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Capital Flows to Central and Eastern Europe and the Former Soviet Union

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Foreign direct investment and, more recently, short-term debt and portfolio flows have become important parts of private capital flows to Central and Eastern Europe and the former Soviet Union. Private flows have increased in response to reform efforts, the buildup of reserves, and prospective membership in the European Union.

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Summary findings

Private capital flows to Central and Eastern Europe and the former Soviet Union have taken off in recent years. Foreign direct investment was the most important such flow from 1991–97, but since 1993 short-term debt and portfolio flows have also been important.

The increase in these potentially more volatile short-term flows raises some questions about sustainability and vulnerability.

Perhaps more than in other developing countries, reform efforts appear to be the most important

determinant of private flows to the region. Private flows also have responded positively to the buildup of reserves (a proxy for improvements in perceived creditworthiness) and to prospective membership in the European Union (reflecting greater economic integration with the West and a greater commitment to reform).

Official flows have been associated with the financing of fiscal deficits and appear to have led, rather than followed, countries' reform efforts.

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Capital Flows to Central and Eastern Europe and Former Soviet Union

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1. Introduction and background

Capital flows to Central and Eastern Europe and the Former Soviet Union (CEE/FSU) represent a relatively small, albeit growing share of capital flows to developing countries. Taken all flows together, total net flows to these 25 countries were about \$44 billion in 1996 (and a preliminary figure of \$57 billion for 1997),¹ or about 1/8 of aggregate net flows to all developing countries. These countries accounted, however, for about 20 and 22 percent respectively of all developing countries' GDP and exports in 1996. As a fraction of their GDP, total inflows were consequently smaller than for many other developing countries, and averaged about 5.4 percent over the 1990-96 period. Taking debt service and capital flight are taken into account, resource inflows were much lower and even negative to some countries (capital flight from Russia alone has been estimated at some \$50 billion for 1992-96).

The lower level of capital flows to these countries occurred during a period when global capital flows were very buoyant. Private capital flows to developing countries increased dramatically during the 1990s, especially foreign direct investment (FDI) and portfolio equity investment. While flows to the CEE/FSU have also been growing fast—for example, portfolio and foreign direct investment flows increased from \$1.4 billion in 1990 to \$23.5 billion in 1996—between them they still only attract about 15 percent of total private capital flows to all developing countries in 1996.² In 1996, FDI to CEE/FSU, for example, was only \$14 billion, equivalent to the total amount received by Malaysia and Mexico in that year. The distribution of FDI flows has also been highly uneven. Over the 1992-1996 period, Russia and the Visegrad countries (Czech Republic, Slovak Republic, Poland and Hungary) received the bulk of FDI flows, while many other countries in the region are still all but untouched by FDI.

The relatively still low level of, especially private, capital flows, reflects the special nature of the economic development processes in these countries. Several factors are important. First, CEE/FSU are all transition economies. This meant, for one that market reforms did not get underway until the end of the 1980s for most of CEE—with the notable exceptions of Hungary and Poland—and until 1991 for the FSU. The transition process also influenced the nature and composition of the capital flows. In particular, early on in the transition the capital flows were mainly fiscally driven and often from official sources. Annual net flows of official development finance—including official development assistance (grants and official concessional loans) and official non-concessional loans—represented about 40 percent of total net flows in 1990-96 and over 100 percent in 1990-91 (as private net flows were negative in those years). This reflected the sharp deterioration of fiscal revenues at the onset of the transition process and the lack of creditworthiness of some countries. Associated with this process were low private capital inflows, and, as mentioned, for some countries substantial amounts of capital flight. The low level of private inflows was due to a variety of factors, including partial and incomplete reforms or an uncertain commitment to reform in most countries, high political and social costs of the transition process itself, as well as high levels of corruption and political instability (several

1 Excluding grants, the total amount of net flows amounted US\$ 41 billion in 1996.

2 FDI and portfolio flows to all developing countries in 1996 were \$155 billion.

countries in the FSU have been affected by civil wars). Many countries in CEE also lost financing and aid from the Soviet Union—they had received large aid, including through above market export prices and below market import (especially energy) prices, from the Soviet Union (World Bank, 1992), but these flows essentially ceased in 1989—implying a larger financing need for their governments.

In more recent years, there has been a more rapid inflow of private capital, as reform efforts have consolidated and economic prospects improved and, for some countries, as EU-integration became a possibility for the near future. For some countries, short-term capital has recently become an important source of external financing. Since most countries have been "late-comers" to the phenomenon of large private capital inflows, they have not experienced much of the overheating phenomena which have affected other developing countries in the past (Latin America) and recently (East Asia). The main exceptions indeed were precisely some of the earlier and faster reformers like Hungary, Poland, Czech Republic and Estonia.

At the same time, the transition to a market economy is far from complete for most of the economies in the region. Distortions in factor markets are still prevalent and the institutional development in areas crucial to beneficial financial integration—particularly the legal system and financial sector—is still limited, especially in many of countries of the FSU. Deficiencies, which in other developing countries have been associated with subsequent problems, including poor resource allocation and financial crises, are thus still prevalent in many transition economies. By tackling these issues now, these countries could presumably stand to gain more of the benefits and less of the risks associated with more financial integration and large private capital flows.

This paper investigates the amounts, type and sources of capital flows to these countries. It tries to determine the motivation of the various sources of capital flows, distinguishing global and country-specific factors. The paper provides estimates of the (econometric) relationships between, on one hand, the different kinds of capital flows and, on the other hand, the reform process, macroeconomic fundamentals and performance, and external factors. As the history of capital flows to CEE/FSU is short, historical analysis has, however, significant limitations and econometric estimation is difficult. Lessons from experiences of other countries with private capital flows may, however, be applied to these countries, when taking into account their special characteristics.

The paper is organized as follows. Section II briefly describes the facts on capital flows to these countries. Section III discusses important links and relationships between macroeconomic variables and the capital flows, including some of the basic motivations and causes for capital flows. Section IV describes and analyzes the policy framework and policy responses in those countries that received the bulk of capital flows. Econometric tests are presented in section V, while section VI discusses the issues which may be arising with capital flows in these countries in the future and provides some conclusions.

2. The facts on capital flows to Central and Eastern Europe and Former Soviet Union

We start with providing some simple raw statistics for the various capital flows. In principle, one can distinguish capital flows by destination (e.g., public versus private); by type (e.g., debt, of which long-term and short-term, FDI, portfolio, of which bonds and equity) and by origin (e.g., commercial, i.e., private versus official creditors). One can also combine the three distinctions, e.g., by splitting debt-type flows into public and private debt, with the latter further into long and short, and by origin, e.g., commercial versus official. For our purposes, and given the data we have at hand and the patterns in capital flows we observe, we create five categories of capital flows: public debt (official) flows; commercial long-term (LT) debt flows; commercial short-term (ST) debt flows; FDI-flows; and portfolio (bond and equity) flows. For some purposes, it would be useful to further split commercial debt flows into those going to the banking system versus to other sectors of the economy, but it turns out that this can not be done for most of the countries given the data available. Our focus is on net flows; however, while we occasionally also discuss "capital flight" (other than that captured through short-term flows), we do not net out capital flight from our net flow measures. We group countries in two regions: Central Europe and the Baltics; and the rest of Eastern Europe, the Caucasus and Central Asia.³ The group of countries in Central Europe is relatively homogeneous. The second category groups countries with more diverse economic characteristics. Data for individual countries are reported in Annex 1, where we provide both absolute figures and figures relative to GDP.⁴

Descriptive statistics for the different types of flows for all countries (means, medians, standard deviations of flows) are provided in Table 1. Table 2 describes the composition of capital flows by *source* (private and official) and by *type* (long-term, short-term, portfolio and FDI). Total capital flows rose from around \$1 billion in 1990 to \$57 billion in 1997. Pooling together all observations (by country and by year) and measuring them as a share of GDP, the largest types of flows during the 1992-96 period were official debt flows and FDI (on average, respectively 2.7 percent and 2 percent of GDP), followed by portfolio flows (0.4 percent of GDP). Of all these flows, the highest standard deviation was for official flows (standard deviation of 3.6 percent of GDP). The following other stylized facts can be observed.⁵

First, the share of official flows has declined sharply over the period (Figure 1). At the beginning of the transition, official flows increased sharply, with bilateral and multilateral sources accounting for most of the flows. In 1992, as some of the transition economies regained access to international credit markets, private flows began to exceed official flows and by 1997 they accounted for 73 percent of total flows. This development is not different from what has

3 The CEE and Baltics country group includes Albania, Bulgaria, Croatia, Czech Republic, Estonia, Latvia, Lithuania, FYR Macedonia, Hungary, Poland, Romania, Slovakia and Slovenia. The FSU country group includes Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan and Ukraine.

4 We had to be careful for the exchange rate used in calculating dollar GDP given the large changes in real exchange rate for this period. Some smoothing was necessary, which was done using the World Bank Atlas \$-GDP figures.

5 Sobol, 1996, also highlights the rapid surge in private capital flows to Central and Eastern Europe.

been observed in other developing countries, but in these transition economies the change in composition appears to have occurred more swiftly. The reduced reliance on official flows has been more marked in Central Europe and the Baltics than in the FSU. While FDI and portfolio flows were large in Central Europe and the Baltics already in 1991-92, they only acquired significance in the FSU after 1994. This is consistent with the onset of earlier reforms and improved access to international capital markets of Central Europe and the Baltics.

Second, there has been a rapid surge of short-term capital flows (short-term debt plus portfolio flows) from about \$1 billion in 1991-92 to \$12 billion in 1996-97—with the share in total flows increasing from 5 percent to about one-quarter (Figure 2). The surge in short-term flows could be a source of concern for policymakers, as short-term flows could be associated with higher volatility. This may be especially so for those countries that received the bulk of short-term flows: during 1993-96, the largest recipients were Hungary, Czech Republic, Russia, Slovakia, Ukraine and Slovenia, with these countries in total receiving over 90% of all short-term flows.

Third, the destination of private capital flows has been heavily concentrated.⁶ A few countries, Russia, Hungary, Poland and the Czech Republic, accounted together for about 80 percent of private capital flows to the region (Figure 3). The above four countries, along with a second group of countries—Romania, Kazakstan, Ukraine, Slovenia, Slovakia, Lithuania, Estonia and Croatia—accounted for about 98 percent of all private capital flows to the region. The concentration for FDI was even higher. Two countries, Poland and Hungary, for example, received over 50 percent of the 1992-96 cumulative FDI to the region (\$46 billion).

And fourth, official capital flows (excluding flows from IMF) have also been heavily concentrated, although mostly in a different set of countries than private flows. On a cumulative basis over 1992-96, five countries (Romania, Russia, Kazakstan, Ukraine and Bulgaria) received over 75 percent of all official flows (Figure 4). Some of the earlier large recipients of official flows subsequently repaid large amounts of official debt and, thus, on a net cumulative basis the significance of official financing for these countries is somewhat understated. Russia and Poland, for example, received around \$2.4 billion in official financing in 1993-94 and repaid over \$3 billion in 1996.

3. Linkages between macroeconomic variables and capital flows.

We start with a description of some of the initial conditions that played an important role in determining the nature and type of capital inflows. The underlying factors behind private flows are quite different from those underlying official flows. In case of private flows, creditworthiness—as a result of structural reforms and strong macroeconomic fundamentals—and economic and financial opportunities—such as high interest rate differentials—tend to drive

⁶ Defined as the sum of foreign direct investment, portfolio flows, commercial debt flows, and short-term flows.

flows. In case of official flows, political considerations (including geo-political or social stability), commitment to reforms (usually reflected in the conditionality applied to official financing) and the fiscal deficit tend to be important determinants. We therefore discuss private and official flows separately.

Private flows.

Private capital flows depend on domestic factors and international factors, such as foreign interest rates or demand conditions abroad (see Calvo et al. 1993). In turn, domestic factors can be broadly classified into: structural reforms (e.g., openness, privatization, financial sector deepening, banking sector stability), creditworthiness and macroeconomic fundamentals (e.g., fiscal deficit, debt-to-GDP ratio, ratio of short-term debt or monetary base to foreign reserves), private sector behavior (e.g., propensity to save), economic performance indicators (e.g., GDP growth) and arbitrage opportunities (e.g., domestic-foreign interest rate differentials adjusted for expected devaluation). As we discuss below, different types of private flows are likely to depend differently on specific subsets of these explanatory variables.

