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Country-Specific Risk Premiums, Capital Flight and Net Investment Income Payments In Selected Developing Countries

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I. Summary

This paper provides measures of risk premiums on the external debt of developing countries and capital flight from developing countries that are substantially different from those employed in existing studies. Empirical tests incorporating these measures suggest that capital flight can be explained by differences in risk perceived by residents and nonresidents in holding claims on residents of the countries studied. To the extent that capital flight reflects differences in such perceptions, it may not be related to the level of confidence that either group of investors places in such holdings.

The data also indicate that for some debtor countries capital flight has resulted in stocks of gross external claims that are large relative to gross external debt. Moreover, rates of return implied by recorded payments on external debt have exceeded levels consistent with market interest rates by a substantial margin while yields implied by recorded receipts on external claims have fallen well below levels consistent with market interest rates. The relatively high yield on debt is interpreted as reflecting country-specific risk premiums while the relatively low yield on claims is interpreted as reflecting capital flight. It follows that net payments to nonresidents have been quite sensitive to investors' perceptions of risks associated with individual debtor countries.

II. Introduction and Plan of Study

In the next section it is shown that yields on external debt may have been more sensitive to changes in country-specific risk premiums than is suggested by "spreads over LIBOR" reported on syndicated bank credits. Spreads over LIBOR, which have been widely interpreted as measures of risk premiums, have fluctuated within a range of one to two and one-half

percentage points in recent years. 1/ In contrast, yields on international bonds issued by governments of debtor countries have exceeded yields on similar bonds issued by industrial country governments by as much as 8 percentage points. 2/ Although syndicated credits are quantitatively more important than bonds for debtor countries, the existence of two apparently contradictory measures of country specific risk premiums raises the question of which measure is more typical of a country's aggregate liabilities. In this paper, a third measure of the risk premium is calculated by comparing investment income payments to the stock of external debt. These data suggest to the author that the spread over LIBOR associated with syndicated credits may understate the size and variability of risk premiums both across countries and for given countries over time.

Section IV develops the analysis of gross external asset positions of the countries studied. It is shown that such positions are large relative to the stock of external debt in several cases. Measured investment income receipts, however, have been well below the level that would be consistent with market interest rates. The below market yields measured on external claims are interpreted as resulting from capital flight. That is, in cases where residents have chosen to acquire financial assets that are outside the control of domestic authorities, it is reasonable to assume that the associated investment income is not reported in balance of payments data.

It follows that measured yields on external claims that are below risk free market rates reflect many of the same considerations as measured risk premiums on external debt. The latter reflects nonresident creditors' assessment of risks associated with claims on residents of individual countries. The former reflects residents' assessments of risks associated with such claims. Thus, a country's net investment income payments to nonresidents would be quickly affected by a change in residents and nonresidents attitudes toward its prospects, particularly in cases where gross assets and liabilities are large relative to the net position. For example, in cases where risk premiums on liabilities have been large and variable, a successful adjustment effort can lead to a large reduction in such premiums and a significant fall in investment income payments as debts are renegotiated. Moreover, in cases where a significant share of external claims reflect capital flight, an improvement in the outlook can be expected to lead to an increase in the realized yield on external assets and the associated increase in investment income receipts.

1/ See Edwards (1984) and references therein.
2/ See Folkerts-Landau (1985) and Edwards (1986).

Two implications of this line of argument might be of some practical importance in evaluating the outlook for debtor countries. First, while risk assessments undoubtedly reflect fundamental factors, net investment income payments will reflect changes in expectations before changes in fundamentals are observed. Second, while resident and nonresident investors probably make similar judgments about risks associated with claims on residents of debtor countries, these two groups may face different incentives under some circumstances. In particular, an effort to develop institutional arrangements that encourage nonresidents to acquire additional claims on debtor countries should be matched by measures that encourage residents to behave in a similar manner.

The analysis of yields on external claims suggests a definition of capital flight that is somewhat different than alternatives suggested in previous studies. 1/ In section V, capital flight is defined as that part of the estimated stock of external claims that yields no recorded investment income to the creditor country. It is shown that the view that capital flight has been an important aspect of recent developments in some countries is supported by this alternative measure. Section VI reports the results of empirical tests of the hypothesis that capital flight can be explained by variables that influence residents' and nonresidents' perceptions of risk associated with claims on the subject country. It is also suggested that although capital flight may have been related to increases in external debt in recent years there is no necessary relationship between these two phenomenon. In circumstancs where residents face incentives to acquire claims on nonresidents, but where opportunities for external borrowing are limited, capital flight may still be financed through current account transactions. Section VII provides some conclusions and possible extensions of this paper.

The purpose of this paper is to develop techniques for evaluating a more complete financial balance sheet for debtor countries. In attempting to construct a common framework for a range of countries it cannot be doubted that the techniques applied to individual countries are in some cases inappropriate. Thus, data for individual countries are illustrative. It is hoped however, that the techniques developed may be of value in more definitive analyses of individual countries.

III. Stocks of External Liabilities, Implicit Yields and Risk Premiums

This section draws on data from various sources in order to evaluate the recent behavior of the stock of external debt and the payments on that debt. In several cases it is shown that external debt estimates cumulated from balance of payments data roughly match estimates of the stock of debt drawn from independent data sources. Moreover, it appears

1/ See Cuddington (1985) for a discussion of existing work on capital flight and an empirical analysis.

that even in cases where balance of payments estimates of debt are implausibly low as compared to balance sheet data, balance of payments data on investment income payments does not appear to be biased downward. To the contrary, such payments suggest that country specific risk premiums have contributed more to actual investment income payments than would be suggested by interest rate "spreads" on syndicated bank credits.

Estimates for gross external debt compiled by the OECD, shown in column 1 of Table 1, appear to be the most complete estimates of gross external debt currently available from sources that are independent of balance of payments data. 1/ The largest part of these estimates, for example, is derived from balance sheet data for claims on these countries reported by commercial banks in OECD countries and certain offshore centers. These data provide a starting point for the analysis because they are often considered the most important and, in many cases, the only measure required to summarize a country's external financial position.

Column 2 of Table 1 shows data derived by cumulating capital flow data from balance of payment accounts from the mid-1960s to 1983. 2/ An initial stock was estimated by capitalizing investment income payments recorded in the first year for which data was available at market interest rates. 3/ With the exception of Chile the OECD estimate of debt for 1983 is greater than that calculated from the balance of payments (see Column 3). However it is clear that there is no "typical" debtor country in this respect. The ratio of nondirect investment debt as reported by the balance of payments data to that reported by the OECD data for 1983 varies from 1.18 for Chile to 0.43 for Argentina (column 3). If the OECD estimates are accurate, more than one half of the buildup in external debt for Argentina and lesser amounts for six other countries studied, are entirely missing from the balance of payments data. These matters are examined further in Section IV because they play a crucial role in evaluating the capital flight hypothesis.

The balance of payments reporting system also provides data on the flow of investment income payments associated with gross external debt. The value of this data depends, of course, on the completeness and accuracy of the reporting systems in each country. In cases where the estimates of debt extracted from balance of payments data roughly match the OECD data some confidence in the investment income payments data may also be warranted. Columns 1 and 2 in Table 2 show the ratio of investment income payments in 1983 to the average stock of debt in 1983 as estimated by the OECD and the balance of payments data, respectively. 4/ An

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1/ See Appendix A for definitions, sources and historical time series.

2/ Because capital gains and losses are generally not recorded in balance of payments data, it is not expected that an exact correspondence would be found between balance sheet data and balance of payments data.

3/ The initial value ranged from 1 to 14 percent of the stock in 1983. See Appendix A for a description of the calculations.

4/ The average debt is the simple average of year end estimates.

Table 1. External Debt as Estimated by Balance Sheet and Balance of Payments Data, 1983 1/

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
Argentina	36.7	15.7	0.43
Brazil	97.4	89.3	0.92
Chile	15.2	17.9	1.18
Korea	43.8	41.1	0.94
Mexico	94.1	81.3	0.86
Peru	11.2	10.8	0.96
Philippines	27.0	21.7	0.80
Venezuela	29.8	18.2	0.61

1/ See Appendix A for definitions, sources and historical time series.

Table 2. Average Yields and Risk Premiums for Alternative Measures of External Debt in 1983 1/

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
Argentina	15.7	36.7	9.9	5.9	32.4
Brazil	11.3	11.9	9.1	2.3	3.0
Chile	12.4	10.3	9.6	3.3	0.8
Korea	7.9	8.4	9.1	-1.6	-0.9
Mexico	11.0	12.8	9.7	1.4	3.4
Peru	9.9	11.0	7.8	3.6	5.8
Philippines	7.3	9.4	8.9	-2.3	0.6
Venezuela	11.3	17.5	9.5	1.8	8.1

1/ See Appendix B for definitions, sources and historical time series.

important feature of these data is that for Argentina and Venezuela, where the stock of external debt calculated from balance of payments data was probably too low, the balance of payments data for investment income payments nevertheless appears plausible. For Argentina the estimate of debt calculated from the balance of payments would suggest that the average yield on external debt was about 37 percent in 1983. This yield is reduced to more reasonable levels when the much larger estimate of debt from the OECD data is considered. The same tendency is apparent for Venezuela. For this reason some confidence can be placed in the investment income accounts for all of the countries considered.

