

Illicit Money Flows as Motives for FDI

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Abstract

We examine the role of FDI in facilitating money laundering and capital flight using transition economies' FDI outflows to show the extent to which FDI is caused by these motives. We estimate a model of FDI location choice and a model of the volume of FDI outflows. Illicit money flows influence both the choice of host countries for FDI and the volume of FDI outflows to these countries, and traditional models of FDI are not able to account for these investment flows. We estimate that 10% of total FDI outflows and over half of FDI to money laundering countries from our sample of host counties are intended to facilitate illicit money flows.

Key words: foreign direct investment, capital flight, money laundering

I. Introduction

Illicit money flows, meaning flows of money that is either earned through, or used for, illegal activity or moved across borders illegally, may be as large as one trillion US dollars per year from developing countries alone (Kar and Cartright-Smith, n.d.). Financial flows of such magnitude should have a measurable impact on the pattern of international trade and investment in ways that differ from those predicted by traditional theories. In this paper, we are interested in explaining the role of money laundering and illegal capital flight in foreign direct investment (FDI) decisions by using data on FDI outflows from a sample of East European transition economies. FDI data from the transition economies are particularly useful because these countries' FDI outflows largely reflect current investment decisions as these countries had virtually no outward FDI before 1995. Consequently a large part of their FDI outflows reflects current investment decisions and their drivers rather than the inertia of past decisions. FDI flows from countries that have built up large stocks of FDI overseas will have FDI outflows that reflect both current decisions on moving funds from the home country to host countries as well as a large volume of reinvested profits overseas that are driven largely by past decisions about where to invest.

Because FDI from transition economies is a new phenomenon, the literature describing it is relatively undeveloped.¹ In this paper we examine some of the trends in, and characteristics of, FDI outflows from transition countries and discuss the motivations behind them. Our examination of the data suggests that, in addition to the traditional motivations for FDI found in the literature on the multinational corporation (MNC), capital flight and the facilitation of money laundering are motives for a significant share of outward FDI from some transition economies.

¹ See Kolotay (2004) for an overview of outward FDI from transition economies and a survey of the available literature.

We propose a simple model of the costs of various ways of facilitating capital flight and money laundering to show how outward FDI can facilitate money laundering and some forms of capital flight. We then specify and estimate an econometric model of outward FDI flows from a sample of transition economies. This model analyzes FDI from two different perspectives: first the investor's decision in which host country to invest, and, second, the decision on the amount to invest in that country. Four main conclusions flow from our estimates, and these support our hypothesis that capital flight and money laundering lie behind an important part of the outward FDI of the transition economies. First, there is a higher probability that transition-economy-based investors will choose to invest in a host country that is a money laundering center than in a host country that is not. Second, traditional drivers of FDI are able to explain FDI flows from transition economies when the host countries are not money laundering centers, but, third, these same variables are unable to explain transition economy FDI outflows to host countries that are money laundering centers. Fourth, we estimate that around 10% of the total FDI from the transition economies in our sample is caused by capital flight and money laundering.

II. Money Laundering, Capital Flight and the Foreign Investment Decision

This section is divided into three parts that set out the factual background and theoretical basis for our work. In Part A we briefly review the links between the theory of the MNC and the way in which that theory has influenced general equilibrium specifications of bilateral FDI flows between countries. Part B looks at the literature on capital flight and money laundering, which, we argue, serve as potentially important alternative drivers of FDI generally not considered by traditional theories of FDI. Finally, in Part C we suggest ways of incorporating the insights and findings of the literature on capital flight and money laundering into a model of FDI from transition economies.

A. Driving Forces of Outward Foreign Investment

The literature explaining the existence of FDI generally ascribes such activity to two motives. One is the firm's desire to serve foreign markets in the presence of trade frictions (Markusen, 1984), which it does through so-called horizontal investment, and the other, vertical investment, is the firm's desire to locate operations in a foreign country in order to obtain access to low priced non-tradable or hard-to-trade inputs (Helpman, 1984).²

A good deal of the empirical work on aggregate, as opposed to firm-level, FDI flows between countries has been based on variations of the gravity equation (Anderson, 1979; Bergstrand, 1985; Anderson and Wincoop, 2003) known as the knowledge-capital (KK) model of MNC activity that encompasses both of the main theories of FDI. The model emphasizes relative country size, distance as a proxy for information and transport costs, and factor endowments as the key drivers of FDI. Carr *et al.* (2001) and Blonigen *et al.* (2003) suggest that endowment differences and country size should be interacted in the KK specification, and Egger and Pfaffermayr (2004) and Egger and Winner (2006) suggest that interaction between distance and relative factor endowments is also appropriate. Specifications of the KK model often include additional variables to incorporate factors such as tax policies and political risk that are specific to the FDI process.³ Given the demonstrated ability of the KK model to explain bilateral FDI flows well, we use it in this paper.

B. Other Motives for FDI: Capital Flight and Money Laundering.

² See Navaretti and Venables (2004) for a review of the extensive literature since the publication of these two articles.

³ Blonigen (2005) provides a thoughtful argument for including such additional variables in the gravity equation specification as well as a discussion of the gravity equation's shortcomings.

In the foregoing discussion of FDI, the MNC's motives for FDI rested on the desire to take advantage of the profit-enhancing opportunities offered by the decision to locate abroad. In this section, we examine motives for FDI that lie outside the traditional theory and that rest on two other considerations. One motive is the cross-country allocation of capital to reflect differences in the risks and returns that investors face in home and host countries, leading to capital flight. If the home country has capital controls, or if investments abroad facilitates tax evasion, such movements of capital are illegal. The other motive is the desire to use FDI as a means for moving money from one country to another in order to disguise its origins in illegal activity, commonly called money laundering (Reuter and Truman, 2004).

Although the two phenomena are conceptually distinct, we argue below that both motivate FDI flows that are unrelated to the traditional drivers of FDI. Legal flight capital is generally considered to take the form of portfolio and other short-term investments made through normal financial channels, and thus it excludes FDI.⁴ Legal capital flight is usually recorded by the firms or individuals undertaking it as well as in the balance of payments of the home country. Illegal flight capital usually occurs if the country prohibits capital outflows or if the investor wishes to avoid taxation on earnings from capital moved abroad. Consequently, illegal capital flight flows are often, by intention and by their covert nature, unrecorded either on the books of the investors or in the balance of payments. Ways of moving capital illegally include unreported movements of money abroad by carrying large amounts of cash on trips, using couriers to carry cash, hiding cash in freight or the post, and over- and under-invoicing of international trade

⁴ Unless, of course, the foreign investor acquires a sufficiently large share of equity of the firm targeted by the foreign investor.

transactions.⁵ What illegal capital flight and money laundering have in common is the desire of the investor to hide his or her connection to the funds being moved and the need to move the funds through unrecorded, and often illegal, channels. We argue below that, for large sums of money, establishing affiliates overseas through FDI may be a relatively safe and cost-effective way of meeting both these objectives. FDI facilitates illicit flows in two conceptually separate ways. First, the establishment of foreign firms constitutes a movement of money from the home country to the host country that in itself may constitute the transfer of illicit funds abroad. The second, and perhaps more important, way in which FDI facilitates illicit international money flows lies in the ability of the foreign affiliate to internalize and thus lower the transactions costs of moving illicit funds between the home country and the host country in which the affiliate is domiciled through channels such as under- or over-invoicing, false payments for services, phony capital injections and loans, etc.

Capital flight occurs when investors in a country believe that they face a more attractive combination of risk and return abroad than they do in their own country. The resulting outflow of capital may take legal forms or it may utilize illegal channels, in part depending on whether capital controls exist in the home country or on the country's tax levels and tax compliance regime.⁶ Those who wish to move their capital abroad have the option of portfolio investment in foreign countries, an option that, if legal, is attractive because portfolio investments are much more liquid and can be used for smaller amounts of money than could be moved through FDI.

