European Bank
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Foreign direct investment financing of capital formation in central and eastern Europe

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Abstract

This paper looks at the relation between foreign direct investment (FDI) and gross fixed capital formation in transition countries as well as other sources of capital formation financing, namely debt financing, capital market financing and subsidies. The paper shows that capital formation is positively associated with FDI, along with domestic debt and capital market financing, but negatively correlated with stock market liquidity. There is no statistically significant link between capital formation and foreign credit or subsidies. The paper also shows that FDI is a substitute for domestic credit but is complementary with foreign credit and privatisation revenues.

JEL classification number: F2, P27, C33

Keywords: foreign direct investment, gross fixed capital formation, transition economies

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1. INTRODUCTION

The positive impact of foreign direct investments (FDI) on transition economies has been widely acknowledged. First, FDI is an important source of financing for transition economies as it helps to cover the current account deficit, fiscal deficit (in case of privatisation-related FDI), and supplements inadequate domestic resources to finance both ownership change and capital formation. Second, compared with other financing options FDI also facilitates transfer of technology, know-how and skills, and helps local enterprises to expand into foreign markets.

This paper addresses the following question: how important is FDI in financing capital formation in transition countries, relative to the other forms of enterprise financing (domestic and foreign credit, capital market financing, and state subsidies)? The potential importance of FDI for capital formation in transition countries is highlighted by the need to replace large amounts of obsolete capital accumulated during years of central planning in the environment lacking an efficient financial sector. (See Section 2 for a brief survey of the literature looking at other features of FDI in transition countries, including analyses of determinants of FDI and the general impact of FDI on the economy.)

The role of FDI in financing capital formation is not clear-cut. The definition of foreign direct investment[1] is focused on the source of capital with little regard to its use (Graham, 1995). Indeed, Lipsey (2000) finds little evidence of FDI having an impact on capital formation in developed countries and shows that the most important aspect of FDI in the selected sample of countries is related to ownership change.

The observation about the unclear relation between FDI and capital formation may also hold in the transition countries. The take-over of an enterprise, particularly through privatisation, may lead to a strong FDI inflow but the proceeds may not be used for enterprise investment purposes. There are, however, cases of take-overs where a part of associated FDI inflows is used for capital formation, e.g., partial privatisation through a capital increase or privatisation with a capital formation component of the sale contract. Greenfield investments have usually a strong link between FDI and capital formation, although even in this case there is not a one-to-one relation. Lastly, privatisation revenues may have an impact on the country's gross fixed capital formation through state capital expenditures, e.g., in infrastructure projects or state-owned enterprises, without a direct link to the enterprise originally subject to FDI flows.

There is also a lagged effect which concerns the capital formation in enterprises already benefiting from the presence of a foreign investor without direct involvement of funds from this investor. Besides providing own funds, foreign investors may implicitly or explicitly increase the credit ratings of the company and enable it to access previously unavailable external financing sources. Most enterprises in transition countries face a credit constraint as they lack a track record of operating in a market economy and the presence of a strategic investor may change this situation.

An additional important issue is the existence of soft budget constraints which still persist in many countries, either directly in the form of budget subsidies or indirectly through tax, social welfare and pension contribution arrears. The availability of subsidies inevitably influences an

[1] The IMF defines (foreign) direct investment in its Balance of Payments Manual as the category of international investment that reflects the objective of obtaining a lasting interest by a resident entity in one economy (direct investor) in an enterprise resident in another economy (direct investment enterprise). Direct investor is defined by its ownership of 10% or more of the ordinary shares or voting power in direct investment enterprise.

enterprise decision on the size of commercial financing and even on the choice of financing source as some subsidies are available only if certain conditions are met (e.g., grant finance provided as a complementary element of lending by selected banks).

Asymmetric information between the firm's insiders and outsiders is an important factor contributing to preference for FDI compared with other sources of financing (Razin et al., 1998; Kinoshita and Mody, 1999). This is even more so in the transition economies characterised by a general lack of transparency, low standards of business conduct, and inadequate protection of creditor and minority shareholder rights. As a result companies in transition economies rely primarily on FDI, and in particular with the foreign strategic investor taking majority control of the firm (Buiter et al., 1998). The role of a sizeable minority equity investment by a foreign sponsor, which would count as foreign direct investment, as well as of portfolio investment, is relatively minor. In only a handful of transition countries do new public share offerings and equity fund investments serve as a significant source of financing for enterprises (EBRD *Transition Report* 2000).

The rest of the paper is structured as follows. The following section describes the basic features of FDI in transition countries and the relation of FDI to macroeconomic performance and enterprise reform. The third section builds a simple model of capital formation financing. The fourth section presents the empirical results. The fifth section concludes and provides a few policy implications.

2. ROLE OF FDI IN TRANSITION COUNTRIES

2.1 REVIEW OF THE LITERATURE ON FDI AND TRANSITION COUNTRIES

There is already a sizeable literature on foreign direct investment in transition economies. It can be loosely divided into studies of the determinants of foreign direct investment, including studies of the relation between investment climate and FDI, and analyses of the impact of FDI on the economy from both a macroeconomic point of view (growth and trade performance) and a microeconomic angle (restructuring and enterprise performance). This paper is related to both issues as it looks at both the links between FDI and other sources of financing and the impact of FDI on capital formation.

A consensus has already emerged on the main determinants of foreign direct investment in central and east European transition countries (Lankes and Venables, 1996; Bevan and Estrin, 2000; Resmini, 2000; and Kinoshita and Campos, 2001, among others). These factors include domestic and potential export market size, gravity factors, natural resources endowment, skills endowment, unit labour costs, progress in transition reforms, and economic and political stability. The impact of the investment climate on foreign direct investment inflows is particularly highlighted by comparing the good performance of advanced central European transition countries and the weak performance of Balkan and Soviet Union successor states which are less advanced in transition reforms (Barrel and Holland, 2000; Meyer and Pind, 1999; Konings, 2000).

The positive impact of foreign direct investment on economic performance has also been relatively well established. The positive impact of FDI on growth is found by Borensztein et al. (1998). A strong relation between FDI and trade is studied by Markusen (1998) and Repkine and Walsh (1998), who highlight reorientation of trade in the central European countries to the European Union, which is in turn a major source of FDI for central Europe.