An interesting feature of these data is that there is considerable dispersion in the average rate of return paid on these countries' external debt. The differences in these rates could have been due to the nature of the liabilities for each country rather than risk premiums specific to each. For example, different shares of concessional credit obligations could account for these differences.

Column 3 shows estimates of "prime" risk market yields that attempt to control for several important features of the liabilities of individual countries. 1/ This yield is a weighted average of yields on industrial country government securities, commercial bank deposit rates and rates on loans from official creditors. The weights assigned to these yields for a given country depend upon the composition of that country's liabilities. This calculated average market yield is assumed to be the rate that would have been paid by the debtor country if it had incurred no risk premium on its debt. The attributes of each country's liabilities that are taken into account in calculating its prime risk yield include currency denomination, maturity, whether the creditor is a private or official entity and whether the interest rate is fixed or variable. It does not appear that the bulk of the differences among the calculated yields across countries shown in columns 1 and 2 are accounted for by our estimates of differences in the structure of an individual country's liabilities.

Columns 4 and 5 show estimates of the country-specific risk premium on debt to private creditors based on the yields shown in columns 1, 2, and 3. This calculation assumes that the difference in the average yield calculated from the OECD and balance of payments estimates of total debt and the balance of payments data for investment income payments (columns 1 and 2) and the risk-free yield (column 3) is due to a risk premium paid on liabilities to private creditors. 2/ These estimates of risk premiums are larger in 1983 for several countries than is generally assumed in analyses of the recent experience of debtor countries.

1/ See Appendix B for a discription of these calculations.

2/ Note that column 4 is not the difference between columns 2 and 3 but that difference divided by the share of liabilities to private creditors.

In order to explore these matters further, Table 3 shows time series for four alternative measures of risk premiums on external liabilities to private creditors. The two "calculated" measures of risk premiums shown at the top half of the table correspond to the two measures discussed above. Two additional measures shown in the table are differences in market yields between liabilities of the countries studied and LIBOR in the case of syndicated credits or similar liabilities of industrial countries in the case of international bonds.

A disadvantage of the calculated risk premiums is that there are a number of potential sources of measurement error. For example, the level of the risk premium would be biased upward in cases where the level of external debt is consistently understated but investment income payments are not understated. This appears to be the case for Argentina and Venezuela where the balance of payments estimate of debt is used to calculate the risk premium. The alternative calculation using the much larger OECD estimates of external debt provides more plausible levels of risk premiums for these countries. The opposite tendency, however, is apparent in the case of Chile where the OECD estimate of debt yields a much lower estimate of the risk premium. Moreover, the prevalence of negative risk premiums before 1982 for premiums based on OECD estimates of liabilities suggests that payments may have been understated, debt levels overstated, or some aspect of the composition of debt consistently misspecified for these years. While a number of measurement errors are probably present in these data, errors made consistently over time are less likely to generate misleading information about the patterns of changes in risk premiums in recent years. The average "calculated" risk premiums for each year varied over a range of about 4 percentage points in recent years (column 9). Both measures also indicate a similar pattern of changes as rates moved up rapidly from 1980 to 1982 before declining somewhat in 1983.

The data on calculated risk premiums are inconsistent with the estimates of risk premiums shown in the lower middle part of Table 3. These data are reported "spreads" over deposit interest rates reported for syndicated loans from commercial banks. The ranking of countries by size of risk premium is comparable to that suggested by the measures discussed above; however, the size and variability of the "spreads" is smaller. The average variation in these measures of the risk premiums for the period considered was less than one percentage point. A possible source of bias in these estimates is the fact that such spreads are easily measured and have become an important indicator of a country's credit standing. This may have provided both lenders and borrowers with incentives to keep such spreads about unchanged while adjusting other aspects of their business relationships. These additional payments may reflect commissions, front end fees, prepayments of principle, compensating balances, tax sharing arrangements and other factors that

Table 3. Estimates of Risk Premiums

	Argentina (1)	Brazil (2)	Chile (3)	Korea (4)	Mexico (5)	Peru (6)	Philippines (7)	Venezuela (8)	Average (9)
	Risk Premiums Calculated From Balance of Payments Estimates of External Debt								
1978	28.7	-0.3	3.1	-0.2	1.0	2.8	-1.7	-0.1	4.2
1979	22.4	0.7	2.7	0.2	1.3	2.5	-2.9	-2.6	3.0
1980	21.9	2.0	1.8	1.9	1.5	3.3	-2.0	-2.7	3.5
1981	31.6	3.0	2.4	2.1	0.5	6.0	-1.8	0.9	5.6
1982	33.2	5.4	2.7	1.1	5.1	5.1	0.9	7.0	7.6
1983	32.4	3.0	0.8	-0.9	3.4	5.8	0.6	8.1	6.7
	Risk Premiums Calculated From OECD Estimates of External Debt								
1978	-0.2	-0.7	4.4	-3.5	-2.8	1.2	-5.0	-3.5	-1.3
1979	-0.3	-0.4	4.3	-3.6	-3.8	-0.3	-5.8	-5.6	-2.0
1980	1.6	0.7	4.5	-1.2	-3.6	-0.1	-5.3	-6.3	-1.2
1981	3.8	2.2	6.9	-0.1	-2.9	1.9	-5.0	-4.6	0.3
1982	5.3	5.1	6.9	-0.1	2.5	1.5	-2.8	0.5	2.4
1983	5.9	2.3	3.3	-1.6	1.4	3.6	-2.3	1.8	1.8
	Interest Rate Spreads Above LIBOR on Public and Publicly-Guaranteed Loans 1/								
1979	0.8	0.9	0.9	--	0.7	1.6	0.9	N/A	0.8
1980	0.6	1.2	0.8	0.9	0.5	1.3	0.8	N/A	0.9
1981	0.7	2.0	0.7	0.9	0.6	1.1	0.9	N/A	1.0
1982	0.9	2.1	1.2	0.6	0.7	1.2	1.1	N/A	1.1
1983	1.8	2.1	0.3	0.6	1.9	N/A	0.7	N/A	1.2
	Yield Differentials Between Deutsche-Mark-Denominated International Bonds of Industrial Countries and Selected Countries 1/								
1982	6.9	3.1			2.5			2.1	3.7
1983	9.3	5.6			3.4			4.1	5.6

1/ Data reported in: David Folkerts-Landau "The Changing Role of International Bank Lending in Development Finance" IMF Staff Papers, (June 1985).

could increase the effective yield on debt. 1/ While both borrowers and lenders may wish to minimize the more easily measured component of the country specific yield, borrowers may have incentives to report investment income payments. For example, such payments in some cases entitle the resident to access to foreign exchange on favorable terms. Reported interest payments might also affect the borrowers domestic tax liability.

A fourth measure of risk premiums is the difference in secondary market yields on international bonds issued by four of the countries studied and yields on similar bonds issued by industrial countries (bottom panel Table 3). These data reinforce the view that risk premiums have been large and variable in the 1982-84 time period. The magnitude of risk premiums as measured by bond yield differentials is roughly comparable to those calculated from the OECD data. Moreover, the rank ordering of countries in 1982 and 1983 by size of risk premiums is the same for the bond yield differentials as for the premiums calculated from OECD estimates of external debt.

Analyses of the debt crisis have based projections of risk premiums on the recent behavior of spreads on syndicated loans. Moreover, sensitivity analyses have shown that assumptions concerning interest rates are particularly important to the results of such exercises. 2/ If the larger and more volatile measures of risk premiums reported above were to be used, the outlook for some countries could be substantially changed. It could be argued, for example, that too little weight has been given to the magnitude of adjustments in risk premiums in assessing the situation to date. In particular, the more the debt crisis has been due to a rapid run-up in risk premiums, the faster the crisis would be resolved when debtor countries restored confidence in their economic performance.

IV. Stocks of External Claims and Rates of Return

In this section estimates of stocks of gross claims on nonresidents and yields in these claims are presented and analyzed. The major problem in estimating stocks of external claims held by residents of the countries studied is that "balance sheet" data for such claims may be much less reliable as compared to similar data for their external debts. 3/ Indeed, to the extent that claims result from capital flight, these positions might be difficult to identify.

1/ For discussions of these factors see Mills and Terrell (1984) and Frankel (1985).

2/ See Dooley et al. (1986).

3/ For a recent effort to provide balance sheet data on claims for groups of developing countries, see Williamson (1985).

