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Capital Flight: Estimates, Issues, and Explanations

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INTERNATIONAL FINANCE SECTION
DEPARTMENT OF ECONOMICS
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1 INTRODUCTION

Large-scale capital flight is often mentioned as a prime contributing factor to the foreign-debt problem of developing countries. The term "capital flight" is laden with negative connotations and inevitably evokes suggestions for policy reform or short-run expedients such as capital controls. For example, according to the 1984 Annual Report of the Bank for International Settlements, "The external position in Latin America appears to have been severely aggravated by private-sector capital outflows" (p. 101). Commenting on this report, the *Economist* (June 23, 1984) concluded, "The [BIS's] careful prose implies that if the rich of Latin America brought home what they earned on their funk money their countries would not be in such a mess."

Motivated by the growing awareness of the capital-flight phenomenon (see, e.g., Diaz-Alejandro, 1984; Dooley *et al.*, 1986; Dornbusch, 1985; and Harberger, 1985), this study addresses the following questions:

- What is "capital flight" and how large is it?
- Why is capital flight thought of as "bad"?
- What are the underlying as well as proximate causes of capital flight?
- What policy reforms, if any, are appropriate for stemming capital flight?
- Is there any indication that capital controls, that is, regulations or legal prohibitions on capital outflows, can, in fact, choke off capital flight?

Chapter 2 provides estimates on the importance of capital flight for eight heavily indebted developing countries over the period 1974-82. It then compares the estimates to the growth in these countries' foreign indebtedness to get some idea of the relative magnitudes involved. Chapter 3 suggests a number of reasons why the presence of capital flight may be a policy concern, and Chapter 4 examines the relative importance of various economic determinants of capital flight in the countries studied. In light of this analysis, Chapter 5 considers the efficacy of capital controls. Chapter 6 concludes by stressing the importance of stable macroeconomic and financial policies if massive capital flight is to be prevented.

This Study is a continuation and extension of a note entitled "Capital Flight and the Growth in External Debt" (November 1984, processed) that I wrote with Yoon Je Cho and Mourad Ezzine. The contribution of Cho and Ezzine to the country studies in this Study was substantial. Ezzine and Azita Amajadi provided efficient research assistance. Helpful comments were received from Cho, Vittorio Corbo, Jaime de Melo, Sebastian Edwards, J. Michael Finger, Alan Gelb, Julio Nogués, James Tybout, Carlos Urzua, and Alan Winters.

2 ESTIMATING CAPITAL FLIGHT

In any discussion of capital flight, a decision must be made on how broadly or narrowly to define the concept. Presumably, cumulative capital flight measured retrospectively cannot exceed the gross total of foreign assets held by domestic residents. But such a number is bound to be too large, because some claims on foreigners represent ordinary business activity, ranging from direct investment to normal levels of commercial export credit. Furthermore, some claims on foreigners are probably held as "cover" for liabilities to foreigners.

The term "capital flight" typically refers to short-term speculative capital outflows. It involves "hot money" that responds to political or financial crises, heavier taxes, a prospective tightening of capital controls or major devaluation of the domestic currency, or actual or incipient hyperinflation. Short-term capital flight can be executed not only by shifts in domestic portfolios toward foreign liquid assets but also by changes in trade credit. In the face of large international interest-rate differentials or imminent devaluation, for example, domestic firms will slash their trade-related borrowing denominated in foreign currency. At the same time, they may show increased willingness to engage in trade-related lending denominated in foreign currency. When this mechanism becomes excessive, it seems reasonable to label it "capital flight." Other, more ingenious methods of exporting capital abound, particularly in countries with regulations prohibiting the legal transfer of funds abroad. Recent reports in the popular press of the plundering of the Philippines by the Marcos family provide examples of how capital flight can take place and the many types of foreign assets into which capital may flee.

When the narrow "hot money" definition is used, capital flight typically refers to capital export by the private nonbank sector, although in some cases banks and official entities may also engage in it. Some authors define capital flight more broadly as the gross value of *all* capital exports from an economy, regardless of whether they reflect the purchase of foreign financial assets or real assets (such as real estate) or direct foreign investment by domestic residents. Some would even consider the massive emigration of highly trained professionals who fear financial or political collapse at home to be a form of capital flight, namely, human capital flight. The appropriate definition, of course, depends on the questions one wishes to address. In what follows, the term "capital flight" is reserved for short-term speculative capital outflows, while other capital exports will be referred to as "gross capital outflows."

Regardless of how broadly or narrowly one defines capital flight, assessing

its quantitative importance is difficult. This is true even in countries that impose no restrictions on capital outflows, because financial transactions are often reported imprecisely in countries' balance of payments. The measurement problems become more severe in countries with capital controls, because capital outflows must be concealed, and they show up only in the errors-and-omissions entry. Therefore, that entry must be used to estimate capital flight, which means measuring it *net* of unrecorded capital inflows rather than measuring the gross capital outflow.

Some forms of capital flight, such as smuggling or underinvoicing of exports and overinvoicing of imports, do not even show up in "errors and omissions." As long as the foreign-currency receipts from smuggled goods are kept abroad and cannot be observed by the domestic authorities, neither the outflow of goods nor the corresponding increase in domestic holdings of assets abroad will be recorded in the balance of payments. This is also true for exports and imports with "faked" invoices. The falsified valuation shows up in the balance-of-payments accounts. The difference between the faked amount and the true amount of the contract, which represents a capital outflow or inflow, is not recorded anywhere--in the trade accounts, in financial flows, or in errors and omissions.

It is possible to estimate capital flight effectuated by the underinvoicing of exports and overinvoicing of imports by using partner-country trade-data comparisons (see Bhagwati, Krueger, and Wibulswasdi, 1974). Using our present methods, however, such capital flight escapes detection. Hence, our estimates of capital flight may be on the low side, particularly for countries that have highly distorted trade systems. In a recent study, Gulati (1985) uses partner-country trade data to estimate capital flight. His estimates of capital flight carried out by underinvoicing exports are reported in Appendix B; in some instances, it has averaged more than 20 percent of export earnings. (Gulati notes that, using his methodology, the definition of capital flight should be limited to *illegal* capital outflows.)

Despite these conceptual and measurement problems, some rough estimates of *net* capital flight are possible. We analyzed the capital accounts of the balance of payments for eight heavily indebted countries: Argentina, Brazil, Chile, Korea, Mexico, Peru, Uruguay, and Venezuela. In each case, we included the errors-and-omissions category in the measure of capital flight because of the widespread belief that errors and omissions largely reflect unrecorded short-term capital flows. We also included certain subcategories of the line item "other short-term capital, other sector" (i.e., excluding the official sector and money banks). A judgment on what to include in capital flight had to be made on a country-by-country basis using the descriptive footnotes in the IMF's *Balance of Payments Yearbook*. The objective was to isolate short-term capital movements that might reasonably be considered capital flight.

(The exact definition of capital flight for each country is given in the notes to Table 1.)

Table 1 provides estimates of capital flight for each of the countries considered. To get some indication of its relative importance, our measure of capital flight in each year from 1974 through 1982 is compared to the growth in each country's foreign debt in that year.[1] Two things are particularly noteworthy. First, the importance of capital flight varies tremendously from country to country. Argentina, Mexico, and Venezuela exhibit heavy capital flight over the period, while for Brazil, Chile, Korea, and Peru the aggregate amount of capital flight is insignificant. Second, the severity of capital flight has varied considerably from year to year, as the experiences of Peru and Uruguay illustrate. Although *cumulative* capital flight from Uruguay is moderately large, it is insignificant for Peru despite the heavy capital flight that occurred in 1974-76. Even if it has been small relative to the increase in foreign debt, as in the Peruvian case, capital flight may have had a significant effect at times on the authorities' ability to carry out macroeconomic policy. A third feature to note in the table is that capital flight seems to have become relatively more important in the late 1970s and early 1980s than it was in the early 1970s.

The estimates in Table 1 can be compared with the broader measure of capital outflows derived by Dooley *et al.* (1986) reported in Table 2. Their estimates are obtained by taking reported changes in foreign indebtedness from Federal Reserve Board records on the stock of foreign debt, which are based (to varying degrees) on both debtor and creditor reporting systems, and decomposing them into three sources: (a) the current-account deficit *less* the part financed by direct foreign investment (i.e., non–debt-creating inflows), (b) the change in total official reserve assets *less* gold, *plus* the net change in the foreign assets of commercial banks,[2] and (c) the residual. Items (a) and (b) are obtained from balance-of-payments statistics. The residual obtained when items (a) and (b) are subtracted from the change in foreign debt is treated as the capital outflow of the nonbank private sector; [3] hence Table 2's title, "Re-

[1] The change in external indebtedness is obtained from Dooley *et al.* (1986). Alternatively, it could have been calculated using the same *Balance of Payments Yearbook* data that were used to calculate our measure of capital flight. This would have had the advantage of consistency among data sources. For some countries, the cumulative value of the year-to-year changes in debt reported in the balance of payments falls considerably short of the total change in debt outstanding obtained from debtor and creditor reporting systems. In other cases, the former exceeds the latter. See Dooley (1986) for a comparison of the two approaches.

[2] Commercial banks' net foreign assets are added to those of the central bank on the grounds that the central bank directly or indirectly controls a large fraction of commercial banks' foreign assets in many developing countries.