The positive relation between FDI and enterprise restructuring has been shown in a number of studies. The foreign-owned companies in advanced transition countries invest the most and thus perform the best as shown by the EBRD (1999, 2000), Konings (2000) and Lizal and Svejnar (2001), among others. According to the OECD (2001), foreign-owned industrial enterprises in the Czech Republic in 2000 accounted for 41 per cent of output, 28 per cent of employees and 65 per cent of pre-tax profits. This highlights both higher productivity and higher profitability of foreign-owned enterprises.

2.2 IMPACT OF FDI ON THE TRANSITION COUNTRIES

Until recently the transition countries had not received significant amounts of foreign direct investment, which was not welcome in centrally planned economies. In 1990, only Hungary was reporting a significant amount of FDI inflows but the total for all transition countries in that year was below US$ 500 million. By 1998 FDI inflows to central and eastern Europe increased to almost US$ 20 billion, but still accounted for less than 10 per cent of total FDI inflows to the developing countries or less than 20 per cent of FDI inflows to developing countries in per capita terms (EBRD, 2000).

The total volume of FDI inflows to transition countries remains small in comparison with other developing countries. However, FDI inflows are already substantial as a percentage of GDP. FDI inflows as a share of GDP in the benchmark countries in Latin America, South-east Asia and low-income EU countries have been comparable to FDI inflows to transition countries by 2000 (see Chart 1). The distribution of FDI by countries also highlights determinants of FDI identified in the literature (e.g., Bevan and Estrin, 2000, EBRD, 2001), including gravity factors (Czech Republic, Hungary, Poland – EU accession countries closest

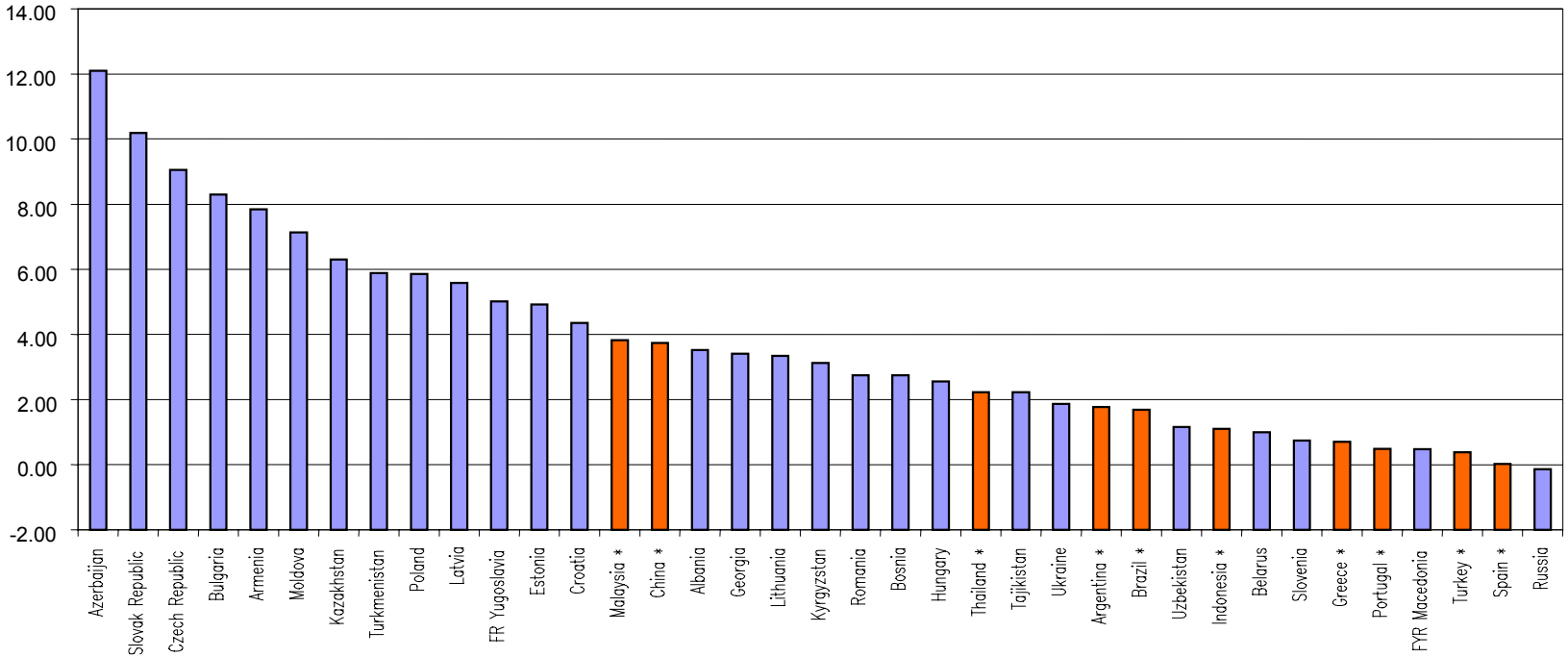
to the European Union), market size (Poland, Russia, Romania), and natural resources endowment (Azerbaijan, Kazakhstan, Russia, Turkmenistan).

A large share of FDI in transition countries is generated by the privatisation process (see Chart 2). However, there are transition countries that attract a large amount of FDI without embarking on a significant privatisation programme (Azerbaijan) while the privatisation process in other countries has involved a significant amount of stock market flotation (Hungary, Poland, Russia) and therefore some privatisation-related capital inflows are reported as portfolio inflows instead of FDI. Many transition countries have also actively promoted privatisation to local investors (Czech and Slovak Republics), which was usually debt financed and thus linked either to domestic or foreign credit. It should be noted that only a small part of the privatisation proceeds is generally used for capital formation financing although some privatisation contracts include an implementation of investment programmes as a condition of the sale.

