Capital Flight and the Latin American Debt Crisis

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Acknowledgements

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Executive Summary

Since 1982, the debt crisis has crippled the development efforts of most Latin American economies. Yet even as Latin American countries have run up large foreign debts, their own wealthiest citizens have been investing heavily abroad, acquiring enormous stocks of foreign assets. This phenomenon is known as "capital flight." The present study analyzes the extent of the capital flight problem, the causes and effects of capital flight, and the efficacy of alternative policies for preventing or reversing it.

From 1973 to 1987, capital flight from Latin America added up to $151 billion, or about 43 percent of the total external debt acquired during those same years. This paper shows that capital flight has imposed three major types of costs on Latin America: (1) sacrificed growth potential, (2) forfeited taxes, and (3) a worsening distribution of income. Moreover, if these resources could be returned to Latin America, tlhe region's ability to service its debts and to revive its growth would be greatly enhanced.

The Bush Administration has made the return of flight capital a major goal of its new debt strategy, the Brady Plan. Under this plan, countries must agree to implement a set of conservative economic "reforms" in order to qualify for partial debt relief. These "reforms" essentially involve the same kinds of policies which have been promoted by the International Monetary Fund (IMF) in its "stabilization programs": deregulation of markets, fiscal austerity, currency depreciation, lower wages, and higher interest rates. Recently, the IMF stated that its support for future debt relief efforts will be made conditional on success in reversing capital flight, among other criteria.

The major finding of this study is that the types of policies which the Brady Plan and the IMF promote are unlikely to be successful in achieving this objective. This implies that the debtor countries are being placed in a "Catch-22" dilemma in which they are going to be judged on their success in achieving a goal, while being required to employ a set of policies that have proven to be ineffective in achieving that goal.

This conclusion is based on an econometric study of the causes of capital flight in eight major Latin American countries over the period 1973-86. Capital outflows are found to be caused by poor financial incentives, accelerating inflation, slowing economic growth, capital availability, ("loan-pushing"), and rising taxes. After controlling for these factors. hypotheses about the effects of alternative types of policies are tested. The main results of these econometric tests are as follows:

■ Contrary. to the conventional view that labor costs must be reduced in order to bring about a return of flight capital, neither the level nor the growth of labor costs has a statistically significant effect on capital flight.

■ Contrary, to the conventional view that controls on capital movements are ineffective, such controls are found to be effective in reducing the outflow of capital funds.

■ Contrary to the presumption that IMF stabilization programs cre-

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ate a more attractive environment for domestic investment, such programs do not in fact reduce capital flight-except when accompanied by capital controls.

These results imply that conservative, austerity-oriented policies are not helpful for solving the capital flight problem, or for enabling Latin America to recover from the debt crisis. It is neither necessary nor effective to induce a regressive redistribution of income or to depress growth in order to reverse capital flight. On the contrary, the domestic investment climate in Latin America would be more enhanced by a renewal of growth that would raise expected profitability at home. Capital controls should certainly not be used as a substitute for correcting flawed policies that have helped to aggravate the debt problem. but they can be useful as an adjunct to broadly based pro-growth policies and debt-relief efforts.

It *is neither necessary nor effective to induce a regressive redistribution of income or to depress growth in order to reverse capital flight,*

Debt management today is unfair and kills growth worldwide. Since 1982, the debt crisis **has** *stalled development in the Third World and destroyed jobs in the US. , Europe, and Japan. Look at Latin America. In order to repay their debts. Latin American countries have cut imports to the bone and subsidized exports. US. industries and farms find it impossible to sell their products in Latin America's markets. and are under fierce attack from Latin America's desperation exports. U.S. exports to Latin America shrank by one third during the first year of the debt crisis. Altogether, one million US. workers have lost their jobs as a direct result of the debt crisis.*
          -Senator Bill Bradley, speech in Zurich, June 29, **1986**

Introduction

Since1982, the debt crisis has dominated economic reality and policy debates in Latin America. In the coming years—particularly as the Latin American political problems worsen and the U.S. seeks to shrink its own trade deficits-Latin American debt management will necessarily assume a more prominent position in U.S. policy debates. Already, Senator Bradley's estimates of U.S. job loss from the debt-induced Third World recession have been surpassed by new estimates placing the job loss at levels as high as 1.6 million jobs by 1985—nearly 19 percent of official U.S. unemployment in that year (Tucker, 1986). Andthe burden of Latin American debt on the U.S. economy continues: as many as 400,000 new **jobs** could be created in the U.S. economy if Latin America could achieve a 50 percent reduction in current debt service(see Appendix A).

After several years of letting international bankers, Latin American debtors. andthe International Monetary Fund (IMF) manage the crisis, the Reagan Administration in 1985 offered the so-called Baker Plan. This program, which promised debtor countries new access to international credit in return for the adoption of a more "free market" approach to development, saw few takers: banks were reluctant to extend new loans and debtors found the reforms difficult to implement in the absence of major financial support. Meanwhile, Latin Americans took matters into theirown hands. threatening and sometimes implementing various restrictions on debt service.

In March 1989, Treasury Secretary Nicholas Brady unveiled a new approach. Recognizing the impossibility of full repayment. Brady suggested that debt be reduced by having commercial banks exchange current loans for "exit bonds" that would bear a lower value but be guaranteed by international agencies. Countries granted the right to use such "exit bonds" would be required to adopt domestic economic reforms; Brady has placed special emphasis on the design of new policies that could stop and indeed reverse "capital flight"—the exit of financial assets from Latin American debtors. Following Brady's lead, the IMF hasmadethe adoption of policies designed to reverse capital

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flight a condition for its support for debt reduction efforts (Truell. 1787).

Brady's open discussion of capital flight brings into the debate a central fact often lost in previous discussions of Latin America's debt problems: many of the countries of the region already have enough assets outside their borders to offset large portions of their total external debt. Capital flight bled the region of $1 51 billion in scarce resources in the years 1773-87. If compared to the increase in debt over the same period, the results are startling: approximately 43 percent of the debt build-up was used to finance capital flight.'

This high level of capital flight presents three immediate problems for the region. First, growth is reduced, not only because saving has been diverted abroad, but also because the typical refusal to repatriate earnings on foreign assets exacerbates the foreign exchange shortage that constrains the import of capital goods necessary for development. Second, the retention of assets and earnings overseas erodes the tax base for Latin American governments which tend to face chronic budget deficits. Third, income distribution is negatively affected, as the poor are subject to austerity in order for their countries to be able to pay international banks-who in turn make interest payments to Latin elites. More broadly, capital flight impedes a resolution of the overall debt problem, because the continued extension of new credit or debt relief is counterproductive when a high percentage of the new resources "slips out" of the country again as capital flight.

In this paper, I measure the levels of capital flight from various Latin American countries, outline the problems associated with this phenomena, discuss the causes of capital flight, and suggest a new set of policies to deal with the problem. As we will see, financial incentives, changing inflation, the availability of foreign finance, domestic growth, and tax policy all seem to play a role in encouraging or reversing capital flight; on the other hand, labor share of income has no significant effect on capital flight, exchange controls? seem to work at slowing such flight, and IMF stabilization programs generally have little positive impact.

Taken together, these results have several important implications for current policy. While sound economic policies are needed in the debtor countries, the combination of austerity and deregulation measures promoted by both the IMF and the Brady Plan is inappropriate to a resolution of the capital flight problem. Moreover, the Brady-IMF requirement of policies for promoting the return of flight capital as a condition for extending debt reduction puts the cart before the horse. An alternative approach would be to provide debt relief first, and accompany such relief with a pragmatic use of capital controls, progressive redistribution of income, and a more efficient tax system. Otherwise, the application of austerity- and deregulation policies might kill the patient before the medicine of debt relief takes effect.

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The Brady-IMF requirement of policies for promoting the return of flight capital as a condition for extending debt reduction puts the cart before the horse.

Dimensions of the Capital Flight Problem

Some economists argue that it is unnecessarily pejorative to label capital movements from Latin America "flight" while terming movements from the U.S. "foreign investment." Wealthy individuals, regardless of nationality, tend to diversify their portfolios in order to protect themselves against the riskiness of any one particular investment. It is therefore perfectly normal that Latin elites would choose to maintain at least some of their holdings in the banks of the United States and Europe. Moreover, much of the capital that exited did so with either government approval or acquiescence, rendering untenable an attempt to label these flows "flight" on the basis of their illegality.

There are, however, good reasons for labeling the vast majority of these capital movements "flight." First, there is a general presumption in economics that capital *should* flow toward capital-scarce countries such as those in the developing world; flows to higher-wage areas in the North are thus unexpected and unusual. In this light, what is surprising is not that Latin America's debt increased rapidly through the 1970s but that much of this debt completed a "round-trip" back to the advanced industrial countries. Second, to the extent that "any specification of capital flight ought to be consistent with the economic or policy question under consideration" (Cumby and Levich, 1987, p. 49), what really counts for resolving the Latin American debt crisis is the extent of assets held abroad, and the possibility of mobilizing those resources either to reduce the level of external debt or to relieve the liquidity problems posed by debt service.

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Figure 1
Capital Flight and Increase in Foreign Debt
1973 – 1987
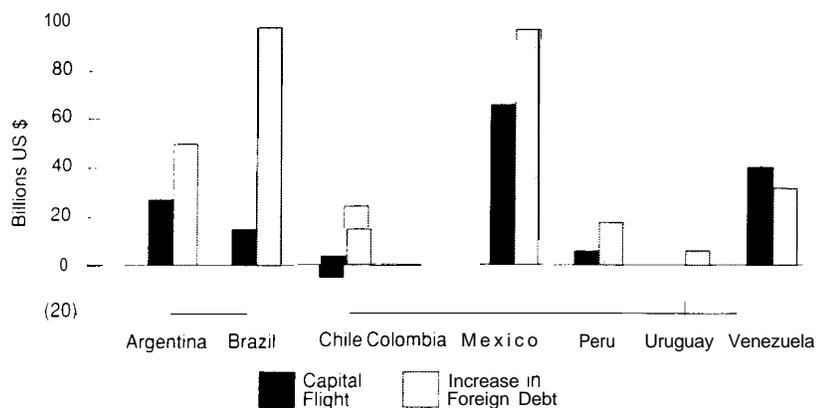
Table I and Figure 1 present the estimates of capital flight for Latin America in the period 1973–87. The results are striking. For several of the countries, the amount of capital flight was well over half of the

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Figure 2a
Capital Flight from Argentina
1973-1987
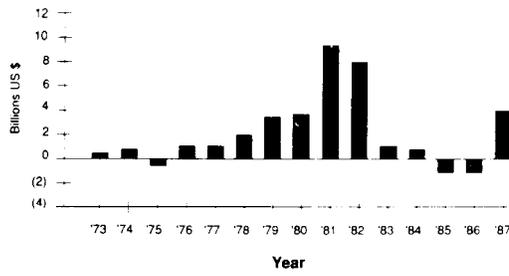
Figure 2b
Capital Flight from Brazil
1973 – 1986
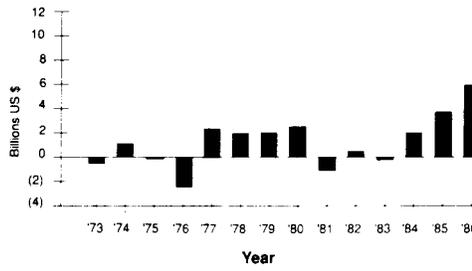
Figure 2c
Capital Flight from Mexico
1973-1987
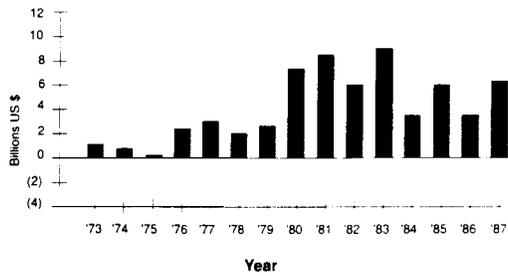
Figure 2d
Capital Flight from Venezuela
1873 – 1987