In cases where balance of payments data provides cumulated debt estimates that are comparable to the OECD debt estimates it is reasonable to assume that cumulated balance of payments data for external claims are also reliable. Even where the balance of payments data for the stock of debt is not reliable we can obtain an estimate of the stock of external claims by assuming that all external debt not accounted for in the cumulated balance of payments estimate is matched by unrecorded increases in external claims. Moreover, as discussed above, data on investment income payments was useful even for countries where the balance of payments estimates of external debt were too low. This raises the possibility that data for investment income receipts is also a useful measure for the countries studied.

Column 1 of Table 4 shows the cumulated stock of private and official claims on nonresidents at end 1983 calculated from balance of payments data. As discussed for liabilities, the initial value was estimated by capitalizing investment income receipts in the initial year. Column 2 shows the cumulated stock of errors and omissions in the balance of payments accounts. 1/ This item is often associated with accumulations of financial claims on nonresidents in that it could reflect, among many other things, unrecorded capital outflows. The sum of columns 1 and 2, shown in column 3, can be taken as an aggregate cumulative capital outflow, or increase in gross claims, as estimated from balance of payments data. These data however could in some cases seriously underestimate the stock of external claims. In cases where the balance of payments data seem to underestimate the accumulation of external debt there must have been a corresponding underestimate of balancing transactions. These could include any type of transaction with a nonresident. For example, imports of goods and services or purchases of financial claims on nonresidents could have been financed by the accumulation of external debt not captured in the balance of payments reporting system. In order to proceed it is assumed that all of the "balancing transactions" shown in column 4 represent increases in private financial claims on nonresidents. (Note that column 4 is the difference between columns 1 and 2 of Table 1). The sum of columns 3 and 4 shown in column 5 is an estimate of the total cumulated financial claims on nonresidents for the countries considered.

With this in mind it is natural to compare investment income receipts as recorded in the balance of payments to alternative measures of the stock of claims on nonresidents. Columns 1, 2 and 3 of Table 5 show the ratio of investment income receipts to the three measures of gross external claims presented in columns 1, 3 and 5 of Table 4. These implicit

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1/ The sign is reversed as compared to balance of payments data so that a positive value indicates an increase in claims.

Table 4. Alternative Measures of External Claims, 1983 1/

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
Argentina	4.6	1.0	5.6	21.0	26.6
Brazil	6.9	0.1	6.9	8.1	15.0
Chile	2.7	0.4	3.1	-2.7	0.4
Korea	10.8	3.9	14.7	2.6	17.3
Mexico	19.1	22.3	41.4	12.8	54.2
Peru	2.1	0.4	2.5	0.4	2.9
Philippines	4.7	1.7	6.4	5.3	11.8
Venezuela	27.6	-0.5	27.2	11.6	38.7

1/ See Appendix C for definitions, sources and historical time series.

Table 5. *Average Yields on Alternative Measures of External Claims* and a Measure of Capital Flight in 1983 1/

	Average Yield on Recorded External Claims *Balance of* Payments (In percent) (1)	Average Yield on Total External Claims *Balance of* Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
Argentina	9.6	7.9	1.7	10.4
Brazil	10.3	10.2	4.7	9.5
Chile	6.9	6.0	...	10.0
Korea	5.0	3.7	3.1	10.0
Mexico	6.7	3.1	2.4	9.8
Peru	5.5	4.7	4.0	9.8
Philippines	7.9	5.8	3.2	10.0
Venezuela	5.4	5.5	3.9	9.5

1/ For definitions, sources and historical time series see Appendix E.

yields can be compared to the "market yield" shown in Column 4. 1/ In most cases investment income receipts seem to imply plausible yields relative to market yields if it is assumed that only cumulated recorded external claims yield income that is captured in the balance of payments accounts. The addition of cumulated errors and omissions to the level of external claims (Column 2), or this plus unrecorded claims (Column 3), reduces the implied yield in most cases to implausibly low levels. This is particularly evident in the case of Mexico where the already low yield on recorded claims is reduced to about 3 percent when cumulated errors and omissions are added (Column 2) and Argentina where the addition of both additional measures of claims (Column 3) reduces the implicit yield to about 2 percent.

These very low calculated yields on the more inclusive measures of external claims raise two interesting possibilities. One is that the data on investment income receipts is systematically understated. In some cases (the United States is an example), balance of payments data on such receipts are not measured directly, but instead estimated by applying a market yield to an estimated stock of gross claims. Where this procedure is followed, the use of cumulated balance of payments statistics to estimate the stock of claims could understate the value of receipts. It would seem reasonable in this event to revise the balance of payments statistics, particularly in cases where liabilities reported by nonresidents to the subject country are substantial. Indeed, a satisfactory resolution of important problems of evaluating the role of external claims in many cases would require an effort to gather data on stock of external claims held by residents of developing countries comparable to that available for their external debt. In cases where the understating of investment income receipts is simply due to an inappropriate estimate of the stock of external claims a correction of this error would result in a substantial "improvement" in the current account of some of the countries studied. 2/

The second possibility is that investment income receipts are correctly recorded and that earnings on claims accumulated through "capital

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1/ Since we have relatively little information concerning the composition of external claims, the market yield reported here is equal to the prime risk yield on external liabilities to private creditors. See Appendix D.

2/ It has been suggested that such a procedure would be misleading since the debtor country's government cannot utilize such earnings to make payments on external debt unless the income is repatriated. This would be a serious problem but it seems inappropriate to base balance of payments estimates on such an assumption. Retained earnings on foreign direct investment, for example, are recorded as investment income regardless of their impact on government revenues.

flight" positions are better veiwed as lost to the country. In this case an improvement in the situation would depend on a restoration of confidence among residents in domestic financial instruments. Clearly, many of the same factors that would induce external creditors (i.e., commercial banks) to reduce risk premiums and resume lending would also contribute to a reversal of capital flight. It is worth noting, however, that additional steps may be necessary in cases where domestic financial markets are relatively underdeveloped and not fully recovered from the difficulties experienced in recent years.

V. Capital Flight

There is no generally accepted definition of capital flight. Capital outflows per se, types of outflows such as increases in private short-term claims, or errors and omissions, are not a reasonable measure of this phenomenon. The United States, for example, had, by the end of 1983, accumulated roughly $700 billion gross claims on nonresidents. These claims were about offset by an equivalent stock of external debt and, because the average yields on claims is estimated to be higher than that on liabilities, the investment income accounts show a substantial net credit in the U.S. balance of payments accounts. 1/ The situation would of course be immediately altered if, for some reason, these foreign exchange earnings were not available to U.S. residents who had to make investment income payments. 2/ This would seem to be a useful definition of capital flight. In cases where all or some portion of the income receipts are lost to the country it is assumed that the capital outflow was motivated by the desire of residents to obtain financial assets and earnings on those assets which remain outside the control of the domestic authorities. It should be noted that capital flight by this definition does not require a change in the stock of total claims on nonresidents but only that earnings on existing claims be placed outside the control of the domestic authorities. Thus, capital flight can occur, and be reversed, very rapidly. 3/

1/ See Dooley (1980/81) for a discussion of some of the factors that have generated gross capital inflows and capital outflows in the U.S. balance of payments in recent years.

2/ Diaz-Alejandro (1984), for example, argues that this problem occurs in cases where private external debt has been socialized, or payments subsidized, by the government but private external assets and earnings remain private. Khan and Ul Haque (1985) provide a formal analysis of circumstances where an individual will acquire external debt and invest both at home as well as abroad.

3/ For this reason, the timing and amount of capital flight, as measured in this paper, can be quite different as compared to other studies. In most cases the measures of capital flight reported in this paper are much larger than reported elsewhere. See, for example, Cuddington (1985) and Dornbusch (1984).

The appropriate way to measure capital flight by this definition is to calculate the stock of claims implied by investment income receipts and market interest rates. This stock of "interest earning" claims is interpreted as the stock of external claims not due to capital flight but to normal foreign portfolio investment. The difference between this estimate and the estimate of the total stock of external claims (Table 4 column 5) is presented in column 1 of Table 6. It should be emphasized that whether or not such holdings are "beyond the reach" of the authorities is a matter of fact which cannot be established here for individual countries. Thus, the estimates of capital flight shown in Table 6 are, at best, approximations. 1/ We can gain some perspective on the possible importance of capital flight to individual countries' external financial positions by comparing capital flight to other financial aggregates. By these estimates, capital flight accounted for as much as 84 percent of the total stock of external claims for Argentina and 77 percent of the stock of external debt of Venezuela (Table 6 columns 2 and 3). The wide range of experience reflected in these data point to the need for careful analysis of the very different historical backgrounds of countries' external debt. The contrast between the three large Latin American debtor countries in the sample of countries studied--Brazil, Mexico, and Venezuela--is particularly striking. These data suggest that capital flight has been of little consequence in Brazil, while about one half and three quarters respectively, of all external debt in Mexico and Venezuela was matched by capital flight.

