual FDI	0.0680	0.0530	0.0700	0.0900	0.0480	0.0450	0.0410	0.1430	0.1810
Bosnia	Predicted by Eq. 1			0.0050	0.0220	0.0400	0.0400	0.0470	0.0530	0.0610
	Predicted by Eq. 6			0.0028	0.0026	0.0262	0.0865	0.0125	0.0278	0.0218
	Actual FDI			0.0000	-0.0020	0.0010	0.0550	0.1490	0.1310	0.1640
Bulgaria	Predicted by Eq. 1	0.1100	0.1400	0.1980	0.1890	0.2340	0.2200	0.2520	0.4220	0.5300
	Predicted by Eq 6	0.0803	0.2129	0.2633	0.1017	0.3220	0.1954	0.1842	0.3992	0.3927
	Actual FDI	0.0400	0.1050	0.0900	0.1090	0.5050	0.5370	0.8190	1.0020	0.6890
Croatia	Predicted by Eq. 1	0.1110	0.0980	0.1300	0.1580	0.2050	0.2020	0.2200	0.2810	0.3370
	Predicted by Eq 6	0.1097	0.0858	0.0689	0.4253	0.1242	0.2695	0.1758	0.1911	0.2248
	Actual FDI	0.1200	0.1170	0.1210	0.5160	0.5510	1.0140	1.6350	1.1270	1.4420
FYROM	Predicted by Eq. 1		0.0120	0.0110	0.0110	0.0270	0.0330	0.0380	0.0550	0.0510
	Predicted by Eq 6		0.0077	0.0058	0.0132	0.0137	0.0253	0.0472	0.0408	0.0236
	Actual FDI		0.0240	0.0100	0.0120	0.0160	0.1180	0.0320	0.1780	0.5300
Romania	Predicted by Eq. 1	0.2480	0.2750	0.4180	0.5150	0.4570	0.3240	0.4020	0.5620	0.6740
	Predicted by Eq 6	1.8360	0.4961	0.7079	1.0281	1.2544	1.0256	1.9262	1.7876	1.7641
	Actual FDI	0.0940	0.3410	0.4190	0.2630	1.2150	2.0310	1.0410	1.0250	1.1370
Slovenia	Predicted by Eq. 1	0.2680	0.3030	0.3450	0.3970	0.4640	0.4950	0.5610	0.7650	0.8470
	Predicted by Eq 6	0.3133	0.8420	0.6203	0.6732	0.5759	0.5192	0.5131	0.6162	0.7301
	Actual FDI	0.1130	0.1280	0.1770	0.1940	0.3750	0.2480	0.1810	0.1760	0.4420

Figure 1. FDI Inflows in Selected Transition Economies

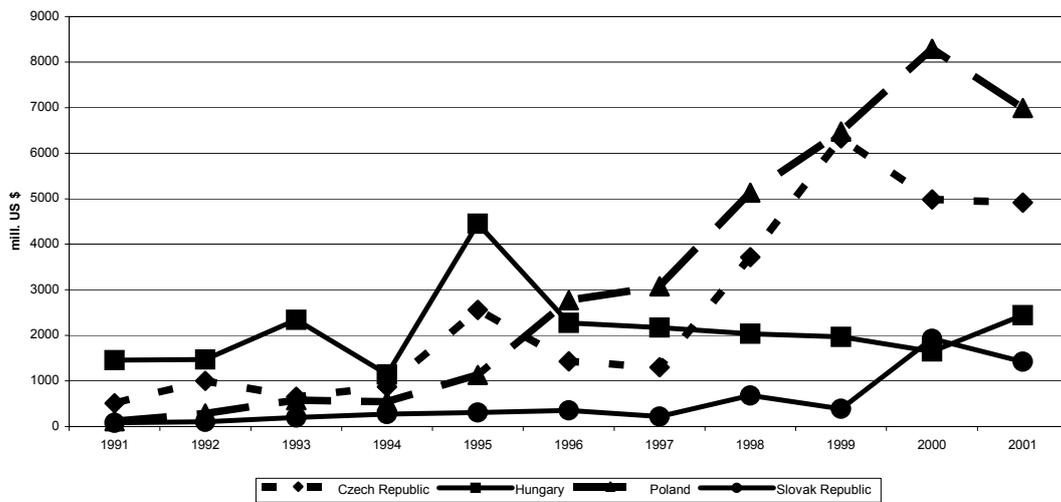
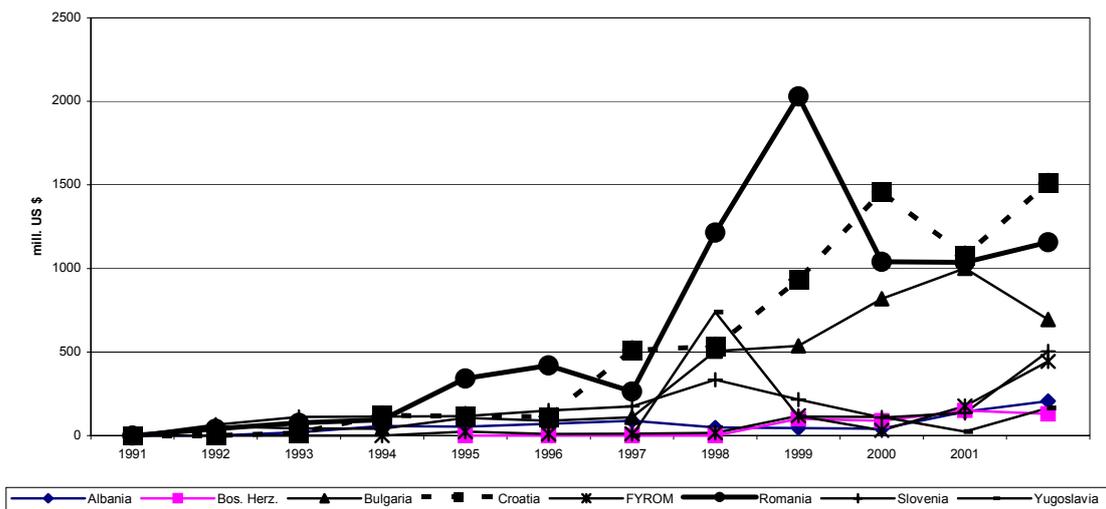


