

**FOREIGN DIRECT INVESTMENT IN TRANSITION ECONOMIES  
AND EUROPEAN UNION MEMBERSHIP:  
THE CASE OF HUNGARY AND POLAND**

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## ABSTRACT

### FOREIGN DIRECT INVESTMENT IN TRANSITION ECONOMIES AND EUROPEAN UNION MEMBERSHIP: THE CASE OF HUNGARY AND POLAND

Inflows of foreign direct investment (FDI) to the Transition Economies in Central and Eastern Europe and the Baltics have been relatively low since the fall of the iron curtain. This variable is considered one of the most important to international technology transfers and, thus, economic growth. Along with other crucial characteristics of a country, such as monetary stability and open trade policies, a healthy growth rate of real GDP per capita is a prerequisite to membership in the European Union.

There is now somewhat of an uneasy relationship and even resistance to expansion between the European Union and the Transition Economies. They have been unofficially categorized into several tiers according to their readiness for membership, with the Czech Republic, Estonia, Hungary, Poland, and Slovenia leading the pack. Some already have special agreements in place. Most of these countries have borrowed heavily in the past from the Bank for International Settlements, the World Bank, the IMF, and bilateral and private sources. In theory, these loans were meant to promote monetary and economic stability and eventually, access to private international capital markets and growth.

There is some disagreement in the literature as to the effects of bilateral and multilateral aid on foreign direct investment. The goal of this study is to compare the effectiveness of the use these countries, specifically Hungary and Poland, made of their short and long-term loans from a variety of sources. Impacts on FDI will be examined in order to judge the progress that has been made towards free markets, economic recovery, and European Union membership. The conclusions are of interest to lenders and policy makers.

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INTRODUCTION

There have been unprecedented developments in Eastern Europe and the Baltics since the late 1980's and there are now several tiers of transition economies, defined according to their potential as future European Union (EU) members. To qualify, they must, as candidates have in the past, meet certain criteria concerning appropriate and stable inflation rates, budget deficits, government debt, interest rates, and exchange rates. The five countries that seem the most likely to have their EU membership applications accepted within two years are the Czech Republic, Estonia, Hungary, Poland, and Slovenia (see Table 1). Although they are the most economically advanced, many problems remain, such as the slow pace of privatization, inflation, currency devaluations, and low per capita income levels. These countries have also borrowed to varying degrees from multilateral (International Monetary Fund (IMF) and World Bank (WB)), bilateral, and private sources, especially after 1989. Flows of aid, among other variables, have been found to positively affect inflows of foreign direct investment (FDI) to some degree, which is one of the stimuli of economic growth and, thus, future EU membership.

OBJECTIVES

The future success of the EU depends in part on continued and expanded access to capital markets, which hinges on existing debt of members. Official and private loans to EU membership applicants over the years were meant to promote monetary and economic stability and the ability to attract international capital and, thus, to support smooth flows of trade and finance. This study considers the potential effects of transition economy borrowing from a variety of sources on foreign direct investment inflows, an indicator of technology transfers, competitive strength, and confidence in a country's future development and success. Other variables that reflect the ability of the countries to enter and benefit the EU, such as interest rates, exchange rates, real GNP per capita, export volume, inflation (CPI), and total debt service, were also included.

The Human Development Index (HDI), developed by the United Nations, measures the level of poverty of a nation, or its economic well-being. It includes real growth (per capita GDP), education, and longevity and is also considered when making judgements about a country's prospects as an EU member. The results of the overall study varied, as expected, due to the unique nature of these nations, the use each made of the funds, and the soundness of domestic policy.

## LITERATURE REVIEW

Much has recently been written concerning the benefits and costs of eastward expansion of the EU on both current and potential members (van Brabant, 1998). Future membership of transition economies depends on the resolution of a variety of economic and political problems (Neal and Barbezat, 1998). Some authors have also questioned whether there are any real prospects of integrating these countries into the EU, due to the possible negative effects on the latter's average

income and growth performance (Baldwin, Francois and Portes, 1997).

