FOREIGN DIRECT INVESTMENT IN EMERGING AND TRANSITION EUROPEAN COUNTRIES

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Abstract

This study examines the determinants of both inward and outward FDI for twenty emerging and transition economies in Europe (ETEE) over the period 1995-2001. We adopt a comparative perspective by explicitly comparing the determinants of FDI in ETEEs with alternative samples of both developed and other developing countries. Particular attention is paid to measures of governance and institutional change, including privatization, as determinants of both inward and outward FDI. We use a relatively broad measure of governance compared to other investigations of the direct investment process in emerging European countries. By and large, the determinants of foreign direct investment for our sample of ETEE countries are similar to those for other developing countries and, indeed, for developed countries as well. We find that governance is an important determinant of both capital outflows and capital inflows for all countries. However, we also identify ETEE-specific determinants. In particular, joining the EU, or even the prospect of joining the EU, promotes inward FDI (a halo effect), and this phenomenon particularly characterizes the former Communist countries. We interpret this result as suggesting the potential importance of a "locking in" effect with respect to governance. That is, political integration into developed Europe provides longer-term assurances to foreign investors that institutional changes undertaken by transition economies will not be reversed.

Keywords: foreign direct investment, capital flows, governance, multinational corporations, free trade.

INTRODUCTION

Most of the emerging and transition economies in Central and Eastern Europe have been building their economies largely on the infrastructure inherited from Communist times. It is widely recognized that much of the infrastructure in both the private and public sectors must be replaced if those economies are to achieve acceptable rates of economic growth and participate successfully within the broader European Union economic zone (The Economist, 2003). Upgrading infrastructure includes the likely importation of technology and management expertise, as well as substantial financial commitments. In this regard, inward foreign direct investment (FDI) represents a particularly important potential source of capital for emerging and transition European economies (ETEEs), as FDI usually entails the importation of financial and human capital by the host economy with measurable and positive spillover impacts on host countries' productivity levels (Holland and Pain, 1998a). The ability of ETEEs to attract and benefit from inward FDI should therefore be seen as an important issue within the broader policy context of how those countries can improve and expand their capital infrastructure, given relatively undeveloped domestic capital markets and scarce human capital.

The broad focus of this paper is on the direct investment process in ETEEs.[1] In particular, we are interested in the relationship between political and economic governance and flows of inward and outward direct investment for ETEEs. Previous research has suggested that "good" governance is particularly important for promoting

[1] ETEEs in our sample are identified in Table One. The exclusion of other emerging European countries was dictated by considerations of data availability; however, our sample includes virtually all of the countries that would be considered emerging and transition economies in the European geographic space.

FDI in developing countries (Globerman and Shapiro, 2002). One might expect this to be true as well for ETEEs. Nevertheless, the importance of governance to the direct investment process might be conditioned by specific attributes of emerging economies in Europe. In particular, the legacy of Communism in many of those economies might strengthen the importance of public sector governance attributes as influences on the direct investment process, since informal private sector networks of trust and established reputations for "honest dealing" are arguably lacking compared to countries with longer legacies of private ownership and market transacting (Slangen, van Kooten and Suchanek, 2004).

On the other hand, for those ETEEs that have joined the European Union (EU), the importance of governance attributes at the national level might be mitigated by formal and informal governance institutions that exist at the EU level including, for example, national treatment provisions for companies based in EU-member countries that apply to all EU members. Even countries that have not yet joined the EU might be expected to condition the treatment of private investment with a view towards being accepted into the EU. Thus, while *de jure* public sector governance might be seen as relatively poor, *de facto* governance might be relatively good. These latter considerations suggest that measured governance attributes *per se* might be less important influences on the direct investment process in ETEEs than in comparable developing countries located elsewhere. Therefore, a specific focus of the paper is whether and how the relationship between governance and inward and outward direct investment differs for ETEEs compared to other European countries, as well as to developing countries outside Europe.

Our paper makes a number of contributions to the relevant literature. First, it explores the determinants of both inward and outward FDI for ETEEs. Previous studies have focused exclusively on the determinants of inward FDI. Second, the sample of ETEEs is larger than in other studies that have focused on the direct investment process in transition European countries. We also include more recent years than most other available studies. Third, our study explicitly compares the determinants of FDI in ETEEs with alternative samples of developed and, perhaps more interesting, other developing countries. This comparison adds a potentially important perspective on whether and how the basic determinants of FDI differ between ETEEs and other developing countries. Fourth, we seek to identify whether there are differences in the FDI process within our sample of ETEEs. In seeking to identify the determinants of inward and outward FDI, as well as in comparing and contrasting results across different sub-samples of countries and regions, particular attention is paid to measures of governance and institutional change, including privatization. In this respect, our study is distinguished by yet another difference from earlier studies. Specifically, we use a relatively broad measure of governance compared to other investigations of the direct investment process in emerging European countries. This measure, available for a broad sample of countries world wide, permits us to evaluate explicitly cross-country differences in the impact of governance on capital flows.

The paper proceeds as follows. Section 2 presents an overview of FDI in ETEEs against the background of FDI flows in Europe as a whole, as well as in other emerging economies. Section 3 discusses measures of governance for ETEEs and reviews studies of the determinants of FDI in those countries. A model of inward and outward direct

investment is specified in Section 4, and the estimation results are presented and discussed in Section 5. A summary and conclusions is provided in the final section with particular reference to policy implications for ETEEs.

OVERVIEW OF FDI IN ETEEs

Net capital flows in Eastern Europe and the former Soviet Union built up rapidly during the 1980s, reaching around USD $5 billion per annum in the second half of the decade. These flows largely took the form of commercial bank loans and trade finance, often through official lending. With the fall of the Berlin Wall in 1989, the countries of Central Europe embarked on programmes of liberalization and privatization with a subsequent increase in private capital inflows (Lankes and Stern, 1998).[2] In particular, direct equity investment flows to Eastern Europe and the former Soviet Union more than doubled between 1989 and 1990 and then increased a further tenfold between 1990 and 1993. In 1997, direct investment equity flows to the region were approximately USD $12 billion compared to around USD $4 billion in 1993. As a share of total capital inflows, direct equity investment increased consistently from around 12 percent in 1990 to around 20 percent in 1997 (Lankes and Stern, 1998).

Observers acknowledge that the growth in FDI in the transitional economies was impressive in the early post-restructuring period, although the level of inward FDI was arguably low compared to that in other developing economies, particularly in East Asia (Lansbury, Pain and Smidkova, 1996). On average, over the period 1991-1993, FDI inflows to the transitional countries accounted for about 2.5% of total world inflows

[2] Liberalization and institutional change in the former Soviet Union republics, including Russia, did not commence until after the break-up of the Soviet Union in 1991.

compared to 30.5% for developing countries overall; however, FDI flows to the transitional economies increased in the post-1990 period, such that the share of FDI flows going to Central and Eastern European countries as a share of total inflows to developing countries increased from 0.9% in 1990 to 10.7% in 1995 before decreasing to 8.9 percent in 1999 (Altomonte and Guagliano, 2003).

