THE CAUSES OF CAPITAL FLIGHT FROM LATIN AMERICA 1970 - 1985

Eduardo R. Conesa* (Ph.D)
Inter-American Development Bank

August, 1986

*The opinions expressed in this essay are personal of the author and do not necessarily reflect any position or policy of the Inter-American Development Bank. The author thanks his colleagues at the Inter-American Development Bank for helpful comments and support. This is the English translation of a paper that first circulated in Spanish as early as June 1986.

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Introduction

In recent times, attention has been drawn to capital flight from Latin American countries as one of the determinants of the external debt problem. Indeed, a recent publication states that:

> "Capital flight is a serious problem for a number of LDCs, depriving them of resources for economic development and symbolizing the poor policies and performance contributing to external debt troubles". 1/

Likewise the 1985 World Development Report emphasizes that:

> "Large-scale capital flight was a significant factor in the balance of payments pressures on several countries in the early 1980s." 2/

For his part, Mr. James A. Baker III, Secretary of the Treasury of the United States, in his celebrated statement at the Joint Annual Meeting of the International Monetary Fund and the World Bank, on October 1985 at Seoul, Republic of Korea, said:

> "As a practical matter, it is unrealistic to call upon the support of voluntary lending from abroad, whether public or private, when domestic funds are moving in the other direction. Capital flight must be reversed if there is to be any real prospect of additional funding, whether debt or equity. If a

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1/World Financial Markets, Morgan Guaranty Trust Co., of New York, New York, March 1986.

2/World Bank World Development Report - Washington, D.C. - July 1985.

countrys' own citizens have no confidence in its economic system, how can others?" 3/

Recent editions of the International Monetary Fund's International Financial Statistics show figures on deposits by persons and non-banking institutions abroad by residence of the depositor. The seven major countries of Latin America register the following amounts for the fourth quarter of 1985:

TABLE 1

BANK DEPOSITS ABROAD BY NON BANK RESIDENTS
(In billion dollars)

Argentina	8.19
Brazil	8.39
Chile	2.23
Colombia	2.71
Mexico	15.62
Peru	1.58
Venezuela	13.51

Source: International Monetary Fund. International Financial Statistics, May 1986.

Of course these figures do not reveal the frequent cases of funds hidden in dummy corporations organized abroad. However, that is where big fortunes are. The above figures may show only the tip of the iceberg.

3/Treasury News, Department of the Treasury, Washington, D.C., October 8, 1985, p.6.

Capital flight poses fundamental problems for economic policy and for the ability of the economic systems of some countries to foster development. These problems are very hard to grapple with because they are linked to the political systems, particularly the so-called "patrimonial state," and to excessive government intervention that sometimes burdens our countries' economies instead of helping them to grow. However, before we consider these topics it is appropriate to:

- Establish the statistical dimensions and geographic location of capital flight in relation to the seven largest countries in Latin America.

- Determine the economic "causes" of capital flight to the extent they are treatable by statistical methods.

Only then will it be possible to discuss remedies to minimize the incidence of this societal disease which undoubtedly impairs the development process in many Latin American countries.

Definition and Methodology of Measurement

Capital flight is defined as the acquisition of foreign assets by private residents of the Latin American countries. Moreover, three methodologies for capital flight measurement have been used in this study:

Methodology 1. This is the most obvious one. 4/ It draws on figures in the "Errors and Omissions" item of the balance of payments that is self-explanatory, and on the item "Other Short Term Capital, Other Sectors", from the "Balance of Payments Statistics" yearbook of the International Monetary Fund. This last-named heading comprises mainly commercial credit. For example, local companies faced with an economic recession may wish to reduce their circulating capital in the country and to make a foreign placement for short-term financing of exports. Likewise, faced with domestic economic expansion, local companies may wish to import inputs by means of foreign credit. Such behavior causes sharp movements in this item of the capital account of the balance of payments which reflects short-term capital inflows and outflows. The errors and omissions item reflects mainly unlawful capital outflows, whereas outflows for commercial credit are presumably in accordance with the law. It is appropriate to point out, incidentally, that throughout this investigation the matter of the lawfulness or unlawfulness of capital outflows has not seemed a very important factor: some countries have experienced searing capital flight in spite of exchange controls and other countries have experienced substantial capital inflows without them. It is noteworthy that this methodology is the one that offers the best statistical results for Mexico and, therefore, it seems to depict the real situation in this country best of all.

4/For example, see John T. Cuddington, "Capital flight: Estimates, Issues and Explanations". World Bank CPD Discussion Paper No. 1985-51, November 1985.

Methodology 2. The second methodology used herein takes the "sources" and the "uses" of foreign exchange and sets forth a residual which is called capital flight. In fact, as starting point the annual increase in the external debt and foreign investment (sources) are estimated; then the deficit in the current account of the balance of payments and the increase in monetary reserves of the countries (uses) year by year, from 1970 to 1985, are subtracted. This method of calculation implies a broad definition of capital outflow for it includes lawful capital outflows such as investments made abroad by the examined countries themselves and financing of exports. This definition was adopted in the pioneering work of Dooley and others at the Federal Reserve in 1983 5/ and more recently in the estimates of the Morgan Guaranty Trust Company in the publication cited earlier. However, a longer period is covered herein than in the work of Dooley and the Morgan Guaranty, for this paper covers the period from 1970 to 1985 and contains sixteen observations, a sufficient number to attempt an econometric analysis with adequate degrees of freedom. Also the IMF Yearbook was used to provide figures on the current account of the balance of payments, foreign investment, and the increase in monetary reserves; but recent (March 1986) figures published by the World Bank 6/on the external debt are adopted for they correct the implicit debt figures in the capital account of the balance of payments as shown in the IMF yearbooks. The latter were evidently affected by erros of underestimation

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5/ Michael Dooley and others. "An Analysis of External Debt Positions of Eight Developing Countries through 1990". International Finance Discussion Papers, number 227, August 1983. Federal Reserve Board.

6/ World Bank World Debt Tables. 1985-86 Edition. External Debt of Developing Countries, March 1986, Washington, D.C.

owing to deficiencies in the information systems of the central banks on the external debt of government enterprises and the private sector in the countries. However, estimates made by this second method lack a solid foundation when they go back earlier than 1978 because there are no good figures on the total external debt for the countries. In order to get around the problem, the figure for "other investment income" of the balance of payments has been tied in (it is admittedly fairly accurate and covers total interest paid by the country). 7/ Based on the average interest rate for the end of 1978 stock of public and private short and long-term debt and the abovementioned "other investment income", a backward projection of debt have been made from the year 1977 to 1970.

The aggregate figures on capital flight resulting from use of this methodology are shown in chart 7 for Argentina, 8 for Brazil, 9 for Chile, 10 for Colombia, 13 for Mexico, 14 for Peru and 17 for Venezuela. However, given the statistical weakness of this method for the period 1970-1977, a third intermediate methodology is introduced.

Methodology 3. This is a combination of data from methodology 1 for the period 1970-1977 and of figures obtained from methodology 2 as residuals (IED + FI - CAD - IR), as explained earlier, for the years 1978-1985. This methodology is convenient because solid data on the total

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7/Michael Dooley "Country Specific Risk Premium, Capital Flight and Net Investment Income Payments in Selected Developing Countries". International Monetary Fund, DM 86/17, March 11, 1986.

external debt are available for the latter years and there is no evidence that the IMF figures for 1970-77 are wrong. The ensuing regression analysis was done on the basis of methodologies 1, 2 and 3. The third methodology, however, generally yields better results, except for Mexico, where the first wins the contest. For Argentina and Venezuela, the third definition definitely gives better results. It is evident that after 1978 the immense supply of external credit swamped the data collection systems of the central banks which were unable to provide accurate figures to the IMF on time. Hence the need to introduce the new debt figures which were published by the World Bank in March 1986.

Methodology 4. A fourth methodology, the best of all, would be the same as the first one but with the balance of payments figures updated according to the new 1978-86 external debt tables. Because it would have been necessary to redo completely the IMF balance of payments accounts from 1978 to 1985, this approach was not used in this study. No doubt the IMF in due course will do this work.8/

8/The error incurred by using methodologies 1, 2 and 3 instead of methodology 4 causes no technical problems, for as Peter Kennedy says in his A Guide to Econometrics, the MIT Press, Cambridge, Massachusetts 1979: "Error in measuring the dependent variables are incorporated in the disturbance term; their existence causes no problems." p. 113.

Where and When. Charts

As a share of the external debt, capital flight was as follows:

TABLE 2

CAPITAL FLIGHT AS PERCENTAGE OF EXTERNAL DEBT
1970 - 1985

	Definition 1 (Minimum)	Definition 2 (Maximum)
Argentina	33	67
Brazil	-	14
Chile	-	14
Colombia	-	2
Mexico	38	62
Peru	5	25
Venezuela	63	126

Source: Chart 1

The econometric analysis requires the removal of the inflationary factor in dollars from estimates. When this is done, Brazil, Chile and Colombia show net capital inflows, throughout the 1970-85 period, owing to the preponderance of years in which there was capital inflows, or in which the correction for inflation is greater. It is evident that capital flight is concentrated in three countries: Argentina, Mexico and Venezuela. As a share of the GDP of the year 1985, capital flight is the greatest in Venezuela, at 90% of the GDP (Chart 3). If we take the average capital flight in relation to exports in each year, Argentina is awarded that dubious distinction: 23% of exports on average in each year from 1970 to 1975 was lost on account of capital flight (Chart 4).