Aid (with appropriate conditionality) is frequently discussed as exerting a positive effect on liberalization, stability, foreign direct investment, and thus, growth (Tsikata, 1998). Adherence to IMF programs, for example, may reflect lower investment risks and inspire confidence in the sustainability of economic policies, often opening the door to other private and public loans (Fischer, 1997). Positive spillovers of increased FDI may also include increased exports, which improve the ability of the country to repay debts and lower its total external debt (World Bank, 1999).

External financing has also been viewed though, as a constraint on growth and development, due to increased ability to import (Bird and Rowlands, 1997). Thus, the importance of appropriate conditionality leading to sound domestic economic policies make lender adjustment program reforms an ever more critical issue. If aid can promote FDI, which can successfully be channeled to contribute to competition and international technology transfers that the recipient country can adopt, positive economic effects are possible (Gastanaga, Nugent, and Pashamova, 1998 and Olofsdotter, 1998). This success depends on the ability of transition economies to overcome, in many cases, political resentment against foreign investment and slowed privatization efforts and, thus, encourage confidence in host country policies (Sinn and Weichenrieder, 1997).

## THE MODEL

The empirical work in this paper involves a first tier of potential EU members chosen based on the availability of consistent data (1980-1997), namely Hungary and Poland. FDI was chosen as the dependent variable because it is widely regarded as an economic indicator of technology

inflows, investment confidence, and thus, growth potential, given appropriate domestic policies.

FDI is defined by the WB as an investment that is made to acquire a lasting management interest (usually ten percent of voting stock) in an enterprise operating in a country other than that of the investor (by residency), the investor's purpose being an effective voice in the management of the enterprise. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. The independent variables included multilateral lending (IMF and WB) with conditions to reform, bilateral loans between the governments, and private sources of funds (usually commercial banks without adjustment programs). Other variables were real GNP per capita, exports, exchange rates, interest rates, prices (CPI), population, and the total debt service to exports ratio.

All debt represents external obligations of the public sector or private debt that is guaranteed by the public entity. It is in the form of millions of dollar flows or disbursements, or the amount of aid a country received in a given year. IMF credit represents repurchase obligations with respect to all uses of IMF resources, excluding those resulting from drawings in the reserve tranche. Bilateral lending represents loans from governments, including from central banks and direct loans from official export credit agencies. Debt from private creditors includes bonds and commercial bank lending, as well as credits from manufacturers, exporters, and other suppliers of goods with no related domestic economic restructuring programs. All data used was from The World Bank Debt Tables and IMF International Statistics.

The coefficients in the following equation were originally estimated for each country using Time Series Processor (TSP) for ordinary least squares (OLS) regression analysis:

$$\begin{aligned}
\text{RFDI}_t = & \quad \_0 + \_1\text{IMF}_{t-1} + \_2\text{WB}_{t-1} + \_3\text{BILAT}_{t-1} + \_4\text{PRIV}_{t-1} \\
& \quad \_5\text{XGS}_{t-1} + \_6 \text{ER} + \_7 \text{INT} + \_8 \text{CPI} + \_9\text{POP} + \_10\text{TDS} \\
& \quad \_11\text{RGPC}_t + \_t
\end{aligned}$$

where RFDI = real foreign direct investment, IMF = IMF lending, WB = World Bank lending, BILAT = bilateral lending, PRIV = private lending, XGS = real annual export volume in millions, of dollars, ER = the exchange rate (foreign currency per dollar/period average), INT = annual demand deposit interest rate, CPI = consumer price index, period average, POP = mid-year population estimate in millions, TDS = total debt service to exports ratio (debt service ratio), RGPC = real GNP per capita, and  $\_t$  = randomly distributed white noise error term.

Lending variables were initially lagged one year because IMF and WB agreements usually take at least a year to negotiate, implement, and exhibit results, while other variables may impact the economy more quickly.

