The Interplay between Foreign Direct Investment, Security and European Integration: The Case of the Central and Eastern European Countries

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Abstract

A bi-directional relationship between FDI and economic reforms in ten Central European countries is tested, along with the role of the EU in breaking a potential vicious circle of insecurity, little investment, slow reforms, low prospects of EU membership and hence high insecurity. Using panel data regressions and a system of simultaneous equations, we find evidence that the prospect of EU membership has enhanced FDI in the less reformist candidates and that trade integration and increased EU financial assistance have improved FDI in the CEECs.

JEL classifications: F2, C2, C3, P26

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1. Introduction and Motivation

The fall of Communism presented multinationals with new business opportunities in Central and Eastern Europe. Low labour costs and unsaturated markets made the new democratising countries appealing locations for foreign direct investment (FDI). Furthermore, from the CEECs' point of view, attracting FDI appeared to contribute to successful marketisation and EU integration. The limited and obsolete domestic capital compared to the needs of privatisation, the need to become competitive in foreign markets through improved technology, know-how and R&D led governments increasingly to promote and attract FDI. As joining the EU was highly dependent on economic reforms, including privatisation and modernisation of the economy, FDI seemed to be an obvious means of achieving the goals of marketisation and Europeanisation.

However, in the early 1990s flows of FDI seem to have been strongly influenced by security concerns in the transition countries. Perceptions of risk were associated with the success of economic transition, the ideology of governments, identification with specific notions of political geography notion such as 'the Balkans' or membership of regional integration associations. Experience so far has shown that the bulk of FDI has been directed especially towards the 'frontrunners' in economic reforms and European integration. These countries were considered less risky by investors and thus attracted large financial flows. Furthermore, investment induced by perceptions of security appears to have enhanced economic reforms, prospects for EU integration and perceptions of security, thus creating a virtuous circle of economic development.

This virtuous circle is best illustrated by the case of Poland. In particular, Poland's proactive approach to EU membership, and the perception that Poland would be amongst the first group of countries to join the EU, maintained a high level of interest in the country, despite some episodes of internal political and economic instability. This in turn encouraged FDI, economic reforms and the achievement of EU membership in 2004. On the other hand, countries such as Romania seem, from the beginning of transition, to have entered a vicious circle of high security concerns, low FDI, slow economic reform, poor prospects for EU integration and thus high security concerns. In 1997, Romanian officials feared that the publication of the 'Avis' and the decision by the European Commission to pursue the enlargement process in two 'waves' would enhance this vicious circle. It was believed that Romania would lag behind even more in terms of attracting FDI and enhancing economic reforms. It was partially with this fear in mind, that the less prepared candidates might be even further disadvantaged, that the EU decided to pursue an 'all-inclusive' enlargement policy and at the 1999 Helsinki European Council the remaining candidates were invited to start accession negotiations.

This paper seeks to illustrate this potential for either virtuous or vicious circles of development by establishing first the impact FDI has on economic reforms and then the impact economic reforms, other security variables and European integration variables have in turn on FDI. Economic reforms represent a component of security concerns and appear both as a determinant and a result of FDI. This bi-directional relationship appears to be at the core of the vicious circle and is examined statistically, thus filling a gap in the literature. The analysis also identifies ways of turning the vicious economic circle into a virtuous one. The main question investigated here is whether variables indicating the degree of European integration- such as institutional integration, trade and aid- are capable of enhancing FDI in candidate countries, thus breaking the path dependency induced by poor previous evidence of economic reforms reflected in high insecurity. Soft security determinants of FDI have been under studied and this paper addresses this limitation of previous research.

The remainder of this paper is structured as follows: first we consider in more detail the theoretical framework, from which we develop testable hypotheses, before developing the empirical model. Following a discussion of the empirical results, the paper concludes with some policy recommendations.

2. Theoretical framework and hypotheses

This paper uses an interdisciplinary approach to assessing the determinants of FDI drawing on different strands of literature which are briefly reviewed below. The first strand has focused on the locational advantages of the CEECs as defined by Dunning (1981) in his OLI paradigm. This literature suggests that the key location-related FDI determinants are demand, cost factors and the riskiness of investment, in terms of both the political and the economic environment (Singh and Jun, 1995; Holland and Pain, 1998; Bandelj, 2002; Bevan and Estrin, 2004; Bevan et al, 2004; Disdier and Mayer, 2004; Pornarakis and Varsakelis, 2004). Risk assessment has been especially important for the transition countries which have faced both internal economic and political crises, as well as the danger of external instability posed for example by the Yugoslav wars and the Kosovo crisis. Thus, a broad definition of risk as insecurity may bring new insights regarding the determinants of FDI.

In order to shed light on the notion of security and on its relationship with FDI, the analysis draws on the Copenhagen School of European Security. While security is the 'absence of threat', Buzan et al (1990) maintain that (in)security since the end of the Cold War involves different types of threats, corresponding to five sectors: military, economic, political, societal and environmental. In this framework, the main security concerns that transition countries have faced were related to the success of the democratisation, marketisation (economic reforms) and

Europeanisation processes (Smoke, 1996). In particular, security concerns included for Romania the fear of discrimination as a result of being perceived as 'Balkan' rather than 'Central European' (Meleşcanu, 1997). Furthermore, membership of regional integration agreements such as the Central European Free Trade Agreement (CEFTA) and the Black Sea Economic Co-operation (BSEC) was seen as a means of enhancing perceptions of security (Millard, 1994; Tiersky, 1999). It is likely that these perceptions of security in the candidate countries have affected the country image and hence FDI.