There is a strong relation between FDI and other macroeconomic variables. Privatisation-related FDI inflows help to finance the fiscal deficit in countries where the need for large infrastructure spending and generous welfare programmes are inconsistent with budget revenue constraints, including inefficient tax administration. Foreign capital inflows are also needed to cover often large current account deficits caused by the inflow of consumer and investment goods which are not produced domestically (see Chart 3). An undeveloped financial sector as well as a history of macroeconomic instability and high inflation contribute to a savings gap, with domestic savings lower than domestic investments, while obsolete capital needs to be replaced. FDI is not the only source of financing for either the fiscal deficit or the current account deficit, but stable long-term capital inflows in the form of FDI are preferable to short-term flows or debt financing to avoid an increase in macroeconomic instability.[2]

[2] See Krkoska (2001) for evidence of a strong relation between the lack of FDI, current account deficits and economic crises in central European countries.

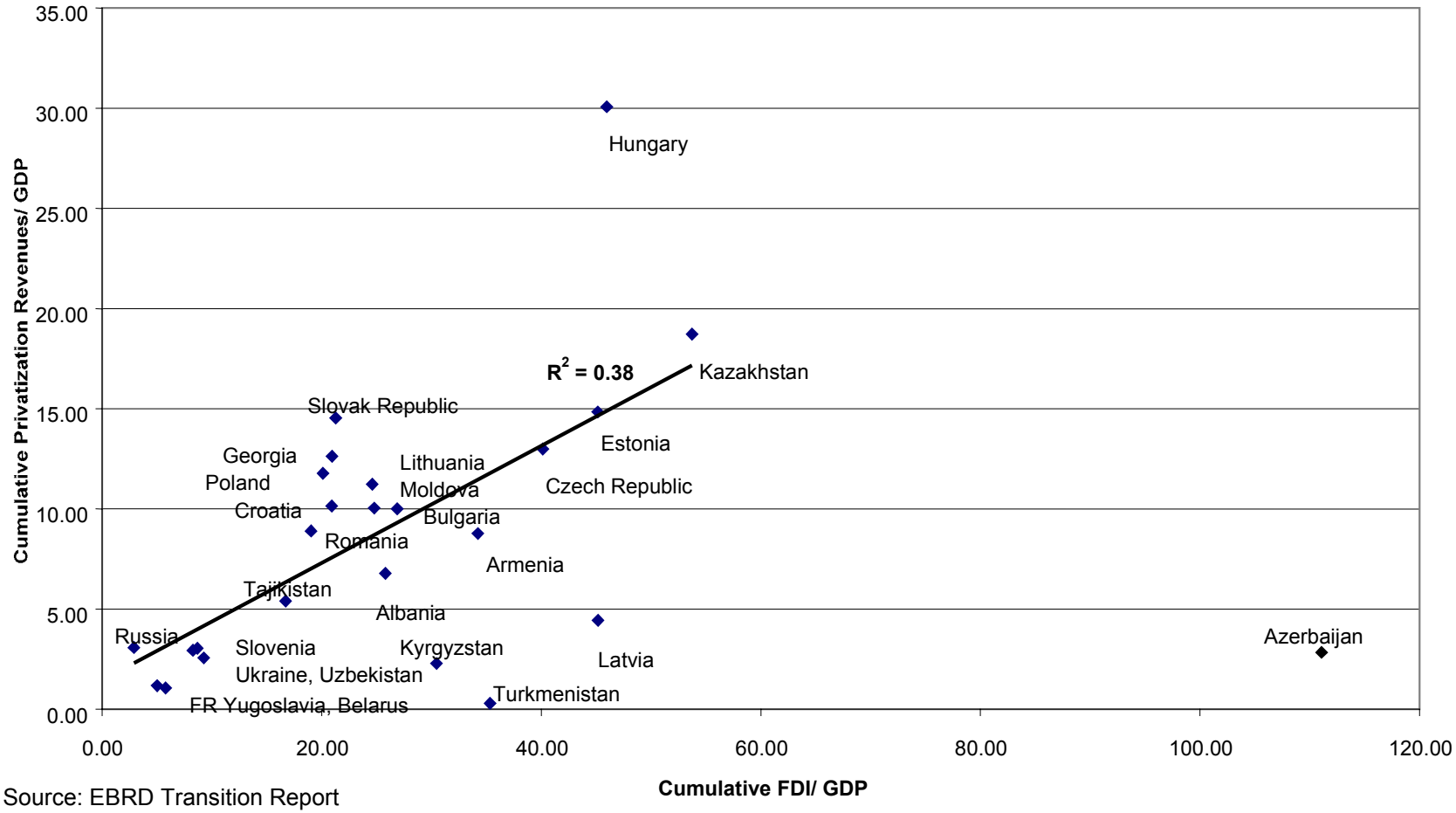
Chart 1: Foreign direct investment in transition economies compared with emerging markets benchmarks (% of GDP)



Note: Data for b enchmark economies, denoted with a star (Malaysia, China, Thailand, Argentina, Brazil, Indonesia, Greece, Portugal, and Turkey), refer to average for 1990-2000. Source of the data on transition countries is the EBRD Transition Report Update 2001 and IMF World Economic Outlook 2001.