CHART 1
LATIN AMERICA
CAPITAL FLIGHT AND EXTERNAL DEBT
1970-1985

METHODOLOGIES FOR CAPITAL FLIGHT CALCULATIONS 1 AND 2

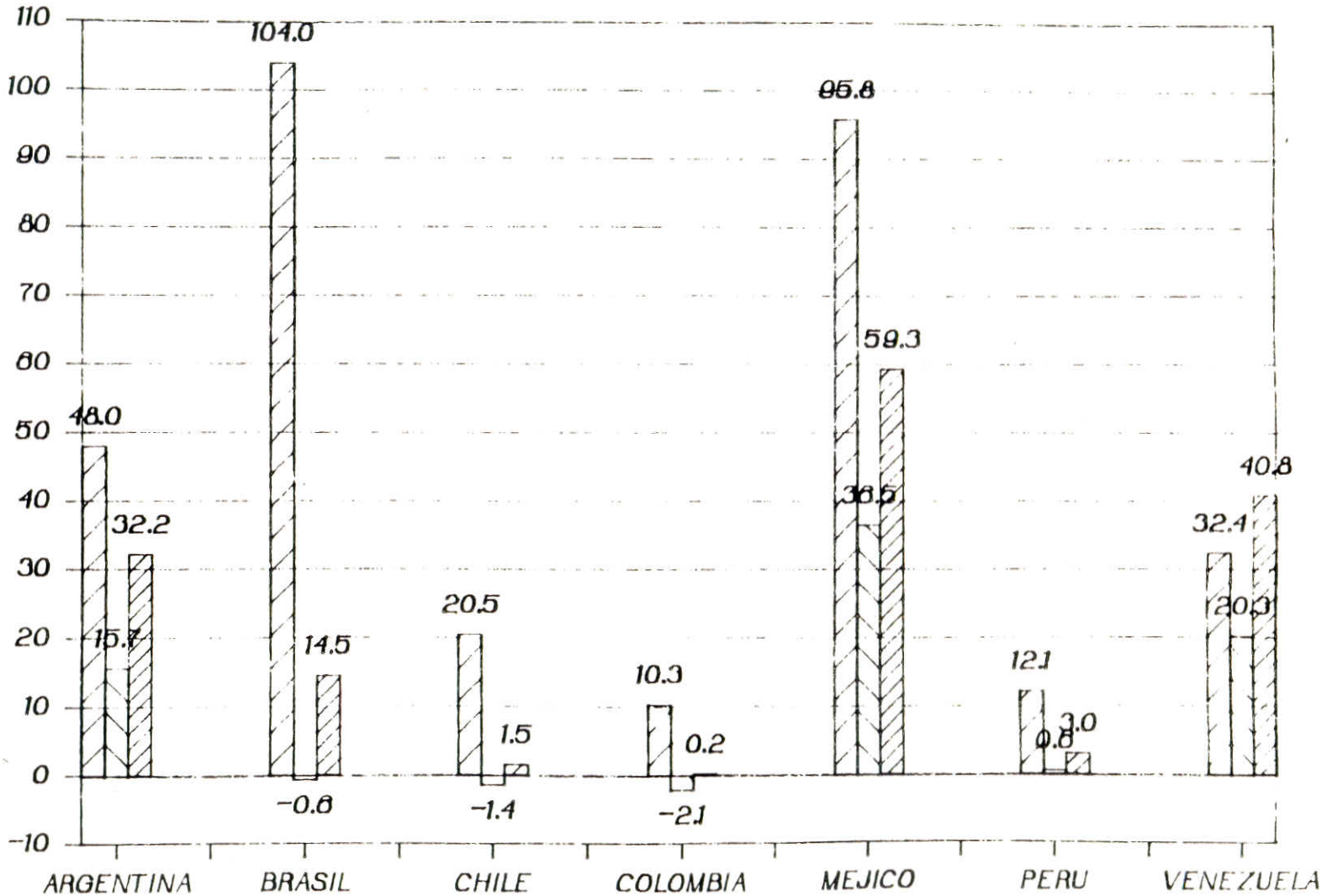


CHART 2

LATIN AMERICA - CAPITAL FLIGHT

METHODOLOGY 3, EXCEPT MEXICO METHODOLOGY 1

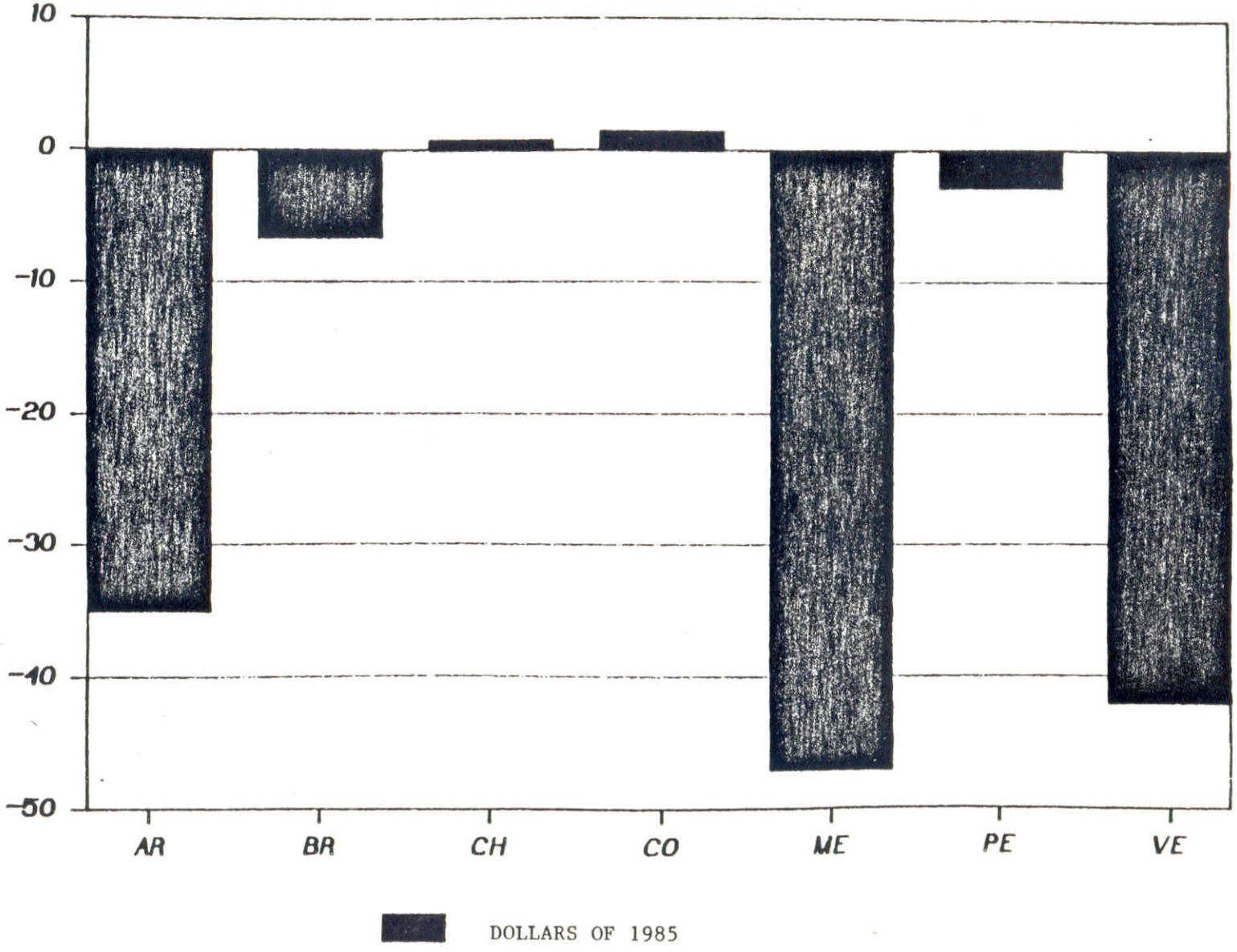


CHART 3

LATIN AMERICA - CAPITAL FLIGHT
PERCENT OF 1985 GNP