The null hypothesis is that there is no significant relationship between the different flows of lending, the other domestic variables, and real foreign direct investment. It was expected that various forms of lending, coupled with appropriate conditionality and domestic reforms would, over an intermediate time period (one to three years), promote capital inflows and, thus, economic strength.

A test for autocorrelation properties (error terms not randomly distributed) revealed a nonstationarity problem and the need for first differencing of the dependent variable. These results indicated autoregressive components in the series and, thus, the need for AR terms in the least squares equation to account for the autocorrelation (correct for serial correlation of disturbances)

found in the models and to provide efficient estimates. First differencing is also a method for dealing with multicollinearity (explanatory variables related).

## RESULTS

The regression results (with computed t-statistics in parentheses below the estimated coefficients and the number of lags for each variable in parentheses beside the estimate) are presented in Table II. The calculated Durbin Watson statistic was compared to the Durbin's h statistic (required when any form of the dependent variable (AR) is used as an independent) and was found to be nonsignificant at the .05 level, reflecting freedom of the residuals from first order serial correlation.

IMF lending had a significant and positive effect on real foreign direct investment in Hungary. Apparently, during this test period (1980-1997) Hungary was able to take advantage of IMF funds, which increased dramatically between 1991 and 1995, and adjustment programs within a very short time and improve its prospects for development. For Poland these results were negative, probably due in part to the fact that Poland only borrowed from the IMF between 1990 and 1994. It may also be that the one period lag was not enough time for Poland to use these funds appropriately or that the amount or the conditionality were inappropriate.

WB lending showed mixed results, with positive impacts in Poland (loans began only in 1990). The WB effect was nonsignificant in Hungary, despite many years of consistent borrowing. Bilateral lending also reflected mixed effects (positive in Hungary and negative in Poland) on real FDI by the first year. Private sources of credit proved to have positive effects in Hungary and

nonsignificant impacts in Poland. Nonsignificance may indicate inadequate amounts of funds, large debt ratios, and appreciation pressures of increasing inflows of foreign investment on the currency value. The funds may have been channeled into areas other than export promotion and reflect the overregulation of the government of the private sector.

Other variables showed mixed results depending on the level of development and domestic economic and political policies.

## CONCLUSIONS

It may be concluded that development financing through the IMF, the WB, and bilateral and private sources has affected the growth potential of these central European countries in most cases.

In Hungary, IMF, bilateral, and private lending had positive effects on FDI, an important indicator of the success of aid and the stage of development. Only loans from the WB during this period did not impact FDI flows significantly. Much of the literature has found positive links between IMF stabilization programs, investment flows, and growth. The positive results for bilateral loans may have been due to the small volume of the funds needed, domestic stability, and open trading policies already in existence. The confidence that aid inspired in the private capital markets apparently led to international investment inflows that contribute to technology, competition, and growth. After years of negative or slow growth, Hungary showed strong GDP growth of 5.2% in 2000, although absolute GDP was still below its 1989 level. Its debt service ratio has been dramatically higher than Poland's for many years, although reduced quite a bit in 1999 (26.6%). In the last few years,

Hungary has managed to attract more foreign direct investment than any other East European country, due mostly to privatization advances and other economic reforms.

In Poland, only WB loans produced a positive link to FDI inflows, while IMF and bilateral lending actually made negative impacts. The WB focus is usually on structural reforms and on reducing an inward orientation to trade. Positive results may reflect that the resources were used efficiently in terms of amounts, timing and for the appropriate development projects, given the country's state of development. Negative IMF results suggest too harsh conditionality or negative spillover effects. The negative impact of bilateral lending may support criticisms of bilateral loans lacking any enforcement of domestic reforms and for having political motivations. Despite the negative IMF relation to FDI, Poland was attracting a larger volume of FDI than Hungary by 1999. This may be due to great strides in privatization, a relatively stable currency, low debt service, and GDP growth (4% in 2000) encouraging confidence in an open investment climate. Poland's HDI rank (38 out of 174 countries in 1999) is somewhat higher than that of Hungary and rose more rapidly in comparison to Hungary's level of improvement (standard of living).