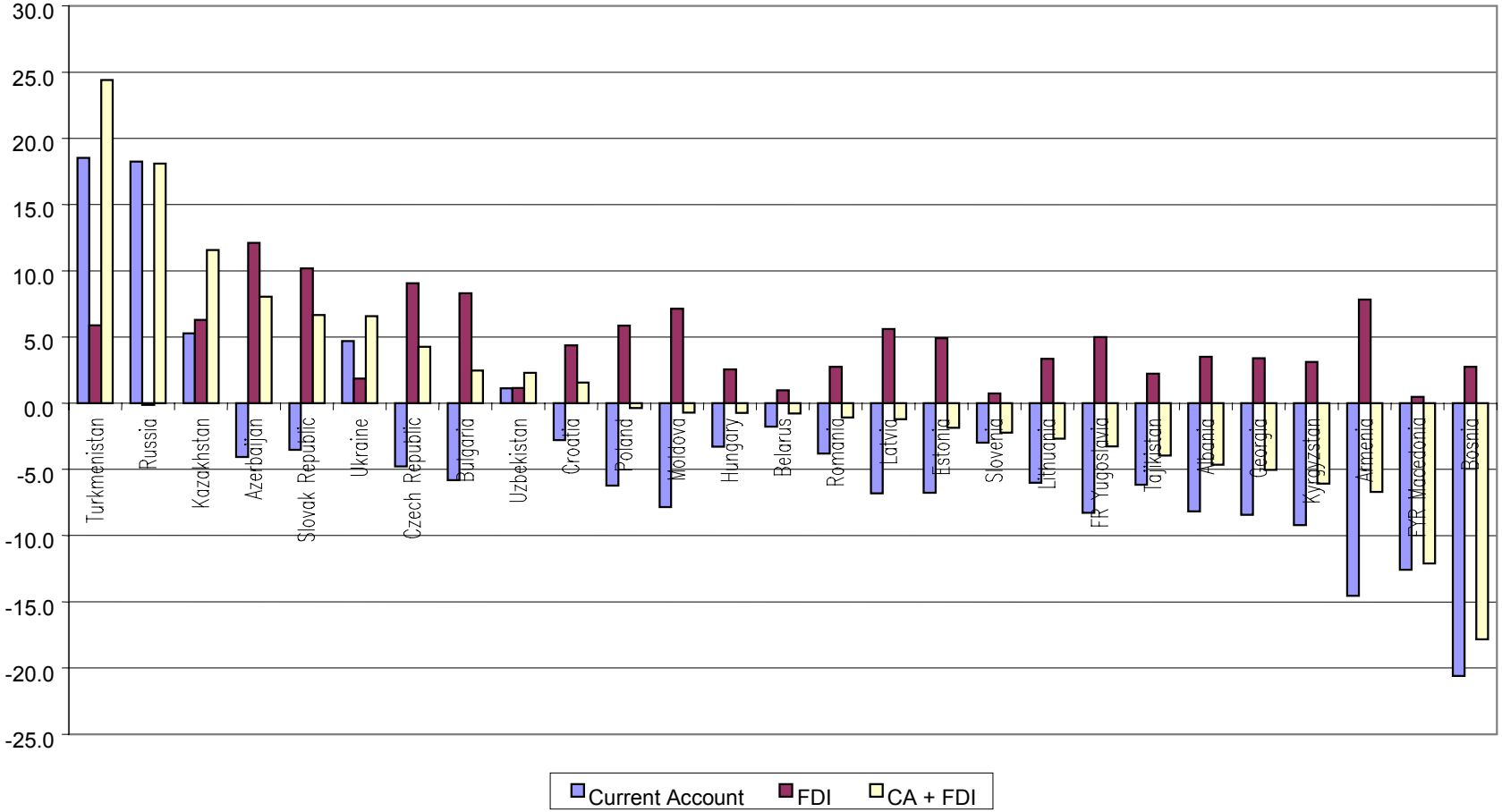
Chart 2: Cumulative FDI and privatisation revenues in 1989-2000 (% of GDP)

(regression line excludes Azerbaijan)



Source: EBRD Transition Report

Chart 3: Current account and FDI in 2000 (% of GDP)



Experience from the past ten years of transition has shown that foreign strategic investors have usually been better able to lead the restructuring process than the incumbent owners and managers (see Chart 4). This is mainly due to the fact that at the enterprise level, the process of restructuring involves fundamental changes to the structure and management of the enterprises, which are likely to encounter significant resistance. Ownership change is often a necessary condition to impose such reforms and there are only a few local investors able to serve as strategic investors, i.e., long-term investors with an experience in the core business of an enterprise.

An experienced strategic investor has usually the ability and will to assess which business units are viable and which need to be closed. Sell-offs to strategic investors must also address the liability side of the existing enterprise balance sheet. If the existing enterprise is insolvent, the key choice is between: i) selling the company as a whole after some restructuring of its liabilities, and ii) selling only specific assets of the company without associated liabilities or with only a part of them. Therefore, the presence of a well-qualified strategic investor with the necessary financial resources, management skills, marketing network, and strategic industry strength is often indispensable in turning-around many ailing conglomerates in transition countries.

Although the workforce in transition countries is relatively skilled, particularly in technical aspects of a core business, modern management and global industry expertise is often lacking. Strategic investors usually bring in managerial staff to organise finance, marketing and strategy, but transfers of technical know-how and help to link the enterprise into the global economy are also important as is the investment in gross fixed capital and technology upgrades (see Chart 5).

Chart 4: Cumulative FDI per capita (1989-2000) and enterprise restructuring in 2000