A second strand of economic literature concludes that membership of supranational agreements generally enhances FDI (Baldwin, 1994; Balasubramanyam and Greenway, 1992; Barrel and Pain, 1999). In particular, European economic integration has been shown to have a positive impact on FDI from outside and inside the EEC (Molle and Morsink, 1991; Balasubramanyam and Greenway, 1992; Baldwin and Haaparanta, 1995; Aristoteleus and Fountas, 1996; Barrel and Pain, 1997; Bellak, 2004). Bevan and Estrin (2000) have shown that the announcement at the Essen European Council in 1994 of the EU's commitment to enlargement had a positive impact on FDI in the Visegrad countries which were not only geographically closer to the EU, but also more advanced in economic reforms. Moreover, the same study showed that the publication of the 'Opinion' by the European Commission increased FDI in the then 'first wave' countries faster than in the 'second wave' ones, thus increasing the gap between the 'frontrunners' and the 'laggards' of accession. Bevan and Estrin (2004) show that the differentiation occurred at the Cologne Summit of 1998 between countries more and less advanced in reforms has affected FDI flows. Nevertheless, the impact of European integration on attracting FDI in the candidate countries, and in particular the mechanism though which this operates, remain understudied. The significance of the more recent stages of the accession process has not been addressed and neither has the importance of the total financial assistance. The present study aims to fill this gap in the literature.

Furthermore, this study adopts a constructivist view of European integration (Risse-Kappen, 1996) and proposes that the prospect of EU membership can enhance the security of the candidate countries. By naming a country a candidate for membership, the accession process is able to improve the country image and to foster economic reforms and FDI.

Underlying the model in this paper there are seven basic hypotheses (H) which we explore in turn before specifying a testable version of the model.

H1: There is a bi-directional relationship between FDI and economic reforms.

At the centre of the virtuous/vicious circle argument is the core relationship between FDI and economic reforms**.** A number of previous studies have shown that FDI depends on prospects of macroeconomic stability and on the institutional framework of the host countries, as above. However, this paper goes further in recognising that as well as restructuring being a determinant of FDI, FDI is itself an important means of restructuring (Barrell and Pain, 1997; Carlin et al.,1999; Barrell and Holland, 2000; Hunya, 2000; Konings, 2001; Kalotay, 2001, Boscaiu et al, 2001).

H2: The prospect of EU accession can foster economic reforms, thus creating conditions for further FDI and for full EU membership.

EU membership has acted both as a 'carrot' and as a 'stick' for governments in transition countries in pursuing economic reforms. Furthermore, authorities acknowledged the need for FDI in order to complete economic transition and meet the Copenhagen economic criteria necessary for full EU membership.

H3: FDI is determined by demand and cost factors.

This hypothesis incorporates the main economic drivers of FDI. Drawing on Dunning's (1993) typology of FDI motivations, they reflect the view that investors have been guided by both market seeking and rent seeking motives (Dunning, 1981; Lankes and Venables, 1996; Resimini, 2000; Deichmann, 2001; Bevan and Estrin, 2004). However, Deichmann (2001) concluded that labour costs are not a statistically significant determinant of FDI in the CEECs because wage variations within the region do not offer additional information to that conveyed by more influential variables. Market size will relate not only to the national market of each country, but also to markets in other countries which can be served from investment in a particular location. Thus membership of the developing regional economic associations such as CEFTA and BSEC are seen as key determinants which also indicate enhanced security (Tierski, 1999).

H4: There is potential path dependency in attracting FDI.

The question of path dependency in the CEECs was raised by the transition literature and the post-1989 reality may also indicate such an evolution (van Brabant, 1995; Grabner and Stark, 1997; Falcetti et al, 2002). The fast reformers attracted higher levels of FDI and it was feared that this would enhance the gap between the CEECs (Smith, 2000). However, the path dependency theory can be challenged. Countries which were originally in the 'second wave' joined the EU in 2004. Path dependency can be tested by assessing the impact on FDI of initial economic and structural conditions at the start of transition and no previous study has done this.

H5: Perceptions of security affect FDI.

Perceptions of security depend essentially on three types of indicators: the political orientation of the government, geography, particularly political geography, and membership of regional economic associations.

No empirical studies have used the ideological orientation of the host country government as a determinant of FDI. The return to power of post-communists posed the threat of a return to authoritarianism. It was also partially perceived as a factor that would slow down economic reforms (Balcerowicz, 1993; EBRD, 1994; and Snoy, 2001). Potentially, a post-communist government would also affect the country's attractiveness for FDI. In the early 1990s, post-communists in Romania promoted slogans such as 'We do not sell our country', thus deterring FDI. However, investors seem not to have been affected negatively by the results of the 2000 Romanian elections.

Physical and psychological proximity are important determinants of FDI as shown by both theory and empirical evidence (Družić, 1997; EBRD, 1998; Resmini, 2000, Bevan et al, 2001). However, Sölvell (1994) concluded that the importance of geographic distance has declined since the 1970s and economic conditions are becoming more relevant. In this study, given the interest in the security determinants of FDI, the emphasis lies more on the relevance of terms such as the Balkans and Visegrad which may capture a certain psychological distance. We also include membership of CEFTA and BSEC.

