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## Financing the transition: Risks and benefits of integrating into the international capital market

Kiel Working Paper, No. 818

**Provided in Cooperation with:**

Kiel Institute for the World Economy – Leibniz Center for Research on Global Economic Challenges

*Suggested Citation:* Buch, Claudia M.; Heinrich, Ralph P. (1997) : Financing the transition: Risks and benefits of integrating into the international capital market, Kiel Working Paper, No. 818, Kiel Institute of World Economics (IfW), Kiel

This Version is available at:

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# Kiel Working Papers

Kiel Working Paper No. 818

## **Financing the Transition**

**Risks and Benefits of Integrating into the International Capital Market**

by

Claudia M. Buch, and Ralph P. Heinrich



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ISSN 0342 - 0787

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June 1997

764895

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### **Abstract**

This paper surveys the theoretical and empirical evidence on capital account convertibility and assesses its relevance for the reform states of Central and Eastern Europe. Its major findings are that domestic investment conditions matter and that domestic policies can reduce the risk of an abrupt reversal of capital flows. Policy-makers must stand ready to adjust the exchange rate but also their fiscal and monetary policies once signs of overheating appear. The effectiveness of controls on capital flows is highly questionable. Moreover, capital controls raise the irreversibility of investment projects and may cause the postponement of investment decisions. The countries under review have made substantial progress towards capital account convertibility and should continue on this track as they strive for membership in the EU.

[123 words]

JEL keywords: F21 (International Investment; Long-Term Capital Movements); F41 (Open Economy Macroeconomics); F32 (Current Account Adjustment; Short-Term Capital Movements)

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## O. Motivation

Rebuilding the capital stock of the emerging market economies in Central and Eastern Europe is one of the main challenges of the reform process. The adjustment of relative prices at the beginning of the transition period has sharply reduced the value of the existing capital and rendered large parts of it virtually obsolete. Sustained growth thus crucially depends on making new investments and on closing the technological gap between the reform states and developed market economies. Contrary to the needs of the economies, however, the share of investment in GDP has declined in the region as a whole from about 30 percent in 1989 to slightly above 20 percent in 1995 (EBRD, 1996: 80), and lies below the investment shares of fast-growing Asian economies.

The reasons for the comparatively poor investment performance are plentiful. Domestic savings have fallen in response to a combination of shorter time horizons (increase in the discount rate), negative real interest rates, and a dependence of savings on total income (Brücker/Schrettl, 1996). Furthermore, domestic banks are often times not in the position to select profitable investment projects and to efficiently intermediate between savers and investors (Buch, 1997). They rather invest into safe assets or continue to lend to their traditional clients. Profitable new firms are then forced to finance investment out of retained earnings, and total investment is suboptimal to the extent that current and future profits are imperfectly correlated. Finally, uncertainty about the future development of prices, regulatory conditions, and the macroeconomic environment increases the value of postponing investment projects and may thus render a wait-and-see-strategy optimal (Dixit/Pindyck, 1994).

Attracting foreign capital may seem as a natural solution to closing the „investment gap“. Drawing on foreign savings not only increases the availability of funds to invest, foreign-direct investment also provides the emerging market economies with access to new technology and know how. Capital imports are a mixed blessing, however. As evidenced by a number of balance of payments crises throughout recent economic history, currency crises can have contagious elements (Sachs et al., 1996; Eichengreen et al., 1996). In the presence of incomplete information, foreign investors may take balance of payments crises elsewhere as signals for a deteriorating situation in the region and thus withdraw funds. Speculative attacks on a country's exchange rate may occur if monetary and fiscal policies are not coordinated with a fixed exchange rate regime. Hence, the

maintenance of capital controls on short-term capital flows and/or on capital outflows to cope with the volatility of capital flows is often seen as a remedy.

In contrast to this policy prescription, the envisaged membership in the European Union (EU), which the more advanced reform states of Central Europe are striving at, will require the abolition of remaining capital controls and the creation of a free capital market. Hence, at least those states which have officially stated their intention to enter the Union within the foreseeable future<sup>1</sup> will have to fully liberalize capital flows. Most countries will then have to revise their current policies of gradual capital account liberalization. The main purpose of this paper is to assess the risks and benefits of such a strategy. The paper starts by giving an overview of Central Europe's current place on the international capital market (Part I). It then explores the links between capital account liberalization and growth (Part II); looks at the risks of capital account liberalization (Part III), outlines possible policy responses to net capital inflows (Part IV), and finally discusses the actual policy measures that have been taken (Part V). The final part provides some general policy conclusions. Most parts of the paper will deal with four more advanced reform countries of Central and Eastern Europe – the Czech Republic, Estonia, Hungary, and Poland – because these countries have attracted the largest capital inflows so far and will certainly be among the first new members of the EU during the process of enlargement.

At first sight, it may appear that the discussion on capital account liberalization is not all too relevant anymore for the countries under review. On the one hand, even outspoken optimists would not consider Eastern enlargement of the EU to take place prior to the year 2000. Even after becoming members of the EU, the new members would have some leeway in maintaining capital controls if needed to ensure monetary or banking sector stability. On the other hand, the countries have already made substantial advances towards capital account convertibility, in particular in the context of their recent OECD membership. Strict capital controls apply only to a few items of the capital account of the balance of payments; a number of further items are subject to approval of the central banks which, however, is usually granted (Backé, 1996). To summarize, it may be argued that *establishing* capital account convertibility is no more an issue for the reform states because capital flows are already relatively free and because even the envisaged EU membership does not require a drastic departure from current policies in the years to come.

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<sup>1</sup> Thus far, nine transition economies have officially applied for membership in the EU, among them Hungary (March 1994), Poland (April 1994), Estonia (November 1995), and the Czech Republic (January 1996).

Despite these objections, we still consider capital account convertibility and the potential risks attached to it to be an important issue for the reform countries. First, the maintenance of capital controls in principle increases the value of postponing investment projects. Because controls increase the irreversibility of investment, it may be rational to wait until some of the future's uncertainty has been removed. Liberalizing capital controls *de facto* may thus not be sufficient to ensure investors that their investment can be reversed. In times of increased macroeconomic instability (which is when the issue becomes relevant), the national authorities may refrain from granting the permit to export capital although such permits may regularly be granted in tranquil periods. Irreversibility is thus not reduced by *de facto* liberalization, and uncertainty about future policies is not reduced. Incidentally, not only with regard to capital mobility, EU membership can be seen as a means to reduce uncertainty – to „bind the hands“ of national policymakers – and thus to improve investment conditions. Some of the benefits of membership can even be reaped before the enlargement completed by adjusting national regulations. Second, as the recent Czech experience has shown, the risk of a reversal of capital flows is there, and appropriate policy responses must be found.<sup>2</sup>

## **I. Central Europe's Place on the International Capital Market**

During the first half of the 1990s, the transition economies of Central and Eastern Europe have successfully been able to draw on international financial funds to finance the transformation process. Increasingly, the economies have been able to attract private capital flows and have thus – as a group – sharply reduced their dependence on lending by international financial institutions. More recently, portfolio capital has begun to flow into the countries.

Net capital inflows into the transition economies grew constantly<sup>3</sup> from a negligible 0.1 billion US-Dollar in 1989 to 42.2 billion in 1995 (Table 1).<sup>4</sup> Capital

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<sup>2</sup> See Buch and Heinrich (1997) on a more detailed discussion of the Czech case.

<sup>3</sup> The decline in net capital inflows in 1994 as compared to the previous year is due to a substantial capital flow of 17.1 billion out of Russia. Hence, capital inflows into transition economies excluding Russia have increased. This section mainly draws on the data provided in the IMF's Balance of Payments Statistic Yearbook (IMF, 1996a). These data may divert from other sources. For Poland, for example, the data do not include an adjustment for transactions on the capital account which *de facto* comprise unclassified current account transactions. Also, the data have been compiled on a transactions rather than a cash basis, as may be the case in other publications. In order to ensure comparability of the data



inflows particularly surged in 1995, putting them at 5.7 percent relative to GDP in the region as a whole<sup>5</sup> or up to 18.3 percent of GDP in the Czech Republic or 13.4 percent in Hungary (Table 2). With 10.7 and 7.4 percent of GDP, capital inflows are also comparatively high in Poland and Estonia. These ratios are significantly higher than those observed in other recent episodes of capital inflows into developing countries where net inflows hardly surpassed 10 percent of GDP (Schadler et al., 1993).

The transition economies have thus been able to participate in the increased globalization of financial markets. Between 1989 and 1995, worldwide gross capital flows have increased by 25 percent. Developing countries as a whole have raised their share in capital inflows from 7.1 percent in 1989 to 21.4 percent in 1994 (Table 3). In 1995, this trend has reversed, and the developing countries' share dropped to 18.9 percent. Since developing countries are net importers of capital, their share in total capital outflows has been lower throughout. The transition economies have likewise increasingly benefited from the liberalization of capital flows, raising their share in worldwide capital inflows from 0.2 to 2.3 percent between 1989 and 1995. This is somewhat less than the transition economies' share in total GDP (2.9 percent in 1994).<sup>6</sup> The Czech Republic, Hungary, and Poland alone attracted 1.3 percent of global capital inflows in 1995, i.e., almost twice as much as their share in worldwide GDP (0.69 percent). At the same time, the three countries attracted about 12 percent of net capital inflows into developing countries, the share of all transition economies being 18.2 percent (1989: 0.2 percent). Hence, the Visegrad countries have decidedly been more successful in attracting foreign capital than other reform states.

While declining international interest rates have certainly been a driving force behind investors' search for new markets, domestic factors have been an important determinant of capital inflows into the transition economies as well. Those countries which have reformed more rigorously have attracted more inflows, and the surge in capital inflows in 1995 came at a time of already rising international interest rates.

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across countries and regions, a common source of information was used nevertheless.

4 These data were drawn from the Balance of Payments Statistics Yearbook of the IMF (IMF, 1996a) in order to ensure comparability of data across countries and regions. Other sources put the net inflow of foreign capital into Central Europe and the Baltic's (excl. Russia) only at about 31 billion US-Dollar (UNECE, 1996: 143).

5 Calculated on the basis of GDP in 1994 published in World Bank (1996).

6 These figures have been calculated from the World Development Report 1996 (World Bank, 1996).

This also suggests that, after the initial gap between planned and actual investment in transition economies has narrowed, capital inflows will start to level off.