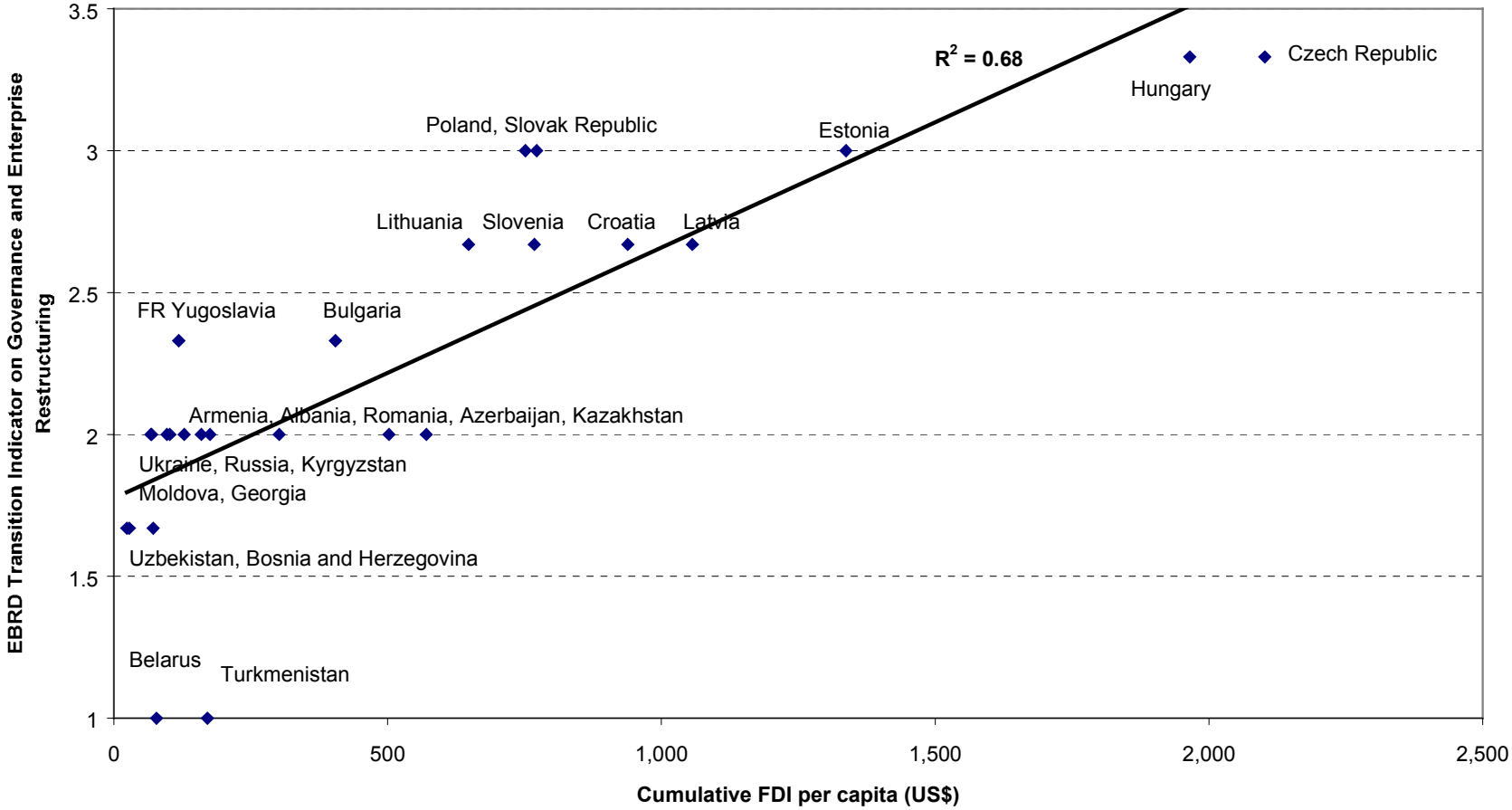
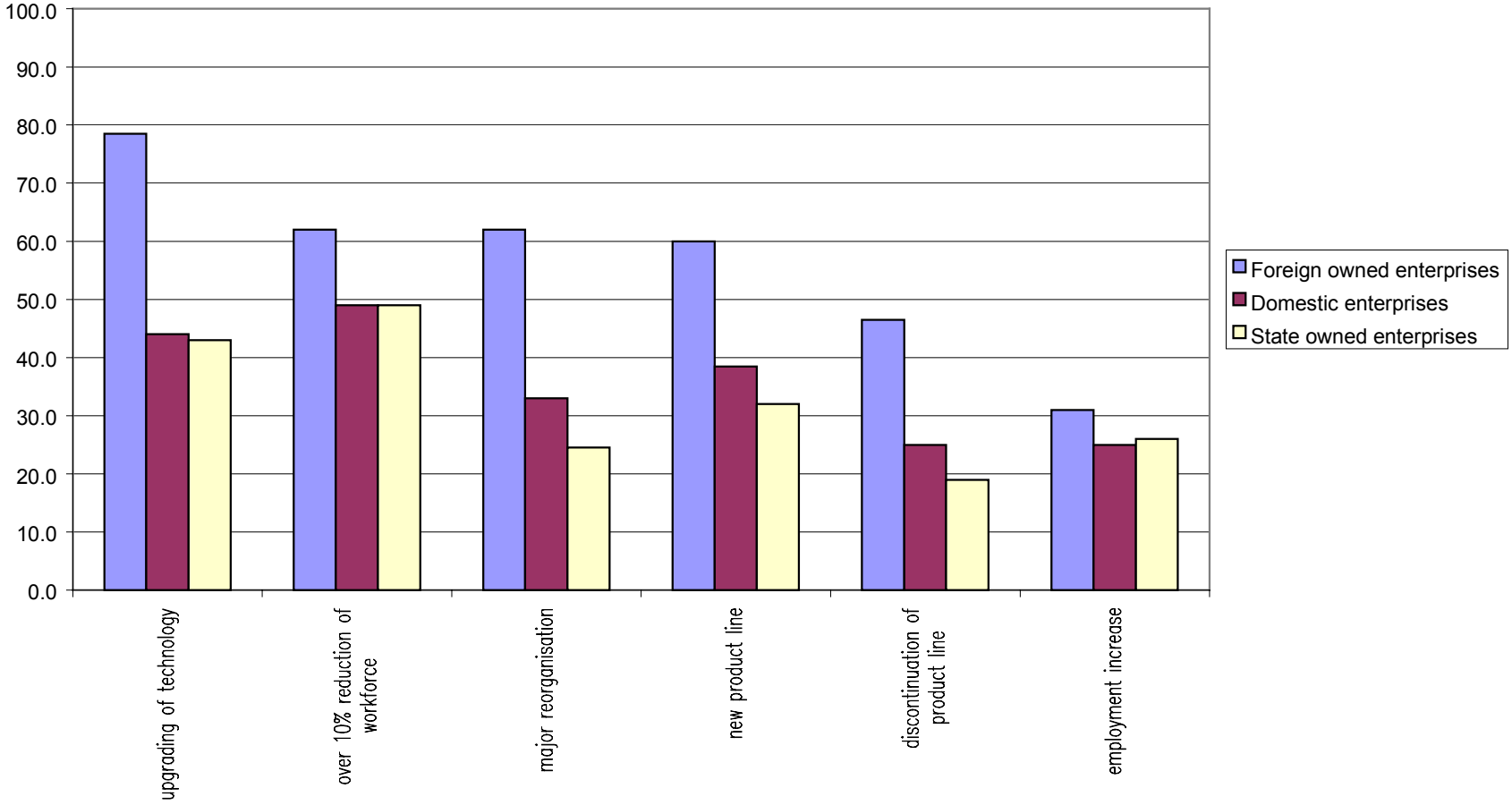