H6: Improving a country's image through the prospect of EU membership may increase FDI.

The EU's relations with the CEECs have gone through a series of different stages. Although the EU's first real commitment to enlargement only came at the 1993 Copenhagen European Council, it is likely that the accession agreements (AAs) impacted on FDI both through their direct effects on trade and possibly through the anticipation of future closer relations with the EU. Furthermore, by diminishing risk in the candidate countries, steps towards institutional integration with the EU may have affected FDI positively. The Commissioner for Enlargement at the time, Verheugen mentioned at the Helsinki European Council that the opening of the accession negotiations by Romania was a signal for investors to invest in the country. Although some argue that negotiations alone are not enough and that investors need real commitment through reforms, the opening of negotiations has accelerated economic reforms in Romania to a certain extent (Interviews, 2000 and 2004).

H7: Trade integration with the EU and enhanced aid fosters FDI.

Trade openness is generally recognised as a determinant of FDI as discussed above. Since our focus is on the impact of trade integration with the EU on FDI, and two thirds of the CEECs' trade is conducted with the EU, it is likely that FDI would follow the same geographical pattern. Furthermore, it is likely that non-EU investors would aim to gain access to the EU market through investment. Thus, trade with the EU will affect the level of FDI, as well as the other way round. It is expected that higher imports of capital goods enhance investment. On the other hand, export driven industries are likely to attract FDI or to determine the reinvestment of their profits.

Contrary to Meier (1981), post-1989 experience suggests that aid is needed in areas which do not meet efficiency requirements for private investment, but which are absolutely necessary for reforms. Furthermore, the involvement of international financial institutions in economic reforms acts as a sign of a country's credibility and hence may affect FDI positively (Lavigne, 1995; Mohammed, 1995). Moreover, if aid is directed towards modernising infrastructure and improving human resources, then aid affects FDI indirectly. Aid also affects FDI by easing the cost of transition and thus enhancing internal support for economic reforms and implicitly FDI related policies.

3. The model

The paper has identified a potential for economic vicious or virtuous circles with perceptions of insecurity, poor economic reforms, low prospects for European integration and consequently further perceptions of insecurity limiting the potential for FDI whilst FDI itself has a positive impact on economic reforms which are an important component of perceptions of insecurity.

In order to model this structure we have identified two basic structural equations. The first attempts to explain the degree of economic reform as a function of previous (i.e. lagged) FDI and a set of conditioning variables reflecting the extent of integration with the EU. The second equation seeks to model the level of FDI as a function of a set of economic variables, the degree of economic reform and a set of conditioning variables indicating government stance and the degree of integration.

$$REFORM_t = f_1(FDI_{t-1}, INT_t)$$

$$FDI_t = f_2(ECON_t, REFORM_t, GOV_t, INT_t)$$

In the following section we estimate versions of each of these models on a panel data set covering 10 CEE countries (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) over the eleven years 1990 to 2000. The main data series are provided by the European Bank for Reconstruction and Development, the World Investment Indicators and the Vienna Institute for International Economic Studies. Initially we explore the structure of each equation as a single equation model before re-estimating them as a simultaneous equation model. Various versions of the models were tested to explore alternative ways of capturing the structure through the use of alternative variables.

The key to this exercise is in the definition of the specific variables used to capture the elements of the basic model. Reform, for example, implies capturing elements of privatisation, enterprise restructuring, increased competition, banking restructuring and the development of securities market. We identified two indicators relating to the economic reforms of liberalisation and stabilisation (STAB) and institutional reform (REF). These were quantified using the EBRD transition indicators which take discrete values between 1 and 4.3, higher values indicating faster reforms. STAB is defined as the mean of PR (price liberalisation index) and FOREX (trade and foreign exchange system liberalisation index) REF is the mean of six EBRD indices: LSP (large scale privatisation) SSP (small scale privatisation) ENT (governance and enterprise restructuring) COM (competition policy) BK (banking reform and interest rate liberalisation) SEC (securities markets and non-bank financial institutions).

The specification of these two composite indices was justified by the roughly similar trends in time displayed by their components. The mean is an appropriate estimate for the general trend in the case of REF and for the main two components in the case of STAB. An equal weighting was given to all factors on the assumption that all components are equally important.[1] The expected impact on FDI of both REF and STAB is positive.[2]

FDI is expressed as aggregate yearly inflows. Flows, rather than stocks, have been chosen to capture the volatility of investment as our interest is on the decision to invest and how this in turn influences the reform process rather than, for example, the overall contribution of FDI to economic growth. Comparability may be affected by different definitions used in the statistics of the CEECs.

The economic situation is measured through three different variables to capture market size, wage competitiveness and a measure of initial conditions at the start of transition. Market size is measured by the GDP of the host country in current prices at market exchange rate in US dollars.[3] AVER is defined as the annual mean monthly wage in US dollars at market prices at official exchange rates.[4] The EBRD index of initial conditions represents a weighted average of

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[1] Several specifications have been tried with different weights of the components of REF but the overall significance of the model is not sensitive to these different weights.

[2] Measures of reform may be imperfect as the EBRD relied partially on subjective indices rather than on directly observable variables.