Figure 2. FDI Inflows for Balkan Transition Economies



Sources for Figs. 1-6: United Nations Economic Commission for Europe, *Economic Survey of Europe, 2003*. United Nations: Geneva, 2003 and United Nations Development Program, *Human Development Report, 2003*. New York and Oxford: Oxford University Press, 2003.

Figure 3. Transition Economies' Total 1991-2001 FDI to \$1000 GDP (in US\$)

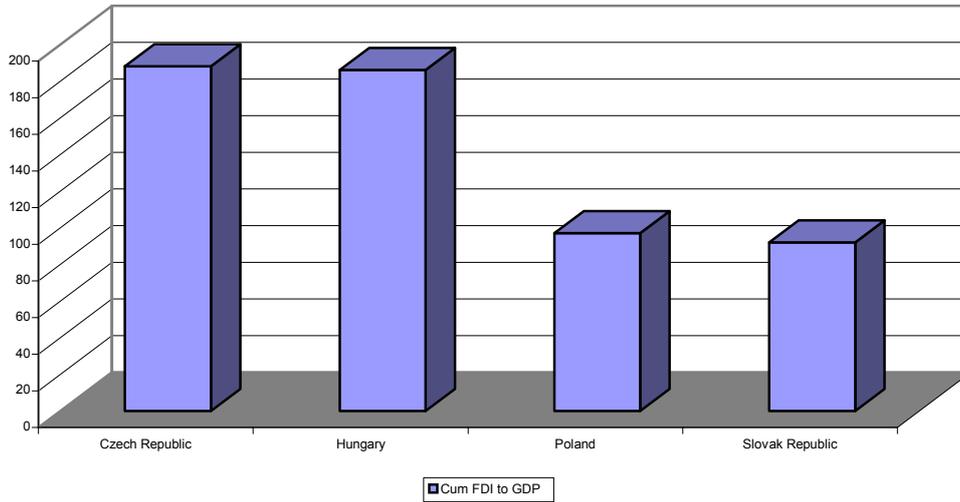


Figure 4. Total 1991-2001 FDI per Head (US\$) in Central Europe

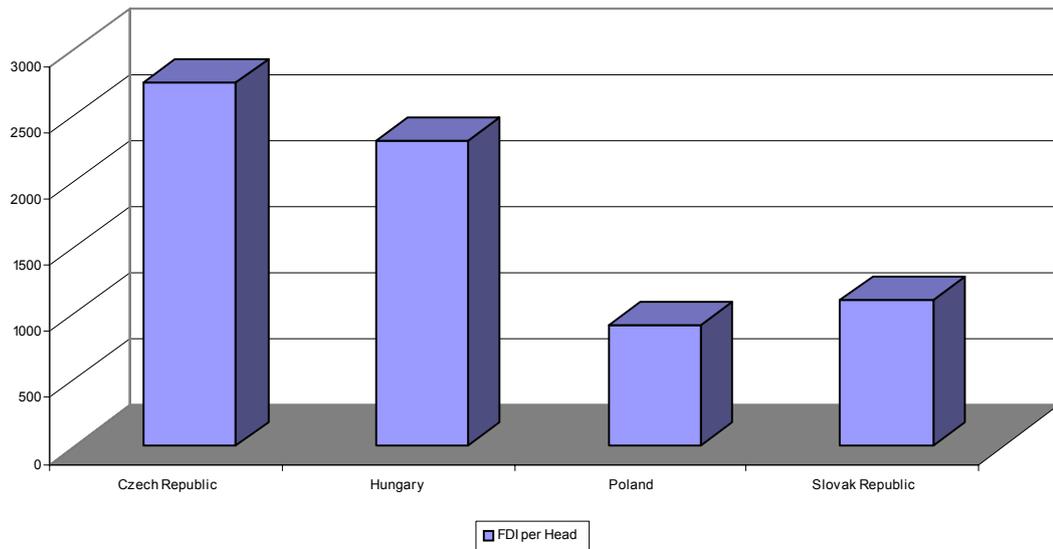


Figure 5. Total 1991-2001 FDI to \$1000 GDP In Selected Balkan Countries

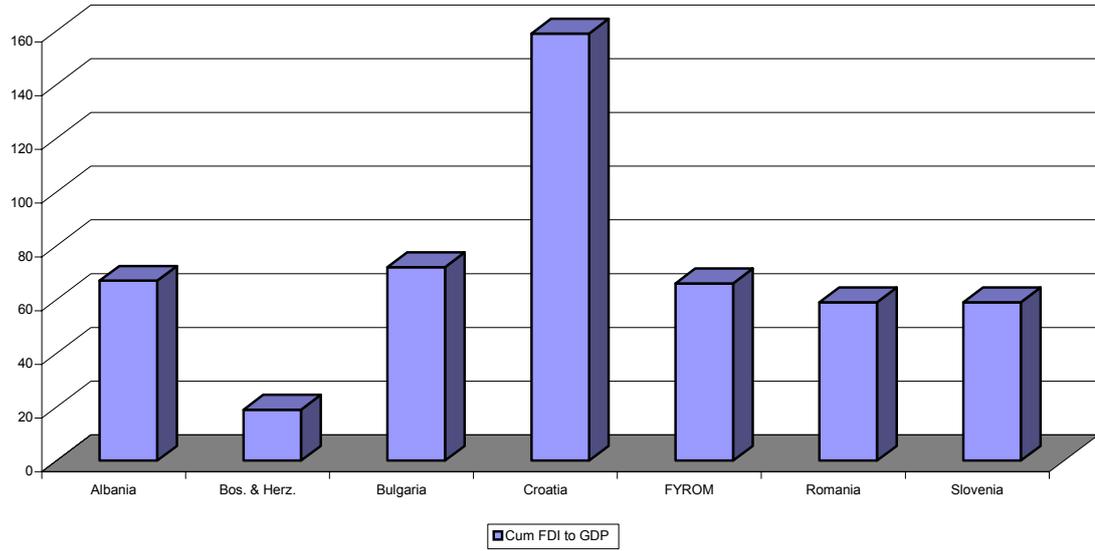
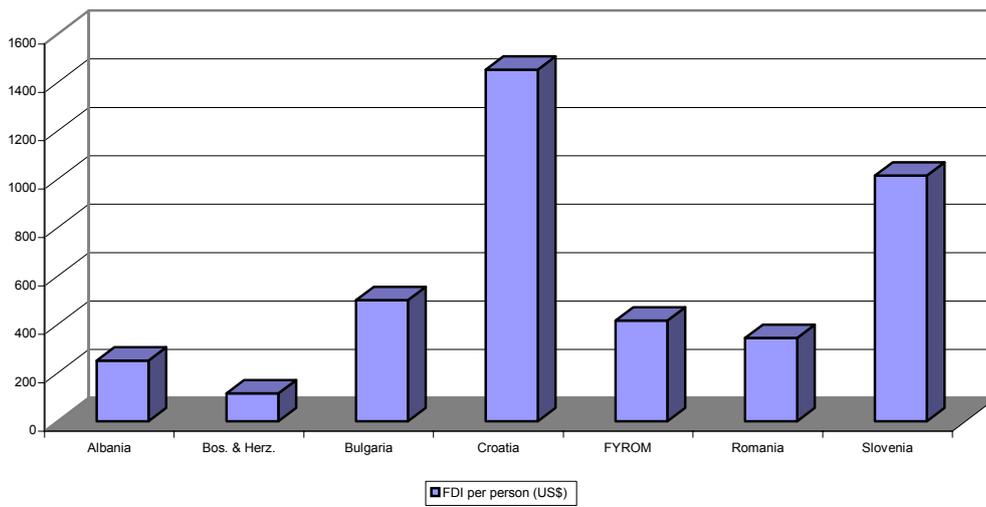


Figure 6. Total FDI per Person (US\$) In Selected Balkan Countries



2008		
B01-08	Euro-Diplomatie durch gemeinsame „Wirtschaftsregierung“	<i>Martin Seidel</i>
2007		
B03-07	Löhne und Steuern im Systemwettbewerb der Mitgliedstaaten der Europäischen Union	<i>Martin Seidel</i>
B02-07	Konsolidierung und Reform der Europäischen Union	<i>Martin Seidel</i>
B01-07	The Ratification of European Treaties - Legal and Constitutional Basis of a European Referendum.	<i>Martin Seidel</i>
2006		
B03-06	Financial Frictions, Capital Reallocation, and Aggregate Fluctuations	<i>Jürgen von Hagen, Haiping Zhang</i>
B02-06	Financial Openness and Macroeconomic Volatility	<i>Jürgen von Hagen, Haiping Zhang</i>
B01-06	A Welfare Analysis of Capital Account Liberalization	<i>Jürgen von Hagen, Haiping Zhang</i>
2005		
B11-05	Das Kompetenz- und Entscheidungssystem des Vertrages von Rom im Wandel seiner Funktion und Verfassung	<i>Martin Seidel</i>
B10-05	Die Schutzklauseln der Beitrittsverträge	<i>Martin Seidel</i>
B09-05	Measuring Tax Burdens in Europe	<i>Guntram B. Wolff</i>
B08-05	Remittances as Investment in the Absence of Altruism	<i>Gabriel González-König</i>
B07-05	Economic Integration in a Multicore World?	<i>Christian Volpe Martinicus, Jennifer Pédussel Wu</i>
B06-05	Banking Sector (Under?)Development in Central and Eastern Europe	<i>Jürgen von Hagen, Valeriya Dinger</i>
B05-05	Regulatory Standards Can Lead to Predation	<i>Stefan Lutz</i>
