# Foreign Direct Investment and Perceptions of Vulnerability to Foreign Exchange Crises: Evidence from Transition Economies*

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# ABSTRACT

**Foreign Direct Investment and Perceptions of Vulnerability to Foreign Exchange Crises:
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We show that the imputation of reinvested profits of the subsidiaries of foreign firms as a debit item on a host country's balance of payments account tends to overstate the current account deficit and to make the host country seem more vulnerable to financial crisis. We also show that, because of the workings of the FDI financial life cycle, this phenomenon is most evident for countries that have recently received large inflows of capital. The transition economies of East Europe certainly fall among such countries, and we show that, for the Czech Republic and Hungary, this imputation has a large effect on their reported current account balance. We verify the working of the FDI financial life cycle using a panel of transition economies.

# 1. INTRODUCTION

While currency crises have a variety of causes (Eichengreen *et al.*, 1996; Goldstein *et al.*, 2000; Krugman, 2000; Summers, 2000), both the economic literature and practical experience with crises show that the ability to forecast them remains controversial.[1] Despite this, international lenders, organizations like the IMF and the World Bank, as well as the economic press, have adopted certain "rules of thumb" that serve, if not as predictors of crises, then at least as warning signs that countries that violate such rules of thumb are in danger of experiencing a currency crisis or speculative attack on their currencies. Perhaps the best known of these informal rules is that a country's current account deficit should not exceed five percent of GDP. For example, Milesi-Ferreti and Razin (1996), observe that "[c]onventional wisdom is that current account deficits above 5% of GDP flash a red light, in particular if the deficit is financed with short-term debt…" and Summers (1996) warns that "close attention should be paid to any current account deficit in excess of 5% of GDP…." Such high and sustained current account deficits are viewed as precursor to a currency crisis because they are often financed by short-term capital inflows into the country, and such inflows are subject to sudden reversals.

In this paper we call attention to an anomaly in the balance of payments accounting framework that tends to overstate the current account deficit of countries that are net recipients of foreign direct investment (FDI) and especially of those countries that are experiencing, or that have recently experienced, large inflows of FDI. The anomaly is due to the imputation of the reinvestment of profits by foreign-owned affiliates as a debit item on the host country's current account even though such reinvestment involves no transactions on the foreign exchange market and, of course, represents a much more stable form of financing than do short-term capital

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[1] See Goldfajn and Valdés (1998), Berg and Pattillio (1999), Kaminsky and Reinhart (1999), Burkart and Coudret (2002).

inflows. We also show that this bias is of considerable quantitative significance for a number of developing countries and particularly so for the transition economies of Eastern Europe.

The remainder of the paper is organized as follows. In the next section we show how reinvested profits of foreign firms are imputed as a debit item on the current account. In section three we discuss the factors that determine the magnitude of the distortion in the current account balance that this imputation causes, and we show that, for a number of countries, and particularly for some of the transition economies of East Europe and the former Soviet Union, such reinvested profits may actually represent a very significant part of the observed current account deficit. In Section four we use a panel of transition economies to verify the working of the FDI financial life cycle.

## 2. WHY SOME COUNTIES' CURRENT ACCOUNT DEFICIT IS "OVERSTATED"

Normally, a transaction is recorded on the balance of payments when the domestic and foreign currencies are exchanged between the residents of a country and the rest of the world. Such exchanges usually have a counterpart transaction on the foreign exchange market. However, according to the IMF *Fifth Balance of Payments Manual* (1993), in some cases where no actual currency flows between a country's residents and the rest of the world occur, transactions are nevertheless imputed and entries are made in the balance of payments accounts. The reinvested earnings of foreign-owned affiliates are an example of such an imputed entry in the balance of payments because the earnings of the foreign-owned affiliate, whether distributed in the form of dividends paid to the parent firm or reinvested in the affiliate that generates the earnings, are included in the balance of payments as a deficit item on the current account. In the case of dividends remitted to the parent company, the rationale for the entry is obvious because host-country currency has to be converted into the currency of the country that is the MNC's home. In

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the case of profits that are reinvested in the host-country affiliate, however, there is no exchange of home-country currency for foreign exchange. Reinvested profits earned in the host country's currency are spent in the host country. Nevertheless, these profits reinvested in the local affiliate of a foreign-owned firm are treated as a current-account deficit item, that is, as an exchange of local currency for foreign currency, even though no such exchange takes place. Such an imputation is necessary to preserve the double-entry nature of the balance of payments account, which requires the balance of payments to account for an increase in the value of foreigners' asset holdings in the host country (Box 1).

As Box 1 shows, reinvested earnings are reported as a credit item on the financial account as part of FDI to reflect foreign investors' increased asset holdings in the host country. To offset this credit item and to maintain the double-entry nature of the balance of payments, the reinvestment of earnings by foreign-owned affiliates is also recorded as a debit on the current account. A net inflow of reinvested earnings into the domestic economy has a positive impact on the capital account in the form of foreign direct investment, but the impact on net income receipts within the current account is of an equal, but opposite, amount. Thus, countries that have received large inflows of FDI that generates large profits that are reinvested in the local economy will, paradoxically, appear to have large current account deficits even though the reinvested profits purchase local inputs such as land, structures, etc., and require no foreign exchange financing. While it is true that proponents of the "five-percent rule" emphasize the need to consider the way in which the current account deficit is financed, in common practice a close analysis of the financing of the deficit is generally not undertaken, and, therefore, the bias described here, if quantitatively important, needs to be addressed more seriously in evaluating whether a country's current-account deficit is sustainable or not. Moreover, there is some irony to the fact that FDI,

the most stable source of external finance, and one that Fernández-Arias and Hausmann (2001) found to actually reduce the risk of currency crises and speculative attacks, is also the one form of financing that is included in the balance of payments in a way that makes the country appear more vulnerable to such crises and attacks.