The importance of creditworthiness is well illustrated by the experiences of Poland and Hungary. Poland started the transition period with a large commercial debt stock, the result of heavy borrowing during the early 1980s in an attempt to maintain domestic consumption and government expenditures. As this borrowing occurred under the "umbrella" of the then Soviet Union, Poland's individual creditworthiness mattered less. The subsequent political transition and loss of the umbrella implied, however, a rapid loss of creditworthiness in the late 1980s. Poland subsequently had to go through first a Paris and then a Brady plan debt reduction and debt relief program to bring its debt back to sustainable levels. It took until October 1994 before the Brady debt reduction plan was completed and only afterwards did private capital flows take off.

Bulgaria also had to go through a debt reduction and rescheduling operation after it incurred large amounts of hard currency debt in the late 1980s when aid from the Soviet Union was sharply reduced. Following Bulgaria's Brady debt agreement, private capital flows became positive for the first time since the onset of transition, and particularly after the country adopted a currency board in mid-1997. It appears that the currency board provided an implicit exchange rate insurance which, combined with a high interest rate differential and increased creditworthiness (through both debt reduction and lengthening of the maturities of external debt), attracted private capital flows.

In the case of Hungary, the initial debt stock was also high, but Hungary did not resort to debt rescheduling or reduction. This signaled Hungary's commitment to servicing its international obligations in full and on time; that, in turn, may have bolstered other kind of private inflows. Until 1995, Hungary was the largest recipient of private capital flows in the region. However, Hungary relied mostly on FDI and portfolio flows for its financing needs as commercial lenders were reluctant to extend large amounts of new financing (in part this was also due to problems with the provision of accurate balance-of-payment information during the 1980s).

Initially, Russia was in a somewhat better position than most countries as its outstanding debt obligations were relatively low. But large borrowings during the late 1980s, much of it from official sources, led to subsequent debt servicing problems, which were partly resolved through repeated reschedulings. Nevertheless, debt stocks and debt service remained and remain high relative to exports and GDP (it should be noted, however, that Russia has run consistently large trade surpluses). In case of Russia, what led to large private inflows was probably not so much (the perception of) improved creditworthiness, but rather the very high interest rates on government bonds. In 1996, Russia received \$7.3 billion in portfolio flows, most of it to finance the government deficit.

For the rest of the FSU, inherited debt stocks were zero as they all reached agreement in the early 1990s for Russia to assume all debts and assets of the FSU (as the states of the FSU had each signed a joint and several liability agreement for the external debt, assumption of claims was necessary and the only practical solution). This “zero-debt” initial condition was a factor why early reformers—like most of the Baltics—were able to attract substantial private flows from the outset, almost \$3 billion over the 1992-96 period.

Non-debt creating private flows to the region, including FDI, were low until 1990 (less than half a billion dollars annually) with, as noted, most of it to Hungary. The transition to market economies created opportunities for foreigners to engage in long-term risk investments in the region. But even though FDI grew, from \$2.2 billion in 1991 to \$6.4 billion in 1994, it remained small relative to other regions. In 1994, for example, it was less than FDI to Mexico in that year. As reform in these countries further progressed, FDI rose significantly, reaching \$16.1 billion in 1995—although this figure is somehow distorted by record high privatization-related FDI in Hungary (\$4.5 billion in 1995).⁷ This reflected in part a general increase in FDI to developing countries. But, there also appears to have been a threshold effect, which once reform passed a certain level, a take-off of private capital flows in general occurred (Figure 5).

Domestic reforms aimed at liberalizing prices, trade and private sector activities have been very important for motivating the inflow of private capital. Countries did pursue many policies to attract capital flows, in particular they quite rapidly liberalized their current and capital accounts. In addition, some provided official guarantees for flows to private borrowers, while others provided special tariff or tax regimes to attract FDI flows. However, compared to the impact of general reform, specific policies appear to have played a limited role in explaining capital flows.

Some countries experienced large private capital inflows to private companies and state enterprises early on, even prior to the transition, but this most often reflected special circumstances. Several countries are well endowed with natural resources and were as a result able to attract FDI in these sectors, even when overall market reforms were still at an early stage. About half of total net inflows for Azerbaijan and Kazakstan in 1995 and 1996, for example, were

7 FDI averaged \$14.7 billion in 1996-97.

in the form of FDI, even though they score low on policy reform. In other countries, the privatization strategy pursued greatly influenced capital flows (Figure 6). For example, since the onset of transition, Estonia, and Hungary even earlier, pursued a policy of actively selling firms on a case-by-case basis to strategic investors, including foreign investors. As a result, FDI-inflows dominate private inflows for both countries (FDI-inflows to Hungary actually exceeded in 1996 total net flows). And in case of Russia in recent years, FDI-flows have increased significantly as a result of the privatization of a few, large resource-based state enterprises.

Capital flows have also been influenced by the behavior of domestic savings. Theoretically, foreign savings can be a complement or a substitute to private domestic savings. The type of relationship between capital flows and domestic savings can have a bearing on the sustainability of capital flows. Hernandez and Rudolph (1995) found for economies in other regions that capital flows tend to be more sustainable when foreign and domestic savings are complementary. Figure 7 suggest a complementarity between aggregate domestic saving and total private flows. Based on this complementarity alone, capital flows are likely to be sustainable.

A few countries have had (temporary) situations of "overheating" associated with large private capital inflows (excluding FDI). For example, private debt flows were large in the Czech Republic and Slovakia during 1995; and portfolio flows were large in Poland and Hungary during 1995, in Russia during 1996 and in Poland during 1997. For the region as a whole, however, short-term private flows (excluding FDI) were insignificant before 1993 and were less than one-third of all flows thereafter. More importantly, with a few exceptions, the share of capital flows relative to GDP remained small. Relative to GDP, only the Czech Republic and Hungary received in 1995 large amounts of private capital flows, 10.9 percent and 8.2 percent respectively. So did some of the smaller Former Soviet Union countries in some specific years, but this mainly reflected the lumpy nature of private capital flows (e.g., FDI in a gold-mine in the Kyrgyz republic in 1995/96) or, in the case of some Baltics, heavy intermediation of foreign funds by local banks. Even these relatively high levels of capital inflows were well below the sustained high levels of capital inflows seen in recent years for some East Asian and Latin American countries, for those countries had several years of current account deficits up to 8-9 percent which were largely privately financed and, unlike in transition economies, often associated with strong declines in domestic saving (see Alba et al, 1998).

Though not for the region as a whole, there are several cases where financial arbitrage likely played a major role in motivating capital flows. For example, in recent years, there have been substantial foreign investment in portfolio flows in the form of purchases of local currency fixed-income instruments, such as Russian, Polish, Hungarian and Czech T-bills and T-bonds. Table 3 suggests a positive link between high interest rate differentials (domestic interest rates corrected for the ex-post exchange rate devaluation minus US\$ LIBOR) and private capital inflows in these countries. For some countries, bond inflows have coincided with large and rapid equity portfolio inflows, much of it through ADRs/GDRs and country funds. In the Czech Republic, for example, there have been large equity inflows in 1995 when the equity market

increased by 150 percent.⁸ Similarly, Estonian banks have relied heavily on foreign issues of Eurobonds to lower their funding costs during 1996-97. As demand for paper of emerging economies in CEE grew, domestic interest rates declined. The eruption of financial turbulence in Asia led to substantial outflows and a steep rise in spreads of Eurobonds issued by these countries over comparable US-Treasuries (as well as declines in stock markets). This was especially the case for Russia, Estonia, Poland and Czech Republic, but affected more or less all countries in the region. Since then, spreads have declined to close to pre-Asian crisis levels.

Figures 8 a-b show that there has been a positive association between domestic credit growth and private capital inflows for only a few countries. The association for these countries stems both from general equilibrium effects and from banks directly intermediating capital flows. The large credit growth often seen in other developing countries, has thus been much less observed for these countries. This may be due to the early phase of the expansionary cycle for most countries or the poor state of institutional development of the banking systems in these countries, where foreign lenders are reluctant to lend large amounts to still weak banks. Direct intermediation of foreign savings through domestic banks has, for most countries, been limited. An exception has been Estonia, where in 1997 the banking sector relied heavily on foreign issues of Eurobonds to finance their domestic lending. Because of the general equilibrium effects of capital inflows, however, there were a few other countries where high credit growth and large capital inflows coincided (e.g., Czech Republic).

Finally, while from a policy maker point of view, policy variables are what matter most, there is evidence that capital inflows have been often associated with improvements in key macroeconomic performance indicators such as GDP growth. As Figure 9 a-b illustrate, private capital flows exhibit a positive relationship with GDP growth. This highly observable performance indicator may serve as a proxy, to private investors, for effective reforms.

Official flows

In the early stages of reform in the countries, a major share of official assistance took the form of balance of payments and budgetary support, including official debt relief. This was necessary as the transition meant a substantial drop in fiscal revenues, especially for the FSU-countries where government revenues essentially collapsed. Receipts from the state enterprise sector fell sharply, partly as a result of privatization, partly as a result of the elimination (or reductions) of price subsidies, and partly as a result of a breakdown of the tax system. Price liberalization brought into the open the extensive systems of cross-subsidies inherent in the planned economy, shifting all or most of the cost onto the budget. Also, the new tax administrations proved unable to tax the emerging sectors. At the same time, there were pressures to maintain expenditures, especially for social purposes.

8 Foreign purchases of equity securities increased from \$497 million in 1994 to \$1,236 million in 1995.

Fiscal deficits were large in many transition economies during 1990-96, averaging 6 to 7 percent of GDP in Bulgaria, Hungary, and Uzbekistan. They were even higher in Russia—an average of 8.5 percent of GDP over 1992-96 and continued to be high in 1997. In addition, governments often mandated the banking system to undertake quasi-fiscal activities—most often extending (subsidized) credits to state enterprises (Claessens and Peters, 1997, analyze the case of Bulgaria; Claessens and Abdelati, 1995, the case of Romania). Among slower reformers, credit subsidies from the central bank were on the order of three times the size of the fiscal deficit (De Melo and Denizer, 1997). Much of these fiscal and quasi-fiscal deficits ended up being funded through seignorage and inflation tax. Seignorage averaged more than 16 percent of GDP in Russia during 1992-93, about the same as total central government revenues (Easterly and Viera da Cunha, 1994). In CEE, it was more modest, averaging 5 to 6 percent of GDP in Poland and Hungary during 1990-92. As Figure 10 shows, official flows tend to have a close relationship with the fiscal deficits; the two variables indeed have one of the closest correlation relationships for all types of capital flows and various possible explanatory variables (a correlation coefficient of -0.69, where a fiscal deficit is defined negative).

Official support (from international financial institutions and individual country donors) provided partial financing for these fiscal deficits, thus reducing inflationary pressures. Official support, however, was also conditioned on reform efforts and has typically been larger, relative to population or GDP, for those countries that subsequently advanced further with reforms. For example, the Visegrad countries, the most advanced reformers (along with the Baltics), had received by the end of 1993 more than half of all the disbursements of international financial institutions to the region. Total official disbursements to the CEECs, which have generally progressed furthest in their reforms, accounted for an average of about 2.7 percent of their GDP in 1991-93, actually comparable to the Marshall plan (aid under the Marshall Plan after World War II averaged 2.5 percent of the incomes of recipient countries during the period it was being disbursed). External official finance has thus helped underpin a number of reform and stabilization programs, in creating confidence (as was true of the Polish stabilization fund), and in reducing the need for monetary financing to cover budget deficits. Bilateral and multilateral (mainly the EU) assistance has also had a large component of technical assistance.

But for sustained reformers the period of official flows was short: the Czech Republic, for example, drew on IMF credits and other official loans relatively heavily in 1991 and 1992, but started to repay the IMF earlier than planned—as did Poland and Hungary in 1995. Similarly, Estonia maintains an IMF program but does not draw from it. This may explain why there is a negative correlation between the reform index and official flows for the whole period. A simple regression of a reform index on lagged official flows - see section 5 - indeed suggests that official flows have exerted a positive impact on subsequent reforms. The results of section 5 also suggest that countries which reformed significantly over the period managed to attract higher private flows and may, thus, have experienced a lesser need for lower official flows.