B04-05	Währungspolitik als Sozialpolitik	<i>Martin Seidel</i>
B03-05	Public Education in an Integrated Europe: Studying to Migrate and Teaching to Stay?	<i>Panu Poutvaara</i>
B02-05	Voice of the Diaspora: An Analysis of Migrant Voting Behavior	<i>Jan Fidrmuc, Orla Doyle</i>
B01-05	Macroeconomic Adjustment in the New EU Member States	<i>Jürgen von Hagen, Iulia Traistaru</i>
2004		
B33-04	The Effects of Transition and Political Instability On Foreign Direct Investment Inflows: Central Europe and the Balkans	<i>Josef C. Brada, Ali M. Kutan, Tanner M. Yigit</i>
B32-04	The Choice of Exchange Rate Regimes in Developing Countries: A Multinomial Panel Analysis	<i>Jürgen von Hagen, Jizhong Zhou</i>
B31-04	Fear of Floating and Fear of Pegging: An Empirical Analysis of De Facto Exchange Rate Regimes in Developing Countries	<i>Jürgen von Hagen, Jizhong Zhou</i>
B30-04	Der Vollzug von Gemeinschaftsrecht über die Mitgliedstaaten und seine Rolle für die EU und den Beitrittsprozess	<i>Martin Seidel</i>
B29-04	Deutschlands Wirtschaft, seine Schulden und die Unzulänglichkeiten der einheitlichen Geldpolitik im Eurosystem	<i>Dieter Spethmann, Otto Steiger</i>
B28-04	Fiscal Crises in U.S. Cities: Structural and Non-structural Causes	<i>Guntram B. Wolff</i>
B27-04	Firm Performance and Privatization in Ukraine	<i>Galyna Grygorenko, Stefan Lutz</i>
B26-04	Analyzing Trade Opening in Ukraine: Effects of a Customs Union with the EU	<i>Oksana Harbuzyuk, Stefan Lutz</i>
B25-04	Exchange Rate Risk and Convergence to the Euro	<i>Lucjan T. Orlowski</i>
B24-04	The Endogeneity of Money and the Eurosystem	<i>Otto Steiger</i>
B23-04	Which Lender of Last Resort for the Eurosystem?	<i>Otto Steiger</i>
B22-04	Non-Discretionary Monetary Policy: The Answer for Transition Economies?	<i>Elham-Mafi Kreft, Steven F. Kreft</i>
B21-04	The Effectiveness of Subsidies Revisited: Accounting for Wage and Employment Effects in Business R+D	<i>Volker Reinthaler, Guntram B. Wolff</i>
B20-04	Money Market Pressure and the Determinants of Banking Crises	<i>Jürgen von Hagen, Tai-kuang Ho</i>
B19-04	Die Stellung der Europäischen Zentralbank nach dem Verfassungsvertrag	<i>Martin Seidel</i>