The distribution of inward FDI among transitional European countries has been highly concentrated within a relatively few countries. Specifically, over the period 1990-1994, over 70% of FDI was channeled to the Central European economies (Czech Republic, Hungary and Poland). Over the period 1990-1999, these three countries accounted for cumulated FDI inflows amounting to 79% of total FDI into Central and Eastern Europe. Most FDI into the Central European economies originated in Germany and France. For example, over the period 1994-1998, Germany accounted for around 40% of the total value of inward FDI, while France accounted for around 10.5%. Overall, EU countries accounted for around 70% of the total FDI recorded (Altomonte and Guagliano, 2003). In the former Soviet republics, the United States has been the single largest home country for inward FDI.

More recent patterns of FDI into emerging European countries are summarized in Table 1 where we report total FDI (in millions of current USD), total GDP (in billions of current USD) and the ratio of inward FDI to GDP for our sample of ETEEs averaged over the period 1995-2001. Over the full sample period, Poland is the single absolute largest recipient of inward FDI with the Czech Republic and Russia being the next absolute largest recipients. However, Poland and especially Russia are far from being the most FDI-intensive host economies when nominal FDI flows are deflated by nominal

GDP levels. Indeed, in our sample of ETEEs, only Turkey has a lower ratio of FDI/GDP than Russia, while Malta has the highest ratio notwithstanding the small absolute amount of FDI going to Malta. The Czech Republic is noteworthy inasmuch as it enjoys a relatively high ratio of FDI/GDP, as well as relatively large inflows of FDI over the sample period. Perhaps the main point to highlight in Table 1 is the continued dominance of Central Europe (Poland, Czech Republic and Hungary) as recipients of inward FDI, notwithstanding the liberalization and reform undertaken by other ETEEs including Russia. Thus, the three countries collectively account for somewhat over 55 percent of the total FDI reported in Table 1.

The average ratio of FDI/GDP (expressed as a percentage) over the period 1995-2001 is reported for our sample of ETEE countries, as well as for a number of other regions, in Table 2. The purpose is to provide a basis for evaluating the relative attractiveness of the ETEE countries to foreign direct investors. By and large, ETEE countries were relatively successful in attracting inward FDI given the sizes of their economies. Specifically, the FDI/GDP share was generally higher in the ETEEs than in all countries (Total) with the "out-performance" being particularly notable in the post-1997 period. Whereas the FDI/GDP measure was higher in the ASEAN countries than in the ETEE countries from 1995-1997, the reverse was true in the post-1997 period. Indeed, relative to the sizes of their domestic economies, the ETEE group attracted more FDI than did China over the period 1998-2001. On the other hand, the FDI/GDP measure was higher in non-ETEE Europe, as well as in the entire OECD, than in the ETEE sample for all but the most recent year post-1997.

In summary, our sample of ETEE countries became progressively more attractive host locations for foreign direct investors relative to other developing regions of the world in the 1998-2001 period. At the same time, there is a fair amount of heterogeneity among our sample of ETEE countries with respect to their attractiveness to foreign investors. In the remainder of this paper, we attempt to explain the differences in the foreign direct investment experiences of our sample focusing on both inward and outward foreign direct investment.

DETERMINANTS OF DIRECT INVESTMENT IN ETEEs

Empirical studies focusing on the direct investment process in emerging European countries are relatively limited in number. In part, this presumably reflects the fact that several of those countries, such as Croatia and Latvia, have only recently experienced a significant growth in inward direct investment. It might also reflect a view that the experiences of emerging European countries are unlikely to be different from those of other countries, including non-European emerging countries.

Virtually all studies of inward foreign direct investment (FDI) into ETEEs highlight the importance of governance as a factor conditioning the FDI process. In broad terms, governance encompasses laws, regulations and public institutions that determine the extent of economic freedom in a country, the security of private property rights, the costs to the private sector of complying with government regulations and legislation, the competence and efficiency of the civil service in carrying out state activities that, in turn, affect the efficiency of private sector enterprises, the transparency of the legal system and the honesty of government officials (Slangen, van Kooten and Suchanek, 2004;

Globerman and Shapiro, 2002). The basic presumptions are that good governance is characterized by economic freedom, secure property rights, an honest and efficient public sector, a minimum of "dead-weight" regulations and restrictions on trade, and transparency in government, and that both FDI and domestic investment are directly encouraged by good governance regimes. Furthermore, good governance should promote successful economic performance, and the latter should indirectly encourage FDI by increasing the scope for profitable business activities.

A number of studies document the broad importance of governance to the FDI process in ETEEs. For example, Holland and Pain (1998a,b and 2000) find that the level of inward investment in Eastern Europe is significantly and negatively related to a constructed indicator of country risk based on the principal component of four separate series: GDP growth, inflation, the ratio of foreign exchange reserves to import values and the average country score across all the transition indicators published annually by the European Bank for Reconstruction and Development (EBRD). The EBRD assigns transition economies in Europe a ranking based on nine separate categories according to how far they have progressed towards the standards of industrialized countries. The categories cover the legal framework, corporate governance, trade and competition policies, as well as the extent of privatizations. Barrell, Holland and Pain (2000) estimate an equation for inward FDI in the Visegrad economies where country risk is similarly defined from the first principal component of inflation growth and the transition ranking by the EBRD. FDI inflows are negatively and significantly related to the country risk estimate.

Other studies employ more specific measures of governance. Hellman, Jones and Kaufman (2002) find that corruption reduces FDI inflows for a sample of transition economies. Carstensen and Toubal (2003) use a macroeconomic risk ranking found in Euromoney to estimate a panel data model of the determinants of FDI into Central and Eastern European countries. The less risky the country by the Euromoney ranking, the more attractive is the country for FDI.

In summary, a number of studies identify the importance of governance as a determinant of inward FDI flows in transition economies in Europe. Similar governance measures are used in the various studies, most typically the risk rankings prepared by the EBRD or Euromoney.[3] In this respect, the studies explore the influences on FDI of what might be broadly identified as potential risks surrounding the legal security of property rights and potential risks surrounding the security of the macroeconomic environment; however, available econometric studies ordinarily focus on one or the other. In this regard, Lankes and Venables' (1996) survey of senior managers of western manufacturing companies that were either planning, or had already undertaken, FDI projects in transition economies is noteworthy. Among other things, they find that regulatory and legal risks, as well as risk from macroeconomic instability tend to be important considerations for managers in choosing whether to invest in transition economies.[4] The inference one might draw is that any measure of governance used in statistical models of the direct investment process in ETEEs should be fairly broad in order to encompass the relevant set of risks considered by foreign managers.

[3] Claessens, Oks and Polastri (1998) focus on capital inflows to transition economies over the period 1992-1996 using a "reform index" constructed by the World Bank based on criteria similar to those used by the EBRD.
[4] Lankes and Stern (1998) also make this point.

