〔論　説〕

Trade and Foreign Direct Investment between the EU and the EU Accession Countries of Europe

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Abstract : This paper examines trade and FDI flow between the current EU member countries and the CEE countries seeking entrance into the EU.The approach concentrates on aggregates determined from observations of bilateral trade and FDI flow evaluated via a gravity model. One important finding is that an increase in FDI from the EU to CEE countries will, in turn, increase exports to the EU and imports from the EU to the CEE countries. Second, the data confirm that FDI increase both imports and exports in the CEE countries. Third, the increase in exports associated with increased FDI is a little larger than the increase in imports. Finally, as EU accession brings greater integration for the CEE countries, the balance of trade between the current EU countries and the CEE countries should show improvement from the standpoint of the CEE countries.

1. INTRODUCTION

The expanded EU (European Union) will create a giant single market across 25 states. It means more freedom, opportunity, and access for many people, and a permanent end to the Cold War's divide between Western and Eastern bloc nations. By increasing competition and opening markets, the enlargement will also help defeat the welfare-state consensus that dominates Western Europe and that has resulted in many of its economic troubles.

In October 1999, the European Commission extended the accession negotiations that had started in 1998 with Cyprus, the Czech Republic, Estonia, Hungary, Poland, and Slovenia by adding additional candidates: Bulgaria, Latvia, Lithuania, Malta, Romania, and Slovakia. Each country will progress at its own speed in implementing the reforms necessary to satisfy the 'Copenhagen Criteria' for accession. The expansion will benefit the existing 15 EU countries. Now, 10 of the 12 countries have started concrete negotiations for joining the EU.

EU enlargement is likely to have strong effects on foreign direct investment (FDI) and trade between the present EU and Central and Eastern Europe (CEE), because the full integration of Central European countries into the common market will remove the current barriers to free trade of goods, labor, and capital.

The CEE countries will attract FDI because they have a large pool of potential customers and possess a relatively well-educated labor force that is available at comparatively low costs. FDI will enable these CEE customers to be better served and to use these cost advantages. FDI from the EU to CEE is increasing constantly despite the fact that the still present political and economic instability of the region is producing a delay in investment[1].

The EU provides the CEE countries with a huge market for their products. This, combined with the comparative advantage in labor and skill-intensive production, is likely to result in increased trade between CEE countries and the current EU countries. Such trade should bring considerable trade flows ; i. e. intermediate products will be imported, assembled, and prepared for re-export to the EU as quasi-finished goods.

This paper examines trade and FDI flow between the current EU member countries and the CEE countries seeking entrance into the EU. The approach concentrates on aggregates determined from observations of bilateral trade and FDI flow evaluated via a gravity model. The primary finding is that an increase in FDI from the EU to CEE countries will, in turn, increase exports to the EU and imports from the EU to the CEE

countries.

2. TRADE, FDI, AND ECONOMIC INTEGRATION

In this section, a general review of the theory and empirical literature on trade, FDI, and economic integration is provided.

The 1980s witnessed considerable expansion of existing regional agreements (e. g., EU, NAFTA, ASEAN, and MERCOSUR) and the establishment of new movements aimed at increasing integration. Such arrangements imply a reduction of regional barriers to international trade and investment. The primary objective is to increase regional trade and investment, which is expected to boost growth because of larger markets, more competition, and more efficient resource allocation.

During the 1990s, increasing international economic integration was of great interest to economists and policy makers. Nevertheless, it has also been feared that competition from low-wage countries could cause increased unemployment and decreased real wages of low-skilled workers in the industrial world and delocalization of these workers to low-wage countries. New theories in trade and economic geography have been developed, building on the work of Krugman (1991). The present study focuses on factors such as product differentiation, imperfect competition, trade costs, economies of scale, sunk costs, and immobile factors to explain trade patterns and the location production facilities.

FDI is defined as any foreign investment that results in foreigners holding a controlling stake in a domestic production unit. Theories of FDI can be classified into five types according to the different methodological backgrounds : 1) industrial organization, 2) corporate investment theory, 3) strategic theory, 4) portfolio theory, and 5) eclectic approaches. The 1980s and 1990s heralded increases not only in trade but also in FDI flow, especially concentrated in the member nations of the OECD.

FDI has attracted a lot of interest in recent years, and a large number of new theoretical and empirical studies have been undertaken. Issues in particular that have attracted interest are ; 1) effects of FDI on technology diffusion, innovation, and economic growth, 2) taxation of multinational enterprises and policies promoting FDI, 3) effects of FDI on employment, 4) effects of FDI on indigenous investment, and 5) effects of FDI on trade patterns, the role of trade policies, and the balance of payments.