B18-04	Transmission Channels of Business Cycles Synchronization in an Enlarged EMU	<i>Iulia Traistaru</i>
B17-04	Foreign Exchange Regime, the Real Exchange Rate and Current Account Sustainability: The Case of Turkey	<i>Sübüdey Togan, Hasan Ersel</i>
B16-04	Does It Matter Where Immigrants Work? Traded Goods, Non-traded Goods, and Sector Specific Employment	<i>Harry P. Bowen, Jennifer Pédussel Wu</i>
B15-04	Do Economic Integration and Fiscal Competition Help to Explain Local Patterns?	<i>Christian Volpe Martincus</i>
B14-04	Euro Adoption and Maastricht Criteria: Rules or Discretion?	<i>Jiri Jonas</i>
B13-04	The Role of Electoral and Party Systems in the Development of Fiscal Institutions in the Central and Eastern European Countries	<i>Sami Yläoutinen</i>
B12-04	Measuring and Explaining Levels of Regional Economic Integration	<i>Jennifer Pédussel Wu</i>
B11-04	Economic Integration and Location of Manufacturing Activities: Evidence from MERCOSUR	<i>Pablo Sanguinetti, Iulia Traistaru, Christian Volpe Martincus</i>
B10-04	Economic Integration and Industry Location in Transition Countries	<i>Laura Resmini</i>
B09-04	Testing Creditor Moral Hazard in Sovereign Bond Markets: A Unified Theoretical Approach and Empirical Evidence	<i>Ayse Y. Evrensel, Ali M. Kutan</i>
B08-04	European Integration, Productivity Growth and Real Convergence	<i>Taner M. Yigit, Ali M. Kutan</i>
B07-04	The Contribution of Income, Social Capital, and Institutions to Human Well-being in Africa	<i>Mina Balamoune-Lutz, Stefan H. Lutz</i>
B06-04	Rural Urban Inequality in Africa: A Panel Study of the Effects of Trade Liberalization and Financial Deepening	<i>Mina Balamoune-Lutz, Stefan H. Lutz</i>
B05-04	Money Rules for the Eurozone Candidate Countries	<i>Lucjan T. Orłowski</i>
B04-04	Who is in Favor of Enlargement? Determinants of Support for EU Membership in the Candidate Countries' Referenda	<i>Orla Doyle, Jan Fidrmuc</i>
B03-04	Over- and Underbidding in Central Bank Open Market Operations Conducted as Fixed Rate Tender	<i>Ulrich Bindseil</i>
B02-04	Total Factor Productivity and Economic Freedom Implications for EU Enlargement	<i>Ronald L. Moomaw, Euy Seok Yang</i>
B01-04	Die neuen Schutzklauseln der Artikel 38 und 39 des Beitrittsvertrages: Schutz der alten Mitgliedstaaten vor Störungen durch die neuen Mitgliedstaaten	<i>Martin Seidel</i>
2003		
B29-03	Macroeconomic Implications of Low Inflation in the Euro Area	<i>Jürgen von Hagen, Boris Hofmann</i>
B28-03	The Effects of Transition and Political Instability on Foreign Direct Investment: Central Europe and the Balkans	<i>Josef C. Brada, Ali M. Kutan, Taner M. Yigit</i>
B27-03	The Performance of the Euribor Futures Market: Efficiency and the Impact of ECB Policy Announcements (Electronic Version of International Finance)	<i>Kerstin Bernoth, Juergen von Hagen</i>
B26-03	Sovereign Risk Premia in the European Government Bond Market (überarbeitete Version zum Herunterladen)	<i>Kerstin Bernoth, Juergen von Hagen, Ludger Schulknecht</i>
B25-03	How Flexible are Wages in EU Accession Countries?	<i>Anna Iara, Iulia Traistaru</i>
B24-03	Monetary Policy Reaction Functions: ECB versus Bundesbank	<i>Bernd Hayo, Boris Hofmann</i>
B23-03	Economic Integration and Manufacturing Concentration Patterns: Evidence from Mercosur	<i>Iulia Traistaru, Christian Volpe Martincus</i>
B22-03	Reformzwänge innerhalb der EU angesichts der Osterweiterung	<i>Martin Seidel</i>
B21-03	Reputation Flows: Contractual Disputes and the Channels for Inter-Firm Communication	<i>William Pyle</i>
B20-03	Urban Primacy, Gigantism, and International Trade: Evidence from Asia and the Americas	<i>Ronald L. Moomaw, Mohammed A. Alwosabi</i>
B19-03	An Empirical Analysis of Competing Explanations of Urban Primacy Evidence from Asia and the Americas	<i>Ronald L. Moomaw, Mohammed A. Alwosabi</i>