METHODOLOGY 3, EXCEPT MEXICO METHODOLOGY 1

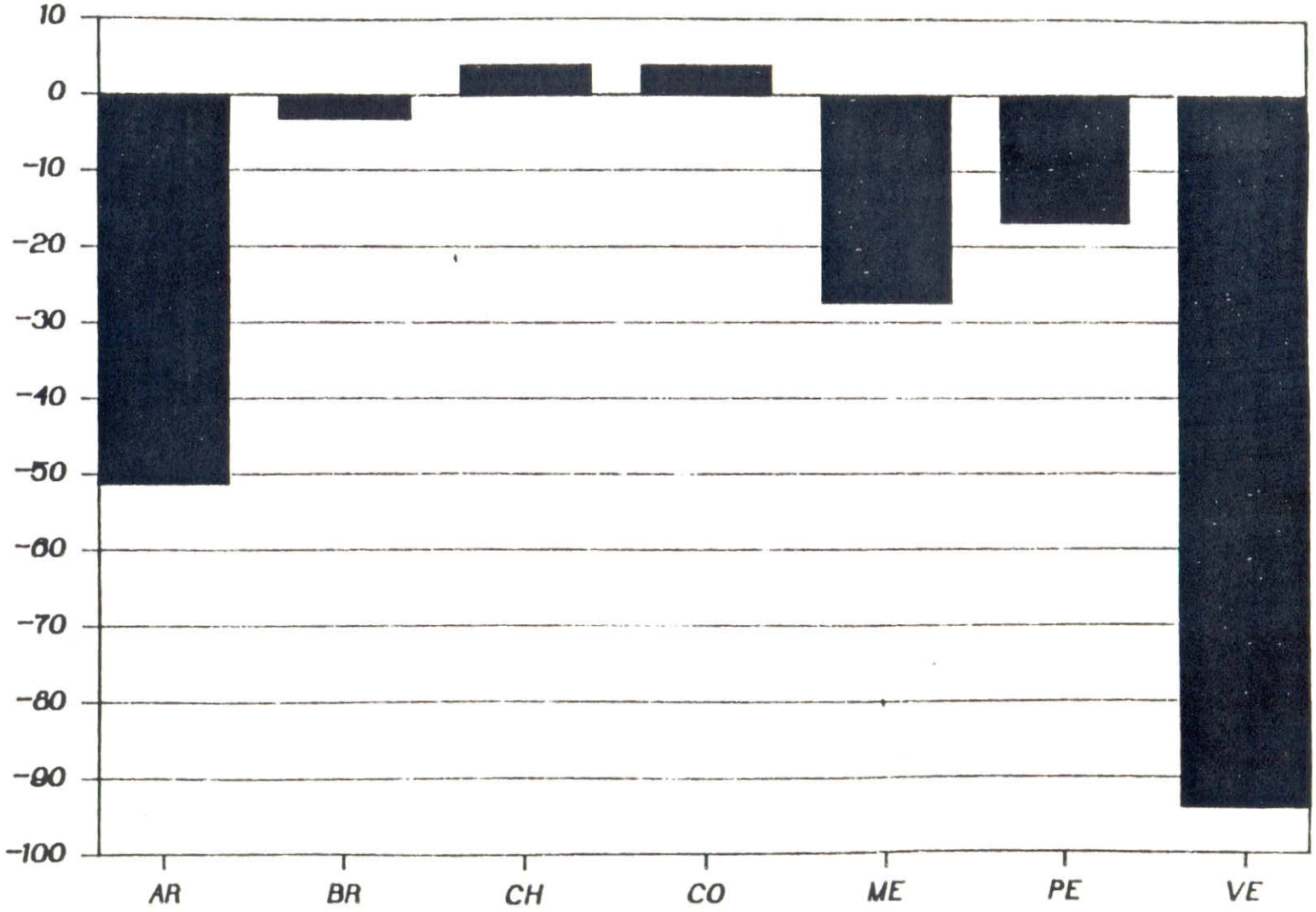


CHART 4

LATIN AMERICA - CAPITAL FLIGHT
AS PERCENTAGE OF EXPORTS

METHODOLOGY 3, EXCEPT MEXICO METHODOLOGY 1

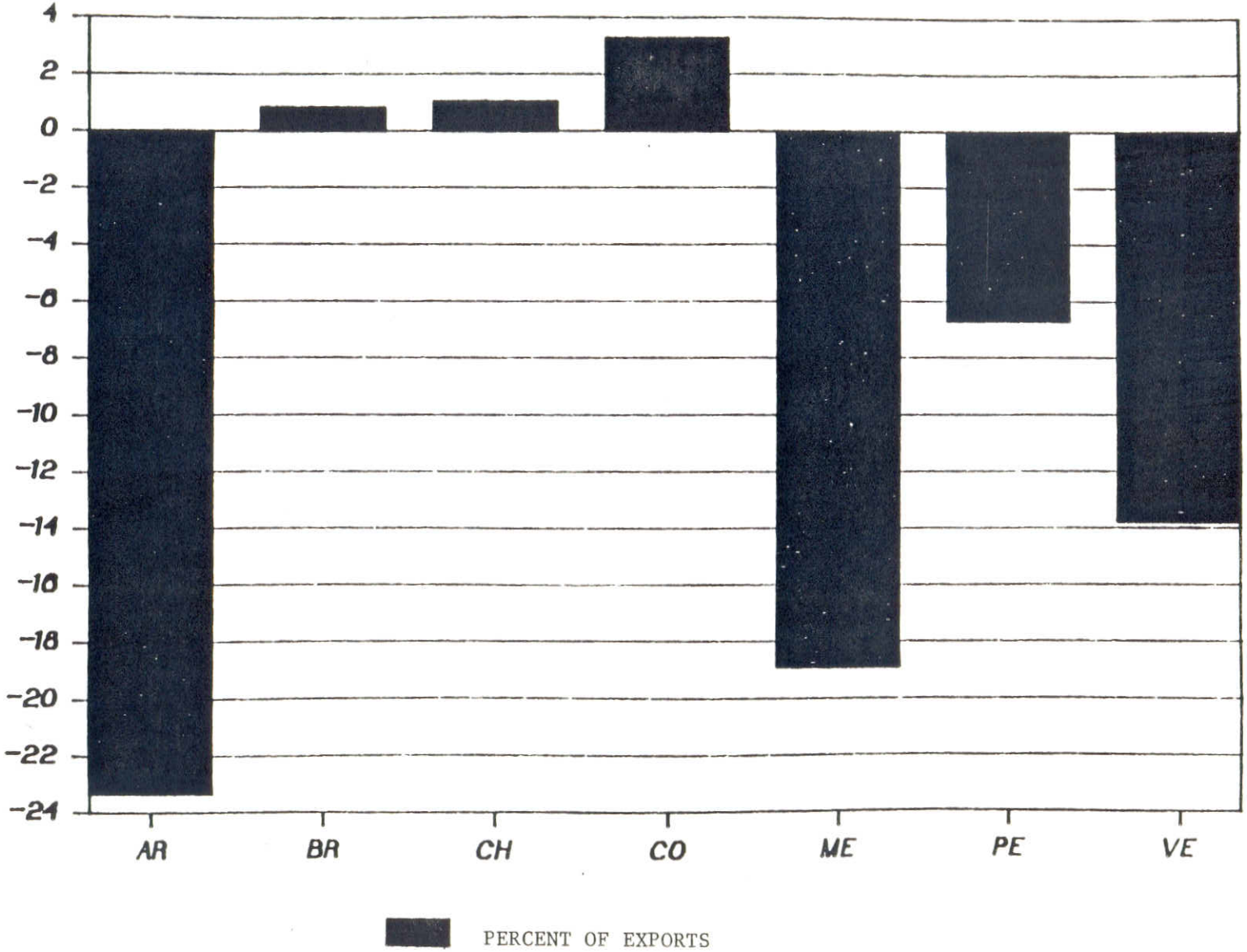


CHART 5

ARGENTINA

CAPITAL FLIGHT (-) METHODOLOGY 3

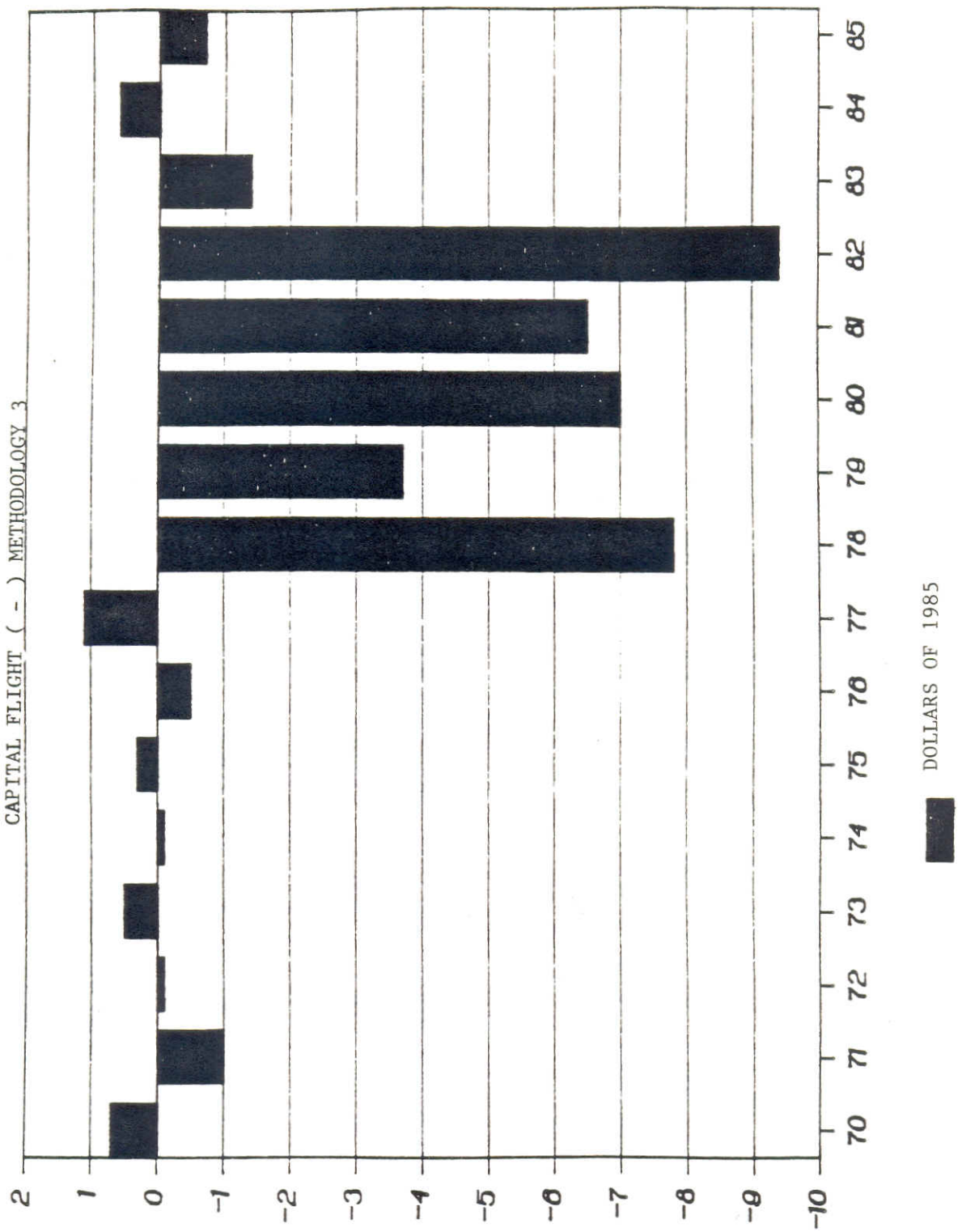


CHART 6