⁵ Clearly, not all over- and/or under-invoicing transactions should be regarded as illegal money flows since some of those transactions simply exploit tax differences between countries in which the transactions take place. However, such transactions are also used for money laundering or capital flight although estimating the share of the latter is difficult.

⁶ The measurement of capital flight is subject to serious practical and conceptual problems, which we shall not discuss here. For details, see Schneider (2003).

Nevertheless, portfolio investment may be unappealing or not possible for some investors because the returns are often quite low or because, if the home country imposes capital controls, portfolio investment abroad may be both illegal and more difficult and costly to undertake on a large scale. As a result, FDI may become an attractive vehicle for facilitating capital flight because outward FDI is less likely to be restricted than are portfolio investments, because the investor can hope to earn a more attractive return through FDI or because, as we argue below, FDI facilitates the international movement of large amounts of money.⁷

Sheets (1995), Le and Zak (2001) and Collier *et al.* (2004) model capital flight as the result of investors' desires for portfolio diversification resulting from perceptions of relative returns and risks at home and abroad, and they underscore the importance of domestic risk as a driver of capital flight. One element of domestic risk is uncertainty about future fiscal policies due to changes in government (Alesina and Tabellini, 1989) and about future trade liberalization (Bachattarya, 1999). Kant (2002) argues that risks related to the instability and lack of transparency of property rights, excessive taxation, corruption and weak contract enforcement and the like encourage capital flight, and Hermes and Lensink (2001) also show the same for uncertainty about institutions, including property rights. Likewise, Khan and Haque (1985) and Schineller (1993) emphasize that the risk of expropriation serves as one of the main incentives for capital flight, a factor also mentioned in the transition economy context by Cooper and Hart (2000), Sicular (1998), and Loukine (1998).

Khan and Haque (1985) observe that private capital flight can occur simultaneously with private foreign capital inflows, and they explain the phenomenon on the grounds of asymmetric

⁷ Countries typically remove restrictions on FDI flows before liberalizing portfolio capital flows.

risk of expropriation, which is higher for domestic investors than for foreign ones.⁸ Perhaps the clearest example of the risk of expropriation driving large capital flows both in and out of a transition economy is the case of Russia, where the property rights of the so-called oligarchs have come under sharp attack from the Putin and Medvedev regimes, a development long expected by knowledgeable observers and, of course, by the oligarchs themselves. As a result, Russia has experienced significant capital flight as well as significant inward FDI, often from the same countries to which Russian capital flees.⁹

Dooley and Kletzer (1994) focus on the tax treatment of residents and non-residents as a source of differences in domestic and international returns and thus, potentially, a stimulus of capital flight, and Desai, Foley and Hines (2006) construct a model that explains how MNCs allocate FDI between host countries that are tax havens and those that are not.¹⁰ Morck, Yeung and Zhao (2007) show that Chinese outward FDI is greater than expected toward countries reputed to be tax havens.

Drabek and Payne (2002) and Wu (2006) argue that domestic and foreign returns can also differ as a result of different levels of corruption levels in home and host countries. They show that those different levels of corruption influence FDI flows, but they do not examine the link between corruption and money laundering and/or capital flight. In fact, the relationship between host country corruption and its ability to serve as haven for foreign investors is less clear than it might seem. While host countries that facilitate money laundering or illegal capital flight are

⁸ Also see Eaton (1987) and Boyce (1992)

⁹ Russian oligarchs protect themselves against expropriation by moving money overseas, but because their oligopolistic position on the Russian market gives them the opportunity to earn large returns on their domestic investments, they set up foreign corporations that invest in Russia while providing the protection of anonymous “foreign” ownership for the assets thus invested. For example, Cyprus is both a major destination for capital from Russia as well as one of the leading sources of FDI into Russia. See Weintrobe (1998), Grigoryev and Kosarev (2000) and Kadochnikov (2005).

¹⁰ Also see Kant (1996), Witt and Lewin (2007), and Egger and Winner (2006),

seen as “corrupt” by the international community, their status as tax havens or money laundering centers rests on their ability to provide a stable political environment, clear property rights, security, and effective administration of the law to foreigners. The dubious role of the concept of corruption in money laundering and capital flight is one of the reasons why we have not included it in our model below.

The motives for money laundering are typically somewhat different from those that motivate illegal capital flight because the existence of money laundering derives directly from the need to disguise the illegal origins of the money being laundered and not from differences in the domestic and foreign risk-return nexus. Nonetheless, the problems faced by money launderers and those engaging in illegal capital flight as well as the means for facilitating their efforts are similar. Criminal activity such as drug dealing, prostitution, fraud, bribery of public officials and various economic crimes generates large amounts of cash income. In order to use the financial system to hold and move this money and to use the money to make legitimate financial transactions without arousing the suspicion of the authorities, the criminals must launder the money, that is, make it take the form of legitimate income so that the authorities are unable to identify its criminal origins. In the case of petty criminals, the main objective is not to arouse suspicion by holding excessively large amounts of cash or making large cash deposits in bank accounts. Setting up multiple bank accounts and using surrogates and false identities to establish numerous bank accounts are ways of keeping illicit incomes out of the purview of law enforcement authorities (Buchanan, 2004).

As the amount of money needing to be laundered becomes larger, such amateurish money laundering schemes become too cumbersome to operate effectively as well as too vulnerable to discovery. To handle larger amounts of illegally obtained income, criminals may start

businesses, especially businesses that have large part of their revenues and expenditures in the form of cash. Restaurants and retail establishments are particularly attractive because their large cash revenues and their deposits of cash in banks are less likely to attract attention and also because financial records are easily falsified (Reuter and Truman, 2004, Ch. 3).¹¹ In this way the money to be laundered can be reported as the cash revenue of, for example, a criminally-owned restaurant, thus turning money obtained through criminal activity into seemingly legitimate profits.

Of course, if the amount of money to be laundered is really large, then such local business schemes will also arouse the suspicions of authorities as their reported income begins to exceed the amount of legitimate business they can reasonably be expected to do. At this point, money launderers often turn to foreign banks and businesses. For example, they can use surrogates to deposit the money into the financial system of a foreign country. Firms engaged in international trade and financing are also attractive vehicles for laundering money because moving the money to a foreign location and then bringing it back to the country of origin further disguises its criminal origins.¹² Shell companies that engage in international trade can disguise the movement of such money through over- or under-invoicing or by means of fictional transactions in services, and this is thought to be a major mechanism for illegal capital flight and money laundering. For example, deBoyrie *et al.* (2005) examined unit values in US-Russian trade and estimated that over- and under-invoicing accounted for the movement of \$1.01 to \$4.85 billion per year between the two countries in the 1990s. Once the money is overseas, its origins

¹¹ Many visitors to East Europe report that local residents often point out large and expensive restaurants said to be owned by “the local Mafia”. The large cash revenues and outlays of such establishments would facilitate money laundering by criminals.