[3] Dornbusch (1985, Table 8.3) uses a similar technique, but his residual includes net changes in official reserves. According to our definition of capital flight, the latter should not be included.

sidual Capital Outflows." [4] In Dooley *et al.* (1986) and earlier drafts of this study, the term "gross capital outflows" was used. But the residuals calculated by Dooley *et al.* are sometimes positive and sometimes negative, so they cannot possibly be *gross* outflows. In fact, they reflect the *net* capital outflow or inflow not explicitly accounted for by the other two items. The same comment applies to the capital-flight estimates in Table 1. They, too, are a residual, because they use the errors-and-omissions item (as well as other line items) from the balance-of-payments accounts; they reflect capital flight *net* of unrecorded capital inflows. In years when incentives for capital flight are reversed, and in other instances as well, the latter may dominate, causing the figures in Tables 1 and 2 to become negative.

The estimates in Table 2 differ from those in Table 1 for three reasons: First, the residual capital outflows in Table 2 include long-term as well as short-term outflows. Second, they include outflows by deposit banks and the official sector (other than changes in foreign-exchange reserves), in addition to outflows by the nonbank private sector. The numbers in Table 1, by contrast, include in principle only short-term outflows by the nonbank private sector, although errors and omissions undoubtedly reflect in part long-term capital outflows. Third, the increase in foreign debt reported by Dooley *et al.* is sometimes quite different from the sum over time of debt-creating capital inflows recorded in the balance-of-payments statistics. The residual capital outflows in Table 2 are calculated using the *stock* figures on foreign debt. The capital-flight estimates in Table 1 implicitly use the debt-creating *flows* measured in the balance-of-payments accounts, because these data are used in arriving at errors and omissions.

The difference between the stock of debt and the cumulative flow of foreign borrowing is due to such things as reporting inaccuracy, minor valuation changes (which show up in the "stock" numbers but not in the cumulative flows), and the possibility of netting certain inflows and outflows inappropriately when relying on balance-of-payments reports. As Dooley (1986) shows, the two methods for calculating a country's foreign debt yield similar estimates in the case of Brazil, while in the case of Argentina the total stock of foreign debt is considerably larger than that implied by the cumulative debt-creating inflows in the balance-of-payments statistics. Unrecorded military expenditure financed by foreign borrowing is said to be an important contributor to the discrepancy in the Argentinian case.

[4] A recent report by Morgan Guaranty (1986) estimates capital flight for eighteen developing countries using the Dooley *et al.* methodology.

TABLE 1
ESTIMATES OF CAPITAL FLIGHT
(in millions of U.S. dollars)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	Total
Argentina:										
Capital flight	36	−163	266	−618	1,497	−1,693	2,301	8,680	4,978	15,285
Change in foreign debt	1,100	400	400	1,500	3,100	6,700	9,000	9,400	1,000	32,600
Capital flight/change in debt (%)	3	−41	66	−41	48	−25	26	92	498	47
Brazil:										
Capital flight	64	427	−496	618	−299	−1,227	351	390	379	206
Change in foreign debt	6,900	8,600	7,800	8,200	16,800	8,600	11,200	12,900	12,500	93,500
Capital flight/change in debt (%)	1	5	−6	8	−2	−14	3	3	3	0
Chile:										
Capital flight	47	−25	−252	−503	−250	−416	−482	−899	792	−1,988
Change in foreign debt	400	1,500	−200	0	1,700	2,100	3,200	4,700	2,000	15,400
Capital flight/change in debt (%)	12	−2	126	. . .	−15	−20	−15	−19	40	−13
Korea:										
Capital flight	−69	−453	−112	12	1,524	−516	−1,607	494	1,285	558
Change in foreign debt	1,700	2,700	2,000	2,400	4,300	5,300	5,500	5,900	3,800	33,600
Capital flight/change in debt (%)	−4	−17	−6	0	35	−10	−29	8	34	2
Mexico:										
Capital flight	1,272	1,285	3,331	917	517	1,447	4,826	11,510	7,558	32,662
Change in foreign debt	4,500	5,600	6,600	6,600	4,300	8,800	16,400	22,700	7,100	82,600
Capital flight/change in debt (%)	28	23	50	14	12	16	29	51	106	40

Peru:										
Capital flight	72	826	328	112	−51	13	187	−468	148	1,167
Change in foreign debt	1,100	2,400	1,300	1,000	800	600	600	900	2,000	10,700
Capital flight/change in debt (%)	7	34	25	11	−6	2	31	−52	7	11
Uruguay:										
Capital flight	82	38	13	−42	−159	5	−90	184	1,161	1,193
Change in foreign debt	30	122	50	114	−17	268	422	387	805	2,181
Capital flight/change in debt (%)	274	31	26	−37	(932)	2	−21	48	144	55
Venezuela:										
Capital flight	522	−155	−401	−1,736	−943	−2,354	3,366	5,013	7,464	10,776
Change in foreign debt	−1,900	600	−1,200	6,400	5,500	8,500	3,200	2,800	3,100	27,000
Capital flight/change in debt (%)	−27	−26	33	−27	−17	−28	105	179	241	40

NOTE 1: "Change in foreign debt" figures are from Dooley *et al.* (1986) except in the case of Uruguay, where figures are obtained by cumulating relevant capital inflows using *Balance of Payments Yearbook*.

NOTE 2: As described in text, capital-flight estimates are calculated in slightly different ways across countries, depending on the information contained in the descriptive footnotes in *Balance of Payments Yearbook*. The precise definitions are as follows:

Argentina: Net errors and omissions plus "short term, other sectors."

Brazil: Net errors and omissions.

Chile: Net errors and omissions plus "short term, other sectors."

Korea: Net errors and omissions plus "short term, other sectors."

Mexico: Net errors and omissions plus "short term, other sectors, other assets."

Peru: Net errors and omissions plus "short term, other sectors, other assets."

Uruguay: Net errors and omissions.

Venezuela: Net errors and omissions plus "short term, other sectors" plus "other bonds: assets."

TABLE 2
RESIDUAL CAPITAL OUTFLOWS
(in millions of U.S. dollars)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	Total
Argentina:										
Capital flight	800	0	−200	900	3,000	1,700	6,700	7,700	−400	20,200
Change in foreign debt	1,100	400	400	1,500	3,100	6,700	9,000	9,400	1,000	32,600
Capital flight/change in debt (%)	73	0	−50	60	97	25	74	82	−40	62
Brazil:										
Capital flight	300	3,000	−1,600	2,400	4,400	1,100	1,800	−200	200	11,400
Change in foreign debt	6,900	8,600	7,800	8,200	16,800	8,600	11,200	12,900	12,500	93,500
Capital flight/change in debt (%)	4	35	−21	29	26	13	16	−2	2	12
Chile:										
Capital flight	200	800	−400	−700	−800	600	−200	−400	900	0
Change in foreign debt	400	1,500	−200	0	1,700	2,100	3,200	4,700	2,000	15,400
Capital flight/change in debt (%)	50	53	200	. . .	−47	29	−6	−9	45	0

Korea:										
Capital flight	−300	300	300	1,100	2,600	300	−600	−3,100	5,300	5,900
Change in foreign debt	1,700	2,700	2,000	2,400	4,300	5,300	5,500	5,900	3,800	33,600
Capital flight/change in debt (%)	−18	11	15	46	60	6	−11	−53	139	18
Mexico:										
Capital flight	1,600	1,100	3,500	4,300	800	2,800	7,100	8,200	6,900	36,300
Change in foreign debt	4,500	5,600	6,600	6,600	4,300	8,800	16,400	22,700	7,100	82,600
Capital flight/change in debt (%)	36	20	53	65	19	32	43	36	97	44
Peru:										
Capital flight	−100	1,400	300	−100	500	300	200	200	400	3,100
Change in foreign debt	1,100	2,400	1,300	1,000	800	600	600	900	2,000	10,700
Capital flight/change in debt (%)	−9	58	23	−10	63	50	33	22	20	29
Venezuela:										
Capital flight	−100	700	−300	−900	900	4,800	4,700	7,400	8,300	25,500
Change in foreign debt	−1,900	600	−1,200	6,400	5,500	8,500	3,200	2,800	3,100	27,000
Capital flight/change in debt (%)	5	117	25	−14	16	56	147	264	268	94

NOTE: Figures for Uruguay not available.

SOURCE: Figures derived from tables in Dooley *et al.* (1986). Underlying foreign-debt data from Federal Reserve files. Gross private capital flows calculated as a residual, as described in text.

3 WHY IS CAPITAL FLIGHT "BAD"?

Sao Paulo economist Stephen Charles Kanitz (1984) recently asked:

> Why is it that when an American puts money abroad it is called "Foreign Investment" and when an Argentinian does the same it is called "Capital Flight"? Why is it that when an American company puts 30 percent of its equity abroad it is called "Strategic Diversification" and when a Bolivian businessman puts only 4 percent abroad it is called "Lack of Confidence"?

There is, of course, no reason why the simultaneous export and import of capital is necessarily undesirable. On the contrary, the simultaneous inflow and outflow may say that both domestic and foreign residents are pursuing the same conventional objective, which is to diversify portfolios internationally.[1] The fact that gross capital flows greatly exceed net flows may indicate a high degree of financial integration with world capital markets and the availability of opportunities for risk sharing. Similarly, long-term capital inflows may be offset by short-term capital outflows when financial intermediaries engage in maturity transformation at the international level. One might expect to see this pattern, for example, when examining capital flows between Canada and the United States; Canadian firms may borrow competitively priced long-term funds in the U.S. capital market at the same time that some Canadian citizens hold deposits at U.S. banks. The same explanation was often used in the late 1960s and early 1970s to account for the pattern of capital flows between the United States and Europe. The United States was considered "the world's banker."