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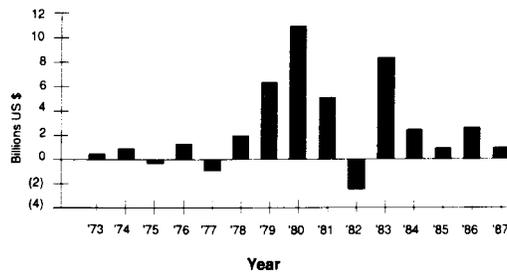
Figure 2e
Capital Flight from Chile
1973 – 1987
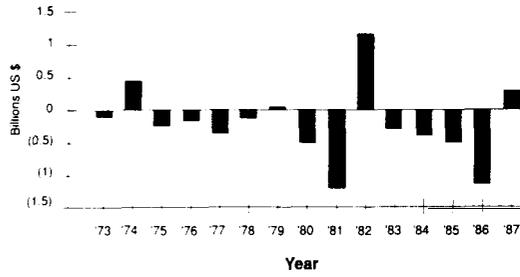
Figure 2f
Capital Flight from Colombia
**1973 – 1986**
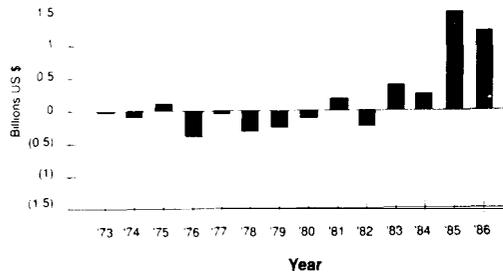
Figure 2g
**Capital Flight from Peru**
1973-1997
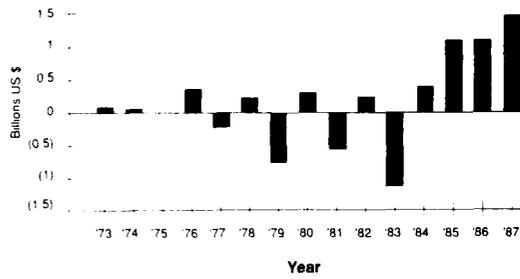
Figure 2h
Capital Flight from Uruguay
1973 – 1987

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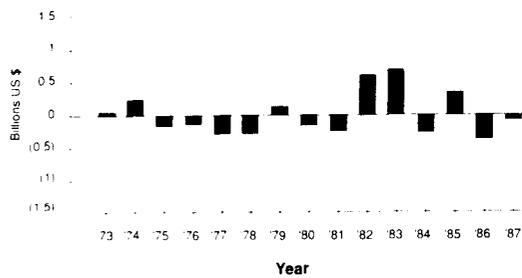
increase in foreign debt over the same period. For Venezuela, resident capital outflows actually exceeded foreign debt accumulation, indicating that domestic resources were also depleted. The major exception, Chile, had negative capital flight in this period. implying that residents brought capital back into the country.

Table 1

Capital Flight From Latin America 1973-1987
(figures in millions of **U. S.** dollars)

Country	Capital Flight (1)	Change in External Debt (2)	(1) as % of (2)
Argentina	$ 29,469	$ 48,062	61.3
Brazil	15,566	96,620	16.1
Chile	- 3,342	17,325	- 19.3
Colombio	1,913	11,336	16.9
Mexico	60,970	95,401	63.9
Peru	2,599	13,085	19.9
Uruguoy	83	3,667	2.3
Venezuela	38,815	29,381	132.1
Other Countries	4,881	33,932	14.4
Total Latin America	150,954	348,809	43.3

Procedures for estimating capital flight ore described in Appendix A. Data on the change in total external debt ore from the World Bank's *World* Debt *Tables,1988–89*.Figures for Colombio and Brazil ore from 1973-1986 The Other Countries figures ore for ten other Latin Ameriton countries: Bohvio, Costa Rico, Dominicon Republic, Etuodor, El Solvodor, Guotemolo, Haiti, Honduros, Nicoroguo, ond Poroguoy.

While the aggregate totals of Table 1 are illustrative, they do not reveal the pattern of flight over time. Figures 2a–2h show yearly capital flight for each of the eight countries between 1973 and 1787, while Figure 3 gives total yearly capital flight from the entire region. Argentina's flight, for example, was highest in the early 1980s, fell during the stabilization efforts of mid-decade, and has accelerated in the current period. Mexico follows a similar, though less pronounced pattern while Venezuela's recent flight is substantially lower than it was in the early 1780s. What is most worrisome is the pattern in Brazil, Colombia, and Peru: after years of alternating capital inflows and outflows, capital flight increased steadily in the mid-1980s. For the region as a whole, the pattern of flight evidenced in Figure 3 makes it clear that capital flight is not a problem of the past.

Even if annual capital flight had stopped, previous flight would still present problems for debt management and macroeconomic stabilization. As noted, the totals in Table 1 sum annual outflows over the last 15 years. However, the actual stock of foreign assets held by residents is likely to be larger than these simple totals since funds previously deposited abroad earn interest, and much of the interest is not repatriated, Table 2 therefore includes estimates of the stock of foreign assets

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Figure 3
Annual Capital Flight from Latin America
1973 - 1987
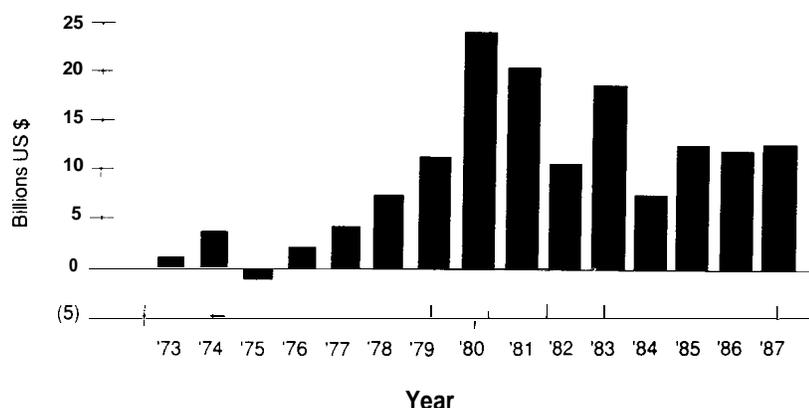
> *If private assets abroad could be "mobilized," the debt burden would be either eliminated or substantially reduced.*

for the seven major countries which had positive flight over the period, taking into account the compounded value of nonrepatriated interest earnings.' Again, the results for three of our countries-Argentina, Mexico, and Venezuela-are particularly dramatic: if private assets abroad could be "mobilized," the debt burden would be either eliminated or substantially reduced.

Table 2

External Debt and Stock of Foreign Assets for
Seven Latin American Countries, 1987
(figures in millions of U.S. dolors)

Country	Stock of Foreign Assets (1)	level of External Debt (2)	(2) as % of (1)
Argentina	$ 43,614	$ 56,814	76.9
Brazil	20,634	112,777	18.3
Colombio	2,994	15,361	19.5
Mexico	79,102	101,882	13.3
Peru	4,148	18,058	23.0
Uruguay	902	4,235	21.3
Venezuela	48.027	36,519	131.5
Seven Country Total	351,652	199,481	56.7

External debt figures are from the World Bank's *World Debt Tables,1988-89* The method of estimating the stock of foreign assets is explained in Appendix A Data for Colombia and Brazil are from 1986. Chile is excluded since it was estimated to have negative capital flight in Table 1

Care has been taken to ensure that the measures of capital flight and foreign assets presented here are, if anything, biased downward. In constructing the capital flight measure. for example, I assume that both debt accumulation and the current account are measured correctly. However, the pre-1978 estimates of debt growth do not include changes in short-term loans. Since short-term loans expanded during that period, capital flight is probably underestimated for those years. As for the current account, it has long been thought that the underinvoicing of exports or overinvoicing of imports is common practice for those attempting to get around exchange controls; this would imply that the current account deficit is overstated and therefore capital flight is understated.' With regard to the estimates of the stock of foreign assets, I assume that all investments yielded only the same return as U.S. Treasury bills; it is likely that investments in, say, real estate did much better through the 1970s. The measures, in short. are roughly accurate, may even be conservative, and *are reasonably* consistent with those obtained in studies by Morgan Guaranty (1986), Felix and Sanchez (1987), and Dooley, *et al.* (1986).[5]

The Effects of Capital Flight

As previously indicated, there are three major negative consequences from capital flight: a reduction in growth potential, an erosion of the tax base, and a redistribution of income from the poor to the rich. Let us deal with each in turn.

The **Growth Costs of Capital Flight**

Briefly, there are two major ways in which capital flight can limit future growth. The first is rather obvious: capital shipped abroad does not contribute to the domestic investment required for economic development. The second link from capital flight to growth potential is through imports. For seven of the eight Latin American countries listed in Table 1, the Inter-American Development Bank calculated that nearly 65 percent of imports in 1983 were capital goods and intermediates; if oil is included, over 80 percent of imports were goods essential to production (Inter-American Development Bank, 1984 p. 43). If scarce foreign exchange is used to finance capital flight, it is clearly not available for financing imports that may be crucial for economic growth (Lessard and Williamson 1987, p. 224). And if flight capital had been invested in the production of either domestically-produced intermediates or export goods that could finance imports, the import constraint on growth could have been relaxed.

Moreover, if Latin American countries could use the accumulated stock of foreign assets to offset debt-or use the earnings to cover dlebt service-they might be able to reduce the large trade surpluses they are currently forced to run. Table 3 shows the potential earnings from

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If scarce foreign exchange is used to finance capital flight, it is clearly not available for financing imports that may be crucial for economic growth.

Table 3

Imports Relative to Interest Earnings on the Stock of Foreign Assets for Seven Countries
(in millions of U.S. dollars)

Countries	Potential Interest Earnings (at 9%)	level of Imports 1987	Potential Earnings as a % of Imports	Increase (by % pts.) in Growth for Repatriation1 of 25% of Earnings
Argentina	$3,930.7	$ 5,356.0	73.4	2.6
Brazil	1,857.0	14,044.0	13.2	0.8
Colombia	269 5	3,409.0	1.9	0.1
Mexico	7,119.2	12,222.0	50.2	1.9
Peru	373.3	3,068.0	12.2	0.3
Uruguay	81.2	1,079.9	7.5	0.3
Venezuela	4,322.4	8,832.0	48.9	1.9

Source Author's calculations See Appendix A for details

Interest earnings ore figured on the stock of foreign assets in column(2) of Table 2 Data for Colombia and Brazil ore for 1986

foreign assets relative to imports for 1987, along with an estimate of the potential increase in growth if 25 percent of the earnings were repatriated. For several countries. interest earnings could pay for a substantial portion of the import bill, In the Argentine case, for example, the repatriation of just one-fourth of the earnings would raise import capacity by nearly 20 percent-and lift the potential growth rate from, say: 1 percent to over 3.5 percent.- The estimated growth effects should be regarded as upper bounds, because it is unlikely that all of the repatriated earnings would be diverted immediately to import growth-particularly in light of bank pressures to increase debt service." Nonetheless, the potential effect on Latin growth-and on the volume of U.S. exports-remains large. especially if a larger percentage of the earnings could be repatriated.