Many Studies have examined the relation between FDI and trade. However, the question of whether FDI substitutes for or complements international trade has not been well investigated. Zhang and Hock (1996) analyzed the interdependence of trade and FDI for China and ASEAN ; O'Sullivan (1993) and Barry and Bradley (1997) considered the case of Ireland, and Pfaffermayr (1996) considered the case of Austria. However, there have been few studies on EU applicant countries.

3. FDI FLOW FROM EU TO CEE COUNTRIES

FDI brings many benefits to both the outflow and inflow countries. Of course, FDI is ongoing among industrializing economies. It is often seen as one of the main macroeconomic mechanisms for stabilizing the volatile process of economic and political transition and one of the major forms of interaction between East and West. Since 1989, CEE nations have directed their policies towards foreign investment on the basis of their capital needs and expectations concerning the role of FDI in economic development and integration into the world economy, especially with respect to the technology, trade, management skills, and training involved.

Results from studies of foreign investment in CEE nations indicate that with the progress in economic and institutional transformation in the region and on the eve of EU enlargement there is still potential for increased FDI. Many studies devote time and space to analysis of foreign firms' expectations about their delocalization to the East on the one

hand and about the macroeconomic conditions that lead to accumulation of the FDI flows on the other. The studies that deal with the former concentrate on the patterns of foreign investment (e. g., Areti, 1999 ; Faucompret, Konings, and Vandenbussche, 1999). The studies examining the latter analyze or test the influence of different components of the macroeconomic policy and institutional change on attracting FDI (e. g., Hunya, 1992 ; Welfens, 1996).

Study findings are sometimes interesting and unexpected. Dmochowski (1995) argued that in the early 1990s, the Czech Republic had the most favorable investing environment among the CEE nations; this finding was rather surprising. Hamar (1994) presented the effects of FDI on the macro and micro levels of economic transition. Mann (1991) emphasized the importance of FDI in industry restructuring in CEE countries.

This paper analyzes the determinants of FDI flow from the EU to CEE nations and examines the possible interdependencies between FDI and trade flow. To address the issues, I first introduce an FDI model to explain FDI flow from EU countries to CEE countries :

$$\ln(\text{FDI}ij) = \alpha_0 + \alpha_1\ln(Y_i) + \alpha_2\ln(Y_j) + \alpha_3\ln(\text{REX}_{ij}) + \alpha_4\ln(\text{DIST}_{ij}) + \alpha_5\text{Dummy} + \alpha_6\ln(T)$$
$$+ \varepsilon \qquad\qquad (1)$$

where FDI_{ij} denotes FDI from EU country j to CEE country i ; Y_i (Y_j) is the GDP of CEE country i (EU country j) ; and REX_{ij} is the bilateral real exchange rate between CEE country i and EU country j. The GDP variable acts as a proxy for the economic size of the country engaged in FDI and the market size of the country receiving FDI and the real exchange rate is a proxy for competitiveness. The distance variable, DIST is a proxy for geographical distance between capitals, an important factor in international trade, since a greater distance implies greater transportation and other costs, which are likely to reduce trade. Dummy is a dummy variable for a common border. Time trend, T, is also included in the regressions' analyzes. α_0 is a vector with country-specific heterogeneity. Luxembourg is excluded because of un-availability. The data used in the

present study are quarterly percentages, which alleviate the problem of instability and co-integration of various time series. Data from 1993 to 2001 are used because of availability[2]. Cyprus and Malta are omitted because of data un-availability. The data was obtained from IFS and Direction of Trade Statistics (IMF). The results are shown in Table 1.

Table 1 FDI Flow from the EU to CEE Nations

Variable	Coefficient	t-statistic
GDP (CEE)	1.65	7.62
GDP (EU)	0.85	9.95
REX	0.32	8.52
T	0.19	0.75
DIST	-1.02	-10.48
Dummy (common border)	0.60	7.63

adj. R^2=0.94 DW=1.45

GDP, real exchange rate, distance, and a common border are shown to be determinants for FDI flow from the EU to CEE countries. This implies that any growth impetus induced by EU enlargement will therefore in turn also stimulate FDI flow to CEE countries. The distance and common border variables suggest that closer proximity to the EU contributes considerably to receiving more FDI from EU nations. This is also the true for real exchange rate.