### **1.1. The Structure of Capital Inflows**

The volatility of financial flows is affected by the share of foreign direct investment and other long-term investments in total capital flows. Because foreign direct investment typically occurs in the form of machinery and fixed assets, it can less easily be withdrawn than liquid portfolio investment. In the years 1989 through 1995, flows of foreign direct investment into the transition economies reached almost 32 percent of total capital inflows. They thus substantially exceeded the world's average of 17.9 percent. Generally, FDI was about as important as in the average developing country. At the same time, differences between transition economies are striking. FDI inflows have been much more important in Hungary (61.7 percent of inflows), Estonia (51.9 percent), and Poland (39.8 percent) than in the Czech Republic (21.9 percent) (Table 4). Overall, cumulated FDI reached 0.7 billion US-Dollar in Estonia, 10.9 billion in Hungary, 8.0 billion in Poland, and 6.3 billion in the Czech Republic.<sup>7</sup>

It may thus appear as if the Czech enterprises have benefited from greater capital market integration to a lesser extent than firms in the other countries. The smaller relative amount of FDI, however, is compensated by the fact that Czech firms borrowed more from abroad than their Hungarian and Polish counterparts. Since 1993, Czech enterprises have increasingly raised loans on the international capital market (Czech National Bank, 1994). Between 1993 and 1995, gross loans received from abroad by the corporate, non-financial sector have been much greater in the Czech Republic (3.8 billion US-Dollar) than in Hungary (2.1 billion) or in Poland (0.9 billion). The bulk of these loans has a long-term maturity. In 1996 alone, net borrowing of Czech firms in the international capital market reached approximately 2 billion US-Dollar (55.6 billion CSK), thus exceeding (net) FDI inflows by a margin of 50 percent (Czech National Bank, 1997: 30).<sup>8</sup>

<sup>7</sup> These numbers have been calculated by adding up the inflows of FDI for 1989-1995. They do not necessarily correspond to other estimates of the stock of FDI as, for example, capital may have been repatriated. The United Nations Economic Commission for Europe (UNECE, 1996: 152) estimates that at the end of 1995, the stock of FDI reached 3.4 billion US-Dollar in the Czech Republic, 9.9 billion in Hungary, 3.9 billion in Poland, and 0.5 billion in Estonia. For a survey of estimates of FDI in transition economies see DIW (1997).

<sup>8</sup> In addition, FDI has gained in importance in 1996, contributing 34.1 percent to *net* capital inflows to the Czech Republic.

In terms of the composition of gross capital flows, FDI has generally exceeded portfolio investment. This may imply that capital flows are relatively stable. Yet, looking at the composition of capital inflows in terms of FDI and portfolio investment alone may give a misleading picture of the volatility of capital flows since other investments are not considered. These other investments comprise trade credits and loans received from abroad, bank deposits and currency. For the transition economies as a whole, they have been more important than FDI and portfolio capital taken together. Other investments have been significant in the Czech Republic (62.8 percent of total inflows), in Poland (53.7 percent) and in Estonia (46.1 percent). In Poland, inflows of short-term capital in 1994 and 1995 partly reflect unregistered cross-border trade and are thus de facto an element of the current account (UNECE, 1996: 142).<sup>9</sup> Yet, even if these inflows are not counted as capital imports, the picture of a positive inflow of capital into the Polish economy is not reversed. In contrast to the other three economies, other investments in Hungary have made a negative contribution to total capital inflows, primarily because of the repayment of long-term government debt in the years 1992 through 1995. At the same time, almost the entire inflow of portfolio investment in Hungary has been in the form of government debt, reflecting huge budget deficits in 1993 and 1994. In the Czech Republic, in contrast, portfolio capital inflows are due to the purchase of equity of the non-financial corporate sector only.

With the exception of Hungary, the volatility of capital inflows thus heavily depends on the composition of other capital inflows. In the Czech Republic (between 1993 and 1995) and in Poland, the bulk of these inflows comprised short-term loans to the government which reached a share of 56 and 75 percent, respectively. In contrast to the Polish government, however, the Czech authorities have also increased their short-term foreign assets, hence the net contribution of short-term government liabilities to other investment inflows is almost negligible. In Estonia, short-term liabilities were only half as important (28.5 percent). In fact, between 1992 and 1994, the private sector was even a net exporter of private capital; borrowing from abroad mainly occurred in the form of long-term government loans (IMF, 1996c: 56n). Hungary lies somewhat in between with a share of short-term liabilities of 39.5 percent.

As regards the stock of external debt, short-term debt has declined in importance since the beginning of reforms (Table 5). The only exception is Estonia

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<sup>9</sup> Since 1996, the Polish National Bank has reclassified unregistered trade as an current account item.

where the stock of total debt only accounted for a minor 0.5 percent of GDP in 1994. In 1994, the Czech Republic had the greatest share of short-term debt (27.0 percent) but, at the same time, also a relatively small debt-to-GDP ratio (32.4 percent). Hungary's debt-to-GDP ratio was the highest (71.8 percent), short-term debt accounting for less than 10 percent. Poland, finally, has been able to lower both its debt ratio and the share of short-term debt (2 percent). In summary, short-term debt over GDP was relatively high in the Czech Republic (8.7 percent) and in Hungary (6.2 percent) at the end of 1994 while being almost negligible in Poland and Estonia.

## 1.2. *Savings and Investment*

Despite their increased integration into the international capital market, the transition economies have, in the aggregate, obtained financing by the amount of less than 5 percent of GDP from abroad since the beginning of reforms. Foreign capital has thus not helped to avert the decline of domestic investment that came in response to lower domestic savings. Beyond these stylized facts, two observations stand out:

First, all transition economies under review have invested less of their GDP than fast growing Asian economies such as South Korea or Malaysia which had average investment rates of 36 and 33 percent, respectively, between 1988 and 1994 (Graph 2). Average gross investment relative to GDP in this period has been lowest in Hungary (22 percent), followed by Poland (23 percent), the Czech Republic (25 percent), and Estonia (29 percent). Fixed investment rates are a bit lower for all countries except for the Czech Republic where inventories were reduced in 1993 and 1994. Hence, in terms of fixed investment, the Czech Republic outperforms Estonia.

Second, the two countries with the highest investment ratios, the Czech Republic and Estonia, have succeeded in increasing the share of fixed investment in GDP since the beginning of reforms in 1991 and 1992, respectively. In Hungary, the reform process has not had a significant positive impact on total investment. In Poland, investment rates have declined sharply after the onset of reforms and have only started to recover gradually since 1994. While a comprehensive discussion of the determinants of investment is beyond the scope of this paper, it is striking that the Czech Republic and Estonia are also the countries out of the sample which have had the lowest budget deficits throughout the transition period. Crowding out of private sector investment has thus *ceteris paribus* been lower than in Hungary and

Poland. Another possible explanation for the difference in investment performance is that the commitment to reforms appeared greater and that political debate about the future of reforms has been less intense in the Czech Republic and in Estonia than in Hungary and Poland. Coupled with greater macro-economic stability, this may have reduced the uncertainty about future investment conditions and thus lowered incentives to postpone investments. Yet, it must also be noted that the high investment rates in the Czech Republic also reflect investment in huge infrastructure projects which are to a large extent undertaken by the government and state-owned firms.

### **1.3. First Assessment**

In summary, the three Visegrad countries and Estonia have recently attracted sizable inflows of foreign capital. They have benefited from and contributed to a global trend of increased capital flows to developing countries. They have, in particular, been more successful in attracting foreign capital inflows than other economies of the region. As FDI has dominated capital inflows, this gives the economies an important long-run advantage over those economies which are not able to draw on foreign technology and know how. Portfolio capital inflows into the region have only recently gained in importance, yet reaching only about half the volume of FDI and about 14 percent of total inflows. High shares of FDI and long-term capital inflows potentially stabilize the external position of the countries reviewed.

One of the keys to a country's ability to absorb foreign capital inflows without suffering an unsustainable deterioration in the competitiveness of its tradable goods sector is to create a climate supportive of domestic savings and investment. While investment ratios of all countries have been reasonably high, only the Czech Republic and Estonia have reached levels comparable to the dynamic Asian economies and have seen an increase in overall investment along with increased capital inflows. In Hungary and Poland, foreign capital has tended to substitute for rather than augment domestic savings. This not only bodes ill for their growth prospects but also leaves them particularly vulnerable to destabilizing reversals of capital flows.

## II. Capital Account Liberalization and Growth

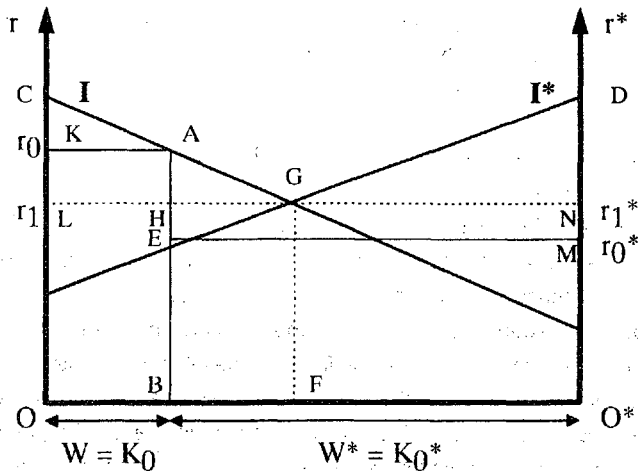
In order to assess the sustainability of capital flows to transition economies and their growth implications, a short review of the literature is given in the following. We start by summarizing the traditional view and augment the structure to take account of dynamic aspects.

### 2.1. The Traditional View

Liberalizing capital flows allows a country to draw on foreign savings to finance domestic investment. Neoclassical growth accounting would predict that mobile capital flows primarily out of capital-abundant developed economies and into capital-strapped developing and transition economies. This is because, by the law of diminishing returns, marginal returns to capital in the latter should exceed marginal returns in the former.

Graph 1 plots the demand for investment at home and abroad as is given by the marginal product of capital. In the base period ( $t = 0$ ), capital controls are in place. The home (transition) economy has a relatively small capital stock  $K_0$  as compared to the foreign country's (Western Europe's) capital stock  $K_0^*$ , as measured on the basis of world market prices. Domestic exceeds foreign interest rates. Output is given by the area under the investment function, i.e., by OBAC for the home country and O\*BED for the foreign country. Liberalizing capital flows leads to an export of capital from Western Europe into the transition economies, and (real) interest rates are equalized. Domestic production increases to OFGC, and foreign production declines to O\*FGD. Yet, because marginal returns to capital are decreasing, the world's capital stock can be used more efficiently and an additional amount of AEG is produced. Because the foreign country receives interest payments on its capital exports, both countries achieve a higher income. Note, however, that the liberalization of capital flows has only a temporary growth effect. Once production has adjusted to its new steady state level, growth subsides.