In 1994, official lending shifted to the FSU, which had previously obtained little official financing, as reforms advanced there. But reform strengths did differ considerably among FSU-countries, and so did official flows. Among the FSU, the Baltic-states, which had made substantial reforms, received more official assistance in relation to the size of their population as

well as to GDP than, for example, did Belarus. Even today, many transition economies in the FSU still depend heavily on external capital flows for the financing for their fiscal deficits, with much of this financing from official sources. This is especially the case in Central Asia and some of the Caucasus countries, where official flows have been more than 5 percent of GDP for several countries. Relatively few countries have been successful in attracting private capital flows to finance their fiscal deficits. Most notable among these countries was Hungary earlier and, in the last two years, Russia which received some private inflows, mostly in the form of Euro-bonds, for fiscal deficit financing.

In summary, official flows have been fiscally driven (for a review of the special fiscal issues experienced by transition economies see Buiter, 1996). In conjunction, a commitment to subsequent reform appears to have been an important determinant of official flows. The access to capital markets that reforms have facilitated (at least in the most advanced reformers), however, has meant that official financing was quickly substituted by private capital flows (even though successful reformers usually still rely on official flows as contingent support).

4. **Dealing with capital flows: the policy framework**

As noted, countries improved the framework for capital flows largely through sustained structural reform efforts, involving liberalization, privatization, decentralization, stabilization, and institutional changes. Capital inflows have in general rewarded successful reforms and good policies by helping to finance investment needs and, in the case of FDI, by helping to improve productivity and access to foreign markets—thus helping to foster the further integration of transition economies into the global economy. However, while the benefits are clear, the Mexico and Asia crises suggest that rapid surges of - particularly short-term - capital flows over a short time-span can also pose difficulties to macroeconomic and financial sector management.

In CEE and FSU, only a few countries—and only recently—needed to deal with the potentially adverse effects of large capital inflows. There has consequently, in general, been little need for the responses traditionally employed when countries have faced large capital inflows (i.e., sterilization, exchange rate management, capital controls, prudential measures, capital outflow liberalization, and fiscal restraint; see further Corbo and Hernandez, 1996). To illustrate policy responses to recent surges of capital inflows, we focus on the experiences of the Czech Republic, Poland, Estonia, Hungary, and Russia.

*Czech Republic*⁹

Following the initial transition years, when capital inflows were largely dominated by official sources, private capital flows became important. After averaging around \$2.5 billion annually in 1993-94 (over 80% of which was private finance), capital inflows rose in 1995 to \$7.7 billion, before declining to about \$4 billion in 1996. These large private capital inflows were strongly driven by Czech reforms—including the restructuring needs that followed large-

9 Based in part on Klacek, 1997.

scale privatization, the gradual liberalization of its current and capital accounts starting in 1991, its overall fiscal conservative policy (with on average a fiscal deficit close to zero in 1993-96), and a relatively stable foreign exchange rate combined with a high differential between Czech and foreign interest rates. Expectations of exchange rate appreciation were also an important factor, particularly in motivating portfolio inflows. Strong debt flows occurred in 1995-96, as bank and enterprises borrowed abroad heavily, reflecting the high interest differentials. FDI also trebled between 1994 and 1995, to about \$2.5 billion, explained largely by the sale of 27% of the equity of the Czech telephone company to a Dutch-led consortium (collecting a record \$1.45 billion in one single transaction).

As the exchange rate was fixed with respect to the Deutsche Mark (DM), Czech Republic's largest trading partner, and inflation remained at around 10%, the real exchange rate appreciated sharply over the 1994-96 period. Increases in inflation from wage pressures and slow productivity growth led to large increases in relative unit labor costs. A current account surplus in 1993 (equivalent to 2% of GDP) turned into a large deficit in 1997 (equivalent to 7% of GDP) and a significant export slowdown followed in 1996 and 1997. Since 1996, net capital inflows have declined sharply and the scarcity of foreign financing has been reflected in an increasing interest rate spread between PRIBOR (Prague Inter-bank Offering Rate) and LIBOR; the spread rose from around 5% in March 1995 to almost 9% in early 1997.

The Czech Republic was initially reluctant to interfere with the large capital flows, consistent with its *laissez-faire* approach to economic management. However, as capital flows grew in 1995, the Czech government started with large sterilized intervention through open market operations, higher reserve requirements on demand and time deposits, and depositing privatization receipts with the central bank. This resulted in a further real appreciation and rise in interest rates. While the adverse monetary impact of reserve growth was partially avoided, high capital inflows continued, motivated increasingly by higher interest rates. The movements in the interest spread followed the capital flow-cycle—during the first phase, “exogenous” capital flows driven by sustained reforms lowered the interest differential but as the current account moved into deficit and the pace of reforms slowed down, higher interest rates were necessary to maintain the “flow of capital”.

In March 1996, the government tried to deter speculative capital flows by widening the exchange rate band from 1.5% to 15%—that is, +/- 7.5% around the central parity. The measure had the desired effect of slowing down and in fact reversing short-term capital inflows. The government did not, however, tighten its fiscal stance or introduce capital controls. Following a banking sector crisis in early 1997 (in which several larger banks were liquidated), and following the growing perception that enterprise and bank restructuring has been advanced less than initially thought, there was a speculative run against the Czech Koruna. This led to a sharp downward correction in stock market prices and sizable exchange rate devaluation, followed by significant capital outflows in mid-1997. The government was subsequently forced to tighten fiscal policy and strengthen regulation and supervision of its banking system and capital markets.

*Poland*¹⁰

Official inflows played an important role during the first years of the transition, particularly in financing government deficits. Over the whole 1990-96 period, however, net flows of long-term official credits were close to zero as Poland repaid significant sums. Private capital flows to Poland initially lagged behind those to Czech Republic and Hungary; however, a sizable increase occurred following its commercial debt and debt service reduction agreement in October 1994. The bulk of private capital inflows to Poland after 1994 took the form of FDI—FDI rose from about \$1.8 billion annually in 1993-94, to \$6.6 billion in 1997. Poland became the largest recipient of FDI of the region on a cumulative basis over 1992-96. FDI inflows to Poland were driven by Poland's structural reforms, the de-facto zloty convertibility since 1991 (initially for current account transactions and later for most capital account transactions), moderate fiscal deficits, overall good macroeconomic performance (highest cumulative growth of the region over 1992-97) and favorable prospects for EU-membership. Privatization of state enterprises can explain about 20% of FDI inflows—far less than in Hungary. Most valuable Polish companies have not been privatized yet (copper, telecommunications, energy, insurance and several of the large banks). Portfolio inflows became significant in 1995, with purchases of Treasury bills by foreigners reaching \$1 billion that year—encouraged by high yields and expectations of significant nominal zloty appreciation—and in 1997. In 1996-97, several banks and companies issued medium-term paper in the Eurobond market and benefited from low and declining spreads, reaching under 100 basis points over equivalent US Treasuries in 1997.

Capital inflows and a current account surplus in 1995 were associated with strong monetary and credit expansion and with slow disinflation. A 20 percent real exchange rate appreciation in 1995-96 was followed by a deterioration of the current account balance equivalent to almost 8 percentage points of GDP over 1996-97. The government responded to the above concerns with a more flexible exchange rate regime, sterilized interventions and tightening of monetary and fiscal policy. Instead, Poland virtually did not rely on explicit capital controls to manage adverse capital flows. A permission from the central bank for foreign credits and loans with repayment period of less than 12 months (for services other than commodity circulation and individual's services) appears to have no significant effect on the structure of flows - similar requirements for longer-term loans and credits were lifted as a result of OECD membership negotiations.

The biggest concern in the second half of 1994 and 1995 was the impact on inflation of fast foreign reserve growth. The largest source of foreign reserve accumulation in 1994 and 1995 was "net unclassified transactions" of the current account—\$9.6 billion between 1995 and the first quarter of 1996. These refer mostly to flows on account of cross-border trade and tourism, motivated by high price differentials between Poland and Germany, on one hand, and Poland and countries east on the other. Other substantial (albeit smaller) sources of reserve growth were portfolio and FDI inflows. The government responded with a combination of sterilized interventions and a more flexible exchange rate policy regime. Open market operations trebled between the first half of 1994 and the second half of 1995. The widely-spread perception that the exchange rate was undervalued led to the creation of a wide exchange rate band of +/- 7

10 Based in part on Durjasz and Kokoszczynski, 1997.

percent around the central parity in May 1995. The exchange rate quickly appreciated to the top of the band and by the year-end the band itself was appreciated. Following a slowdown in foreign exchange reserve accumulation since the second quarter of 1996—also facilitated by the liberalization of purchases of foreign assets such as real estate and portfolio investments by residents (an OECD membership requirement)—the central bank was able to reduce its sterilization activities and maintain the exchange rate policy adopted during 1995. The above policies were also supported by a deliberate commitment to lower interest rates as a means to discourage portfolio flows driven by high interest rate differentials. The period did see, though, a rapid surge in domestic credit associated with a hike in domestic aggregate demand and a turnaround of the current account from a 4.6 percent of GDP surplus in 1995 to a deficit of 1 percent of GDP in 1996.

The biggest concern in 1997 was the further deterioration of the external current account. Monetary policy was sharply tightened starting early 1997, with real interest rates in Treasury Bills and Bonds rising from around zero percent in previous years to about 10 percent during the year. To enhance the effectiveness of the monetary policy transmission mechanism, the central bank accepted deposits directly from the public—thus inducing some large state-owned banks to raise their deposit rates. With high domestic interest rates, there was a new surge of portfolio flows. To reduce these inflows, the Government responded by eliminating altogether intra-band exchange rate interventions—thus effectively raising the exchange rate uncertainty faced by short-term speculative capital flows, renewed sterilization activity, and a tighter than anticipated fiscal policy. By October, there was a deceleration of credit growth—and the current account balance ended the year with a 3.2% of GDP deficit, substantially less than what was earlier anticipated.

Estonia

Capital inflows to Estonia were dominated by domestic factors, including the introduction domestic currency linked through a currency board system to the Deutsche Mark (DM), attractive interest rate differentials, structural reforms (especially trade and banking sector reform), and an active privatization program. Capital inflows (beginning in 1993) preceded the economic recovery—following four years of rapid contraction, output growth only resumed in 1995. Capital inflows were initially dominated by FDI-inflows. Since mid-95, however, there has been a relative decline of FDI in overall capital flows and a surge in domestic banks' access to international capital markets. The counterpart of the latter was a rapid surge in private domestic credit. Driven by private aggregate demand (fiscal deficits averaged 0.5 percent of GDP during the 1993-96 period), the current account balance declined from a surplus in 1993 to a deficit of over 10 percent of GDP in 1996 and 13 percent in 1997. Under the currency board regime, the central bank's monetary interventions have been limited to buying and selling foreign exchange to preserve the parity with the DM. Since there has been no intervention through open market operations, base money growth has been driven by demand for domestic assets. Strong demand for domestic assets led to high growth of monetary base, broad money (including foreign exchange deposits) as well as credit between 1992 and 1997. Estonia did not resort to capital controls nor to sterilization.

The fast growth of domestic credit, the declining share of FDI in capital inflows, the high current account deficit and turmoil in Asia since mid-1997, however, prompted the government to tighten banking sector prudential regulations and supervision in late 1997. The latter was aimed at curbing fast credit growth and, only indirectly, at curbing portfolio inflows (since banks were funding domestic credit with Eurobond issues). The creation of a stabilization fund - whereby budget surpluses and public sector deposits were invested in foreign assets abroad - and a number of other measures aimed at tightening monetary policy and regulations were announced in early October 1997. These other measures included the raising of the capital adequacy ratio from 8% to 10%; certain curbs on local government's borrowing; the extension of reserve requirements for the banks to include net borrowing from abroad; and increases in the daily liquidity requirement for banks.

The announcement of these measures, combined with some indications from the government that it would remove public sector deposits from commercial banks to create the stabilization fund, and previously un-anticipated delays in the funding abroad of several domestic banks, led to a liquidity crisis in the banking sector on October 20, 1997. Interest rates jumped over 300 basis points and between October 20 and the end of November the stock market price index lost over 60% of its value. To restore confidence, the central bank decided to bring forward the implementation of the previously announced measures and announced new measures to tighten banking regulations, including a further increase in capital adequacy requirements to 12%—to be implemented at a later (unspecified) stage, and increases in the liquidity ratios of banks. The firm stance of banking regulators and the tightening of fiscal policy were conducive to a significant slowdown of credit growth and to improved liquidity in financial markets.