A variable related to governance that has also been identified as an important determinant of FDI is privatization. For example, Holland and Pain (1998b) identify the privatization process as one of the key determinants of the level of direct investment in the early years of transition. Specifically, for eleven European economies for the period 1992-1996, they find that indicators of privatization are positively related to levels of inward FDI. Carstensen and Toubal (2003) also find that the level of privatization plays an important role in determining the flows of FDI into a sample of Central and Eastern European countries over the period of the 1990s.

The impacts of governance and privatization are not necessarily uniform across transition economies. In this regard, Qian (1999) argues that some transitional institutions may be more effective than others at any given time, as removing any one particular distortion may be counter-productive in the presence of other distortions. Russia offers an illustration of this "second-best" principle. Specifically, the policies of mass privatization and capital account convertibility in Russia created incentives for "asset-stripping" and capital flight because they were implemented at a time when reforms to the judiciary and the enforcement of property rights had barely begun (Barrell, Holland and Pain, 2000). Thus, a faster pace of privatization might not encourage a net increase in inward FDI to the extent that other aspects of governance are unfavorable.

The nature of privatization also conditions the FDI experiences of individual countries. In particular, the more open privatization sales are to foreign investors, the stronger the expected relationship between the extent of measured privatization and inward FDI in any transition economy.[5] In this regard, the presence of a local stock

[5] Lansbury, Pain and Smidkova (1996) distinguish between two basic forms of privatization. They identify the first as the "standard" method which involves direct sales to "strategic investors" and provides a source

exchange might also play a significant role in conditioning inflows of FDI. Specifically, a relatively liquid stock exchange can facilitate takeovers of local firms by foreign investors. This mode for FDI is likely to be more important, the greater the prominence of international mergers and acquisitions in the FDI process.

Existing studies of inward FDI to ETEEs also identify a number of factors that are featured as "standard" independent variables in numerous studies of the FDI process in developed countries, as well as in other parts of the developing world.[6] One such variable is the size of the host country measured usually by Gross Domestic Product or, sometimes, by total population. Market size measures such as total real output (Holland and Pain, 1998a) or total population (Altomonte and Guagliano, 2003) have been found to be positively related to inward FDI in samples of transition European countries.

A second general variable is the "openness" of the host economy to trade. Conceptually, trade and FDI can be either substitutes or complements. Specifically, to the extent that inward FDI is strongly motivated by host country barriers to trade, the reduction or elimination of those barriers might have the primary effect of discouraging inward FDI flows while encouraging the repatriation of retained earnings by established foreign-owned companies. On the other hand, to the extent that multinational companies increasingly engage in geographical specialization of production and intra-firm trade (so-called vertical specialization), host countries that are more integrated through trade with their regional neighbors are likely to be more attractive to multinational companies as locations for specific value-chain activities, *ceteris paribus*, and therefore more likely to

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of cash revenues to governments. The second is identified as the "transitional" method which involves the restitution of property and voucher privatization, the primary purpose of which is to re-establish private property rights.

[6] Comprehensive reviews of the empirical literature on the overall determinants of FDI flows can be found in Dunning (1993) and Caves (1996).

attract inward FDI. Carstensen and Toubal (2003) and Lansbury, Pain and Smidkova (1998) find that lower tariffs and/or greater trade integration with Central European countries promotes inward FDI in emerging European countries.

Relative labor costs and attributes of the workforce such as skill and educational levels are sometimes included as independent variables in FDI equations. In principle, lower relative labor costs and a more highly educated and skilled workforce should encourage inward FDI, all other things constant;[7] however, the empirical performance of such variables has been mixed, at best. Specifically, wage rates and related variables are not consistently statistically significant in FDI models. In part, this is because labor costs are an incomplete measure of unit costs, and measured levels of formal education may not accurately identify labor productivity differences across countries given different national educational standards and differences in "on-the-job" training and education across countries. While several studies of emerging Europe find that lower relative labor costs and a more educated workforce encourage inward FDI, this is not uniformly the case for all emerging countries.

A country's exchange rate regime has also been featured as an independent variable in FDI models. The broad finding of various empirical models is that volatile exchange rates tend to discourage inward FDI (Globerman and Shapiro, 1999). Again, however, this finding is not uniform across all studies. Nevertheless, it could imply that emerging European countries that have adopted, or plan to adopt, the Euro as their national currencies will be disproportionate beneficiaries of inward FDI flows. More

[7] Lankes and Venables (1996) qualify this assertion by distinguishing between FDI projects whose primary function is to serve local and regional markets and those aimed at exporting outside the region. Factor cost considerations are likely to be of substantially greater importance for the latter types of FDI investments than the former. For their sample of 17 emerging countries, including a number of former Soviet republics, they find that market seeking is the dominant form of FDI.

generally, attention has been focused on whether a country's membership in a regional free trade area affects FDI flows into that country. Beyond affecting the degree to which a country is integrated into regional trade patterns, free trade agreements such as the NAFTA also reduce direct and indirect barriers to inward FDI. Joining a free trade agreement might therefore be expected to promote inward FDI flows, and evidence for NAFTA and the European Union generally supports this expectation, although the results are sensitive to the sample time period, as well as the mix of industries in the sample.[8]

To our knowledge, there are no econometric studies of outward foreign direct investment (FDO) involving ETEEs. One might imagine that FDO is the "mirror image" of FDI. That is, the factors that encourage increased inward FDI discourage FDO. In fact, as Globerman and Shapiro (1999) argue, the conditions that encourage inward FDI are also conducive to the formation and growth of internationally competitive domestically owned firms. Ultimately, successful domestic firms will undertake outward FDI. Hence, given time, one might expect to observe the same factors that encourage increased FDI also promote increased FDO. Whether sufficient time has transpired for this phenomenon to be observed for ETEEs is ultimately an empirical question.

MODELING DIRECT INVESTMENT INFLOWS AND OUTFLOWS

Our empirical strategy is to specify and estimate a series of equations to identify the cross-country determinants of direct investment inflows (FDI) and outflows (FDO),

[8] In this regard, Lansbury, Pain and Smidkova (1996) argue that the perceived risks of investment within Central European emerging economies may have been reduced by an expectation that they would eventually integrate fully with Western Europe. Altomonte and Guagliano (2003) identify "agglomeration economies" within the European region as a factor contributing to increased FDI in emerging Central and Eastern European economies.

and to compare the results using different country sub-samples. Specifically we estimate a general model for a sample that includes all countries, and for sub-samples that include all emerging and transition economies (ETEW), all European countries (EUROPE), and emerging and transition economies in Europe (ETEE). We also augment the European model to include Euro-specific variables.