¹² The fictional Mafia “godfather”, Don Corleone, owned an olive oil importing business to facilitate the laundering of illegal income (Puzo, 1983).

are often further disguised by means of deposits in, and transfers through, offshore financial centers that provide loose supervision of such transactions and high levels of confidentiality for transactors.¹³

Of course, international trade transactions between a domestic and foreign firm that involve under- or over-invoicing require the complicity of both parties, which makes such transactions risky, costly and difficult to establish because the money launderer needs to find a foreign firm that is willing to engage in such an illegal enterprise. An obvious way of reducing both the costs and the risks of over- and under-invoicing is to internalize these transactions by setting up affiliates overseas. Not only does this internalize the purchases and sales of goods, effectively reducing transactions costs in money laundering or capital flight, but it also allows for additional channels for moving money through “fictitious” financial flows between the two parties, such as payments for royalties, license fees, capital injections, fictitious loans, dividends, etc., that can serve to move money being laundered from one country to another.¹⁴

Simpson (2005) reports that money launderers from Russia often set up shell companies in the United States, citing as an example ABN Amro’s transfer of over \$1 billion of Russian money in one year to a shell company in Kentucky. This company has no physical presence in the United States, and it belongs to an individual thought to be associated with Russian “business circles”. Moreover, the same individual has incorporated nearly 200 other companies in Kentucky and many more in other United States jurisdictions. In view of the high levels of corruption and criminality reported in some transition economies, we should expect that

¹³ Because money laundering is hard to identify, even legitimate business may be caught up in it. Between \$7 and \$16 billion of Russian capital flight was allegedly laundered through The Bank of New York between 1996 and 1999. Much of this money was allegedly the proceeds of criminal activity in Russia, and some of it was said to be looted IMF loans to that country. See Simpson (2005).

¹⁴ Hines and Rice (1994) survey the ways in which parents and affiliates can move funds from one country to another.

criminals there would also make similar use of foreign subsidiaries and affiliates to launder money and to move it outside their home countries.

C. A Simple Model of Foreign Direct Investment Caused by Capital Flight and Money Laundering

The literature on illegal capital flight and money laundering provides few linkages between these phenomena and FDI, although there is a related literature on the use of tax havens by MNCs that provides some useful insights.¹⁵ In this section, we construct a simple model of money laundering or illegal capital flight that shows how FDI becomes more salient in these activities and how money laundering centers increasingly become the destination of FDI as the amount of money to be moved increases. The discussion is cast in the context of money laundering, but the model applies, *mutatis mutandis*, to illegal capital flight as well.

Which means of laundering money or engaging in illegal capital flight will be utilized depends in part on home and host country characteristics and in part on the amount of money an individual or organization seeks to launder. Different techniques for laundering money entail different fixed costs and each implies a different relationship between the amount of money being laundered and the variable costs of money laundering, which include both the “direct” costs operating the laundering scheme as well as the risk of apprehension, confiscation of the money laundered and other assets as well as incarceration upon discovery by the authorities.¹⁶ The penalties for being caught laundering money can be quite high; the launderer can lose not only the money being laundered through a single account but also the money deposited in all other similar accounts (Reuter and Truman, 2004, pp. 69-70) as well as other assets, and he/she

¹⁵ See Desai et al. (2006) for a model of the effect of tax havens on MNC investment decisions. We return to the relationship between tax havens and money laundering centers later.

¹⁶ Another cost is bribing bank personnel, law enforcement officials, etc.

will be liable for criminal prosecution for money laundering and possibly also for the criminal activity that generated the illicit income being laundered.

Domestic money laundering schemes, such as those that use multiple bank accounts, even if serviced by surrogates, often face sharply increasing costs because of potential discovery by home country officials, especially if the country is small and has only a few banks. The use of multiple foreign bank accounts in one or more foreign countries with money transferred to service these accounts entails less risk of large cash deposits in the accounts drawing suspicion, but it entails higher variable costs for transporting cash to these accounts through couriers, etc.¹⁷ Setting up arrangements for moving money to foreign accounts through over- and under-invoicing with foreign firms requires more time and effort and a higher fixed investment to establish the scheme. Nevertheless, as the amount of money being laundered through such schemes increases, the risk of discovery by the authorities also increases, possibly quite rapidly both due to home- and foreign-country efforts to limit tax evasion through over- and under-invoicing. Thus, money launderers must resort to more complex schemes to avoid discovery. Of these, FDI potentially entails the highest fixed cost, that of establishing and operating a firm overseas, but it is also the arrangement that offers the lowest marginal costs of moving large amounts of money because these movements can be disguised through a variety of intra-firm transactions between the parent firm and the foreign affiliate as described above.

A simple model of money laundering using the methods described above suggests that, as the amount of money to be laundered increases and as the costs of establishing and maintaining a firm abroad decrease, there is a greater tendency to use FDI as a vehicle for money

¹⁷ International efforts to interdict money laundering emphasize measures to limit the international movement of large amounts of cash. See Group of Eight (1999) and Reuter and Newman (2004).

laundering. We assume that the money launderer has M currency units to launder, and that she can choose three ways to launder the money: through domestic banks, through foreign banks and by setting up firms overseas through FDI. To keep the notation and model simple, we assume that there is only one foreign country and that a currency unit laundered domestically has the same utility for the launderer as does a unit of currency successfully laundered abroad. Let D be the amount of money laundered through domestic banks, B be the amount of money laundered abroad through, say, cash transfers to foreign bank accounts, and F the amount of money laundered through an affiliate firm established in a foreign country. Domestic and foreign bank accounts are assumed to entail fixed costs of K_D and K_B , respectively, and $K_D < K_B$ as explained above. The variable costs of laundering money through either scheme increases with the amount of money laundered so that the total cost of domestic laundering, C_D , is given by $K_D + C_D(D)$ where $C_D(0) = 0$, $C'_D > 0$ and $C''_D > 0$. The same assumptions apply, *mutatis mutandis*, to C_B , the cost of laundering money through foreign banks. Setting up a foreign firm through which to launder money entails a fixed cost, K_F , which is greater than either K_D or K_B and laundering money through this firm entails variable costs of C_F where $C_F(0) = 0$, $C'_F > 0$ and $C''_F > 0$.¹⁸ Finally, based on the discussion above, we assume that, for any amount, M , of money to be laundered, $C_D(M) > C_B(M) > C_F(M)$.

If the agent seeks to launder an amount of money equal to M and is indifferent between money that is successfully laundered at home or abroad, she will use that method described above that minimizes the cost of laundering M . Since, under our assumptions, using only one method for laundering money is always cheaper than using a combination of methods, it is clear

¹⁸ In the case of illegal capital flight, unlike the case of money laundering, the profits that the firm earns through its operations may be an important consideration.

that FDI becomes cheaper relative to foreign bank accounts and related methods as M increases. FDI will be preferred to foreign bank accounts if

$$K_F + C_F(M) < K_B + C_B(M) \quad \text{Eq.1}$$

or

$$(K_F - K_B) + (C_F(M) - C_B(M)) < 0 \quad \text{Eq. 2}$$

where the first term is always positive and the second negative. Since $C'_F < C'_B$, as M increases the likelihood that the inequality in Equation 2 holds increases as well, meaning that if large amounts of money are to be laundered, FDI becomes the vehicle of choice. If there is more than one foreign country, the agent may launder no money in some of these countries, she may launder money through bank accounts in other countries, and she may launder money through FDI in yet other countries depending on the fixed and variable costs of either modality in the host country.

The growing use of offshore corporations for illicit money transfers confirms that illicit flows increasingly make use of firms established abroad for that purpose. For example, Buchanan (2004) reports that the number of shell companies in the British Virgin Islands, a reputed center for money laundering, had increased from 5,000 in the mid-1980s to more than 120,000 in 1994. A characteristic of such centers is a high degree of secrecy offered to shareholders and the infrastructure for moving funds internationally while maintaining a high degree of discretion, which leads to low variable costs of laundering money. Nevertheless, as the list of money laundering countries in Appendix 1 shows, even countries not thought of as tax havens or countries that actively seek foreign bank account holders or investors but that have

large financial markets and that make it easy to incorporate offer low fixed and/or variable costs of money laundering.¹⁹

III. An Overview of FDI from Transition Economies

The transition economies of Central and Eastern Europe have experienced large capital inflows since the start of their transitions, and the nature of these inflows and investors' motivation have received considerable attention.²⁰ More recently, firms from the transition economies have begun to undertake investments outside their own countries. While the stock of outward FDI is still no more than 15-20% of the stock of FDI in the region, the growth of these flows has accelerated rapidly in this decade. Not all or perhaps even the majority of outward FDI from transition economies is driven by money laundering and capital flight, but a review of the data strongly suggests that capital flight and money laundering have been important drivers of FDI. Their effect on the pattern of transition-economy FDI outflows seems palpable even if much of the FDI from transition economies is driven by the existence of firms that are able to deploy their firm-specific competitive advantage in foreign markets through FDI financed by legal outflows of capital.