Erosion of the Tax Base

Capital flight removes both earnings and stocks of wealth from the economy. This creates problems for domestic authorities by shrinking the taxable assets and income of those most able to meet government revenue requirements. In addition, the reduction in growth discussed above also reduces general revenues.

This problem on the tax side is partly a reflection of the taxing principles employed in Latin America. Typically! Latin American governments use an "origin" rather a "residence" method of taxation: residents will not be taxed on the part of their income which originates outside the country, while nonresidents earning income within the country will find that income subject to taxation. This sort of approach served tax authorities in the past since the stock of foreign assets held by residents was small and taxation on the basis of the origin of income generation allowed levies on multinational firms operating in the domestic market. In the current period, however, maintaining this principle does not allow Latin American governments to tax the income generated from the foreign assets held by their own elites. In addition, it provides a continuing incentive to ship capital abroad to avoid taxes, especially to countries (such as the United States) which operate on a residence principle of taxation and hence do not tax interest earned by foreigners.

Once again, the problem has become especially acute in the context of the debt crisis. Having grown accustomed in the 1970s to financing government deficits by foreign borrowing, Latin governments now find themselves short of foreign funds and required by the IMF and international creditors to close budget gaps. Since the wealthy often have much of their assets shielded in foreign markets and until now have had sufficient political power to prevent new taxes on domestic wealth, governments have had to either resort to an inflation tax or impose easy.-to-collect value-added taxes; in both cases, the burden falls most heavily on already suffering low-income groups. In contrast, if the full value of interest earnings on capital flight were accessible, the taxable income base would increase by around five percent in both Argentina and Mexico." Given the low tax rates in Latin America, this would

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Capital flight. . .creates problems for domestic authorities by shrinking the taxable assets and income of those most able to meet government revenue requirements.

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improve the budget deficit by only around one percent of GDP in both countries.[10] This could still help in dampening domestic inflationary pressures.

Distributional Consequences

That capital flight has negative distributional consequences is widely recognized. The comparisons of total external debt and the stock of foreign assets make it clear that while the poor suffer austerity in order for their governments to service their debts, a substantial portion of these hard-earned interest payments to international creditors makes its way back to the elites who hold foreign assets.[11] In this sense, the debt crisis is not simply a conflict between developed and developing worlds, but is also a conflict between classes in Latin America itself.

In the current period, the distributional conflicts have been especially severe. For one thing, capital flight often has taken place during periods when the *real exchange rate* (the value of the domestic currency in dollars. corrected for inflation in the home country relative to inflation in the U.S.) was overvalued. Since the debt crisis broke out in 1982, the IMF and international creditors have pushed Latin American debtors to devalue in order to create large trade surpluses. The real domestic resources claimed by the stock of foreign assets has risen accordingly; having bought foreign assets cheaply, Latin elites now find themselves able to sell dear if they choose to return earnings to the domestic economy.

Moreover, there has generally been a strikingly asymmetric treatment of foreign assets and liabilities. Pressured by international creditors and local elites in the early years of the crisis, Latin governments generally stepped in to guarantee privately contracted loans from international banks. Banks, of course, wanted guarantees of repayment and held the rescheduling of publicly contracted loans hostage to a government agreement to "take over" loans held by the private sector. Local elites, meanwhile. wished to avoid the bankruptcy that would have resulted from the inability of their businesses to service external debt. To help both groups, Latin American governments sometimes assumed the debt of politically influential interests in the private sector." In addition, they provided indirect subsidies by using favorable exchange rates to convert the external dollar obligations of the local private sector into local currency obligations-in essence, reducing the real burden of private debtors and placing it upon the public sector. Since capital flight had eroded the tax base and the collapse of growth was reducing revenues, new regressive taxes were required.

This "socialization" of liabilities coupled with the continued privatization of assets (e.g., sale of state enterprises) presents two political problems for the current IMF-sponsored approach to adjustment. First, it has seemed hypocritical for bankers and the IMF to promote "free market" policies. when as soon as the going got rough, principles of private property were abandoned in order to protect bankers' debt service and local elites' interests. Second. the spectacle of encouraging austerity in order to transfer income to elites "reduces the political

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> *As soon as the going got rough, principles of private property were abandoned in order to protect bankers' debt service and local elites' interests.*

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legitimacy of efforts to service the external debt; indeed, it has generated a crisis of legitimacy for the role of the private sector in Latin American development" (Diaz-Alejandro, 1984, p. 379).

Thus, there are political as well as economic reasons why dealing with the capital flight problem must be a part of any larger strategy for resolving the debt crisis. Moreover, the distributional conflicts and contradictions posed by capital flight are one more illustration of how current adjustment efforts are biased toward the interests of local economic elites. Therefore, attempts to discourage capital flight must necessarily take into account the distributional burden and class bias of current debt policy.

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The Causes of Capital Flight

Capital flight occurs when (usually wealthy) individuals in Latin America decide to reallocate their wealth from domestic to foreign assets. For these individuals, three basic forms of domestic assets are available: holdings of money or currency, savings in rhe domestic financial system, or investments in real productive activity. Capital is sent abroad when these domestic alternatives appear increasingly unattractive to local elites. This section investigates the factors which do or do not cause capital flight to occur. The conclusions presented here are based on the results of an econometric analysis which is explained in derail in Appendix B.

Some of the variables which induce capital flight have to do with the "investment climate" in the country compared with foreign alternatives. A focus on the investment climate, n-hile important. leaves an obvious question unanswered: if the investment climate in a country is unfavorable enough to push out local capital. why would savvy international bankers invest their own funds in the form of loans? Below, we consider the investment climate first, then argue that there was a pattern of discriminatory u-eat ment of local and foreign investors which gave incentives for two-way capital flows inro and out of Latin America.

We then consider more controversial factors which might he thought to influence capital flight: income distribution (the labor share), capiral controls. and IMF "stabilization" programs. The results are in conflict with the conventional economic wisdom. which generally argues for lower wages. freedom from controls. and allegiance to IMF policies as ways of restoring investor confidence and reversing capital flight.

The Investment Climate and Loan Pushing

There are a variety of financial variables which clearly worsen the investment climate and thus induce capital flight. If inflation accelerates, for example, elites n-ill likely choose to reduce their holdings of domcsric currency in order to protect themselves against the so-called "inflation tax": some of these reduced holdings will reappear as capital flight. Exactly what proportion of these "freed" holdings gravitates toward other financial assets in the domestic economy, domcsric investments in the real sector, or abroad to foreign banks depends on a variety of other factors. If real interest earnings on domestic savings are less than earnings to be had from parking one's assets abroad. this would tend to favor capital flight as the alternative.

The investment climate will also worsen if the local currency becomes overvalued. In this situation, local elites will expect a devaluation, which would tend to reduce the value of their domestic savings, and will therefore try to shift their wealth toward foreign holdings. This option is made more attractive by the fact that dollar assets are artificially cheap when the local currency is overvalued. Finally, capital flight will be more likely to occur if the expected profitability of productive investments in the domestic economy becomes lower rhan the expected profitability of investments in. say, the United Stares.

> *If the investment climate in a country is unfavorable enough to push out local capital, why would savvy international bankers in vest their own funds in the form of loans?*

> *There was a pattern of discriminatory treatment of local and foreign investors which gave incen fives for two- way capital flows into and out of Latin America.*

Two other factors must be considered in determining how changes in the 'overall investment climate" in the domestic economy affect capital flight. First, an increase in the risk attached to investing in under-developed and often unstable economies may lead wealthy elites to engage in capital flight even if the expected rate of return is actually higher in the domestic economy than abroad. Second, some capital flight occurs with the aim of avoiding taxes. It might therefore be expected that increases in the local tax rate would lead to a movement away from domestic assets.

While it is fairly evident that these aspects of the investment climate should affect capital flight, it remains to be seen why Latin American residents were fleeing into foreign assets even as international bankers were acquiring Latin American assets through their extension of new loans. What can explain this peculiar characteristic of simultaneous capital flows into and out of Latin America?

These two-way flows can be explained largely by the discriminatory treatment of locally-held versus foreign-held domestic assets, along with "loan pushing" by the multinational banks.[13] Loans by international banks were often explicitly or implicitly guaranteed by Latin governments. In the heyday of bank lending, it was believed (contrary. to historical evidence) that "governments don't default," and the heroic post-crisis efforts of Latin governments to maintain debt service would seem to at least partially validate bankers' beliefs. Most local investors, however, had no such explicit guarantees. It was possible that when the bills came due for the rapidly growing debt, local governments might seek to acquire a share of domestic wealth through either direct taxes or the "inflation tax." It was rational, then, for local elites to export capital even as the country as a whole imported it.

There was a particular incentive for such two-way flows during periods when exchange rates were overvalued. If the local currency were artificially strong, investors could "hedge" their position by draw-ing a cheap publicly-guaranteed external loan and shipping their own resources abroad to acquire foreign assets. If future economic condi-tions were positive, the local investment would be profitable and investors would incur a slight extra cost arising from the difference between the interest rate on loans and that on deposits abroad. If, on the other hand, the economy turned downward, investors would have gambled away bank loans while their own assets were safely stashed abroad. Payments on debt obligations could then be avoided in two ways: declaring bankruptcy or pressuring the local government to "bail out" private investors. Sweetening the pot for the hedged investor was the fact that economic downturns in Latin America are often eventually corrected with declines in the real exchange rate-which swells the value of the private foreign assets (and increases the liabilities that might have to be assumed by the public sector).

While discriminatory treatment gave incentives for two-way capital flows, it was enhanced access to foreign credit that enabled local elites to take advantage of these incentives. During the 1970s, multinational banks mounted high-pressure campaigns to recycle deposits from oil exporting nations into the Third World, thus increasing the supply of

Loans by international banks were often explicitly or implicitly guaranteed by Latin governments. .. Most local investors, however, had no such explicit guarantees.

While discriminatory treatment gave incentives for two- way capital flows, it was enhanced access to foreign credit that enabled local elites to take advantage of these incentives.

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loanable funds and fostering easier credit terms. In this sense, "loan pushing" contributed to capital flight as well as to the debt crisis as a whole.[14] At the same time, rising debt increased the risk of a crisis that might produce lower currency values, higher taxes, and more inflation, and therefore gave additional motivation for shifting assets abroad.

The econometric analysis in Appendix B confirms that the investment climate, discriminatory treatment, and loan pushing explanations of capital flight are supported by the data for the eight major countries over the period 1973–86. Specifically, we were able to verify the following relationships:[15]

■ Increases in the domestic inflation rate have a positive effect on capital flight.

■ A "financial incentive" variable which compares the rate of return on U.S. holdings with the percentage yield (in dollar terms) that would be achieved by holding domestic assets has a positive effect on capital flight.

■ The degree of overvaluation of the domestic currency also has a positive impact on capital flight.

■ Capital availability (measured by net long-term capital inflows as a percentage of domestic output) is positively related to capital flight. This variable represents the discriminatory treatment and loan pushing hypotheses.

■ A proxy for the relative profitability of investments in the domestic economy (the difference between the country's growth rate and the U.S. growth rate) performs as expected: relatively more rapid local growth makes domestic investment more profitable and thus reduces capital flight.[16]

■ The increase in tax rates (tax revenues as a percentage of domestic product) from the previous year to the current year has a positive effect on capital flight.