For the general model, we extend the parsimonious specification of FDI and FDO flows developed in Globerman and Shapiro (2002; 2003). Thus, we estimate equations of the general form:

(1) $$\text{Ln FDI}_{it} = \beta_0 + \beta_1 \text{ Ln GDP}_{it-1} + \beta_2 \text{ Growth GDP}_{it-1} + \beta_3 \text{ Governance Index}_{it-1} + \beta_4 \text{ Imexp}_{it-1} + + \beta_5 \text{ Stock}_{it-1} + \beta_6 \text{ Privatization}_{it} + \beta_7 \text{ Oil}_i + \beta_8 \text{ China}_i + \beta_9 X_i + \varepsilon_{it}$$

(2) $$\text{Ln FDO}_{it} = \beta_0 + \beta_1 \text{ Ln GDP}_{it-1} + \beta_2 \text{ Growth GDP}_{it-1} + \beta_3 \text{ Governance Index}_{it-1} + \beta_4 \text{ Imexp}_{it-1} + + \beta_5 \text{ Stock}_{it-1} + \beta_6 \text{ Privatization}_{it} + \beta_7 X_i + \varepsilon_{it}$$

The variables and their expected signs are summarized in Table 3 and are discussed below. The "X" variable represents a vector of factors specific to Europe in general, and the emerging and transitional markets of Europe in particular. The two equations are for the most part similar. We have elsewhere suggested, with supporting evidence that direct investment inflows and outflows are to a large extent symmetrical (Globerman and Shapiro, 1999; 2002). The presumption is that capital outflows may be stimulated by many of the same factors that encourage capital inflows. For example,

superior governance encourages inward flows, as well as increased capital investment more generally. In particular, successful firms created through the domestic investment process are likely to invest abroad as world-class multinational companies. In effect, superior governance encourages capital investment and the expansion of businesses that, in turn, stimulates increases in both inward and outward FDI. In specifying the list of independent variables, we draw upon both previous studies of aggregate FDI flows as well as the recent studies that have focused on FDI flows within Europe and the ETEE, as discussed in the previous section.

We control for the size of the economy and its rate of growth. Country size is measured by the logarithm of gross domestic product (GDP). Large market size is expected to attract FDI because of economies of scale in production and distribution for products sold in the host market. In addition, larger markets may be associated with agglomeration economies that lower costs for all producers in that market. These advantages conceptually enhance the attractiveness of a country to foreign investors. At the same time, multinational companies headquartered in large domestic economies are more likely to undertake outward FDI to the extent that location in a large domestic economy conveys firm-specific advantages upon those companies, possibly related to agglomeration efficiencies. For these reasons, we expect that GDP is positively associated with both capital inflows and capital outflows.

The growth of GDP is included to capture potential future economic opportunities and the existence of economic rents. Specifically, rapid economic growth can contribute to disequilibria in input and output markets that create above average profit potential for investors who identify the opportunities and possess the resources to exploit those

opportunities. We therefore expect growth to be positively related to FDI, but negatively related to FDO, because a growing economy not only attracts investors from abroad, but it also encourages domestic firms to invest locally.

The overall governance environment of the host and home economies can be expected to affect both FDI and FDO flows. In previous work, we discuss the importance of what we call governance infrastructure as a determinant of FDI and FDO (Globerman and Shapiro 2002; 2003). Governance infrastructure refers to a country's political, institutional and legal environment, as well as to the policies that accompany them. Well-governed host countries can expect to attract more inward FDI compared to other countries that offer less attractive environments for private investment. However, well-governed countries can also be expected to spawn companies with the capabilities to be competitive in foreign markets. Hence, governance should also be positively related to FDO.

The governance infrastructure measure that we employ is a broad composite index that encompasses a wide diversity of country specific factors, including political risk, macroeconomic and regulatory policies, rule of law and the extent of corruption. The governance index is sufficiently comprehensive that it accounts for a number of specific variables often included in studies of this kind.[9] Importantly, it is available for a

[9] The governance index we use was first developed by Kaufmann, Kraay, and Zoido-Lobaton (1999a and 1999b), and recently expanded upon and updated by Kaufmann, Kraay and Mastruzzi (2003). They estimate six separate indices (which we will refer to as KKM indices) including measures of political instability, rule of law, graft, regulatory burden, voice and political freedom, and government effectiveness. The indices have been estimated (using an unobserved components model) employing 31 different qualitative indicators from 13 different sources, including BERI, DRI/McGraw Hill, the Heritage Foundation, the World Bank, the World Economic Forum and the Economist Intelligence Unit. The indices are highly correlated with each other such that it is very difficult to use them all in a single equation (Globerman and Shapiro, 2002). We therefore created an aggregate measure that is the sum of the six measures. We also created an aggregate index calculated as the first principal component of the six

broad cross-section of countries. We expect that countries with strong governance structures will attract capital, and will also be capital exporters.

It is important to note that the impact of governance on capital flows may not be the same for all countries. In particular, it is likely that the marginal effects of governance improvements will be stronger for countries whose "stock" of governance infrastructure is relatively low. That is, there may be diminishing returns to governance (Globerman and Shapiro, 2002). For this reason, we report estimates of equations 1 and 2 for sub-samples of both emerging market countries, whose governance infrastructure is generally weak, and developed market economies, whose governance infrastructure is generally strong.

Previous studies have identified factors such as per capita GDP, physical infrastructure and human capital as determinants of FDI inflows. We do not include such variables in our specification because they are highly correlated with governance infrastructure. This is not surprising since these measures, particularly per capita GDP, are also measures of development outcomes that result from good governance (Globerman and Shapiro, 2002).

As noted previously, trade and FDI can be either complements or substitutes. As a consequence, we include a measure of openness to trade (imports + exports/GDP) in the FDI equation. The estimated coefficient will be positive in the FDI equation if FDI and trade are complements, and negative if they are substitutes. We include the same variable in the FDO equation for similar reasons.

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measures, but this does not change the results. The data are available at: http://www.worldbank.org/wbi/governance/datasets.htm#dataset.

It has been documented that, especially in recent years, the majority of aggregate FDI flows are associated with cross-border merger and acquisition (M&A) activity (Kang and Johansson, 2000; Letto-Gillies, Meschi and Simonetti, 2001; Chen and Findlay, 2002). Of the potential variables that make entry *via* M&A mode more attractive, the most obvious are those associated with greater liquidity and efficiency of capital markets. We use the ratio of stock market capitalization to GDP as a measure of stock market liquidity, and we expect that higher ratios should encourage greater cross-border M&A activity and therefore FDI (di Giovanni, 2003; Rossi and Volpin, 2003). Likewise, liquid stock markets should make it easier for companies to raise financial capital that can be used, in turn, to acquire foreign companies. In short, we would expect both FDO and FDI to be positively related to stock market liquidity.[10]

An additional variable that should be directly related to inward FDI *via* acquisitions is the degree of privatization activity in the host country. Privatization initiatives create a pool of potential acquisition targets or merger partners for foreign firms, and privatization should therefore be positively to FDI activity. In addition, countries pursuing privatization may also engage in more general liberalization policies that encourage capital inflows. To the extent that privatization activities also create more opportunities for domestic firms to invest in the home economy, they may limit FDO. As a consequence, we include this variable in the FDO equation with an expected negative sign.

[10] Stock market liquidity may be important for broader reasons. The ability of firms to raise capital in liquid capital markets could also facilitate their ability to make other types of foreign investments besides acquisitions of foreign companies. This would reinforce the positive relationship between FDO and stock market liquidity.