4. TRADE FLOW BETWEEN IN CEE NATIONS AND THOSE OF THE EU

Dangerfield (2002) described the flow of trade in CEE countries. Gros and Gonciarz (1996) used gravity models to assess and forecast trade flows and in modeling the integration process between CEE countries and the EU. Baldwin (1995) considered medium and long-run scenarios for the integration of the CEE countries into the world trading system and of the evolution of per capita incomes in these countries. Much will depend also on the speed and direction of the EU enlargement, and on changes in

attitudes of both sides toward sensitive products[3]. Baldwin, Francois, and Portes (1997) reported a disparity between the importance of the EU market for CEE exports and the importance of the CEE markets for EU exporters. Hamilton and Winters (1992) stressed the importance of agriculture in the dynamics of changes in the CEE countries' comparative advantage. Kaminski et al. (1999) focused on the role of industrial restructuring on trade flow in Hungary, emphasizing the role of FDI in reintegrating the nation's economy into world markets through networks of multinational enterprises investing in Hungary is underlined. Aturupane, Djankov, and Hoekman (1999) analyzed the determinants of intra-industry trade patterns between Eastern Europe and the EU, and Fritz and Hoen (1999) analyzed EU trade restrictions imposed on imports sensitive products from the CEE region.

To investigate trade flow between EU countries and CEE countries, I use a gravity-type bilateral trade model of EU-CEE trade using aggregate trade data. The sample period and countries included are given in the previous section.

$$\ln(EXP_{ij}) = \alpha_0 + \alpha_1\ln(Y_i) + \alpha_2\ln(Y_j) + \alpha_3\ln(REX_{ij}) + \alpha_4\ln(DIST_{ij}) + \alpha_5 Dummy + \alpha_6\ln(T) + \varepsilon \tag{2}$$

$$\ln(IMP_{ij}) = \alpha_0 + \alpha_1\ln(Y_i) + \alpha_2\ln(Y_j) + \alpha_3\ln(REX_{ij}) + \alpha_4\ln(DIST_{ij}) + \alpha_5 Dummy + \alpha_6\ln(T) + \varepsilon \tag{3}$$

in which EXP_{ij} (IMP_{ij}) denotes exports (imports) of CEE country i to (from) EU country j; Yi (Yj) is the GDP of CEE country i (EU country j); REXij is the bilateral real exchange rate between CEE country i and EU country j; DISTij is the distance between CEE country i and EU country j; and T presents a time trend. Table 2 shows the estimation provided by equation (2) and Table 3 shows those of equation (3).

Table 2 Empirical Model of EU-CEE Trade 1 : CEE Exports to the EU

Variable	Coefficient	t-statistic
GDP (CEE)	0.82	5.85
GDP (EU)	1.04	20.58
REX	0.08	4.52
T	0.29	2.55
DIST	-0.68	-15.68
Dummy (common border)	0.60	4.58

adj. R^2=0.95 DW=1.48

Table 3 Empirical Model of EU-CEE Trade 1 : CEE Imports from the EU

Variable	Coefficient	t-statistic
GDP (CEE)	1.09	8.50
GDP (EU)	1.19	29.50
REX	-0.07	-4.52
T	0.22	1.39
DIST	-0.84	-16.80
Dummy (common border)	0.58	20.22

adj. R^2=0.90 DW=1.62

The estimated results indicate that, as is the case for GDP, real exchange rate, distance, and a common border are important determinants of bilateral trade flow between EU and CEE countries. The estimated export and import parameters are similar in size, confirming that the two flows are driven by the same factors. Finally, as in the case of FDI, any growth impetus induced by EU enlargement will in turn stimulate trade flow between the various EU and CEE countries.

5. FDI AND TRADE FLOW

The question of interdependence between trade and FDI was widely discussed long before there was any discussion of EU enlargement. Some studies were carried out just

after collapse of the Berlin Wall, with the aim of investigating the prospects for development in the CEE or transition economies and their integration into the world trading system[4].

The importance of interrelations between FDI and trade should be reconsidered today in the context of the integration of the CEE bloc into the world economy. These interrelations are important ; however, few studies have investigated them in detail[5].

Traditional trade theory based on the Heckscher-Ohlin model predicts the substitutability between trade and FDI. New trade theory suggests an increase in the level of trade when a country hosts large amounts of foreign investment. Murrell (1991) showed that, in centrally planned economies, low trade levels can be explained by low FDI instead of by systemic differences.