This econometric analysis can be made more meaningful and accessible by calculating the quantitative impact of the six variables on the level of capital flight for a particular country in a particular year. Table 4 reports the results of experiments to simulate the effects of changes in inflation, domestic interest rates, exchange rates, long-term loans, growth, and tax policy on capital flight from Mexico in 1985.[17] In order to appreciate the importance of each of these effects, it is helpful to recall (from Figure 2e) that the actual amount of capital flight from Mexico in 1985 was approximately $6 billion. Although assumed changes in the six variables are of arbitrary amounts, they are intended to represent reasonable orders of magnitude. Note in particular that a one percent of GDP increase in long-term capital flows (a proxy for loan pushing) would have raised capital flight by about ten percent, while a one percentage increase in the Mexican growth rate could have reduced flight by nearly five percent.

"Loan pushing" contributed to capital flight as well as to the debt crisis as a whole.

Relatively more rapid local growth makes domestic investment more profitable and thus reduces capital flight.

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Table 4

Results of Simulation Exercise (using Mexico 1985 as the base)

Change	Effect on Capital Flight
Increase by 10% in inflation (from 58% to 68%)	+ $265 million
Increase by 10% in domestic Interest rates (from 59% to 69%)	– $425 million
Decrease by 1% in real exchange rate index (from 107.1 to 106.0)	– $ 69 million
Increase by 1% of GDP in long-term capital flows (from 0% of GDP to 1 %)	+ $568 million
Increase by 1% in domestic GDP growth (lagged) (from 3.7% to 4.7%)	– $288 million
Increase by 1% of GDP in tax revenues (from 17.2% to 18.2%)	+ $381 million

Source. Author's calculations. All estimates made using coefficient values from equation (4) in Appendix Table B-1 and values for Mexico in 1985.

Income Distribution, Capital Controls, and IMF Programs

Next, we applied our econometric model to test some more controversial possible explanations for capital flight. The conventional approach which is embodied in the Brady Plan and IMF conditionality. assumes (implicitly or explicitly) that:

1. Lower real wages will enhance competitiveness, raise profitability: and thus help to keep capital at home (or induce it to return). Therefore, measures that have the effect of cutting real wages and hence reducing the labor share are an essential part of the orthodox policy package.'"

2. Capital controls are ineffective in preventing capital flight, and may even encourage it because of the negative signal such government interference sends to local investors (see Cuddington, 1986, Cumby and Levich, 1987, Khan and Ul Haque, 1987). Debtor countries are usually urged to abandon capital controls as part of "liberalization" efforts promoted by the U.S. Administration and the IMF.

3. IMF programs should tend to reduce capital flight, partly because of the mandated changes in policy and partly because of the "confidence effect" brought by agreement with the capitalist world's premiere financial institution (Cumby and Levich, 1987, p. 30).

These hypotheses were tested using our econometric model, after controlling for the six variables discussed previously, as described in Appendix B. The results in each case were generally contrary to the conservative position:

1. *Labor share.* To measure the effects of wage costs, I used the percentage of value-added in manufacturing that accrues to workers as a proxy for labor's share of national income.[19] Several variants were tried,

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including the current percentage, the previous year's percentage, and the change in the percentage. All three variables had negligible effects on capital flight.[20] These "surprising" results may arise because an increased labor share is consistent with an increase in demand that will enhance investment opportunities *despite* the related increases in real labor costs. Elsewhere, I have criticized the IMF's penchant for wage-cutting in their adjustment programs by pointing out that this policy is not particularly effective at restraining inflation or restoring growth (Pastor, 1987a). These new results cast further doubt on wage compression by suggesting that it is not even useful at preventing capital flight.

  2. *Capital controls.* To analyze the effectiveness of controls," I tried two different sorts of statistical tests which are explained in detail in Appendix B. In the first. I found that a measure of whether the country had capital controls was significantly associated with *lower* levels of flight. In the second test, I divided the countries into two groups—those with a history of controls and those without-and found that the effects of the "investment climate" and "loan pushing" variables (with the exception of tax policy) were *smaller* in the group with controls. This lends credence to the view that controls are effective by indicating that controls mute the effect of the other variables which induce capital flight. Especially interesting is the estimated effect of external capital flows: extending new foreign loans to countries with controls will produce less than 15 percent of the flight that such new flows would yield in countries lacking such controls.

  3. *IMF programs.* I tested for the effects of IMF programs by adding to my econometric model a variable indicating whether the country was operating under an IMF program. The results, detailed in Appendix B, are not congenial for the Fund: for the whole sample, although IMF arrangements are associated with a decline in capital flight, the effect is miniscule and the relationship is statistically insignificant. Breaking the sample into the countries with controls and those without, I find that IMF programs are significantly associated with an *increase* in capital flight for the "non-control" countries, while IMF programs are significantly associated with a *decrease* in capital flight for the countries with controls. This suggests that the only time IMF agreements slow capital flight is when countries have capital controls-a policy the IMF tends to discourage!

    These results are profoundly upsetting to conventional thinking about capital flight. and undermine the orthodox remedies prescribed by the U.S. government and the IMF. While the harsh medicine of cutting wages and other austerity measures does not help to stem the capital flight. outright capital controls do-and they also help to lessen the impact of other factors that induce flight. Even IMF agreements seem to work best at slowing flight only when accompanied by controls.

    These results must be cautiously interpreted. Unsustainable wage increases can trigger problems. and capital controls are no excuse for reckless policy; "bad" policy will still have negative effects. Indeed, the accelerating capital flight in Brazil. Colombia, and Peru in recent years would seem to indicate that local residents will increasingly go around

An increased labor share is consistent with an increase in demand that will enhance investment opportunities despite *the related increases in real labor costs.*

I find that. ..the only time IMF agreements slow capital flight is when countries have capital controls-_,a policy the IMF tends to discourage!

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controls if the debt crisis lingers. What the results do suggest, however, is that the IMF's ideological object ion to capital controls should be put aside in favor of a pragmatic realization that controls can help give countries breathing space to engage in necessary policy shifts.

> *The IMF's ideological objection to capital controls should be put aside in favor of a pragmatic realization that controls can help give countries breathing space to engage in necessary policy shifts.*

Alternative Policies for Reversing Capital Flight

The basic IMF package for macroeconomic stabilization usually includes devaluation, government deficit cutting, and real wage reductions. Unfortunately, the expectation of an IMF-mandated devaluation may promote capital flight as elites seek to protect the value of their wealth. While government deficit cutting is theoretically designed to lower inflation, IMF programs have consistently been associated with increases in the inflation rate (Pastor 1987a); in addition to this, raising taxes to close budget gaps may push capital outward. Wage cuts may please local elites, but the evidence is that they do not convince those elites to retain their capital in the country. And finally, the reductions in growth due to IMF austerity may tend to shrink local markets, providing yet another incentive for flight.

To counter these problems, the Fund suggests raising real interest rates to provide incentives and removing controls to instill confidence. The problem with the former policy is that high real interest rates can choke off domestic investment even as assets accumulate in a growing domestic financial sector, hardly a rosy scenario for those concerned with long-term development. And removing controls runs against our finding that controls are not only effective by themselves, but also make IMF programs more effective in reducing capital flight. We begin our discussion of policy alternatives by considering the debate about controls in more depth.

> *The reductions in growth due to IMF austerity may tend to shrink local markets, providing yet another incentive for flight.*

Capital Controls Reconsidered

The IMF's opposition to capital controls reflects, of course, the agency's "free market" philosophy. IMF economists have argued that "controls arc generally effective only in the short run, and tend not only to be circumvented in the long run but also often to create serious distortions and inefficiencies while they are in effect" (Khan and Ul Haque, 1987, p. 5). But this view also reflects a broader concern that "without capital controls, the threat of capital flight might impose much needed discipline on policymakers" (Cuddington. **1986,** p. 36).

Historically. however, developing countries with capital controls have tended to exhibit lower levels of capital flight (for example, South Korea). The four countries in our sample that had at least some exchange controls through most of the period-Brazil, Chile, Colombia, and Peru—also tended to have the lowest ratio of capital flight to new debt. With the exception of Uruguay,the countries that were free of -the "impediments to social welfare" imposed by capital controls— Argentina. Mexico, and Venezuela—literally hemorrhaged resources over the years of debt accumulation.[2] As a result, some economists who are sympathetic to the IMF have begun to admit that controls may be effective (Cuddington, 1986 p. 33).

It could be argued that it was actually better, more stable policy that limited the outward flow of resident capital, in the countries with controls, rather than the controls themselves. For a number of reasons,

> *Historically. .. developing countries with capital controls have tended to exhibit lower levels of capital flight.*

this assertion seems difficult to maintain. For one thing. the countries with controls were nearly as debt-laden as the countries without controls (see Table 5).

Table 5

Debt Burden and Capital Flight Statistics for Countries With and Without Capital Controls, 1987

Countries Without Controls	Debt-Export Ratio	Debt-GNP Ratio	Capital Flight as % of Debt
Argentina	660.7	73.9	51.9
Mexico	362.5	11.5	56.5
Uruguay	255.6	50.6	2.0
Venezuela	284.1	94.5	106.3
Average	390.9	76.1	54.2
Countries With Controls			
Brazil	432.2	39.4	13.8
Chile	327.4	124.4	-15.7
Colombia	220.3	50.2	12.4
Peru	503.3	40.5	14.4
Average	370.8	63.5	6.2

Debt, export, and GOP figures from the World Bank's World Debt Tables, 1988–89 , exports include both goods and services Capital flight figures from Table 1. All data ore for 1987 except capital flight os o percentage of debt figures for Brazil ond Colombia, which ore for 1986.

Going case-by-case, the evidence for "good and stable" policy seems even weaker. Brazil, for example, ran its economy recklessly fast through the 1970s, adding almost $90 billion in debt before the crisis broke in 1982. Chile was hardly stable, shifting from the socialist government of Salvador Allende to orthodox "shock treatment" and on to an ultimately misguided experiment in global monetarism; while trade accounts were dramatically liberalized under the Pinochet dictatorship, the one stable policy between policy regimes was controls on resident capital outflows (with the exception of 1982 when the loosening of controls produced capital flight on the order of $1 billion). Peru, meanwhile, can hardly be accused of either good or stable policy. The procession of governments since 1971 ranged from left-wing military to right-wing military to right-wing civilian to left-wing civilian. Along the way, debt crises, inflationary spirals, and failed investments were the rule. Only Colombia is generally thought to have had a stable and "quiet" approach to both development and macro-management.

When Fund supporters argue thar free capital movements can "discipline" debtor governments, they are essentially saying that elites—

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particularly those versed in the sort of techniques that produce specula-tive bubbles and financial crises-should be allowed veto power over the direction of national policy. In order to democratize control over domestic policy, it is therefore necessary to eliminate the elite veto provided by capital flight. The historical and statistical evidence seems to indicate that capital controls can be effective in restricting such flight, and to this extent can help to promote more democratic policymaking.

Moreover, capital controls can actually help investing groups in Latin America. Businesses, after all, face a sort of "prisoner's dilemma": if one business invests alone, it may find neither final markets nor suppliers, whereas if many businesses invest simultaneously, they help create each others' final markets and input supplies. The possibility of capital flight makes the low employment low growth solution more likely; by closing (or at least limiting) the capital flight avenue, governments can enhance the chances that the domestic productive investment of one investor will find its counterpart by other investors.[23] For all these reasons, the IMF's blanket opposition to capital controls should be dropped in favor of a mix of controls and intelligent policy.

A Dramatic Alternative: The Felix Scheme

A far different approach is found in the "mobilization" strategy recommended by economist David Felix (1985). In brief, Felix proposes that foreign assets held by residents be identified by authorities in the "haven" countries. Latin governments would then take over the assets, reimbursing the owners with local currency bonds that provide domes-tic (taxable) income. Meanwhile, the dollar earnings from the mobilized assets could be used to make debt payments, freeing other foreign exchange for the import of essential intermediates and capital goods.