These remarks suggest that capital outflows or, more precisely, simultaneous inflows and outflows are not necessarily a "problem" either for developing countries or for financially sophisticated industrial countries. Why then is capital flight thought of as "bad," that is, as *prima facie* evidence that some sort of policy intervention is needed? There are several possible answers.

Capital Flight Destabilizes Interest Rates and Exchange Rates and Reduces Monetary Control

The usual objection to speculative capital flows is that they are destabilizing.[2] This point is often made when discussing "hot money" flows among the

[1] Khan and Ul Haque (1985) have recently used intertemporal optimization to show how the simultaneous occurrence of capital inflows and capital outflows may be a consequence of different perceptions of expropriation risk among domestic and foreign residents.

[2] There is a vast literature on whether or not speculation is destabilizing, including Milton

world's financial centers, but it is also relevant for countries with less developed financial systems. When there is political or financial instability or when major changes in macroeconomic policy are anticipated, mobile capital will move quickly from the risky country to a safe haven. These movements induce large and rapid adjustments in interest rates and exchange rates, perhaps with considerable exchange-rate "overshooting." If the central bank intervenes in an attempt to stabilize the exchange rate, foreign-exchange reserves may be exhausted and the domestic money supply may contract sharply.

In making a case that capital flight is bad and should therefore be controlled by "appropriate" policy action, interventionists presume that these consequences of capital flight inflict welfare losses on the economy as a whole. Not only will capital flight exacerbate existing economic distortions in the short run, but it may also have adverse implications in the long run. Several of these are discussed below.

It should be emphasized that the implicit premise underlying assessments of this sort is that capital flight is caused by factors beyond the policymaker's control. In many cases, however, capital flight is a direct private-sector response to ill-conceived or poorly executed domestic policies. In such circumstances, it would be more appropriate to condemn the controversial policies than the capital flight.

It is difficult to appraise the welfare implications of capital flight caused by inflationary macroeconomic policies, political instability, or a lack of confidence. Were it not for the threat of capital flight, governments might be tempted to adopt even worse monetary and fiscal policies.[3] The loss in welfare from these imprudent policies might be even greater than the loss attributed to capital flight. The ability of private capital to "vote with its feet" may prevent politicians from eroding national wealth by adopting policies favoring special-interest groups at the expense of the country as a whole.

Capital Flight Reflects Discrepancies between Private and Social Rates of Return

Another implicit premise underlying most discussions of capital flight from developing countries is that the social rate of return on capital invested in developing countries is higher than on capital invested in industrialized countries. Capital is presumably scarce in developing countries, so that a flow of capital from developing countries should impair the efficient worldwide allo-

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Friedman's 1953 classic. More recent contributions include Driskill and McCafferty (1980), Krugman (1979), and Kohlhagen (1979).

[3] The growing literature on the time consistency of government policies attempts to incorporate such constraints on policymakers into macroeconomic models with rational expectations.

cation of resources. Yet the private incentives faced by firms and individuals may not accurately reflect the structure of social returns. In classical welfare economics, discrepancies between private and social benefits and costs provide the justification for government intervention as opposed to *laissez-faire*.

Discrepancies between private and social rates of return can arise for a number of reasons. They may involve (a) differences between the returns domestic savers can earn on domestic and foreign assets that cannot be explained by differences in risk; (b) differences between the private return on savings from holding either domestic or foreign financial assets and the return on real capital investment in the developing country; or (c) differences between the private and social returns on foreign borrowing or lending.

Discrepancies of type (c) are taken up later in connection with the costs of foreign borrowing. Discrepancies of types (a) and (b) are common in countries following repressive financial-sector policies, where interest-rate ceilings keep rates on deposits well below their market-clearing levels and the inflation tax is a major source of finance for large fiscal deficits. These policies, coupled with high reserve requirements, drive a large wedge between domestic lending and deposit rates. And this wedge gets larger as the inflation rate rises. Thus, even if banks' lending rates accurately reflect the productivity of their customers' capital investments (which may not be true, particularly when credit is allocated by administrative mechanisms to "priority" sectors), the return that savers receive on time deposits may be far below the social return on domestic investment. When these savers are given the option of holding foreign assets that pay uncontrolled interest rates, "too much" domestic saving will flow abroad. Hence, policymakers may feel justified in restricting capital flight, as well as longer-term capital outflows, in an attempt to enforce the investment of domestic savings within the economy.

This is not to say, of course, that restricting speculative capital outflows is the optimal or even the second-best policy response. Measures to counter capital flight are likely to interfere with longer-term capital movements by impeding debt service and profit remittances. It would be preferable to attack the underlying causes of capital flight, namely severe financial-market distortions, than merely to treat the symptom, capital flight, by imposing capital controls.

The incentives for capital flight created when domestic interest rates are kept below market-clearing levels, causing a large interest-rate differential in favor of foreign assets, are accentuated by expectations of major devaluations. These expectations often develop in response to chronic fiscal deficits, the high inflation resulting from monetization of those deficits, and timidity in adjusting the nominal exchange rate. If domestic interest rates were market-determined, growing expectations of devaluation would cause domestic rates to

rise, and this equilibrating movement of interest rates would reduce the amount of capital flight. But the requisite movement is prevented by administrative controls on interest rates. As the domestic currency becomes increasingly overvalued, the real exchange rate severely distorts the relative prices of foreign goods and financial assets. In particular, the privately perceived prices of imported goods fall below their true social prices. Capital flight is bad insofar as it facilitates the resulting misallocation of resources.

In such a situation, the domestic authorities may advocate foreign-exchange controls, at least as a short-run crisis-management tool. In the longer run, however, controls are no substitute for a realignment of the exchange rate.

Capital Flight Contributes to Erosion of the Domestic Tax Base

There are other situations where it can be convincingly argued that the social return on domestic investment exceeds the return on capital that escapes abroad. These involve fiscal considerations. First, capital flight may greatly reduce the efficacy of the inflation tax on domestic money holdings—a tax on which many developing countries must rely heavily because they lack well-developed financial markets where government securities can be issued to finance fiscal deficits. Second, governments have difficulty taxing income earned or wealth held abroad, and this may generate distortions. For example, a government may borrow abroad to invest in social-infrastructure projects such as highways or hydroelectric projects. These projects, which often have a high social value, typically cannot be financed by levying direct user charges. Hence, they must be financed by general tax increases. Although the private sector benefits from the projects, individuals may escape the taxes levied to pay for them by holding much of their increased wealth abroad. Because the government's ability to tax this wealth is limited, it may encounter debt-servicing problems even when it borrows to undertake socially beneficial public-investment projects.

"When Capital Leaves It Never Comes Back"

The concern that departed capital never returns derives from an assumed irreversibility in the allocation of domestic saving. Once the incentives for capital flight exist and capital outflows occur, it may not be possible to bring about a reflow of capital at a later date merely by shifting incentives in the other direction. This is particularly likely when capital flight is induced by highly inflationary conditions, political instability, or lack of confidence in the domestic financial system. It takes much less time for a government to destroy a reputation for monetary, financial, and political stability than to rebuild one after a period of imprudence.

Note, however, that our capital-flight estimates for all countries except Mexico do show periods of reverse capital flight (i.e., negative rather than positive entries in Table 1), suggesting that correcting incentives may indeed reduce or reverse capital flight. Furthermore the empirical test in Appendix A for an asymmetric response of capital flight to decreases in the real exchange rate yields no supportive evidence using quarterly data for Argentina and Mexico. A more extensive empirical investigation would be worthwhile.

Nevertheless, the belief persists, despite the lack of supporting empirical evidence, that speculative capital outflows are very difficult to reverse, and it has inspired a number of LDC policy proposals, such as tax holidays and amnesty for those who bring back capital held abroad. These proposals, however, make the unwarranted assumption that it is the holding of assets abroad that contributes to external imbalances rather than the government's inability to tax these assets in order to service its foreign debt. Greater emphasis should perhaps be placed on international tax treaties and agreements to exchange information. Such actions, which would facilitate the broadening of LDC tax bases to include residents' holdings of foreign assets, seem preferable to policies that attempt to repatriate wealth amassed abroad, and they have no lower odds of success. Of course, stable macroeconomic and financial policies would also be beneficial.

Capital Flight Reduces Domestic Investment

The asssumption that capital that has fled the country would have been invested domestically if controls had been imposed to prevent its departure follows immediately from the preceding discussion. The extent to which this is true, however, depends on what happens to the domestic saving rate when capital outflows are prohibited and on the use to which the funds would have been put (financing fiscal deficits, consumption loans, or capital investment). In countries where domestic interest rates are severely repressed, restrictions on the purchase of safe, high-yielding foreign assets may dramatically reduce the domestic saving rate. When a major devaluation of the domestic currency is imminent, moreover, there may be a surge in imports of consumer durables and luxury goods financed by a reduction in saving.

In short, when severe economic disequilibrium creates strong incentives for capital flight, capital controls may not succeed in redirecting domestic saving from foreign to domestic investment. Rather, they may depress the incentives to save or divert savings toward inflation hedges such as real estate, thereby reducing the country's growth potential as well as its investment income from abroad. In such a situation, capital flight is merely a symptom of inappropriate financial, macroeconomic, and exchange-rate policies. The

symptom may or may not disappear when controls are imposed on short-term capital outflows.

Capital Flight Drives Up the Marginal Costs of Foreign Borrowing

When the government is unable to tax assets held abroad, capital flight may lead indirectly to larger borrowing abroad by the government or by public enterprises. This is because capital flight erodes the tax base and thus increases the public-sector deficit. But as foreign borrowing rises, the marginal cost of borrowing rises (see Edwards, 1984). If a government could tax the foreign assets or incomes of its citizens, international lenders might reasonably be expected to regard those assets as collateral, broadly defined, for their own loans to the government, and borrowing costs would depend on a country's net external indebtedness (public and private debt minus official reserves and net private-sector assets abroad). If a government cannot tax foreign assets or incomes, borrowing costs come to depend on the country's gross external indebtedness. Thus, capital flight that necessitates an increase in foreign borrowing raises the national cost of that borrowing.