[3] This does not include the hidden economy. Also, by including transport costs, GDP comprises information on the location of the CEECs, which relates to market potential. This overcomes the lack of an accurate variable on distance.

[4] Certain caution is necessary. Total labour costs should include also day training and benefits not customarily provided in the West (Deichmann, 2001). Also, wages vary between different sectors of

measures of the level of development, trade dependence on CMEA, macroeconomic disequilibria, distance to the EU, natural resource endowments, elements of market economy and state capacity (Snoy, 2001). Here, the EBRD index was inverted (INIT) so that higher values indicated more favourable starting conditions.[5] Of the economic variables we would expect market size and initial conditions to be positively related with FDI and labour costs to be negatively related.

Turning to the variables representing perceptions of government stance and the degree of integration, the variable GOV, which takes value 0 for a post-communist government and 1 otherwise, captures the external perceptions of security, assuming that a post-communist government would be seen outside as less reformist than a democratic one.[6] It is expected that a democratic government would have a positive effect on FDI. However, by being anchored in the process of EU accession, post-communist governments have increasingly pursued deep economic reforms, including policies meant to foster FDI. Hence, their post-communist nature may have a less significant impact on FDI A second set of indicators relates to the expected perceptions concerning political geography and security. We have identified two aspects of these. The first two indicators relate to geographical location: BALK is a dummy variable with value 1 for Romania and Bulgaria and 0 otherwise and VISE is a dummy with value 1 for Poland, Hungary, Czech Republic and Slovakia and 0 otherwise.[7] BALK is expected to have a negative sign capturing the negative perception of the Balkans as a political geography term, whereas VISE is expected to have a positive sign. The second two indicators relate to membership of regional trade associations, CEFTA and BSEC, each of which is expected to have a positive effect on FDI.

However, there are some limitations in this approach. First, the variables do not

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activity, i.e. public v. private or manufacture v. services. However, as FDI is neither country, nor industry specific, a narrower definition of labour cost was irrelevant and hence AVER appears satisfactory.

[5] The index is 1.9 for Poland and 1.7 for Romania (Snoy, 2001:12)

[6] Problems might occur for Latvia, in which the successive governments were ideologically similar.

[7] The remaining countries are the Baltic states and Slovenia.

differentiate accurately enough between the sizes of the two markets or their geographical position. Second, the BSEC dummy does not capture the fact that some of the BSEC members do not have preferential trade agreements with the EU, and thus Romania appears to be a bridge between them and EU investors.

The final group of variables indicate progress towards EU membership. The institutional progress is captured in a set of variables each of which takes a value of 1 starting in the year after the signing of the relevant agreement and it is expected that increased FDI is a consequence of the signing of the agreement and of the anticipation regarding the trade liberalisation effects. ASOC indicates the existence of an Association Agreement with the EU. NEG indicates the beginning of accession negotiations with the EU. However, as the decision to open accession negotiations was motivated by different factors in 1999 compared to 1997, NEG may be a rather imprecise measure and the use of two different variables was also considered. AVIS thus indicates one of six 'first wave' countries and HELSINKI indicates one remaining six candidates whose negotiations began with the Helsinki Council meeting in 1999.

The economic progress of integration is measured in terms of trade and aid. Three variables are used to describe the trade between the CEECs and the EU. TRADEU is the most commonly used indicator of economic integration with the EU and measures the percentage of trade with the EU in the total trade of the candidate country. However, we have also used IMPEU, the share of imports from the EU in total imports, and EXPEU, the share of exports to the EU in total exports to give greater detail on the direction of trade. It is expected that a higher trade openness enhances FDI and that there is a complementary relationship between imports/exports and FDI. Due to data restrictions it was not possible to distinguish between different types of aid. Here AIDCAP is aid per capita which reflects that the CEECs received substantial pre-accession aid from the EU in support for their preparation for EU membership. A positive relationship is expected.

As will be clear, a number of the variables defined above, particularly those relating to government stance and the degree of integration, are alternative specifications of the influencing factors. Hence we have specified a number of alternative versions of the model which are discussed in detail in the following section.

A certain precautionary note regarding the results is due for several reasons. There are some missing variables which make the number of observations differ from one specification to the other. Furthermore, the combination of categorical, numerical and dummy variables leads to some difficulty in the interpretation of coefficients. Despite these precautionary notes, the coefficients of the basic model are robust to all specification changes. Furthermore, there are enough observations to allow us to draw some clear inferences from these results. Finally, the satisfactory R-squared and the joint significance of the variables used in the different specifications give us reasonable confidence in the robustness of the estimations.

4. Empirical analysis and results

The model is developed in three stages. First we look at the determinants of economic reform. Secondly we examine the impact of reform, other security factors and integration on the development of FDI. Thirdly we bring the two together in a simultaneous equation model.

4.1 Determinants of economic reforms

Reform is seen as being determined in part by the process of integration, but also by the history of FDI which acts as a powerful influence on the extent to which governments are likely to be more or less reform minded. This is the key to the virtuous/vicious circles which lie at the heart of the argument in this paper. Thus we start with a basic model of reform which depends on macroeconomic stabilisation, previous FDI and progress with integration. Models 1 and 2 use alternative specifications of the integration variable.