## 3. IS THE REINVESTED EARNINGS BIAS A LARGE PART OF THE CURRENT ACCOUNT DEFICIT?

### A. The Magnitude of Reinvested Earnings from FDI

Whether the imputation of reinvested earnings in the current account is sufficient to materially affect the magnitude of a country's external deficit depends on three factors. The first of these is quantitative. The larger the stock of FDI relative to the size of the economy and the more profitable are foreign firms, the greater is the pool of money that can be reinvested into the local affiliates of foreign firms. The second factor is the country-specific characteristics of the host and home countries that influence the distribution of total affiliate profits into dividends that are remitted to the parent company and into funds that are reinvested back into the local affiliate. This decision depends on a variety of factors including perceptions of host country risk; tax treatment of dividends by the home and host countries; opportunities for extracting funds from the affiliate through transfer pricing, management fees, etc.; and the attractiveness of alternative ways of financing the affiliate's investment needs (Robbins and Stobaugh, Ch. 5, 1973).[2] The third factor consists of the time path of FDI into the host country or, alternatively, the vintage of the stock of FDI, which affects both the volume of profits and their distribution between reinvestment and dividends. This third factor we call the FDI financial life cycle.

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[2] Despite the existence of these other options, dividend remittances have accounted for over 50% of the funds flowing from foreign affiliates to US MNCs in the post-World War II period, and this proportion has shown little change over time.

The FDI financial life cycle model is described in Figure 1, which presents a stylized relationship between profits, dividends and reinvested profits over the life of a foreign direct investment project. At the outset, in what we call Stage 1 in the diagram, the MNC makes an investment in the foreign country to found an affiliate. At first, the affiliate will operate at a loss. In the case of an acquisition, this period may be short or non-existent if the acquired firm is, or can be easily reorganized to become, profitable. In the case of a greenfield investment, during the time taken to acquire a site, build and equip a production facility, train workers and begin production, the interest on the capital invested may result in sizable and longer lasting start-up losses. Thus, in Stage 1, the affiliate operates at a loss and pays no dividends.

In Stage 2, the affiliate begins to operate at a profit as production begins or as the firm becomes more competitive as the result of the restructuring or other competitive advantages provided by the parent firm. However, as the affiliate becomes more successful on the market, it is likely to have significant needs for additional investment, both for working capital as well for expanding its plant and equipment. Thus, at first, all or most profits will be reinvested to meet these needs. As time passes and profits continue to grow, the parent firm may begin to require that the affiliate remit some of the profits in the form of dividends, although the monetary value of reinvested profits may continue to increase. The length of the second stage will depend, in part, on the size of the domestic market, which will determine for how long the affiliate can continue to expand its capacity, on the availability of export markets to the affiliate and on the attractiveness of alternative ways of financing the affiliate's expansion. In Stage 3, the affiliate has reached a "mature" stage where its market share and profit margins in the host country have stabilized. At this point, the parent firm will choose to repatriate a larger share of the profits in the form of dividends so that these funds can be used to finance investment opportunities that offer

more dynamic prospects elsewhere, and reinvested earnings will decline both as a share of profits and absolutely.[3]

## B. FDI Reinvestment in the Balance of Income - Some Evidence

Table 1 shows how the three determinants of FDI reinvestment discussed above influence the size of the bias in the current account of four countries, Brazil, the Czech Republic, Ireland and Portugal. These four countries provide good data on reinvested profits and also illustrate the significance of the three factors discussed above. The experience of at least three of these countries also provides striking evidence that reinvested profits can be a very significant component of the current account deficit.

The importance of the first factor, the amount of FDI and its profitability, is most evident in a comparison of Ireland with the other three countries. For Ireland, the difference between the current account with reinvested dividends reported as a debit item and without the inclusion of reinvested profits is as much as 10 percent of GDP. That is, without the imputation of reinvested profits by foreign MNCs located in Ireland as a debit item, Ireland's current account surplus would be higher by about 10 percent of GDP. This difference between the two measures of the current account surplus is much greater than it is in the other three countries. In part, the greater gap between the two measures of the current account reflects the fact that the stock of FDI in Ireland is equivalent to over 40 percent of GDP while for the other three countries, it ranges from 11 to 15 percent of GDP. Moreover, as columns 1 and 2 of Table 1 show, FDI in Ireland appears to be more profitable than it is in the other three countries.[4] Thus the much larger volume of

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[3] An interesting example of the workings of the FDI financial life cycle is provided by Koretz (2002), who writes: "The U.S. became a debtor nation during the 1990s. Yet until this year it actually received more income from its direct investments overseas and holdings of foreign financial assets than foreigners received from their U.S. investments." He suggests that this is because "… a lot of recent direct investment in the U.S. has faced big startup costs. Investment by U.S. companies overseas is older, so it earns higher returns."

[4] It is important to bear in mind that FDI in Ireland may *appear* more profitable because Ireland's accounting standards may make it more difficult for MNCs to understate profits through transfer pricing, royalties, management fees, etc.