One way of seeking out other motives for outward investment from transition economies is to examine the sectors into which MNCs from these countries invest. Kolotay (2004) reports that in five advanced transition economies, the Czech Republic, Estonia, Hungary, Poland and

¹⁹ Our model does not include taxes, though their inclusion would be straightforward, and we accept that many countries that are money laundering centers are also tax havens. Thus, in our empirical work we consider whether it is low taxes or the ease of laundering money that drives FDI.

²⁰ Recent studies include Bevan and Estrin, 2004, Carstensen and Teubal, 2004, Brada *et al.* 2006.

Slovenia, the share of services in the total outward FDI stock in 2001 was 56 percent.²¹ Bohatá and Zemplerová (2004) provide greater detail on the basis of Czech data, and they find that, at the end of 2000, only 13% of the stock of Czech outward FDI was in manufacturing while 77% was in trade and repairs, financial services and other services. They note that the trade and repair sectors may represent affiliates set up abroad to service machinery and equipment exports or to facilitate the marketing of Czech goods. This sectoral pattern is consistent with the declared objectives of firms from other transition economies that undertake FDI. In a survey of investing firms from the five transition economies mentioned above, Svetličič and Jaklič (2003) found that the primary motivation for FDI was to expand foreign sales and to reduce non-labor costs, which could well mean distribution and marketing costs in foreign countries.²² Nevertheless, it is also possible that affiliates in such sectors could as well have been established to facilitate capital flight and money laundering.

Much like the reporting on the sectoral makeup of outward FDI from transition economies, the data on the geographic distribution are not available for all countries or for all years. In Table 1 we report the geographic distribution of the stock of FDI from three transition economies, Croatia, Czech Republic and Latvia in 2000. For the first two countries, other Central and East European countries are the main destination for investments. History plays an important part in explaining this pattern: for Croatia, the other ex-Yugoslav states make up the bulk of these investments, and in the case of the Czech Republic, Slovakia alone makes up close to 30% of Czech outward FDI stock. The EU is the second most important destination for FDI for these

²¹ Many of the transition economies, including Russia, publish few or no statistics on either the sectoral or geographic composition of outward FDI. The five countries above are the only ones for which such data are available for more than one year.

²² Asset acquisition and lower labor costs abroad were not important motives for FDI. See also Bohatá and Zemplerová (2004) for a fuller discussion of the Czech case.

two countries, not surprising given its proximity and the fact that the EU is the largest trading partner of each of them. Surprisingly, perhaps, developing countries receive a significant share of outward FDI as well. In the case of Latvia developing countries dominate.²³

The importance of developing countries as a destination for transition countries' outward FDI is not as innocent as it appears at first glance. Using the relatively detailed Czech National Bank data on the distribution of Czech outward FDI by destination, we compiled Table 2, which shows the importance of money laundering centers as identified by the Financial Action Task Force (FATF) in Czech outward FDI. Note the surprisingly large stock of Czech FDI located in Liechtenstein and the British Virgin Islands. Liechtenstein was, until 2001, listed by the FATF on its Non-cooperative Countries and Territories (NCCT) list. Interestingly, Czech FDI in Liechtenstein was quite significant on a flow basis up to 2000, but then entirely disappeared after Liechtenstein reformed its banking policies to bring them into compliance with FATF standards. Cyprus is a well-known center for laundering money from Russia and other East European countries and St. Vincent and the Grenadines continued as NCCTs after Liechtenstein's removal from the list in 2000. It is hard to imagine that these countries have a great market potential for Czech goods or that Czech firms have some real competitive advantages in operating resorts and casinos on tropical islands and that these traditional factors serve as the drivers of Czech FDI to the Caribbean. Since the Czech Republic has a relatively good ranking among transition economies in ratings of corruption, transparency and security of property rights, it is somewhat surprising to find that, as Table 2 shows, FDI in money laundering centers accounts for nearly 30% of Czech outward FDI. Although we lack similarly detailed evidence for Latvia, Liuhto

²³ Much of the evidence presented in this section refers to data from the mid-or an earlier part of the decade. While there may have been some changes in the geographical distribution of outward FDI of those countries, the changes are unlikely to fundamentally alter the thrust of our argument.

(2001) provides a number of case studies that document investments motivated by money laundering and capital flight.

IV. A Model of FDI with Illegal Capital Flight and Money Laundering Motives

In this section we specify and estimate a model of bilateral capital flows from our sample of transition economies to host countries around the world. We select a parsimonious model that captures the main traditional factors influencing FDI, and we add to it several variables that should account for the effects of capital flight and money laundering on FDI outflows from the sample of transition economies used in our econometric work. Our analysis is twofold. First we analyze the factors that influence the FDI location choice. Second, given the FDI location decision, we investigate the principal determinants of the size of FDI outflows. Our results indicate that both economic factors that reflect the traditional drivers of FDI outflows and illicit money flows play a role in determining the destination of FDI outflows as well as the level of bilateral FDI flows from transition economies.

A. Data

We compiled FDI outflows by country of destination for five transition economies, Bulgaria, the Czech Republic, Estonia, Hungary, Macedonia and Slovenia. The data came from each country's central bank web site. Flows are reported in US dollars. Because of the infrequency of some of these FDI flows, we cumulated the value of bilateral FDI flows from these transition economies for the period 2000-2003. Our data are limited to these five transition economies because their central banks are the only ones among transition economies to report their FDI outflows fully by country of destination.²⁴ Our data show that there are no bilateral FDI

²⁴ We chose not to construct FDI outflows from other transition economies by using host country mirror statistics because of the sometimes large differences that are frequently present between the values reported by home and host countries.

outflows between numerous home and host country pairs. Specifically, 62% of the FDI flows in our sample are zero. In order to analyse the FDI location decision between a pair of countries, the dependent variable is set equal to 1 if there is an FDI flow between the two countries and to zero if there is no flow.

The explanatory variables were taken from the World Bank's *World Development Indicators* CD-ROM. Although we cumulated the dependent variable over a four-year period, the explanatory variables refer to 2002, thus centering the explanatory variable over the period under observation. We were unable to obtain data for some of the host countries, and these were dropped from our sample, leaving a total of 83 host countries including all OECD countries and as many of the transition economies and developing countries for which data were available.²⁵

B. FDI Location Choice Model

We model the FDI decision as a two stage process. First, in what we call Model 1, the investor selects the host countries in which to invest, and then, using what we call Model 2, determines the amount to be invested. We propose the following version of the K-K model to analyse FDI location choice from transition economies:

$$FDIpro_{ij}^* = \alpha + \beta KK_{ij} + \delta MON_j + \varepsilon_{ij} \quad \text{Eq. 3}$$

$$FDIpro_{ij} = 1 \text{ if } FDIpro_{ij}^* \geq C \quad \text{Eq. 4}$$

$$FDIpro_{ij} = 0 \text{ if } FDIproL_{ij}^* < C \quad \text{Eq. 5}$$

where

$FDIpro_{ij}^*$ = propensity for investors in country i to undertake FDI in country j .

$FDIpro_{ij}$ = dummy variable equal to 1 if country j receives FDI from country i and 0 otherwise.

²⁵ A list of the countries is in the Appendix. The data base used in our work is available from the authors.