Hungary¹¹

As reward for its early reform efforts and continuous servicing of its foreign debt, Hungary received large capital inflows (including FDI) from the early 1990s on. Lack of fiscal discipline in 1993-94, however, led to a large surge in its current account deficit, reaching almost 10% of GDP in 1994), and created an unsustainable situation. The foreign exchange crisis in 1994 led to an economic downturn, and large debt financing to the public sector was necessary. Following fiscal adjustment and a devaluation in early 1995, there was a new surge in FDI closely linked to an ambitious privatization program (including the privatization of banks and some utilities). A sharp fiscal adjustment along with an intensification of structural reforms led to a rapid contraction in the current account deficit. Capital inflows declined as the path of fast privatization could not be sustained after 1995.

Sterilized intervention was extensively pursued during the periods in which capital inflows threatened the monetary program. To a lesser extent, capital account liberalization also helped as it led to capital outflows. Exchange rate flexibility, i.e. a devaluation, was used when capital outflow pressures dominated (1994-95). The sharp fiscal adjustment and monetary tightening helped to keep the current account deficit subsequently under control. Strong

11 Based in part on Oblath, 1997.

productivity growth (supported by structural reforms)—unit labor costs declined sharply—has been another key factor keeping the current account to manageable proportions.

Russia

Capital flows to and from Russia were characterized by large official inflows—on average \$3.5 billion in 1993-96, very large capital outflows (“capital flight”)—errors and omissions in the Balance of Payments averaged \$8 billion in 1995-96—and, since 1996, a surge in portfolio in flows, mostly in the form of purchases of Treasury Bills (GKO). The surge in both official and portfolio flows was closely linked with the large financing requirements of the budget—8.1% of GDP on average in 1993-97—and, since 1996, with the government’s strategy to increase the share of foreign financing of fiscal deficits as a way of reducing domestic financial and inflationary pressures. While conditionality attached to official flows has been supportive of ongoing reform efforts in the country, legal uncertainties, weak institutions, criminality and limited opportunities for foreigners to participate in privatizations may explain why foreign direct investment has been relatively (to GDP) low—FDI averaged \$600 million in 1993-94 and \$1.9 billion in 1995-96. However, further increases are anticipated over coming years as a result of reforms conducive to improve the business environment for foreign investors (faster privatization, improvements to the collateral system, land and tax reform, changes to the bankruptcy law, improved transparency in the accounts of state enterprises, national treatment for foreign investors).

The scale of capital outflows (to the extent that they result from tax avoidance or evasion) in part explains the difficulties that the government faces in reducing its deficit. Capital outflows may also help to explain why the sharp tightening of monetary policy in 1996 induced a strong rise in portfolio inflows (as Russians reinvested their money back into the country). Inflation has fallen substantially from 131% in 1995 to 21.8% in 1996 and 11% in 1997. Interest rate declines lagged behind, however, with the average Treasury Bill rate falling from 176% in 1995 to 102% in 1996 and 33% in 1997. The resulting high real interest rates, combined with the sharp real appreciation of the currency in 1995 and 1996, have been key motives behind the surge in portfolio flows targeting fixed income instruments. Portfolio investors, mostly over 200 foreign investment funds, primarily purchased Treasury Bills, with purchases in April 1997 peaking at \$2 billion. As real interest rates declined in 1997, investors have been increasingly targeting traded shares of Russian enterprises—in early 1997, they owned about one-third of such shares or about \$3 billion. Unlike other large capital-importing countries in the region, Russia did not pursue deliberate policies to slow down capital inflows. However, the exchange rate flexibility conferred by its wide exchange rate band has presumably been some deterrent against short-term portfolio flows.

5. Econometric tests and evaluation

The above sections suggest that the reasons for the capital flows are largely the pursuit of economic reform. They also made clear that the factors influencing capital flows have differed by the types of capital flow. Furthermore, policy responses (for example, degree of sterilization, liberalization or imposition of capital controls) have also differed by the degree and type of

capital flows. To make these relationships more precise and to study the separate effects of some of these factors we provide some regression results in this section.

The main aim of the regressions is to try to explain the magnitude of the various types of capital flows for individual countries. Common with the existing literature (e.g., Calvo, Leiderman and Reinhart, 1993, Cuhar, Claessens, and Mamingi, 1998; Hernandez and Rudolph, 1995, and Taylor and Sarnio, 1997; Montiel and Reinhart, 1997, provides a review of this literature), we distinguish two groups of explanatory variables: international factors ("push-factors"); and domestic factors ("pull factors). Push-factors are thought of conditions in global capital markets that influence the supply of capital and are outside the control of a particular recipient country. Pull-factors are thought of as country-specific factors and conditions influencing the interest of foreign capital of investing in that particular country. Some of these factors are under the control of the country; some are initial conditions; and others are outcomes, which are in part influenced by capital flows themselves.

For the group of pull-factors, we use the US-dollar, 6-month LIBOR interest rate, and the economic growth in OECD-countries. We expect that declines in world interest rates will have a positive effect on capital flows to CEE/FSU as that will make the rate of return on investing in these countries higher relative to other alternatives. The effect of an increase in OECD growth rate is less obvious. On one hand, it will likely be associated with a rise in the rate of return on investment in OECD-countries, thus reducing the attractiveness of investing in transition economies. On the other hand, higher growth may raise the supply of savings in OECD-countries, thus stimulating capital flows.

The group of pull-factors is split into policy factors, i.e., "reform efforts," initial conditions, and "outcomes." Obviously, it is difficult to quantify the degree of policy reform a country has been undertaken in absolute terms. The very similar starting position of most of the transition economies—controlled prices, little private sector activity, limited institutional development, etc.—makes it somewhat easier to quantify at least the relative degree of policy reform in CEE/FSU. We use the liberalization index from De Melo et al, 1997, to rank countries in their relative reform efforts. This index, an indicator between 0 and 1, is available for each country and for each year and aims to measure how far the country has progressed in liberalizing prices, trade and private sector activities, including privatization. The initial conditions and outcomes variables are more difficult to separate, as capital flows are likely to interact with and affect current outcomes, which then become initial conditions for subsequent capital flows. We use the country's GDP-growth rates, inflation, fiscal balance, private savings, and, as a creditworthiness indicator, the change in the country's reserves. We lag the change in the country's reserves and the two savings variables by one period to avoid possible simultaneity (as the sum of private, public and foreign savings adds up to the change in reserves). In addition, we also use a dummy for the ten CEE-countries likely to become EU-member.¹²

12 We use the following ten countries that have been identified by the EU as candidates: Czech Republic, Poland, Hungary, Slovenia, Estonia, Romania, Bulgaria, Slovak Republic, Lithuania and Latvia. The first five have recently started negotiations with the EU; we set the dummy equal to two for these countries. For the other five countries, the dummy is set to one, and zero for all other countries.

We focus separately on factors that have likely influenced short-term private capital flows ("arbitrage factors"). In particular, we use the exchange rate adjusted rate of return on holding domestic assets (i.e., the nominal domestic interest rates¹³ minus the rate of change in the local currency/dollar exchange rate) minus the US dollar interest rate. We also investigate the relationship between different types of capital flows and domestic credit growth as for other developing countries important reinforcing effects have been found between private capital flows and the rate of domestic credit expansion. Depending on the quality of financial intermediation, these reinforcing effects can lead to subsequent problems, as has been found for East Asian countries (see Alba et al., 1998).

We perform regressions for seven different classifications of capital flows, focussing mainly on the source of capital: total capital flows, official flows, all private flows, FDI, commercial debt flows, portfolio flows (bonds and equity) and short-term flows. We study both total flows as well as categories within these flows as there might be substitution between the various flows,¹⁴ both in a narrow sense (for example, portfolio flows and FDI can be substituting in a particular transaction) as well as in a broader macro-economic sense (e.g., large inflows of one kind can encourage or deter flows of another kind).

We run our regressions in an unbalanced panel setup using a sample of 21 countries for the years 1992-1996. The panel is unbalanced as we do not have data for our independent variables for each year for each country and private capital outflows figures only for a few countries. We also had to eliminate three countries (Azerbaijan, Turkmenistan and Tajikistan) for lack of reliable data. All our dependent variables, US dollar capital flows, are scaled by US dollar GNP based on the Atlas-method of the World Bank—which uses the moving average of the exchange rate over three years—to convert local currency GNP to US dollar GNP. This way we smooth out the effect of large real exchange rate movements.

We have the option of estimating the regression model with individual effects or with a common constant term. The first, the fixed effects model, assumes that differences across the countries can be captured in differences in the constant term. The other option is to use ordinary least squares and estimate the regression model assuming that the constant term is the same across countries. To determine which type of estimation was most appropriate, we conducted F-tests for each regression, testing the hypothesis that the constant terms are all equal. The results suggested that for total, official, private, FDI and commercial debt flows an estimation using a common constant, in addition to the EU-accession dummy variable, will provide the most consistent and efficient estimators. For the remaining type of flows, portfolio flows and short-term debt flows, the fixed effects model was more appropriate.

13 We used as much as possible the local Treasury bill rate. For those countries where Treasury bill rates were not available, we used the inter-bank interest rate or the bank-lending rate.

14 We would like to thank Michael Dooley for reminding us of this.

We correct for heteroskedasticity in the error terms of the regressions. In particular, the size of the country has an effect on the relationships. We expect that this effect arises for several reasons. First, because of fixed costs of acquiring information, we expect that small countries exhibit a less clear relationship between explanatory variables and capital flows, as investors will expend fewer resources in analyzing small country characteristics. Second, the lumpiness of some of the flows, particularly FDI, but also of official flows, may make for more noisy relationship of flows (when scaled by GDP) for smaller countries. Thirdly, we expect smaller countries to be less economically diversified and more affected by external and internal shocks, thus creating again more noisy relationships. Fourthly, available data are likely more problematic for small countries as their statistical system are less well developed. Plotting the error terms against the size of the country confirm this type of heteroskedasticity. For these reasons we use the estimated cross-section residual variances as weights in the regressions.

In light of the discussion from the previous sections, we start with a benchmark regression for all seven categories of capital flows with the following explanatory variables: reform index, a dummy for EU-accession (which takes the value of two for those five countries currently in negotiations, one for the other five countries, and zero for all other countries), and the change in the level of foreign exchange reserves (with declines in reserves having a positive sign). As a second step we add single additional explanatory variables, keeping the total number of variables thus to four. Results for these seven regressions are presented in Table 4.

We find that the reform and reserves variables are significant explanatory variables of all categories of flows; the EU-dummy is significant for two of the seven categories. Not surprisingly, we find that the effort in undertaking reform in a particular country is positively associated with all types of flows, except for official and portfolio flows. This suggests that reforms were important motivating factors for private capital flows. Reform effort matters too in determining official flows, but with a negative coefficient. This would suggest that official financing went to those countries that have reformed less. The correct interpretation, however, might be that official financing went to those countries that had reformed less initially, but that some conditionality was being applied in official financing. Reform efforts may then have increased following large official flows and over time official flows to those countries that reformed more declined. This overall negative relationship for official flows thus reflects that official flows preceded reform efforts and fell off as reforms progressed.¹⁵ This result suggests that a dynamic model of official capital flows and progress in liberalization is required. The negative sign for the reform variable in the case of portfolio flows likely reflects that a significant part of portfolio flows was directed towards the financing of fiscal deficits, which may have been larger in countries which reformed less.

For FDI, the dummy for EU-accession is positively significant. EU-accession is likely most important for FDI as the prospects of increased integration with Western Europe has meant

15 A regression of reform on lagged official flows indeed confirms this relationship: using a fixed-effect estimator, we find that the coefficient for lagged official flows is significantly positive and has a t-statistic of 2.74.

that both opportunities for favorable investments and overall creditworthiness increased in these countries more than in others.

The negative sign for the lagged change in reserves variable for most flows reflects the fact that increased creditworthiness of countries, i.e., as they increased reserves, motivated further capital flows. The positive sign for the lagged changes in reserves variable for official flows reflects that, at least initially, official financing was made available on a financing needs basis, i.e., as reserves declined, more official financing was made available. Similarly for portfolio flows, much of which was directed to financing of fiscal deficits, financing needs was an important determinant.