The "identification" portion of this strategy is not as problematic as it might seem, at least in the United States. As it turns out, secrecy is only one of the attractions of "haven" countries; indeed, much of the Latin American capital flight was legal and so required no elaborate schemes to obscure ownership. In choosing between "havens" there are essen-tial]!. three alternatives: the infamous Swiss banks, offshore banking institutions in the Caribbean, and the financial systems of the U.S. and Europe. Switzerland offers secrecy but extremely low returns and. so probably attracts the bulk of illegal transactions. Offshore banking is precisely that—offshore—implying that much of the money winds up in the U.S. banking system anyway, particularly because of the lack of security in offshore havens (a point demonstrated by recent events in Panama). This leaves the U.S. and Europe (except Switzerland), which are attractive primarily because of high returns, tax advantages and security—not secrecy.[24] In the U.S., for example, the Bank Secrecy Act of 1970 requires that ownership information on all cash transactions over $ 10.000 be recorded with the Internal Revenue Service—providing a ready-made database for the "identification" of the bulk of assets.

Would banks cooperate in such a scheme? Felix argues that they

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> *The principles of private property were already set aside... when in the name of debt consolidation international bankers and local elites insisted that governments "Socialize" the obligations contracted by the private sector.*

would. noting that they have much to gain from collateralizing debt and might be pressured into such action by the increasing incidence of unilateral Latin American limits on debt service. And if local currency compensation is available to the elites that engaged in flight, bankers could argue that clients' interest> are being protected, even if not exactly as they would wish.

Things are not so simple. however. Assets could be shifted about. implying that U.S. and European "havens" would need to cooperate in the identification process. A further objection is ideological: the Felix plan appears to represent an infringement of private property rights. Felix (1987) dismisses this concern. noting that in the earlier and more *laissez faire* decades of this century, the French and British engaged in wartime mobilizations of residents' offshore assets; the British repeated the action during World War II. Given the "wartime" austerity that the debt crisis has forced on low-income groups in Latin America, similar impositions on elites do not seem inappropriate.

At any rate, the principles of private property were already set aside in the first years of the crisis when in the name of debt consolidation international bankers and local elites insisted that governments "social-ize" the obligations contracted by the private sector. The symmetry of now socializing assets is particularly appealing-and the Felix plan dramatically illustrates the growing (conflicts between elite interests and economic rationality that have arisen in the context of the debt crisis. But the political prospects for implementing the Felix plan do appear remote.

Policy for the Future

Whatever its eventual form, new policy should start from two prem-ises. First, it should acknowledge that it is less pressing to attract capital back home than it is to prevent future capital flight and make use of the assets that are abroad. If the former goal of reattracting capital domi-nates, countries will find policy hostage to the wishes of a fickle elite even while the high interest rates required to attract capital choke off the growth required for meeting the needs of the mass of citizens. If countries choose the latter goal-preventing future flight and making use of assets already abroad-the resulting growth will attract capital home with some lag but lower social costs.

> *Since slow growth and capital flight are mutually reinforcing, debt relief is essential to break out of this vicious circle.*

Second, new policy should be based on a clear recognition of the costs imposed by capital flight-growth reduction, erosion of the tax base, and worsening income distribution. Since slow growth and capital flight are mutually reinforcing, debt relief is essential to break out of this vicious circle. Capital controls can be effective. and should be coupled with domestic policies to prevent the financing of new flight from these enhanced resources.

On the tax side, we should keep in mind three key points: (1) the Latin American origin principle of taxation both pushes capital out of the country and prevents the use of income generated from foreign assets, (2) haven country tax laws invite capital flight (the U.S., for example, imposes neither taxes nor withholding on interest generated

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from foreign-held bank deposits or Treasury securities), and (3) given the international competition for funds, the latter set of laws cannot be changed unilaterally without risking a rapid exit of foreign investors. Recognizing this, Lessard and Williamson (1987) propose that Latin American countries restructure their own tax systems so as to capture resident earnings abroad while OECD countries sign a new treaty that "would commit all the industrial countries to impose a substantial withholding tax, which would be refundable on presentation of evidence that the recipient had reported any investment income to his national tax authority" (Lessard and Williamson, 1987, p. 240).[25] A full solution would also require that the U.S. arrange new tax treaties with Latin America: currently, the U.S. has no such treaties with any Latin American country. Ideally, taxes on capital flight earnings would be payable to Latin governments in dollars, relieving both budget and foreign exchange gaps.

Finally, debt relief and cooperative tax arrangement should be made conditional upon the adoption of adjustment strategies biased toward redistribution downward. The reasons for this go beyond the usual arguments based on fairness and social justice, and extend into the realm of economic productivity and efficiency. It is hard, after all, to justify the current regressive strategy on the grounds of macroeconomic success; years of Fund-sponsored adjustment have left Latin America ravaged by high inflation, low or negative growth, and a continuing burden of high debt service. A new, more progressive distributional pattern could promote growth, limit the imports of luxuries, and increase the legitimacy of stabilization efforts.'" Moreover, our statistical analysis reveals no significant positive relationship between changes in labor share of income and capital flight, suggesting that there is room as well as reason for such a shift in distributional direction.

It is hard... to justify the current regressive strategy on the grounds of macroeconomic success.

Conclusion

In the last seven years, the Latin American debt crisis has brought painful austerity to the region. Forced to generate large trade surpluses while facing restricted world markets. Latin debtors have generally focused on curtailing imports. In Latin America, falling real income has been the rule, with declines generally most severe for lower income groups. These economic costs of "adjustment" to the debt crisis are jeopardizing Latin America's turn to democracy, while simultaneously hurting U.S. export producers and contributing to our trade deficit. In this context, Treasury Secretary Nicholas Brady has finally signalled a U.S. willingness to consider debt relief.

This shift is welcome, as is Brady's emphasis on the question of capital flight. But there are key problems with the current Administration's approach of linking debt relief to conventional "stabilization" policies supposedly designed to reverse capital flight. First, debt relief must come before, not after, a reversal of flight; capital will not return if investors fear that a debt-burdened government might be forced to seize dollar assets. Second, the orthodox policies themselves-high real interest rates, continuing devaluation, and the removal of capital controls-are mostly inappropriate for the problem at hand. High interest rates will retain capital but will eventually kill growth and thus propel capital abroad once again. Devaluation could prevent the consequences of overvaluation but would likely produce accelerating inflation. Accelerating inflation not only contributes directly to capital flight, but also creates expectations of future devaluations which increase the incentives for elites to keep their assets abroad. And U.S. opposition to capital controls flies in the face of historical and empirical evidence.

An alternative approach would start by recognizing the real costs and causes of capital flight. As we have seen, capital flight limits growth potential, erodes the tax base, and worsens income distribution. Its causes are complex, including poor financial incentives, accelerating inflation, rising taxes, slow economic growth, discriminatory treatment, and loan pushing. Capital controls slow flight, while rising real wages have no effect and IMF programs are apparently most effective when controls are present. Taken together, these results suggest that reform should thus be based on the need to encourage growth, shore up the Latin tax base, and reverse the negative distributional effects. Specific policies might include debt relief tied to the adoption of a growth program with selective controls on capital outflow, changes in U.S. and Latin tax laws, and a bias toward higher wages in Latin American development efforts.

More generally, a new overall strategy would replace the elite veto exercised through capital flight with the encouragement of democratic systems that allow the population as a whole to force policy changes through elections and other forms of political expression. Expanding the right to influence economic policy to more citizens will not necessarily lead to less responsible programs. After all, the Latin debt problems

> *[The] economic costs of "adjustment" to the debt crisis are jeopardizing Latin America's turn to democracy, while simultaneously hurting U.S. export producers and contributing to our trade deficit.*

> *Debt relief must come before, not after, a reversal of flight.*

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were often inherited from military regimes dominated by small elites; in this light, the new democracies in Latin America have been extraordinarily dutiful about servicing debt and meting out the requisite austerity, The U.S. and other international actors therefore have ample reason to place their faith in the peoples of Latin America. Concretely, this means supporting a Latin American move toward higher wages, more growth, pragmatic capital controls, and continuing democratization.

The benefits for the United States are clear: a resolution of the debt problems plaguing Latin American political and economic systems as well as a healthy rebound in our own exports to the region. With new creative policies, what is presently, a two-faced problem of debt and capital flight can become part of a solution that enhances regional security, and reduces U.S. deficits.

Reform should thus be based on the need to encourage growth, shore up the Latin tax base, and reverse the negative distributional effects.

Appendix A: Data Calculations

The U.S. Employment Effects of Relieving Latin American Debt Service

The job enhancement effects of relieving 50 percent of debt service are calculated as follows. Using the 1988 series for Western Hemisphere developing countries from the IMF's *World Economic Outlook*, April 1989, I calculated debt service as $56.2 billion. This was figured by multiplying the reported debt service ratio (debt service as a percentage of export goods and services) by the reported level of exports of goods and services (.416 times $135.1 billion). Half of this is $28.1 billion. which is the assumed annual cash flow freed by debt relief.

Historically, about one-third of Latin America's imports come from the United States; in 1984, for example, 36 percent of Latin America's imports were from the U.S. (calculated from the IMF's *Direction of Trade Statistics, Yearbook 1985* as reported in ECLA's *International Economic Relations and Regional Co-operation in Latin America and the Caribbean).* The Joint Economic Committee of the U.S. Congress reports in "The Impact of the Latin American Debt Crisis on the U.S. Economy" (May, 1986) that "nearly 50 percent of the trade surplus that Latin America needed to pay interest was generated by reducing its purchase of U.S. products" (p. 39). This suggests that recover!. in U.S. exports might be stronger than indicated by the 198-t figure. Using a conservative figure of 35 percent, we can see that payments relief of $28.1 billion means **$7.835** billion in new U.S. exports-provided that all the relief goes to increased imports.

A rough calculation of direct job creation was done by dividing the **1988** U.S. GNP ($4,880.6 billion) by civilian employment (114,968,000), which gives us a figure of $42,451.8 per worker." Assuming a $9.835 billion increase in U.S. exports, we obtain 231,675 new jobs. However the U.S. sectors likely to export to Latin America (primarily capital goods and agriculture) may have higher productivity than average, implying that indirect job creation would be less. Reducing the direct job effect to 200,000 and assuming, a job creation multiplier around 2 gives us the 400,000 figure used in the test.

Estimating Capital Flight

To understand our calculation of capital flight, it is useful to turn our attention to the balance of payments, defined as:

(1) balance of payments = current account + capital account
= net increase in official reserves.

The current account consists of trade in goods and services, including exports and imports as well as profit remittances and interest payments on debt. The capital account consists of net capital flows, including debt increases or decreases, foreign direct investment, and capital outflows by residents. The overall balance of payments measures whether inflows exceed outflows on these two accounts combined. If inflows exceed outflows-if the balance of payments is in surplus— then the country accumulates reserves, and conversely.

As noted in the text, some economic studies of capital flight accept the normality of outward flows and focus on the relative legality of these flows. This approach would suggest that capital flight be calculated by determining the discrepancy between reserve accumulation and the recorded current and capital balances. Such a "net errors and omissions"-based measure is used in Cuddington (1986,1987), Conesa (1987), and elsewhere. A further alternative to the "net errors and omissions" and "resident capital outflows" approaches has been developed by Dooley (1986). This approach identifies "normal" capital outflows as those that generate repatriated interest earnings; capital flight consists of those capital exports that do not. Using reported interest income, Dooley then adjusts the resident capital outflows estimates downward.