Table 1. The determinants of economic reforms

REF	(1)	(2)
STAB	-.00	.-00
	(.00)	(.00)
LNLAG FDI	.17*	.19*
	(.03)	(.03)
ASOC	.33*	.33*
	(.08)	(.08)
NEG	.16*	
	(.06)	
AVIS		.18*
		(.08)
HELSINKI		.10
		(.10)
Constant	-1.01	-1.28*
	(.64)	(.63)
R Squared	.57	.58
No. Observations	85	85
Hausman Test	6.77	3.75
Individual Effects	RE•	RE

Note: i) The coefficients and the standard errors are provided in the columns.
ii)The coefficients marked with * and ** are significant at 5 and 10 percent respectively.

The results are presented in Table 1. They suggest that STAB is not significant, but LNLAGFDI is, consistent with the hypothesis that FDI has contributed towards economic reforms.[8] In model 1, both ASOC and NEG are significant, showing that early economic and political ties with the EU and prospects for EU membership have urged governments to promote economic reforms. However, the results may also pick up the reverse relationship between reforms and accession, i.e. that the Association Agreements (AAs) and the launching of negotiations have depended on a certain level of economic reforms, especially in the case of the first five to start negotiations in 1998. As NEG does not capture the highly symbolical value of the negotiations started in 2000

• Random Effects

[8] A specification with the LNFDI rather than LNLAGFDI was tried, but the results were not significantly different. The lagged variable was preferred in order to account for the time necessary for FDI to have an impact on economic reforms. A specification with the initial conditions was also tried, but INIT was not significant. This shows that INIT should take into consideration more political and institutional factors.

which were meant *inter alia* to speed up reforms and to create different perceptions of security, model 2 tests the impact of the alternative variables AVIS and of HELSINKI on economic reforms.

In model 2, ASOC and AVIS appear to have had a significant positive impact on economic reforms through the so called 'carrot effect'. The AA was a first step towards closer relations with the EU and it appears to have given momentum to the internal reforms in which the CEECs were embarking in early 1990s, thus potentially placing them in a virtuous or a vicious circle of economic development. Furthermore, the publication of the *Avis* in 1997 appears to have contributed towards maintaining the pace of economic reforms in the countries then recognised as the more advanced in economic and political transition and thus in the accession into the EU.[9] The lack of significance of the decisions of the Helsinki European Council may be due to the small number of observations from 2000 onwards, but also to the fact that REF itself had already reached a ceiling by that time. It may also suggest that reforms in the 'second wave' candidates had already picked up before 2000, as a result of the 'stick' effect of the 'Avis'. By not being invited to open accession negotiations, the 'second wave' countries feared exclusion, hence needed to reform quickly to stay in the race for membership. This was the case of Romania which has speeded up reforms since 1997. Finally, the lack of significance of Helsinki variable appears to indicate a possible 'social fatigue' with regard to the processes of marketisation and Europeanisation, processes which took longer than initially expected. The target date for the EU enlargement has been postponed several times and the positive results of economic reforms took longer to appear in the 'laggard' countries. It is thus possible that using EU membership as an excuse for implementing unpopular reforms has become more and more difficult in time.

[9] It is also possible that the regressions only capture the inverse relationship between reforms and EU integration, i.e. that the faster reformers concluded AAs earlier and were recommended to open accession negotiations in 1998.

Thus we have some clear evidence that is consistent with the argument that previous FDI has a positive and significant impact on present reforms and that the prospect of EU membership has constituted a strong motivation for sustained economic reforms in the candidate countries, especially in the early stages.

4.2 Determinants of FDI

We develop the determinants of FDI through three stages. Model 3 provides the basic model in which reform, GDP and government stance are included. This is then enhanced in Model 4 to include wage levels as a further economic determinant. Model 5 explores the path dependency idea by including a measure of initial conditions. We then explore various specification of models which additionally include security determinants (models 6 to 8) and integration factors (models 9 to 14).

The basic model

Table 2. The economic and security determinants of FDI

LNFDI	(3)	(4)	(5)	(6)	(7)	(8)
REF	1.07*	.89*	1.04*	1.06*	1.07*	1.10*
	(.14)	(.17)	(.14)	(.18)	(.14)	(.15)
LNGDP	.92*	.93*	1.07*	. 91*	.93*	.92*
	(.16)	(.15)	(.21)	(.17)	(.17)	(.17)
GOV	.35*	.53*	.35*	.35*	.35*	.35*
	(.15)	(.15)	(.15)	(.16)	(.16)	(.15)
LNAVER		.09				
		(.19)				
INIT			-.16			
			(.15)			
CEFTA				.02		
				(.26)		
BSEC					.38	
					(.33)	
BALK						.27
						(.45)
Constant	-5.25	-5.60	-8.36*	-4.91*	-5.47	-5.31
	(3.74)	(3.52)	(4.84)	(3.97)	(3.98)	(3.99)
R Squared	.75	.78	.89	.75	.75	.75
No. Observations	90	80	90	90	90	90
Hausman Test	1.67	7.72	1.07	3.68	2.18	1.43
Individual Effects	RE	RE	RE	RE	RE	RE

The results are shown in the first two columns of Table 2. Model 3 shows that economic reforms are a significant positive determinant of FDI. It potentially signals the path dependency of poor reforms, low FDI, hence poor reforms. As anticipated, the perception of the host country's government is also significant, with a positive coefficient, indicating that a democratic government of the host country appeals to investors. This has been the case of Poland and Romania whose post-1997 and post-1996 democratic governments experienced the highest surge in FDI during the whole transition period. Additionally, the model suggests that FDI in the CEECs is market-seeking as LNGDP is very significantly positive. The positive sign of LNAVER shown in model 4 indicates that, given that wages in the CEECs are already significantly lower than in the EU, foreign investors may choose between CEEC countries in the belief that higher wages represent both enhanced purchasing power and higher productivity, such that although wages are higher labour costs may be lower. However, it should be noted that the coefficient on LNAVER is not significant and the data available is not sufficient to draw definite conclusions regarding the rent-seeking nature of investment in the ten CEECs considered.