B18-03	The Effects of Regional and Industry-Wide FDI Spillovers on Export of Ukrainian Firms	<i>Stefan H. Lutz, Oleksandr Talavera, Sang-Min Park</i>
B17-03	Determinants of Inter-Regional Migration in the Baltic States	<i>Mihails Hazans</i>
B16-03	South-East Europe: Economic Performance, Perspectives, and Policy Challenges	<i>Iulia Traistaru, Jürgen von Hagen</i>
B15-03	Employed and Unemployed Search: The Marginal Willingness to Pay for Attributes in Lithuania, the US and the Netherlands	<i>Jos van Ommeren, Mihails Hazans</i>
B14-03	FICs and Economic Activity: Some International Evidence	<i>Charles Goodhart, Boris Hofmann</i>
B13-03	The IS Curve and the Transmission of Monetary Policy: Is there a Puzzle?	<i>Charles Goodhart, Boris Hofmann</i>
B12-03	What Makes Regions in Eastern Europe Catching Up? The Role of Foreign Investment, Human Resources, and Geography	<i>Gabriele Tondl, Goran Vuksic</i>
B11-03	Die Weisungs- und Herrschaftsmacht der Europäischen Zentralbank im europäischen System der Zentralbanken - eine rechtliche Analyse	<i>Martin Seidel</i>
B10-03	Foreign Direct Investment and Perceptions of Vulnerability to Foreign Exchange Crises: Evidence from Transition Economies	<i>Josef C. Brada, Vladimír Tomsík</i>
B09-03	The European Central Bank and the Eurosystem: An Analysis of the Missing Central Monetary Institution in European Monetary Union	<i>Gunnar Heinsohn, Otto Steiger</i>
B08-03	The Determination of Capital Controls: Which Role Do Exchange Rate Regimes Play?	<i>Jürgen von Hagen, Jizhong Zhou</i>
B07-03	Nach Nizza und Stockholm: Stand des Binnenmarktes und Prioritäten für die Zukunft	<i>Martin Seidel</i>
B06-03	Fiscal Discipline and Growth in Euroland. Experiences with the Stability and Growth Pact	<i>Jürgen von Hagen</i>
B05-03	Reconsidering the Evidence: Are Eurozone Business Cycles Converging?	<i>Michael Massmann, James Mitchell</i>
B04-03	Do Ukrainian Firms Benefit from FDI?	<i>Stefan H. Lutz, Oleksandr Talavera</i>
B03-03	Europäische Steuerkoordination und die Schweiz	<i>Stefan H. Lutz</i>
B02-03	Commuting in the Baltic States: Patterns, Determinants, and Gains	<i>Mihails Hazans</i>
B01-03	Die Wirtschafts- und Währungsunion im rechtlichen und politischen Gefüge der Europäischen Union	<i>Martin Seidel</i>
2002		
B30-02	An Adverse Selection Model of Optimal Unemployment Assurance	<i>Marcus Hagedorn, Ashok Kaul, Tim Mennel</i>
B29B-02	Trade Agreements as Self-protection	<i>Jennifer Pédussel Wu</i>
B29A-02	Growth and Business Cycles with Imperfect Credit Markets	<i>Debajyoti Chakrabarty</i>
B28-02	Inequality, Politics and Economic Growth	<i>Debajyoti Chakrabarty</i>
B27-02	Poverty Traps and Growth in a Model of Endogenous Time Preference	<i>Debajyoti Chakrabarty</i>
B26-02	Monetary Convergence and Risk Premiums in the EU Candidate Countries	<i>Lucjan T. Orłowski</i>
B25-02	Trade Policy: Institutional Vs. Economic Factors	<i>Stefan Lutz</i>
B24-02	The Effects of Quotas on Vertical Intra-industry Trade	<i>Stefan Lutz</i>
B23-02	Legal Aspects of European Economic and Monetary Union	<i>Martin Seidel</i>
B22-02	Der Staat als Lender of Last Resort - oder: Die Achillesverse des Eurosystems	<i>Otto Steiger</i>
B21-02	Nominal and Real Stochastic Convergence Within the Transition Economies and to the European Union: Evidence from Panel Data	<i>Ali M. Kutan, Taner M. Yigit</i>
B20-02	The Impact of News, Oil Prices, and International Spillovers on Russian Financial Markets	<i>Bernd Hayo, Ali M. Kutan</i>