Some reports, like UNCTAD World Investment Report (1994), suggests a multiplicative effect of FDI on trade. Multinational enterprises from the EU in particular have helped to establish new trade linkages between CEE countries and the EU and the European Free Trade Agreement (EFTA). In this section, the Granger causality test is used to analyze the relation between FDI and trade.

The results are shown in Tables 4 and 5. In both analyses, I included FDI lag in the trade model because one variable is known to Granger-cause another variable ; therefore including lagged values may improve the estimation and enables determination of the direction of the causal relation (van Aarle and Skuvatowicz, 2002). Both tables suggest both in the case of exports and imports that FDI causes trade flow, rather than that trade causes FDI.

Table 4 Causality Tests : Exports

	F-statistic	Probability
Export from CEE to EU does not Granger-cause FDI from EU to CEE	88.66	0.00
FDI from EU to CEE does not Granger-cause Export from CEE to EU	1.92	0.19

Table 5 Causality Tests : Imports

	F-statistic	Probability
Import from CEE to EU does not Granger-cause FDI from EU to CEE	93.50	0.00
FDI from EU to CEE does not Granger-cause Import from CEE to EU	2.52	0.17

These results also tell us that FDI can act as an important integration-enhancing phenomenon. The boost of FDI flow to CEE countries that will result from their entrance into the EU will contribute to increased trade integration.

Next, I included the lag in FDI in the trade model and re-calculated. The results are Table 6 (export) and 7 (import).

Table 6 Empirical Model of EU-CEE Trade 2 : CEE Exports to EU

Variable	Coefficient	t-statistic
FDI (-1)	0.16	10.52
GDP (CEE)	0.82	5.86
GDP (EU)	1.02	19.98
REXR	0.07	4.62
T	0.30	2.58
DIST	-0.67	-15.72
Dummy (common border)	0.59	4.60

adj. R^2=0.96 DW=1.49

Table 7 Empirical Model of EU-CEE Trade 2 : CEE Import from EU

Variable	Coefficient	t-statistic
FDI (-1)	0.16	18.72
GDP (CEE)	1.08	8.54
GDP (EU)	1.20	29.66
REXR	-0.66	-4.56
T	0.24	1.40
DIST	-0.86	-16.72
Dummy (common border)	0.60	20.13

adj. R^2=0.91 DW=1.62

Interestingly, the effects of a 1-percent increase in FDI are roughly the same on exports and imports. This means that a change in FDI from the EU to the CEE countries is essentially balance-of-trade neutral and not likely to cause any pressure on exchange rates, other factors being equal.

Finally, the EU-CEE trade balance scenario presented herein includes the elasticities estimated above. The scenario also assumes that economic growth in the EU and CEE countries will accelerate at a constant annual rate of 3.5 percent while other variables being constant. The results are as follows :

Table 8 Trade Balance to EU (% of GDP)

	2005	2007
Czech Republic	1.7%	1.9%
Estonia	1.0%	1.4%
Hungary	0.9%	1.3%
Latvia	-0.8%	-0.5%
Lithuania	-0.8%	-0.5%
Poland	1.8%	2.1%
Slovak	-0.4%	-0.3%
Slovenia	1.4%	1.6%

The data predict improvement in trade balance for the CEE countries. However, it will be difficult for each CEE country to catch up with the GDP per capita in the EU.

6. POLICY IMPLICATIONS

Many consider the EU to be a successful example of regional integration. From this standpoint, enlargement of the EU following completion of the single market and the establishment of the economic and monetary union will have an important impact on the global economy.

The results of this present study suggest some important policy recommendations.

First, the data confirm that FDI increase both imports and exports in the CEE countries. Second, the increase in exports associated with increased FDI is a little larger than the increase in imports. According to my calculations, as EU accession brings greater integration for the CEE countries, the balance of trade between the current EU countries and the CEE countries should show improvement from the standpoint of the CEE countries.

In the early phase of catching up with developed countries and higher growth compared with that of the most important trade partners, trade deficit is normal. Thus, the economic policy of the government cannot be aimed at reducing the trade deficit without causing macroeconomic imbalances. On the export level, especially, policymakers can use FDI promotion tool. Further liberalization of FDI will benefit national policies for CEE countries, although the benefits will not be substantial in the short-run.

NOTES

1. See Svetlic and Rojec (1994) and Lankes and Venables (1996).
2. For Hungary and Poland, the sample period starts from 1995.
3. See Roll (1995) and Baldwin (1995).
4. See Murrell (1991), and Hamilton and Winters (1992).
5. Foreign investors bring their local partners into their global network. The network is thus a very good starting point for developing trade relations (Kaminski, et. al., 1996).

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