Finally, we include dummy variables for major oil producing countries and for China in FDI equations. Other things constant, one might expect the availability of oil exploration and production targets to encourage FDI, especially given the fact that those targets are frequently in emerging countries that lack domestic firms with the technology to engage in efficient and effective oil exploration and production. In the case of China, while it is not a major focus of oil exploration, substantial publicity has attended large recent FDI inflows to China, particularly given the fact that China's governance infrastructure is not strong. Thus, it is possible that China is receiving more FDI than would be forecast by the model. We believe that this may be so primarily because a substantial amount of FDI in China has been undertaken by firms owned by Chinese expatriate families resident in countries that are themselves characterized by weak governance infrastructures (Thailand, Malaysia, and Indonesia). Shapiro, Gedajlovic and Erdener (2003) have argued that expatriate Chinese family firms have developed particular skills in operating in environments with weak governance infrastructure. These advantages, together with their cultural familiarity, may have resulted in capital inflows to China exceeding what our basic model would forecast.

The variables above are included in all equations for all sub-samples (except, obviously, the China variable when China is not in the sample). However, we also include a number of variables that are specific to Europe, and are only included in the Europe sub-samples. These variables are dummy variables indicating EU membership, future EU membership, and membership in the European Monetary Union (EMU). All of these variables are expected to increase FDI. Specifically, EU and EMU membership facilitate market access and reduce transaction costs associated with variable exchange

rates, both resulting in increased FDI. For the same reason, they should also increase FDO.

Critical to our analysis is the variable for future EU membership. This variable, defined as of 2001, defines countries that were accepted into the EU at a later date. In fact, there are two such groups of accepted members, those that entered in 2004 and those who will enter after 2004. Separate dummy variables for each category did not improve or change the results in any way and so we report results using only a single variable. Our hypothesis is that the "halo effect" of potential EU membership increased the FDI flows into those countries beyond the amount predicted by other measures, particularly *de jure* standards of governance. In other words, these countries may benefit from the anticipated protections provided by EU membership in ways that are not measured by other included variables, including governance. Although symmetrical arguments may apply to FDO, it is not immediately apparent why future membership in the EU would enhance capital outflows.

Evidence from the studies discussed above suggests that one cannot expect the same factors to affect all ETEE countries in the same way. In particular, a country's previous history of trade and investment, proximity to other long-standing EU members, and the length of time under a Communist political regime may all be factors in explaining capital inflows and outflows. As a consequence, and based on previous studies, we distinguish among different groups of ETEE countries with specific respect to differences in the impacts of EU membership on direct investment flows.

In particular, we distinguish between countries that were formerly communist, and those that were not. We further break down the former category into two additional

categories, based on geography and previous history. The first group is comprised of three Baltic countries (Latvia, Lithuania and Estonia), whose proximity to the Scandinavian countries may increase their capital inflows and outflows. The second group is comprised of the five countries that belonged to the Central Europe Free Trade Association (CEFTA) and are adjacent to EU members (Czech Republic, Hungary, Poland, Slovakia, and Slovenia).[11]

Previous evidence and experience suggests that the parsimonious specifications employed in this study are successful in modeling FDI and FDO flows (Globerman and Shapiro, 2002; 2003). Our specifications exclude a number of country-level variables often included in other studies (per capita GDP, labour costs, tax rates), albeit with mixed results. The exclusions are either because relevant variables are unavailable for a sample as large as ours (for example, corporate tax rates), or because they are correlated with one of the included variables (for example, per capita GDP is highly correlated with governance). Furthermore, Kaufmann (2003) has argued that governance is more important to FDI than are specific indicators of macroeconomic and exchange rate stability.

We have also not included any variables that specifically identify a country's legal regime. Legal regimes have been shown to be important determinants of the general investment climate, and therefore of FDI and FDO, through their effects on shareholder and property rights (LaPorta, Lopez-de-Silanes, Shleifer and Vishny, 1998, 2000; Beck, Demirguc-Kunt and Levine, 2003; Globerman and Shapiro, 2003). However, for the European sample of interest to us, the vast majority of countries use a civil law system. In addition, there is evidence that that stock market liquidity is in part a

[11] CEFTA also included Romania, which is not adjacent to any EU country.

reflection of the legal system (Beck et. al. 2003) and is also associated with stronger shareholder protection (LaPorta et. al. 1997; 2000). Thus, the stock market capitalization term indirectly reflects the role of the legal system. In addition, Kaufmann (2003) argues that the broad measure of governance employed here is more statistically robust than measures of legal systems in models of investment behaviour, and supporting evidence is found in Globerman and Shapiro (2005). As noted above, the impact of common law might be indirect, in any case, through its influence on the growth of domestic capital markets. Similarly, a common measure of investor protection, defined as the interaction of an index of shareholder rights with an index of the rule of law, (LaPorta et. al., 1998; Pistor et. al., 2000; Johnson, Boone, Breach and Friedman, 2000), is excluded because it was not available for the full sample of countries, and because it was correlated with the governance index ($r = 0.69$).

Data

Definitions of the variables we use and their sources are provided in Tables 4. The FDI/FDO data were compiled for the period 1995-2001, for a sample of 138 countries, resulting in 928 pooled observations. The remaining series were compiled to overlap the same time period for the same countries. Where possible, we lagged the independent variables by one year in order to minimize problems of endogeneity. In fact, the governance data were available only for the years 1996, 1998 and 2000. Therefore, we extrapolated these values in order to obtain observations for the missing years. The stock market capitalization data were also not available for all years and were similarly extrapolated. The privatization data were not available on an annual basis, and so the

average value of the ratio of privatization revenues to GDP was used. Since the data were obtained from different sources, the years over which the data were averaged is not the same for each country.

Because we use four different sub-samples of countries in our estimation, we do not present a correlation matrix. However, it should be noted that some of the independent variables are often quite highly correlated. Nevertheless, even the highest correlation coefficient (between the governance index and stock market capitalization, r =0.65) is not that high when compared to the R^2 values for the estimated equations (reported below). In addition, we calculated the Variance Inflation Factor (VIF) for each variable (Greene, 2003). No VIF exceeded 2.5, indicating that, in general, multicollinearity is not likely a concern.

ESTIMATION AND RESULTS

In this section, we report regression results focusing first on inflows of foreign direct investment and then outflows. Our primary interest is in comparing the estimated results of the FDI model for the ETEE countries with similar models using different samples of countries and regions as references.

The FDI results are reported in Table 5. The estimates are obtained using GLS random effects estimation. Although the data are pooled, some of the variables are time invariant (China, oil and EU related variables). Thus fixed effects estimation was not a possible alternative.

We first present the results obtained by estimating a basic model for the sample of emerging and transition economies in Europe. These results (Column 1) indicate that the

only statistically significant variables are market size (ln GDP), and the Governance Index. Thus, our broad measure of governance does matter for these countries, a result consistent with previous studies discussed earlier where governance was measured differently. However, we find no evidence that trade openness, privatization, or stock market liquidity have any effect on direct investment capital inflows to ETEE countries. Since our purpose is to situate these results in various contexts, we next present the results obtained from estimating the same model with different samples of countries and regions.