Chart 5: Enterprise restructuring by type of ownership



3. A MODEL

Enterprises can finance gross fixed capital formation, *gfcf*, by retained earnings, i.e., net profits retained in the enterprise after paying dividends, *re*, by obtaining new credit, *nc*, by issuing new equity or bonds on the capital markets, i.e., capital market financing, *cmf*, and by receiving state subsidies and transfers (including public capital expenditures), *s*:

$$gfcf = f(re, nc, cmf, s). \qquad (1)$$

The model thus links the assets side of an enterprise balance sheet (gross fixed capital formation) to the liabilities side of an enterprise balance sheet (retained earnings, new credit, capital market financing, state subsidies and transfers). The two private financing sources external to the firm (new credit and capital market financing) can be further divided by origin to domestic and foreign financing. The major domestic external financing sources include new domestic credit from local banks and other financial institutions, *dc*, and new equity and bonds issued on the local capital markets and acquired by domestic investors. The major foreign external financing options for enterprises include new foreign credit, *fc*, new equity and bonds issued abroad, new equity issued on the local capital markets and acquired by foreign investors (with no single investor having more than 10 per cent share in the company), and foreign direct investment, *fdi,* i.e., foreign investor acquiring more than 10 per cent share in the company. Since both equity and bonds issued on the capital markets are usually freely tradable internationally, no distinction is made for foreign and local capital market financing[3] (see Table 1 for the definitions of variables used).

Chart 6 presents the relative importance of the various sources of finance for selected countries in the region. It should be noted that only aggregate information on the sources of enterprise financing is used in this paper. An important observation on the basis of aggregate data is that foreign direct investment is the largest source of external finance for all three main regions, except for the CIS where it is the second most important external financing source after foreign credit.

There are three further important observations to be made on the basis of presented aggregate data. First, the data show the significant importance of stock markets for CIS countries on the aggregate level. This is explained by the Russian stock market, which accounts for the bulk of the aggregate CIS market and is dominated by large listed enterprises in the natural resources sector, the prices of which are partly determined by the price of oil. Second, south-eastern Europe experienced a series of financial sector crises in the analysed period which resulted in a serious credit crunch. Third, despite progress in transition reforms over the last years, subsidies continue to play an important role in enterprise finances even in the most advanced countries.

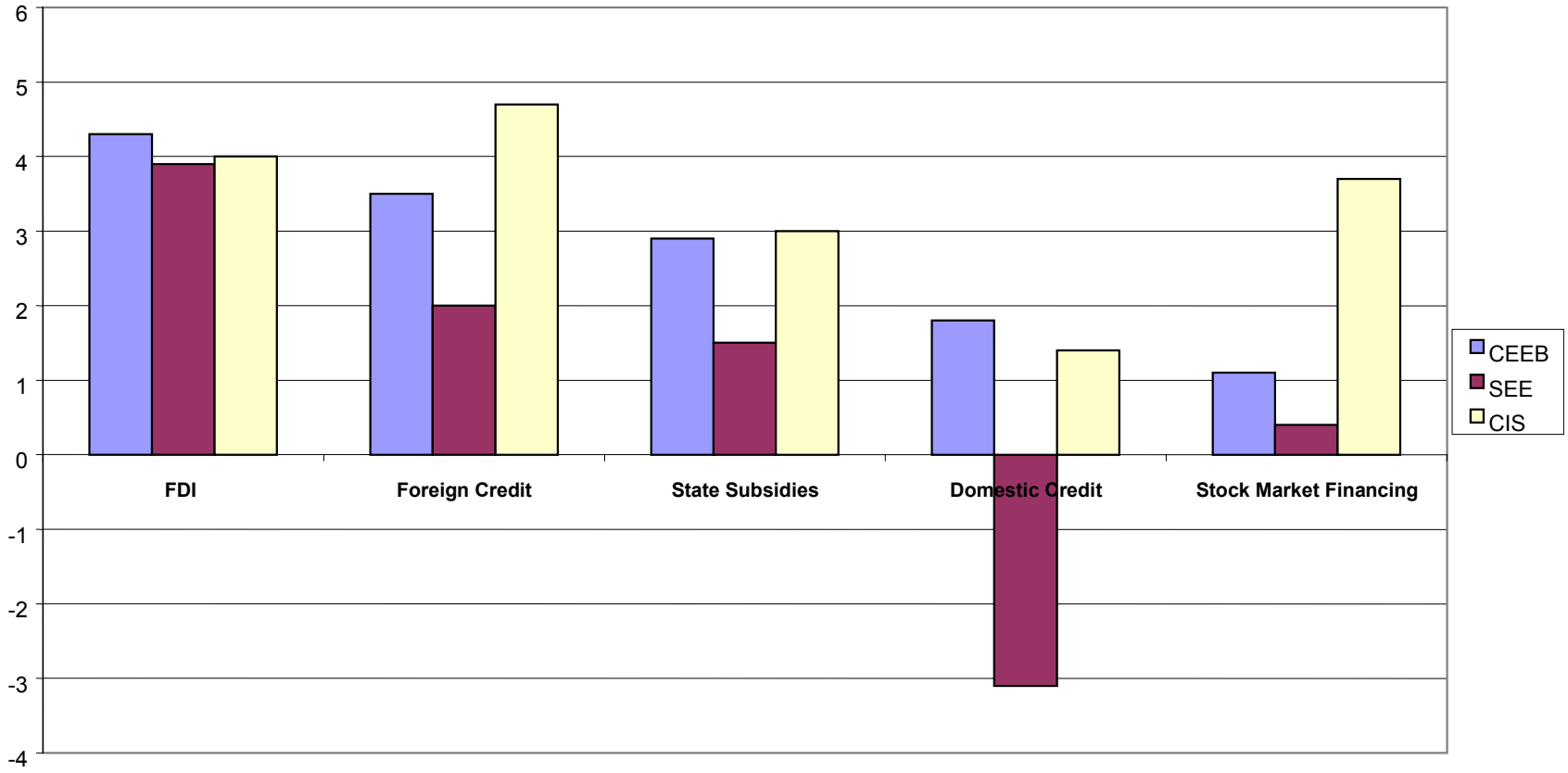
[3] This is based on the assumption that there are no regulatory differences by the origin of the investors and by the place where the capital market instruments are traded. While this assumption is not valid for some transition countries, most importantly for Russia, the size of equity and enterprise bonds issued and exclusively traded abroad is small compared with the size of local stock markets.