Other explanatory variables also yielded mixed, and often surprising, results, probably due to the extremely divergent economic and political conditions in the countries.

It is therefore not possible, as usual, to conclude that all aid contributes positively to FDI and growth. Development impacts of loans and adjustment depend on socio-economic structure and the nature of the stabilization program. The recipient government must be willing and able to put the funds to efficient use and overcome resentment towards foreign direct investment, which slows privatization. Varying maturities, timing of disbursements, realistic exchange rates, and types of

exports also play a role. It must also be kept in mind that real FDI alone is not an adequate predictor of the country's progress and success potential as an EU member.

In general though, the Central and Eastern European countries, especially Hungary and Poland, have shown dynamic progress with potential for continued growth. Membership in the EU should prove beneficial to these nations by reducing investment risks and raising real incomes. Much of their progress so far has been driven by the prospect of joining and thus, the need to adhere to the EU's requirements. Criteria for joining the EU have been objective and strict, most recently including budget deficits, government debt, inflation rates, long-term interest rates, and exchange rates to be held to specific maximums or margins.

It is important to continue efforts to cooperate internationally to achieve long-term reforms, such as those related to open trade policies, export development, debt service reduction, and increased flows of technological know-how. Improved financial market access and consistent private investment growth, often linked to multilateral loans, are important for successful transitions to market economies and EU membership. Decisions of policy makers and official and private lenders that result in efficient and humane use of funds depend on understanding these effects.

**TABLE I – BASIC COUNTRY FACTS – 1997 & 1999**

	<b>HUNGARY</b>		<b>POLAND</b>		<b>CZECH R.</b>		<b>ESTONIA</b>		<b>SLOVENIA</b>	
	<b>1999</b>	<b>1997</b>	<b>1999</b>	<b>1997</b>	<b>1999</b>	<b>1997</b>	<b>1999</b>	<b>1997</b>	<b>1999</b>	<b>1997</b>
HDI RANK*	36	47	38	44	33	36	44	54	29	33
GNP per cap (US\$)	11,430	2,372	8,450	1,926	13,018	3,329	8,355	2,984	15,977	4,350
DEBT SERVICE RATIO**	26.6	29.7	20.4	6.1	10.3	14.1	13.2	1.4	5.8	3.9
UNEMPLOYMENT RATE	7.1	8.7	13.9	11.5	8.8	4.7	12.3	10.0	9.2	7.1
EXPORTS (% OF GDP)	53.0	45.0	26.0	26.0	64.0	58.0	77.0	77.0	53.0	57.0
NET FDI (mil. Of\$) as % GDP	4		4.7		9.6		5.8		.9	

\* U.N. Human Development Index (HDI) rank out of 174 countries – all improvements over previous years

\*\* DEBT SERVICE RATIO (debt service as % of exports of goods and services)

SOURCES: U.N. Human Development Report 2001

**TABLE II - OLS REGRESSION RESULTS**  
**dependent variable: real FDI, 1980-1997**

<b>INDEP. VAR.</b>	<b>HUNGARY</b>	<b>POLAND</b>
CONSTANT	-45.49 (-8.01)	13.05 (3.52)
IMF	.11 (2.17)**	-1.38(-1) (-2.68)**
WB	NA	1.58(-1) (1.58)*
BILAT	.24 (4.92)***	-.003(-1) (-3.65)***
PRIV	.05(-1) (5.61)***	NA
XGS	NA	.005 (3.58)***
ER	NA	-.001 (-2.83)***
INT	1.33 (8.06)***	NA
GNP	NA	-.001(-1) (-2.60)***
AR (1)	-.85	-.68
MA(1)	-.94	
R <sup>2</sup>	.88	.68
F	18.67	5.64
t stats: *** = signif. at 1%, ** = at 5%, * = at 10% NA = nonsignificant variable		

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