VI. Empirical Tests

In this section the view that capital flight and risk premiums on external debt are generated by similar considerations is tested empirically. The measure of capital flight discussed above is compared to a number of variables that might influence resident and nonresident investors attitudes toward claims on residents of the countries studied.

The existing empirical literatures on risk premiums and capital flight do not appear to have much in common. For example, of the nine independent variables in Edwards' (1984) paper on risk premiums and

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1/ For example, these measures could provide a misleading pattern of capital flight in cases where investment income receipts recorded in the balance of payments reflect repatriated earnings rather than reported (or estimated) accrued earnings. In such cases analysis of year to year changes in these measures of capital flight would be less useful although the trend over longer periods might still provide useful information.

Table 6. Capital Flight in Ratio to Total External Claims and Total External Liabilities in 1983 1/

	Calculated Capital Flight (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to Total External Debt (3)
Argentina	22.3	0.84	0.61
Brazil	7.6	0.50	0.08
Chile	-1.5	-3.52	-0.10
Korea	11.9	0.69	0.27
Mexico	41.1	0.76	0.44
Peru	1.7	0.59	0.15
Philippines	8.0	0.68	0.30
Venezuela	23.0	0.59	0.77

1/ For definitions, sources and historical time series see Appendix E.

three independent variables in Cuddington's (1985) paper on capital flight, only one, the rate of domestic inflation, appears in both studies. The different regression hypotheses in these studies reflect the view that "capital flight" is motivated primarily by inflation or exchange rate risk, while risk premiums charged by nonresidents reflect mainly default risk.

The different regression hypothesis can be explained by the assumption that residents of a debtor country do not fear default in the sense that financial contracts between residents (including the government) will be enforced in cases where nonresident creditors are penalized. However, in many cases "financial repression" in the form of controlled interest rates and limited opportunities to acquire foreign currency claims on residents expose the value of residents' financial assets to losses caused by inflation and exchange rate depreciation.

In contrast, nonresident investors have typically acquired claims on debtor countries that are denominated in foreign currencies. For this reason empirical work has focused on comparisons between the country's ability to generate foreign exchange necessary to service its external debt and the stock of such debt.

In this section the conjecture is tested that both inflation and other taxes on residents and the default "tax" must be considered together in order to obtain a satisfactory explanation of capital flight. Governments faced with a fiscal deficit may be forced to impose taxes on domestic and nonresident investors in a variety of forms that tend to reduce the value of such investments. Thus, any shock to the system that increases government expenditure or reduces revenues raises the possibility that new sources of revenue will be exploited. This does not imply that all financial positions will be affected equally or at the same time. The revenue generated by a change in tax on a financial position depends upon the size of the position to be taxed and the opportunities asset holders have for avoiding the tax. An unexpected increase in the inflation rate, for example, provides revenue to the government depending on the stock of fixed interest domestic currency liabilities of the government and the ability of holders of such liabilities to shift into alternative assets in order to avoid the tax. In cases where the ability to shift into a less exposed position is limited, for example, by a limitation on the right to purchase foreign exchange at the official rate, the government might be expected to first "tax" domestic residents through money creation and inflation. In response residents will seek to acquire foreign currency denominated financial assets. If these are not available domestically they will attempt to acquire foreign currency denominated claims on nonresidents.

The incipient capital outflow must be matched either by some offsetting transaction or a change in other variables that discourage the outflow. One possible outcome is that nonresident investors will be attracted by the fall in prices (increases in yields) that will be generated as residents attempt to liquidate domestic securities. Nonresident investors, however, will not be interested in domestic currency denominated liabilities of the debtor country because this also exposes them to the inflation tax. Unlike residents, nonresident investors may be able to purchase foreign currency denominated claims on residents. Moreover, external creditors may have access to explicit or implicit government guarantees not available to residents. In this case the capital outflow seeking to avoid the inflation tax would be matched by a capital inflow which is protected from the inflation tax because of its currency denomination and which also enjoys a government guarantee.

The capital flows generated in the above example can best be understood as attempts by asset holders to arbitrage a yield differential that is generated by the inflation tax on residents. Since nonresidents can avoid this tax in ways not available to residents, "capital flight" is the expected outcome of this incentive structure. Similar types of capital flows among industrial countries have been called "round trip" capital flows. 1/ In some cases fairly small tax incentives in terms of differential reserve requirements on bank deposits have led to very large gross capital inflows and outflows in the U.S. balance of payments. Such flows are not referred to as "capital flight" although they are analytically equivalent to what is generally called capital flight in developing countries.

There are limits to this "round trip" variety of capital flows. At some point the stock of liabilities to nonresident investors becomes sufficiently large so that it may become worthwhile for the government to consider a tax on these financial positions. The inflation tax will not be effective but other more direct measures which reduce payments on such liabilities will yield greater revenues as the stock of liabilities to nonresidents grows. As the perceived risk faced by nonresident creditors grows, the opportunities for arbitraging the differential risks faced initially by residents as compared to nonresidents will be reduced and may be eventually eliminated. At this point the "round trip" capital flows will end.

In this new situation resident investors could avoid domestic taxes on financial assets only by net transfers of goods and services to nonresidents. Thus, while "capital flight" as measured in this paper will be much reduced or eliminated, the consequences of continued actual or expected taxation of residents' financial assets remains serious. In fact, the consequences may be more serious since the flow of real savings

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1/ See Dooley (1980/81).

available for increases in the domestic stock of real capital are threatened since taxes on domestic financial savings can no longer be avoided by offsetting capital flows.

The above discussion suggests that capital flight should be evident in circumstances where residents perceive risks to income derived from domestic claims but nonresidents perceived relatively smaller risks on credits to the residents of the country studied. In order to evaluate this idea the relationships between capital flight as reported in Tables E33-E40, and a number of possible determinants of capital flight are tested empirically. The variables considered that might be determinants of capital flight include:

(1) Domestic inflation. This variable is interpreted as measuring the extent to which the domestic government has resorted to taxing domestic financial assets through money creation. This easily observed measure of "tax policy" can be considered a proxy for a range of factors that influence residents' preferences for foreign and domestic financial assets.

(2) Financial Repression. This variable measures the difference between interest rates paid on short-term dollar denominated assets and time deposits denominated in the subject country's domestic currency adjusted for actual exchange rate changes. A positive value for this differential indicates that such deposits are vulnerable to the inflation tax. A differential in favor of U.S. dollar denominated assets would suggest more capital flight.

(3) The Risk Premium. The risk premium on external debt derived in Section II is interpreted as measuring nonresidents' perception of the risk of being "taxed" by the subject country's government. As this perceived risk increases it is expected that capital flight will be reduced since the differential risk faced by resident and nonresident investors is reduced.

The results of a pooled regression for annual observations for seven countries for the 1976-1983 time period are shown in Table 7. 1/ These results generally support the view that capital flight is related to the relative perceptions of risks that residents and nonresidents associate with claims on residents of the countries studied.

1/ Results of a similar regression hypothesis for individual countries are reported in Appendix Table F-41. These results provide additional support for the view that capital flight is related to relative perceptions of risk that resident and nonresident investors associate with financial claims on the country in question. However, the results were far from uniform across countries and with only seven annual observations the data is undoubtedly consistent with a range of alternative interpretations.

Table 7. Determinants of Capital Flight:
Pooled Data 1976-1983

Variables

CF = capital flight data reported in Tables E33-E40, column 7

INF = differences in logarithms of consumer price indices, IFS line 64

FR = $\ln (1 + r_{us}) - \ln (1 + r) - \ln X + \ln X(-1)$

where:

r = domestic time deposit interest rate, national sources,

r_{us} = U.S. Treasury bill interest rate, IFS line 60c,

x = domestic currency per dollar, IFS line ac.

RP = risk premium data reported in Tables B8-B16, column 4.

Estimation Results 1/

$$CF = \underset{(3.66)}{0.009}\ INF + \underset{(1.57)}{4.95}\ FR - \underset{(-2.23)}{0.88}\ RP$$

$\overline{R}^2 = 0.64$

$F = 30.55$

1/ Estimated by ordinary least squares with country specific dummy variables. Bracketed numbers are t statistics.

$\overline{R}^2$ is R^2 corrected for degrees of freedom.

F is the F statistic for the regression as a whole.

The positive and statistically significant coefficient for domestic inflation can be interpreted as indicating that in circumstances where the authorities are "taxing" domestic money balances through inflation residents prefer to hold a larger share of their financial assets in a form that is outside the control of the domestic authorities.

The positive influence on capital flight of "financial repression" might reflect the desire of residents to acquire foreign assets in cases where domestic currency time deposits yield less than short-term rates in international markets adjusted for exchange rate changes. In some cases this may reflect controls on domestic interest rates or it may simply reflect relatively slow adjustment of domestic interest rates to rapidly changing economic conditions. This coefficient is larger than its standard error but is not significant at conventional levels, perhaps reflecting the difficulty in measuring financial repression for this diverse group of countries.