KK_{ij} = country characteristics of countries i and j as specified by the KK model.

MON_j = dummy variable equal to 1 if the host country is a money-laundering center and 0 otherwise.

ε_{ij} = error term.

$FDIpro_{ij}^*$ is a non-observable variable that measures the incentives for investors in country i to undertake FDI in country j . Investors in country i will invest in country j only if the economic, social and political conditions in the two countries make the investment sufficiently advantageous either from a business sense or because it facilitates illegal capital flight or money laundering. If the propensity to invest is larger than the threshold value C , ($FDIpro_{ij}^* \geq C$), then we will observe FDI from county i to country j .

The variable KK_{ij} in Eq. 3 represents the economic drivers of bilateral FDI flows posited by the knowledge-capital model (KK) model. According to this model, the main drivers of FDI are: (1) absolute and relative country size, (2) transport costs (distance) as well as foreign plant set-up costs, and (3) relative factor endowment differences. The larger the home and the host countries' GDPs, the larger should be country i 's FDI flows to country j . In part, this is because a large host-country domestic market creates opportunities for capturing economies of scale and scope that promote the creation of firm-specific competitive advantages based on R&D, branding and the finer subdivision of production. We do note that, in some cases, a small home-country market may be a factor that forces firms to seek large foreign markets precisely to achieve these economies, but a small country is likely to have only a few firms able to undertake such a strategy. A larger host country GDP attracts FDI because the costs of undertaking FDI are to some extent fixed, and thus investors will find larger host countries more profitable if they wish

to expand sales at the least cost. Large economies are also likely to have a greater variety of specialized factors of production and resources that the foreign investor will find attractive.

Following Egger and Winner (2006) we use the following variables to control for relative country size:

$$SUM_{ij} = GDP_i + GDP_j$$

$$GDP2_{ij} = 1 - (GDP_i / SUM_{ij})^2 - (GDP_j / SUM_{ij})^2$$

where GDP_i and GDP_j are the GDPs of the home and host countries in billions of 1995 US\$ respectively.

The role of distance between countries is ambiguous. On one hand, FDI is used to overcome high transportation costs for low-value bulky goods or for non-tradable services, and in this case distance between the home and host countries has a positive effect on FDI. On the other hand, proximity also has a positive effect on FDI because proximity implies similar tastes and consumption patterns, promoting FDI used to increase sales in the host country. The literature on FDI suggests that not only is proximity a driver of FDI, but that adjacency of the home and host countries is a particularly important stimulus to FDI. Consequently, in our model we use both distance and adjacency as separate explanatory variables so that:

$DIST_{i,j}$ = distance in thousands of km between the capitals of countries i and j

$ADJ_{i,j}$ = 1 if countries i and j are adjacent, 0 otherwise

The existence of international factor endowment differences is an important motive for FDI (Helpman 1984; Markusen and Maskus 2002). Following Egger and Winner (2006) we control for factor endowment differences using the absolute value of the differences between home and host countries per capita GDPs:

$$SK_{ij} = \text{abs} \left(\frac{GDP_i}{POP_i} - \frac{GDP_j}{POP_j} \right)$$

Finally, we introduce a variable to capture the attraction of some countries for FDI motivated by capital flight and money laundering. We include a dummy variable, MON_j , which is equal to one if the host country is a money-laundering center and to zero otherwise. We identify a country as a money laundering center based on the *International Narcotics Control Strategy Report 2003* of the US Bureau for International Narcotics and Law Enforcement Affairs. The money laundering countries in the sample, listed in Appendix 1, are the ones referred in the report as “Jurisdictions of Primary Concern”. As we noted previously, some of these countries are also known as tax havens that impose low or no taxes on foreign investors. However, an inspection of Appendix 1 reveals many countries with relatively high taxes that are listed as money laundering centers.²⁶

C. A Model of Bilateral FDI Flows

Given the location choice for FDI, we propose the following model, which we call Model 2, to analyze the volume of FDI from transition economies:

$$FDI_{ij} = \gamma + \eta KK_{ij} + \kappa MON2_j + \mu (MON2 * KK_{ij}) + \sigma \lambda_i + v_{ij} \quad \text{Eq. 6}$$

FDI_{ij} in this model is the observed FDI outflow from country i , the home country, to host country j . As before, our base specification for the traditional drivers of FDI is the KK model, and so we include in Equation 6 the previously defined variables:

SUM_{ij} , $GDP2_{ij}$, $DIST_{ij}$, ADY_{ij} , and SK_{ij} .

²⁶ When we replaced the money laundering dummy with a measure of taxes in host countries, the coefficient proved not to be significant. This may be due to the fact that the money laundering aspects of the host country’s legal regime are more attractive to transition economy investors than is the low tax treatment of corporate earnings.

We also include a dummy variable $MON2_j$ that captures the attraction of some countries for FDI motivated by money laundering and illegal capital flight. This variable differs from the one used for the location choice model (MON_j) in that it is constructed from the investment behaviour of the home countries. We construct $MON2_j$ by identifying those host countries that actually have an increased probability of FDI between themselves and the sample of host countries that is not explained by their economic characteristics. Using the location choice model, we identify host countries for which the probability of FDI increases to more than 50% by the inclusion of the dummy variable MON_j in Model 1.²⁷ We believe that this estimated list of money laundering countries is a more appropriate variable because not all countries that are money laundering centers may be relevant for East European investors' FDI choices.

In this second model we also include interaction terms between the KK variables and the money laundering dummy. While outward FDI motivated by economic forces is likely to be influenced by the economic characteristics of the host and home countries as measured by the variables suggested by the KK model, this should not be the case for FDI motivated by capital flight and money laundering. For example, investors seeking to make investments to facilitate money laundering are more interested in the host countries' laws and financial regulations than in their size or economic potential. Indeed, the effect of the traditional economic variables should be smaller for FDI to money laundering countries, and the interactive slope dummy variables will capture these differences.

²⁷ We first calculate the estimated probabilities of FDI from home to host country using Model 1. We also calculate these estimated probabilities when the dummy variable MON is removed from the model. Then we compare these two estimated probabilities for cases where the introduction of the money laundering dummy increases the estimated probability of FDI to more than 50%.

Finally we include in our model specification a selectivity regressor denoted by λ_{it} . We include this selectivity regressor in order to control for possible sample selection bias in our data in the sense of Heckman (1979).²⁸ This is because the dependent variable in Equation 6, FDI_{ij} , includes only the observed positive FDI flows between countries, excluding all country pairs where there are no investment flows.²⁹

C. Estimation Results

We estimate Equation 3 using the standard probit technique to analyze FDI location choice as the probability that there will be some FDI between a pair of countries. Results are reported in Table 3. First we estimate the KK model, and the signs of all estimated coefficients are consistent with theory. Higher GDPs in the home and host country increase the probability that FDI between the two countries will take place. This is reflected in the positive coefficients of SUM and GDP2, although only SUM is significant in this case. The coefficient for factor endowment differences, as measured by SK, is not significant in our regression.³⁰ These results are consistent with the discussion in Section III of the motives for FDI from transition

²⁸ According to Heckman (1979) the selectivity regressor used corresponds to the Inverse Mill's ratio of the fitted values of the location choice model (Equation 3):

$$\lambda_{ij} = \frac{\phi(\hat{\alpha} + \hat{\beta}KK_{ij} + \hat{\delta}MON_j)}{\Phi(\hat{\alpha} + \hat{\beta}KK_{ij} + \hat{\delta}MON_j)}$$

where ϕ and Φ are the standard normal probability and cumulative density functions respectively. It is important to note that the independent variables included in the location choice model (Equation 3) are not exactly the same as the ones included as explanatory variables in Equation 6. The Base model version of Equation 3 (Table 3) includes the variables ADY, DIST, SUM, and MON. Equation 6 also includes GDP2, MON2, and the interaction terms. The use of exactly the same variables would lead to a very high level of multicollinearity.