MNC profits in Ireland relative to aggregate economic activity does much to explain why the bias in the measurement of the current account is so large.

Country-specific factors also play a role in the magnitude of the current account bias caused by FDI. Although Brazil, the Czech Republic and Portugal have similar ratios of FDI to GDP, an examination of column 4 of Table 1, the percentage of FDI profits that is reinvested in the country, reveals that Brazil is something of an outlier. In the other two countries, as well as in Ireland, about half of FDI profits are reinvested. In Brazil, the rate of reinvestment is quite low, and in some years negligible.[5] As expected, the difference between the Brazilian current account deficit measured with and without reinvested profits is very small. On the other hand, for the Czech Republic and Portugal, the difference is appreciable, usually over one percent of GDP for the Czech Republic and nearly one percent for Portugal. These are significant biases when considered in the context of the "five percent rule".

Of particular relevance to the transition economies is the FDI financial life cycle's effect on the volume of reinvested earnings in the current account balance. This is so because the transition economies have gone from a state where they had virtually no FDI at the start of the 1990s to a situation where some, such as Hungary, Poland and the Czech Republic, have FDI stocks of a magnitude, whether measured relative to GDP or to population, that compares with many other middle-level income countries that have been receiving FDI inflows for much longer periods of time. The major difference between the transition economies and other countries then is not in the stock of FDI but rather in its vintage, and if the vintage of FDI is an important determinant of its distribution between dividend remittances and reinvested earnings, then the magnitude of the reinvested earnings bias should be different for transition countries as well.

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[5] The low rate of reinvestment in Brazil may reflect the country's poor economic performance in the late 1990s.

If the FDI financial life cycle model is correct, then, currently, the amount of reinvestment of MNC earnings in the transition countries is abnormally high and is likely to be increasing because most of the foreign affiliates are entering or operating in Stage 2 of the FDI financial life cycle. Only later, as they enter Stage 3, will the bias in their current account steadily diminish as the reinvestment of earnings drops off and is replaced by dividend repatriation, which, unlike reinvested earnings, does create claims on the foreign exchange market.

The workings of the FDI financial life cycle are illustrated in Figure 2, which shows the role that reinvested earnings play in the FDI position and in the balance of income of two transition economies, the Czech Republic and Hungary.[6] Hungary attracted a large stock of FDI early on in the transition. This was due to the fact that Hungarian privatization was consciously designed to attract foreign "strategic" investors for Hungary's state-owned firms and, later, financial institutions. For the first half of the 1990's Hungary was by far the leader in both the stock of FDI and annual FDI inflows among the East European transition economies. The Czech Republic, on the other hand, chose to privatize the bulk of its state-owned firms by means of the "voucher privatization" that put firms in the hands of domestic rather than foreign owners. While some Czech firms, SPT Telecom, the telephone monopoly, and the carmaker Škoda being prime examples, were sold to foreigners, much of the investment in the Czech Republic through mergers and acquisitions had to wait until then new domestic owners could take control of their firms and then decide to sell them to foreigners. As a result, much more of the FDI into the Czech Republic took the form of greenfield investments, which naturally required longer to plan and implement. Consequently, while the two countries had similar levels of stocks of FDI by the end of the 1990s, the vintage of Czech investments was considerably newer than Hungary's.

This timing of FDI in the two countries is reflected in Figure 2, which shows the contribution of reinvested earnings to both net FDI on the financial account (bars above the zero line) and to the balance of income on the current account (bars below the zero line). In the case of the Czech Republic, reinvested earnings are a smaller part of total FDI inflows, but they are a large part of the deficit on the income balance. The former is due to the fact that most of the stock of FDI in the Czech Republic has entered the country in the second half of the 1990s so that FDI inflows from abroad still constitute the main avenue for foreigners to acquire or increase their investments in the Czech Republic. The FDI financial life cycle suggests that this recent investment should yield no or low profits or, to the exert that it does yield profits, these should mainly be reinvested in the Czech affiliates that generate them. Thus, when we examine the Czech balance of income, these reinvested profits form a large share of the deficit on this balance because few of the foreign investments in the Czech Republic are sufficiently mature to be in Stage 3 of the FDI financial life cycle where their profits would be repatriated to the parent company in the form of dividends.

In Hungary, with its older vintage of FDI stock, total profits on FDI are higher than they are in the Czech Republic, as the FDI financial life cycle model would predict. Also, reinvested profits account for a larger share of total FDI flows in Hungary than they do in the Czech Republic, both because the inflows of new FDI are lower in Hungary than they are in the Czech Republic and because the earnings of the more mature foreign investments in Hungary are greater than those of relatively newer investments in the Czech Republic. Moreover, because profits on FDI in Hungary are higher, as suggested by the FDI financial life cycle model, even if higher dividends are paid out, there is nevertheless more money to reinvest as well. In Hungary a larger

proportion of FDI occurred in the early 1990s, and thus Hungarian FDI projects are more mature, and some investment projects may be approaching Stage 3 of the FDI financial life cycle. As more FDI projects enter Stage 3, Hungary shows larger dividend outflows than are evident in the Czech Republic. Of course, as other investment projects in Hungary enter Stage 2, reinvested profits will continue to grow as well, even if they do account for a smaller share of the deficit on the balance of income.