Finally, the coefficient on the political risk premium is statistically significant and indicates the "expected" negative impact on capital flight. Thus it appears that the increases in this premium in recent years, and the associated reluctance of nonresident investors to "recycle" capital flight, has tended to limit the scale of such transactions.

VII. Conclusions

An important challenge for analyses of external debt is to identify factors that are quantitatively important in shaping individual countries' current and prospective external positions. Existing studies have generally compared a very simple representation of a country's external financial position, interest payments or debt service payments associated with gross external debt, to some measure of the country's ability to make such payments under alternative assumptions concerning economic growth in OECD countries, interest rates in creditor countries, and a number of other domestic and external variables. The analysis developed in this paper suggests that in many cases a more complete representation of individual debtor countries' financial positions would be useful.

Review of historical experience for selected debtor countries suggests that investment income payments associated with external debt and investment income receipts associated with external claims appear to have been quite sensitive to residents' and nonresidents' attitudes toward claims on debtor countries. More detailed analysis of developments in individual countries might provide a better understanding of the linkages between the behavior of nonresident and resident investors and the implications of this behavior for debtor countries' external positions.

Definitions, Sources and Historical Time Series
Text Table 1 and Appendix Tables A1-A8

(1) External Debt, OECD includes for 1982 and 1983 official development assistance, official or officially guaranteed supplier credits, officially guaranteed financial trade credits, credits from banks in OECD countries and certain offshore centers, use of Fund credit, multilateral development lending and other indentified liabilities. Data for years before 1982 are less comprehensive and are adjusted upward by the ratio of data for 1982 available on both the new and old reporting bases.

Sources: OECD, Statistics on External Indebtedness: External Liabilities of Individual Countries and Territories. Various issues.

(2) External Debt, Cumulated Balance of Payments is the cumulated sum of BOPY lines (53-61, 65-68, 72-76, 80-83, 86-88, 90-92, 95-97, 110, 111) plus estimated value at end of first year shown. The estimated value is equal to the value of investment income payments in that year (lines 16, 18, 20) divided by the U.S. Treasury bill rate in that year (IFS line 60C).

(3) (1)/(2).

Table A1. Argentina: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1964		1.3	
1965		1.0	
1966		0.8	
1967		1.1	
1968		1.3	
1969		1.3	
1970		1.6	
1971		1.5	
1972		1.8	
1973		2.1	
1974		2.1	
1975	5.2	2.4	0.47
1976	7.0	2.8	0.40
1977	8.3	3.5	0.42
1978	10.6	3.2	0.30
1979	15.2	6.9	0.45
1980	19.2	9.0	0.47
1981	28.5	11.5	0.40
1982	32.6	13.9	0.43
1983	36.7	15.7	0.43
1984		18.4	

Table A2. Brazil: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1966		4.7	
1967		4.7	
1968		5.3	
1969		5.9	
1970		6.8	
1971		8.7	
1972		12.1	
1973		15.3	
1974		21.0	
1975	26.3	26.0	0.99
1976	31.3	33.9	1.09
1977	38.7	38.7	1.00
1978	52.4	48.8	0.93
1979	58.8	52.9	0.90
1980	66.0	61.4	0.93
1981	74.9	73.3	0.98
1982	84.0	83.3	0.99
1983	97.4	89.3	0.92
1984		97.8	

Table A3. Chile: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1966		1.2	
1967		1.2	
1968		1.4	
1969		1.6	
1970		1.8	
1971		2.0	
1972		2.3	
1973		2.9	
1974		3.8	
1975	3.9	4.1	1.05
1976	4.1	4.2	1.02
1977	4.4	4.7	1.05
1978	5.9	6.3	1.07
1979	7.3	8.1	1.11
1980	9.3	11.0	1.19
1981	12.3	15.9	1.28
1982	14.0	17.2	1.23
1983	15.2	17.9	1.18
1984		19.9	

Table A4. Korea: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1964		0.1	
1965		0.1	
1966		0.3	
1967		0.5	
1968		1.0	
1969		1.8	
1970		2.5	
1971		3.3	
1972		3.7	
1973		4.3	
1974		5.8	
1975	10.6	8.4	0.79
1976	13.4	10.6	0.79
1977	17.5	12.8	0.73
1978	23.4	14.9	0.64
1979	28.5	20.8	0.73
1980	32.4	27.8	0.86
1981	36.9	33.1	0.90
1982	40.5	38.1	0.94
1983	43.8	41.1	0.94
1984		43.9	

Table A5. Mexico: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1966		4.0	
1967		4.6	
1968		5.0	
1969		5.3	
1970		5.9	
1971		6.6	
1972		7.4	
1973		9.4	
1974		12.6	
1975	25.3	17.7	0.70
1976	33.0	24.1	0.73
1977	40.9	26.7	0.65
1978	49.7	29.8	0.60
1979	57.6	35.2	0.61
1980	66.5	46.6	0.70
1981	81.8	70.5	0.86
1982	92.3	79.6	0.86
1983	94.1	81.3	0.86
1984		83.0	

Table A6. Peru: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1968		1.2	
1969		1.3	
1970		1.2	
1971		1.3	
1972		1.4	
1973		1.7	
1974		2.9	
1975	4.3	4.4	1.02
1976	5.2	5.6	1.08
1977	6.9	6.7	0.97
1978	8.0	7.0	0.86
1979	8.7	7.3	0.84
1980	9.5	8.0	0.85
1981	9.8	8.3	0.85
1982	11.2	9.5	0.85
1983	11.2	10.8	0.96
1984		11.9	

Table A7. Philippines: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1967		0.6	
1968		1.1	
1969		1.4	
1970		1.7	
1971		2.0	
1972		2.3	
1973		2.5	
1974		3.3	
1975	6.2	4.4	0.71
1976	8.8	5.7	0.65
1977	11.8	6.4	0.54
1978	14.7	8.5	0.58
1979	17.4	11.1	0.64
1980	20.2	14.6	0.72
1981	23.6	17.5	0.74
1982	27.6	20.7	0.75
1983	27.0	21.7	0.80
1984		22.9	

Table A8. Venezuela: External Debt as Estimated by Balance Sheet and Balance of Payments Data

(In billions of U.S. dollars)

	External Debt		
	OECD (1)	Cumulated Balance of Payments (2)	Ratio of (2)/(1) (3)
1967		0.4	
1968		0.5	
1969		0.7	
1970		0.8	
1971		1.1	
1972		1.3	
1973		1.6	
1974		1.6	
1975	4.2	2.1	0.51
1976	8.0	4.3	0.53
1977	11.7	6.7	0.57
1978	17.5	10.8	0.62
1979	22.8	15.0	0.66
1980	25.6	16.9	0.66
1981	27.6	17.8	0.64
1982	30.6	20.9	0.68
1983	29.8	18.2	0.61
1984		14.8	

Definitions, Sources and Historical Time Series
Text Table 2 and Appendix Tables B9-B16

Definitions and sources by column

(1) Ratio of Investment Income Payments to OECD Debt is the flow of income payments for the year divided by the average of stocks of debt outstanding at the end of that year and the previous year.

Sources: Investment Income Payments. BOPY lines (16, 18, 20). External Debt: OECD. See Appendix A, note (1).

(2) Ratio of Investment Income Payments to Balance of Payments Debt is defined as (1) above.

Sources: Investment Income Payments. See (1) above. Balance of Payments Debt. See Appendix A, note (2).

(3) Prime Risk Yield (PRY) is a weighted average of market interest rates and the ratio of interest payments to official creditors to liabilities to official creditors,

$$PRY = S_1[S_2 (S_3 \text{ LIBOR} + (1 - S_3) \text{ SDRR} * XL) + (1 - S_2) (S_3 \text{ BONDR} + (1 - S_3) \text{ SDRBONDR} * XL)] + (1 - S_1) \text{ OFFR}$$

where

S_1 = Share of liabilities to official creditors in OECD debt. Liabilities to official creditors are reported in World Debt Tables

S_2 = Share of variable rate debt reported in World Debt Tables

S_3 = Share of dollar denominated debt from staff estimates

LIBOR = London Interbank offer rate on 6-month dollar deposits, IFS line (60eb).

$\text{SDRR} = \Sigma \, Ri^{w_i}$ where w_i weight is SDR basket of currency i

Ri = short-term interest rate IFS line (60b).

$$XL_t = \sum_{t=0}^{-(M-1)} Debt_t * SDR/DOL_t \Big/ \sum_{t=0}^{-(M-1)} Debt_t * DOL/SDR_t$$

where $Debt_t$ = OECD debt

SDR/DOL_t = IFS line (sd)

M = average maturity of private external debt from World Debt Tables

$$BONDR = \sum_{t=0}^{-(M-1)} Debt_t * BOND_t \Big/ \sum_{t=0}^{-(M-1)} Debt_t$$

where $BOND_t$ = IFS line (61)

$$SDRBONDR = \sum_{t=0}^{-M} Debt_t * \sum B_i^{w_i} \Big/ \sum_{t=0}^{-(M-1)} Debt_t$$

where Bi = Bond rate for country i, IFS line (61)

OFFR = ratio of interest payments to official creditors to liabilities to official creditors from World Debt Tables.