²⁹ Following Heckman (1979) we also assume that the error terms in equations 6 and 9 follow a joint normal distribution.

³⁰ Egger and Winner (2006) also find an insignificant effect on FDI using SK; they include interaction terms of SK with SUM and GDP2 that are significant. We refrain for using such interaction terms because they cause high multicollinearity given the cross sectional nature of our study,

economies, which concluded that market-seeking investments predominate over resource-seeking investments. Adjacency also significantly increases the probability of FDI, and greater distance between the two countries reduces the likelihood that one will invest in the other. We conclude that our results are consistent with the KK model, and absolute and relative country size and transport costs (distance) as well as foreign plant set-up costs are important determinants of FDI location decisions.

We also estimate the KK model and include the dummy for money laundering countries, and these results are also presented in Table 3. The coefficients for the variables suggested by the KK model are very similar to the previous results, and the coefficient for the money laundering dummy is positive and significant. The MacFadden R square coefficient is larger, increasing from 0.0821 to 0.0927, about 13%. Also, the model including the money laundering dummy is better at predicting FDI outflows as the probability of correctly predicting FDI between countries increases from 21% to 37% when the money laundering dummy is included.³¹ From these results we conclude that, *ceteris paribus*, a host country that is a money-laundering center will be more likely to receive FDI from a transition economy than would a similar country that was not a money-laundering center.

Estimation results obtained by the Heckman two-step procedure (Heckman 1979) of the FDI outflows model, Equation 6, are presented in Table 4.³² All coefficients of the basic KK model are consistent with theory. Both variables that proxy for relative and absolute country size

³¹ The probability of correctly predicting FDI between countries is calculated as follows. First we calculate the estimated probabilities of the model. The predicted value of the dependent variable is equal to one if the estimated probabilities are larger than 0.50 and equal to zero otherwise. The probability of correctly predicting FDI between countries is equal to the proportion of times the predicted value of the dependent variable matches the actual dependent variable. For more details see Wooldridge (2002) section 15.6.

³² Standard errors are calculated following Lee (1982) since they are robust to heteroskedasticity for Equation 3 and Equation 6.

(SUM and GDP2) are positive and SUM is significant. The variables DIST and ADY are also significant with negative and positive effects respectively. As with our previous results, factor endowment differences measured by SK are not a significant factor in our model. The selectivity regressor is also not significant in this model. Next, we estimate the model including our MON2 dummy variable and the corresponding interaction terms along with all the variables suggested by the KK model. Intuitively, if the money laundering dummy is significant and positive, then, on average, FDI flows to a money-laundering country will be larger compared to those to a country that is not a money laundering center. Similarly, significant coefficients for the interaction terms will imply different effects of the KK variables for FDI directed to money laundering countries.

The estimation results in Table 4 corroborate these hypotheses. The money laundering dummy is greater than zero at a 10% significance level. Also, the effect of ADY, SUM and GDP2 on FDI is different for money laundering countries since their corresponding interaction terms are significant. The effect of distance seems to be the same for money laundering countries. The variables SK, SK*MON, and the selectivity regressor are not significant in our regression. The adjusted R-square coefficient increases from 0.1239 to 0.1589 in the presence of the money laundering variables. As a last step we remove the insignificant variables from our model and estimate what is labelled as the Final Model in Table 4.³³

The best way to interpret our Final Model is to report the coefficients for money laundering countries and non-money laundering countries separately. As explained before, our results suggest that the effect of the KK variables is different for money laundering countries.

³³ We retain the selectivity regressor in all equations even though it lacks significance. We do so in order to avoid possible selection bias and to make all models comparable.

Let $E(a)$ represent the expected value of a . Then, conditional on FDI going to a money laundering country, we calculate the regression coefficients as follows:³⁴

$$FDI_{ij} = \gamma + \eta KK_{ij} + \kappa MON2_j + \mu(MON2 * KK_{ij}) + \sigma \lambda_{it} + v_{ij} \quad \text{Eq. 7}$$

$$E(FDI_{ij} / MON2 = 0) = \gamma + \eta KK_{ij} + \sigma \lambda_{it}$$

$$E(FDI_{ij} / MON2 = 1) = (\gamma + \kappa) + (\eta + \mu) KK_{ij} + \sigma \lambda_{ij}$$

Results presented in Table 4 show that the KK variables are significant when FDI is directed to countries that are not money laundering centers. For the case of FDI directed to money laundering countries, the effect of the variables suggested by the KK model is not statistically different from zero. The only exception is the distance variable, which has the same significant effect for both groups of countries. We conclude that the volume of FDI outflows is explained by the KK model only when these flows are directed to countries that are not money laundering centers. However, the same model is unable to predict the volume of FDI outflows to money laundering countries. Presumably such flows are motivated by other factors, but the nature of these remains the subject of future research.

Finally, in Table 5, we provide a measure of the importance of FDI motivated by illicit money flows by relating it to total outward FDI from our sample of home countries. The first column of Table 5 reports the amount of FDI that goes to host countries that we identify as money launderers. Column 2 shows that the amount of FDI as a percentage of total outward FDI by the home countries ranges from almost zero for Estonia to a high of 54% for Macedonia, and the average for our sample of host countries is 20.43 %, which is consistent with the more impressionistic findings reported in Section III. Thus FDI to money laundering countries accounts for a significant proportion of outward FDI from our sample of home countries.

³⁴ Standard errors for the sum of coefficients are calculated by the delta method.

Of course, not all investment going to money laundering host countries consists of illicit flows from the home countries because there are legitimate reasons for directing FDI to these hosts as well. Thus in column 3 we report the share of FDI going to money laundering hosts that is motivated by illicit flows. We do this by using the parameter estimates for FDI flows to non-money laundering countries to estimate the amount of FDI that we would expect from each home country to each money laundering host if that host country were a “normal” country rather than a money launderer. For our sample of home countries, we estimate that about 60% of FDI to money laundering countries consists of FDI intended to facilitate illicit money flows. Thus, an appropriate model of FDI from these host countries clearly would have to be specified in a way that accounted for FDI intended to facilitate illicit flows as a determinant of the volume and location of total FDI.

The dollar amount of FDI going to money laundering host countries, reported in column 4, is obtained by multiplying column 1 by column 3 of Table 5, and in the last column we relate this illicit-flow-promoting FDI to total FDI outflows from each home country. The highest share of FDI meant to facilitate illicit flows in total FDI is 38% for Macedonia and the lowest is less than 1% for Estonia. These differences may reflect the levels of corruption in home countries, the size of illicit flows relative to the level of financial and economic activity in the home country, etc. In any case, about 10% of FDI from the sample of home countries appears to be motivated by the desire to promote illicit financial flows, a significant proportion that should be taken into account in modelling outward FDI flows.

V. Conclusions

In this paper we have proposed that FDI flows in part driven by non-economic motivations, such as the desire to facilitate illegal capital flight and money laundering. We

constructed a simple model showing that much of such FDI will be directed toward countries that are money laundering centers. Anecdotal evidence and an examination for outward FDI flows from a sample of transition economies support our hypothesis. Moreover, by means of a straightforward adaptation of a standard model of FDI, we have shown that a significant proportion of outward FDI from a sample of transition economies was motivated by the desire to facilitate illicit financial flows.

Our econometric results lead us to believe that non-traditional determinants of FDI flows, including money laundering and capital flight, should be integrated into the theory of foreign investment. While our work shows that the desire to facilitate illicit money flows explains a significant proportion of FDI flows, we also recognize that other non-traditional drivers such tax havens or corruption may need to be integrated into further theoretical and empirical work.