B19-02	East Germany: Transition with Unification, Experiments and Experiences	<i>Jürgen von Hagen, Rolf R. Strauch, Guntram B. Wolff</i>
B18-02	Regional Specialization and Employment Dynamics in Transition Countries	<i>Iulia Traistaru, Guntram B. Wolff</i>
B17-02	Specialization and Growth Patterns in Border Regions of Accession Countries	<i>Laura Resmini</i>
B16-02	Regional Specialization and Concentration of Industrial Activity in Accession Countries	<i>Iulia Traistaru, Peter Nijkamp, Simonetta Longhi</i>
B15-02	Does Broad Money Matter for Interest Rate Policy?	<i>Matthias Brückner, Andreas Schaber</i>
B14-02	The Long and Short of It: Global Liberalization, Poverty and Inequality	<i>Christian E. Weller, Adam Hersch</i>
B13-02	De Facto and Official Exchange Rate Regimes in Transition Economies	<i>Jürgen von Hagen, Jizhong Zhou</i>
B12-02	Argentina: The Anatomy of A Crisis	<i>Jiri Jonas</i>
B11-02	The Eurosystem and the Art of Central Banking	<i>Gunnar Heinsohn, Otto Steiger</i>
B10-02	National Origins of European Law: Towards an Autonomous System of European Law?	<i>Martin Seidel</i>
B09-02	Monetary Policy in the Euro Area - Lessons from the First Years	<i>Volker Clausen, Bernd Hayo</i>
B08-02	Has the Link Between the Spot and Forward Exchange Rates Broken Down? Evidence From Rolling Cointegration Tests	<i>Ali M. Kutan, Su Zhou</i>
B07-02	Perspektiven der Erweiterung der Europäischen Union	<i>Martin Seidel</i>
B06-02	Is There Asymmetry in Forward Exchange Rate Bias? Multi-Country Evidence	<i>Su Zhou, Ali M. Kutan</i>
B05-02	Real and Monetary Convergence Within the European Union and Between the European Union and Candidate Countries: A Rolling Cointegration Approach	<i>Josef C. Brada, Ali M. Kutan, Su Zhou</i>
B04-02	Asymmetric Monetary Policy Effects in EMU	<i>Volker Clausen, Bernd Hayo</i>
B03-02	The Choice of Exchange Rate Regimes: An Empirical Analysis for Transition Economies	<i>Jürgen von Hagen, Jizhong Zhou</i>
B02-02	The Euro System and the Federal Reserve System Compared: Facts and Challenges	<i>Karlheinz Ruckriegel, Franz Seitz</i>
B01-02	Does Inflation Targeting Matter?	<i>Manfred J. M. Neumann, Jürgen von Hagen</i>
2001		
B29-01	Is Kazakhstan Vulnerable to the Dutch Disease?	<i>Karlygash Kuralbayeva, Ali M. Kutan, Michael L. Wyzan</i>
B28-01	Political Economy of the Nice Treaty: Rebalancing the EU Council. The Future of European Agricultural Policies	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B27-01	Investor Panic, IMF Actions, and Emerging Stock Market Returns and Volatility: A Panel Investigation	<i>Bernd Hayo, Ali M. Kutan</i>
B26-01	Regional Effects of Terrorism on Tourism: Evidence from Three Mediterranean Countries	<i>Konstantinos Drakos, Ali M. Kutan</i>
B25-01	Monetary Convergence of the EU Candidates to the Euro: A Theoretical Framework and Policy Implications	<i>Lucjan T. Orłowski</i>
B24-01	Disintegration and Trade	<i>Jarko and Jan Fidrmuc</i>
B23-01	Migration and Adjustment to Shocks in Transition Economies	<i>Jan Fidrmuc</i>
B22-01	Strategic Delegation and International Capital Taxation	<i>Matthias Brückner</i>
B21-01	Balkan and Mediterranean Candidates for European Union Membership: The Convergence of Their Monetary Policy With That of the European Central Bank	<i>Josef C. Brada, Ali M. Kutan</i>
B20-01	An Empirical Inquiry of the Efficiency of Intergovernmental Transfers for Water Projects Based on the WRDA Data	<i>Anna Rubinchik-Pessach</i>
B19-01	Detrending and the Money-Output Link: International Evidence	<i>R.W. Hafer, Ali M. Kutan</i>