Graph 1 — Welfare Gains from a Liberalization of Capital Flows.



Source: Willms (1992: 266)

## 2.2. Endogenous Growth

One shortcoming of the standard foreign trade model is its inability to explain long-run economic growth. Growth merely occurs as a one-time adjustment to a new steady state; long-run growth is bound to be zero. Short-run growth comes only in response to exogenous shocks such as technological innovations, increases in the savings rate or, as shown above, abolition's of capital controls.

Endogenous growth models essentially imply that technological innovations or human capital accumulation can give rise to a positive externality so that the marginal returns to investment need not decrease. As a result, accumulation of technological knowledge or of human capital can arise endogenously and can be a source of sustained long-run growth. Baldwin and Forslid (1996) show in a two-sector framework that the growth effects of a policy measure depend on the incipient increase in Tobin's  $q$ , i.e., in the ratio of the market value of capital and its replacement costs. Their results are driven by the fact that investment in knowledge capital reduces the marginal costs of production, giving rise to worldwide economies of scale. In particular, they show that financial liberalization in the form of (i) the liberalization of the market entry for new domestic or foreign banks, or (ii) the liberalization of international financial transactions, which lowers the marginal costs

of domestic financial intermediaries to make loans abroad, is growth promoting. Both measures lower the interest rate that firms have to pay on their loans and thus increase the market value of investment since future profits are discounted at a lower rate. Hence, more resources are channeled into innovative activities, and the (equilibrium) growth rate increases.

Moreover, Lucas (1990) has used a model incorporating a human capital externality to explain why capital flows to developing countries have – at least until very recently – remained limited to an extent incompatible with neoclassical growth accounting.<sup>10</sup> He argues that the return to physical capital will *ceteris paribus* be highest where the endowment with human capital is highest, and that human capital creates a positive externality which disproportionately increases the return to physical capital. The reason for capital flows to developing countries remaining limited would then be that the rates of return to physical capital in developing countries are constrained by low endowments with human capital. Rough-and-ready calculations suggest that this model fits capital flows from the United States to India quite well. Gundlach (1994) finds further empirical support for this theory in a sample of ten developed and developing economies. Thus, a lack of human capital is able to explain a lack of capital inflows. Conversely then, relative abundance of human capital should be expected to attract foreign capital. Although measuring human capital endowments is a notoriously difficult task, back-of-the-envelope calculations do indeed suggest that their relatively abundant endowment with human capital gives the Visegrad countries a locational advantage for foreign capital pursuing higher returns than would be available in developed market economies (Heinrich, 1996).

### **2.3. Foreign Direct Investment and Growth**

Capital inflows can foster economic growth not only by supplementing domestic savings, but also by providing access to new technologies. The most important channel through which new technologies can be introduced is FDI by transnational corporations (TNCs). FDI may result directly in the importing of more advanced technologies, but also in the transfer of managerial and production-oriented skills. In addition, FDI may generate positive externalities in that domestic firms may be able to acquire new knowledge while supplying inputs to the foreign firm or while competing with it for customers (Bertschek, 1995). This in turn may

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<sup>10</sup> This is true even when taking into account that capital is actually far from perfectly mobile internationally (Feldstein/Horioka, 1980).



stimulate additional domestic investment. However, the extent to which new foreign technology can be absorbed by the host economy, be it directly via domestic subsidiaries of foreign TNCs or indirectly via spillovers to domestic firms, must be expected to depend on the stock of human capital present in the host economy, as human capital and advanced technology tend to be complementary inputs (Lichtenberg, 1993). Empirical studies suggest that inward FDI can have positive externalities for countries with a relatively good human capital endowment (Borensztein et al., 1994) and in countries which follow an export-promoting development strategy (Balasubramanyam et al., 1996). In view of their relatively good endowment with human capital and their liberalized trade regimes, the economies under review can safely be said to meet both of these requirements.

#### **2.4. Foreign Involvement and Corporate Governance**

Poor corporate governance was one of the reasons for the abysmal performance of state-owned enterprises in the past. One way of securing an ownership structure conducive to sound governance is to sell firms to strategic outside investors (Kornai, 1990). These investors can secure access to fresh capital, know-how and new markets, and they have both the incentives and the know-how to effectively monitor management. Principal agent problems are therefore likely to remain small. However, interest of domestic strategic investors remains typically limited due to a lack of savings. Hence, if privatization is to be done at all quickly, a major role must be accorded to foreign investors (Estrin et al., 1994). The only two transition economies which have succeeded in privatizing the bulk of their state-owned assets so far without recourse to some form of mass giveaway to either the population or employees are Hungary and Estonia. In both countries, the privatization of medium and large enterprises has been dominated by foreign investors and has proceeded smoothly.<sup>11</sup> Thus, liberalizing the capital account is one of the pre-requisites for a successful privatization program using traditional methods only.

However, in most transition economies commitment to a liberal capital account and a freely convertible exchange rate was not immediately perceived as credible by the international investor community, as can be gathered from the following quote of a senior General Motors manager in 1990:<sup>12</sup>

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<sup>11</sup> See Heinrich (1997) for an analysis of privatization in Hungary and Estonia.

<sup>12</sup> Quoted in Grayson (1993).

*"[...] for Eastern Europe you need to visualize an operation that is largely exchange-balanced. No matter what the government may be currently saying in terms of free convertibility and exchange availability, we don't think it's prudent to rely upon that, just given the rebuilding these countries have to undertake."*

Among the chief reasons why Hungary in particular has been so successful in attracting foreign investment is that foreign investors took the country's economic reforms in the 1980s as a relatively credible signal of its commitment to openness. In particular, Hungary had allowed 100 percent foreign ownership and repatriation of profits as early as 1987 and had managed throughout to avoid defaulting on its sizable foreign debt.

The beneficial effects of foreign investment on restructuring and corporate governance in formerly state-owned enterprises – and by implication the importance of a liberal approach to the capital account – is borne out clearly in the case study evidence. Surveying this evidence, Carlin et al. (1994) conclude that – in addition to engaging in major investment projects – foreign owners also introduce far-reaching changes in the organizational and management structures of their new acquisitions. Problems of corporate control are frequently addressed by sending in management personnel from the parent company. While foreign investors tend to select comparatively sound firms to begin with, the enterprise-level evidence also demonstrates that foreign-owned firms achieve above-average improvements in the performance of these firms.<sup>13</sup>

## **2.5. Portfolio Capital and Growth**

Apart from foreign direct investment, portfolio capital constitutes a substantial share of globally mobile capital. Portfolio capital flows can take the form of bond or equity purchases, if the latter does not exceed a certain threshold of a firm's capital stock. Generally, portfolio capital flows are not only determined by relatively rates of return of domestic and foreign assets. Rather, risk characteristics of assets denominated in different currencies or based on differences in the real sectors of two economies have an important impact on portfolio capital flows. If capital controls are in place, domestic investors can only invest into domestic assets. While they can diversify away industry-specific risks by investing into assets of different firms within their home country, they remain fully exposed to the country risk of their home

<sup>13</sup> See for instance Szanyi (1994) for Hungary, Dabrowski et al. (1993) and Fogel (1995) on Poland, Capek (1995) on the Czech Republic, and Estrin et al. (1995) for a comparative study of the Czech Republic, Hungary and Poland.

economy. Yet, country-specific risks can be reduced through the combination of portfolios only to the extent that the country risk of different economies is uncorrelated. Hence, by liberalizing capital flows, worldwide portfolios can be optimized, individual investment risks are lowered, and – to the extent that savers are risk averse – overall savings may increase.<sup>14</sup>

In addition to the better diversification of risks that the liberalization of portfolio capital allows, the presence of foreign investors in the home market may be to the benefit of the home country because market liquidity increases. Typically, bond and stock markets in emerging market economies are relatively illiquid. Hence, due to a low trading volume, asset prices may be quite volatile, and investors may find themselves unable to divest assets unless they accept high discounts.

## 2.6. *Beyond Traditional Theories*

All theories presented so far have assumed that investment decisions are guided by the net present value concept. If the net present value of an investment project exceeds investment outlays, investment is made, and vice versa. Yet, the expected return on investment, reflected in the net present value of an investment project, may not be the only variable guiding investment decision. The standard net present value concept may lead to wrong investment decisions because it disregards the value of being able to postpone an investment decision (Dixit/Pindyck, 1994). Assuming that an investment can be made either today or at some time in the future, and given that the future is uncertain, it may pay off to wait one or more periods and to reduce some of the uncertainty that the future has in store. The total value of an investment project is thus given by its (conventional) net present value *plus* the „option value of waiting“, i.e., the value of not investing today. According to this concept, Tobin's *q* can lead to correct investment decisions if the increase in market value due to an additional investment is considered; but not if the value of already invested assets is used.

Labán and Larrain (1993) have formalized the idea that the magnitude of net capital inflows depends on the uncertainty about future investment conditions and on the irreversibility of investment decisions. They show that a relaxation of controls on

<sup>14</sup> Incidentally, the fact that demand for a recent Eurobond issue by the Russian government has been quite substantial – despite relatively bad news about the underlying strength of the Russian economy – lends support to the hypothesis that international investors are primarily interested in increasing the share of securities from Central and Eastern Europe in their global portfolios.

capital outflows, aimed at reducing the scope for a real appreciation of the domestic currency, may lead actually to increased net capital inflows, rather than an increase in net outflows. In their model, capital inflows are fully liberalized while foreign capital cannot be repatriated. Two periods are considered. In the first period, risk-neutral foreign investors can decide whether to invest in foreign assets at a risk-free rate which is the same in the two periods, i.e.,  $r_1^* = r_2^* = r^*$ , or in domestic assets which yield a greater return than foreign assets in the first period  $r_1 > r^*$ . Uncertainty prevails as to the policy of the domestic government. With probability  $1 - q < 1$  ( $0 < q < 1$ ), a regime change occurs in the second period, thus lowering the return on the domestic asset to  $r_2 < r_1$ . With probability  $q$ , the same return as in the first period is realized. The regime change reduces the rate of return on domestic investment below the foreign rate, i.e.,  $0 \leq r_2 < r^* < r_1$ .