Overall, the results of both the basic model of FDI determinants and of the regressions on the determinants of economic reforms are consistent with the hypothesis of a bi-directional relationship between FDI and reforms, or FDI and security. These results indicate the potential danger that slow reformers attract low FDI with little impact on economic reforms, EU integration and thus security. To examine this further we investigate the extent to which initial economic conditions are able to reinforce this path dependency.

Path dependency

Model 5 in Table 2 shows that INIT is not significant but REF is, thus suggesting that economic reforms rather than initial conditions have affected FDI in the ten CEECs. However, this does not eliminate entirely the possibility of path dependency. INIT only assesses the initial economic situation and does not take into consideration political factors. Although not significant, the negative sign of INIT might suggest that harsher initial conditions created expectations of radical reforms and of improved economic prospects, thus fostering FDI. It is also possible that firms were interested in first mover advantages and hence were not deterred by relatively poor initial conditions in some countries. Overall, the lack of significance of INIT reinforces our view that tendencies to path dependency may be eliminated by considering security and European integration variables.

The security determinants of FDI

The indicators of security are introduced separately in models 6 to 8 in Table 2. Models 6 and 7 show that CEFTA and BSEC both have the expected positive coefficients, but they are not significant. This suggests that regional integration may be a less important signal for foreign investors, than EU integration. In model 8 BALK is also not significant, and has a sign contrary to the expected one, although the hypothesised negative connotations of BALK may have affected the prospects for European integration and thus potentially FDI.[10]

The European integration determinants of FDI

The progress towards European integration is seen partly as an institutional process through negotiations and partly as an economic process through the development of trade and aid.

<u>*Institutional integration with the EU*</u>

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[10] VISE was also tested, but was dropped due to high collinearity. This may result from VISE referring to countries which have been faster in reforms, as reflected by REF. STAB was insignificant and was dropped from the model. Some parallelism between stabilisation/liberalisation and institutional reforms may explain why STAB is not significant. Furthermore, the effects of stabilisation may be captured in the GDP, thus compensating for not using STAB.

Table 3. The EU integration determinants of FDI

LNFDI	(9)	(10)	(11)	(12)	(13)	(14)
REF	.67*	.70*	1.04*	.89*	.99*	.87*
	(.20)	(.20)	(.14)	(.16)	(.15)	(.17)
LNGDP	.86*	.91*	.94*	.91*	.89*	.96*
	(.17)	(.17)	(.17)	(.16)	(.18)	(.17)
GOV	.33*	.37*	.39*	.42*	.46*	.44*
	(.15)	(.15)	(.15)	(.16)	(.16)	(.16)
ASOC	.53*	.52*				
	(.22)	(.22)				
NEG	.17					
	(.17)					
AVIS		-.07				
		(.21)				
HELSINKI		.61*				
		(.27)				
AIDCAP			.01*			
			(.005)			
TRADEU				.78**		
				(.47)		
IMPEU					.83	
					(.84)	
EXPEU						1.16**
						(.72)
Constant	-2.97	-4.24	-5.99	-5.40	-4.88	-6.36
	(4.03)	(4.06)	(3.87)	(3.79)	(4.11)	(4.04)
R Squared	.77	.78	.77	.77	.76	.77
No. Observations	90	90	90	75	75	75
Hausman Test	1.25	2.86	1.49	3.96	3.27	2.24
Individual Effects	RE	RE	RE	RE	RE	RE

Model 9 in Table 3 suggests that ASOC is significant but NEG is not. This implies that early differentiation through the timing of the AAs had an important positive impact on investors, thus potentially deepening the gap between the 'frontrunners' and the 'laggards' of transition and enhancing the vicious or the virtuous circles of their economic development. As the experience with reforms was still minimal at the time of the signing of the AAs, it is likely that anticipation further reforms and closer links with the EU still played an important role in influencing FDI. However, the lack of significance of NEG suggests that, over the whole sample, there is no systematic relationship between FDI and the beginning of the accession negotiations with the EU. This points to the need to use variables which reflect the different motivations behind the launching of negotiations in 1998 and in 2000 respectively and their potentially very different impact on FDI. The impact of AVIS and HELSINKI is investigated in model 10.

In model 10 the inclusion of the more specific negotiation variables maintains the significance of the AAs, but suggests that AVIS did not have a separate significant impact. By differentiating between the 'frontrunners' and the 'laggards' of transition, the 'Avis' merely recognised the *status quo* and confirmed the existing perceptions of these countries' attractiveness. The lack of significance of AVIS can also be attributed to the impact of the 1997 Russian financial crisis. The negative sign of AVIS appears to be consistent with the increased FDI attracted by Romania since 1997 resulting from Romania speeding up its privatisation programme. HELSINKI is significant and has a positive sign, showing that maintained prospects for EU integration are important signal for investors for the countries with weaker results in terms of economic reform. This may be a way to break the vicious circle identified in this study. It is, therefore, possible that since the Helsinki European Council Romania has entered a virtuous economic circle. It is also possible that the 'frontrunners' in economic reforms had already approached the end of their privatisation programmes and saw increasing cost convergence with the EU. This may have led to FDI diversion towards countries less advanced in economic reforms and EU accession.