B18-01	Monetary Policy in Unknown Territory. The European Central Bank in the Early Years	<i>Jürgen von Hagen, Matthias Brückner</i>
B17-01	Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Caribbean Countries	<i>Mark Hallerberg, Patrick Marier</i>
B16-01	Sources of Inflation and Output Fluctuations in Poland and Hungary: Implications for Full Membership in the European Union	<i>Selahattin Dibooglu, Ali M. Kutan</i>
B15-01	Programs Without Alternative: Public Pensions in the OECD	<i>Christian E. Weller</i>
B14-01	Formal Fiscal Restraints and Budget Processes As Solutions to a Deficit and Spending Bias in Public Finances - U.S. Experience and Possible Lessons for EMU	<i>Rolf R. Strauch, Jürgen von Hagen</i>
B13-01	German Public Finances: Recent Experiences and Future Challenges	<i>Jürgen von Hagen, Rolf R. Strauch</i>
B12-01	The Impact of Eastern Enlargement On EU-Labour Markets. Pensions Reform Between Economic and Political Problems	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B11-01	Inflationary Performance in a Monetary Union With Large Wage Setters	<i>Lilia Cavallar</i>
B10-01	Integration of the Baltic States into the EU and Institutions of Fiscal Convergence: A Critical Evaluation of Key Issues and Empirical Evidence	<i>Ali M. Kutan, Niina Pautola-Mol</i>
B09-01	Democracy in Transition Economies: Grease or Sand in the Wheels of Growth?	<i>Jan Fidrmuc</i>
B08-01	The Functioning of Economic Policy Coordination	<i>Jürgen von Hagen, Susanne Mundschenk</i>
B07-01	The Convergence of Monetary Policy Between Candidate Countries and the European Union	<i>Josef C. Brada, Ali M. Kutan</i>
B06-01	Opposites Attract: The Case of Greek and Turkish Financial Markets	<i>Konstantinos Drakos, Ali M. Kutan</i>
B05-01	Trade Rules and Global Governance: A Long Term Agenda. The Future of Banking.	<i>Deutsch-Französisches Wirtschaftspolitisches Forum</i>
B04-01	The Determination of Unemployment Benefits	<i>Rafael di Tella, Robert J. McCulloch</i>
B03-01	Preferences Over Inflation and Unemployment: Evidence from Surveys of Happiness	<i>Rafael di Tella, Robert J. McCulloch, Andrew J. Oswald</i>
B02-01	The Konstanz Seminar on Monetary Theory and Policy at Thirty	<i>Michele Fratianni, Jürgen von Hagen</i>
B01-01	Divided Boards: Partisanship Through Delegated Monetary Policy	<i>Etienne Farvaque, Gael Lagadec</i>
2000		
B20-00	Breakin-up a Nation, From the Inside	<i>Etienne Farvaque</i>
B19-00	Income Dynamics and Stability in the Transition Process, general Reflections applied to the Czech Republic	<i>Jens Hölscher</i>
B18-00	Budget Processes: Theory and Experimental Evidence	<i>Karl-Martin Ehrhart, Roy Gardner, Jürgen von Hagen, Claudia Keser</i>
B17-00	Rückführung der Landwirtschaftspolitik in die Verantwortung der Mitgliedsstaaten? - Rechts- und Verfassungsfragen des Gemeinschaftsrechts	<i>Martin Seidel</i>
B16-00	The European Central Bank: Independence and Accountability	<i>Christa Randzio-Plath, Tomasso Padoa-Schioppa</i>
B15-00	Regional Risk Sharing and Redistribution in the German Federation	<i>Jürgen von Hagen, Ralf Hepp</i>
B14-00	Sources of Real Exchange Rate Fluctuations in Transition Economies: The Case of Poland and Hungary	<i>Selahattin Dibooglu, Ali M. Kutan</i>
B13-00	Back to the Future: The Growth Prospects of Transition Economies Reconsidered	<i>Nauro F. Campos</i>

B12-00	Rechtsetzung und Rechtsangleichung als Folge der Einheitlichen Europäischen Wahrung	<i>Martin Seidel</i>
B11-00	A Dynamic Approach to Inflation Targeting in Transition Economies	<i>Lucjan T. Orłowski</i>
B10-00	The Importance of Domestic Political Institutions: Why and How Belgium Qualified for EMU	<i>Marc Hallerberg</i>
B09-00	Rational Institutions Yield Hysteresis	<i>Rafael Di Tella, Robert MacCulloch</i>
B08-00	The Effectiveness of Self-Protection Policies for Safeguarding Emerging Market Economies from Crises	<i>Kenneth Kletzer</i>
B07-00	Financial Supervision and Policy Coordination in The EMU	<i>Deutsch-Franzosisches Wirtschaftspolitisches Forum</i>
B06-00	The Demand for Money in Austria	<i>Bernd Hayo</i>
B05-00	Liberalization, Democracy and Economic Performance during Transition	<i>Jan Fidrmuc</i>
B04-00	A New Political Culture in The EU - Democratic Accountability of the ECB	<i>Christa Randzio-Plath</i>
B03-00	Integration, Disintegration and Trade in Europe: Evolution of Trade Relations during the 1990's	<i>Jarko Fidrmuc, Jan Fidrmuc</i>
B02-00	Inflation Bias and Productivity Shocks in Transition Economies: The Case of the Czech Republic	<i>Josef C. Brada, Arthur E. King, Ali M. Kutan</i>
B01-00	Monetary Union and Fiscal Federalism	<i>Kenneth Kletzer, Jurgen von Hagen</i>
1999		
B26-99	Skills, Labour Costs, and Vertically Differentiated Industries: A General Equilibrium Analysis	<i>Stefan Lutz, Alessandro Turrini</i>
B25-99	Micro and Macro Determinants of Public Support for Market Reforms in Eastern Europe	<i>Bernd Hayo</i>
B24-99	What Makes a Revolution?	<i>Robert MacCulloch</i>
B23-99	Informal Family Insurance and the Design of the Welfare State	<i>Rafael Di Tella, Robert MacCulloch</i>
B22-99	Partisan Social Happiness	<i>Rafael Di Tella, Robert MacCulloch</i>
B21-99	The End of Moderate Inflation in Three Transition Economies?	<i>Josef C. Brada, Ali M. Kutan</i>
B20-99	Subnational Government Bailouts in Germany	<i>Helmut Seitz</i>
B19-99	The Evolution of Monetary Policy in Transition Economies	<i>Ali M. Kutan, Josef C. Brada</i>
B18-99	Why are Eastern Europe's Banks not failing when everybody else's are?	<i>Christian E. Weller, Bernard Morzuch</i>
B17-99	Stability of Monetary Unions: Lessons from the Break-Up of Czechoslovakia	<i>Jan Fidrmuc, Julius Horvath and Jarko Fidrmuc</i>
B16-99	Multinational Banks and Development Finance	<i>Christian E. Weller and Mark J. Scher</i>
B15-99	Financial Crises after Financial Liberalization: Exceptional Circumstances or Structural Weakness?	<i>Christian E. Weller</i>
B14-99	Industry Effects of Monetary Policy in Germany	<i>Bernd Hayo and Birgit Uhlenbrock</i>
B13-99	Financial Fragility or What Went Right and What Could Go Wrong in Central European Banking?	<i>Christian E. Weller and Jurgen von Hagen</i>
B12-99	Size Distortions of Tests of the Null Hypothesis of Stationarity: Evidence and Implications for Applied Work	<i>Mehmet Caner and Lutz Kilian</i>
B11-99	Financial Supervision and Policy Coordination in the EMU	<i>Deutsch-Franzosisches Wirtschaftspolitisches Forum</i>
B10-99	Financial Liberalization, Multinational Banks and Credit Supply: The Case of Poland	<i>Christian Weller</i>
B09-99	Monetary Policy, Parameter Uncertainty and Optimal Learning	<i>Volker Wieland</i>
B08-99	The Connection between more Multinational Banks and less Real Credit in Transition Economies	<i>Christian Weller</i>