There is, of course, an asymmetry here. The interest rate earned on assets held abroad does not increase with the amount invested, but the interest rate paid on foreign borrowing increases with the amount borrowed. Therefore, private investors' actions inflict a loss on the country as a whole, because they have no reason to internalize the negative effect of their actions on the government's foreign borrowing costs. The government's optimal policy response in this case is to tax private capital outflows in order to eliminate the discrepancy between the private and social costs of acquiring and holding foreign assets. If this is not feasible, capital controls may be an appropriate policy response.

Capital Flight Erodes the Legitimacy of Mixed Economic Systems

Diaz-Alejandro has elaborated on the same distinction between private assets and public liabilities, emphasizing its broad political consequences. He views capital flight as part of a larger problem. A country's foreign debts have been assumed by the public sector even if they were contracted initially by the private sector, yet the foreign assets of the private sector remain strictly private:

> By 1984 most of the private external debt had been socialized (as in Chile), or its servicing is being subsidized, via special exchange rates, repayment schedules, or tax concessions . . . . The private assets abroad, however, have remained strictly private. "Public" debt is public for being both the responsibility of the state, and for being highly publicized. "Private" assets belong mostly to households and are also surrounded by secrecy. This situation reduces the political legitimacy of efforts to

service the external debt; indeed, it has generated a legitimacy crisis for the role of the private sector in Latin American development. (1984, p. 74).[4]

Diaz-Alejandro goes on to emphasize that industrial countries have unwittingly encouraged this erosion of legitimacy by maintaining banking-secrecy laws and eliminating withholding taxes on foreigners' investment earnings. These regulations encourage capital flight and tax evasion, and they make it more difficult for developing countries' governments to tax their nationals' wealth in order to service their massive foreign debts. Whether or not one interprets these developments as bad, of course, depends on one's political persuasion.

[4] I surmise that political legitimacy is eroded because the general public becomes increasingly unwilling to bear an onerous debt burden as it realizes that the growth of public-sector debt has facilitated the amassing of foreign assets by the privileged classes of society.

4 THE ECONOMIC DETERMINANTS OF CAPITAL FLIGHT

This chapter considers the economic determinants of capital flight, as opposed to those that are political or psychological in nature. First, I survey the recent macroeconomic history of each country in Table 1, with a view to explaining the swings in capital flight. This survey repeatedly points to overvaluation of the real exchange rate (and, presumably, fears of a major devaluation) and, in some cases, to high domestic inflation rates as important determinants of capital flight. Second, I report the findings of a simple econometric analysis; they confirm the predominant role of these causes of capital flight in the 1974-82 period.

The econometric investigation also sought to determine whether the difference between domestic and U.S. interest rates helped to explain capital flight in subperiods when interest-rate data were available. This effort was unsuccessful, however, and may have been the victim of simultaneous-equation bias. It is unclear *a priori* whether increases in domestic interest rates should be positively or negatively related to capital flight when they are market-determined rather than set by policymakers. Political or financial crises are likely to raise market-determined interest rates at the same time that they induce capital flight. Therefore, a regression of capital flight on the domestic interest rate and a number of other explanatory variables may yield a positive coefficient on the interest rate even though an increase in interest rates caused by tight domestic monetary policy would cause a reduction in capital flight and yield a negative coefficient. The use of instrumental-variable estimators did not resolve this ambiguity, perhaps because of the absence of a good proxy for political or financial crises or changes in risk.

Let me reemphasize before proceeding that for six of the eight countries studied the statistical analysis was based on only nine annual observations (1974-82 inclusive). Hence the econometric techniques had to be kept simple, and the results should be interpreted with caution. In spite of the small number of observations, however, the explanatory variables were often highly significant. Moreover, quarterly data were available for Argentina and Mexico (for 1976 through mid-1983 in the Argentine case and for 1975 through 1982 in the Mexican case), permitting more reliable results to be obtained for two countries with high capital flight.

The Portfolio-Adjustment Model

The estimated capital-flight equation is based on a standard three-asset portfolio-adjustment model (e.g., Johnson, 1976, or Purvis, 1978). At

time t, domestic households are deemed to allocate their wealth among domestic financial assets (D_t), domestic inflation hedges such as land (H_t), and foreign financial assets (F_t). The steady-state or "target" levels of these private holdings are assumed to be proportional to steady-state wealth (which is assumed to be constant). The proportions are assumed to depend on the domestic interest rate r_t, the domestic inflation rate π_t, and the foreign interest rate augmented by the expected rate of depreciation of the domestic currency, $r^* + x_t$. These variables are, of course, the nominal returns on the three assets available to domestic residents. The target asset demands, denoted by tilde's, are:

$$\tilde{D}_t = b_{10} + b_{11}\pi_t + b_{12}r_t + b_{13}(r^*_t + x_t) \tag{1}$$

$$\tilde{F}_t = b_{20} + b_{21}\pi_t + b_{22}r_t + b_{23}(r^*_t + x_t) \tag{2}$$

$$\tilde{H}_t = b_{30} + b_{31}\pi_t + b_{32}r^*_t + b_{33}(r^*_t + x_t)\,. \tag{3}$$

Owing to the costs of portfolio adjustment, the target levels are approached gradually over time, by this partial adjustment mechanism:

$$\Delta D_t = \lambda_{11}(\tilde{D}_t - D_{t-1}) + \lambda_{12}(\tilde{F}_t - F_{t-1}) + \lambda_{13}(\tilde{H}_t - H_{t-1}) \tag{4}$$

$$\Delta F_t = \lambda_{21}(\tilde{D}_t - D_{t-1}) + \lambda_{22}(\tilde{F}_t - F_{t-1}) + \lambda_{23}(\tilde{H}_t - H_{t-1}) \tag{5}$$

$$\Delta H_t = \lambda_{31}(\tilde{D}_t - D_{t-1}) + \lambda_{32}(\tilde{F}_t - F_{t-1}) + \lambda_{33}(\tilde{H}_t - H_{t-1})\,, \tag{6}$$

where $0 < \lambda_{ij} < 1$ for all i and j. Substituting the target demands from (1) to (3) into (4) to (6),

$$\begin{aligned}\Delta D_t = {} & a_{10} + a_{11}\pi_t + a_{12}r_t + a_{13}(r^*_t + x_t) \\ & - \lambda_{11}D_{t-1} - \lambda_{12}F_{t-1} - \lambda_{13}H_{t-1}\end{aligned} \tag{7}$$

$$\begin{aligned}\Delta F_t = {} & a_{20} + a_{21}\pi_{21} + a_{22}r_t + a_{23}(r^*_t + x_t) \\ & - \lambda_{21}D_{t-1} - \lambda_{22}F_{t-1} - \lambda_{23}H_{t-1}\end{aligned} \tag{8}$$

$$\begin{aligned}\Delta H_t = {} & a_{30} + a_{31}\pi_t + a_{32}r_t + a_{33}(r^*_t + x_t) \\ & - \lambda_{31}D_{t-1} - \lambda_{32}F_{t-1} - \lambda_{33}H_{t-1}\,.\end{aligned} \tag{9}$$

Equation (8) shows that "capital flight," defined as the year-to-year increase in domestic holdings of foreign financial assets, is a linear function of the domestic inflation rate, the domestic interest rate, the foreign interest rate plus the expected rate of depreciation of the domestic currency, and lagged values of asset holdings (D_{t-1}, F_{t-1}, H_{t-1}). Having only a small number of observations in our data sample, we dropped the lagged-asset holdings when estimating the capital-flight (KF) equation. Therefore, our equation captures the effects of the relative rates of return:

$$KF_t = a_0 + a_1\pi_t + a_2r_t + a_3(r^*_t + x_t)\,, \tag{10}$$

where $a_1 \gtrless 0$, $a_2 < 0$, $a_3 > 0$ are the expected signs of the coefficients (because

capital outflows are measured as positive values of *KF*, reversing the balance-of-payments accounting convention).

Exchange-Rate Expectations

One problem remains, namely, to find an empirical proxy for the expected depreciation of the domestic currency, x_t. It is assumed here to be proportional to the difference between the current real effective exchange rate (*REER*) and the equilibrium rate ($\bar{R}$), expressed as a percentage of the latter. The equilibrium rate is assumed to be constant, through the sample period, at the level of the actual exchange rate in 1977. Thus:

$$x_t = a\,(REER_t - \bar{R})\,. \tag{11}$$

The assumption that the equilibrium rate was constant between 1974 and 1982 may be questionable for several of the countries studied. For example, major changes in oil prices (and hence the terms of trade) presumably affected the equilibrium value of the real exchange rate for Mexico and Venezuela. Trade liberalization may have had a similar effect in, for example, Chile.

Sebastian Edwards suggested to me that the premium between a country's black-market exchange rate and its official rate might be used as a proxy for the degree of exchange-rate disequilibrium. Unfortunately, *Pick's Currency Yearbook*, which publishes black-market exchange rates, temporarily ceased publication at the end of 1979, so we could take up this suggestion only for Mexico and Argentina, where quarterly data were available. The findings were somewhat surprising. None of the regression equations attached a significant coefficient to the black-market premium. This was the case whether or not the real effective exchange rate was included in the regression. In the Mexican case, this result reflects the fact that the black-market premia were trivial in the 1973-79 period, rising briefly to 10 to 15 percent in the third quarter of 1976 in anticipation of the major devaluation that took place in September of that year. In the Argentine case, the black-market premia were hefty from the second quarter of 1974 (100 percent) until the third quarter of 1976 (86 percent), but they were very small thereafter. According to Nogués (1984, Table 1), the black-market premia in Argentina continued to be small in 1980 and 1981. If data had been available for the 1982-84 period, when capital flight was large, our econometric tests might have been powerful enough to pick up the effect of black-market premia.