While the data we have presented show that the imputation of reinvested earnings has a significant effect on the reported current account deficits of the two transition economies, it is also worthwhile to examine the dynamics of this bias in order to see how it has evolved and what its likely effect may be in the future. To this end we examine more carefully the case of the Czech Republic. At the end of the 1990s and in 2000 and 2001, the most important item of the Czech current account balance, the trade deficit, declined due to favorable developments in the terms of trade. The services surplus declined only slowly from 1995 on. Nevertheless, there was a steady increase in the current account deficit due to the increasing deficit in the balance of income.

In Figure 3, we show the net balances on the income balance of the Czech Republic. Figure 3 shows that the growth of the income balance deficit was almost entirely due to the imputation of net reinvested earnings as a debit item on this balance. In 1995, reinvested earnings played virtually no role in the income balance and perhaps were not even measured or reported as a separate item in the balance of payments. There was a small surplus in the compensation of nonresident employees and small deficits in the interest balance and dividends and redistributed earnings. It was only in 1998 that a deficit in reinvested earnings appeared, and its magnitude was then about equal to those of the deficits in the interest balance and nonresident employee

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for an alternative set of estimates based on national income accounts.

compensation. Since then, the deficit from reinvested earnings has made up the largest share of the deficit on the income balance, and it is almost entirely the source of the growth of the income deficit.

Moreover, not only has the growth of net reinvested earnings driven the income balance deficit, and, by extension, the current account deficit, but the importance of reinvested earnings to the current account deficit has also created additional uncertainty about the size of the current account deficit itself. In Figure 3 we present the preliminary and revised income balance for 2000 and for 2001 as well as final data for previous years. In 2000, the preliminary figures considerably underestimated the volume of net reinvested earnings. The Czech National Bank estimates reinvested earnings in the current period through extrapolation, surveys and forecasts, and estimates based on such methods require larger revisions than do some other entries in the balance of payments accounts. For example, the Czech National Bank revised the net reinvestment of profits figure for 2000 upward by 84 percent from the formerly published figure of CZK 20,000 million to CZK 36,871 million. Figure 3 shows that this revision accounted for the bulk of the revision in the income balance. More important, as a result of this revision, the current account deficit jumped to above 5 percent of GDP in 2000, raising concerns about the long-term viability of the external balance. A revision of similar proportions was required for the estimated earnings reinvestment of foreign MNCs for 2001, originally published as CZK 32,000 million but revised in 2003 to CZK 64,000 million, pushing the current account deficit to 5.8 percent of GDP and painting a much more pessimistic picture of the Czech economy's external balance.

## 4. THE FDI FINANCIAL LIFE CYCLE IN INTERNATIONAL PERSPECTIVE

In the foregoing section we have shown that the bias in the measurement of the current account deficit caused by reinvested profits on FDI can be quite large, and we have argued that, on the basis of the FDI financial life cycle, there can be abrupt shifts in the distribution of foreign investors' profits between dividend repatriation and reinvestment even in the absence of changes in the business cycle or the political stability of the host country. In this section, we provide more systematic evidence of the working of the FDI financial life cycle by using data from a sample of transition economies. Although we previously cast the explanation of the FDI financial life cycle in terms of a single investment project, the fact that the transition economies began the 1990s with virtually no accumulated stock of FDI and then experienced rapid increases in this stock enables us to use macroeconomic rather than project-level data to test for the existence of the this cycle. In economies that have experienced a long history of FDI inflows, much of the stock of FDI is of an older vintage, with many investments in stage three, and new FDI inflows are relatively small compared to the stock of FDI. In such a situation, the effect on the observed flows of dividends and reinvested earnings attributable to new FDI will be difficult to discern, even for large new investments. On the other hand, in the transition economies, the vintage of FDI was changing quickly in the 1990s. There were no investments of old vintage, and, as the inflows of FDI increased, this led to large and rapid changes in the vintage of the stock of FDI. Under such circumstances, it should be possible to link the vintage of FDI projects to the flows of profits, dividends and reinvested earnings that they engender.

The FDI financial life cycle theory has two testable hypotheses, both evident from Figure 1. The first of these is that, with an increasingly older vintage of FDI, the profit rate on FDI should increase. The second is that, as the vintage of FDI increases and more projects move

through Stage 2 to Stage 3, the ratio of dividends from FDI to total FDI profits should also increase. To test these two hypotheses, we compiled data on FDI stocks, profits and dividends for a sample of ten transition economies, Bulgaria, Czech Republic, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia for the period 1993-2000.[7] The vintage, $V$, of the stock of FDI was defined as:

$$V_Z = \frac{FDI_{Z-1} + 2*FDI_{Z-2} + 3*FDI_{Z-3} + ...}{FDI_{Z-1} + FDI_{Z-2} + FDI_{Z-3} + ...}$$
Eq. 1

where $Z$ is the year and $FDI_Z$ is the inflow of FDI in year $Z$. We calculated $V$ from 1994 forward, so that, by definition, $V$ was equal to 1 for 1994. The implicit assumption behind this procedure is that for the countries in our sample the stock of FDI previous to 1993 was zero. Given the very small inflows of FDI in the years between the end of communism and 1993, this is not an unreasonable assumption.

Note that a steady inflow of FDI each year would generate an increasing value for $V$, meaning that the vintage of FDI was increasing over time. If our data displayed such a monotone trend of increasing vintage, our hypothesis tests would be unable to determine whether the growing profitability of FDI and the increasing proclivity to repatriate profits on FDI through dividends were really caused by the increase in $V$ or whether we were merely observing a secular trend. However, because in some years late in the sample period a number of the transition economies received large inflows of FDI, the values of V that we observe in our sample at times fall rather than increase as we move through the sample period.