As mentioned, we added to this basic regression a number of additional variables, including each separately. Specifically, we included public sector balance, current as well as lagged one period (to avoid simultaneity between foreign and domestic savings), private savings (lagged one period), domestic credit growth, lagged official flows, and the interest differential. We also include the two push variables, LIBOR and OECD growth rates. Rather than presenting all the detailed regressions results, we simply present whether or not the particular additional variable was significant, and if so, with what sign (Table 4).

We find that fiscal surpluses, both contemporaneous and lagged, are positively related with about half of the different types of flows. This suggests that increased fiscal surpluses stimulate foreign savings through a creditworthiness effect. The negative coefficients for official flows show that official flows to the public sector have been associated with larger fiscal deficits (see also the scatter plot in section 3). The coefficient is also negative for portfolio flows, likely as countries with larger fiscal deficits receive more portfolio flows through foreign purchases of government bonds (particularly Russia). Lagged private savings has a negative coefficient for all flows, except for commercial debt flows. This suggests that there is some substitution between foreign and private savings, a general finding for developing countries (see Cohen, 1993). The coefficients are small, however, thus concerns about the sustainability of foreign flows, as they end up financing some share of consumption, may not be too serious. The positive sign for private savings in the commercial debt flows regression may reflect a creditworthiness effect.

Domestic credit growth is significantly negative in case of total private flows, short-term flows and commercial debt flows. This suggests that the typical reinforcing effect of capital flows on domestic credit growth is not prevalent in these countries. This may be because of the poor institutional development of the domestic financial sector. The negative sign may also reflect that the enterprise restructuring required in these countries was often achieved through tight (hard) budget constraints. Countries with had less growth in domestic credit may have been more successful with enterprise restructuring and thus were more likely candidates for private capital flows as their creditworthiness in general increased and as a greater fraction of domestic firms were restructured and thus of interest to foreign investors.

Lagged official flows have a positive effect on almost all types of capital flows. Since the regression already controls for the reform effort of the particular country, which thus captures the degree to which official lenders may have been successful in their reform conditionality,

there is an independent effect of past official lending on private capital flows. This may be because official lending acted as important signal to private creditors regarding the commitment of the country to undertake further reforms.

The interest differential variable is significant for only two of the types of capital flows, portfolio flows and short-term flows. Only for portfolio flows does it have the expected positive sign while for short-term flows the sign is negative. This suggests that, once one controls for a few basic variables, capital flows at large have not been motivated by arbitrage conditions.

Push factors appear to play a role in motivating capital flows, but with the opposite sign from what is commonly found. Specifically, increases in international interest rates are associated with increased capital flows. And higher OECD-growth rates also increase capital flows. This contradictory findings raises some questions of its own, but at least it does not suggest that capital flows to these countries are at risk for increases in international interest rates and OECD growth. It may rather be that increases in OECD-growth enhance the supply of foreign savings available for these countries.

Table 5 provides the regression results for the specification chosen for each type of capital flow. The explanatory variables were chosen after some experimentation to achieve a reasonable overall fit for the regression, within constraints of data availability.

In the case of total flows, reform efforts, EU-accession and changes in reserves have the same sign as before. Additional significant explanatory variables are the lagged fiscal balance and lagged official capital flows, both with a positive coefficient.

Total private capital flows depend strongly on reform efforts. We again find a positive coefficient for those countries with possible accession to the EU and a negative relationship with the lagged change in foreign exchange reserves - which suggests that creditworthiness is an important factor. Higher (lagged) fiscal savings tends to raise private flows, suggesting that creditworthiness and reform perceptions were influenced positively by reduced fiscal deficits. More generally, the positive relationship between private capital flows and fiscal savings suggests a complementarity between public and foreign savings. We also find a positive coefficient for lagged official flows, a possible confirmation of the signal from past official lending on future reforms and creditworthiness. Private capital flows are negatively related to domestic credit growth, suggesting that contractions in credit growth may have served as signal of reform.

In the case of official flows, the results show that reform efforts enter again with a negative (but insignificant) coefficient. Countries that are candidates to become a member of the EU have received less official financing, suggesting that, as they received more private financing and progressed further in reforms, were in less need of official financing. This need for financing is again confirmed in the positive coefficient for the reserve variable, indicating that declines in foreign exchange reserves are associated with more official financing. Lagged fiscal surpluses have a positive relationship with official flows, suggesting official flows were made conditional on past fiscal efforts. However, the high correlation between fiscal surpluses and

reform efforts implies that when the reform variable is removed, the sign of the fiscal surplus variable becomes negative, i.e., there is collinearity between regressors. The interpretation in this latter case is more straightforward - lower fiscal surpluses (higher deficits) are associated with larger official flows. The coefficient for OECD growth rate is significantly positive, suggesting that the supply of official savings may have been a positive function of the business cycle in industrial countries.

FDI, as we showed above, is the most important private capital flows for most countries. In this specification, FDI is dependent as before on the three major independent variables: reform efforts, EU-accession and reserve changes. Not surprisingly, as for all private capital flows, FDI is greatly influenced by reform efforts, as the t-statistic for the reform index is large. Lankes and Stern (1997), and Martin and Selowsky (1997) had already noted this. Lagged official flows are positively significant, suggesting again a signaling function of official flows.

Portfolio flows appear to be driven by a number of factors, some of which are collinear, thus leading to mostly insignificant coefficients when many variables are included. The best regression result is then also not very informative. Fiscal balance (lagged one period) now appears to increase portfolio flows, a finding different from the earlier regression where the opposite coefficient was found. Interestingly, the interest rates differential variable is not significant. As noted, not all of these relationships are robust to inclusion of other independent variables, in part likely due to the collinearity of the independent variables, but also because portfolio flows are relatively small and have occurred only in more recent years, thus leading to weaker relationships.

Lastly, we regressed the flow of short-term debt flows and commercial debt flows. As noted, short-term debt has become a large share of private capital flows in recent years for a number of countries. Private debt flows and short-term debt flows appear to be driven by the same factors, except for reform efforts. The degree of reform matters in a positive way for commercial debt flows and negatively for short-term debt flows. The negative sign for short-term flows, which differs from the results in Tables 4, could reflect that lenders were less willing to extend long-term funds, and relatively more willing to extend short-term funds, to countries which had undertaken less reform. Increases in reserves lead to larger commercial debt and short-term flows (the latter is insignificant, however). This suggests that creditworthiness also matters for these flows. Private debt flows appear to be substitutes to domestic private savings as the coefficients are negative. Lastly, OECD growth rates matter for short-term flows. We find no evidence of a push effect, as the coefficient for the LIBOR interest rates is insignificant; in other words, the decline in international interest rates has not stimulated commercial debt or short-term flows. Arbitrage factors, i.e., the interest differential, do not appear to have a significant effect on short-term flows, which is somewhat surprising.

In short, the overall results indicate that flows are driven for most countries by fundamental reforms and creditworthiness. The possibility of EU-accession has been an important determinant of private flows, especially FDI. For official flows, EU-accession seems to have lowered the need for official flows. Increased fiscal savings has led to higher volumes for most flows, while increased private savings have been associated with lower capital flows -

suggesting some degree of substitutability between private and foreign savings. Official flows appear to have had important signaling value for private capital flows. For no flows did high interest rates differentials (adjusted for exchange rate movements) appear to have mattered. Push effects are only found for commercial debt and short-term debt flows, with growth in OECD-countries encouraging flows to the region.

6. Conclusions and Forward-Looking Issues

Capital flows to CEE/FSU have been increasing rapidly in recent years—a growth rate of 34% per annum over the 1991-1997 period, but are still a small fraction of global capital flows to developing countries (about 18% in 1997). As structural reforms have progressed, the composition of flows has changed with official flows declining and private capital flows increasing and accounting for about 73% of total flows by 1997. Within private capital flows, FDI was the most important followed by portfolio flows. As the direct and spillover effects of FDI on human, technological and physical capital accumulation are crucial for the fast and effective integration of the transition economies to the world economy, this bodes well for these countries.

Perhaps more than in other developing countries, reform efforts have been the most important determinant of private flows, particularly, of FDI. Other consistent determinants of private flows have been prospective EU membership—the 10 countries that applied for EU membership attracted more private flows (and relied less on official flows)—and creditworthiness—creditworthiness proxies such as increases in reserves, lower fiscal deficits, greater past official flows were mostly positively correlated with greater private flows. The association between declines in private savings and higher private debt flows, however, causes some concerns.

One key policy implication is that the sustainability of capital flows is associated with the sustainability of reform efforts. The consistency and continuity of structural reforms—particularly those that are conducive to EU integration and improved creditworthiness—can influence the source (official versus private) as well as the type of private capital flow (for example, the reform's impact on FDI-flows is positive while the impact on short-term debt flows is negative). This, in turn, implies that reform efforts matter not just for the level of capital flows, but also for the maturity and potential volatility of flows.

The shift from debt-creating flows to the public sector in the 1980's to non-debt creating flows to the private sector in the 1990s has also implications for the efficiency of resource and risk allocation. For one, private recipients of capital have better incentives to allocate capital into higher return projects. The shift to non-debt creating flows, in turn, implies a better risk-sharing arrangement (of fixed-term foreign currency obligations) vis-à-vis foreign investors.

Another feature of capital flows to the region has been the increase in the share of short-term debt and portfolio flows since 1993. The concentration of these, potentially more volatile short-term flows in 1993-96 in a few countries, raises questions about sustainability of capital flows and vulnerability to international shocks in these economies. For the majority of countries

in the region, however, the absolute and relative level of short-term foreign obligations is small compared to the size of their economies as well as compared to the high levels of their foreign exchange reserves.

So far, only a few countries have had to deal with episodes of overheating. Looking forward, it is likely that more countries will have to deal with the constraints that the level and structure of external liabilities may pose on macroeconomic and financial policy. The experiences in the region confirm global lessons: dealing with overheating requires determined, counter-cyclical fiscal policies (to counter the potential overheating caused by large capital inflows), and better supervision and tighter prudential regulations on the financial sector (such as raising reserve requirements on foreign borrowings). Sterilization of inflows and exchange rate flexibilization can be effective in the short-run to reduce large capital inflows and their impact, but are usually constrained by quasi-fiscal implications (in the case of sterilization) and by competitive pressures (in the case of exchange rate flexibilization), e.g., from exporters.

Looking forward, our analysis raises two other issues of potential concern: fiscal sustainability and the quality of domestic financial intermediation. As already pointed out by Buitier (1996), some countries appear to face fiscal sustainability issues, especially when including public off-balance sheet activities. Buitier highlights the combination of high domestic real interest rates and the rapid buildup of domestic liabilities, both explicit and implicit through the banking systems. We find evidence here of potential problems with fiscal sustainability from an external perspective as capital flows are sometimes associated with larger fiscal deficits and high interest rates, a combination that is seldom sustainable. For transition economies, potential or hidden liabilities in state-owned enterprises (e.g., resulting from poor governance), in weak financial institutions, and in insolvent social security and health systems thus need to be carefully monitored. The risk otherwise may be a sudden decline in perceived creditworthiness, leading to a sharp contraction or reversal of private flows.

A second concern relates to the quality of domestic intermediation of (external and domestic) funds. The quality of the financial sectors in transition economies is still weak. Cross-country indicators of quality of domestic intermediation (such as those in the annual reports of the EBRD) suggest for some countries a limited institutional development and a weak financial condition, including large amounts of non-performing loans. While we did not find that the quality of financial intermediation itself was an important explanatory factor of capital flows, it would be useful to further analyze the issue of banking fragility, also as that has been an issue in other emerging markets and likely a key policy area. A particularly useful area of research could be to investigate the interactions between high domestic credit growth, weak domestic financial intermediation and the type of capital flows.