Results for other samples are reported in Columns (2) – (4). When comparing estimation results for the ETEE model with results for other samples, we find similarities and important differences. In general, the coefficient on the governance term is higher for the sample of emerging and transition economies, (Column 3) than for all countries, and for all Europe.[12] Thus, when developed market economies are included in the sample as in Columns (2) and (4), the estimated governance coefficient is lower. This is consistent with the hypothesis that there are diminishing returns to governance (Globerman and Shapiro, 2002), and that emerging and transition economies benefit more on the margin from improvements in their governance stocks than do more developed market economies.[13] In this sense, however, the ETEE countries do not resemble other emerging economies since the governance coefficient in the former is lower (Columns 1 and 3). This suggests that the effective stock of governance may be higher in ETEE countries than in other emerging markets.

[12] The ETEW countries are defined as non-OECD members. Israel, Hong Kong and Singapore are also excluded from the sample.

[13] The degree of diminishing returns may not be strong. When a squared governance term is included in the world sample, it is negative, as expected, but not quite statistically significant.

Stock market liquidity is not an important determinant of FDI flows in any sample, except the sample including all countries. This is perhaps not surprising for emerging markets in Europe or elsewhere, since stock markets in these countries are relatively small and illiquid. In addition, firms are more likely to be family owned, or closely held (La Porta et.al, 1998), and this would mitigate M&A activity by foreign firms. It is of interest to note, however, that the relevant term is positive and statistically significant in the world sample, but not in the all-Europe sample. This result is difficult to explain, although it should be pointed out that the relevant t-statistic is typically above unity in the Europe equations.

The trade term is not statistically significant in either the ETEE or ETEW samples, but it is positive and statistically significant in both the World and all Europe equations. This suggests that in emerging and transition markets, FDI mainly services the domestic market, whereas in the developed economies it is more likely to be related to rationalizing the value chain associated with increased intra-industry trade specialization. In this regard, the ETEE countries appear little different from other emerging and transition economies.

One notable difference between the ETEE sample and the ETEW samples is identified with respect to the privatization variable. Specifically, we find that privatization is positively and statistically significantly related to FDI for both the world and ETEW samples, but not for ETEE, or for Europe as a whole. This is likely because the most important privatizations in the ETEE occurred before the start of our sample period. In particular, major privatizations occurred in the early 1990's in Hungary, Poland, the Czech Republic and Russia, whereas our sample begins in 1995.

Nevertheless, the different impacts of privatization distinguish ETEE countries from other developing countries.

We included a dummy variable for oil producing countries in the expectation that such countries would attract FDI. This turns out not to be the case for any sample. Indeed, for the ETEW sample, the relevant coefficient is negative and statistically significant. We believe that this result reflects the presence of Middle-Eastern oil producing countries in the ETEW sample. The oil resources of these countries are to a large extent government owned, and there are fewer opportunities for FDI than in developed countries with oil resources. The negative coefficient might also reflect, in part, unmeasured characteristics of Middle Eastern countries that negatively affect FDI flows and that are not captured by other included variables.

The China dummy variable was included to capture unmeasured characteristics of that economy that might encourage FDI, despite its relatively poor governance infrastructure. In fact, we find that the relevant coefficient is positive and statistically significant in both samples where China is present. Indeed, the magnitude of the "China effect" is very strong. The coefficients are both above 2.5, which may be compared with the world FDI mean of 5.4 and the ETEW mean of 4.7 (measured in natural logs).

An important feature of our results is that we were unable to identify a similar "location" effect, positive or negative, for the ETEE sample, or components of it. When we included in the ETEW equation a dummy variable for ETEE countries, or a dummy variable for those ETEE countries that have been accepted to the EU, the relevant coefficients were never statistically significant. Relative to other emerging and transition economies, there is no indication that ETEE countries have any unmeasured

characteristics that either attract or repel FDI. In particular, there is no evidence from this sample (Equation 2) of a "halo effect" that attracts FDI to future EU members.

In order to investigate this issue further, we added specific variables to the all-Europe model. These results are reported in Columns (5) and (6) of Table 5. In Column (5), we add dummy variables for EU members, future EU members, and members of the European Monetary Union (EMU). In the case of future EU members, we further distinguished between former Communist countries and others. Arguably, if the prospect of joining the EU augments the benefits of good governance, as captured by our governance variable, the benefits are particularly marked for former Communist regimes where existing stocks of "non-measurable" governance attributes are relatively low. Put differently, the prospect of joining the EU might be seen as "locking in" governance improvements captured in our governance variable, and this locking in has particular value in former Communist regimes that may be seen by foreign investors as especially prone to backsliding on political and economic reforms.[14]

As can be seen, the future EU coefficient for the former Communist countries is positive, and statistically significant, suggesting that relative to other emerging and transition economies in Europe that are neither EU members, nor future EU members, future EU members have unmeasured advantages when they are former Communist countries.[15] Conversely, future EU membership for non-Communist ETEEs in our sample (Malta, Cyprus and Turkey) does not promote increased FDI. This result is suggestive of a halo effect associated with EU membership for former Communist countries.

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[14] At the time of writing, the Russian government's treatment of that country's largest oil company was raising concerns about the reliability of property rights guarantees in Russia.

[15] The omitted category also includes Norway and Switzerland, but exclusion of these countries from the sample does not change the results.

It might be noted that the EU term is also positive, and statistically significant, albeit at only 90%. However, its effect is stronger when the EMU term, which is never statistically significant, is omitted. The EU effect may reflect the higher GDP per capita of its members, and in fact these two variables are positively correlated (r = .69). If so, it would also explain the relatively weaker performance of the governance term in column (5), since governance and per capita GDP are also highly correlated (r = .82).

Finally, we further disaggregated the future members of the EU that were formerly communist by geography, and in particular we isolate the countries that were adjacent or close to EU member states (Baltic states, CEFTA states, and others). These results are reported in Column 6, where it can be seen that there is some advantage to future EU membership for all formerly communist states, but the strongest advantage accrues to the CEFTA states. We attribute this to both the effects of CEFTA itself, as well as to the fact that the CEFTA countries included in this category are adjacent to EU member states. Thus, distance does matter in attracting FDI.

The FDO results are reported in Table 6. It should be noted that because a relatively large number of countries reported no outbound FDI, the equations are estimated using random effects TOBIT estimation. For these equations, we report as a goodness of fit criterion the correlation between FDO and its fitted value (Woolridge, 2002, p. 529). The specifications for the FDO equations are for the most part symmetrical in specification to the FDI equations.[16]

[16] Note that the FDO equations do not include the China dummy, since there was no *a priori* reason to do so. When included, the variable was not statistically significant.