(4) Calculated Risk Premium: OECD Debt is the difference between the prime risk yield on private debt component of PRY and the ratio of investment income payments to private creditors to liabilities to private creditors derived from OECD estimates of total debt.

(5) Calculated Risk Premium: Balance of Payments Debt same as (4) except with cumulated balance of payments debt.

Table B9. Argentina: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	8.4	19.7	6.7	2.1	31.8
1977	6.5	15.8	6.9	-0.5	19.4
1978	7.6	21.6	7.3	-0.2	28.7
1979	9.1	23.4	8.9	-0.3	22.4
1980	12.7	27.4	10.8	1.6	21.9
1981	16.2	37.8	12.2	3.8	31.6
1982	16.2	38.9	10.8	5.3	33.2
1983	15.7	36.7	9.9	5.9	32.4

Table B10. Brazil: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	7.3	7.0	6.3	1.1	0.8
1977	7.0	6.8	6.6	0.5	0.2
1978	7.3	7.6	7.9	-0.7	-0.3
1979	9.5	10.4	9.7	-0.4	0.7
1980	12.0	13.1	11.2	0.7	2.0
1981	14.7	15.4	12.7	2.2	3.0
1982	15.8	16.0	11.2	5.1	5.4
1983	11.3	11.9	9.1	2.3	3.0

Table B11. Chile: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	8.3	8.0	6.1	7.3	5.8
1977	8.4	8.1	6.1	6.6	5.5
1978	9.6	9.1	7.6	4.4	3.1
1979	11.5	10.6	9.1	4.3	2.7
1980	13.9	12.0	10.8	4.5	1.8
1981	18.0	14.5	12.6	6.9	2.4
1982	17.5	13.9	11.6	6.9	2.7
1983	12.4	10.3	9.6	3.3	0.8

Table B12. Korea: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	4.0	5.1	6.1	-3.3	-1.7
1977	4.4	5.8	6.3	-3.0	-1.0
1978	4.7	7.0	7.0	-3.5	-0.2
1979	5.6	8.2	8.2	-3.6	0.2
1980	8.5	10.7	9.3	-1.2	1.9
1981	10.3	11.8	10.3	-0.1	2.1
1982	9.7	10.6	9.9	-0.1	1.1
1983	7.9	8.4	9.1	-1.6	-0.9

Table B13. Mexico: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	5.7	8.0	6.6	-1.0	1.5
1977	5.4	7.8	6.8	-1.6	1.1
1978	5.7	9.1	8.2	-2.8	1.0
1979	6.9	11.4	10.3	-3.8	1.3
1980	8.8	13.4	12.0	-3.6	1.5
1981	11.4	14.4	13.9	-2.9	0.5
1982	14.2	16.5	11.7	2.5	5.1
1983	11.0	12.8	9.7	1.4	3.4

Table B14. Peru: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	7.1	6.7	6.1	2.1	1.4
1977	6.3	6.2	4.8	1.4	1.2
1978	6.8	7.4	6.3	1.2	2.8
1979	7.6	8.9	7.6	-0.3	2.5
1980	8.2	9.7	8.1	-0.1	3.3
1981	10.1	11.9	8.9	1.9	6.0
1982	9.8	11.5	8.8	1.5	5.1
1983	9.9	11.0	7.8	3.6	5.8

Table B15. Philippines: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	3.3	4.9	6.4	-4.1	-2.2
1977	2.3	3.9	6.5	-5.3	-3.6
1978	3.3	5.9	7.1	-5.0	-1.7
1979	3.9	6.4	8.5	-5.8	-2.9
1980	5.2	7.6	9.3	-5.3	-2.0
1981	6.3	8.6	10.2	-5.0	-1.8
1982	7.8	10.4	10.0	-2.8	0.9
1983	7.3	9.4	8.9	-2.3	0.6

Table B16. Venezuela: Average Yields and Risk Premiums for Alternative Measures of External Debt

(In percent)

	Ratio of Investment Income Payments to OECD Debt (1)	Ratio of Investment Income Payments to Balance of Payments Debt (2)	Calculated Prime Risk Yield (3)	Calculated Risk Premium: OECD Debt (4)	Calculated Risk Premium: Balance of Payments Debt (5)
1976	3.2	6.1	7.2	-4.3	-1.2
1977	4.1	7.3	6.6	-2.7	0.8
1978	4.9	8.1	8.2	-3.5	-0.1
1979	5.1	8.0	10.6	-5.6	-2.6
1980	6.7	10.1	12.8	-6.3	-2.7
1981	10.0	15.3	14.5	-4.6	0.9
1982	12.7	19.1	12.2	0.5	7.0
1983	11.3	17.5	9.5	1.8	8.1

Definitions, Sources and Historical Time Series:
Text Table 3 and Appendix Tables C17-C24

(1) Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments is cumulated sum of BOPY lines (62-64, 69-71, 77-79, 84, 85, 89, 93, 94, 98-109) plus the estimated value at the end of the first year shown. The estimated value is equal to the value of nondirect investment income receipts in that year, BOPY lines (15, 17, 19) divided by IFS line (60c).

(2) Errors and Omissions Cumulated Balance of Payments is cumulated sum of BOPY line 112. Value at end of first year shown is zero.

(3) Total Claims Cumulated Balance of Payments (1) + (2).

(4) Unrecorded Stock of Claims on Nonresidents is the difference between External Debt OECD (Appendix A, note 1) and External Debt Cumulated Balance of Payments (Appendix A, note 2).

(5) Total Stock of External Claims (3) + (4).

Table C17. Argentina: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1964	0.1	0.0	0.1		
1965	0.2	-0.1	0.1		
1966	0.2	0.0	0.2		
1967	0.7	0.0	0.7		
1968	0.8	0.0	0.8		
1969	0.6	-0.1	0.6		
1970	0.8	-0.1	0.8		
1971	0.4	-0.1	0.3		
1972	0.5	-0.1	0.4		
1973	1.6	-0.2	1.4		
1974	1.7	-0.2	1.5		
1975	0.8	-0.2	0.5	2.8	3.3
1976	1.6	0.0	1.6	4.2	5.8
1977	3.7	-0.1	3.5	4.8	8.4
1978	5.5	-0.2	5.3	7.4	12.8
1979	9.2	-0.4	8.8	8.3	17.1
1980	7.0	-0.1	7.0	10.2	17.2
1981	5.6	0.1	5.7	17.0	22.7
1982	5.5	0.5	6.0	18.7	24.7
1983	4.6	1.0	5.6	21.0	26.6
1984	5.0	1.0	6.0		

Table C18. Brazil: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1966	0.4	0.0	0.4		
1967	0.2	0.0	0.2		
1968	0.4	0.0	0.4		
1969	0.9	0.1	1.0		
1970	1.4	0.0	1.4		
1971	2.2	0.0	2.2		
1972	5.0	-0.4	4.5		
1973	7.7	-0.8	6.9		
1974	7.0	-0.7	6.3		
1975	5.8	-0.3	5.5	0.3	5.8
1976	9.0	-0.8	8.2	-2.7	5.6
1977	9.8	-0.2	9.6	0.0	9.6
1978	15.0	-0.5	14.5	3.6	18.1
1979	12.0	-1.7	10.4	5.9	16.3
1980	9.0	-1.3	7.7	4.6	12.2
1981	11.1	-0.9	10.1	1.5	11.7
1982	6.9	-0.6	6.4	0.6	7.0
1983	6.9	0.1	6.9	8.1	15.0
1984	17.4	-0.3	17.0		

Table C19. Chile: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1966	0.0	0.0	0.0		
1967	0.0	0.0	0.0		
1968	0.1	0.1	0.2		
1969	0.2	0.3	0.6		
1970	0.3	0.3	0.6		
1971	0.1	0.4	0.5		
1972	0.0	0.4	0.4		
1973	0.2	0.5	0.6		
1974	0.3	0.5	0.7		
1975	0.0	0.6	0.6	-0.2	0.4
1976	0.3	0.5	0.8	-0.1	0.8
1977	0.3	0.4	0.7	-0.2	0.5
1978	0.9	0.5	1.5	-0.4	1.0
1979	1.8	0.5	2.3	-0.8	1.6
1980	3.0	0.5	3.4	-1.8	1.7
1981	3.5	0.4	3.9	-3.5	0.4
1982	2.8	0.5	3.3	-3.2	0.1
1983	2.7	0.4	3.1	-2.7	0.4
1984	2.8	0.3	3.1		