The resident capital outflow approach that I use is broader; it is also employed in Dooley, *et al.* (1986), Morgan Guaranty (1986), and Lessard and Williamson (1987). This approach suggests that the capital account be broken into two components:

(2) capital account = net flows from non-residents
                                    + net flows from residents

where the net flows from non-residents include both the change in a country's debt position and foreign direct investment flows, and negative net flows from residents are "capital flight." Substituting into the first equation:

(3) balance of payments = current account + (change in debt
                                            + foreign direct investment
                                            − capital flight)

Since the balance of payments equals the change in reserves, the equation can be rearranged as follows:

(4) capital flight = (change in debt + foreign direct
                            investment) − (current account deficit
                            + change in reserves)

One can now see why this method of calculating capital flight is often termed the "sources-uses" approach: the first two right-hand terms indicate the sources of foreign exchange; the second two indicate the legitimate uses, and the difference is capital flight (and thus includes both recorded resident outflows and net errors and omissions).

Current account and flows of foreign direct investment are drawn directly from *International Financial Statistics* (IFS). Following Dooley, et al. (1986), I calculate the change in reserves as the change in: (1) total reserves minus gold held by monetary authorities, and (2) foreign assets held by commercial banks. Both measures are also drawn from IFS.

The change in debt figure includes changes in disbursed long-term public and private debt, changes in IMF credit, and changes in short-term debt; all figures are drawn from the World Bank's *World Debt Tables, 1988–89*. Since the short-term debt series begins in 1977, we could only begin calculating changes from 1978; short-term debt figures for Argentina were also available for 1975 and 1976, a fact which allowed the calculation of changes for 1976 and 1977. Note that this

method implicitly assumes that short-term debt was constant in nominal terms from 1972 to 1977; we are therefore underestimating both the changes in short-term debt and capital flight,

If one could estimate the stock of short-term debt in 1972, this would allow the calculation of the increase in such debt and therefore give a more accurate estimate of total capital flight. Such estimates were done by taking the ratio of short-term debt to long-term debt and short-term debt to imports in 1977–78, using the ratios to obtain two estimates of short-term debt in 1972 (a year for which long-term debt and imports were available), and taking the average of the two estimates. The results imply that Table 1 may underestimate aggregate capital flight by around $4 billion in Brazil, Mexico. and Venezuela, and by lesser amounts in other countries. Since there is, however, no reasonable way to estimate short-term debt stocks on a year-by-year basis and since such yearly totals are required for the regression analysis. it seems best to stick with the totals of Table 1 and the implicit assumption that short-term debt was fixed in the pre-197' period. As we will see below, regressions for just the 1978–86 period (in which the change in short-term debt is figured explicitly) square with the results obtained over the longer time period.

Two other small data problems should be acknowledged. First, the Uruguayan foreign investment series was only available for the years 1977-87; thus capital flight from Uruguay is understated for the previous period. Second, Mexico is missing the commercial banks' assets series prior to 1977; thus, we could only use this series in calculating the change in reserves for the years 1978–87.

The Stock of Foreign Assets

The stock of foreign assets was estimated using the formula:

$$(2) \quad S_t = \sum_{t=1973}^{1987} (S_{t-1} + CF_t + i_t{}^* S_{t-1} - REP_t)$$

where S is the stock of assets, CF is capital flight as estimated above, i is the interest rate on assets abroad (proxied by the interest rate on U.S. Treasury bills), REP is repatriated earnings, and t stands for time (year). Following Dooley (1986, p. il), repatriated earnings are figured as the sum of lines 15, 17, and 19 of the IMF's *Balance of Payments Yearbook*, and converted from Special Drawing Rights (SDRs) to dollars using the period average exchange rate. The interest rate was line 60c reported for the U.S. in the IFS.

The estimation procedure essentially involves taking a stock of assets for the previous year, adding to it both capital flight for this year and non-repatriated earnings (potential earnings minus our figures for repatriated earnings); this task is repeated sequentially from 1973 to obtain the **1987** stock estimates reported. To get an initial stock of assets in 1972 for each country, I divided repatriated earnings in 1973 by the interest rate for that year. This procedure essentially assumes that 100 percent of 1973 earnings were repatriated (i.e., that $REP_t = i_t{}^* S_{t-1}$ and so $S_{t-1} = REP_t/i_t$) and this unlikely assumption implies that the 1972 stock figures are underestimates.

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Given the underestimation of the initial figures, it was possible to have future years in which potential earnings, $i_t{}^*S_{t-1}$ (figured on the unrealistically low stock), were lower than our record of actual repatriated earnings, REP,. In these years, we either: (1) adjusted S only by the estimated net capital movement, CF,, thus preserving the initial bias towards underestimation, or (2) reinitialized the previous year's stock of assets (as with 1972) and started the summation from this new starting point. Since the first method preserves the underestimation bias, it was possible for stock estimates to fall below zero in which case St was reset to zero since negative figures are impermissible estimates of gross assets.

Table 2 and the rest of the paper employ the more conservative figures yielded by the first method; the results of the second method are the same for Mexico and differ most dramatically for Brazil, Colombia, Uruguay, and Venezuela. The "high" estimates are $48.3 billion for Argentina. $30.1 billion for Brazil. $8.5 billion for Colombia, $79.1 billion for Mexico, $6.0 billion for Peru, $2.8 billion for Uruguay, and $66.1 billion for Venezuela.

Determining the Growth Costs From Capital Flight

The text offers a calculation of growth costs from capital flight by focusing on the import loss caused by the inability to repatriate flight earning. To determine the growth costs from such import loss, we followed Fishlow (1985) in regressing the growth rate of output on the growth of export and import volume. The coefficients for the growth of import volume were then used to calculate the potential increase in domestic growth if half of the earnings on accumulated foreign assets were devoted to increasing imports. The results of the regression were quite similar to Fishlow's and are reported in Pastor (1990). In most cases, imports were more important for growth than exports. In tests done for each country separately, the adjusted R^2's were much higher for a regression with GDP growth as a function of import growth than for GDP growth as a function of export growth; in addition, the F-statistics for the former sort of regression were almost always significant while the F-statistics for the tatter sort of regression were uniformly insignificant. The actual coefficients used in calculating the growth costs of import loss were taken from regressions which included both export and import growth as well as a constant.

Appendix B: Econometric Analysis

This Appendix explains the econometric estimation of the causes of capital flight which were discussed in the text. The data were analyzed using the ordinary least squares (OLS) linear regression procedure with pooled time-series data for the eight major countries listed in Table 1. To control for country size, the capital flight measure (explained in Appendix A) was scaled by exports. Such pooled tests with OLS are performed in Dooley (1986) and Felix and Sanchez (1987). Moreover, Lessard and Williamson (1987:221) suggest pooling in order to get around the problems of data scarcity in this emerging topic area.

Table B-l reports the results of the specification search which was used to arrive at the base equation. Most of the independent variables are drawn from various issues of the *International Financial Statistics* (IFS). The domestic interest rate is constructed from series available in the 1987 IFS Yearbook and the Economic Commission on Latin America Survey of *Latin America,* various years. This is generally the scarcest

Table B-l

The Determinants of Capital Flight for Eight Latin American Countries

(Equation Version)
Sample Period

Variable	(1) 1973-86	(2) 1973-86	(3) 1973-86	(4) 1973-86	(5) 1978-86
Change in the Inflation Rate	.124 (2.316)**	.091 (1.645)#	.093 (1 738)'	.077 (1.212)	.094 (1.126)
Financial Incentive for Capital Flight	.314 (3.386)***	.294 (3.212)***	.299 (3.362)***	.322 (3.569)***	.336 (3.073)"'
Degree of Overvaluation	.003 (2.938)***	.002 (1.449)#	.003 (2.243)	.003 (2.108)**	.003 (1.733)'
Capital Availability (as % of GDP)		2.216 (1.977)'	2.596 (2.359)**	2.620 (2.401)**	2.893 (1.929)'
Country Growth Rate Relative to U.S. (lagged)			-1.108 (-2.359)"	-1.328 (-2.777)"'	-.925 (-1 551)#
Increase in Tax as a % of GDP				1.760 (1.481)#	2.234 (1.581)#
Adjusted R^2	.399	.421	.454	.486	.430
Number of Observations	88	88	88	82	59

r-statistics are given in parentheses.

• ** Significant at the 1 percent level (two-tail).

** Significant ot the 5 percent level (two-tail).

* Significant ot the 10 percent level (two-tad).

Significant at the 20 percent level (two-toil)

The dependent variable is estimated capital flight scaled by country exports. The regressions include Intercept dummies for the eight countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and Venezuela. Coefficients for the dummy variables ore not reported.

piece of data and is the primary reason why our base regression reported in Table B-l, column (4), has only 82 observations out a possible universe of 112 (8 countries times 14 years).

The precise definitions of the independent variables are as follows:

1. The change in the inflation rate, measured by the difference between the log of this year's inflation rate and the log of last year's inflation rate. The use of log differences "flattens" the effect at very high rates of inflation, implying that only the *proportional* increase in the inflation rate matters.

2 The financial incentive for capital flight is measured as:

$$(i^{US} - (i - \quad x))$$

where i^{US} is the rate paid on U.S. Treasury bills, i is the domestic interest rare, and x is the rate of devaluation of the domestic currency relative to the dollar. The term in parenthesis gives the dollar yield of domestic investments-their increase in value in domestic currency minus their loss in value due to devaluation.[28]

3. The degree of overvaluation is measured as the average real exchange rate for the current year relative to an "equilibrium" value. The real exchange rate (e^r) is:

$$e^r = \frac{P}{eP^{US}}$$

where P is the domestic price level, e is the ratio of local currency per dollar, and P^{US} is the U.S. price level.[29]

4. Capital availability is measured by net long-term capital flows as percentage of GDP. The measure is calculated by taking net long-term loans, dividing this by estimated dollar GNP per capita times the population, and then multiplying this term by the ratio of local currency GNP to local currency GDP with all data coming from the World Bank's *World Tables 1987*.[30] This variable represents the hypotheses of discriminator!- treatment and loan pushing discussed in the text.

5 The difference between the country's growth rate of GDP and the growth rate of the U.S. GNP. This variable is used as a proxy for the relative profitability of investments in the domestic economy: more rapid local growth should yield more investment and less capital flight. The lagged difference in the two growth rates is used, because the above discussion of the growth costs of capital flight suggests that entering the current growth rates might create a simultaneity problem in the estimation.

6 The increase in tax collection as a percentage of domestic product is measured as the difference between this year's ratio of taxes to GDP and the lagged ratio.

⁻ Dummy variables (different intercepts) for the various countries were also included to control for country-specific effects (except as noted below).

The regressions were first run with only the first three financial variables (2nd the dummies). which are used in most of the existing studies of capital flight. The other variables were then added one-by-one in subsequent regressions. This "search" procedure allows us to see whether the results are robust in the sense that the coefficient estimates hold over different specifications.

The results for the sample period 1973–86 are reported in columns (1) to (4) of Table B-1. The results indicate that our model performs relatively well. All the estimated coefficients have the predicted signs: negative for relative growth rates. and positive for all the other variables. The financial variables do as expected: accelerating inflation and overvaluation produce capital flight as does an increase in the difference between the yield on U.S. and domestic financial assets. Both loan pushing and increasing tax rates contribute to flight while the country's relative growth rate (proxy for expected relative profitability) tends to retard capital flight. In the full specification in column (4), four of the variables (financial incentive, overvaluation, capital availability, and growth) are significant at traditional levels. while the tax variable and inflation variable are significant at the .14 and .23 levels respectively. The relative stability of the coefficients and significance patterns over the various specifications leads to confidence in the results and suggest that the low significance of the inflation variable in the full specification is not as problematic as might be supposed.