Simultaneous-Equation Bias

Although it is reasonable to assume that the rate of return on foreign assets, proxied here by the U.S. Treasury bill rate, is exogenous from the developing country's point of view, the other variables in equation (10) may not be. Hence, the ordinary-least-squares (OLS) estimates reported in Table 3 below

may suffer from simultaneous-equation bias because of the endogeneity of x_t, π_t, and possibly the domestic interest rate (if it is market-determined). In some of the countries in our sample, domestic interest rates are not market-determined but, rather, are fixed by the domestic monetary authority or government agencies responsible for credit allocation. In these cases, r_t may be considered exogenous.

Simultaneity bias can, in principle, be eliminated by using an instrumental-variable (IV) estimation technique. Unfortunately, the resulting coefficient estimates are biased in small samples and have higher standard errors than the corresponding OLS estimates. As Kennedy (1979, p. 113) notes,

> Although the OLS estimator is biased [in the presence of endogenous regressors] in small samples, so also are all alternative estimators. Furthermore, the OLS estimator has minimum variance among these alternative estimators. Thus, it is quite possible that in small samples the OLS estimator has minimum mean square error. Monte Carlo studies have shown, however, that this is true only in very small samples.

Since most of our results are based on a very small number of observations (1974-82), it is by no means clear that the IV estimates are superior to the OLS estimates for the problem at hand. In any case, the conclusions based on the IV estimates are very similar to those based on the OLS estimates, so our conclusions are robust with respect to changes in technique.

Some regressions considered contemporaneous values of the real effective exchange rate, the inflation rate, and the interest differential vis-à-vis the United States. Regressions were also run with explanatory variables lagged one year in an effort to reduce the potential for simultaneous-equation bias. The correlations between a country's contemporaneous and lagged values were typically 0.40 or less for the three variables mentioned above.

The estimation procedure was to start by estimating the general model with the entire rate-of-return vector (r_t, r^*_t, x_t, π_t), using either contemporaneous or lagged values. In the former case, where simultaneity bias may be a problem, both OLS and IV estimates were made. All variables with t-statistics less than unity were dropped so as to leave more degrees of freedom, and the regressions were rerun. The results reported in Tables 3 and 4 are the best ones that were found, where "best" means that the equation produced the minimum standard error of regression or maximum adjusted R^2. In cases where several regressions were equally satisfactory, a representative equation was chosen unless the results conflicted, in which case both are reported.

Countries That Experienced Large-Scale Capital Flight: Argentina, Mexico, Uruguay, and Venezuela

The most noteworthy feature of the regression results in Tables 3 and 4 is that the extent of currency overvaluation is a highly significant determinant of

capital flight in all four countries where, according to Table 1, capital flight occurred on a large scale. Our detailed discussion begins with these four countries.

Argentina. Capital flight was an important phenomenon in Argentina in 1976, 1978, and particularly in the 1980-82 period. Because Argentina underwent a number of major political and economic changes during the 1970s, there were many causes of capital flight in those years.

During the Peronist regime, which began in 1973 and was ended by a military coup in March 1976, there was a serious deterioration in fiscal discipline. The public-sector deficit rose from 4.3 percent of GDP in 1972 to 14.4 percent in 1975, and the inflation rate accelerated to the verge of hyperinflation. Serious distortions emerged as the government attempted to control price and wage increases. A huge deficit was recorded in the current account, and the loss of foreign reserves amounted to $1.1 billion in 1975.[1] Foreign-exchange transactions were restricted, and a balance-of-payments crisis occurred in early 1976 when $2 billion in external loans came due.

Although there were no limitations on capital inflows by residents or nonresidents, capital outflows were restricted in the 1973-75 period. (The small amount of capital flight shown in Table 1 for 1974 may have been due to the August relaxation of limits in foreign-exchange convertibility for purposes of foreign travel. The restrictions were tightened in May 1975.)

In late 1975 and early 1976, the downward crawl of the exchange rate was insufficient to offset accelerating inflation, and the peso became increasingly overvalued in real terms. The growing probability of a large currency devaluation undoubtedly contributed to the shift of domestic wealth into foreign assets. Given the restrictions on foreign-exchange transactions, little of this capital flight shows up in the short-term capital account of the balance of payments. But a negative errors-and-omissions entry in 1976 is indicative of an outflow of private capital. Political instability, which led up to and followed the military coup in March 1976, may also explain part of the capital flight in that year.

In April 1976 the new military government initiated far-reaching trade, financial, and fiscal reforms. The intention was to open the economy to world trade by eliminating quantitative restrictions on imports, reducing the level and dispersion of tariffs, and unifying the system of exchange rates. The public-sector deficit was reduced from 14.4 to 10 percent of GDP in 1976, and the inflation rate dropped dramatically in the first half of the year. In mid-1977

[1] Most countries report balance-of-payments information to the International Monetary Fund in units of domestic currency. The Fund converts the figures to SDRs when compiling the *Balance of Payments Yearbook*, using the period-average exchange rate of the country's currency against the SDR. All U.S. dollar figures in this Study are calculated by multiplying the SDR figures in the *Yearbook* by the period-average U.S. dollar/SDR exchange rate.

TABLE 3

REGRESSION RESULTS ON DETERMINANTS OF CAPITAL FLIGHT

	Constant	x	Lagged x	Lagged r^*+x	r^*	r	Lagged r	π	Lagged π	$\bar{R}^2$ DW	Estimation Technique
Argentina	−730.30		60.58							.66	OLS
	(0.74)		(3.80)							2.72	
Brazil	1,184.93						−126.39		84.01	.23	OLS
	(1.12)						(1.68)		(1.85)	2.60	
Chile	−253.22			37.30						.41	OLS
	(1.66)			(2.27)						2.67	
Korea	1,133.96	−147.37			171.49			−134.95		.57	OLS
	(1.38)	(1.95)			(1.77)			(3.66)		2.63	
	273.77	−237.72			218.93			−107.49		.22	IV
	(0.19)	(1.04)			(1.03)			(1.14)		2.90	[r^*,DB,$CDCC$]
Mexico	−3,617.89	115.65				225.18				.80	OLS
	(2.57)	(2.80)				(5.17)				2.14	
	−4,119.40	138.80				227.34				.79	IV
	(2.75)	(2.61)				(5.07)				(1.83)	[r^*,GE,FB,DB]

Peru	598.46	6.75		−53.60			.36	OLS
	(1.81)	(1.21)		(1.48)			2.70	
	509.63	10.31		−43.41			0.31	IV
	(0.95)	(0.59)		(.72)			2.56	[r^*,FB,DB]
Uruguay	1,407.63		19.77		−16.94	−13.81	0.85	OLS
	(3.15)		(5.20)		(2.30)	(3.30)	2.90	
Venezuela	−1,398.66	223.01			176. 51		0.81	OLS
	(1.08)	(5.38)			(1.62)		1.82	
	−1,861.75	197.74			224.23		0.80	IV
	(1.18)	(4.06)			(1.64)		1.70	[r^*,GE,$CDCC$]

NOTE 1: Numbers in parentheses under coefficient estimates are t-statistics.

NOTE 2: Letters in brackets under estimation techniques are instrumental variables. The definitions of IV are from the IMF's *International Financial Statistics*: r^*, U.S. T-bill rate; DB, government net foreign borrowing (line 84a); $CDCC$, change in domestic credit (change in line 32); GE, government spending (line 82); FB, government net foreign borrowing (line 85a).

the government undertook a major financial reform involving the deregulation of deposit rates of interest, a reduction in banks' reserve requirements, and the paying of interest on commercial banks' reserves. These moves, plus a large current-account surplus and a near-equilibrium exchange rate, explain the lack of capital flight in 1977. In fact, our estimates in Table 1 indicate that a "reflow" of capital occurred.

The situation began to change again in 1978. Confronted by accelerating inflation and increasing overvaluation of the peso, the government elected to float the exchange rate in May 1978. In December, however, it adopted a new strategy, preannouncing the path of the exchange rate for the next six months. The objective was to bring down inflation by slowing the rate of currency depreciation (and thus slowing the rate of increase in the domestic-currency prices of tradable goods). Unfortunately, inflation subsided sluggishly, causing the peso to become severely overvalued in real terms between 1978 and 1981.

It seems clear that overvaluation of the peso and the increasing probability of a major devaluation were the primary causes of capital flight in 1980-82. The relative openness of the financial market facilitated capital flight by residents who lacked confidence in the government's exchange-rate policy. It is noteworthy that the difference between domestic and foreign interest rates was not a good indication of the incentive for capital flight. Rather, like capital flight itself, it was a symptom of other problems in the domestic economy. Although both real and nominal interest rates became very high in late 1980 and 1981, this was a market response to bank failures and generalized instability in the domestic financial system. The lack of confidence in the domestic financial system and the lack of credibility attaching to the government's anti-inflation program partially explain the simultaneous increase in capital flight and domestic interest rates.

Regression analysis with annual data: The regression equation for Argentina in Table 3 shows the effect of the lagged real exchange rate on Argentine capital flight.[2] Its coefficient has the expected positive sign and is highly significant. The inflation rate and nominal interest rates are not significant explanatory variables.