The two equations embodying our hypotheses are thus:

$(P_t / K_t) = a + b\ V_t$
Eq. 2

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[7] All data were compiled from the web pages of the National Banks these countries and from the IMF *Balance of Payments Yearbook, 2002*.

and

$$(D_t / P_t) = c + d\, V_t \hspace{4cm} \text{Eq. 3}$$

where $t$ is time, $P_t$ is the profits in year $t$ on FDI, $K_t$ is the stock of FDI in year $t$, and $D_t$ is the dividends repatriated by foreign investors in year $t$.

We estimate these two equations for our sample of transition economies using fixed effects to capture country differences. The results are reported in Table 2. Both of the slope coefficients are significant and positive. Thus, as the vintage of the stock of FDI becomes older, the profitability of foreign investments increases, and the share of profits devoted to dividend repatriation increases. These results suggest that, in the transition economies in our sample, where the stock of FDI increased from zero to relatively high levels in the course of a single decade, there is clear and discernable evidence of a systematic relationship between the vintage of the stock of FDI, its profitability and the allocation of profits between reinvestment and dividend repatriation. The implication of this finding is that while the external balance of the transition economies may appear worse than it now is because of the imputation of retained earnings as a debit item on the current account, in the future, the ratio of retained earnings to profits will decrease, with a corresponding growth of dividend repatriation, a trend that will put greater pressure on these countries' currencies.

## 5. CONCLUSIONS

We have shown that the imputation of reinvested earnings as a debit item in the balance of payments of host countries creates a situation where the current account deficit can appear to be in deficit even though there is no need to finance some or a large part of this deficit on the foreign exchange market. We have also shown that, because of the workings of the FDI financial life cycle, such a bias is most evident for countries that have recently received large inflows of

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capital. Our analysis also shows that two of the transition economies of East Europe, the Czech Republic and Hungary, have received large inflows of FDI over a short span of years, and this imputation has had a large effect on their current account balances. We also found econometric support for the hypothesis that the FDI financial life cycle plays a role in this process.

Countries that do encounter large inflows of FDI, especially if existing stocks of FDI are relatively small, should take note of, and make an effort to call attention to, this phenomenon so that foreign investors can evaluate their economic performance more accurately. Moreover, transition and developing countries that have not reported reinvested MNC earnings in their balance of payments accounts should take care to do so in order to clarify the financing needs implied by their reported current account deficits.

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| Box 1 |
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**Reinvested Earnings in the IMF Balance of Payments Methodology**

A. Current account
      1. Trade balance
      2. Balance of services
      **3. Income balance**
            3.1. Credit
                  3.1.1. Interest accepted, income from CB reserves
                  3.1.2. Income from work abroad
                  3.1.3. Dividends and distributed earnings
                  3.1.4. Reinvested earnings abroad
            3.2. Debit
                  3.2.1. Interest paid
                  3.2.2. Payments to foreign workers
                  3.2.3. Dividends and distributed earnings
                  ***3.2.4. Reinvested earnings in the reporting country***
B. Capital account
C. Financial account
      **1. Direct investment**
            1.1. Abroad (debit)
                  1.1.1. Equity capital
                  1.1.2. Other capital
                  1.1.3. Reinvested earnings abroad
            1.2. In the reporting economy (credit)
                  1.2.1. Equity capital
                  1.2.2. Other capital
                  ***1.2.3. Reinvested earnings in the reporting country***
      2. Portfolio investment
      3. Financial derivatives
      4. Other investment
D. Net errors and omissions, valuation changes
E. Change in reserves (-increase)

Source: Compiled from IMF, *Fifth Balance of Payments Manual*, 1993, p. 43-48.