Two investment scenarios are possible: In the first scenario, investors can defer their decision to invest in the home country until uncertainty about future policy is resolved. In the second scenario, the investment decision has to be made at the beginning of the first period, i.e., prior to obtaining detailed knowledge about future policy. In the presence of capital controls, the option to defer the investment decision has a positive value to investors. This option value of waiting is positive if uncertainty about the future prevails, if the current investment opportunity is available also in future periods, and if capital controls make investment irreversible. Conversely, policy measures that reduce the option value and thus increase investment are those which either reduce the irreversibility of investment (for example, by lowering controls on capital outflows) or that reduce uncertainty about future investment conditions.

In this sense, membership in the EU can provide substantial benefits for the transition economies. By tying the hands of domestic governments to a certain extent, EU membership makes regime changes less likely. By creating a free market for capital, it reduces the irreversibility of investment decisions in the transition economies. Even though there is still some way to go until full EU membership is achieved, the reform states can already now exploit some of its positive effects by unilaterally implementing EU standards and, in particular, by liberalizing capital flows. The fact that capital flows are already relatively free de facto does not change this general conclusion. Even if capital flows have already been liberalized de facto because, for example, permissions to export capital are regularly granted, this may not be sufficient to enhance the confidence of investors in the reversibility of their investment decisions. This is because precisely when most investors would like to

withdraw their capital, i.e., in periods of increased macro- and microeconomic instability, is de facto liberalization most likely to be reversed.

### **III. Risks of Capital Market Integration**

Opening up for foreign capital can have a number of positive growth effects. Foreign savings can be used to finance domestic investment, foreign direct investment has positive spill-overs through access to better technology and know how and thus improves the efficiency of production, and foreign owners may perform superior corporate governance. Liberalized portfolio capital flows furthermore allow greater risk diversification and enhance the liquidity of the domestic capital market. Finally, in a regime of liberalized capital flows, investment decisions are less likely to be deferred.

Despite these alleged advantages, the liberalization of capital flows – in particular of portfolio capital – is typically not a top-priority of policymakers, and also theoretical considerations seem to suggest that a gradual liberalization strategy is warranted. Generally, increased capital inflows can have a negative impact on economic development because capital imports can contribute to (i) an unsustainable balance of payments position, (ii) (excessive) real exchange rate appreciation, and (iii) increased instability of the financial sector.

#### **3.1. Balance of Payments Crises**

The exposure of a country to external shocks and thus the probability of a balance of payments crisis depend on the structure of domestic expenditure, the information about domestic economic conditions, on the consistency of domestic policies with an exchange rate target, and on the structure of capital flows:

- The sustainability of a current account deficit, i.e., of a capital account surplus, is influenced by the concomitant change in the structure of domestic expenditure. If capital inflows primarily add to investment, the ability of the country to later repay its external debt is enhanced. If, in contrast, capital inflows mainly finance increased consumption, a country may find itself unable to repay its foreign debt. As regards the structure of imports to the countries under review here, machines and equipment constitute a significant, albeit not the largest share (Table 7). Investment goods have been most important in the Czech Republic, having accounted for about 35-40 percent of total imports between 1992 and 1996. In

Poland, imports of machinery and equipment had a relatively constant share of 30 percent in total imports throughout. In Estonia and Hungary, the importance of investment goods has varied a little over time, but their share in total imports has on average not surpassed 20-22 percent.

- A balance of payments crisis may not only occur if – in the long-run – a country happens to have lived beyond its means but also if capital flows suddenly reverse. While a sudden reversal of capital flows may be linked to the long-term sustainability of a current account deficit, it may also be triggered by noisy signals which investors take as evidence of deteriorating fundamentals. Hence, the better information about domestic economic conditions and the less volatile domestic policies, the less likely are reversals of capital flows which are unrelated to fundamentals.
- In many cases, foreign capital is attracted by inconsistencies in domestic policies (hot money) (Corbo/Hernández, 1994). Liberalizing short-term capital flows may thus expose an economy to greater risks of a speculative attack. The risk of running into a speculative attack rises if monetary and fiscal policies are incompatible with a fixed exchange rate regime.<sup>15</sup> Budget deficits which are at least partially financed through central bank borrowing may lead to domestic monetary expansion in excess of real money demand and may put the fixed exchange rate under pressure. Capital controls can temporarily ensure the survival of an inconsistent regime but also raise the costs of a regime collapse.
- The risk of a sudden reversal of capital flows is also linked to the share of short-term bank loans and portfolio investments in total capital flows. If capital flows are of a very short-term nature, negative international shocks can lead to a sudden withdrawal of funds and thus to balance of payments crises. This danger is particularly pronounced if domestic and foreign assets are close substitutes and if the sources of foreign capital are not very diversified (Dadush et al., 1994). As shown above, the countries under review have a relatively high share of FDI and other long-term investments in total capital inflows. This, *ceteris paribus*, reduces the likelihood of a speculative attack and of a sudden withdrawal of funds.

Eichengreen et al. (1996) test whether speculative attacks are temporarily correlated. Their sample includes 20 industrialized countries for the period 1959-1993. Speculative pressure is measured as a weighted average of changes in exchange rates, central bank reserves, and interest rates. They find that fundamentals significantly affect the probability that a currency crisis occurs. Yet, due to contagion effects, the probability that a crisis occurs is raised by 8 percentage

<sup>15</sup> For a review of the literature see Agénor et al. (1992).

points.<sup>16</sup> This implies that capital flows themselves can be a source of instability. Capital controls do not seem to affect the likelihood that a currency crisis occurs, however. Reducing the sample to those observations where capital controls were in place only and comparing the estimates to the benchmark result reveals that the estimated contagion effect does not differ significantly. This would imply that capital controls are ineffective in preventing currency crises and speculative attacks.

Because deficits in the current account are often closely linked to deficits of the general government (twin deficits), fiscal policy has a key impact on the structure of expenditures and on the probability of a speculative attack. Since the governments of the Czech Republic and Estonia have not run noteworthy budget deficits throughout the reform period, the issue seems most relevant for Hungary and Poland. In fact, the comparatively large budget deficits of the Hungarian government between 1991 and 1994 were financed from international sources and were thus accompanied by net capital inflows. In Poland, in contrast, the budget deficits were largely financed by borrowing from the National Bank (Krzak, 1996) and from the banking system, and thus by domestic savings. Yet, also high government expenditure which does not lead to a high budget deficit may lead to excessive current account deficits because of its contribution to domestic absorption.

### **3.2. Real Appreciation and Sequencing**

Increased net capital inflows into small economies without price setting power in world markets induce an appreciation of the real exchange rate.<sup>17</sup> Under certain conditions however, capital account liberalization may cause the real exchange rate to overshoot its long-run equilibrium level (Edwards, 1984). If capital controls are abolished, the gap which has been built up in the past between planned and actual capital inflows may cause an immediate inflow on a scale which cannot be sustained once foreign capital stocks have more closely approached equilibrium levels. As a result, the real exchange rate may at first appreciate over and above its new equilibrium level, only to depreciate again later on. During the period of overshooting a sectoral misallocation of resources may occur which may be difficult to correct subsequently. Because of these negative effects of immediate capital account liberalization, most authors suggest to liberalize the capital account only *after* the current account has been liberalized (Cho/Khatkate, 1989; Edwards, 1984; Fischer,

<sup>16</sup> Note that in this study, contagion is defined in a pure sense because it captures the „infection“ with a currency crisis which is unrelated to fundamentals (at least to those that the authors control for).

<sup>17</sup> This holds true unless the entire inflow is used to build up international reserves.

1993). Quirk (1994) proposes a simultaneous implementation of key reforms. Only a few authors propose a reversed sequence in order to, for example, eliminate distortions on domestic financial markets first (Lal, 1987).

The countries under review have chosen a gradual reform sequence which basically followed the blueprint for reforms above: current account convertibility has been established relatively soon but capital flows remain more tightly regulated. Parallel to the liberalization of domestic prices, the foreign trade monopoly was abolished in 1986 in Hungary as well as in 1990 in Poland and former Czechoslovakia, and domestic currencies were made internally convertible for current account transactions. Only since 1991, however, have Hungarian enterprises been fully independent in their foreign trade decisions. Quantitative restrictions on foreign trade flows were fully abolished in 1990 in Poland and in January 1991 in former Czechoslovakia. Estonia has liberalized its foreign trade relations even more drastically. There are no quantitative restrictions on ex- and imports, and tariffs are levied only on a few luxury goods. Capital account convertibility remains restricted in all countries with the exception of Estonia. Here, full capital account convertibility was introduced in May 1994 when natural persons were allowed also to open new foreign currency accounts within the country.

Most countries initially devalued their nominal and in their wake their real exchange rates. An exception to this is Hungary where the nominal devaluation was insufficient to depreciate the real exchange rate. Since then, real exchange rates have risen substantially (Graph 3). However, developments have still been quite diverse. In particular, the evidence shows that real exchange rate developments do not depend merely on the choice of the nominal exchange rate regime. The real appreciation has been most pronounced in Estonia and most limited in the Czech Republic, although both countries have succeeded in defending the central nominal parity chosen initially, (the Czech Republic relative to a basket composed of the US-\$ and the Deutschmark, Estonia relative to the Deutschmark).<sup>18</sup> Hungary, which continuously devalued its nominal rate, has nonetheless experienced a real appreciation comparable rather to that of the Czech Republic. Poland has seen its real rate appreciate considerably during the early transition period when its nominal rate was fixed, but has been able to limit real appreciation since changing to an active crawling peg in early 1991. To what extent these developments reflect either adjustments towards the equilibrium level of the real exchange rate from a position of

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<sup>18</sup> However, the Czech Republic was forced to let the exchange rate (temporarily) float since May 27, 1997.



undervaluation, appreciations of the equilibrium level itself, or overvaluations is a subject to which we return below.

### **3.3. *Instability of the Financial Sector***

Increased capital inflows provide greater liquidity to commercial banks, as they are typically being channeled through the domestic banking system. If these funds are used for increased lending in domestic currency, the vulnerability of the banking system to changes in the exchange rate tends to increase. This is because the exposition of the banks to exchange rate risks, i.e., the difference between liabilities and assets denominated in foreign currency, rises. If the domestic currency devalues, the banks' liabilities increase in domestic currency terms while their claims remain unchanged. Hence, the banks' ability to service their liabilities decreases *ceteris paribus*. A similar situation occurs if domestic firms borrow abroad but have their claims dominantly denominated in domestic currency. To what extent commercial banks increase their foreign exchange risk depends on their incentive systems which, in turn, is affected by the quality of the banking supervision, the amount of publicly guaranteed loans, the deposit insurance system, and not least the corporate governance of the banks. In principle, these factors do not differ from those which determine the efficiency of a financial system in a closed economy. As the transition countries have opened up to the international capital market, thus having increased their potential to borrow abroad, however, negative effects of distorted incentive systems are potentially magnified (Calvo et al., 1993).