How much capital flight would Argentina have experienced in the absence of the severe overvaluation of its currency? Suppose we choose an "equilibrium level" for the real exchange rate, such as the level in 1977, when Argentina's real effective exchange-rate index was equal to 100. This procedure sets x equal to zero, and the regression equation then predicts a negative rather than positive value for the dependent variable equal to $730 million. This sug-

[2] Contemporaneous values of the explanatory variables were not significant when annual data were used.

gests that in the absence of exchange-rate overvaluation, Argentina would have experienced an additional capital inflow of $730 million per year during the 1970s and early 1980s instead of capital flight. The inflow might have involved an increase in foreign lending rather than a repatriation of domestic capital that had fled in earlier years. The calculation implicitly assumes that there was no constraint on capital inflows from abroad, which was not the case after the advent of the Latin American debt crisis in the early 1980s. Whether the debt crisis would have occurred under a different mix of domestic policies is itself an open question. Nevertheless, this simple calculation suggests that the estimated regression coefficients are of reasonable size.

Regression analysis with quarterly data: For Argentina it was possible to obtain quarterly data on capital flight, the real effective exchange rate, and the domestic inflation rate for the first quarter of 1976 through the second quarter of 1983. The regression results are reported in Table 4.[3] In this case, the coefficient on the contemporaneous (rather than lagged) real effective exchange rate (*REER*) is highly significant and has the expected positive sign. As with the annual data, the domestic inflation rate is not significant in explaining capital flight.

TABLE 4
REGRESSION RESULTS USING QUARTERLY DATA

	Constant	*REER*	π	$\bar{R}^2$	*DW*
Argentina	−612.93	17.83		0.11	1.50
1976:I-1983:II	(1.10)	(2.15)			
Mexico	−5,257.08	54.51	41.43	0.32	1.74
1975:I-1982:IV	(3.21)	(3.60)	(3.55)		

If the real effective exchange rate is set at its 1977 value,[4] the regression equation predicts that Argentina would have experienced short-term capital flight of approximately $162 million per quarter, or $648 million per year. This is perhaps a more believable result than the estimated inflow of $730 million obtained from the annual data. In any event, it is much smaller than the estimated capital flight recorded in Table 1, which shows outflows of $2.3, $8.7, and $5.0 billion in 1980, 1981, and 1982, respectively.

Mexico. From 1954 through mid-1982, Mexico did not control capital in-

[3] The inclusion of *REER* rather than x when the expectation function in (11) is used leaves the exchange-rate coefficient unchanged. The two specifications are identical except that the equilibrium exchange rate is embedded in the constant term when *REER* is used.

[4] The base-year value for the quarterly data for the *REER* is 43 rather than 100, as it was in the annual data.

flows or outflows by either residents or nonresidents. In the early 1970s, however, rapidly rising public expenditure caused a large fiscal deficit (8 percent of GNP in 1976) and accelerating inflation. This inflation, coupled with a nominal exchange rate that was fixed until 1976, resulted in an overvalued currency. The current account also deteriorated.

In September 1976, Mexico introduced a managed floating exchange rate, after twenty-two years with a fixed parity. The currency immediately depreciated. During the same year, the Bank of Mexico authorized credit institutions to accept foreign-currency time deposits from any Mexican resident, not just residents in the northern border areas as before, and guaranteed net yields 1 percentage point above prevailing Eurodollar rates on time deposits denominated in U.S. dollars.

In December 1976, a new administration took office and in 1977 initiated a comprehensive stabilization program sanctioned by the IMF. The inflation rate fell in 1977, and the fiscal deficit was reduced. An upward revision in estimated oil reserves led to increased optimism about Mexico's economic prospects. These factors contributed to the sharp reduction in capital flight during 1977-79.

But by 1981 optimism about the Mexican economy had disappeared. The inflation rate had begun to increase in 1980, leaving the domestic interest rate adjusted for expected depreciation much lower than prevailing international rates. The Mexican peso again became overvalued and fiscal deficits soared. These factors increased uncertainty regarding prospects for the Mexican economy and induced massive capital flight in 1980-83.

Regression analysis using annual data: Regressions using contemporaneous values of the explanatory variables were superior to those based on lagged values. The regressions reported in Table 3 are representative. Both the OLS and IV estimates show that real-exchange-rate overvaluation had a highly significant positive coefficient, as theory would predict. The estimated coefficient on the domestic interest rate is perverse, however, saying that higher interest rates increased capital flight. This may reflect the difficulty discussed earlier—that capital flight and higher interest rates are both symptomatic of increased political or financial risk. The inflation rate was not statistically significant and was dropped from the equation.

The regression results suggest that Mexico's problem with capital flight would have been mild if it had undertaken policy measures to keep the real exchange rate near its 1977 value and domestic interest rates at, say, 20 percent. Under this scenario ($x = 0$ and $r = 20$), the regression equation using IV estimation predicts capital flight equal to roughly $427 million per year, considerably less than the amount that actually occurred in the early 1980s according to Table 1. This simple exercise should be interpreted with caution. Nevertheless, it is suggestive.

Regression analysis with quarterly data: Quarterly data on Mexican capital flight, the real effective exchange rate, and the domestic inflation rate were available from the first quarter of 1975 through 1982. Regressions with these quarterly data confirmed the importance of currency overvaluation. High inflation was also an important determinant of capital flight. As Table 4 shows, both the *REER* and π are highly significant and have the expected signs.

As a check on the reasonableness of the regression equation, suppose that the real effective exchange rate is set equal to its level in the "equilibrium" year 1977 [5] and the inflation rate is set at 20 percent. Under this scenario, Mexico would have had an additional capital inflow of approximately $68 million per quarter, or $271 million per year—a more believable number perhaps than the $427 million outflow obtained from the regression using annual data.

Uruguay. Between 1974 and 1979, government intervention in Uruguay's credit market was gradually reduced. The principal aspects of the liberalization included the legalization of domestic holdings of foreign-currency assets in 1974, the elimination of sectoral credit-allocation guidelines in 1975, and the gradual lifting of interest-rate ceilings until their abolition in 1979. During this period, the government also eliminated its budget deficit. All of these factors reduced the incentives for capital flight.

In 1980, however, problems began to develop. An increasingly overvalued Uruguayan peso and a reduction in direct export incentives led to stagnating exports (especially construction exports to Argentina). Worsening foreign conditions, combined with an anti-inflationary policy, produced a 1.9 percent slowdown in output growth in 1981 and a 9.7 percent contraction in 1982 (Hanson and de Melo, 1985, Table 2).

Economic deterioration in Argentina, Uruguay's most important trade partner, resulted in successive massive devaluations of the Argentinian peso starting in March 1981. Expectations developed in Uruguay that a devaluation of its peso would be necessary, and this belief was strengthened in 1982 when a fiscal deficit exceeding 10 percent of GDP threatened the anti-inflation program. The overvaluation and the prospect of a growing fiscal deficit led to large capital flight.

Table 3 reports regression results for Uruguay using lagged values of the three explanatory variables. All three variables are highly significant and two have the impact that theory would suggest: exchange-rate overvaluation induces capital flight, while high domestic interest rates retard it. The inflation-rate coefficient is negative, asserting that increases in the inflation rate have been associated with *reduced* capital flight—a result that is counterintuitive

[5] The base-year value for the quarterly data for the *REER* is 80 rather than 100, as it was in the annual data.

but may be taken to imply that domestic inflation hedges and foreign assets are gross substitutes.

The regression equation for Uruguay suggests that policies designed to hold the real exchange rate to its 1977 level, inflation to 20 percent (rather than the average of 55 percent over the 1974-82 period), and the domestic interest rate to 30 percent (rather than the average rate of 44.3 percent) would have resulted in capital flight of $623 million per year. This is less than the massive capital flight that actually occurred in 1981 and 1982, although somewhat higher than the annual average rate of $139 million for the 1974-82 period.

Venezuela. Except in 1974, Venezuela experienced no problem with capital flight until 1980-82. Throughout the period under study, the country maintained a fixed exchange rate and a convertible currency on both current and capital accounts. Domestic inflation was in the 7 to 10 percent range from 1973 to 1978 before climbing to 12.4, 21.5, and 16.0 percent in 1979, 1980, and 1981, respectively, causing the real effective exchange rate to rise above the stable level maintained throughout the 1970s. By 1982, the domestic currency had become overvalued by perhaps 30 to 40 percent.

Cline (1983) sums up Venezuela's balance-of-payments performance by distinguishing four clear periods: "large surpluses in 1973-75, growing deficit in 1976-78, renewed surplus in 1979-81, and evaporation of the surplus coupled with capital flight in 1982. Oil prices dominated performance, but the rapid growth of imports in 1979-82 [as the exchange rate became increasingly overvalued] also played a role." He goes on to blame the large rise in foreign indebtedness on consolidated public-sector deficits that rose from 1.2 percent of GNP in 1977 to 9.5 percent in 1978. Interest rates were maintained at artificially low levels, limiting the size of the domestic capital market that could be tapped to finance these surging deficits. The government had to turn increasingly to foreign financing, mostly from commercial sources and with short maturities.

In the early 1980s, as high public-sector deficits continued and the oil market weakened significantly, fears of devaluation grew. These fears were exacerbated when, in the wake of the Mexican debt crisis, the Venezuelan government was unable to convert its large short-term debt into long-term debt. As there were no restrictions on the outward movement of capital, massive capital flight occurred. In February 1983, the Venezuelan Bolivar was devalued for the first time in twenty years and a multiple-exchange-rate system was introduced.