This regression exercise is unusual in its attempt to test a full combination of variables. Past researchers have often focused only on the financial factors, discounting the role of taxes or growth rates (see, for example, Doole); 1986).Conesa (1987) includes the impacts of growth and other factors, but both he and Dooley (1986) leave out the important effect of possible overvaluation. Finally, the attention to capital availability is spotty. Felix and Sanchez (198') and Cuddington (1987) include it in their econometric investigations. while Dooley (1986) "buries" the effect of capital flows by devising a dependent variable that is the stock of capital flight scaled by the stock of debt.

Because of the data problems in calculating the change in short-term debt prior to 1978 (as well as the other data difficulties particular to Mexico and Uruguay), the base regression was also run for the 1978–86 period. The results are presented in column (5) of Table B-1. The similarity of the results in columns (4) and (5) once again leads to greater confidence in drawing inferences from the full equation.

It should also be noted that rerunning the base regression *without* the country dummies yields quite similar coefficients and leaves the same pattern of signs as in Table A.2, but with higher levels of significance. The adjusted R^2 declines by only about .15, reducing the worry that these dummy variables are responsible for the relatively high explanatory power of the regression.

The Impact of Labor Share, Capital Controls, and IMF Programs

The text discusses the effects of labor share, capital controls, and IMF programs on capital flight. Tables B-2 through Table B-4 present the

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Table B-2

The Effects of labor Share of Income on Capital Flight
for Eight Latin American Countries, 1973-86

Variables	(1)	(Equation) (2)	(3)
Change in the Inflation Rote	,075 (1.165)	.065 (1.003)	.059 (.901)
Financial Incentive for Capitol Flight	,318 (3.491)***	,331 (3.604)***	.325 (3.541)***
Degree of Overvoluotion	.003 (1.912)*	.003 (1.930)'	.003 (1.797)*
Capital Availability (as % of GOP)	2.627 (2.338)"	2.364 (2.006)"	2.533 (2.259)**
Country Growth Rate Relative to U.S. (logged)	-1.302 (-2.604)"	-1.292 (-2.589)**	-1.181 (-2.368)**
Increase in Tax asa % of GDP	1.819 (1.516)#	2.018 (1.640)#	2.094 (1.687)*
Current labor Share of Income	-.001 (-.012)		
lagged labor Share of Income		.005 (.626)	
Change in labor Share of Income			-.005 (-,455)
Adjusted R^2	.471	.475	.467
Number of Observations	81	81	81

t-statistics are givenin parentheses.
***Significant at the 1 percent level (two-tad).
** Significant at the 5percent level (two-tall).
*Significant at the 10 percent level (two-tad)
Significant at the 20 percent level (two-tall)

The dependent variableis estimated capitalflight staled by country exports. All regressionsinclude Intercept dummies for the eight countries:Argentino,Brazil, Chile, Calambra, Mexico, Peru, Uruguay, and Venezuela Coefficients far the dummy variables are not reported

results of the regressions which test for these effects. In each case, the specification in column (t) of Table B-l is used as the base equation, and a variable representing the hypothesized effect is added. A *t*-test is performed to test for the significance of the added variable.

The labor share variable in Table B-2 is calculated as real earnings per manufacturing employee divided by real output per manufacturing employee, with both series taken from the World Bank's *World Tables 198⁻*. The results are similar to those using a direct measure of labor share (employee compensation as a percentage of net domestic product calculated from the United Nations' national income accounts) that was employed in earlier research (Pastor, 1987a), but the former measure was available for more countries and years. The measure is normalized at 100 for 1980, an arbitrary procedure which is non-problematic for the regression given our use of country dummy variables.

Three variants were tried, using the current value, the lagged value,

and the change in labor share. Only the lagged value had the IMF's expected positive influence but the result is statistically insignificant; the other measures bore a negative relationship to capital flight but are also insignificant.

To test whether capital controls are effective at preventing capital flight, I tried two different sorts of statistical tests. One approach is to drop the country dummies and enter a single dummy for countries with controls. As reported in Table B-5, column (1), this specification yields a similar pattern of signs and stronger significance for most variables and a negative sign for the control dummy with a significance level of five percent. Unfortunately, the need to drop the country dummy variables implies that the control variable may be picking up other country-specific information; hence, the need for another kind of test.

In the second test, I divided the countries into two groups-those with a history of controls and those without-and then ran separate

Table B-3

Determinants of Capital Flight, 1973-86: Differences in Countries With and Without Capital Controls

| | (Equation) Countries Included | | |
| | (1) | (2) | (3) |
Voriobles	All Eight Countries	Countries without Controls	Countries with Controls
Change in the Inflation Rate	.106 (1.690)*	.186 (1.679)#	−.017 (−.248)
Financial Incentive for Capital Flight	.321 (3.426)***	.248 (1.771)*	.225 (1.683)#
Degree of Overvoluotion	.003 (2.329)**	,004 (1.551)#	.001 (.459)
Capitol Availability (as % of GDP)	2.303 (2.350)**	4.876 (2 337)**	630 (.527)
Country Growth Rate Relative to U.S. (lagged)	−.813 (−1.764)*	-1.752 (−1.688)#	−.645 (−1.364)#
Increasein Tax as a % of GDP	2.030 (1.595)#	1.344 (.658)	1.710 (1.189)
Presence of Capitol Controls	−.144 (−2.353)**		
Adjusted R^2	.375	.533	.024
Number of Observations	82	35	47

t-statistics are given in parentheses.
- ** Significant at the 1 percent level (two-toil).
- * Significant at the 5 percent level (two-toil).
*Significant at the 10 percent level (two-toil)
Significant at the 20 percent level (two-toil).

The dependent voriable is estimated capital flight scaled by country exports. All regressionsinclude intercept dummies for the eight countries: Argentina, Brazil, Chile, Colombio, Mexico, Peru, Uruguay, and Venezuela. Coefficients for the dummy variables ore not reported.

regressions for each group. If controls are ineffective, the estimates of the effects of the independent variables should be similar for both groups; if the estimated effects for the control group are lower, this would indicate that controls were effective at "muting" the impacts of policy mistakes. As may be seen from comparing columns (2) and (3) in Table B-3, the estimated effects in control countries are indeed lower (with the exception of tax policy), a result which lends credence to the view that controls are effective.[51]

Yet another sort of test for capital controls involves calculating an E-statistic to see whether an unconstrained regression for two samples-one with controls and one without-is significantly different than a constrained regression-one where we pool the two groups. As it turns out, the resulting F-statistic from the "Chow test" is not significant at any traditional level.On the one hand, this may indicate that the group with controls is not that different than the group without, weak-

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Table B-4

The Effects of Upper-Credit IMF Agreements
on Capital Flight, 1973-86

	(Equation) Countries Included		
Variables	(1) All Eight Countries	(2) Countries without Controls	(3) Countries with Controls
Change in the Inflation Rate	077 (1.206)	.176 (1.660)#	-.011 (-.170)
Financial Incentive for Capitol Flight	.320 (3.430)***	.355 (2.416)"	.276 (2.151)**
Degree of Overvaluation	,003 (1 887)'	.005 (1.978)'	-.002 (-.860)
Capital Availability (as % of GDP)	2.612 (2.373)**	5.643 (2.760)"	1.090 (.952)
Country Growth Rate Relative to U.S (lagged)	-1.350 (-2.651)**	-.873 (-.788)	-.996 (-2.116)'"
Increase in Tax as a % of GDP	1.772 (1 476)#	.862 (.437)	1.852 (1.363)#
Presence of Upper-Credit IMF Agreement	- 009 (- 133)	.234 (1.794)'	- 169 (2 354)**
Adjusted R	478	.571	131
Number of Observations	82	35	47

t statistics ore given in parentheses
***Significant at the 1 percent level (two-tail)
**Significant at the 5 percent lever (two tail)
*Significant at the 10 percent lever (two-tail)
#Significant at the 20 percent level (two-toll)

The dependent variable is estimated capital flight scaled by country exports All regressions include intercept dummies for the eight countries Argentina, Brazil, Chile, Colombia, Mexico, Peru Uruguay, and Venezuela Coefficients for the dummy variables ore not reported

ening the assertions about the effectiveness of capital controls; on the other hand, the insignificance of the F-statistic indicates that the pooling done for our other regressions is not statistically impermissible. Given the preponderance of other sorts of evidence for the effectiveness of capital controls. we stick with the results from the tests discussed above.

To test for the effects of IMF programs. I ran the basic regression adding a dummy variable equal to one when the country has either an upper credit Standby Arrangement or an arrangement under the Extended Fund Facility." The results are shown in Table B-4. For the whole sample (column 1), the IMF programs dummy has a negative coefficient, but the effect is minuscule and statistically insignificant. Breaking the sample into countries with controls and those without (columns 2 and 3), we find that IMF programs are significantly associated with an *increase* in capital flight for the "non-control" countries, and a &crease in capital flight for the countries with controls. This supports the conclusion drawn in the text that IMF agreements are only effective in slowing capital flight when countries also rely on capital controls.

Endnotes

1 See Table 1, below. The estimates of aggregate capital flight total capital flight for eighteen Latin American countries; Panama is excluded since it is actually a haven for capital from other Latin American countries.

2 These controls generally consist of government regulations that make it difficult for residents to obtain large quantities of foreign exchange (at the official exchange rate) without some requisite import or other license.

3 See Appendix A for the derivation of these estimates.

4 While research by Gulati (1987) suggests that underinvoicing of imports to avoid tariffs may be more common than overinvoicing to engage in capital flight, most observers in Latin America tend to doubt the veracity of this argument.

5 For a good discussion of potential biases in estimating capital flight, see Felix and Sanchez (1987). An additional problem, noted by Cumby and Levich (1987), is that capital flight estimates vary depending on the data base used in estimating debt accumulation and other variables. The best attempt to take account of all the estimation problems is in Lessard and Williamson (1987). Unfortunately, their excellent discussion is followed by necessarily *ad hoc* adjustments that help with determining totals of capital flight but may be less helpful in determining flight year-by-year. In particular, they employ Gulati's(1987) adjustment for trade misinvoicing for Argentina and Venezuela (in the latter case, there is no net impact of misinvoicing), drop it for Brazil and Korea, use half of it for Mexico, and do not consider the other countries in my set. There is no discussion of how to do yearly adjustments, something clearly required for regression analysis. Given the *ad hoc* method and my need for yearly figures, I stick with my own resident capital outflow measure for both the regression analysis and the estimates of totals.

6 I use the estimated earnings from the stock of assets at year-end 198' compared to the import bill for the same year. This overstates the effect since year-end assets were not available at the beginning of the year: strictly speaking, it would have been best to compare the asset earnings to the 1988 import bill, a figure unavailable in earl) 1989. Since data on the stock of foreign assets for Brazil and Colombia are for 1986, I also used import figures for that year for reasons of consistency.

   The exact method of determining the growth costs from import loss follows Fishlow (1985) and is explained in Appendix A.

7 The calculations also assume that the dominant constraint on growth is :lack of foreign exchange for imports. While this may be

the operative constraint or "gap" in the current period, relieving this constraint may cause other limits to growth to become more prominent.

[9] The tax base would rise by around .6 percent in Brazil, .8 percent in Colombia and Peru, 1 percent in Uruguay, and around 1 1 percent in Venezuela.