Table 6 gives a rough idea of the open foreign exchange position of commercial banks. The data compare total foreign currency assets to total foreign currency liabilities, expressed in the domestic currencies. If assets exceed liabilities, a bank has an open (long) position in foreign currency; a devaluation of the domestic currency raises the value of net foreign assets. Conversely, a devaluation raises net liabilities if a bank has a short position. To some extent, the data in Table 4 give a misleading picture of the foreign exchange exposure because the maturity structure and the specific currency structure of foreign assets and liabilities are not considered. Also, the data do not show whether banks have hedged their foreign currency risk through forward contracts. Nevertheless, the data indicate that the exposure to foreign exchange risks of Czech banks has been greater in 1996 than in Hungary and Poland. Both for Czech and Hungarian banks did foreign exchange liabilities exceed assets denominated in foreign currency since 1994 and 1995, respectively. Polish banks, in contrast, had positive net foreign assets by the amount

of 5.8 percent of their balance sheet total. The situation in Estonia is more extreme due to the high degree of dollarization at the beginning of the reform process. Estonian banks started reforms with net foreign assets in the order of magnitude of 42 percent of their balance sheet total at the end of 1991. This stock of foreign assets had been gradually reduced to 16.5 percent at the end of 1995. Because of a substantial increase in foreign liabilities in 1996, net foreign assets dropped to only 1.1 percent of total assets at the end of this year. If net foreign assets of German banks, which reached 3.1 percent of assets at the end of 1996, are taken as a benchmark, banks in all countries except in Poland thus appear to have a relatively high exposure to foreign exchange risks.

The liberalization of the capital account and the market entry of foreign banks not only tend to increase commercial banks' foreign exchange risk. They also expose domestic banks to greater competitive pressure and may cause bank insolvency's. Blejer and Sagari (1987) have therefore proposed to delay external financial liberalization until the domestic financial sector has sufficiently improved its competitiveness.<sup>19</sup> This argument may seem particularly relevant for the transition economies because domestic banks are burdened with non-performing loans and may thus not be able to survive increased competition of foreign banks. It has to be taken into account, however, that domestic financial liberalization is an inherently slow and gradual process. If external financial liberalization is postponed, important efficiency gains may be forgone, in particular because external liberalization has a number of potentially beneficial effects on the efficiency of the domestic banking system. Hence, a superior strategy is to recapitalize domestic banks early on and to open up financial markets immediately thereafter in order to reap the potential benefits that foreign financial institutions can provide (Buch, 1997).

Most reform states had adopted a relatively liberal attitude towards the market entry of foreign banks at the beginning of the reform process.<sup>20</sup> Yet, as reforms continued and as non-performing loans started to threaten the viability of the traditional domestic banks, this liberal stance has been replaced by a more cautious approach, and quantitative restrictions on new banking licenses have at least temporarily been introduced in the Czech Republic and in Poland. In these countries, foreign banks are encouraged to participate in (ailing) domestic banks. Market entry of foreign banks has been much less restricted in Hungary where, as a

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<sup>19</sup> The optimality of this sequence is not necessarily supported by the empirical evidence. In the case of Indonesia, for example, capital account convertibility was established prior to reforming the domestic financial system without causing a major financial crisis (Quirk, 1994: 386).

<sup>20</sup> For a more detailed analysis see Buch (1997).

consequence, also the market shares of foreign financial institutions are highest.<sup>21</sup> In the meantime, restrictions on the market entry of foreign banks have been relaxed somewhat throughout the region, and the domestic banks have been recapitalized for most of their inherited bad loans. In addition, banking regulations have gradually been adjusted to Western standards, and banking supervision has been tightened.

#### **IV. Policy Responses to Capital Inflows**

In view of the negative effects that increased capital inflows can have for the sustainability of current account deficits, for the real exchange rate, and for the stability of the financial sector, appropriate policy responses have to be discussed. Generally, measures which directly aim at regulating capital flows through controls must be distinguished from those which address the underlying micro- and macro-policies.

##### **4.1. Capital Controls**

If capital flows are mainly determined by exogenous factors which lie beyond the control of domestic policymakers, changes in the international environment, in particular in interest rates, may cause sharp fluctuations of capital flows. These fluctuations may largely be independent from domestic fundamentals. In such a situation, short-term emergency measures may be called for to fend off the negative effects of a potentially unstable international environment. In order to contain capital flows, quantitative restrictions can be imposed on certain items of the capital account, or (short-term) capital flows can be subjected to a transaction tax (Tobin, 1978). As was shown above (Graph 2), this drives a wedge between the domestic and the foreign interest rate and thus reduces the incentives to invest abroad. The risk of a sudden reversal of capital flows can be reduced by liberalizing capital flows asymmetrically, i.e., typically by keeping tighter restrictions on capital outflows than on inflows.

Dooley (1996) provides an excellent survey of the determinants of capital controls. He shows that controls on capital flows can be an optimal second-best policy if pre-existing distortions are clearly identifiable and can be removed only gradually over time. Capital controls can be used to stabilize output if wages and

<sup>21</sup> Estonia does likewise not discriminate between domestic and foreign banks when granting banking licenses. However, a general moratorium had been placed on new banking licenses after a banking crisis of 1992/93.

prices are inflexible (Mundell-Fleming model), to prevent speculative attacks on the domestic currency, to prevent (excessive) real exchange rate appreciation, or to prevent negative consequences of domestic financial market distortions. In the presence of automatic deposit insurance systems, as they are still common in most transition economies at least for the large, state-owned banks, capital account liberalization may lead to excess borrowing and thus raise the risk of future financial crises.

Although capital controls can emerge as an optimal second best policy if reforms in other areas lag behind or if adjustments of markets takes time, there are a number of reasons to doubt the effectiveness of capital controls:

- First of all, the effectiveness of capital controls crucially depends on the ability of the national authorities to control compliance. For example, if current account transactions have been liberalized already, capital controls may be circumvented by under- and overinvoicing exports and imports, thus rendering the controls ineffective. Fischer and Reisen (1992) thus argue that the capital account of the transition economies had de facto been liberalized already at a relatively early stage of reforms.
- Typically, controls on short-term capital flows are proposed as a means to reduce the volatility of capital flows. Yet, restricting short-term capital flows may not be the right policy measure. Claessens et al. (1995) show for a group of ten developing and developing countries that the classification of capital flows as given by the standard balance of payments statistics bears relatively little resemblance to the true volatility of capital flows. The authors find that long-term capital may be as volatile as short-term capital, and that short-term capital flows can be predicted with much the same accuracy as long-term flows.
- Capital controls can serve to drive a small wedge between domestic and foreign yields, but that they are not able to affect other relevant variables such as the volume and composition of private capital flows or the exchange rate (Dooley, 1996). Most importantly, capital controls seem not to be able to avert speculative attacks on inconsistent exchange rate regimes. The fact that, on the one hand, capital controls are largely ineffective but that, on the other hand, interest rate differentials can be sustained may seem contradictory at first sight. Yet, taking into account that capital controls raise the irreversibility of investment can serve to explain this dichotomy. Even if yield differentials exist, arbitrage opportunities may not be exploited because investment cannot be withdrawn if fundamentals deteriorate.<sup>22</sup>

<sup>22</sup> A similar reasoning applies to transaction costs of international financial flows.

- Grilli and Milesi-Feretti (1995) test the effectiveness of capital controls for a sample of 60 countries in the period 1966-1989. It turns out that capital controls are predominantly used by governments that wish to retain revenues from financial repression and that lack other sources of income. Capital controls are more likely in low-income countries with a large government and an ineffective tax system, and in countries with limited central bank independence. Furthermore, capital controls depend upon the exchange rate regime and the size of capital account imbalances. The authors construct an indicator of capital controls from the IMF's Annual Report of Exchange Restrictions on which they regress inflation, real interest rates, and growth while controlling for other factors affecting these variables. Apparently, a major shortcoming of this approach is that the intensity of capital controls is not captured in the dummies and that there may be multicollinearity in the independent variables. The results indicate nevertheless that capital controls lead to higher inflation and lower real interest rates while not showing a robust correlation to economic growth. Capital controls are mainly a complement to financial repression policies, implemented by governments which lack credibility. This pattern seems to fit the liberalization policies of the transition economies under review. Estonia which has probably had the most credible reform program has abolished capital controls earliest. The Czech Republic where – at least until recently – macroeconomic imbalances have been less severe than in Hungary and Poland, has arguably had the most liberal capital account regime of three countries.

The empirical evidence thus suggests that capital controls are relatively ineffective. They are neither easy to implement and to enforce, nor do they appear to target the cause of capital flow volatility. One may thus conclude that capital controls may do actually not much harm. Yet, this conclusion overlooks the potentially negative effect that capital controls, in particular controls on capital outflows, can have because they increase the irreversibility of investment. And even if capital controls can be avoided by means of alternative transactions, they still distort investment decisions.

#### **4.2. *Adjusting Macro- and Micro- Policies***

Notwithstanding the difficulties with the enforcement of capital controls, they yet seem a relatively easy solution for balance of payments problems. However, capital controls never address the cause of the problem, they merely fight the effects. Removing the causes of balance of payments problems is a much more time

consuming and complicated endeavor, and may, if external factors dominate, not even be feasible. In any case, appropriate policies must address both monetary and fiscal policy as well as potential microeconomic distortions.

Capital inflows influence the conduct of monetary policy, depending on the exchange rate system that has been chosen. Only under entirely flexible exchange rates does monetary policy remain unaffected: positive (net) capital inflows reflect an increased demand for the domestic currency, and lead to an appreciation of the domestic currency while leaving total domestic money supply unchanged. Yet, almost no transition economy has opted for flexible exchange rates. Rather, various forms of fixed or quasi-fixed exchange rate regimes have been installed. Hence, central banks are either obliged legally to exchange foreign currency into domestic currency (fixed exchange rates) or to intervene in the foreign currency market irregularly to defend their exchange rate target (dirty floating). In both cases, net inflows of foreign capital lead to an expansion of the net foreign assets of the central bank and thus to an expansion of domestic money supply.