- B07-99 **Comovement and Catch-up in Productivity across Sectors: Evidence from the OECD** *Christopher M. Cornwell and Jens-Uwe Wächter*
- B06-99 **Productivity Convergence and Economic Growth: A Frontier Production Function Approach** *Christopher M. Cornwell and Jens-Uwe Wächter*
- B05-99 **Tumbling Giant: Germany's Experience with the Maastricht Fiscal Criteria** *Jürgen von Hagen and Rolf Strauch*
- B04-99 **The Finance-Investment Link in a Transition Economy: Evidence for Poland from Panel Data** *Christian Weller*
- B03-99 **The Macroeconomics of Happiness** *Rafael Di Tella, Robert McCulloch and Andrew J. Oswald*
- B02-99 **The Consequences of Labour Market Flexibility: Panel Evidence Based on Survey Data** *Rafael Di Tella and Robert McCulloch*
- B01-99 **The Excess Volatility of Foreign Exchange Rates: Statistical Puzzle or Theoretical Artifact?** *Robert B.H. Hauswald*
- 1998**
- B16-98 **Labour Market + Tax Policy in the EMU** *Deutsch-Französisches Wirtschaftspolitisches Forum*
- B15-98 **Can Taxing Foreign Competition Harm the Domestic Industry?** *Stefan Lutz*
- B14-98 **Free Trade and Arms Races: Some Thoughts Regarding EU-Russian Trade** *Rafael Reuveny and John Maxwell*
- B13-98 **Fiscal Policy and Intranational Risk-Sharing** *Jürgen von Hagen*
- B12-98 **Price Stability and Monetary Policy Effectiveness when Nominal Interest Rates are Bounded at Zero** *Athanasios Orphanides and Volker Wieland*
- B11A-98 **Die Bewertung der "dauerhaft tragbaren öffentlichen Finanzlage" der EU Mitgliedstaaten beim Übergang zur dritten Stufe der EWWU** *Rolf Strauch*
- B11-98 **Exchange Rate Regimes in the Transition Economies: Case Study of the Czech Republic: 1990-1997** *Julius Horvath and Jiri Jonas*
- B10-98 **Der Wettbewerb der Rechts- und politischen Systeme in der Europäischen Union** *Martin Seidel*
- B09-98 **U.S. Monetary Policy and Monetary Policy and the ESCB** *Robert L. Hetzel*
- B08-98 **Money-Output Granger Causality Revisited: An Empirical Analysis of EU Countries (überarbeitete Version zum Herunterladen)** *Bernd Hayo*
- B07-98 **Designing Voluntary Environmental Agreements in Europe: Some Lessons from the U.S. EPA's 33/50 Program** *John W. Maxwell*
- B06-98 **Monetary Union, Asymmetric Productivity Shocks and Fiscal Insurance: an Analytical Discussion of Welfare Issues** *Kenneth Kletzer*
- B05-98 **Estimating a European Demand for Money (überarbeitete Version zum Herunterladen)** *Bernd Hayo*
- B04-98 **The EMU's Exchange Rate Policy** *Deutsch-Französisches Wirtschaftspolitisches Forum*
- B03-98 **Central Bank Policy in a More Perfect Financial System** *Jürgen von Hagen / Ingo Fender*
- B02-98 **Trade with Low-Wage Countries and Wage Inequality** *Jaleel Ahmad*
- B01-98 **Budgeting Institutions for Aggregate Fiscal Discipline** *Jürgen von Hagen*
- 1997**
- B04-97 **Macroeconomic Stabilization with a Common Currency: Does European Monetary Unification Create a Need for Fiscal Insurance or Federalism?** *Kenneth Kletzer*
- B-03-97 **Liberalising European Markets for Energy and Telecommunications: Some Lessons from the US Electric Utility Industry** *Tom Lyon / John Mayo*
- B02-97 **Employment and EMU** *Deutsch-Französisches Wirtschaftspolitisches Forum*
- B01-97 **A Stability Pact for Europe** *(a Forum organized by ZEI)*

ISSN 1436 - 6053

Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn

Walter-Flex-Strasse 3
D-53113 Bonn
Germany

Tel.: +49-228-73-1732
Fax: +49-228-73-1809
www.zei.de