Empirically, the FDO results are both similar to, and different from, the FDI results.[17] There is considerable empirical symmetry arising from the positive and significant effects on outflows arising from market size and governance, the two most important determinants of inflows. For all samples, large markets and strong governance infrastructures promote capital outflows. However, there is an important difference between the FDI and FDO results with respect to the impact of governance on ETEE countries. Relative to the World, and to Europe, the ETEE governance coefficient is larger when no Europe-specific dummy variables are employed (compare Columns 1, 2 and 4). The same is true of the ETEW coefficient (compare Columns 2, 3 and 4). Thus for emerging markets anywhere, and for ETEE countries in particular, the impact on FDO of an increase in governance is more strongly positive, other things equal. Moreover, when a dummy variable for the ETEE countries was regressed on the residuals for the ETEW equation, the resulting coefficient was negative and statistically significant.[18] Thus, given governance and other characteristics, ETEE countries are characterized by less direct investment capital outflow than other emerging and transition economies.

In addition, unlike the FDI equations, none of the Europe-specific variables are statistically significant. In particular, the future EU status of both former communist countries is statistically insignificant (Column 5). The same is true for the non-communist future EU members, although the relevant t-statistic is well-above unity. Hence, there is little to distinguish one ETEE country or region from another with respect

[17] Note that TOBIT coefficient estimates are not directly comparable to the GLS coefficient in the FDI equations because the marginal effects are different for the two estimation methods (Greene, 2003:764). In order to compare the marginal effects of each variable, the TOBIT coefficients must be adjusted to account for the probability that a non-zero outcome is observed.

[18] This result is unreported and is available from the authors upon request. Recall that a similar procedure in the FDI case resulted in a coefficient that was not statistically significant.

to FDO, with the possible exception of Malta, Cyprus and Turkey. Thus there is little evidence of any European halo effect that encourages FDO.

Another difference between the FDI and FDO results is the coefficient for the trade variable, which is positive and statistically significant in all samples reported in Table 6. Thus, for the most part, FDO and trade are complements. The privatization coefficient is negative and statistically significant in the ETEE and ETEW samples in Table 6, as expected, although this seems inconsistent with finding a statistically insignificant coefficient for privatization in the FDI equation for ETEE countries. Finally, stock market liquidity tends to promote FDO in both emerging and developed Europe.

It is perhaps surprising to note that the stock market capitalization term is not statistically significant in the world equation, although it is significant in the ETEE (and all Europe) equations. However, it might be noted that capital outflows from Western Europe during the latter half of the 1990s were especially noteworthy and that the majority of those outflows took the form of M&A activity (Globerman and Shapiro, 2005).

SUMMARY AND CONCLUSIONS

This paper addresses the recent history of inward and outward foreign direct investment for a relatively large sample of emerging and transition European countries. In particular, it identifies and assesses the major determinants of direct investment patterns including the empirical importance of a broad measure of institutional and economic governance.

By and large, the determinants of foreign direct investment for our sample of European countries are similar to those for other developing countries and, indeed, for developed countries as well. In short, governance matters. Indeed, governance is relatively more important for developing European countries than for developed European countries. Joining the EU, or even the prospect of joining the EU, promotes inward FDI (a halo effect), although this phenomenon particularly characterizes the former Communist countries. We interpret this result as suggesting the potential importance of a "locking in" effect with respect to governance. That is, political integration into developed Europe provides longer-term assurances to foreign investors that institutional changes undertaken by transition economies will not be reversed.[19] This finding has particular significance for developing economies that might be contemplating EU membership.

Findings with respect to the influence of trade intensity and privatization may reflect the time period of our sample. For example, trade intensity and the adoption of the Euro do not appear to affect inward FDI flows to emerging European economies. This may be the case because inward FDI in those economies, at least for our sample period, was largely concerned with serving local buyers. As such, the importance of trade openness and the costs of trading, including costs associated with managing foreign exchange risks, may increase in the future as foreign investors increasingly utilize emerging European countries as bases for specialized value chain activities. The unimportance of privatization in our sample might reflect the fact that most major privatizations for our ETEE countries took place prior to our sample time period.

[19] A similar locking-in effect has been suggested to be a major benefit of Mexico's accession to the NAFTA.

Nevertheless, there is still scope for privatization to reemerge as an empirically relevant determinant of FDI in future periods.

There are some important differences in the determinants of inward and outward direct investment. For example, outward foreign direct investment from ETEEs, but not inward foreign direct investment, is promoted by trade intensity and stock market liquidity. More importantly, it would appear that there is no halo effect for FDO. Indeed, given their governance and other characteristics, ETEE countries export less capital than would be forecast by the regression equation for other emerging markets. Future EU membership does not promote in any way the export of capital. Thus, the "lock-in" effect associated with prospective EU membership that promotes FDI does not apparently work in reverse. This result remains a puzzle, but may be explained by the fact that in the ETEE countries, the level of governance is low relative to the EU, and so relatively few firms with the potential to invest abroad emerge at all. Thus, when capital flows from high governance countries, it typically seeks high governance hosts (where high governance can include the protection afforded by extra-national bodies). However, the reverse is not true. Low levels of local governance in the domestic market results in fewer firms with the capacity to invest abroad, and these deficiencies are not compensated for by extra-national institutions. Put otherwise, local institutions matter.

It is still true that good governance promotes both inward and outward foreign direct investment. This observation should not be seen as diminishing the overall economic benefits of governance infrastructure. Specifically, increased outward foreign direct investment should not be seen as a "cost" of good governance. Rather, it should be seen as part of a process that promotes international specialization of production and

trade with the associated efficiency gains that economists traditionally associate with economic specialization.

The importance of formal political integration into a regional trade group is the finding perhaps most worthy of being highlighted. The experience of emerging Europe suggests that important benefits to transition countries from formally joining a regional group of developed countries may be associated with enhanced confidence on the part of foreign investors that host government commitments to good governance will prove durable.

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Table 1
FDI and GDP in ETEE Countries
(USD)

Country	FDI (millions	GDP (billions)	(FDI/GDP) %
Albania	88.29	3.14	2.74
Belarus	192.29	13.06	1.46
Bulgaria	535.86	12.08	4.37
Croatia	915.71	19.76	4.63
Cyprus	138.57	8.95	1.55
Czech Republic	3604.86	54.69	6.61
Estonia	347.14	4.80	7.03
Hungary	2378.00	47.03	5.09
Latvia	342.43	6.10	5.75
Lithuania	402.43	9.74	3.87
Macedonia, FYR	128.00	3.85	3.59
Malta	377.71	3.47	10.71
Moldova	81.29	1.53	5.50
Poland	6410.29	157.75	3.99
Romania	1019.14	37.27	2.68
Russian	2916.29	318.68	0.96
Slovak Republic	755.71	20.43	3.73
Slovenia	254.86	18.92	1.35
Turkey	1197.57	184.59	0.70
Ukraine	574.00	39.21	1.49

Source: Authors' calculations from United Nations Conference on Trade and Development (UNCTAD), various years. ETEE refers to Emerging and Transition Economies of Europe.