**Figure 1. The FDI Financial Life Cycle**



Stage 1:
Entry

Stage 2:
Growth

Stage 3:
Investment
Repatriation

$

0

Profit

Reinvested
Profit

Dividends

TIME
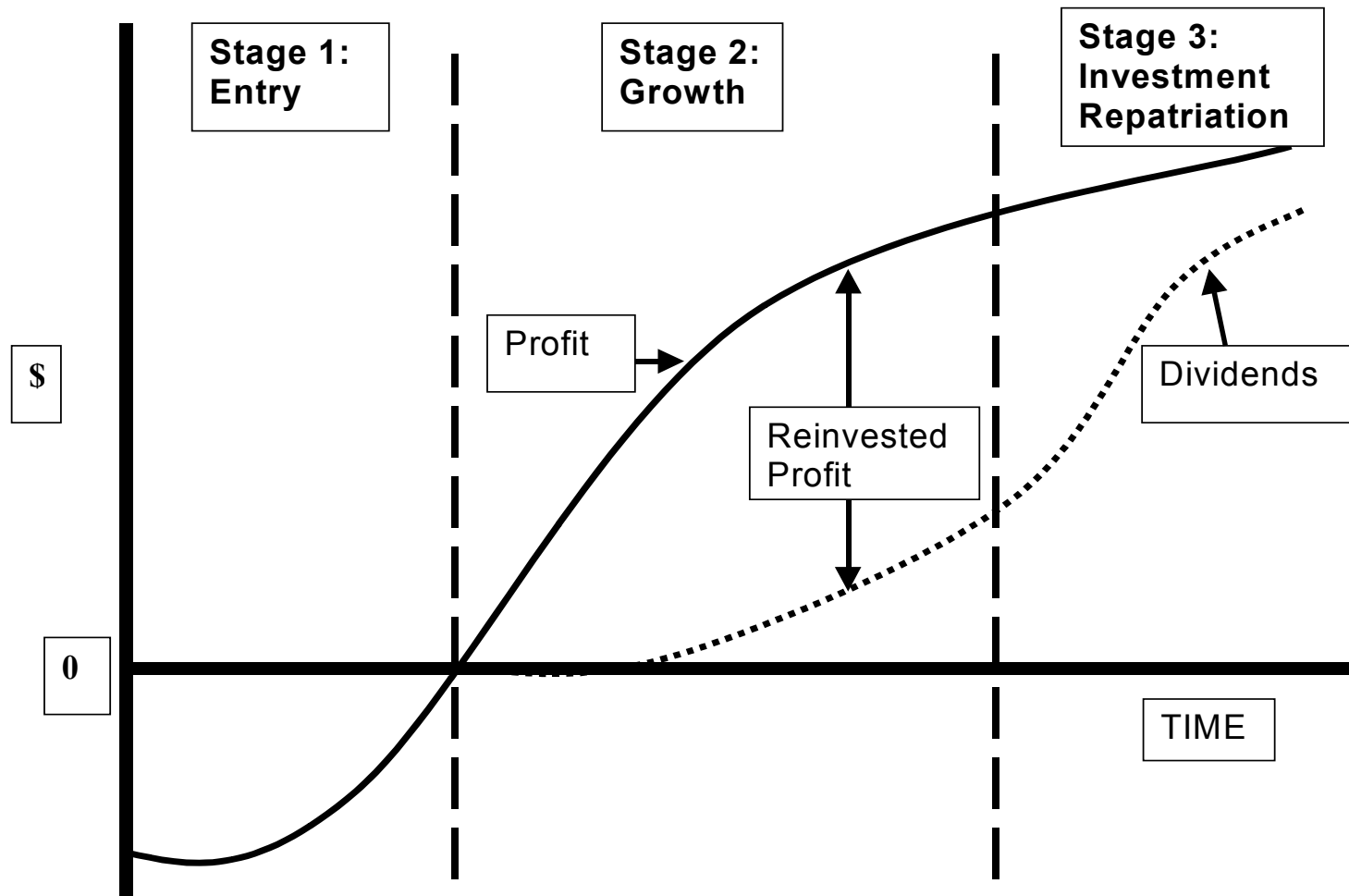
**Figure 2**: **Reinvested Earnings in the Balance of Payments of the Czech Republic and Hungary**
**(mil. EUR)**
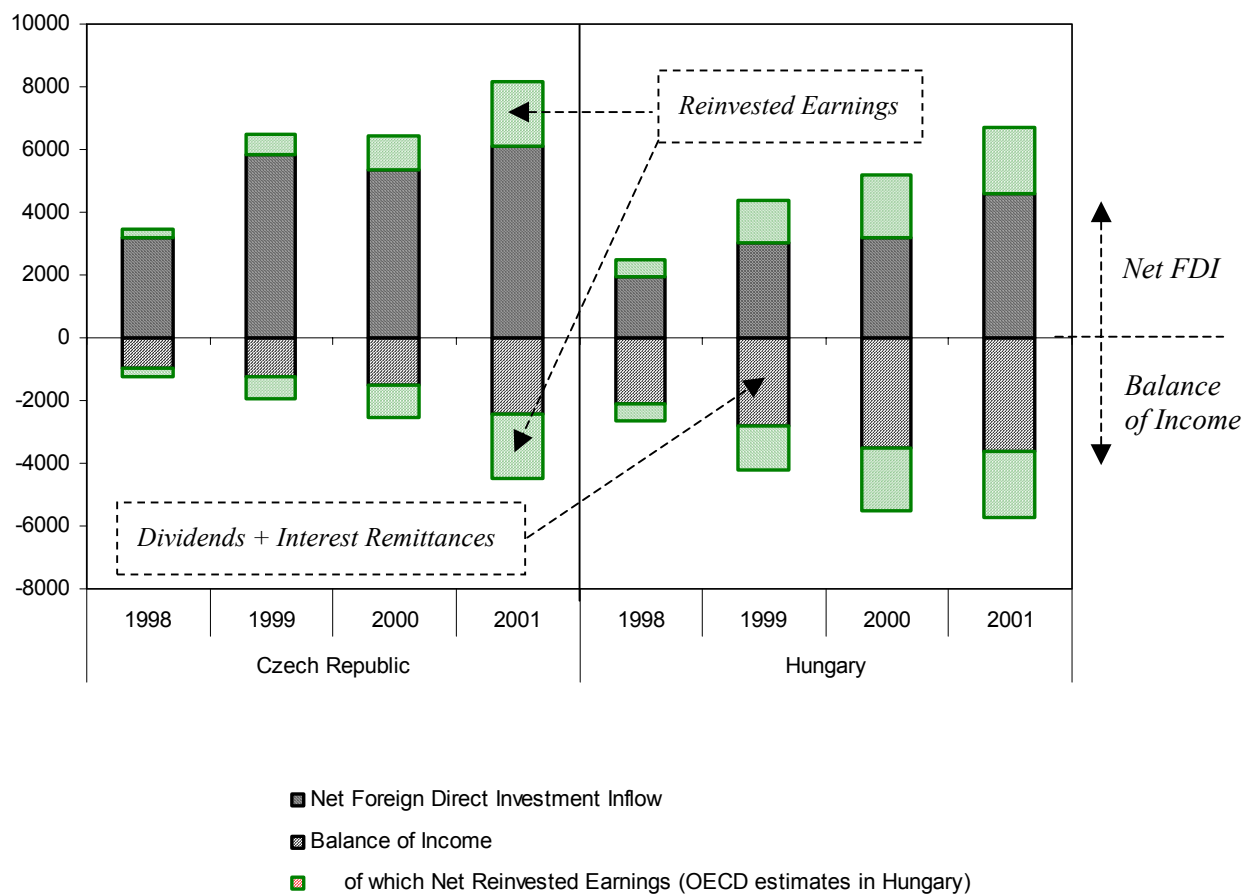