Table 1 - Definitions

Variable	Variable name	Definition
gfcf	*Gross fixed capital formation*	Investments in land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways and the like, including commercial and industrial buildings, offices, schools, hospitals and private residential dwellings.
re	*Retained earnings*	Net profits kept to accumulate in an enterprise after dividends are paid.
dc	*Domestic credit*	Total loans extended by the local banking sector to the non-financial enterprises, include both loans in local currency and in foreign currency.
s	*State subsidies*	Non-repayable transfers from the budget to private industries and public enterprises, including public capital expenditures, and the cost of covering the cash operating deficits of departmental enterprise sales to the public.
cmf	*Capital market financing*	New equity and bond issues by enterprises, approximated by the change in the stock market capitalisation, accounting for changes in equity prices.
fc	*Foreign credit*	Total loans extended by a resident entity (lender) in one economy in an enterprise resident (borrower) in another economy where the lender does not have a significant (10% and more) ownership stake.
fdi	*Foreign direct investment*	International investment that reflects the objective of obtaining a lasting interest by a resident entity in one economy (direct investor) in an enterprise resident in another economy (direct investment enterprise).
pr	*Privatisation revenues*	State revenues from the sales of assets.
rir	*Real interest rate*	Interest rate on short-term lending between financial institutions discounted by the inflation rate.
sml	*Stock market liquidity*	Stock market turnover (total value of shares traded during the year) over stock market capitalisation (market value of all listed shares).
acc	*Accession dummy*	Dummy variable with value 1 for an accession country (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) and 0 otherwise.
nr	*Natural resources dummy*	Dummy variable with value 1 for a natural resource endowed country (Azerbaijan, Kazakhstan, Russia, Turkmenistan).
ti	*EBRD transition indicator*	Simple average of eight transition indicators published by the EBRD in its Transition Report and covering large-scale privatisation, small-scale privatisation, governance and enterprise restructuring, price liberalisation, trade and foreign exchange system, competition, banking reform, and finally securities markets and non-banking financial sector.

Note: The source of the data is the European Bank for Reconstruction and Development, London. All variables except for the real interest rate and dummy variables are used as logarithmic transformation of a share of GDP.

Chart 6: Financing indicators in 1996-99 (% of GDP, annual average)



CEEB includes the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia. SEE consists of Bulgaria, FYR Macedonia and Romania. CIS includes Armenia, Kazakhstan, Moldova, Russia and Ukraine.

The model to be tested empirically was built on the basis of equation (1) and takes into account data availability. The focus of the paper is on the external sources of firm financing so the final model excludes retained earnings.[4] There is also a need to introduce economic environment variables to: i) indicate the relative difference between the financing of capital formation and financing of ownership change (stock market liquidity, *sml*, is used to estimate the extent of ownership change on the local capital markets); and ii) to highlight some of the factors that may have an impact on the final availability of financing source (natural resources endowment, *nr*, inclusion in the EU accession process, *acc*, relative progress in transition reforms, *ti*, and real interest rates, *rir*). There is usually a lag between the transfer of finances and actual capital formation so the model assumes that gross fixed capital formation is related to the sources of financing with a lag.

Since FDI may be influenced by the availability of other financing sources, another equation is added, relating FDI to the other financing sources (without a lag as all the financing sources are considered at the same time). The second equation of the model also relates FDI to the economic environment variables from the previous equation and, in addition, to privatisation revenues, *pr*, which are an important determinant of FDI inflows as shown in Chart 2.

The model thus consists of a system of two equations:

$$gfcf = f_1(dc_{-1}, cmf_{-1}, s_{-1}, fc_{-1}, fdi_{-1}, rir_{-1}, sml_{-1}, acc_{-1}, nr_{-1}, ti_{-1}), \qquad (2.1)$$

$$fdi = f_2(dc, cmf, s, fc, pr, rir, sml, acc, nr, ti). \qquad (2.2)$$

For simplicity a linear approximation of functions f_1 and f_2 is used in the empirical analysis and the final model to be empirically tested is as follows:

$$Y = A'X+E, \qquad (3)$$

where

$$Y' = (gfcf, fdi_{-1}),$$

$$X' = (dc, cmf, s, fc, fdi, pr, rir, sml, acc, nr, ti),$$

$$A' = (a_{xy}) \; ; \; x = 1, 2; \; y = 1, \ldots, 11;$$

$$a_{16} = 0; \; a_{25} = 0,$$

and

E is a random term with the mean equal to *(0,0)'* and variance equal to Λ, $|\Lambda| \neq 0$.

[4] Excluding a potential explanatory variable that influences the dependent variable would lead to the bias of the other coefficients. It is therefore assumed that the impact of retained earnings is included in the constant term of the model (and thus independent of time and country), an assumption which was tested by including country/time dummies.

4. EMPIRICAL RESULTS

The linear approximation (3) of equations (2.1) and (2.2) presented in the previous section is estimated using Zellner's Seemingly Unrelated Regression (SUR) method as a system of two simultaneous equations using annual data for 25 transition countries (excluding Bosnia and Herzegovina and FR Yugoslavia) which cover 11 years (1989-2000). Due to the limited availability of the data for the earlier years as well as for less advanced transition countries, only about a third of observations are complete and thus used in estimating the coefficients (82 observations available out of a theoretical 275). Despite the data shortcomings the empirical results support most of the existing hypotheses on the importance of foreign direct investment for gross fixed capital formation and the relevance of major determinants of FDI.

Table 2a - Empirical results for equation (2.1) on financing gross fixed capital formation

	Constant	12.756* (2.12)
Explanatory variables related to enterprise financing	Domestic credit	0.071* (2.324)
	Capital market financing	0.244* (2.137)
	State subsidies	0.440 (1.382)
	Foreign credit	0.015 (0.232)
	Foreign direct investment	0.728** (4.054)
Explanatory variables related to economic environment	Real interest rate	-0.039 (-1.612)
	Stock market liquidity	-0.002* (-2.447)
	Accession dummy	0.561 (0.291)
	Natural resources dummy	-3.408 (-1.417)
	EBRD Transition Indicator	0.596 (0.253)
R – squared		0.45

Notes: t-statistics are in parentheses; a star denotes statistical significance at 5% level; two stars denote statistical significance at 1% level.