In order to obey to a money supply target, central banks may decide to sterilize capital inflows. Sterilization defined in a narrow sense implies a reduction of the net domestic assets of the monetary authorities through selling, for example, government securities on the open market. Hence, sterilization aims at offsetting the effect of an increase in foreign reserves on the monetary base. Sterilization in a broader sense implies a reduction of the money multiplier through higher reserve requirements or a shift of government deposits from the commercial banks to the central bank. Evidently, these instruments are relatively distortionary because they directly affect the asset and liability management of commercial banks and raise the costs of domestic financial intermediation. But also sterilization that aims at a reduction of the monetary base has its costs and can actually be counterproductive. First, in many countries, monetary policy instruments are ill-suited to withdraw liquidity from the market because, for example, an insufficient amount of open-market securities is available. Second, sterilization imposes costs on the central banks equal to the return differential between domestic and foreign assets. Third, sterilization policies push up domestic interest rates which attracts additional capital inflows and requires further sterilization. This shows the dilemma that central banks in transition economies – and not only there – are facing when trying to meet a money supply target and an exchange rate target simultaneously.

Coping with increased capital inflows and creating a sustainable current account position, not only requires monetary and exchange rate adjustment but also

fiscal responses. If the government runs a budget deficit which is financed through external borrowing, it must be ensured that the funds are used in a productive way such that the capacity to repay the debt in the future is increased. Alternatively, government spending must be cut. Such a reduction of government spending may not only be necessary in a situation of high budget deficits but also if high spending contributes to a high domestic absorption and thus to a widening current account deficit.

On a microeconomic level, reform requirements imposed by increased capital inflows are greatest in the financial sector. In the short-run, negative effects of increased inflows can be reduced by raising the minimum reserve requirement on foreign currency deposits. This would force commercial banks to hold larger reserves against their foreign currency deposits and thus lower the foreign exchange exposure of the banks. In the longer run, however, minimum reserve requirements are an inefficient instrument because they increase the cost of domestic financial intermediation and leave the basic incentive structure of the banks unchanged. Hence, structural reforms of the banking system are called for which comprise the strengthening of banking supervision, bank privatization, improvement in information systems, and reforms of the deposit insurance system. Incidentally, these measures can also help to improve the efficiency with which financial funds are being allocated and thus the efficiency of investment which, in turn, improves the ability to service a country's foreign debt.

## **V. Reform Progress**

### **5.1. Capital Controls**

In the three Visegrad countries, capital inflows were liberalized soon after the beginning of reforms, in particular in connection with foreign direct investments,<sup>23</sup> while restrictions on capital outflows are being maintained. As was mentioned above, Estonia has practically established full capital account convertibility since 1994. Since 1994, the Visegrad countries have substantially liberalized their capital accounts. The move towards greater capital account convertibility has been prompted by increased capital inflows and thus by market forces on the one hand and by the intention to join the OECD and to accept the convertibility requirements of

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<sup>23</sup> For investment in the banking industry, prior approval by the Central Banks is needed (EBRD, 1994: 126).

the IMF on the other hand.<sup>24</sup> The needed regulatory changes came into force with the new foreign exchange laws of January 1995 (Poland), October 1995 (Czech Republic), and January 1996 (Hungary).

Common features of all three foreign exchange laws are a more liberal regime on foreign direct investment than on other capital account transactions as well as less restrictions on capital inflows than on capital outflows. Invisible (service) transactions are largely liberalized, the most significant restrictions applying to financial and insurance services. With regard to capital inflows, foreign direct investment except in specified sectors such as banking has been liberalized. Inward portfolio investment in bonds and equity is generally permitted but the placement of domestic securities usually requires a permission. Mid- and long-term financial credits have been liberalized throughout the region; Czech residents can also borrow short-term funds from abroad.

As regards capital outflows, the Czech regime is also the most liberal with regard to real estate investment for residents, which is largely restricted in Hungary and Poland. Generally, the major restrictions that are being retained are repatriation requirements for foreign currency obtain abroad by residents, the opening of accounts with foreign banks abroad, outward financial credits, guarantees and the like, and the sale and currency of domestic currency abroad. A safeguard clause is included in the Czech foreign exchange legislation, ensuring that the authorities can impose deposit requirements on capital inflows for a maximum period of three months. The Hungarian National Bank can likewise delay short-term financial credits with a volume of more than 50 million US-Dollars for up to three months.

Generally, it must be taken into account that the official foreign exchange regulations may give a misleading picture of the actual degree of regulations that prevail in financial markets. On the one hand, indirect restrictions on capital flows still persist. In Poland, for example, interest rates on foreign currency deposits with Polish banks are not directly regulated. Indirectly, however, arbitrage and international price equalization is prevented because access to the Euro-currency

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<sup>24</sup> The following section draws heavily on Backé (1996) who provides an excellent survey of the current and capital account restrictions in the Visegrad countries and in Slovenia. For a review of the Estonian case see Berensmann (1996). Article VIII of the IMF has first been accepted by Estonia in August 1994, followed by the Czech Republic (October 1995), Poland (June 1995), and Hungary (January 1996). The countries became members of the OECD in December 1995 (Czech Republic), May 1996 (Hungary), and July 1996 (Poland).



market has not been liberalized fully (von Furstenberg/Höfer, 1997). On the other hand, many direct restrictions can be circumvented by replicating restricted transactions through unrestricted transactions or by using other regulatory loopholes.

## **5.2. Micro- and Macro-Adjustment**

Hungary enjoyed significant gross capital inflows right from the start of the transition. But it also started out with a considerable amount of foreign debt which it chose to service fully. As a result, capital inflows have been used partially to repay interest and principal on foreign debt. They have thus not swelled the money supply by as much as would have been the case without debt service. Correspondingly, both the real appreciation of the currency and the current account deficit remained relatively modest initially. However, the real appreciation did contribute to a significant rise in unit labor cost in the manufacturing sector in foreign currency terms and hence to a deterioration of the external position.<sup>25</sup> It is noteworthy in this regard that a large portion of capital inflows recorded as FDI were actually privatization revenues flowing into the coffers of the government. A significant part of these inflows were therefore not invested and hence did not contribute to raising productivity. By the same token, by running fiscal deficits in the order of 7 to 8 percent of GDP the government contributed to the low aggregate savings and investment ratios. To correct its external disequilibrium, Hungary was forced to introduce an austerity program in March 1995. The government cut budget expenditures, raised taxes, instituted an import tax surcharge and devalued the currency by nine percent. Subsequently, it shifted from a policy of discretionary devaluations to a pre-announced crawling peg in an attempt to preserve the competitiveness of the Forint without foregoing its role as a nominal anchor. The monthly devaluation was set at 1.9 percent for the first three months that the scheme was operative and at 1.3 percent for the following months.

This austerity package cost Hungary some output growth in 1995 and 1996, but it looks like Hungary has successfully averted a full-fledged crisis along Mexican lines. The episode highlights the potential pitfalls of large capital inflows for transition economies. However, it should be recognized that speculative capital

<sup>25</sup> In a study of equilibrium real exchange rates in transition economies, Halpern and Wyplosz (1995) found Hungary's real exchange rate to have been close to its equilibrium level in 1990. Hence the scope for further appreciation without hurting competitiveness was probably relatively small. By 1994, Halpern and Wyplosz diagnosed signs of overvaluation.

inflows were a symptom of inconsistent policy rather than the root of the problem. The lesson of the Hungarian case therefore must be that foreign capital inflows are no panacea for sustainable development. They can play a beneficial role only if domestic policies succeed in establishing a climate favorable for savings and investment. Containing consumptive government expenditures is a prime task in this regard;<sup>26</sup> government spending has been reduced from 58 percent of GDP to 50 percent between 1993 and 1995.

The Czech case is equally instructive.<sup>27</sup> As Graph 2 shows, investment has been going strong in the *Czech Republic*, financed by both domestic and foreign savings. The government has contributed to this by running small budget surpluses. The economy has been growing strongly. Since the beginning of the reform process in 1991, the Czech National Bank had been able to defend a fixed exchange rate which pegged the Czech Crown to a basket of currency, although the commitment to defend this rate was never binding (Hrncir, 1997). Inflation has been moderate. As a result, the real appreciation has remained relatively small initially.<sup>28</sup> But beginning in 1995, the trade balance worsened to the point of plunging the current account into a considerable deficit. This was due *inter alia* to strong domestic demand, particularly for investment goods and components and parts. However, it was also due to large speculative capital inflows attracted by a stable exchange rate and nominal interest rates substantially above those prevailing in developed market economies.

The Central Bank struggled to sterilize the capital inflows in order to prevent them from fueling inflation, but this became increasingly difficult. In late February 1996, the monetary authorities therefore decided to widen the band within which the currency is allowed to float relative to a basket of US dollar and D-Mark to  $\pm 7.5$  percent in order to give some room for a nominal appreciation. This move has precipitated an outflow of short-term capital and a loss of foreign exchange reserves of the National Bank, mainly in the first half of 1996 (Czech National Bank, 1997: 30).

<sup>26</sup> Note that even a significant part of the sizable inflows of FDI which Hungary has attracted seems to have been spent on government consumption (or on servicing existing foreign debt) rather than investment. The overwhelming majority of this FDI came in through the sale of state-owned enterprises (Sobol, 1995). This generates immediate revenue for the state budget, but it does not necessarily make a direct contribution to capital accumulation.

<sup>27</sup> For a more detailed analysis of the situation in the Czech Republic see an accompanying paper (Buch/Heinrich, 1997).

<sup>28</sup> Moreover, Halpern and Wyplosz (1995) argue that initially (1990), undervaluation was most pronounced in Czechoslovakia, implying that the scope for real appreciation has been highest in the Czech and Slovak Republics.

However, apart from strong domestic demand and speculative capital inflows, the growing balance of payments deficits in 1995, 1996 and the first months of 1997 are also caused by a loss of competitiveness due to a lack of labor productivity growth (Graph 4), while the real appreciation continued unabated. As a result, unit labor costs as measured in US dollars have risen faster than in other countries (EBRD 1996).<sup>29</sup> In view of the findings above that the Czech Republic boasts the highest (fixed) investment-to-GDP ratio of the countries under review and has received more FDI per head than for instance Poland, this persistently sluggish productivity growth must be traced to problems at the microeconomic level. Investible funds appear to be used less efficiently in the Czech Republic than in some other transition economies, and this in spite of a low fiscal deficit. Possible candidates for explanations of the puzzle are deficiencies in the corporate governance of privatized enterprises and political interference into the lending decisions of the major banks, in which the state still owns sizable stakes (although the banks vehemently deny this).