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**Table 1. Capital Flows to CEE and FSU Countries: Descriptive Statistics
(% of GDP, per annum)**

	Total Capital	Private Capital	Official Capital	FDI	Portfolio	Commercial Debt	Short Term Debt
Mean	5.92	3.22	2.70	1.98	0.41	0.85	0.56
Median	4.89	2.11	1.78	1.03	0.00	0.18	0.12
Maximum	21.02	17.48	15.04	17.48	10.15	10.92	13.10
Minimum	-3.12	-1.95	-2.98	0.00	-3.33	-2.98	-10.67
Std. Dev.	4.84	3.73	3.57	2.61	1.66	1.89	2.49

Table 2. Size and Composition of Net Capital Flows
(millions of US\$)

	1990	1991	1992	1993	1994	1995	1996	1997
Central Europe, Baltics and FSU:								
<i>By Source</i>								
Private Flows	-4047	4700	13231	18939	14693	31231	32930	41748
Official Flows	4946	13237	10423	10001	10914	12578	11440	15587
Grants (excl. tech. coop.)	640	3924	4718	3683	4895	5217	2479	4269
IMF	328	3641	1836	2045	2352	4745	3325	3400
<i>By Type¹</i>								
Long Term Debt Flows	10011	6863	12932	11528	5481	9269	12351	20030
Short Term Debt Flows	-11181	-262	-104	-107	2720	3106	2522	3480
Foreign Direct Investment	300	2246	3237	5696	6406	16116	14440	14939
Portfolio	1071	1422	1047	6194	3756	5177	9144	8890
Central Europe and Baltics								
<i>By Source</i>								
Private Flows	749	4179	2538	16018	12448	28072	21111	
Official Flows	585	5259	4191	3181	4223	4665	2600	
Grants (excl. tech. coop.)	40	3380	2116	1477	2386	3749	1404	
IMF	328	3641	823	206	107	-2723	-795	
<i>By Type¹</i>								
Long Term Debt Flows	1893	9291	5448	18026	14393	26085	21513	
Short Term Debt Flows	974.1	2541	1215.6	6027	3588	8131	6909	
Foreign Direct Investment	-780.5	-761.9	-1144.2	379	2201	3483	2272	
Portfolio	300	2449	3507	5220	4978	11874	9370	
Portfolio	1071	1422	1047	6194	3519	5321	3757	
Former Soviet Union								
<i>By Source</i>								
Private Flows	-4796	521	10693	2921	2245	3159	11818	
Official Flows	4361	7978	6232	6820	6691	7913	8840	
Grants (excl. tech. coop.)	600	544	2602	2206	2509	1468	1075	
IMF	0	0	1013	1839	2245	7468	4120	
<i>By Type¹</i>								
Long Term Debt Flows	-1363	4619	13500	7329	6321	12328	20269	
Short Term Debt Flows	9037	4322	11716	5501	1893	1138	5442	
Foreign Direct Investment	-10400	500	1040	-486	518	-377	250	
Portfolio	0	-203	-269	475	1428	4242	5070	
Portfolio	0	0	0	0	237	-143	5387	

Source: Global Financial Development, World Bank 1998. 1997 data is preliminary and is only available for the whole region.

1/ Excluding IMF, grants and technical cooperation.

Table 3. Non-Equity Portfolio Flows and Interest Rate Differential

	Poland			Czech Rep.			Slovak Rep.			Hungary			Russia		
	1995	1996	1997	1994	1995	1996	1994	1995	1996	1994	1995	1996	1994	1995	1996
Non Equity Portfolio (in US\$ millions)	250	-531	2200	733	1288	562	218	210	-264	2124	1729	-1873	-184	-1576	2320
Interest Rate Differential (%)	14.4	7.6	0.2	8.3	15.6	6.1	5.5	19.4	5.1	6.4	4.7	-2.3	n.a.	22.1	57.5

Note: * Breakup in bonds and equity flows is not available for Poland for 1997, figure reflects total portfolio investment.

Table 4. Regressions Results - Benchmark Model

	Dependent Variable						
	Total Flows	Total Private Flows	Official Flows	FDI	Portfolio	Short Term	Commercial Debt
Reform Index _t	2.5945 (2.19)	4.0827 (16.94)	-4.2019 (-5.53)	0.8901 (3.07)	0.0146 (18.39)	0.5362 (10.91)	1.1191 (5.51)
EU-Accession	0.9688 (1.68)	2.3376 (3.06)		1.5104 (6.99)	1.4364 (2.43)		
Reserves _{t-1}	-0.1434 (-3.59)	-0.0516 (-2.25)	0.0572 (3.77)	-0.0359 (-3.70)	-0.0023 (-10.84)		-0.0261 (-3.23)
Adj R ²	0.44	0.33	0.50	0.25	0.00	0.01	0.07
No. Obs.	77	77	77	77	77	104	77
<i><u>Pull Factors</u></i>							
Fiscal Balance _{t-1}	+	ns	+ / - ⁴	-	-	+	+
Fiscal Balance _t	+	ns	+ / - ⁴	ns	-	+	+
Private Savings _{t-1}	-	-	-	-	-	-	+
Domestic Credit _t	ns	-	ns	ns	ns	-	-
Official Flows _{t-1}	+	+		+	ns	ns	-
Interest Rate Differential	ns	ns	ns	ns	+	-	ns
<i><u>Push Factors</u></i>							
LIBOR	ns	+	+	+	+	ns	ns
OECD Growth Rate	ns	+	+	+	ns	+	+

Notes:

1. The estimation procedure is Generalized Least Squares with cross section residual variances as weights.
2. ns = no significant; + = positive significant; - = negative significant.
3. t statistics are in parentheses.
4. Due to a high correlation between reform index and fiscal balance (0.83), the sign of the coefficient for fiscal balance becomes negative when reform index is dropped from the regression.

Table 5. Panel Data Regressions - Extended Model

	Dependent Variable						
	Total Flows	Total Private Flows	Official Flows	FDI	Portfolio ¹	Short Term Debt ¹	Commercial Debt ¹
Reform Index _t	2.797 (3.67)**	4.506 (9.82)**	-0.638 (-0.90)	1.472 (6.47)**		-3.286 (-2.91)**	1.665 (1.74)**
EU-Accession	0.643 (1.87)**	2.521 (3.43)**	-2.408 (28.59)**	1.896 (10.93)**			
Reserves _{t-1}	-0.0754 (1.70)**	-0.1185 (-6.72)**	0.0441 (3.02)**	-0.0394 (-5.05)**		-0.0307 (-1.24)	-0.0541 (-2.07)**
Fiscal Balance _{t-1}	0.0478 (2.11)**	0.0843 (2.98)**	0.0394 (2.70)**	-0.0125 (-1.19)	0.0976 (2.00)**		
Private Savings _{t-1}						-0.0243 (-2.14)**	-0.0161 (1.81)**
Domestic Credit _t		-0.0267 (-13.76)**					
Official Flows _{t-1}	0.7074 (9.23)**	0.2143 (5.26)**		0.2027 (10.41)**	0.0760 (1.43)*		
LIBOR _t					-0.3029 (-1.24)		
OECD Growth Rate _t			0.0912 (2.09)**			0.3496 (2.51)**	
Adj R ²	0.49	0.80	0.75	0.46	0.34	0.36	0.92
No. Obs.	74	72	74	74	78	76	76
F value	0.24	1.41	0.73	0.67	3.11	3.00	4.2

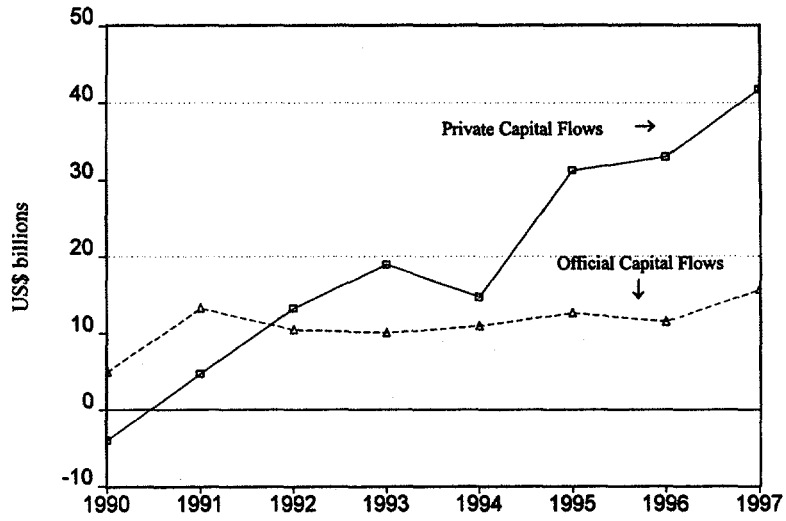
Note:

1/ Fixed effects model estimation was used for these type of flows, given that the hypothesis that the country effects are the same was rejected (see F values).

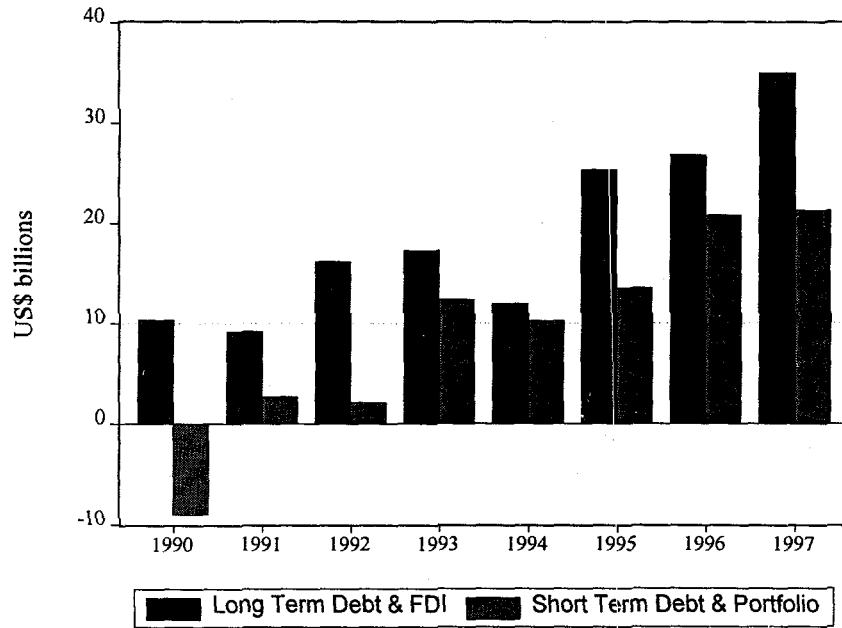
* Significant at 10 percent level.

** Significant at 5 percent level.

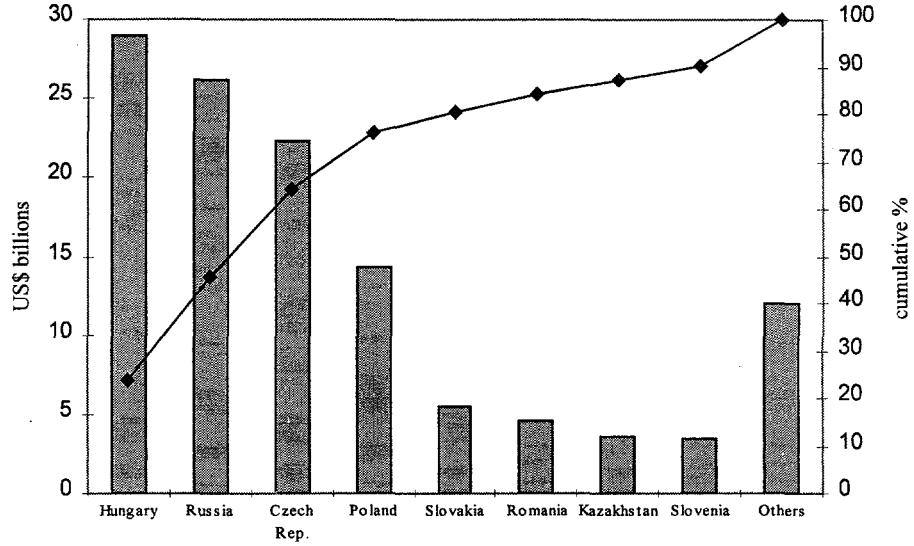
**Figure 1. Official vs Private Capital Flows
CEE and FSU Countries**