Table 2

FDI/GDP (percent) in ETEE and other regions

	Countries	1995	1996	1997	1998	1999	2000	2001
ETEE	20	2.48	2.49	2.93	4.02	4.63	5.38	5.28
Non-ETEE Europe	17	1.66	1.70	2.16	4.47	5.69	7.73	4.04
OECD	28	2.19	1.99	2.56	4.10	5.58	7.66	4.22
Non-OECD	133	2.43	2.44	3.68	4.15	4.19	3.57	3.69
Asean	9	3.54	4.31	4.79	3.94	3.61	3.21	2.66
China	1	5.12	4.92	4.92	4.62	4.07	3.78	4.04
Total	161	2.39	2.36	3.48	3.48	3.48	4.28	3.78

Source: Authors' calculations from United Nations Conference on Trade and Development (UNCTAD), various years.

Table 3: Expected Signs of Explanatory Variables

Variable	Inbound FDI	Outbound FDO
GDP	+	+
GDP Growth	+	-
Governance Index	+	+
Ratio of Imports to Exports	+, -	+, -
Stock Market Capitalization	+	+
Privatization	+	-
Oil Producer	+	Not included
China	+	Not included
EU member*	+	+
Future EU member*	+	?
Euro Currency*	+	+
Regional Dummy Variables*	See text	See text

*These variables are included only in the Europe equations. EU members, defined as at 2001 are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden and U.K. Future EU members are: Bulgaria, Croatia, Cyprus, Czech, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak, Slovenia and Turkey. EMU member are: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain. Regional dummy variables are defined for two categories: the CEFTA countries adjacent Europe (Czech Republic, Hungary, Poland, Slovakia and Slovenia), and the Baltic countries (Estonia, Latvia and Lithuania).

Table 4: Variables, Definitions and Data Sources

VARIABLE	DEFINITION	SOURCE
FDI (Inflows)	Foreign direct investment inflows, annual, 1995-2001	United Nations Conference on Trade and Development (UNCTAD), *World Investment Repo*rt, various years
FDO (Outflows)	Foreign direct investment outflows, average 1995-2001	UNCTAD
GDP	Nominal GDP, 1994-2000, measured in natural logarithms	IMF, *World Economic Outlook Database*, 2003
GDP growth	Logarithmic growth rate; the difference between log of current and previous year GDP	IMF
Governance Index	Sum of six governance indicators (government effectiveness, political instability, rule of law, graft and corruption, voice and accountability, regulatory burden). Available for 1996, 1998, 2000.	Kaufmann, Kraay and Mastruzzi, 2003
Import and Export Intensity	Ratio of Imports + Exports to GDP, 1994-2000	IMF
Stock Market Capitalization	Ratio of stock market capitalization to GDP, 1995-1999	Beck et. al. (1999)
Privatization	Average ratio of privatization revenues to GDP, for either 1988-1998 or 1990-2000	Brune et. al. (2003); OECD, (2002).

Table 5: FDI Results

	(1) Emerging and Transition Europe	(2) World	(3) Emerging and Transition World	(4) All Europe	(5) All Europe	(6) All Europe
Log GDP	.848***	.787***	.846***	.910***	.898***	.864***
	(.132)	(.065)	(.080)	(.081)	(.099)	(.107)
Growth GDP	.069	.314	.269	.055	.015	.010
	(.394)	(.230)	(.254)	(.371)	(.380)	(.372)
Governance Index	.503**	.565***	.627***	.367**	.299*	.309*
	(.252)	(.151)	(.196)	(.167)	(.167)	(.177)
Trade	.004	.004*	.003	.009***	.009***	.009***
	(.003)	(.002)	(.003)	(.003)	(.002)	(.003)
Privatization	-.012	.027*	.037**	-.070	-.015	-.019
	(.025)	(.014)	(.017)	(.016)	(.016)	(.017)
Stock Market Cap	-.002	.004**	.001	.001	.002	.002
	(.003)	(.002)	(.003)	(.002)	(.002)	(.002)
China		2.560**	2.735**			
		(1.188)	(1.243)			
Oil	-.079	-.272	-.801**	.0142	.284	.544
	(.819)	(.332)	(.408)	(.428)	(.478)	(.478)
Future EU (former communist)					.804***	
					(.312)	
Future EU (CEFTA)						.958**
						(.429)
Future EU (Baltic)						.806*
						(.456)
Future EU (other former communist)						.826*
						(.441)
Future EU (non-communist)					-.001	.077
					(.440	(.489)
EU					.936*	.609*
					(.512)	(.437)
EMU					-.599	
					(.440)	
Intercept	2.929***	2.370***	2.216***	2.178***	1.843***	1.899***
	(.580)	(.298)	(.342)	(.446)	(.467)	(.484)
Adjusted R Square	0.71	0.65	0.48	0.82	0.85	0.85
Countries	20	138	112	36	36	36
Observations	140	928	746	252	252	252

Values in parentheses are standard errors. *** indicates significance at 1% levels; ** at 5%; and * at 10% levels. Coefficients are obtained by GLS random effects estimation. All equations include unreported time dummy variables. The R square reported here is computed in the usual OLS fashion.

Table 6: FDO Results

	(1) Emerging and Transition Europe	(2) World	(3) Emerging and Transition World	(4) All Europe	(5) All Europe	(6) All Europe
Log GDP	1.586***	1.208***	1.106***	1.323***	1.277***	1.326***
	(.157)	(.064)	(.074)	(.094)	(.130)	(.162)
Growth GDP	.372	.161	-.053	.712	.802	.742
	(.838)	(.443)	(.486)	(.777)	(.825)	(.818)
Governance Index	2.433***	1.732***	1.930***	1.898***	1.794***	1.757***
	(.331)	(.144)	(.184)	(.236)	(.593)	(.353)
Trade	.020***	.008***	.007***	.013***	.009*	.009*
	(.020)	(.002)	(.003)	(.004)	(.005)	(.005)
Privatization	-.105***	-.041*	-.066***	-.019	-.020	-.015
	(.027)	(.022)	(.018)	(.038)	(.032)	(.034)
Stock Market Cap	.014***	.002	.005*	.008***	.008***	.008**
	(.004)	(.002)	(.003)	(.003)	(.003)	(.004)
Future EU (former communist)					-.283	
					(.503)	
Future EU (CEFTA)						-.594
						(.835)
Future EU (Baltic)						.344
						(.984)
Future EU (other former communist)						-.514
						(.785)
Future EU (non-communist)					.996	.968
					(.676)	(.781)
EU					.460	.190
					(1.112)	(.729)
EMU					.132	
					(.989)	
Intercept	-3.847***	-2.225***	-1.918***	-3.064***	-2.566***	-2.622***
	(.789)	(.374)	(.427)	(.608)	(.731)	(.852)
R square	0.46	0.71	0.41	0.83	0.84	0.84
Countries	20	138	112	36	36	36
Observations	140	927	745	252	252	231

Values in parentheses are standard errors. *** indicates significance at 1% levels; ** at 5%; and * at 10% levels. Coefficients are obtained by TOBIT random effects estimation. All equations include unreported time dummy variables. The R square is the square of the sample correlation coefficient between the dependent variable and its fitted value. Wooldridge (2002, p. 529).