Table C20. Korea: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1964	0.1	0.0	0.1		
1965	0.1	0.0	0.1		
1966	0.2	0.0	0.2		
1967	0.3	0.0	0.3		
1968	0.4	0.0	0.4		
1969	0.6	0.0	0.6		
1970	0.7	0.0	0.7		
1971	0.7	0.0	0.7		
1972	0.9	0.0	0.9		
1973	1.3	-0.1	1.2		
1974	1.0	-0.2	0.8		
1975	1.6	0.0	1.6	2.2	3.8
1976	3.3	0.3	3.5	2.8	6.3
1977	5.5	0.3	5.8	4.7	10.5
1978	6.3	0.6	6.9	8.5	15.5
1979	7.7	1.0	8.7	7.7	16.4
1980	9.1	1.3	10.4	4.6	14.9
1981	9.4	1.6	11.1	3.8	14.9
1982	10.4	2.9	13.3	2.4	15.7
1983	10.8	3.9	14.7	2.6	17.3
1984	11.5	4.8	16.2		

Table C21. Mexico: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1966	0.6	0.0	0.6		
1967	0.7	-0.1	0.6		
1968	1.0	-0.6	0.4		
1969	0.8	-0.3	0.5		
1970	0.9	-0.6	0.3		
1971	1.1	-0.6	0.5		
1972	1.5	-0.9	0.6		
1973	2.1	-0.5	1.7		
1974	2.7	0.0	2.7		
1975	3.0	1.4	4.4	7.6	12.0
1976	3.6	4.4	8.0	8.9	16.9
1977	5.0	4.4	9.3	14.1	23.4
1978	5.6	4.5	10.1	19.9	30.0
1979	7.5	3.8	11.3	22.4	33.7
1980	9.2	7.6	16.8	19.9	36.7
1981	13.2	15.9	29.2	11.3	40.5
1982	12.5	21.3	33.9	12.7	46.6
1983	19.1	22.3	41.4	12.8	54.2
1984	24.8	22.5	47.3		

Table C22. Peru: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1968	0.1	0.0	0.1		
1969	0.2	0.1	0.2		
1970	0.2	0.1	0.3		
1971	0.2	0.1	0.3		
1972	0.2	0.2	0.4		
1973	0.3	0.2	0.5		
1974	0.7	0.3	1.0		
1975	0.8	0.5	1.3	-0.1	1.2
1976	0.7	0.8	1.5	-0.4	1.1
1977	0.8	0.9	1.7	0.2	1.9
1978	0.9	0.9	1.8	1.1	2.9
1979	2.1	0.8	2.9	1.4	4.3
1980	2.8	0.9	3.7	1.4	5.2
1981	2.1	0.4	2.4	1.5	3.9
1982	2.1	-0.1	2.1	1.7	3.7
1983	2.1	0.4	2.5	0.4	2.9
1984	2.4	0.9	3.3		

Table C23. Philippines: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1967	0.2	0.0	0.2		
1968	0.2	0.2	0.4		
1969	0.1	0.3	0.5		
1970	0.2	0.5	0.7		
1971	0.4	0.6	1.0		
1972	0.6	0.7	1.3		
1973	1.2	0.7	2.0		
1974	1.8	0.8	2.6		
1975	1.9	1.0	2.9	1.8	4.7
1976	2.1	1.1	3.2	3.1	6.3
1977	2.5	0.9	3.4	5.4	8.8
1978	3.7	0.8	4.5	6.2	10.7
1979	5.1	0.6	5.6	6.3	11.9
1980	6.6	0.5	7.1	5.7	12.7
1981	7.1	1.0	8.1	6.1	14.2
1982	6.7	1.3	8.1	7.0	15.0
1983	4.7	1.7	6.4	5.3	11.8
1984	4.8	1.6	6.4		

Table C24. Venezuela: Alternative Measures of External Claims

(In billions of U.S. dollars)

	Recorded Claims on Nonresidents Other Than Direct Investment: Cumulated Balance of Payments (1)	Cumulated Balance of Payments Errors and Omissions (2)	Total External Claims Cumulated Balance of Payments (1)+(2) (3)	Unrecorded Stock of External Claims (4)	Total Stock of External Claims (3)+(4) (5)
1967	0.5	0.1	0.6		
1968	0.6	0.1	0.7		
1969	0.5	0.4	0.9		
1970	0.6	0.3	0.9		
1971	0.9	0.4	1.3		
1972	1.2	-0.1	1.1		
1973	1.8	0.4	2.2		
1974	6.8	0.8	7.6		
1975	10.2	0.4	10.7	2.1	12.7
1976	13.8	-1.6	12.2	3.8	15.9
1977	15.3	-3.9	11.4	5.0	16.4
1978	15.2	-5.4	9.8	6.7	16.5
1979	20.3	-5.9	14.4	7.9	22.3
1980	25.9	-4.8	21.1	8.8	29.9
1981	28.8	-2.6	26.2	9.8	36.0
1982	25.8	-0.5	25.4	9.7	35.1
1983	27.6	-0.5	27.2	11.6	38.7
1984	30.5	-1.4	29.1		

Definitions, Sources and Historical Time Series:
Text Table 4 and Appendix Tables D25-D32

(1) Average Yield on External Claims: Recorded Balance of Payments is ratio of investment income receipts BOPY lines (15, 17, 19) to Recorded Balance of Payments Claims (Appendix C, note 1).

(2) Average Yield on External Claims: Total Balance of Payments is ratio of BOPY lines (15, 17, 19) to Total Claims Balance of Payments (Appendix C, note 3).

(3) Average Yield on Total Stock of External Claims is ratio of BOPY lines (15, 17, 19) to Total Stock of External Claims (Appendix C, note 5).

(4) Prime Risk Yield on External Claims equals the prime risk yield (Appendix B, note 3) with s_1 assumed equal to one.

Table D25. Argentina: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1965	2.9	6.2		4.3
1966	5.0	5.1		4.5
1967	1.7	1.7		4.6
1968	3.8	4.1		4.8
1969	6.0	6.8		5.2
1970	3.2	3.4		5.4
1971	4.0	5.1		5.5
1972	1.3	1.8		5.8
1973	1.7	1.9		6.5
1974	7.5	8.6		7.5
1975	7.3	10.4	1.7	7.1
1976	3.2	3.2	0.9	6.8
1977	3.5	3.6	1.5	6.9
1978	5.7	5.9	2.5	8.0
1979	7.4	7.7	4.0	9.8
1980	17.4	17.6	7.1	11.7
1981	15.7	15.4	3.9	13.2
1982	9.5	8.7	2.1	11.5
1983	9.6	7.9	1.7	10.4
1984	5.3	4.4		11.1

Table D26. Brazil: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1966	1.7	1.7		4.5
1967	9.6	8.1		4.5
1968	2.6	2.4		4.8
1969	2.4	2.2		5.6
1970	3.4	3.4		5.6
1971	2.0	1.9		5.5
1972	2.7	2.9		5.6
1973	4.2	4.7		7.2
1974	10.3	11.4		8.6
1975	6.3	6.6	6.3	7.1
1976	3.1	3.4	5.0	6.5
1977	3.7	3.7	3.7	6.7
1978	4.3	4.4	3.5	8.2
1979	9.6	11.2	7.1	10.2
1980	12.8	15.0	9.4	11.9
1981	10.4	11.3	9.8	13.4
1982	17.4	18.9	17.1	11.7
1983	10.3	10.2	4.7	9.5
1984	7.2	7.4		10.4

Table D27. Chile: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1966	0.0	0.0		4.5
1967	0.0	0.0		4.6
1968	0.0	0.0		4.8
1969	3.8	1.6		5.3
1970	8.8	4.7		5.5
1971	13.9	2.6		5.6
1972	...	0.3		5.9
1973	3.0	0.8		6.6
1974	9.5	3.3		7.2
1975	...	0.7	1.1	7.3
1976	3.0	1.2	1.3	7.3
1977	5.0	2.3	3.3	7.3
1978	4.4	2.8	4.0	8.0
1979	7.0	5.4	8.1	9.8
1980	10.3	8.8	18.2	11.6
1981	17.1	15.4	...	13.3
1982	17.8	15.3	...	12.1
1983	6.9	6.0	45.2	10.0
1984	11.1	10.1		10.8

Table D28. Korea: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1965	3.3	3.4		
1966	2.8	2.8		4.4
1967	3.0	3.1		4.5
1968	3.1	3.3		4.7
1969	5.9	6.0		5.2
1970	4.5	4.5		5.3
1971	3.2	3.3		5.4
1972	2.3	2.4		5.6
1973	3.2	3.4		6.4
1974	8.3	10.5		7.0
1975	3.0	3.0	1.2	7.1
1976	2.1	2.0	1.1	7.0
1977	2.4	2.3	1.3	7.2
1978	4.4	4.0	1.8	8.0
1979	4.1	3.6	1.9	9.2
1980	5.7	5.0	3.5	10.4
1981	7.3	6.2	4.6	11.7
1982	6.1	4.7	4.0	11.1
1983	5.0	3.7	3.1	10.0
1984	5.8	4.1		10.5