Economic integration with the EU

Models 11 to 14 in Table 3 explore the impact of economic integration with the EU on FDI. Model 11 shows that aid per capita is significant, but with a relatively low impact. This can be due to aid being rather limited, needing time to show effects, or being used with not enough efficiency. In models 12 to 14 the positive coefficients of the trade variables suggest complementarity between FDI and trade. Furthermore, TRADEU and EXPEU are significant and suggest that FDI is more likely to be attracted to export oriented industries. While this appears to imply a potential positive effect on economic growth in the host countries, it is also possible that

FDI is attracted by already competitive industries, thus diminishing its role on the modernisation of the recipient country. On the other hand, the positive coefficient of IMPEU suggests a move from imports towards a superior stage of internationalisation, i.e. FDI.

The introduction of the European integration variables confirms the view that institutional and economic integration with the EU can represent a way to break a vicious economic circle. Overall, the results of the different specifications of the single equation models of FDI and REF are consistent with the hypothesis of a bi-directional relationship between these two variables, suggesting the need for a simultaneous equation approach.

4.3 A system of simultaneous equations on the determinants of FDI and of economic reforms

The three stage least squares (3SLS) method used here addresses some of the limitations of testing the bi-directional relationship between FDI and economic reforms through single equation estimation methods, as above. Three alternative specifications of the model are tested which include, respectively, accession negotiation variables, EU integration variables and a finally modified set of economic variables (Table 4). The results of the system of simultaneous equations estimations reveal once again the complex relationship between the factors considered. They are consistent with some of the previous findings and provide several complementary explanations.

Table 4. A system of simultaneous equations (3SLS)

	Model 1		Model 2		Model 3***	
EQUATIONS REGRESSORS	**LNFDI**	**REF**	**LNFDI**	**REF**	**LNFDI**	**REF**
REF	.03 (1.23)		.12 (1.30)		.28 (1.27)	
LNFDI		.10* (.05)		.07 (.05)		.10** (.05)
STAB		-.00** (.00)		-.00 (.00)		
LNGDP	.87* (.10)		.88 (.10)		.93* (.11)	
GOV	.40 (.34)		.41 (.32)		.36 (.27)	
ASOC	1.03 (.86)	.59* (.13)	.96 (.92)	.62* (.13)	.57a (.72)	.50*a (.13)
NEG	.53 .(54)	.34* (.11)				
AVIS			.37 (.57)	.45* (.13)	.37b (.80)	.55*b (.12)
HELSINKI			.60 (.38)	.10 (.17)	.63c (.43)	.24**c (.12)
CONSTANT	-1.89 (2.17)	.39 (1.00)	-2.50 (2.41)	.77 (.17)	-3.84 (2.24)	.57 (.96)
R squared	.73	.55	.74	.56	.72	.56

The results of model 1 are consistent with the results of the single equation estimation of the determinants of economic reforms. FDI is a significant determinant of reform, emphasising the need for attracting FDI in transition countries in order to speed up economic transition. Furthermore, the progress of institutional integration with the EU appears to be a motivational factor for governments to pursue economic reforms. The estimations also suggest that the impact of FDI on reforms is instantaneous, hence the strong advantages of attracting FDI. However, the results regarding the determinants of FDI are only partially consistent with the previous ones. Only the domestic market is significant. The lack of significance of REF could indicate a way to break the economic vicious circle, by affecting FDI through other factors than reforms.

Furthermore, a higher GDP could be associated with more advanced reforms resulting in economic growth, hence counterbalancing the lack of significance of REF. Finally, neither ASOC, nor NEG are significant determinants of FDI. The lack of significance of ASOC may again be counterbalanced by the significance of LNGDP, with a higher GDP resulting partially from higher exports due to trade liberalisation with the EU. The lack of significance of NEG suggests the need to differentiate between the AVIS and HELSINKI.

Model 2 suggests the same interpretation for the economic reforms. ASOC and AVIS are significant for economic reforms, but it is possible that the results capture the reverse relationship. The lack of significance of HELSINKI may be due to the small number of observations. The main limitation of this model is that it does not capture the significance of FDI for economic reforms. However, if the institutional integration variables are defined as to account for anticipation effects rather than consequences (model 3) then LNFDI, ASOC, AVIS and HELSINKI are all significant determinants of FDI. This is consistent with the nature of the system of equations which captures simultaneous effects and with the assumption of the role of perceptions of security. Model 3 is similar to Model 2 except that by dropping STAB, FDI becomes a significant determinant of reforms as do the variables indicating the degree of development of institutional integration with the EU.

Overall, the three stage least squares (3SLS) results are consistent with the hypothesis of complex relationships between the variables considered in this study. They are also consistent with the existence of vicious and virtuous circles of economic development in which certain countries in transition may have been locked for some periods of time. Some lack of consistency between the findings of the single equations estimations and of the system of simultaneous equations estimations was predictable from the start, given the endogeneity in the single equations regressions. This can only support the hypothesis of complex relationships between the variables assessed. However, the simultaneous relationship examined through the three stage least squares seems to overlook the fact that there is a certain gap between FDI and its impact on economic reforms, hence the advantage of using lagged FDI when assessing the determinants of economic reforms, as in the single equation models.