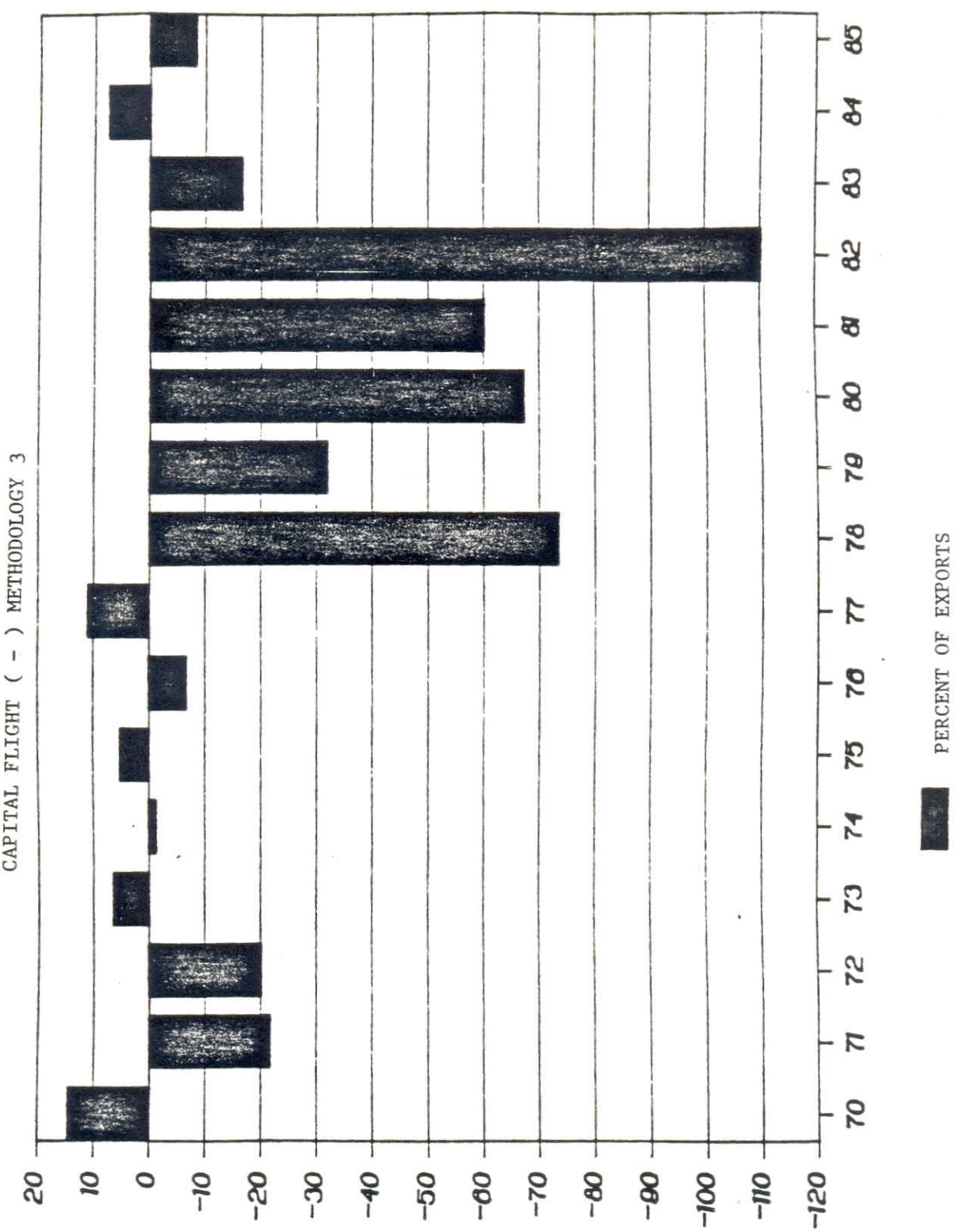

ARGENTINA
CAPITAL FLIGHT (-) METHODOLOGY 3
PERCENT
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
PERCENT OF EXPORTS

CHART 7

ARGENTINA - CAPITAL FLIGHT 1970-1985

METHODOLOGY 2 (IED+FI-CAD-IR)

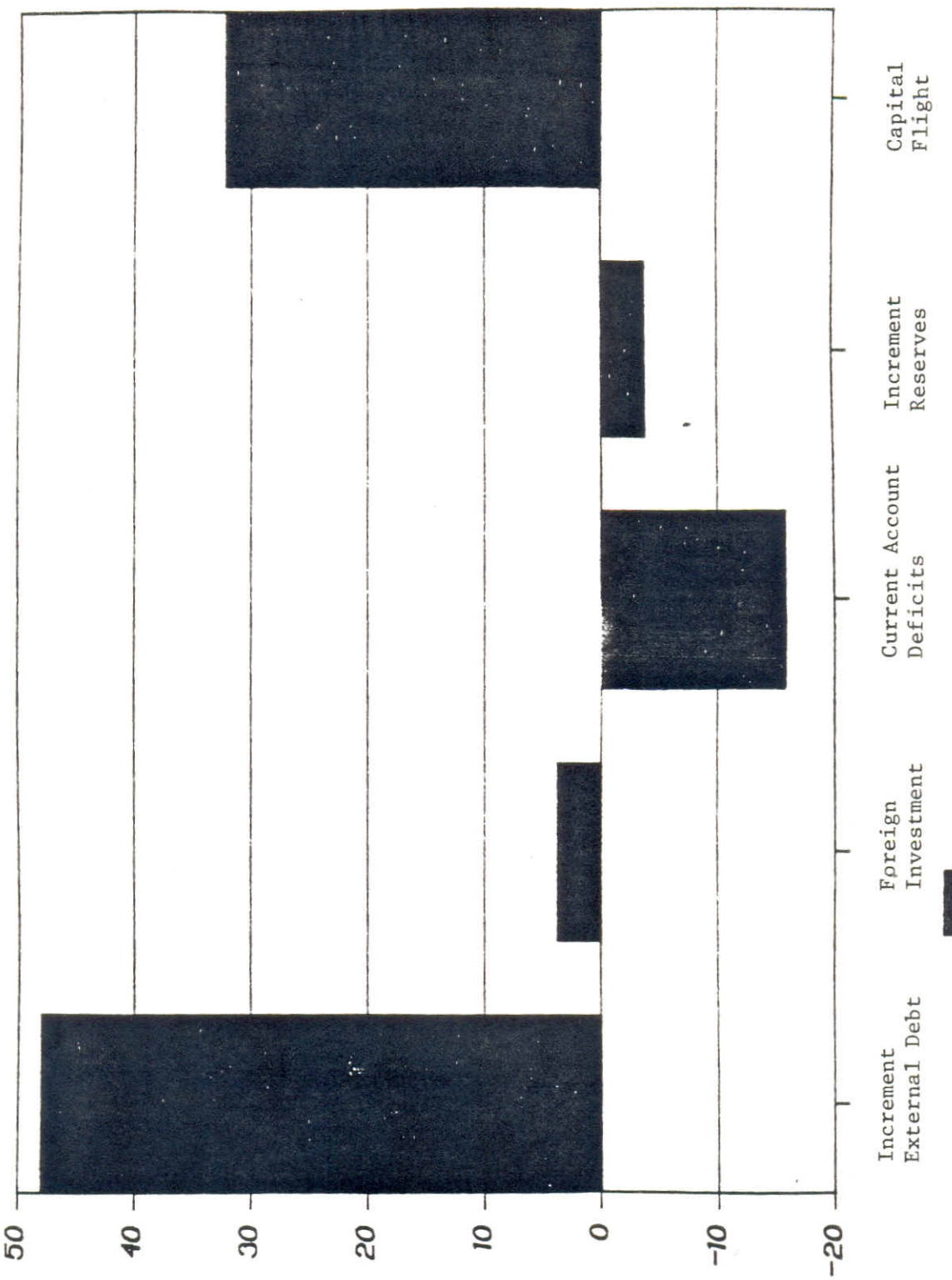


CHART 8

BRASIL - CAPITAL FLIGHT 1970-1985

METHODOLOGY 2 (IED+FI-CAD-IR)