Table D29. Mexico: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1967	3.7	4.0		4.8
1968	3.7	9.3		5.3
1969	6.0	9.8		6.8
1970	7.5	19.7		6.5
1971	6.0	14.2		5.9
1972	5.2	12.4		5.7
1973	4.5	5.7		7.5
1974	5.7	5.6		8.5
1975	3.8	2.6	1.0	7.2
1976	3.4	1.6	0.7	6.6
1977	3.4	1.8	0.7	6.7
1978	7.2	4.0	1.3	8.2
1979	9.3	6.1	2.1	10.6
1980	11.2	6.1	2.8	12.6
1981	10.5	4.8	3.4	14.5
1982	10.5	3.9	2.8	12.3
1983	6.7	3.1	2.4	9.8
1984	8.3	4.3		10.9

Table D30. Peru: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1968	3.3	3.3		5.1
1969	4.7	3.4		6.2
1970	7.3	4.9		6.2
1971	11.4	7.6		5.8
1972	6.4	3.4		5.8
1973	8.8	5.0		7.4
1974	5.7	4.0		8.2
1975	4.2	2.6	2.8	7.2
1976	1.5	0.7	1.0	7.0
1977	1.6	0.7	0.7	7.2
1978	1.7	0.9	0.5	8.0
1979	2.7	2.0	1.4	9.2
1980	7.3	5.4	3.9	10.1
1981	9.9	8.4	5.2	10.8
1982	5.1	5.3	2.9	10.4
1983	5.5	4.7	4.0	9.8
1984	6.6	4.8		10.5

Table D31. Philippines: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1967	4.9	4.9		4.5
1968	6.0	3.1		4.7
1969	3.4	1.0		5.2
1970	2.9	1.0		5.3
1971	3.6	1.3		5.4
1972	3.9	1.7		5.6
1973	4.9	3.1		6.3
1974	8.9	6.1		6.8
1975	8.3	5.4	3.3	6.9
1976	6.0	3.9	2.0	6.9
1977	5.6	4.1	1.6	7.1
1978	4.8	3.9	1.7	8.0
1979	4.0	3.6	1.7	9.1
1980	5.1	4.8	2.6	10.4
1981	7.3	6.4	3.7	11.5
1982	5.4	4.5	2.4	11.0
1983	7.9	5.8	3.2	10.0
1984	6.8	5.1		10.5

Table D32. Venezuela: Average Yields on Alternative Measures of External Claims

	Average Yield on Recorded External Claims Balance of Payments (In percent) (1)	Average Yield on Total External Claims Balance of Payments (In percent) (2)	Average Yield on Total Stock of External Claims (In percent) (3)	Market Yield on External Claims (In percent) (4)
1967	5.8	4.9		4.7
1968	5.7	4.6		5.1
1969	7.9	4.4		6.0
1970	8.9	5.8		6.0
1971	4.1	2.9		5.8
1972	4.7	5.1		5.9
1973	12.6	10.5		7.2
1974	5.3	4.7		7.9
1975	7.2	6.9	5.8	7.3
1976	5.0	5.7	4.4	7.2
1977	5.1	6.9	4.8	6.6
1978	6.9	10.7	6.4	8.3
1979	6.6	9.3	6.0	10.7
1980	8.7	10.7	7.6	12.9
1981	12.4	13.7	9.9	14.6
1982	9.9	10.1	7.3	12.2
1983	5.4	5.5	3.9	9.5
1984	7.1	7.5		10.6

Definitions, Sources and Historical Time Series: Text Table 5 and Appendix Tables E33-E40

(1) Calculated Capital Flight is the difference between the capitalized value of investment income receipts--that is investment income receipts (Appendix D, note 1) divided by the prime risk yield on claims (Appendix D, note 4)--and the total stock of external claims (Appendix C, note 5).

(2) Ratio of Capital Flight to Total External Claims is the ratio of (1) above and the total stock of external claims (Appendix C, note 5).

(3) Ratio of Capital Flight to External Debt is the ratio of (1) above to External Debt: OECD (Appendix A, note 1).

Table E33. Argentina: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	2.5	0.77	0.49
1976	5.1	0.87	0.72
1977	6.5	0.78	0.78
1978	8.8	0.69	0.83
1979	10.2	0.59	0.67
1980	6.7	0.39	0.35
1981	16.0	0.71	0.56
1982	20.2	0.82	0.62
1983	22.3	0.84	0.61

Table E34. Brazil: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	0.7	0.12	0.03
1976	1.2	0.22	0.04
1977	4.3	0.45	0.11
1978	10.3	0.57	0.20
1979	4.9	0.30	0.08
1980	2.6	0.21	0.04
1981	3.1	0.27	0.04
1982	-3.3	-0.47	-0.04
1983	7.6	0.50	0.08

Table E35. Chile: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	0.3	0.85	0.08
1976	0.6	0.82	0.15
1977	0.3	0.55	0.06
1978	0.5	0.51	0.09
1979	0.3	0.17	0.04
1980	-1.0	-0.57	-0.10
1981	-4.2	...	-0.34
1982	-4.1	...	-0.30
1983	-1.5	-3.52	-0.10

Table E36. Korea: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	3.1	0.82	0.29
1976	5.3	0.84	0.40
1977	8.7	0.82	0.49
1978	12.0	0.77	0.51
1979	13.0	0.79	0.46
1980	9.9	0.67	0.31
1981	9.0	0.61	0.24
1982	10.0	0.64	0.25
1983	11.9	0.69	0.27

Table E37. Mexico: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	10.4	0.86	0.41
1976	15.0	0.89	0.45
1977	21.0	0.89	0.51
1978	25.1	0.84	0.50
1979	27.2	0.81	0.47
1980	28.5	0.78	0.43
1981	30.9	0.76	0.38
1982	35.8	0.77	0.39
1983	41.1	0.76	0.44

Table E38. Peru: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	0.8	0.61	0.17
1976	0.9	0.86	0.18
1977	1.8	0.91	0.25
1978	2.7	0.93	0.33
1979	3.7	0.85	0.42
1980	3.2	0.61	0.33
1981	2.0	0.52	0.21
1982	2.7	0.72	0.24
1983	1.7	0.59	0.15

Table E39. Philippines: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	2.5	0.52	0.39
1976	4.5	0.71	0.51
1977	6.9	0.78	0.58
1978	8.5	0.79	0.57
1979	9.7	0.82	0.56
1980	9.5	0.75	0.47
1981	9.7	0.68	0.41
1982	11.7	0.78	0.42
1983	8.0	0.68	0.30

Table E40. Venezuela: Capital Flight in Ratio to Total External Claims and Total External Liabilities

	Calculated Capital Flight (In billions of U.S. dollars) (1)	Ratio of Capital Flight to Total External Claims (2)	Ratio of Capital Flight to External Debt (3)
1970			
1971			
1972			
1973			
1974			
1975	2.5	0.20	0.60
1976	6.3	0.40	0.79
1977	4.5	0.27	0.38
1978	3.8	0.23	0.22
1979	9.8	0.44	0.43
1980	12.3	0.41	0.48
1981	11.6	0.32	0.42
1982	14.1	0.40	0.46
1983	23.0	0.59	0.77

Table F41. Determinants of Capital Flight 1976-1983 1/

	Inflation 2/	Financial Repression 2/	Political Risk Premium 2/	$\bar{R}^2$	D.W.	S.E.
Argentina	0.007** 3/ (11.86)	10.39** (11.62)	-0.84* 3/ (-3.30)	0.99	3.31	0.48
Brazil	0.011 (3.09)	-6.10 (1.46)	-2.80* (-4.99)	0.82	2.62	1.82
Chile	-0.021 (-1.66)	0.97 (0.90)	-0.99** (-6.42)	0.88	2.95	0.54
Korea	0.027 (1.87)	-1.13 (-0.67)	-1.53** (-6.05)	0.91	2.82	0.46
Mexico	0.035** (7.14)	2.33 (1.54)	-0.04 (-0.11)	0.97	2.78	0.53
Philippines	0.061 (1.86)	-16.25* (4.83)	0.41 (1.15)	0.79	2.78	0.62
Venezuela	0.15** (7.55)	-223.39 (-3.10)	-1.08 (-2.87)	0.96	2.63	2.88

1/ Regressions include constant term and are adjusted for first order serial correlation.
2/ See text Table 7 for definitions and sources.
3/ ** indicates that coefficient is significant at 1 percent level, * indicates that coefficient is significant at 5 percent level.

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