[10] This is calculated by multiplying the increase in the taxable base by the most recently calculated ratio of tax to gross domestic product (GDP). On the one hand, this might overstate the improvement since it is unlikely that countries will be able to identify and tax earnings from all foreign holdings. On the other hand, the calculation uses the average and not marginal tax rate and could therefore understate the improvement.

[11] A similar point is made by Rodriguez (1987, p. 137).

[12] Such assumption of private liabilities occurred in Argentina, Mexico, Chile, and elsewhere. For discussions of this phenomenon. see Diaz-Alejandro (1984, p. 379), Rodriguez (1987, p. 138), and Felix (1986, p. 107).

[13] Much of this discussion comes from Lessard and Williamson (1987, pp. 2 17–220). Cudd'ington (1986) and Conesa (198') tend to adopt the "investment climate" approach: Khan and Ul Haque (1 985) provide the theoretical framework for the "discriminatory treatment" approach although I use it in a different manner than they do.

[14] For evidence on the role of "loan-pushing" or capital availability in the overall crisis, see the econometric investigation in Pastor (1 989).

[15] I was unable to test directly for the effects of risk because no variable was available to proxy for risk differentials between countries. However, the use of country-dummies in the regressions may partly correct for country risk differentials. at least to the extent that these differentials are constant over time. See Appendix B for more details.

[16] I use the lagged difference in the two growth rates, primarily because the discussion above of the growth costs of capital flight suggests that entering the current growth rates might create a simultaneity problem in the estimation.

[17] The simulation was done for 1985 because all the data was available and the model's prediction of capital flight was relatively close to the actual value for that year. The estimates in Table 4 must be interpreted with caution, since they indicate the dollar effect of various policy changes provided that everything *else is held constant.* It is unlikely, however, that one could raise domestic interest rates without, for example, slowing growth. Since the estimates in Table 5 do

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not take into account this simultaneity in the independent variables, the effects may be somewhat overstated.

18 In designing programs to confront the problems of debt, stabilization, and capital flight, the International Monetary Fund often includes a dose of wage-cutting. Pastor (1987a) found that the most consistent and statistically significant effect of IMF programs in Latin America in the period 1965-81 was the reduction of the labor share of income.

19 This variable moves quite similarly to the actual labor share of income as recorded in the United Nations' National *Accounts* series and was available for more countries and years than the latter measure.

20 Only the one-year lagged percentage had the IMF's expected positive influence, but the effect was close to zero and statistically insignificant. The other measures bore a negative relationship to capital flight, although these effects were also close to zero and statistically insignificant. See Appendix Table B-3 for details.

21 Capital controls are restrictions on foreign exchange transactions resulting from purchases or sales of internationally traded assets. The type of controls most relevant to this study are those that prevent or limit access to dollars (or other "hard" currencies) for buying foreign assets, such as deposits in U.S. banks. Although there are ways to circumvent such capital controls (e.g., by underinvoicing exports and keeping the extra funds abroad, or overinvoicing imports and depositing the extra dollars abroad), the need to use such ruses raises the cost of capital flight and should therefore tend to discourage it.

22 This classification of Argentina, Mexico, Uruguay, and Venezuela as without controls and Brazil, Chile, Colombia, and Peru as having controls is also offered in Lessard and Williamson (1987, p. 23.3). One complication is that exchange controls were imposed, for example, in Argentina and Mexico following the outbreak of the crisis (and, for example, lifted briefly in Chile in 1982); we ignore these events in favor of a "history of capital controls" classification, using the latter in the regressions reported in Table 7. Regressions accounting for the cases discussed above yield results quite similar to those reported.

23 This point was suggested to me by Shane Hunt.

24 For more on this, see Lessard and Williamson (1987, pp. 238–244).

25 A lengthy discussion of taxation proposals is included in Lessard and Williamson (1987).

26 The issue of alternative stabilization policies is explored in Cav-

anagh, *et al.* (1985), Cornia, *et al.* (1987), and Pollin and Alarcon (1987). Evidence that a more progressive distributional pattern would not increase the risk of debt servicing problems is available in Dymski and Pastor (1989) and Berg and Sachs (1988).

[27] Data are from *Economic indicators,* July 1989.

[28] Following Dooley (1986), I use the end-of-period exchange rate; in my case, I use the rate for local currency. per dollar. I also follow Dooley's actual computational formula:

financial incentive for capital flight =

$$ln(1 + i^{US}) - ln(1 + i) + ln(e) - ln(e_{-1})$$

where "ln" indicates the natural log function. Dooley labels this variable the degree of financial repression. The log formulation "flattens" the incentives at higher rates, as explained in the case of the change in the inflation rate above.

[29] Following Cuddington (1986), I arbitrarily choose the value of e^r in 1977 as the equilibrium real exchange rate. While there may be more exact procedures. this has been used before and is a reasonable choice of year. After all, 1977 is not marred by oil shocks, an abnormally slow global economy, or the beginnings of dramatic new stabilization efforts in the various countries; it is also before Chile and Argentina opted for a global monetarist approach that fixed the exchange rate and resulted in what is now widely viewed as an unhealthy degree of overvaluation. The real exchange rate against the dollar was adjusted for changes in the dollar's value by dividing the term listed in the table by the dollar to SDR period average exchange rate (so if the dollar rises in value, this measure falls, and the Latin real exchange rate rises accordingly). The reason for such adjustment is that Latin elites can also deposit assets in European banks and currencies. A non-adjusted measure performs similarly.

[30] This is similar to a measure of capital availability used in Pastor (1988), but is calculated with different data sources here.

[31] One caveat is that controls may lead more capital flight to be undertaken through misinvoicing trade. This would tend to artificially lower our measure of capital flight since this measure assumes correct invoicing in its calculation.

[32] The exact construction of this variable follows Donovan (1982) and Pastor (1987b, pp. 203-205).

Bibliography

Berg, Andrew, and Jeffrey Sachs. "The Debt Crisis: Structural Explanations of Country Performance." *Journal of Development Economics,* Vol. 29, 1988.

Cavanagh, John, Fantu Cheru, Carole Collins, Cameron Duncan, and Dominic Ntube. *From Debt to Development: Alternatives to the International Debt Crisis.* Washington, D.C.: Institute for Policy Studies, 1785.

Cornia, Giovanni Andrea, Richard Jolly, and Frances Stewart, eds. *Adjustment With a Human Face: Protecting the Vulnerable and Promoting Growth.* Oxford: Clarendon Press, 1787.

Conesa, Eduardo R. "The Flight of Capital From Latin America: Causes and Cures." Mimeo. Inter-American Development Bank, 1987.

Cuddington, John T. "Macroeconomic Determinants of Capital Flight: An Econometric Investigation." In Lessard and Williamson, eds., *Capital Flight and Third World Debt.* Washington, D.C.: Institute for International Economics, 1987.

Cuddington, John T. *Capital Flight: Estimates, Issues, and Explanations,* Princeton Studies in International Finance, No. 58, 1986.

Cumby, Robert E., and Richard M. Levich. "On the Definition and Magnitude of Recent Capital Flight." Forthcoming in Lessard and Williamson, eds., *Capital Flight and Third World Debt.* Washington, D.C.: Institute for International Economics, 1987.

Diaz-Alejandro, Carlos. "Latin American Debt: I Don't Think We Are in Kansas Anymore." *Brookings Papers on Economic Activity,* 2:1984.

Donovan, Donal J. "Macroeconomic Performance and Adjustment Under Fund-Supported Programs: The Experience of the Seventies." *IMF Staff Papers,* Vol. 29, June 1982.

Dooley, Michael P. "Country-Specific Risk Premiums, Capital Flight and Net Investment Income Payments in Selected Developing Countries." Mimeo. International Monetary Fund, 1986.

Dooley, Michael P., William Helkie. Ralph Tryon, and John Underwood. "An Analysis of External Debt Positions of Eight Developing Countries Through 1990." *Journal of Development Economics,* Vol. 21, 1986.

Dornbusch. Rudiger. "Policy and Performance Links Between LDC Debtors and Industrial Nations." *Brookings Papers on Economic Activity,* 2:1985.

Dymski, Gary, and Manuel Pastor, Jr. "Misleading Signals, Bank Lending, and the Latin American Debt Crisis." MRG Working Paper #M8812, Department of Economics. University of Southern California, 1989.

Felix, David. "Alternative Outcomes of the Latin American Debt Crisis: Lessons from the Past." *Latin American Research Review*, Vol. 22, No. 2, 1987.

Felix, David. "Financial Blowups and Authoritarian Regimes in Latin America." In Hartlyn and Morley, eds., *Latin American Political Economy: Financial Crisis and Political Change.* Boulder, Colorado: Westview Press, 1786.

Felix, David. "How to Resolve Latin America's Debt Crisis." *Challenge,* November-December, 1785.

Felix, David and Juana Sanchez. "Capital Flight Aspect of the Latin American Debt Crisis." Working Paper #106, Department of Economics, Washington University, 1787.

Fishlow, Albert. "The State of Latin American Economics." Inter-American Development Bank (IDB), *Economic and Social Progress in Latin America, 1985 Report.* Washington, D.C.: IDB, 1785.

Gulati, Sunil K. "A Note on Trade Misinvoicing." In Lessard and Williamson, eds., *Capital Flight and Third World Debt.* Washington, D.C.: Institute for International Economics, 1787.

Inter-American Development Bank. *External Debt and Economic Development in Latin America.* Washington, D.C.: Inter-American Development Bank, 1784.

Khan, Moshin S., and Nadeem Ul Haque. "Foreign Borrowing and Capital Flight: A Formal Analysis." *IMF Staff Papers,* Vol. 32. No. 4, December 1785.

Khan, Moshin S., and Nadeem Ul Hague. "Capital Flight from Developing Countries." *Finance and Development,* Vol. 24, No. 1, March 1787.

Lessard, Donald and John Williamson. "The Problem and Policy Responses." In Lessard and Williamson, eds., *Capital Flight and Third World Debt.* Washington, D.C.: Institute for International Economics, 1787.

Morgan Guaranty Trust Company. "LDC Capital Flight." *World **Financial Markets*.* March 1786.

Pastor, Manuel Jr. "The Effects of IMF Programs in the Third World: Debate and Evidence from Latin America." *World Development*, Vol. 15, No. 2, February 1987a.

Pastor, Manuel Jr. *The International Monetary Fund and Latin America: Economic Stabilization and Class Conflict.* Boulder, Colorado: Westview Press, 1987b.

Pastor, Manuel Jr. "Capital Flight from Latin America." *World Development,* Vol. 18, No. 1, January 1790 (forthcoming).

Pastor, Manuel Jr. "Current Account Deficits and Debt Accumulation in Latin America: Debate and Evidence." *Journal of Development Economics*, Vol. 31, No. 1, July 1989.

Pollin, Robert, and Diana Alarcon. "Debt Crisis, Accumulation Crisis and Economic Restructuring in Latin America." Presented at "International Political Economy: The External Debt Crisis," URPE session, ASSA meetings, Chicago, 1987.

Rodriguez, Miguel A. 'Consequences of Capital Flight for Latin American Debtor Countries." In Lessard and Williamson, eds., *Capital Flight and Third World Debt.* Washington, D.C.: Institute for International Economics, 1987.

Truell, Peter. "IMF Board Approves Guidelines for Role in U.S.-Backed Efforts at Debt Reduction." *Wall Street Journal*, May 25, 1989, p. A4.

Tucker, Stuart K. Testimony before the U.S. House Banking Subcommittee on International Development Institutions March 19, 1986.

U.S. Congress Joint Economic Committee, "The Impact of the Latin American Debt Crisis on the U.S. Economy." May 1986.