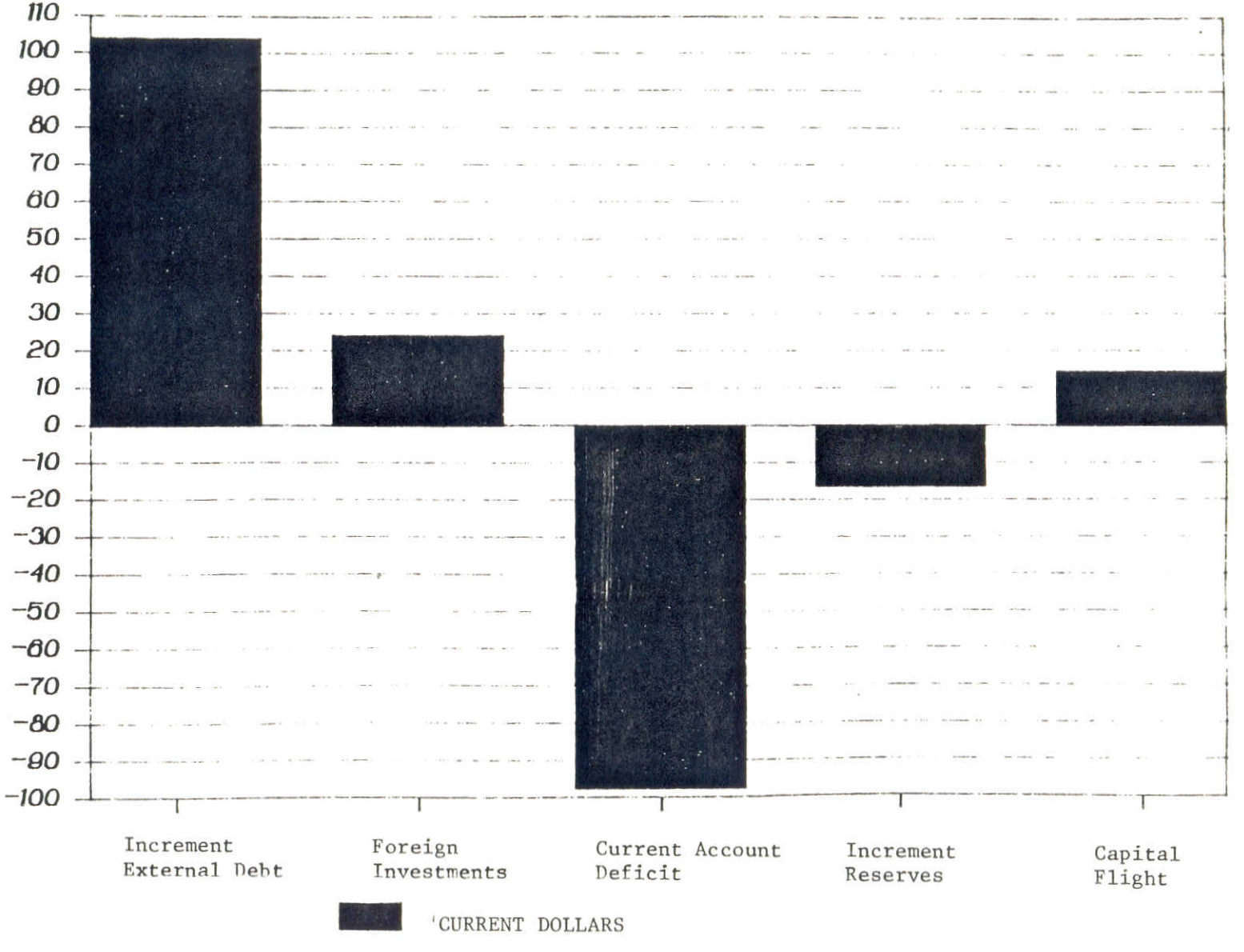


CHART 9

CHILE - CAPITAL FLIGHT 1970-1985

METHODOLOGY 2 (IED+FI-CAD-IR)

CHART 10

COLOMBIA - CAPITAL FLIGHT 1970-1985

METHODOLOGY 2 (IED+FI-CAD-IR)