Sources: Czech National Bank, National Bank of Hungary, and *OECD Economic Surveys: Hungary*, Paris, Vol. 2002/10, June 2002, p. 38

**Figure 3: Structure of the Balance of Income of the Czech Republic**
(all items are net in mil. CZK)
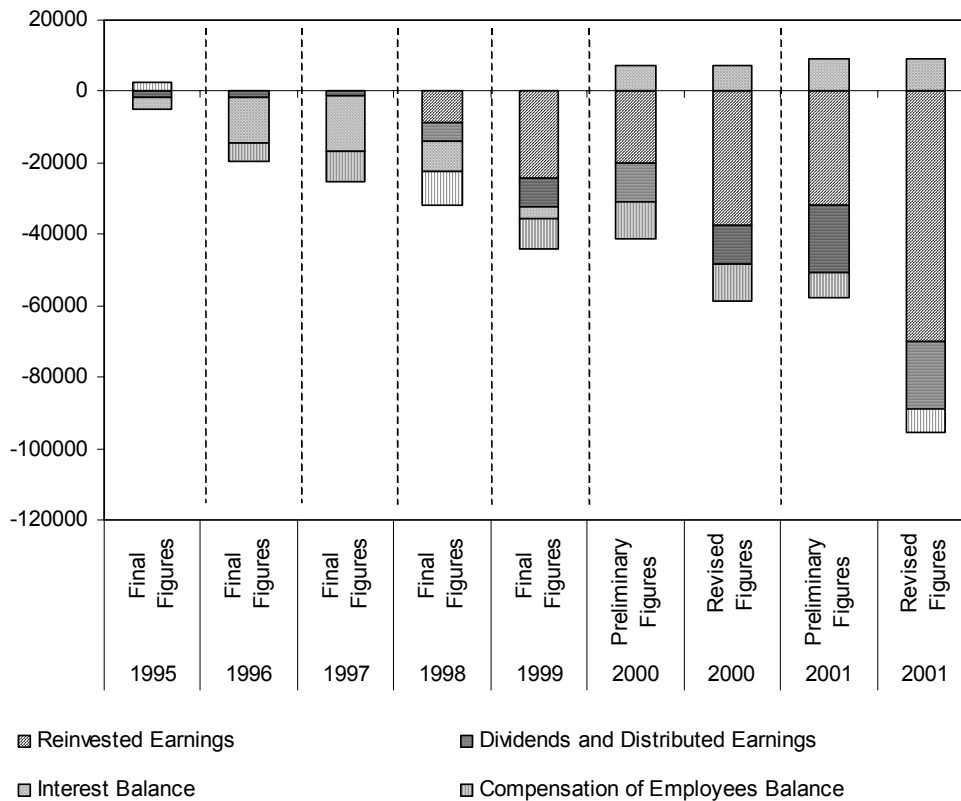


Sources: Balance of Payments Statistics at the website of the Czech National Bank (www.cnb.cz); Data on reinvested earnings available in "*Foreign Direct Investment – 2000.*" Prague, Czech National Bank, March 2002; and in "*Foreign Direct Investment – 2001.*" Prague, Czech National Bank, March 2003.

## Table 1. Importance of Reinvested Profits in the Current Accounts of Four Countries

### Panel A. Brazil

| | Stock of FDI<br><br>*mil. USD*<br><br>*(1)* | Profits on FDI in Brazil<br><br><br>*mil. USD*<br><br>*(2)* | Of which: Reinvested Earnings<br><br><br>*mil. USD*<br><br>*(3)* | Ratio of Reinvested Earnings to FDI Profits<br><br>*(4 = 3/2)* |
|---|---|---|---|---|
| 1992 | 30702 | 552 | 175 | 32% |
| 1993 | 31994 | 1631 | 100 | 6% |
| 1994 | 35066 | 2290 | 83 | 4% |
| 1995 | 39925 | 2581 | 384 | 15% |
| 1996 | 51125 | 2705 | 531 | 20% |
| 1997 | 70775 | 4707 | 151 | 3% |
| 1998 | 102688 | 5093 | 124 | 2% |
| 1999 | 131264 | 4221 | NA | NA |
| 2000 | 164043 | 3105 | NA | NA |
| 2001 | 186679 | 3702 | NA | NA |

| | Current Account Balance (Including Reinvested Earnings) | | Current Account Balance (Excluding Reinvested Earnings) | | CA Balance Difference as Percent of GDP |
|---|---|---|---|---|---|
| | *mil. USD* | *% of GDP* | *mil. USD* | *% of GDP* | |
| 1992 | 6109 | 1.6 | 6284 | 1.6 | 0.0 |
| 1993 | -676 | -0.2 | -576 | -0.1 | 0.1 |
| 1994 | -1811 | -0.3 | -1728 | -0.3 | 0.0 |
| 1995 | -18384 | -2.6 | -18000 | -2.6 | 0.0 |
| 1996 | -23502 | -3.0 | -22971 | -3.0 | 0.0 |
| 1997 | -30452 | -3.8 | -30301 | -3.8 | 0.0 |
| 1998 | -33416 | -4.2 | -33292 | -4.2 | 0.0 |
| 1999 | -25335 | -4.8 | NA | NA | NA |
| 2000 | -24225 | -4.1 | NA | NA | NA |
| 2001 | -23213 | -4.6 | NA | NA | NA |