Table 2b - Empirical results for equation (2.2) relating foreign direct investment to other financing sources and economic environment

	Constant	6.101 (1.746)
Explanatory variables related to enterprise financing	Domestic credit	-0.043* (-2.251)
	Capital market financing	-0.075 (-1.338)
	State subsidies	-0.144 (-0.785)
	Foreign credit	0.093** (2.659)
Explanatory variables related to economic environment	Privatisation revenues	0.699* (2.358)
	Real interest rate	0.036* (2.294)
	Stock market liquidity	0.000 (0.126)
	Accession dummy	0.699 (0.580)
	Natural resources dummy	5.206** (3.858)
	EBRD Transition Indicator	-1.127 (-0.792)
R - squared		0.35

Notes: t-statistics are in parentheses; a star denotes statistical significance at 5% level; two stars denote statistical significance at 1% level.

Gross fixed capital formation is positively related to foreign direct investment, increase in capital market capitalisation adjusted for price changes (a proxy for new equity issuance) and domestic credit (see Table 2a). A 1 per cent increase in foreign direct investment is related to 0.7 per cent increase in gross fixed capital formation while 1 per cent increase in capital market capitalisation or domestic credit results in 0.2 per cent or less than 0.1 per cent, respectively, increase in gross fixed capital formation. There is no statistically significant relation between the dependent variable, gross fixed capital formation, and state subsidies or foreign credit. The data thus support the hypothesis that foreign direct investment is beneficial for capital formation in transition countries (either directly as FDI inflows are used to finance investment or indirectly as new owners focus on technology upgrades after acquiring a significant share in the company).

The positive relation of domestic credit to capital formation is relatively straightforward to interpret. However, positive relation between an increase in capital market capitalisation, after adjustment for changes in prices is made, and gross fixed capital formation may be either due to issuance of new shares or bonds to finance investment programmes or due to ability of enterprises to raise new debt for investment projects as their capitalisation increases (and thus existing debt to equity ratio declines).

It is also worth noting that higher stock market liquidity is negatively associated with capital formation, although the size of the coefficient is small, probably as the result of increased focus on capital market speculations instead of focus on investments in real economy. Economic environment variables related to the progress in transition, natural resources endowment and an involvement in the EU accession process are not statistically significant in this equation.

The relation of the FDI to other potential financing sources (see Table 2b) shows that lower domestic credit to enterprises, as well as higher real interest rates, is positively associated with higher FDI flows. A fall of domestic credit by 1 per cent is related to 0.04 per cent increase in foreign direct investment. This implies that foreign direct investment is a substitute for the lack of local credit financing. This is, however, not the case for capital market as the coefficients on both capital market financing and stock market liquidity are not significant.

Foreign credit to enterprises is positively associated with foreign direct investment (note that lending by a foreign direct investor to direct investment enterprise is included in FDI data and not in the data on foreign credit) with a 1 per cent increase in foreign credit related to 0.1 per cent increase in foreign direct investment. A possible explanation is that the main recipients of the foreign debt are banks and other financial institutions which do not engage in capital formation but benefit from an investment climate favourable to foreign investors as well as to capital formation, so there is an indirect link between foreign credit and foreign direct investment through investment climate. Another possibility is that new foreign owners allow an enterprise to have access to their financial partners from abroad so that foreign direct investment is complemented by foreign credit at the same time (although in this case the causality would be the opposite to the causality suggested by the choice of dependent/ independent variables[5]).

[5] One option is to check for the causality between foreign credit and foreign direct investment. Another option is to run a full system with all variables describing financing sources as dependent variables. However, the data limitations prevent an estimation of the full system.

The results presented in Table 2b also suggests that privatisation process and natural resources endowment are positively correlated with foreign direct investments, as already documented by simple descriptive statistics. A 1 per cent increase in privatisation revenues is related to 0.7 per cent increase in foreign direct investment while being a country with significant natural resources endowment (Azerbaijan, Kazakhstan, Russia and Turkmenistan) increases foreign direct investment by more than 5 per cent. The accession process, progress in transition, state subsidies and stock market variables are not statistically significant in this equation.

An important observation relates to state subsidies. Subsidies to enterprises are a significant source of financing for enterprises, as already shown in Chart 6. However, the empirical results presented in Tables 2a and 2b suggest that although higher subsidies are not translated into higher capital formation they also do not hinder foreign direct investment inflows. A possible explanation is that the subsidies are concentrated in a few sectors and are mainly related to labour force restructuring (steel sector, coal mining), banking sector restructuring (write-off of bad debts), and restructuring of enterprise liabilities to the state (tax arrears, social welfare contribution arrears).

5. CONCLUDING REMARKS AND POLICY IMPLICATIONS

This paper analysed the role of foreign direct investment in financing gross fixed capital formation and its relation to other sources of financing as well as to the variables describing the economic environment. The empirical results showed that FDI, domestic credit and local capital markets are all important financing sources for capital formation, with FDI having a substantially greater impact than domestic credit and capital market financing, while such a relation could not be found for state subsidies and for foreign credit. It was also shown that foreign direct investment is a substitute for domestic credit while foreign credit is positively related to FDI, taking into account the economic environment. The empirical analysis also confirmed results from the literature related to the considerable importance of natural resources and privatisation revenues as determinants of FDI.

The empirical analysis has some policy implications. Improvements in the investment climate helping to attract higher FDI inflows will translate into higher gross fixed capital formation, which in turn leads to greater economic growth. This is more important in transition countries not endowed by natural resources and in transition countries with little state assets left to be privatised.

In particular, improvements in capital market regulation and banking sector reforms, such as improvements in minority shareholders and creditor rights, which would increase new equity or bond issuance and allow greater expansion of domestic credit to enterprises, are beneficial for capital formation. The development of the local financial sector may also allow domestic enterprises, as opposed to foreign-owned enterprises, to increase their gross fixed capital formation and expand. This would help avoid creation of a two-tier economy where foreign-owned enterprises flourish while the domestically owned firms, and particularly SMEs, cannot finance their dynamic growth (as implied by the empirical results showing substantially greater importance of FDI to other sources of capital formation financing).

Finally, state subsidies cannot be seen as a way of supporting domestic investment. However, state subsidies were not shown to have a negative impact on either capital formation or foreign direct investment inflows. This also implies that, in certain circumstances, the state can take on social and environmental responsibilities of restructured and privatised enterprises without harming the development of the enterprise sector.

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