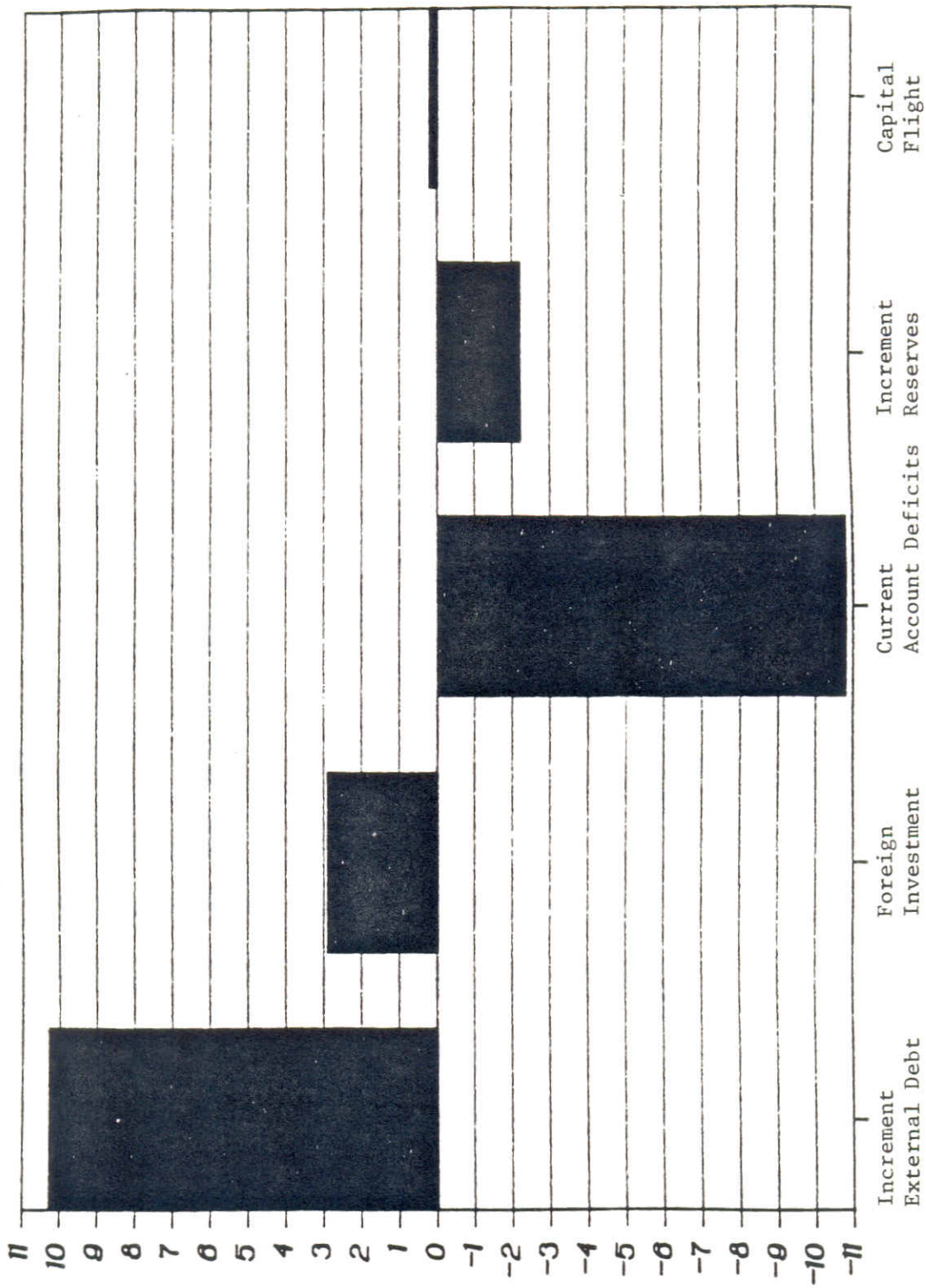


CHART 11

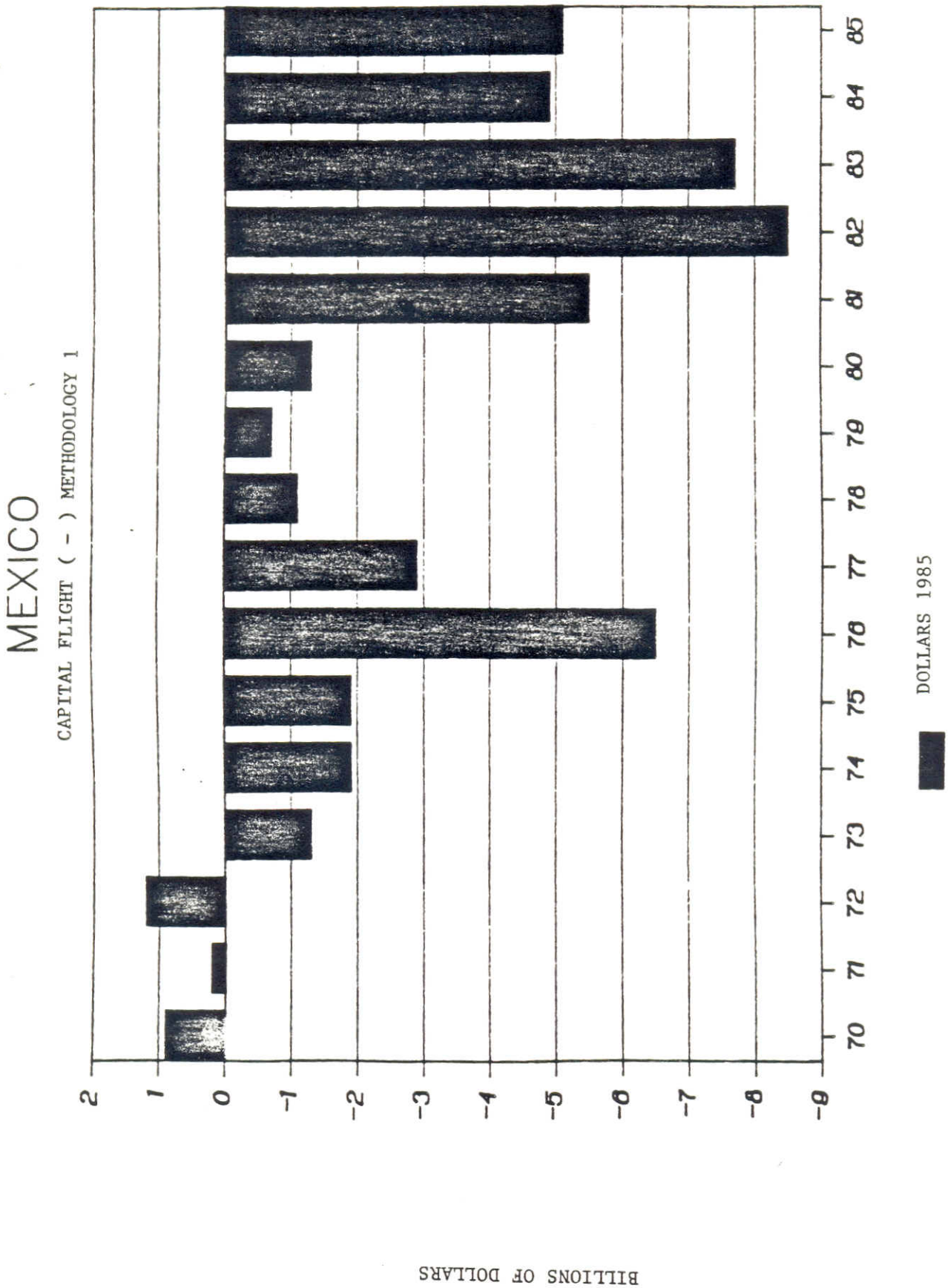

MEXICO
CAPITAL FLIGHT (-) METHODOLOGY 1
BILLIONS OF DOLLARS
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
DOLLARS 1985

CHART 12

MEXICO

CAPITAL FLIGHT (-) METHODOLOGY 1

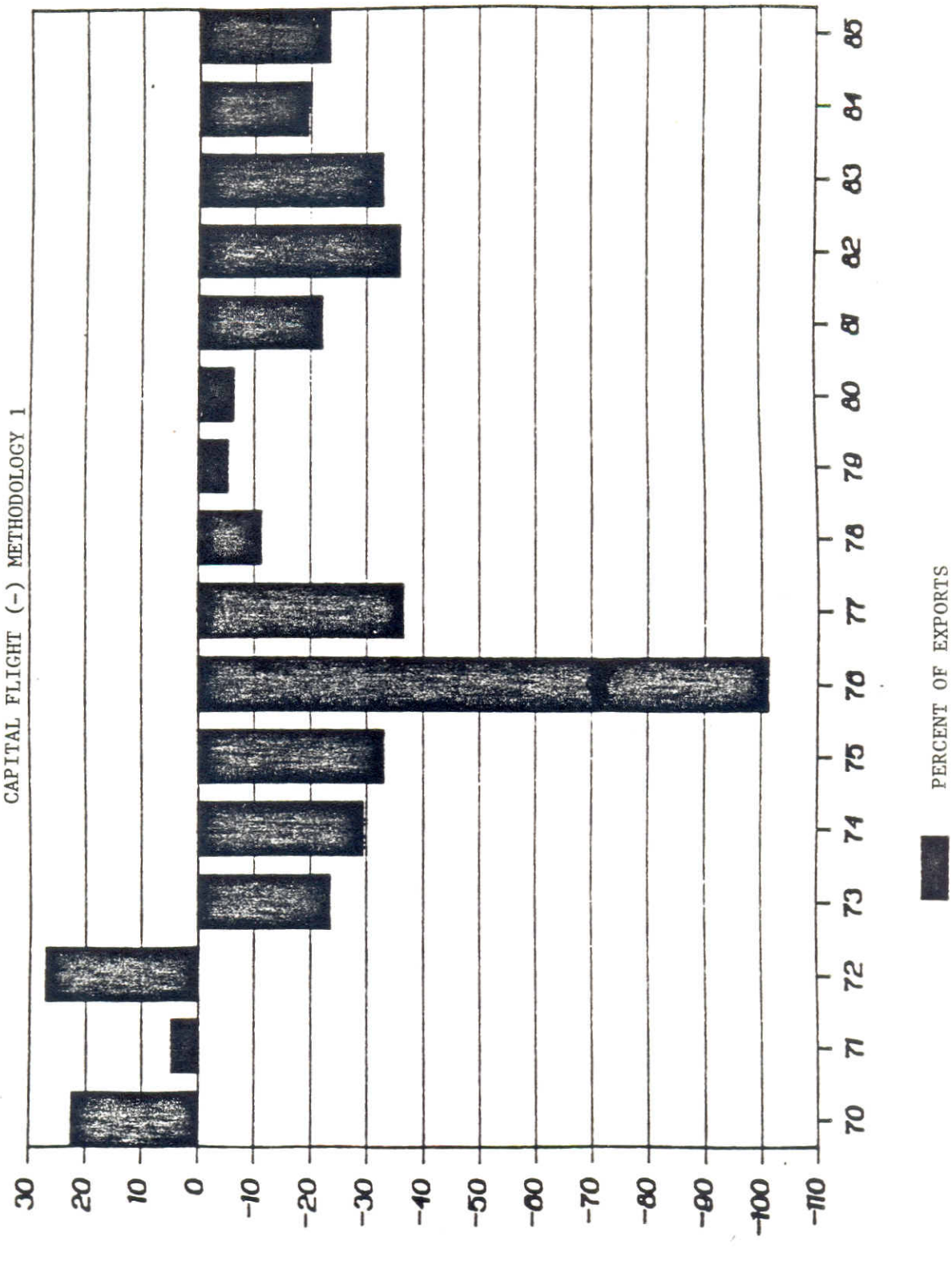


CHART 13
MEXICO
CAPITAL FLIGHT 1970-1985

METHODOLOGY 2 (IED+FI-CAD-IR)