The regression equation for Venezuela in Table 3 confirms that overvaluation of the real exchange rate, x, and high domestic inflation, π, are important causes of Venezuelan capital flight.

Venezuela's inflation rate averaged 11 percent over the 1974-82 period, compared with 9 percent in the United States. Its currency appreciated dramatically in real terms during the latter part of this period. The OLS regression indicates that if the real effective exchange rate had been maintained at the level prevailing in the early 1970s (so that $x = 0$) and inflation had been kept in the 9 percent range, capital flight would have been a modest $190 million per year, much less than the $15.8 billion that actually occurred in the three-year period from 1980 to 1982.

Countries Where Capital Flight Was Less Severe: Brazil, Chile, Korea, and Peru

We look now at developments in the countries where capital flight posed less of a problem, and then at the regression results for these countries as a group.

Brazil. Brazil had strict foreign-exchange regulations and vigorous enforcement from 1974 to 1982. Domestic firms were monitored to ensure that they adhered to the regulations, and residents were not allowed to hold foreign-currency assets. As a result, Brazil's cumulative capital flight was only 0.5 percent of the cumulative growth in foreign indebtedness. The indexation of many financial instruments was a key element in keeping nominal interest rates close to, if not always above, the rate of inflation. This may have prevented capital flight from becoming a problem during the 1970s.

Since 1980, however, Brazil has had persistent capital flight, although in relatively small amounts. Two facts may account for this change. The inflation rate jumped after 1979, and the government announced plans for a large devaluation in 1980. Furthermore, domestic interest rates were not fully indexed; thus the inflation risk on domestic assets increased as inflation surged. These factors undoubtedly increased the perceived risk of holding domestic financial assets and of domestic investment, but strict capital controls apparently limited the amount of capital flight.

Chile. Chile is unusual in having "negative" capital flight from 1975 through 1981. Dornbusch (1985) notes that Chile had very restrictive controls on capital flows until 1979, when the capital account was liberalized, but Corbo (1985) points out that the controls pertained mostly to capital inflows rather than outflows. Starting in 1976, domestic residents were allowed to purchase $1,000 of foreign exchange per month, and the limit was gradually raised to $10,000 per month in late 1978. With the adoption of a unified flexible exchange rate on August 6, 1982, all restrictions on foreign-exchange transactions were eliminated briefly, but the Chilean central bank lost $450 million in reserves between August 6 and September 20 trying futilely to stem the collapse of the peso. Corbo (1985, p. 908) notes that "the exchange rate adjustment in the second half of 1982 was difficult because of the large

capital outflows [i.e. capital flight] during the period of unstable exchange rates and the sudden drying up of foreign credit due to the debt problems of Argentina, Mexico and Brazil."

This account suggests that the liberalized limit on foreign-exchange purchases was not a binding constraint on Chileans who wished to move capital abroad after 1977. It was easily circumvented either by recruiting one's relatives or employees to request their foreign-exchange "allowance" so that additional dollars could be exported or by "double-dipping" by visiting several different banks. Because an individual's income tax identification number had to be furnished when purchasing foreign exchange, however, the possibility of investigation for income tax violations may have deterred some Chileans from purchasing dollars up to the legal limit.

In short, the major reason for the absence of capital flight, according to our measure, was probably not controls on capital outflows, at least between the end of 1977 and late 1982, when stricter controls were imposed.[6] But a second explanation is available. Since 1974, when Chile deregulated interest rates, domestic rates have been considerably higher on average than foreign rates. Furthermore, the military government that took office in 1973 has been successful in reducing the domestic inflation rate. Finally, Chile did not suffer the chronic overvaluation that plagued many Latin American countries during the period. Nevertheless, Table 1 shows significant capital flight in 1982. Possible explanations include the domestic financial crisis in the second half of 1981, the overvaluation of the peso in the second half of 1981 and first half of 1982, which led to expectations of devaluation, and the drastic reduction in permissible import levels, accompanied by a sharp contraction in private short-term trade credit.[7]

Korea. Korea kept very strict controls on foreign-exchange transactions throughout 1974-82. Korean residents were not generally allowed to hold foreign-currency assets. Furthermore, severe exchange-rate disequilibrium and high inflation have generally been prevented, so that the incentives for capital flight have been mild relative to those in several Latin American countries. Consequently, total capital flight has been minimal.

But Table 1 does indicate some capital flight in three years: 1978, 1981, and 1982. There are several possible causes. Korea enjoyed an economic boom

[6] Dornbusch (1986, pp. 5-6) points out that, with capital controls in place but a liberalized trade account, the primary outlet for exchange-rate speculation in Chile was flight into importables (particularly consumer durables such as automobiles and appliances): "The level of imports exploded in 1980-81." In contrast, Argentina had an open capital account, so that flight into foreign assets was the private sector's major defense against exchange-rate depreciation. Unfortunately, perhaps, Chileans' speculative or defensive purchases of consumer durables are not captured in our measure of capital flight.

[7] Changes in trade credit were included in the capital-flight estimates for Chile.

after the first oil shock, largely due to its Middle Eastern construction activity, and achieved a current-account surplus in 1977. This allowed the Korean government to relax its foreign-exchange controls slightly, allowing more foreign-currency expenses and the acquisition of foreign assets by the foreign branches of Korean firms. An increase in the line item "net errors and omissions" in 1978 apparently reflects this relaxation of controls, which opened the door for capital flight caused by accelerating inflation.

In 1979, however, Korea adopted a tight monetary policy and high interest rates in order to stabilize the economy. The resulting shortage of domestic credit led Korean firms to seek short-term foreign loans and trade credit, a situation reflected in historically high short-term capital inflows to the private sector in 1980. But monetary policy started to ease again in 1981, and domestic interest rates fell, giving Korean firms an incentive to refinance their short-term foreign liabilities with domestic loans—an incentive that was strengthened by high U.S. interest rates. Thus the data show an increase in capital flight in 1981 and 1982. The large "errors and omissions" figure for 1982, which exceeded 30 percent of the corresponding change in foreign debt, was at least partly caused by differences in the accounting methods used by different government authorities to account for shipbuilding exports. A new relaxation of foreign-exchange controls, including a large increase in the amount of assets that emigrants could take out of the country, may also be a partial explanation.

Peru. Overvaluation of the currency occurred in Peru between 1973 and 1975, when domestic inflation coupled with a rigid nominal exchange rate pushed the real effective exchange rate well above its equilibrium level. Furthermore, interest-rate ceilings kept domestic rates from rising to market-clearing levels, and domestic financial markets were distorted by high reserve requirements for the commercial banks and by direct credit allocations. These distortions made the Peruvian economy highly vulnerable to capital flight, despite strict capital controls. Estimated capital flight amounted to $1.3 billion between 1974 and 1977.

In late 1977, the government authorized commercial banks to accept foreign-currency deposits. In 1978, it carried out several devaluations, amounting to 30 percent over the year, and substantially increased the ceilings on nominal interest rates. These changes reduced the incentives for capital flight in 1978 and 1979, but they were offset by an acceleration of domestic inflation, which reached 58 percent in 1978 and 67 percent in 1979. This caused a real appreciation of the currency because of the sluggishness with which policymakers adjusted nominal interest rates and the exchange rate.

The inflationary process was accelerated by large fiscal deficits and the "dollarization" of the Peruvian economy, as dollar deposits were introduced by commercial banks. The shift into dollar assets reduced the availability of

domestic credit and shrank the monetary base on which the inflation tax could be levied to finance the fiscal deficit. This further accelerated inflation and dollarization. Frequent depreciations of the currency beginning in 1980 did not stop capital flight except in 1981, when domestic interest rates increased to over 60 percent (vs. 31 to 32 percent in the previous year), causing the real return on domestic deposits to turn positive. The *ex post* real return on dollar-denominated deposits reached 17.2 percent in 1981 after being negative for several years, and the reversal of capital flight amounted to $468 million. By 1982, however, tremendous inflation had offset the interest-rate adjustments of 1981, and capital flight began anew, amounting to $148 million.

Regression results for Brazil, Korea, and Peru yield no empirical support for the view that currency overvaluation contributes to capital flight. The inflation-rate coefficient had a positive sign in the Brazilian equation but was only marginally significant. The same coefficient was significant in the Korean equation but entered with a negative rather than a positive sign. No amount of experimentation with the Peruvian data produced statistically significant coefficients for contemporaneous or lagged values of x, π, or r. The variable $r^* + x$ did enter the capital-flight equation for Chile, however.

There are several ways to explain these empirical results. First, the dependent variable, capital flight, is subject to large measurement error. As the true magnitude of capital flight declines, the variance of the measurement error will rise relative to the variance of true capital flight, making it likely that the regressions will not perform well for countries that experienced relatively small amounts of capital flight. Second, these four countries exhibited no major disequilibria from 1974 through 1982 (except, perhaps, Chile in 1981-82), removing the underlying incentives for capital flight. Third, stringent controls on capital outflows may have prevented capital flight from taking place.

Empirical evidence is available regarding the second point. Inflation rates and the degree of variability in real exchange rates differed markedly among the eight countries covered by this study. Nevertheless, Brazil, Chile, and Peru, which had less acute problems with capital flight than Argentina, Mexico, Uruguay, or Venezuela, suffered sufficiently from inflation and overvaluation to have experienced capital flight during some years. Thus, the third explanation seems to fit, at least for Brazil, Korea, and Peru. The presence of capital controls greatly reduced the amount of capital flight that would otherwise have occurred given the movements in inflation rates and real exchange rates between 1974 and 1982.[8]

[8] Corbo, De Melo, and Tybout (1986) reached similar conclusions independently in their comparison of Argentina, Chile, and Uruguay. See their Table 3 and the surrounding discussion.