In the first months of 1997, deep concerns about the viability of the Czech miracle have been raised and eventually led to mounting exchange rate pressure. Growth performance being less satisfactory than envisaged, and the budget deficit and the balance of payments position deteriorating, policy makers had to consider steps against a sweeping currency crisis. Instead of devaluing the currency, the Central Bank intervened into the foreign exchange market and raised its Lombard rate from 14 to 50 percent per annum in mid-May. Overnights shot up to almost 500 percent. Already before, the government had reduced planned spending for the year, put a cap on public sector wages, and imposed restrictions on the purchase of certain consumer goods. Finally, the authorities decided to abandon the exchange rate target on May 27, 1997, and announced a re-newed peg to the D-Mark at some time in the future.

Thus far, *Poland* has not yet experienced problems with the financing of its current account deficit. Yet, an analysis of the Polish case has to take into account that the balance of payments statistics have been subject to substantial revisions. Starting with the 1995-data, the Polish National Bank has revised its statistical base,

<sup>29</sup> Faster productivity growth relative to the rest of the world is a major factor leading the equilibrium exchange rate to appreciate. Low measured labor productivity growth in the Czech Republic for much of the transition therefore suggests that the equilibrium exchange rate may have appreciated by less for the Czech Republic than for some other transition countries and that the scope for real appreciation may have been lower.

primarily in order to take correct account of short-term capital flows which have been reclassified as „unclassified current account transactions“ (NBP, 1996). These unclassified items, which comprise shuttle and cross-border trade, contribute a substantial positive share to the Polish foreign trade balance. One explanation for the comparatively good trade performance – both with respect to registered and unregistered trade – is the readiness of monetary authorities to adjust the exchange rate of the Zloty, hereby preventing an excessive appreciation of the real exchange rate. After an initial devaluation of 40 percent, the Polish Zloty had been pegged to the US-Dollar between January 1990 and October 1991. Since then, the value of the Zloty has been tied to a trade-weighted basket of five currencies, the central parity being adjusted by pre-announced devaluations of initially 1.8 percent per month, the rate of crawl having been lowered to 1.0 percent per month later on. In May 1995, the band around the central parity was again widened. In the wake of the recent Czech balance-of-payments crisis, Poland has come under pressure as well.

In June 1992, *Estonia* has been both the first successor state of the Soviet Union to establish its own national currency and also the first transition economy to introduce a currency board system.<sup>30</sup> Currency in circulation and reserves of the commercial banks are fully covered by foreign exchange reserves of the Bank of Estonia, the exchange rate is fixed at a parity of 8:1 to the German D-Mark,<sup>31</sup> and the central bank pursues no active monetary policy. This implies in particular that capital inflows remain completely unsterilized, thus automatically contributing to an increase in domestic money supply. At the same time, all remaining restrictions on capital flows have been abolished in 1994. Capital inflows have indeed been quite substantial since 1993, reaching up 13 percent of GDP in 1993 and in 1996 (Table 2). Despite the high degree of credibility of this exchange rate regime which has most importantly been ensured through strict fiscal discipline, at least two concerns about the sustainability of the system must be raised.<sup>32</sup>

First, if capital flows suddenly reverse because of exogenous or endogenous shocks to the Estonian economy, the price adjustment mechanism has to work into the opposite direction, i.e., prices and interest rates must be revised downward. The risk that such a reversal of capital flows occurs is currently relatively small. FDI has dominated capital inflows into the private sector, and there are no indications of large upcoming domestic macro-imbalances.

<sup>30</sup> For an overview over Estonia's exchange rate system see Ross/Karmo (1995) and Berensmann (1997).

<sup>31</sup> Recently, the Bank of Estonia has announced that it may change the exchange rate peg to the Euro once a common European currency has been introduced.

<sup>32</sup> The following sections borrow to some extent from IMF (1996c).

Second, capital inflows increase money supply and prices and thus contribute to an appreciation of the real exchange rate with negative implications on foreign trade. It must be noted, first of all, that capital inflows and the accompanying increase in money supply do not fuel inflation if they come in response to an increase in money demand. During the past years, inflation in Estonia can mainly be explained by a transition-induced adjustment of relative prices. This has reduced the initial undervaluation of the real exchange rate. Furthermore, the dominance of FDI in capital inflows has broadened the production capacity of the Estonian economy, thus raising productivity and the equilibrium real exchange rate. This is also evidenced by a high share of investment goods in total imports. Taken together, fixing the exchange rate has thus far not led to an overvaluation of the Estonian currency.

## VI. Conclusions

- *Domestic investment conditions matter.* Whether transition economies can draw of foreign savings to finance domestic investment crucially depends on the investment conditions which are created within the countries. Because macroeconomic stability and proper microeconomic incentive are also conducive to domestic savings, capital imports and domestic savings are largely complementary. This positive correlation between domestic and foreign savings has been strongest in the Czech Republic and in Estonia. In Hungary and Poland, in contrast, have foreign savings tended to substitute domestic savings which has prevented a noticeable recovery of investment as a share of GDP.
- *Domestic policies can reduce the risk of an abrupt reversal of capital flows.* Because capital inflows into Central and Eastern Europe are dominated by FDI and other long-term investments, an abrupt reversal of capital flows seems less likely than in those developing countries which have seen a substantial inflow of portfolio capital. To the extent that external factors – notably the level of international interest rates – are one important determinants of capital flows, however, even a favorable structure of capital inflows does not shield economies from the volatility of capital flows. Yet, consistent and credible domestic policies improve the signals received by investors, reduce the exposure to external shocks and the risk of contagion. If signs of overheating become obvious, governments must act quickly and decisively to tackle the underlying cause of the problem. This requires, among others, a sufficient degree of exchange rate flexibility in order to reduce the degree of real exchange rate appreciation. Also, policymakers must

stand ready to reduce government spending if the level of domestic absorption becomes unsustainable.

- *Capital controls are at best a short-term measure.* All countries under review have retained some capital controls or at least the option to re-introduce controls in times of macroeconomic instability. While the short-term imposition of capital controls may be warranted in cases of short-term financial distress triggered by external factors, the empirical evidence suggests that capital controls can hardly be enforced in mid- to long-run. They can thus not substitute for prudent economic policies. Moreover, even the option to introduce capital controls in a *de facto* liberalized regime may be detrimental for foreign investment. If there is a positive probability that barriers to capital outflows are imposed in the future, this may deter foreign investors who see the irreversibility of their investment being increased. The evidence from Estonia suggests that even a very small economy can live without controls on capital flows. Despite having abolished all capital controls, the country has experienced an inflow of foreign capital which is dominated by long-term funds. Consistent domestic macroeconomic policies, notably a tight fiscal policy, has rendered speculation against the fixed exchange rate pointless and prevented an inflow of short-term speculative capital.
- *Capital market integration is beneficial for the transformation process.* In view of the envisaged membership in the EU, the reform countries can benefit from creating the conditions for a free market for capital. Harmonizing corporate law, banking legislation, and financial market regulations reduces uncertainty about future investment conditions and may spur sustained capital imports. Imposing domestic banks to the competitive pressure of foreign banks can raise the efficiency of domestic financial systems, reduce the degree of credit rationing, and promote the process of privatizing banks and enterprises. Moreover, foreign owners tend to improve the corporate governance of firms and ease access of the firms to the relevant export markets.
- *Gradual integration is not warranted.* The major obstacles towards a fast integration of capital markets have been tackled in all economies under review. Substantial progress has been made in the field of banking reform, and the incumbent banks have been recapitalized for their inherited bad loans. Hence, the arguments in favor of a gradual opening of capital markets and of the banking sector for foreign competition are substantially weakened.

## Tables

Table 1 — Net Capital Flows to Developing Countries, 1989-1995.

	1989	1990	1991	1992	1993	1994	1995
	<i>(in billion US-Dollar)</i>						
Total	43.9	59.8	167.9	148.4	201.5	152.8	231.9
Czech Republic <sup>a</sup>	-0.3	0.6	0.3	0.0	2.5	3.4	8.2
Estonia	...	...	...	0.0	0.2	0.2	0.3
Hungary	0.7	-0.9	2.4	0.4	6.1	3.2	5.9
Poland	1.8	-0.8	2.1	3.9	5.7	4.4	12.9
European transition economies <sup>b</sup>	0.5	2.1	5.2	10.8	18.5	4.5	42.2
<i>in % of total</i>	1.1	3.5	3.1	7.3	9.2	2.9	18.2

Net capital flows = capital account (credit - debit) plus financial account (liabilities - assets) of the balance of payments, excluding changes in official reserves; positive numbers indicate net inflows. Developing countries include transition economies. — a) Viz. former Czechoslovakia prior to 1993. — b) European developing countries as defined by the IMF excluding Cyprus, Malta, and Turkey and non-specified countries.

Source: IMF (1996b); own calculations.

Table 2 — Capital inflows in relation to GDP.

	Pre-inflow period <sup>a</sup>	Year 1 (1993)	Year 2 (1994)	Year 3 (1995)	Year 4 (1996) <sup>c</sup>
Czech Rep. (1993)		7.9	9.4	18.3	7.8
Estonia (1993)	5.0 <sup>b</sup>	13.5	7.6	7.4	13.0
Hungary (1993)	1.8	15.8	7.7	13.4	... <sup>d</sup>
Poland (1993)	1.9	6.6	4.7	10.7	...
Chile (1990)	4.5	10.6	3.5	8.1	3.6
Mexico (1989)	-0.2	2.4	4.6	7.4	7.6
Spain (1987)	-1.1	3.8	2.7	3.8	3.1
Thailand (1988)	3.3	5.2	9.7	11.4	12.6

a) Average of the period three years prior to the inflow period; beginning of inflow period indicated in brackets. — b) 1992. — c) Data for 1996 have been taken from national sources and are not necessarily consistent with earlier series. — d) In 1995, Hungary reported net capital exports in the amount of \$ 1.6 billion because of the repayment of foreign loans through the National Bank and the government. Net capital inflows in the form of FDI and portfolio investment were positive (\$ 1.1 billion).

Sources: CNB (1997); EBRD (1996); Eesti Pank (1997a); IMF (1996a, 1996c); NBH (1997); NBP (1996), Schadler et al. (1993).



Table 3 — Gross World Capital Flows, 1989-1995.<sup>a</sup>

	1989	1990	1991	1992	1993	1994	1995
	<i>(in % of total capital flows)</i>						
Developing economies <sup>b</sup>							
Inflows	7.1	10.3	19.9	15.6	18.2	24.1	18.9
Outflows	6.4	9.1	8.2	8.5	10.3	18.1	12.6
European transition economies <sup>c</sup>							
Inflows	0.2	0.6	1.2	1.3	1.6	3.1	2.3
Outflows	0.3	-0.2	0.3	0.7	1.3	3.6	1.9

a) Sum of capital and financial accounts (including changes in reserves). — b) Including transition economies. — c) European developing countries as defined by the IMF excluding Cyprus, Malta, and Turkey and non-specified countries.