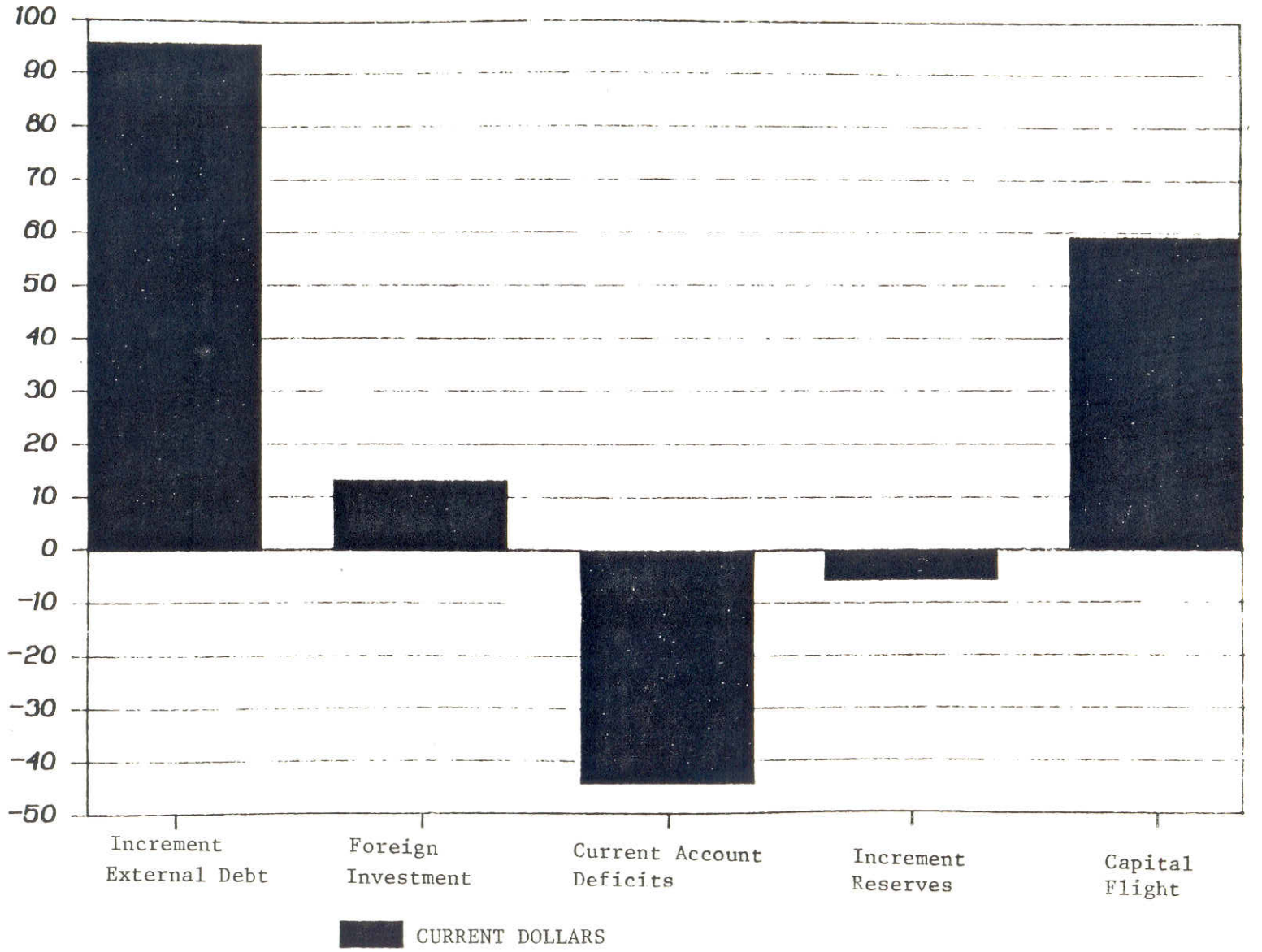
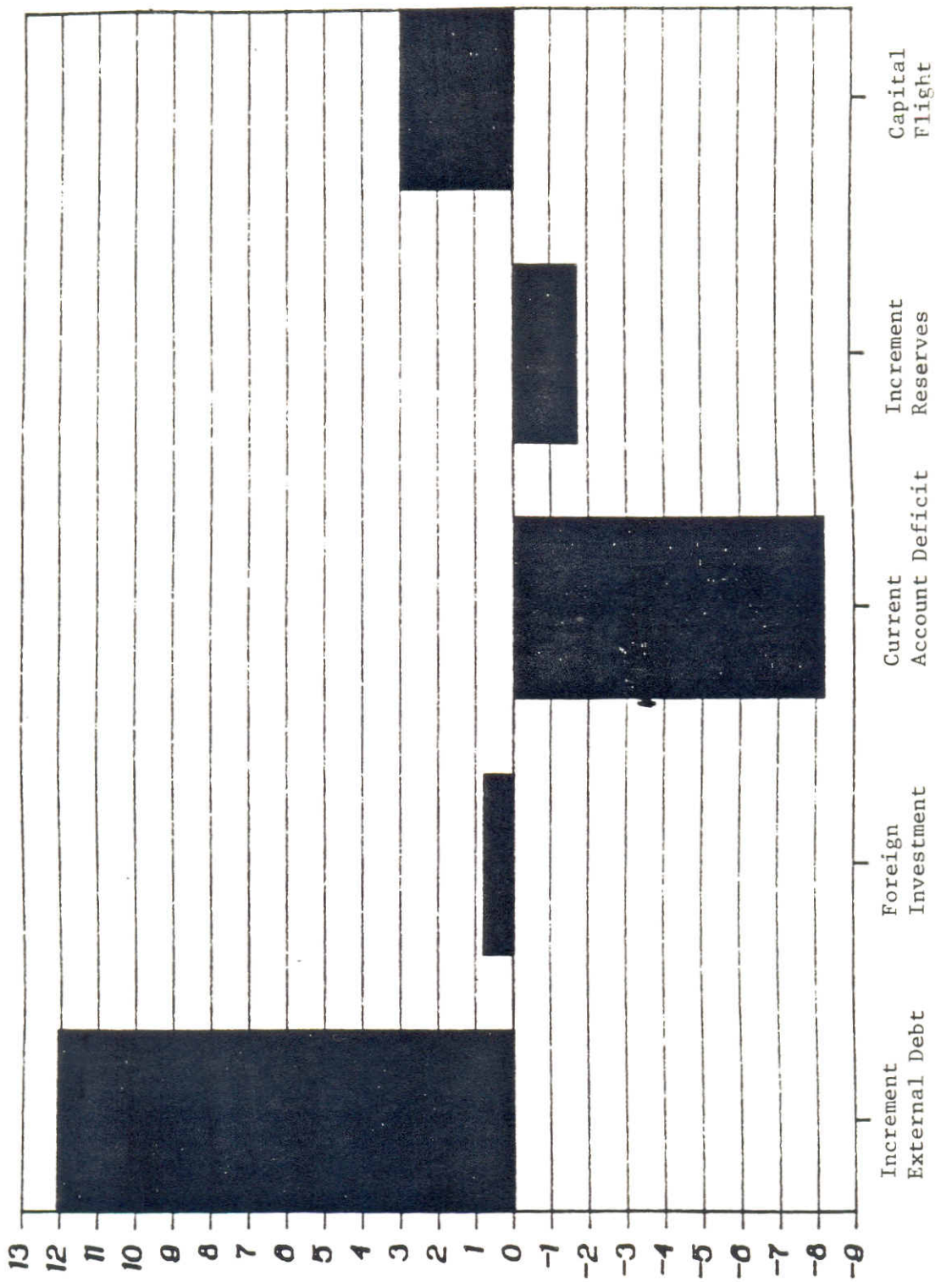


CHART 14

PERU

CAPITAL FLIGHT 1970-1985

METHODOLOGY 2 (IED+FI-CAD-IR)