5 THE EFFECTIVENESS OF CAPITAL CONTROLS

There is widespread approval of capital controls, particularly in some Latin American countries where it is assumed (a) that capital flight is necessarily bad and (b) that capital controls can prevent it. The question of whether or not capital flight is bad was addressed in Chapter 3, starting with the general premise that unrestricted international capital movements are welfare-increasing because they improve the worldwide allocation of loanable funds and then qualifying it by a demonstration of how capital flight from developing countries may in many cases be welfare-*reducing*. In Chapter 4, it was shown that capital flight is often a symptom of macroeconomic mismanagement and that it will cease after sensible, credible policies are restored.

In light of these findings, the imposition of capital controls should be criticized as attacking the symptom rather than the underlying cause of the problem. Nevertheless, policymakers in crisis situations often exclaim, "Don't tell me whether capital controls are the first-best policy response for attacking capital flight, tell me whether they will work!" Let us now examine this positive issue rather than the normative aspects of capital controls.

How effective were capital controls in checking capital flight during the 1970s and early 1980s? To answer this question, it is not enough to show that countries with capital controls had little capital flight. There must also be underlying incentives for capital flight, such as overvalued currencies, high and variable inflation, financial instability, or repressive financial policies. Comparing the strength of these incentives with the capital flight that actually occurred, I conclude that the amount of capital flight did depend importantly on the existence of capital controls. For example, Brazil and Chile had higher inflation rates on average than Mexico or Venezuela, yet their ratios of capital flight to growth in indebtedness were very much lower. Not coincidentally, Brazil had very strict foreign-exchange controls during the period studied. While Chile's controls on capital outflows were probably not binding by the late 1970s, devastatingly high domestic interest rates discouraged Chilean capital from flowing abroad.

In the case of Argentina, controls were relaxed and reimposed repeatedly over the course of the decade. The Argentinian experience demonstrates that the relaxation of controls on capital outflows is likely to cause massive capital flight when macroeconomic and exchange-rate policies interact to create accelerating inflation and an overvalued currency. The incentives for capital flight in the Argentinian case included the expectation that there would be a

large devaluation, that controls on capital outflows would be reimposed, and that the government's anti-inflation program would collapse. Given domestic residents' experience and familiarity with international capital markets, it proved impossible to choke off capital flight merely by reimposing limits on capital outflows.

In Korea, by contrast, strict and vigorous enforcement of capital controls has been longstanding. As a result, and because the won was never allowed to become severely overvalued, the problem of capital flight has been of minor importance.

Thus, under volatile domestic economic conditions, the temporary relaxation of controls provides an opportunity for residents to move assets abroad. In addition to consistency in the application of controls, another important factor in reducing capital flight is the vigor with which these controls are enforced and their uniformity over time. Controls that were changed frequently and capriciously enforced were less successful in preventing capital flight. In sum, it appears that a country's past experience with capital controls, the variability of controls over time, and the vigor of enforcement procedures greatly affect the power of capital controls.

Although they have been capable of stemming capital flight in some cases, capital controls are not necessarily a good idea, for all the reasons adduced earlier. Even in a crisis, it may be preferable to adopt a dual-exchange-rate system, which maintains a relatively fixed exchange rate for current-account transactions and a floating rate for speculative financial transactions. Such a system has the advantage of allowing the exchange rate to respond to fluctuations in speculative supplies and demand for foreign exchange. The exchange-rate response, being an equilibrating price signal, tends to reduce speculation. Furthermore, the central bank is freed from the onerous obligation to spend valuable reserves in an often futile effort to defend the exchange rate.

6 IMPLICATIONS FOR POLICY

The policy implications of our theoretical, historical, and statistical analyses of capital flight are straightforward once the underlying causes of capital fight are understood.

Overvaluation of the currency seems to have been a major contributor to capital flight in Argentina (1981-82), Chile (1981-82), Mexico (1974-76 and 1980-82), and Uruguay (1981-82). These countries had either fixed exchange rates or crawling pegs that did not crawl quickly enough to close the gap between domestic and foreign inflation rates.

High inflation, which is typically accompanied by high variability of the inflation rate, can also be a major cause of capital flight because of the uncertainty it attaches to the return on domestic assets. This uncertainty can be reduced but not eliminated by widespread indexation (as in Brazil, for example). Even though domestic interest rates may exceed foreign rates by margins much higher than the expected depreciation of the domestic currency, as they did for prolonged periods in the late 1970s and early 1980s in Argentina, Chile, and Uruguay, the high degree of uncertainty seems to have driven risk-averse domestic investors into foreign assets.

The incentive for capital flight created by inflation is greatly exacerbated in economies suffering from repressive financial policies that keep domestic interest rates from rising far enough above those prevailing abroad to compensate for expected currency depreciation. Domestic interest rates were far too low in countries like Mexico, Peru, and Venezuela, where the monetization of large fiscal deficits caused high inflation and expectations of depreciation, but interest-rate ceilings prevented the necessary increase in domestic interest rates. The other side of the coin, however, is that high real as well as nominal interest rates on domestic deposits encouraged the repatriation of some capital held abroad in the cases of Chile and Uruguay after financial liberalization was initiated.

Lack of confidence in the domestic financial system triggered massive capital flight in countries like Argentina, Chile, and Uruguay even though interest rates rose considerably above those prevailing in the United States at the time. Financial instability also contributed to capital flight in Mexico and, to a lesser extent, Korea and Brazil during 1980-82.

Overly expansionary monetary and fiscal policies, an incompatible exchange-rate policy, and a repressive set of financial policies designed to divert

resources toward the public sector will cause widespread distortions and imbalances even in the short run. Capital flight is an important symptom of these policy-induced distortions. While attacking this symptom directly by imposing capital controls may be essential in a crisis, it hardly represents a long-term antidote for destabilizing exchange-rate, fiscal, and financial policies. Without capital controls, the threat of capital flight might impose much needed discipline on policymakers.

APPENDIX A

Testing for an Asymmetric Response of Capital Flight to Increases and Decreases in the Real Effective Exchange Rate

It is sometimes claimed that capital flight is especially undesirable because capital that has flown from a country "never comes back." One simple way to test this proposition is to investigate whether countries that have had positive capital flight in some years ever experience negative capital flight thereafter. A quick glance at Table 1 confirms that such reversals do, in fact, occur; this is evidence against the hypothesis.

Support can perhaps be found if the hypothesis is interpreted as referring to higher elasticities of capital flight to *increases* in real exchange rates or inflation rates rather than *decreases* in those variables. In the limiting case, where flight capital never returns, decreases in the real effective exchange rate (*REER*) or inflation rate (π) would have no effect. In more moderate cases, coefficients on the downward movements of *REER* or π should at least be smaller than those on upward movements.

To test for this asymmetric response, we define a dummy variable D_1, which equals 0 when *REER* is rising and 1 when it is falling. A new variable V_1 is created by multiplying the actual *REER* series by D_1. This series has a value of 0 in periods when *REER* rises and the actual value of *REER* in periods when it falls.

The quarterly regressions in Table 4 were rerun with the additional variable V_1 included. A significant coefficient on this variable would be evidence of an asymmetric response. We also tried adding D_1 as well as V_1 to the regression to cover the possibility that increases and decreases in *REER* should be measured relative to the *equilibrium* rate, which is implicitly incorporated into the constant term, rather than to the previous period's value.

Regardless of the specification employed, only one regression attached a significant coefficient to V_1. It was the following equation for Argentina (1976:I-1983:II):

$$KF = \underset{(1.50)}{-790.23} + \underset{(2.17)}{17.20\,REER} + \underset{(1.93)}{12.33\,V_1}, \qquad DW = 1.89\,.$$

Surprisingly, however, this equation raises the size of the coefficient when *REER* falls; it is 17.20 when *REER* rises and 17.20 + 12.33 when *REER* falls.

A similar test was carried out for the inflation variable in the quarterly

regression equations for Argentina and Mexico. None of the regressions provided any indication of an asymmetric response. In sum, our empirical analysis for Argentina and Mexico found no evidence for the often-stated assertion that when capital flees, it never comes back.

APPENDIX B

Capital Flight Executed by Underinvoicing Exports

Underinvoicing exports is an important mechanism for evading capital controls in many developing countries. Gulati (1985) has recently compared the exports reported by individual developing countries with imports from each country reported by its industrial-country trading partners. Gulati's paper presents the average extent of underinvoicing for the 1977-83 period, but he has kindly provided these year-by-year percentages of reported exports for each country:

	1977	1978	1979	1980	1981	1982	1983	Average
Argentina	20.6	24.2	18.9	17.4	19.2	21.0	19.5	19.6
Brazil	11.2	9.0	17.1	14.5	11.4	15.9	9.8	12.7
Chile	14.0	23.5	14.8	13.8	9.6	12.0	6.5	12.8
Korea	2.0	−0.9	−0.7	0.5	−3.5	−6.1	−5.1	−2.5
Mexico	77.9	26.8	42.4	27.6	26.9	26.5	33.8	33.6
Peru	20.8	15.6	8.9	14.4	18.1	10.0	9.6	12.9
Uruguay	15.0	13.5	13.7	14.3	19.5	64.1	52.6	27.8
Venezuela	7.6	6.1	0.7	4.2	9.5	8.9	9.4	6.9

NOTE: Because exports are recorded f.o.b. and imports CIF, a difference of approximately 10 percent is to be expected. Thus, only magnitudes above 10 percent should be regarded as capital flight.

SOURCE: Gulati (1985 and private correspondence).

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