**Figure 2. Long Term and Short Term Capital Flows
CEE and FSU Countries**



**Figure 3. Major Recipients of Private Capital Flows
1990-96**



**Figure 4. Major Recipients of Official Capital
1990-96**

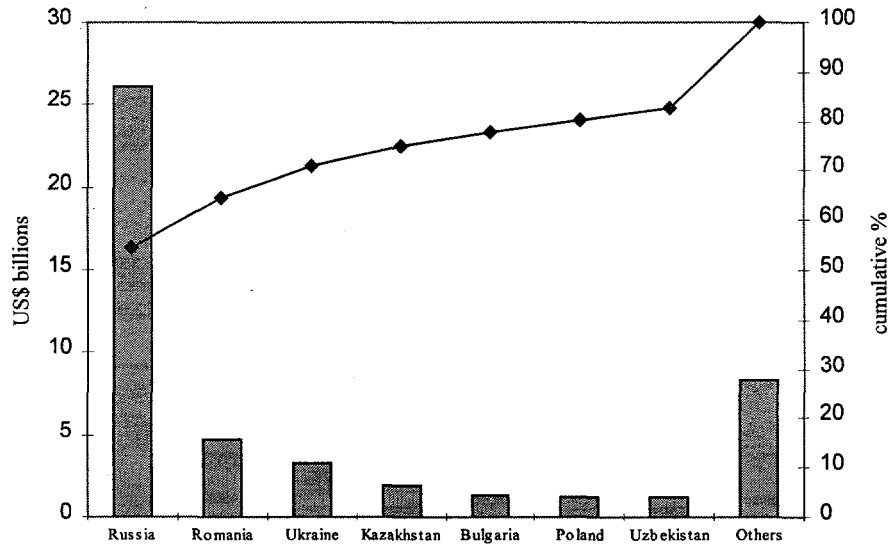
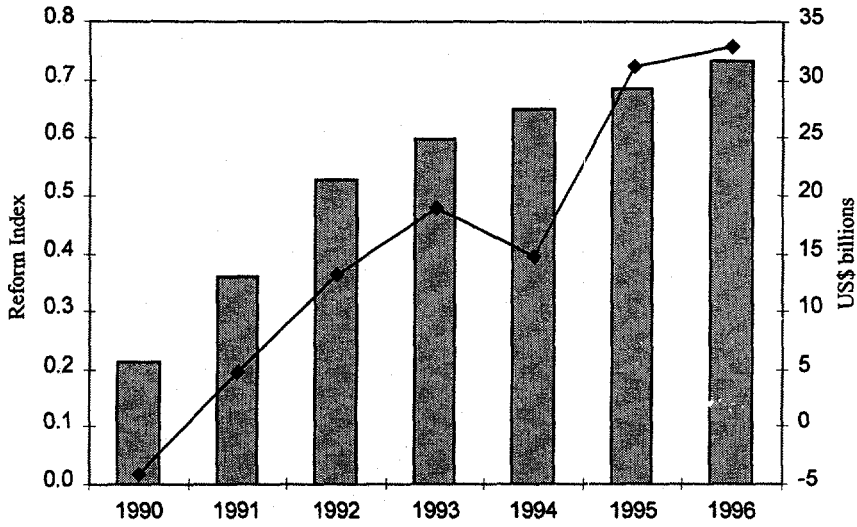
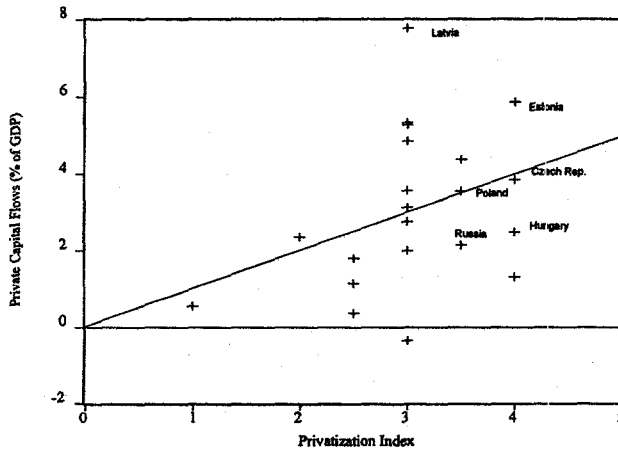


Figure 5. Net Private Capital Flows and Reform Efforts



**Figure 6. Net Private Capital Flows vs Privatization Progress
Average 1992-96**



Note: privatization index is obtained from EBRD Transition Report.

**Figure 7. Domestic Savings and Net Private Capital Flows
(Average 1992-96)**

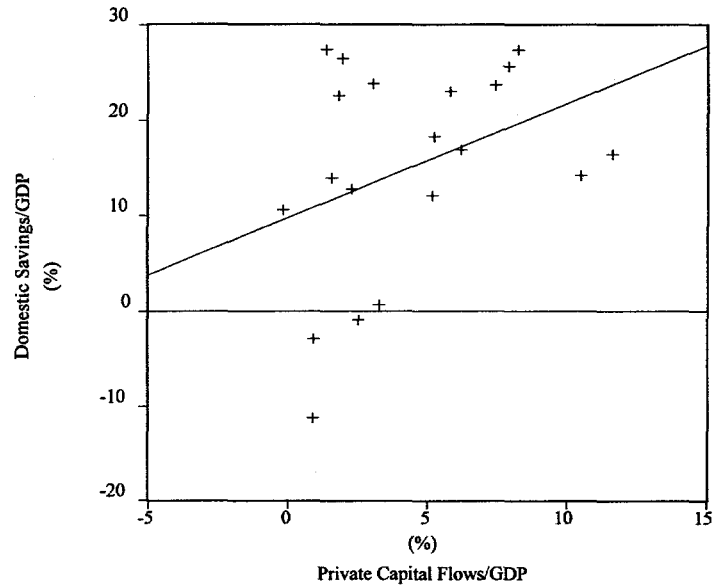


Figure 8a.
FDI vs Real Credit Growth

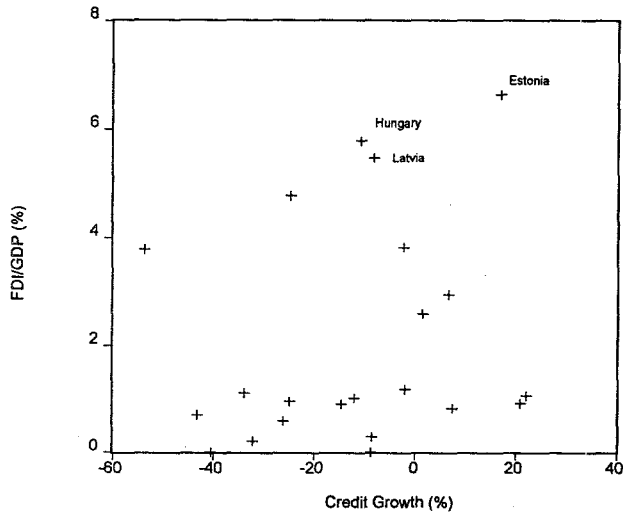


Figure 8b.
Private Debt Flows vs Real Credit Growth

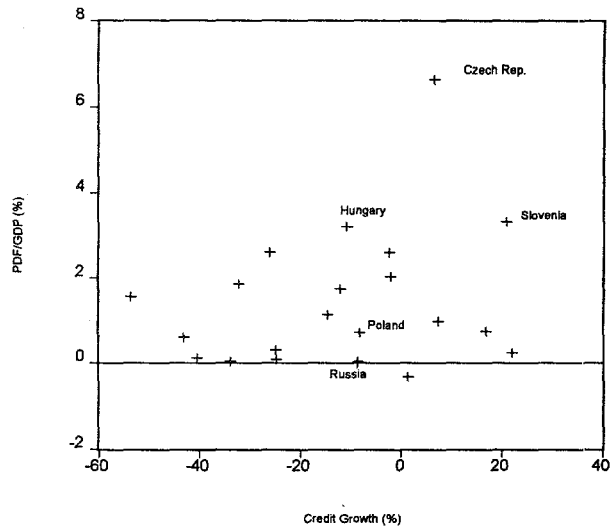


Figure 9a
FDI vs GDP growth

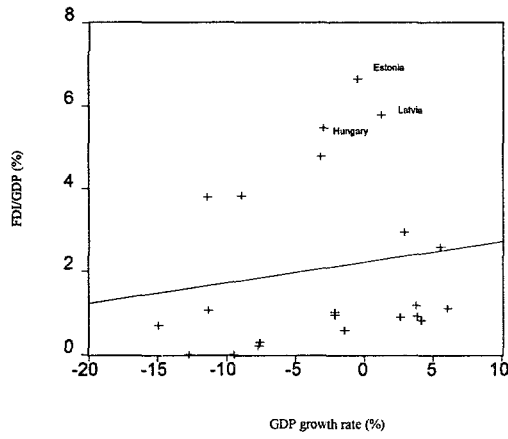


Figure 9.b
Net Private Debt Flows vs GDP growth

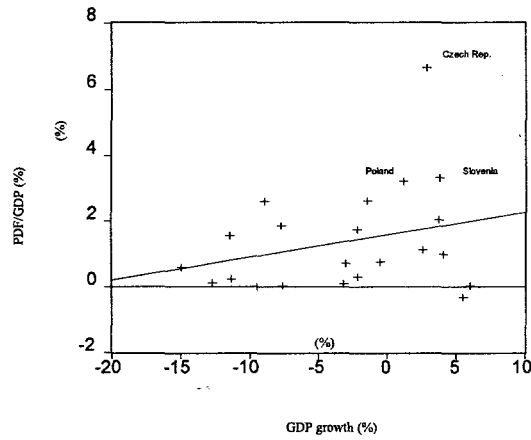


Figure 9c
Portfolio Flows vs GDP growth

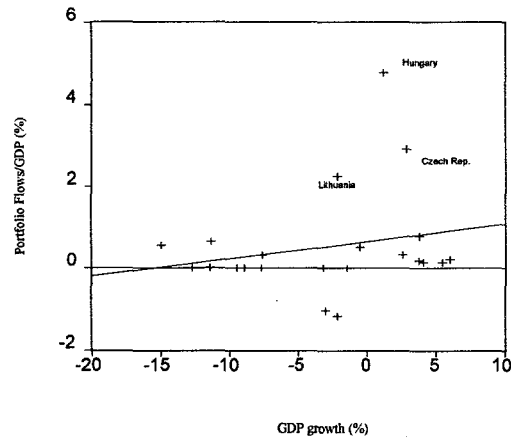
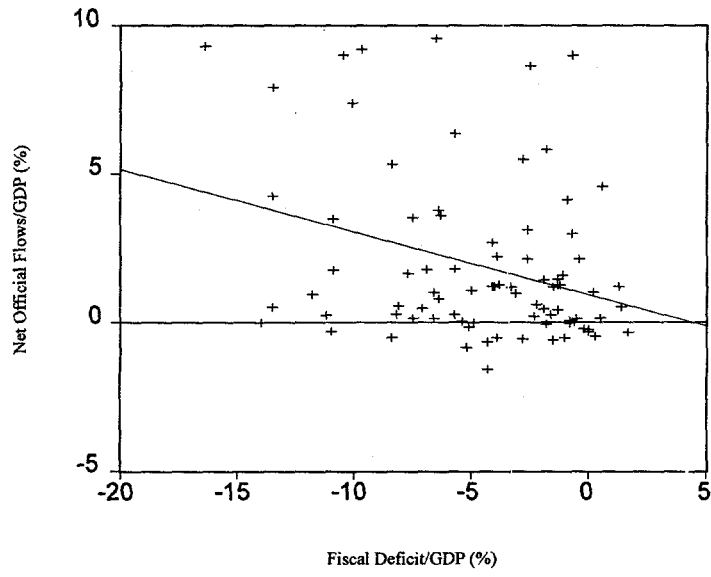


Figure 10.
Official Capital Flows and Fiscal Deficit



Annex 1. Net Capital Flows to Central Europe and Former Soviet Union Countries
(in US\$ millions)