5. Conclusion and policy recommendations

This paper has investigated the interplay between security, FDI and European integration in the CEECs during the first eleven years of transition. It has demonstrated the existence of potential virtuous and vicious circles where the perceived level of security, FDI, economic reforms and the prospects for EU integration are all interrelated. A vicious circle may account for Romania's relatively poor evolution during the first decade of transition in terms of attracting FDI and progressing towards EU membership, whilst on the other hand Poland appears to have benefited from a more virtuous circle.

The results are consistent with the hypothesis of a bi-directional relationship between FDI and economic reforms which appears to be at the centre of this circularity. This potential path dependency seems to have been enhanced by the sensitivity of FDI to early ties with the EU through the signing of AAs. However, there are several indications that this path dependency can be broken. The initial conditions have been shown not to be a significant determinant of FDI or reforms. Perceptions of insecurity related to an externally constructed 'Balkan' identity appear to have been overcome by progress in economic reforms and by prospects for EU integration.

A further indication that the vicious circle can be broken is given by the lack of significance of the AVIS in enhancing FDI in the 'frontrunners' of transition and EU accession. However, the real potential of breaking the vicious circle seems to have been displayed by the Helsinki European Council. At Helsinki, prospects for EU integration were renewed for countries previously considered the 'laggards' of accession, thus greatly changing perceptions of security of these countries and giving new signals to foreign investors. This new momentum for EU integration appears to have fostered FDI in the five CEEC candidate countries previously considered ‘second wave’ candidates. It had the potential to turn the previous vicious economic circle into a virtuous one. Signals from the EU have also enhanced economic reforms.

Additionally, the analysis has shown that economic integration with the EU in terms of financial aid and trade integration has enhanced FDI in the CEECs. In particular, the significance of financial aid in enhancing FDI reinforces the justification for substantial pre-accession funding to be allocated to countries such as Romania and Bulgaria, whose accession to the EU was delayed until a likely date of 2007. Continued financial support can be justified for these countries in order to maintain the pace of reforms and continue to attract FDI. Pre-accession financial assistance will potentially slow down the widening of the gap between them and the new members of the EU which gap may result from increasing funding for the CEECs that joined in 2004 (Smith, 2003). Furthermore, the results suggest that competitive, export oriented sectors are likely to attract FDI, thus reinforcing a virtuous circle of development. This suggests that industrial policies should continue to encourage sectors in which candidate countries have competitive advantages and have export potential.

Overall, the empirical analysis is consistent with the argument that FDI is market-seeking and has proven that security and European integration variables are important determinants of FDI. The lack of significance of regional economic associations such as BSEC and CEFTA appears to suggest that accession to the EU is more important for investors that any exercise of regional co-operation which were meant in the first place to enhance prospects for EU membership. However, there is a danger of a certain with transition. This ‘fatigue’ may reduce even further the motivational and risk diminishing impact of the prospects of EU membership. It was thus important that in the case of Romania and Bulgaria prospects for EU accession were maintained and are complemented by further economic integration and internal economic reforms. All these elements appear to be able to enhance FDI, complete marketisation and finally bring EU membership. The attractiveness of Bulgaria and Romania will also consist in the persistence of relatively low production costs. It is likely that FDI will be diverted from the new

EU members which will be price convergent with the EU towards the remaining candidates, not yet aligned to the EU price levels (Grabbe and Hughes, 1997, Bevan et al, 2001). This is a topic for an extension of the current work.

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Appendix. Definition of variables

Abbreviations	Description	Source
FDI	FDI, aggregate annual inflows, current USD	World Bank (2003)
REF	Reform: mean of six EBRD indicators (LSP, SSP, COM, SEC, ENT, BK)	EBRD (1999)
STAB	Stabilisation: mean of two EBRD indicators (TREX and PR)	Ibid
GDP	GDP at market prices, current USD	World Bank (2003)
AVER	Average monthly earnings USD, PPP	Ibid
GOV	Government dummy (0 for leftist, 1 otherwise)	
INIT	Initial conditions index	EBRD (1999)
ASOC	Association Agreement dummy (1 starting with the first year after the signing of the agreement, 0 otherwise)	
NEG	Accession negotiations dummy (1 for each year when a country negotiated with the EU, 0 otherwise)	
AVIS	Avis dummy (1 for 1998 onwards for the six 'first wave' countries, 0 otherwise)	
HELSINKI	Helsinki Council dummy: (1 for 2000 for the six 'second wave' countries)	
CEFTA	Membership of CEFTA dummy (1 for years of membership, 0 otherwise)	
BSEC	Membership of BSEC dummy (1 for years of membership, 0 otherwise)	
VISE and BALK	Visegrad v. Balkans dummies (VISE: 1 for the Czech Republic, Hungary, Poland and Slovakia, 0 otherwise; BALK:1 for Bulgaria and Romania, 0 otherwise)	
AIDCAP	Aid per capita	World Bank (2003)
TRADEU **IMPEU** **EXPEU**	Trade/imports/exports with EU % in total trade (openness towards EU)	Ibid