Source: IMF Database; Central Bank of Brazil

## Panel B. Czech Republic

|  | Stock of FDI<br><br>mil. USD<br><br>(1) | Profits on FDI in Czech Rep.<br><br>mil. USD<br><br>(2) | Of which: Reinvested Earnings<br><br>mil. USD<br><br>(3) | Ratio of Reinvested Earnings to FDI Profits<br>(4=3/2) |
|---|---|---|---|---|
| 1997 | 9234 | 56 | NA | NA |
| 1998 | 14375 | 347 | 180 | 52% |
| 1999 | 17552 | 1045 | 690 | 66% |
| 2000 | 21095 | 1271 | 955 | 75% |
| 2001 | 27092 | 2590 | 2008 | 78% |

|  | Current Account Balance (Including Reinvested Earnings) | | Current Account Balance (Excluding Reinvested Earnings) | | CA Balance Difference as Percent of GDP |
|---|---|---|---|---|---|
|  | mil. USD | % of GDP | mil. USD | % of GDP |  |
| 1998 | -1255 | -2.2 | -1075 | -1.9 | 0.3 |
| 1999 | -1462 | -2.7 | -772 | -1.4 | 1.3 |
| 2000 | -2718 | -5.3 | -1763 | -3.4 | 1.9 |
| 2001 | -3273 | -5.8 | -1265 | -2.2 | 3.6 |

Source: WIIW Database, IMF Database, Czech National Bank

## Panel C. Ireland

|  | Stock of FDI<br><br>mil. USD<br><br>(1) | Profits on FDI in Ireland<br><br>mil. USD<br><br>(2) | Of which: Reinvested Earnings<br><br>mil. USD<br><br>(3) | Ratio of Reinvested Earnings to FDI Profits<br>(4=3/2) |
|---|---|---|---|---|
| 1998 | 24354 | 18140 | 5153 | 28% |
| 1999 | 42969 | 21719 | 9134 | 42% |
| 2000 | 65747 | 21835 | 10125 | 46% |
| 2001 | 75612 | 23486 | 9717 | 41% |

| | Current Account Balance (Including Reinvested Earnings) | | Current Account Balance (Excluding Reinvested Earnings) | | CA Balance Difference as Percent of GDP |
|---|---|---|---|---|---|
| | *mil. USD* | *% of GDP* | *mil. USD* | *% of GDP* | |
| 1998 | 826 | 0.9 | 5980 | 6.6 | 5.7 |
| 1999 | 337 | 0.4 | 9471 | 10.4 | 10.0 |
| 2000 | 48 | 0.1 | 10173 | 11.0 | 10.9 |
| 2001 | -308 | -0.3 | 9410 | 9.2 | 9.5 |

Source: IMF Database; Central Bank of Ireland

## *Panel D. Portugal*

| | Stock of FDI *mil. USD* (1) | Profit on FDI in Portugal *mil. USD* (2) | Of which: Reinvested Earnings *mil. USD* (3) | Ratio of Reinvested Earnings to FDI Profits |
|---|---|---|---|---|
| 1996 | 18947 | 993 | 633 | 64% |
| 1997 | 18605 | 1094 | 713 | 65% |
| 1998 | 24465 | 1520 | 854 | 56% |
| 1999 | 23519 | 1521 | 999 | 66% |
| 2000 | 28161 | 1666 | 622 | 37% |
| 2001 | 32672 | 1917 | 828 | 43% |

| | Current Account Balance (Including Reinvested Earnings) | | Current Account Balance (Excluding Reinvested Earnings) | | CA Balance Difference as Percent of GDP |
|---|---|---|---|---|---|
| | *mil. USD* | *% of GDP* | *mil. USD* | *% of GDP* | |
| 1996 | -4244 | -3.9 | -3612 | -3.4 | 0.5 |
| 1997 | -5909 | -5.7 | -5197 | -5.0 | 0.7 |
| 1998 | -8179 | -6.9 | -7325 | -6.2 | 0.7 |
| 1999 | -9278 | -8.5 | -8279 | -7.6 | 0.9 |
| 2000 | -10618 | -10.2 | -9997 | -9.6 | 0.6 |
| 2001 | -9928 | -9.1 | -9100 | -8.3 | 0.8 |

Source: IMF Database; Central Bank of Portugal

**Table 2: Parameter Estimates for Equations 2 and 3 from Panel Estimation with Fixed Country Effects for 10 Transition Countries (1993-2000)\***

| Equation | Parameter | Estimate | t-Statistic | Probability value | No. Obs. | Adjusted $R^2$ |
|---|---|---|---|---|---|---|
| Equation 2 | b | 0.01344 | 2.714 | 0.0087 | 70 | 0.4317 |
| Equation 3 | d | 0.21966 | 4.309 | 0.0001 | 70 | 0.8033 |

\* Country dummies available from the authors upon request.