BIBLIOGRAPHY

- Abalkin, A. and John Whalley (1999) The Problem of Capital Flight from Russia; *The World Economy*, Vol.22, (1999), No. 3, pp.412-44.
- Alesina, A. and G. Tabetini (1989) External Debt, Capital Flight and Political Risk; *Journal of International Economics*, 1989, pp.199-220.
- Anderson, James E. (1979) A theoretical foundation for the gravity equation. *American Economic Review*, Vol. 69, No. 1, 1979, pp. 106-116.
- Anderson, James E. and E. van Wincoop, (2003) Gravity with Gravitas: A Solution to the Border Puzzle, *American Economic Review*, Vol. 93, No. 1, March 2003, pp. 170-92.
- Bergstrand, Jeffrey. H. (1985) The gravity equation in international trade - some microeconomic foundations and empirical evidence", *Review of Economics and Statistics*, Vol. 67, No. 2 (1985) pp. 474-481.
- Bevan, Alan A. and Saul Estrin (2004) The Determinants of Foreign Direct Investment into European Transition Economies, *Journal of Comparative Economics*, Vol. 23, No. 4, (December 2004), pp.775-787.
- Bhattacharya, R. (1999) Capital Flight Under Uncertainty about Domestic Taxation and Trade Liberalization; *Journal of Development Economics*, Vol. 59, (1999), pp. 365-87.
- Blonigen, Bruce A. (2004) A Review of the Empirical Literature on FDI Determinants. NBER Working Paper 11299. <http://www.nber.org/papers/w11299>.
- Bohatá, Marie and Alena Zemplerová (2004) Investice českých firem v zahraničí [Investment of Czech Firms Abroad], *Politická ekonomie*, No. 1 pp.34-47.
- Boyce, J.K. (1992) The Revolving Door? External Debt and Capital Flight: A Philippine Case Study; *World Development*; Vol. 20, (1992), No. 2, pp.335-49.
- Brada, Josef C., Ali M. Kutan and Taner Yigit, (2006) The Effects of Transition and Political Instability on Foreign Direct Investment: Central Europe and the Balkans. *Economics of Transition*, Vol. 14, No. 4 (2006), pp. 649-680.
- Buchanan, Bonnie (2004) Money Laundering - A Global Obstacle. *Research in International Business and Finance*, Vol. 18, (2004), No.1, pp.115-127.
- Buiter, H. Willem and Ivan Szegvari (2002) Capital Flight and Capital Outflows from Russia: Symptom, Cause and Cure; London: EBRD, Working Paper no. 73, 2002.

- Carr, D.L., J.R. Markusen, and K.E. Maskus, (2001) Estimating the Knowledge-Capital Model of the Multinational Enterprise, *American Economic Review*, Vol. 91, No. 3, pp. 693-708,
- Carstensen, Kai . and Farid Toubal, (2004) Foreign direct investment in Central and Eastern European countries: a dynamic panel analysis. *Journal of Comparative Economics* Vol. 32, No. 1, pp. 3–22
- Collier, Paul, Anke Hoeffler, and Catherine Patillo (2004) Flight Capital as a Portfolio Choice; Washington, DC: The World Bank, *mimeo*, 2004.
- de Boyrie, Maria E., Simon J. Pak, and John S. Zdanowicz Estimating the magnitude of capital flight due to abnormal pricing in international trade: The Russia–USA case. . *Accounting Forum* 29 (2005) 249–270
- Dooley, Michael and Kletzer (1994) Capital Flight, External Debt and Domestic Policies; Cambridge, Mass. NBER Working Paper No. 4793, 1994.
- Drabek, Zdenek and Warren Payne (2002) The impact of transparency on foreign direct investments. *Journal of Economic Integration*, Vol. 17, No. 4 (2002) pp. 377-395.
- Eaton, Jonathan (1987) Public Debt Guarantees and Private Capital Flight; *World Bank Economic Review*, Vol. 1, (1987), No. 3, pp.377-95.
- Egger, Peter and Hannes Winner, (2006) How Corruption Influences Foreign Direct Investment: A Panel Data Study. *Economic Development and Cultural Change* Vol 54; No. 2, pp 459-486.
- Gorynia, Marian, Jan Nowak and Radoslaw Wolniak (2007) Poland and Its Investment Development Path *Eastern European Economics*, vol. 45, no. 2, March–April 2007, pp. 52–74.
- Grigoryev, L. and A. Kosarev (2000) Capital Flight: Scale and Nature; Paper presented at the conference on *Investment Climate and Russia's Economic Strategy*; Moscow, April 2000.
- Group of Eight (1999) Ministerial Conference of the G-8 Countries on Combating Transnational Organized Crime. United States Department of Justice, Washington DC.
- Hejazi, Walid and Edward Safarian (1999) Trade, foreign direct investment and R&D spillovers. *Journal of International Business Studies*, Vol. 30, pp. 491-511.
- Helpman, Elhanan. (1984) “A Simple Theory of International Trade with Multinational Corporations,” *Journal of Political Economy*, Vol. 92, No. 3, pp. 451-71.
- Hunya, Gabor and Jan Stankovsky (2001) *Foreign Direct Investment in Central and East European Countries*; WIIW-WIFO Data Base, 2001
- Jaklič, A. and Svetličič, M. (2003) *Enhanced Transition Through Outward Internationalization*.

Burlington USA, Singapore, Sydney: Ashgate Publishing Ltd.

Kadochnikov, Denis V. (2005) Economic Impact of Capital Flight from Russia and its Institutional Context: Why Capital Controls cannot be a Part of a Pro-Growth Policy. Working Paper, Leontief Center – International Center for Social and Economic Research, St. Petersburg, Russia.

Kant, Chander (2002) What is Capital Flight? *The World Economy*, Vol. 25, (2002), No. 3, pp.341-58.

Kar, Dev and Cartright-Smith, Devon (n.d.) Illicit Financial Flows from Developing Countries: 2002-2006. Washington: Center for International Policy.

Khan, Mohsin and N. Ul Haque (1985) Foreign Borrowing and Capital Flight: A Formal Analysis; *IMF, Staff Papers* , Vol. 32, No.4, (1985) pp.606-628.

Kolotay, K. (2004): Outward FDI from Central and East European Countries; *Economics of Planning*, Vol. 37, pp. 141-172.

Le, Quan Vu and Paul J. Zak (2001) Political Risk and Capital Flight; Claremont Colleges Working Paper 2001-10.

Lee, Lung-Fei, (1982) Some Approaches to the Correction of Selectivity Bias; *Review of Economic Studies*, pp. 355-372.

Liuhto, K. (Ed.), 2001. *East Goes West: The Internationalization of Eastern Enterprises*. Lappeenranta, Finland: Lappeenranta University of Technology. Studies in Industrial Engineering

Markusen, James R. (1984) Multinationals, Multi-Plant Economies, and the Gains from Trade, *Journal of International Economics*, Vol. 16, No. 3-4, pp. 205-26.

J.R. Markusen, and K.E. Maskus, (2002) Discriminating Among Alternative Theories of the Multinational Enterprise, *Review of International Economics*, Vol. 10, No. 4, pp. 694-707.

Navaretti, Giorgio B. and Anthony J. Venables. (2004) *Multinational Firms in the World Economy*. Princeton and Oxford: Princeton University Press.

Puzo, Mario (1983) *The Godfather*. New York: Penguin, 1983.

Reuter, Peter and Edwin M. Truman (2004) *Chasing dirty money: The fight against money laundering*. Washington: Institute for International Economics, 2004.

Schineller, M. (1993) Hysterisis, Political Risk and International Capital Movements: Essays on Capital Flight; Yale University, PhD Dissertation, 1993.

Schneider, Benu (2003) *Measuring Capital Flight: Estimates and Interpretations*; London: Overseas Development Institute, Working Paper No. 194, 2003.