	1990	1991	1992	1993	1994	1995	1996
Central Europe and Baltics							
Albania							
Official Flows	2	340	397	261	161	157	204
Private Flows	270	136	93	196	48	-108	61
o/w: FDI	0	0	20	58	53	70	90
Portfolio	0	0	0	0	0	0	0
Short Term Debt	239	107	70	122	3	-178	-31
Commercial Debt	31	28	3	16	-8	0	2
Total Flows	272	476	490	458	209	49	265
US\$ GNP	2106	1109	673	1825	1986	2478	2750
Total Flows/GNP (%)	12.9	42.9	72.8	25.1	10.5	2.0	9.6
Bulgaria							
Official Flows	61	545	337	354	715	-214	-42
Private Flows	-66	101	-612	-10	-240	39	-39
o/w: FDI	4	56	42	55	105	90	115
Portfolio	0	0	0	0	-231.8	-65.7	-166.9
Short Term Debt	-24	15	-733	-32	288	113	327
Commercial Debt	568	-111	30	80	-34	-194	-75
Total Flows	-5	646	-275	344	475	-175	-81
US\$ GNP	19083	10009	10258	10623	9784	12449	9111
Total Flows/GNP (%)	0.0	6.5	-2.7	3.2	4.9	-1.4	-0.9
Croatia							
Official Flows				-96	55	87	19
Private Flows				74	98	81	548
o/w: FDI				74	98	81	349
Portfolio				0	0	0	133
Short Term Debt				55	117	249	-10
Commercial Debt				12	99	165	455
Total Flows				-21	153	168	567
US\$ GNP				11552	14101	17988	19036
Total Flows/GNP (%)				-0.2	1.1	0.9	3.0
Czech Republic							
Official Flows	-24	1254	648	173	-1075	28	-1
Private Flows	250	1440	-228	3661	3132	8725	6253
o/w: FDI	207	400	600	564	762	2568	1435
Portfolio	0	183	36	1601	855	1362	726
Short Term Debt	-593	-257	-346	205	886	2250	797
Commercial Debt	669	417	-551	659	757	2507	3124
Total Flows	226	2694	421	3834	2057	8753	6252
US\$ GNP	31599	24324	27897	31119	36001	47071	54210
Total Flows/GNP (%)	0.7	11.1	1.5	12.3	5.7	18.6	11.5
Estonia							
Official Flows			93	122	46	95	77
Private Flows			104	163	195	200	408
o/w: FDI			82	162	214	202	150
Portfolio			0	0	-14	-22	145
Short Term Debt			0	0	8	22	77
Commercial Debt			22	0	-13	-1	-4
Total Flows			197	285	242	295	485
US\$ GNP			4326	3900	3795	4064	4353
Total Flows/GNP (%)			4.6	7.3	6.4	7.3	11.1

Annex I. Net Capital Flows to Central Europe and Former Soviet Union Countries
(in US\$ millions)

	1990	1991	1992	1993	1994	1995	1996
Hungary							
Official Flows	431	2071	272	203	56	-902	-790
Private Flows	247	1414	2245	8307	5403	10771	834
o/w: FDI	0	1462	1479	2339	1144	4519	1982
Portfolio	1071	1166	1011	3918	2595	2577	64
Short Term Debt	-366	-763	109	-281	392	806	156
Commercial Debt	-1379	-1617	-1331	-966	-984	775	-428
Total Flows	678	3485	2517	8510	5458	9868	44
US\$ GNP	31641	32073	35994	37410	40104	42876	43411
Total Flows/GNP (%)	2.1	10.9	7.0	22.7	13.6	23.0	0.1
Latvia							
Official Flows			106	185	127	44	56
Private Flows			43	55	230	359	342
o/w: FDI			29	45	215	245	325
Portfolio			0	0	0	43	0
Short Term Debt			0	5	1	25	13
Commercial Debt			-9	5	15	3	3
Total Flows			149	240	357	402	397
US\$ GNP			6365	5333	5475	4925	5025
Total Flows/GNP (%)			2.3	4.5	6.5	8.2	7.9
Lithuania							
Official Flows			102	248	161	173	189
Private Flows			12	80	42	152	736
o/w: FDI			10	30	31	72	152
Portfolio			0	0	0	4	181
Short Term Debt			5	2	22	20	107
Commercial Debt			-3	47	-12	56	136
Total Flows			114	328	202	325	925
US\$ GNP			11303	7674	7522	7227	7688
Total Flows/GNP (%)			1.0	4.3	2.7	4.5	12.0
Macedonia							
Official Flows				-11	-2	92	86
Private Flows				16	11	-4	93
o/w: FDI				0	24	14	8
Portfolio				0	0	0	0
Short Term Debt				16	2	-18	85
Commercial Debt				0	-15	0	0
Total Flows				5	9	88	179
US\$ GNP				1901	1761	1926	2003
Total Flows/GNP (%)				0.3	0.5	4.6	8.9
Poland							
Official Flows	435	3031	1353	950	2856	1931	913
Private Flows	104	604	613	2032	917	4629	5503
o/w: FDI	89	291	665	1697	1846	3617	4445
Portfolio	0	0	0	400	143	1171	938
Short Term Debt	33	69	-97	-109	-436	-637	7
Commercial Debt	-17	244	45	44	-774	227	-103
Total Flows	539	3635	1966	2982	3773	6560	6416
US\$ GNP	55620	73621	82702	84701	91233	118180	134110
Total Flows/GNP (%)	1.0	4.9	2.4	3.5	4.1	5.6	4.8
Romania							
Official Flows	22	1045	1466	845	789	425	973
Private Flows	27	226	-14	372	685	1023	2355
o/w: FDI	0	37	73	87	341	417	263
Portfolio	0	0	0	0	1	1	1040
Short Term Debt	22	78	-227	131	74	337	-488
Commercial Debt	4	111	140	154	269	268	510
Total Flows	49	1271	1452	1217	1474	1448	3328
US\$ GNP	38400	28847	25026	26229	29955	35424	35107
Total Flows/GNP (%)	0.1	4.4	5.8	4.6	4.9	4.1	9.5

Annex 1. Net Capital Flows to Central Europe and Former Soviet Union Countries
(in US\$ millions)

	1990	1991	1992	1993	1994	1995	1996
Slovakia							
Official Flows	-14	560	186	174	312	-11	14
Private Flows	187	163	-156	976	1214	1153	2557
<i>a/w:</i> FDI	0	0	0	199	203	183	281
Portfolio	0	73	0	275	204	264	60
Short Term Debt	-91	-11	75	148	521	478	1232
Commercial Debt	278	27	-230	80	83	228	604
Total Flows	173	723	30	1150	1526	1142	2571
US\$ GNP	15497	10811	11757	11984	13652	17322	18919
Total Flows/GNP (%)	1.1	6.7	0.3	9.6	11.2	6.6	13.6
Slovenia							
Official Flows			0	-84	-37	-62	-30
Private Flows			113	356	690	840	1495
<i>a/w:</i> FDI			113	112	131	176	186
Portfolio			0	0	-32.5	-13.5	637
Short Term Debt			0	117	324	16	-1
Commercial Debt			0	127	267	662	510
Total Flows			113	272	652	778	1465
US\$ GNP			12367	12622	14493	18873	18713
Total Flows/GNP (%)			0.9	2.2	4.5	4.1	7.8
Former Soviet Union							
Armenia							
Official Flows			22	184	256	238	217
Private Flows			38	-7	8	15	28
<i>a/w:</i> FDI			0	-0	8	14	18
Portfolio			0	0	0	0	10
Short Term Debt			38	-7	0	1	0
Commercial Debt			0	0	0	0	0
Total Flows			60	177	264	253	244
US\$ GNP			1037	998	1168	1443	1621
Total Flows/GNP (%)			5.8	17.7	22.6	17.5	15.1
Azerbaijan							
Official Flows				13	212	263	175
Private Flows				0	28	277	606
<i>a/w:</i> FDI				0	22	275	601
Portfolio				0	0	0	0
Short Term Debt				0	6	2	5
Commercial Debt				0	0	0	0
Total Flows				13	240	540	781
US\$ GNP				4738	3865	3751	3595
Total Flows/GNP (%)				0.3	6.2	14.4	21.7
Belarus							
Official Flows			272	477	231	365	71
Private Flows			173	126	159	159	9
<i>a/w:</i> FDI			7	10	15	20	18
Portfolio			0	0	0	0	0
Short Term Debt			0	0	55	36	1
Commercial Debt			166	116	89	103	-10
Total Flows			445	603	390	525	80
US\$ GNP			30875	26947	22553	21664	22165
Total Flows/GNP (%)			1.4	2.2	1.7	2.4	0.4
Georgia							
Official Flows			5	219	306	245	228
Private Flows			21	-5	482	-438	37
<i>a/w:</i> FDI			0	0	6	8	40
Portfolio			0	0	0	0	0
Short Term Debt			0	0	470	-446	-3
Commercial Debt			22	-5	6	0	0
Total Flows			26	214	788	-193	265
US\$ GNP			5782	4188	3589	4179	4471
Total Flows/GNP (%)			0.4	5.1	21.9	-4.6	5.9

Annex 1. Net Capital Flows to Central Europe and Former Soviet Union Countries
(in US\$ millions)

	1990	1991	1992	1993	1994	1995	1996
Kazakhstan							
Official Flows			12	267	663	546	511
Private Flows			126	312	458	1228	1416
o/w: FDI			100	150	185	940	1110
Portfolio			0	0	0	7	0
Short Term Debt			9	-9	127	93	2
Commercial Debt			17	171	146	188	105
Total Flows			138	579	1121	1774	1927
US\$ GNP			26795	25301	19622	19348	20949
Total Flows/GNP (%)			0.5	2.3	5.7	9.2	9.2
Kyrgyz Republic							
Official Flows			4	203	205	218	199
Private Flows			0	10	38	100	233
o/w: FDI			0	10	38	96	46
Portfolio			0	0	0	2	-2
Short Term Debt			0	0	0	2	6
Commercial Debt			0	0	0	0	0
Total Flows			4	213	243	318	431
US\$ GNP			2260	1971	1486	1534	1673
Total Flows/GNP (%)			0.2	10.8	16.4	20.7	25.8
Moldova							
Official Flows			31	185	233	167	83
Private Flows			17	0	13	79	140
o/w: FDI			17	0	12	64	41
Portfolio			0	0	0	0	0
Short Term Debt			0	0	1	0	25
Commercial Debt			0	0	0	15	74
Total Flows			48	185	245	246	222
US\$ GNP			2823	2960	1878	2053	1774
Total Flows/GNP (%)			1.7	6.2	13.1	12.0	12.5
Russia							
Official Flows	4033	4337	4367	4004	3590	6448	6889
Private Flows	-4486	724	10250	1455	-78	602	6988
o/w: FDI	0	0	0	0	637	2017	2142
Portfolio	310	0	0	0	237	-669	5029
Short Term Debt	-10400	500	900	-600	-500	110	-150
Commercial Debt	5293	529	9350	2055	-418	-46	-54
Total Flows	-453	5061	14617	5459	3512	7050	13877
US\$ GNP	577910	540620	424810	383900	320710	351220	432384
Total Flows/GNP (%)	-0.1	0.9	3.4	1.4	1.1	2.0	3.2
Tajikistan							
Official Flows			10	25	240	94	105
Private Flows			0	68	10	15	16
o/w: FDI			0	0	10	15	16
Portfolio			0	0	0	0	0
Short Term Debt			0	0	0	0	0
Commercial Debt			0	68	0	0	0
Total Flows			10	93	250	109	121
US\$ GNP			2984	2933	2163	2146	2030
Total Flows/GNP (%)			0.3	3.2	11.6	5.1	5.9
Turkmenistan							
Official Flows				164	62	9	-75
Private Flows				82	94	-58	624
o/w: FDI				0	0	0	108
Portfolio				0	0	0	0
Short Term Debt				0	80	-72	269
Commercial Debt				82	14	-1	247
Total Flows				246	157	-49	548
US\$ GNP				5708	4374	4424	4346
Total Flows/GNP (%)				4.3	3.6	-1.1	12.6

Annex 1. Net Capital Flows to Central Europe and Former Soviet Union Countries
(in US\$ millions)

	1990	1991	1992	1993	1994	1995	1996
Ukraine							
Official Flows			625	424	673	1644	1033
Private Flows			462	332	439	530	887
<i>o/w</i> : FDI			0	0	151	257	350
Portfolio			0	0	0	517	350
Short Term Debt			93	38	81	-24	215
Commercial Debt			369	170	214	-17	109
Total Flows			1087	756	1112	2174	1920
US\$ GNP			91418	69563	51917	48387	43436
Total Flows/GNP (%)			1.2	1.1	2.1	4.5	4.4
Uzbekistan							
Official Flows			61	460	-22	454	269
Private Flows			1	345	405	271	425
<i>o/w</i> : FDI			1	102	155	157	169
Portfolio			0	0	0	0	0
Short Term Debt			0	92	199	-79	-120
Commercial Debt			0	151	51	193	376
Total Flows			62	805	383	725	694
US\$ GNP			20177	21880	22996	23110	23907
Total Flows/GNP (%)			0.3	3.7	1.7	3.1	2.9

Source: Global Development Finance, World Bank 1998.

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