Source: IMF (1996a); own calculations.

Table 4 — Structure of Gross Capital Inflows, 1989-1996.

	1989	1990	1991	1992	1993	1994	1995	Average (1989- 1995)	1996 <sup>a</sup>
	<i>(in % of total capital inflows)</i>								
<i>Czech Republic</i>									
FDI	32.7	15.1	28.0	112.2	10.5	14.4	23.2	21.9	34.1
Portfolio investment	0.0	0.0	0.0	-4.1	29.5	14.7	15.3	15.3	17.8
Other	67.3	84.9	72.0	-8.1	60.0	70.9	61.5	62.8	48.1
<i>Estonia</i>									
FDI	-	-	-	61.2	41.2	61.7	50.6	51.9	17.3
Portfolio investment	-	-	-	0.0	0.0	2.3	4.3	2.0	25.4
Other	-	-	-	38.8	58.8	36.0	45.1	46.1	57.3
<i>Hungary</i>									
FDI	0.0	0.0	61.1	178.2	44.8	39.6	78.6	61.7	...
Portfolio investment	0.0	0.0	0.0	0.0	74.8	85.2	38.5	48.4	...
Other	100.0	100.0	38.9	-78.2	-19.6	-24.8	-17.1	-10.1	...
<i>Poland</i>									
FDI	0.7	2.4	10.8	27.9	15.1	74.6	80.7	39.8	57.3
Portfolio investment <sup>b</sup>	-	-	-	-	-	-	28.6	6.5	3.9
Other	99.3	97.6	89.2	72.1	37.6	2.5	-9.3	53.7	38.8
<i>European transition economies</i>									
FDI	0.3	-5.8	31.9	40.9	34.2	23.8	42.4	31.7	...
Portfolio investment	0.0	0.0	0.0	-0.4	32.0	14.3	15.7	14.2	...
Other	99.7	105.8	68.1	59.5	33.8	61.9	41.9	54.2	...
<i>Memorandum:</i>									
Share of FDI in capital inflows									
<i>World</i>	14.9	16.8	21.5	16.1	15.4	23.1	19.6	17.9	...
<i>Developing countries</i>	30.1	28.1	28.7	30.3	30.1	38.3	35.8	32.6	...
Total capital inflows = financial account excluding reserves. — a) Structure of net capital inflows. — b) Portfolio investment has not been recorded as an individual item prior to 1995.									

Source: Czech National Bank (1997); Eesti Pank (1997a); IMF (1996a); NBP (1996); own calculations.

Table 5 — Debt Indicators, 1989-1994.

	1989	1990	1991	1992	1993	1994
	<i>(in % of total)</i>					
<i>Total debt / GDP</i>						
Czech Republic	—	17.7	25.9	25.6	30.5	32.4
Estonia	—	—	—	0.5	0.7	0.5
Hungary	70.5	69.1	77.1	67.5	67.5	71.8
Poland	57.1	72.5	76.3	65.6	52.6	44.6
<i>Short term debt / total debt</i>						
Czech Republic	48.5	37.7	29.7	26.5	23.6	27.0
Estonia	—	—	—	0.0	0.2	4.3
Hungary	16.2	13.8	9.6	10.4	8.3	8.6
Poland	19.9	19.5	14.1	9.3	5.9	2.0
<i>Private non-guaranteed debt / total long-term debt</i>						
Czech Republic	—	—	0.0	0.3	3.9	4.9
Estonia	—	—	—	29.3	11.7	7.2
Hungary	0.0	0.0	1.3	3.5	5.8	9.8
Poland	0.0	0.0	0.3	0.9	1.3	2.2

Source: World Bank (1997)

Table 6 — Open Foreign Exchange Position of Commercial Banks, 1989-1996.

	1989	1990	1991	1992	1993	1994	1995 <sup>a</sup>	1996 <sup>b</sup>
	<i>(in % of total assets)</i>							
Czech Republic				6.7	4.8	-2.5	-3.7	-3.5
Estonia	-	-	41.9	36.5	20.5	25.4	16.5	1.1
Hungary	0.2	2.1	2.4	2.2	1.8	-0.8	-2.4	
Poland	-3.4	18.0	10.7	13.8	13.1	15.4	9.6	5.8
<i>Memorandum:</i>								
Germany	7.3	6.9	6.6	4.6	6.3	3.3	2.5	3.1
Open foreign exchange position = foreign exchange assets - foreign liabilities denominated in domestic currency, in percent of total assets of commercial banks. — a) Hungary: September. — b) Czech Republic: November.								

Source: IMF (1997); own calculations.

Table 7 — Share of Machines and Equipment in Total Imports, 1992-1996.

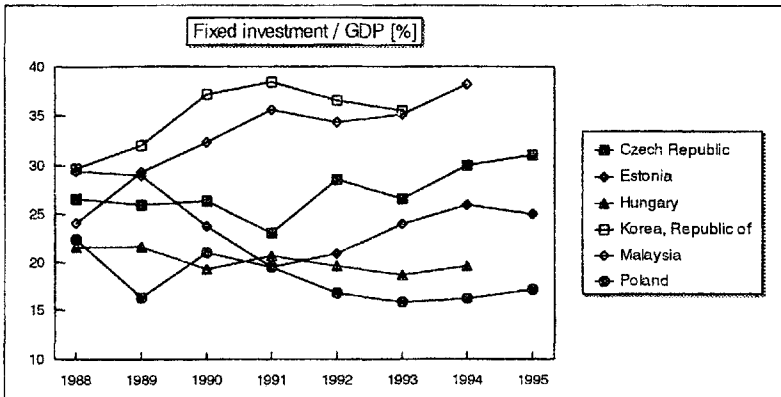
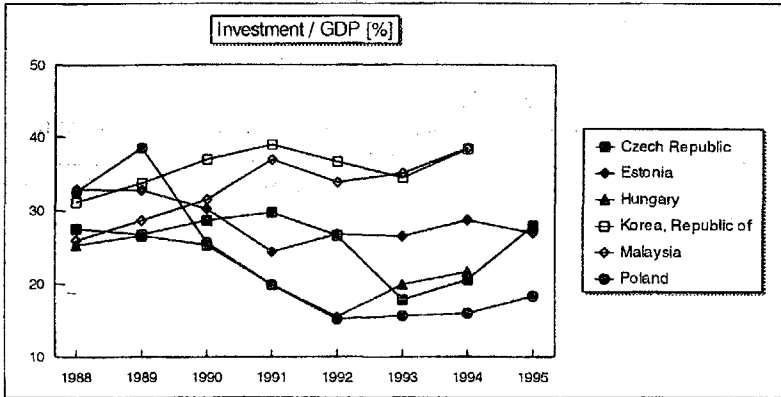
	1990	1991	1992	1993	1994	1995	1996
Czech Republic			41.5	36.1	34.9	37.1	38.2
Estonia					19.7	21.6	21.9
Hungary <sup>a</sup>	18.0	20.3	20.7	26.9	23.3	20.1	
Poland <sup>b</sup>	36.9	28.7	29.8	29.6	28.9	29.9	

a) Imports of capital goods and transport equipment, non-ruble trade only. — b) 1991-1991: public sector only. Machinery and transport equipment. Including ruble trade.

Sources: Czech National Bank (1997); Eesti Pank (1997b); IMF (1996b, 1997a )  
World Bank (1997).

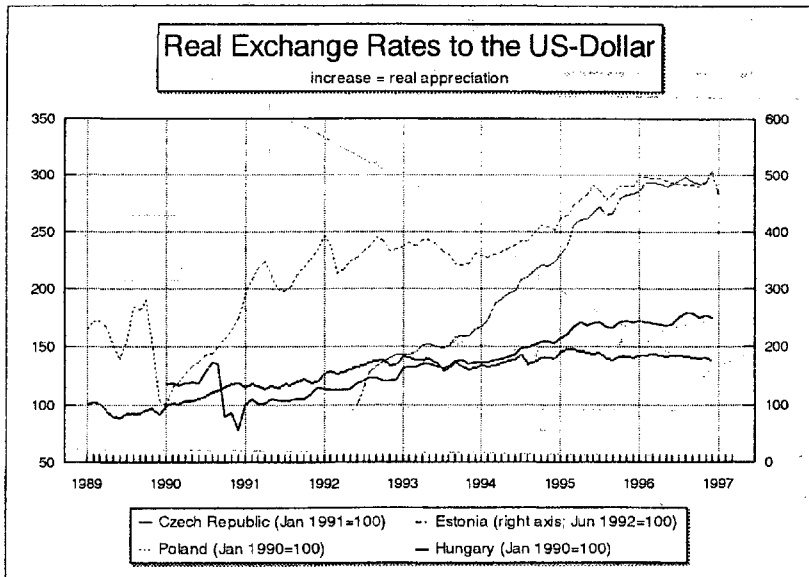
## Graphics

Graph 2 — Share of Investment in GDP, 1988-1995.



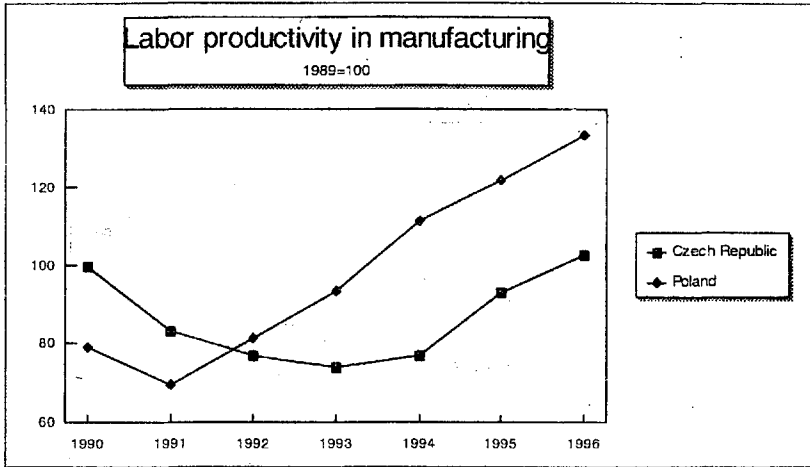
Sources: IMF (1997), World Bank (1997); own calculations.

Graph 3



Sources: IMF (1997); own calculations.

Graph 4



Source: EBRD (1996).



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