Sheets, Nathan (1995) *Capital Flight from the Countries in Transition: Some Theory and Empirical Evidence*. Washington, DC: Board of Governors of the Federal Reserve System, International Finance Discussion Paper, No.514, 1995.

Simpson, Glenn R., (2005) Risky Territory: How Top Dutch Bank Plunged Into World of Shadowy Money *The Wall Street Journal*, Vol. CCXLVI, No. 142, (December 30, 2005).

Weintrobe, R. (1998) Privatization, the Market for Capital Control, and Capital Flight from Russia, *The World Economy*, 21, 603-612.

Wooldridge, Jeffrey M. (2002) *Econometric Analysis of Cross Section and Panel Data*. The MIT Press. Cambridge, Massachusetts, London.

Wu, Shih-Ying (2006) Corruption and cross-border investment by multinational firms. *Journal of Comparative Economics* 34 (2006) 839–856.

TABLE 1
Geographic Distribution of the Stock of Outward FDI from Three Transition Economies (2000)

Share in total outward FDI stock (%)	Croatia	Czech Rep	Latvia
Central & East Europe	76	58	04
European Union	16	19	04
Other West Europe		04	00
Other Developed		05	01
Cyprus		02	06
Developing Countries	07	12	85

Sources: Kolotay, 2004 and the countries' National Bank web sites

Note: May not add to 100% due to rounding.

TABLE 2
Distribution of Czech Outward FDI Stock to Selected Countries in 2000
(Thousands US\$ and % of total outward FDI)

Money Laundering Countries	<u>thou. \$US</u>	<u>%</u>
British Virgin Islands	45,362	6.15
Guernsey	7,122	0.97
Cyprus	30,847	4.18
Liechtenstein	131,358	17.80
Dutch Antilles	1,133	0.15
St. Vincent & Granada	1,005	0.14
Total	216,827	29.39
Other Hosts		
Germany	36,839	4.99
Austria	17,312	2.35

TABLE 3
Estimation of the Location Choice Model (Eq. 3)

	Const	SK	ADY	DIST	SUM	GDP2	MON	MC-Faden R ²	% Correctly Predict FDI
Knowledge-Capital Model	-0.3467 (0.1600) 0.040	7.0514 (4.9800) 0.160	0.8971 (0.3200) 0.010	-0.1026 (0.0200) 0.000	0.1854 (0.0600) 0.000	0.4186 (0.4100) 0.310		0.0821	20.96%
KK + Money Laundry	-0.4633 (0.1700) 0.010	4.9697 (5.0300) 0.320	0.8735 (0.3200) 0.010	-0.1143 (0.0200) 0.000	0.1595 (0.0600) 0.010	0.5008 (0.4100) 0.220	0.3400 (0.1400) 0.010	0.0927	36.53%
BASE MODEL	-0.2668 (0.1000) 0.010		0.8931 (0.3200) 0.000	-0.1201 (0.0200) 0.000	0.1563 (0.0500) 0.000		0.3446 (0.1300) 0.010	0.0894	

Note: We report coefficients, standard errors are in parenthesis and p-values are immediately under

TABLE 4
Estimation of the FDI Outflows Model (Eq 6)

	Const	SK	ADY	DIST	SUM	GDP2	MON	SK*MON	ADY*MON	DIST*MON	SUM*MON	GDP2*MON	λ	R2	R2_adj
KK	-55.74 (65.97)	546.97 (441.99)	187.30 (99.82)	-14.16 (5.96)	19.54 (9.59)	82.15 (57.52)							93.93 (69.72)	0.15	0.13
	0.40	0.22	0.06	0.02	0.04	0.15							0.18		
KK + MONEY	-57.51 (47.64)	406.50 (472.72)	259.88 (123.23)	-10.99 (4.46)	18.53 (7.11)	122.10 (72.83)	111.66 (69.12)	290.54 (857.23)	-239.94 (124.48)	-21.03 (20.39)	-52.86 (30.37)	-253.87 (120.22)	72.28 (47.92)	0.22	0.16
	0.23	0.39	0.04	0.01	0.01	0.09	0.10	0.73	0.05	0.30	0.08	0.04	0.13		
FINAL MODEL			225.68 (114.41)	-6.93 (3.27)	9.51 (2.89)	129.55 (73.55)	74.14 (37.51)		-228.74 (123.20)		-44.79 (24.72)	-219.90 (114.48)	5.76 (24.71)	0.22	0.18
			0.05	0.04	0.00	0.08	0.05		0.07		0.07	0.06	0.82		
NO MONEY LAUNDERING COEFFICIENTS			225.68 (114.41)	-6.93 (3.27)	9.51 (2.89)	129.55 (73.55)							5.76 (24.71)		
			0.05	0.04	0.00	0.08							0.82		
MONEY LAUNDRY COEFFICIENTS	74.14 (37.51)		-3.06 (31.27)	-6.93 (3.27)	-35.28 (24.41)	-90.35 (83.56)							5.76 (24.71)		
	0.05		0.92	0.04	0.15	0.28							0.82		

Note: We report coefficients, standard errors in parenthesis and p-values are immediately under. The model used to calculate the selectivity regressor is the base model in table 3. Standard errors are calculated following Lee (1982).

Table 5
Quantitative Importance of Illicit Flows in FDI (2000 – 2003)

COUNTRY	TOTAL FDI TO MONEY LAUNDERING COUNTRIES*		ILLCIT FLOWS AS % OF TOTAL FDI TO MONEY LAUNDERING COUNTRIES	FDI TO MONEY LAUNDERING COUNTRIES MOTIVATED BY ILLICIT FLOWS	
	MILL US \$	% OF TOTAL FDI		MILL US \$	% OF TOTAL FDI
Bulgaria	0.6000	10.53%	42.73%	0.2564	4.50%
Czech Republic	144.4449	21.57%	46.56%	67.2483	10.04%
Hungary	171.9940	6.24%	46.50%	79.9801	2.90%
Macedonia	0.7650	53.98%	70.00%	0.5355	37.79%
Slovenia	1191.6380	31.23%	54.57%	650.2983	16.50%
Estonia	0.0009	0.01%	100.00%	0.0009	0.01%
Total	1509.4428	20.43%	60.06%	798.3196	10.81%

* Countries identified as money laundering centers for Model 2 regressions. See Appendix 1.

Appendix 1: List of Host Countries

Albania, Algeria, Argentina, Australia*, Austria**, Azerbaijan, Bahamas*, Bahrain, Belarus, Belgium, Belize, Bosnia and Herzegovina**, Brazil*, Bulgaria, Canada*, Cayman Islands*, Chile, China*, Costa Rica*, Croatia, Cyprus*, Czech Republic, Denmark, Ecuador, Egypt, Estonia, Finland, France*, Georgia, Germany*, Greece*, Hong Kong*, Hungary**, India*, Indonesia*, Iran, Ireland, Israel*, Italy*, Japan*, Kazakhstan, Kenya, Korea, Latvia**, Lebanon*, Liberia*, Liechtenstein**, Lithuania, Luxembourg**, Macedonia, Malaysia, Malta, Mexico*, Moldova, Mongolia, Netherlands**, New Zealand, Nigeria*, Norway, Peru, Philippines*, Poland, Portugal, Romania, Russian Federation**, Serbia and Montenegro, Seychelles, Singapore*, Slovak Republic, Slovenia, Spain**, Suriname, Sweden, Switzerland**, Thailand*, Turkey**, Ukraine**, United Arab Emirates*, United Kingdom**, United States*, Uruguay*, Uzbekistan, Venezuela*

*** = Host country treated as a money laundering center in the probit regression only.**

**** = Host country treated as a money laundering center in both the probit regression and in the final regression.**