BILLION OF DOLLARS

CHART 15

VENEZUELA

CAPITAL FLIGHT (-) METHODOLOGY 3

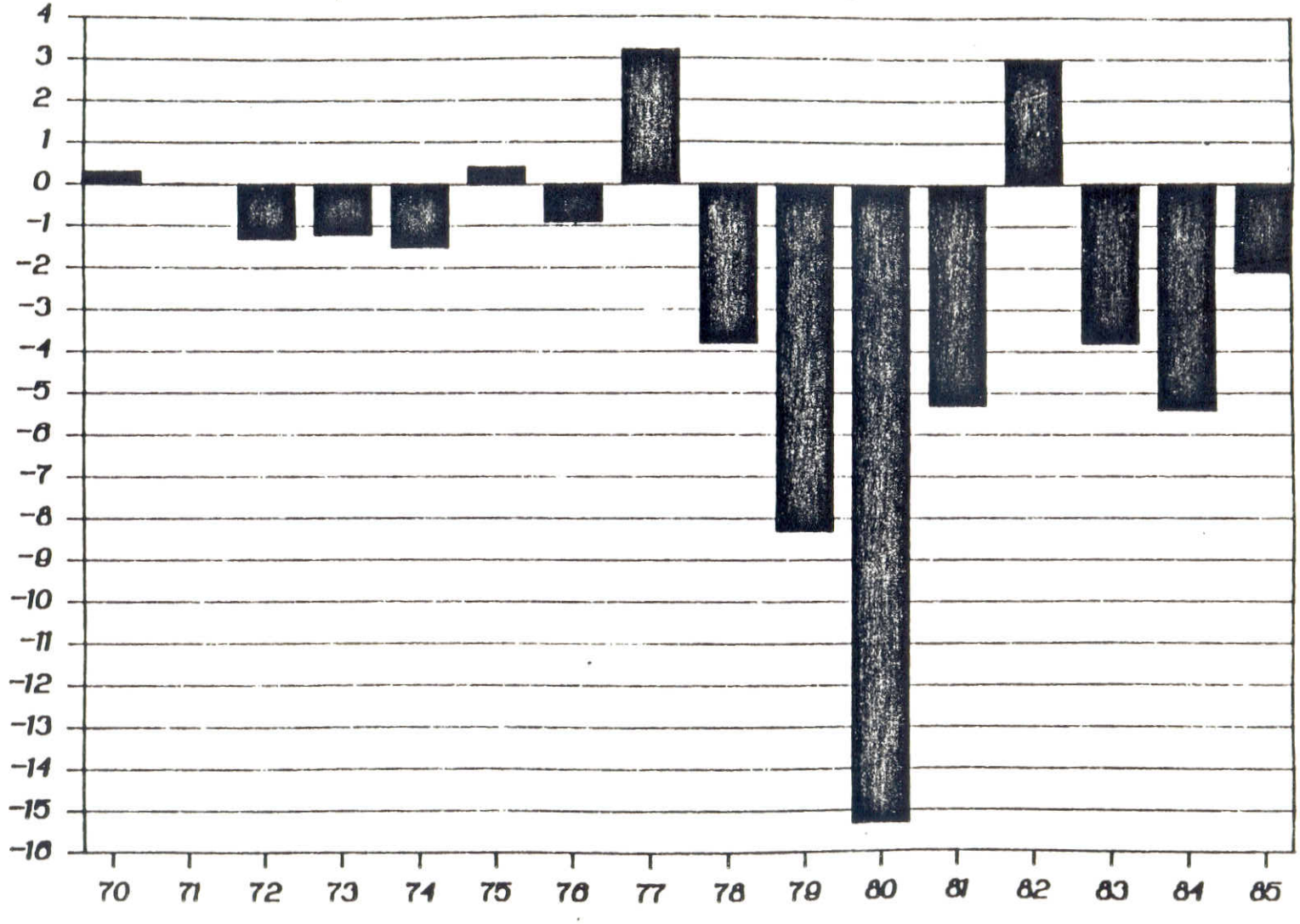


CHART 16

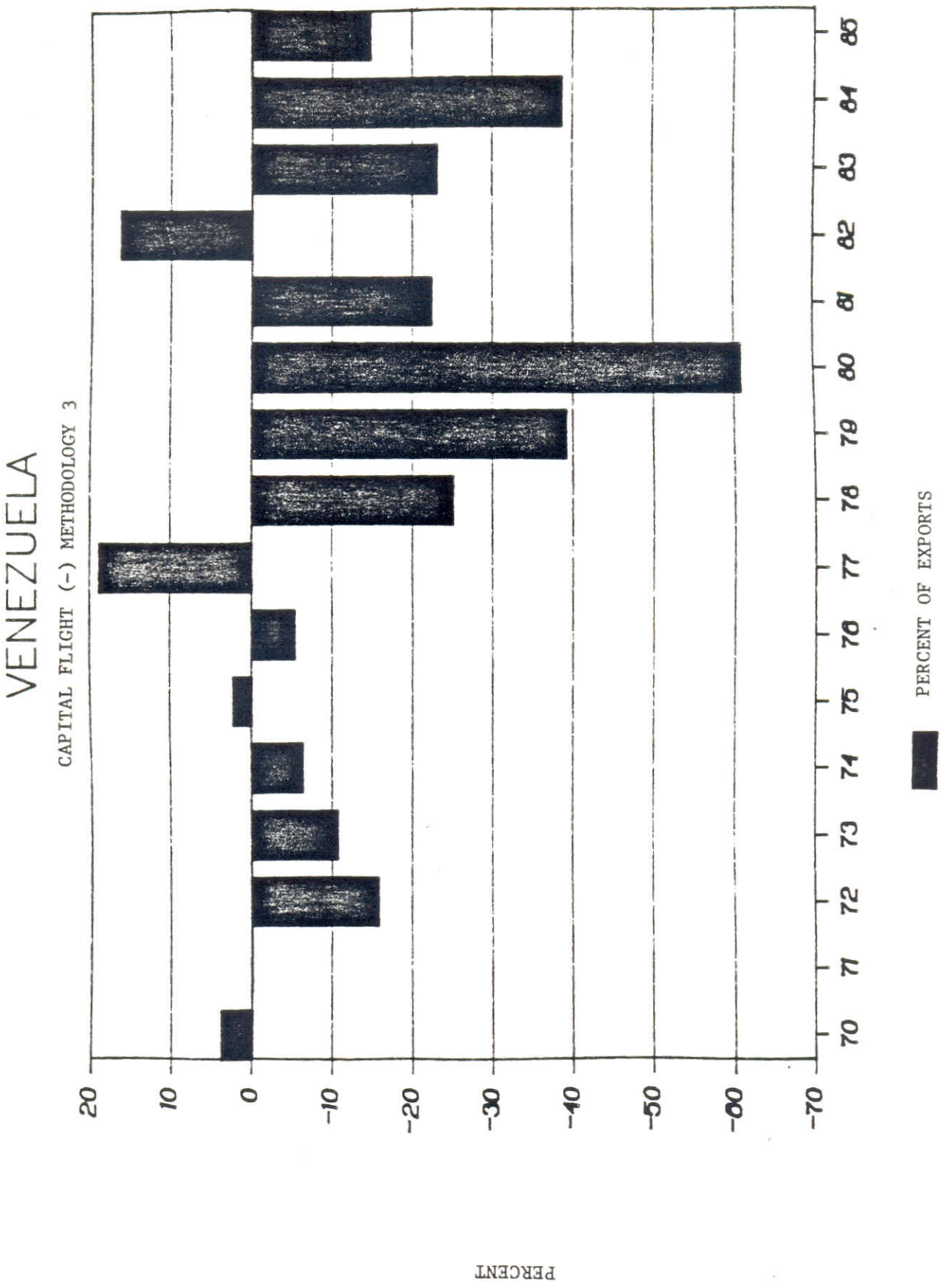
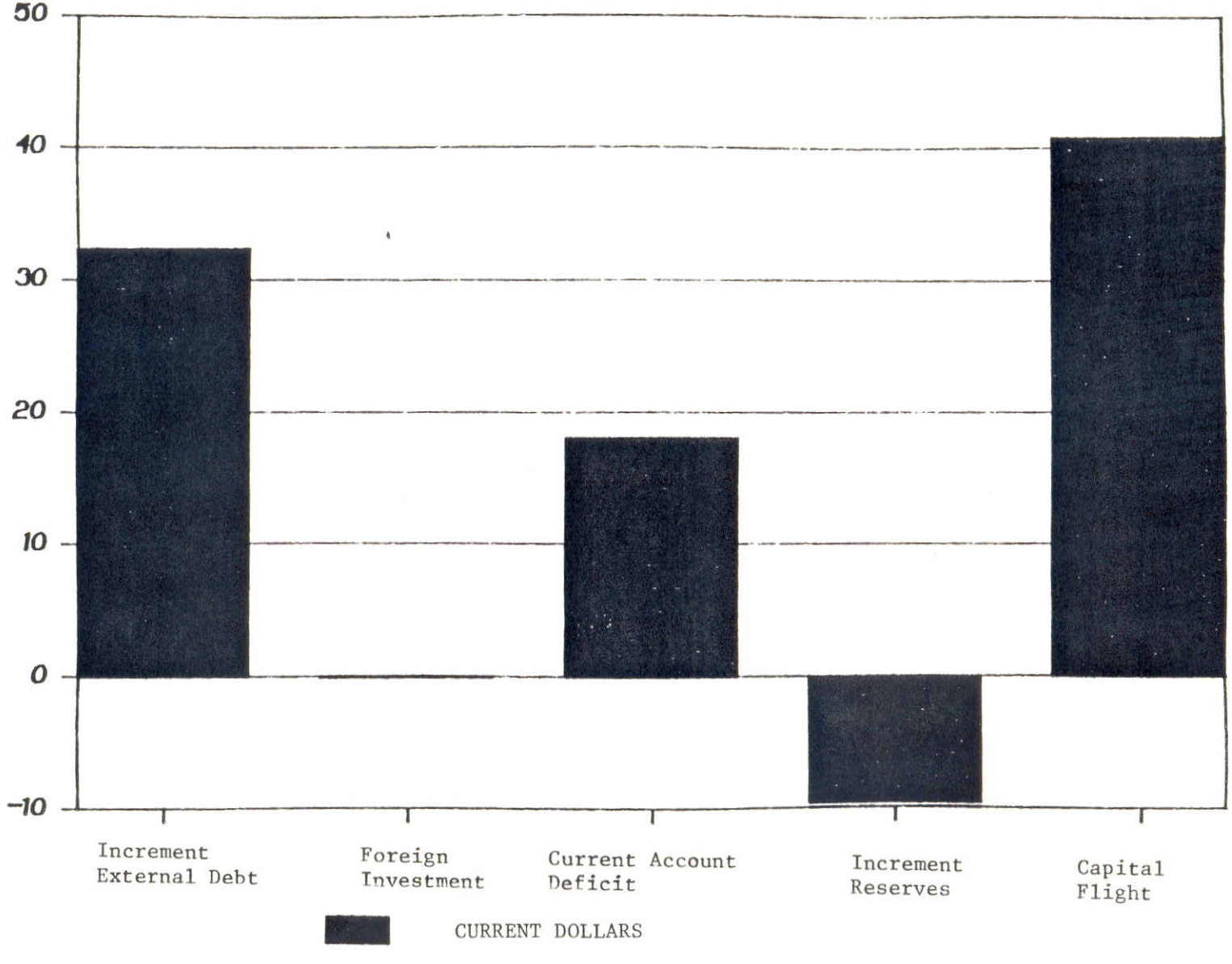

VENEZUELA
CAPITAL FLIGHT (-) METHODOLOGY 3
PERCENT
20
10
0
-10
-20
-30
-40
-50
-60
-70
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
PERCENT OF EXPORTS

CHART 17

VENEZUELA - CAPITAL FLIGHT

METHODOLOGY 2 (IED+FI-CAD-IR)



It is evident that capital flight in the countries beset with problems is concentrated in the years 1976-1983. In Argentina, however, the worst years were 1978 and 1982; in Mexico 1976 and 1983; and in Venezuela 1979 and 1980, as shown in Charts 5, 11 and 15.

In any event, it must be made clear that even these methodologies underestimate the actual capital flight in the following cases:

(a) Underinvoicing of exports

(b) Overinvoicing of imports

(c) Smuggling of exports

(d) Drug smuggling

However, unregistered arms imports paid by borrowing against a country's credit, or against central bank reserves are contained in our figures. In addition, the methodology used does record inflows of flight capital that its owners bring back and exchange for local currency in the banking system in order to make expenses in the country of origin. That is so because the movement of reserves is one of the key variables in the calculation, as shown in charts 7, 8, 9, 10, 13, 14 and 17.

Incidentally, the charts cited above are also useful in expressing that the case of Brazil (Chart 8), Chile (Chart 9), Colombia (Chart 10) and Peru (Chart 14), external borrowing has served to finance deficits in current account of the balance of payments and has thereby contributed to development, or at least to consumption in the countries. In the cases of Argentina (Chart 7), Mexico (Chart 13) and Venezuela (Chart 17), it appears

dubious that foreign borrowing has served to finance current account deficits. Therefore, an obvious point to be investigated is whether foreign borrowing has been the medium employed to finance capital flight.

Diversification of assets and reduction of risks. Specification of the model

The theory underlying the analysis set forth herein consists in diversifying the investment portfolio as a way for diminishing risks. 9/ An investor may invest in such assets as are exposed to major risks of loss, expropriation, taxation, inflation and other contingencies to the extent that the expected return from these investments is high enough to offset the risks. An investor will also acquire low-yield assets provided they give security and/or flexibility for future new investments. In addition, and this is most important, the rates of return and the risks of investing in the different kinds of assets should not be correlated. It is obvious that the returns and the risks of investing in local assets are not correlated with the risks and returns of investing in foreign assets. This creates a special attraction for the latter. The demand for external assets is tied to the demand for domestic assets through total private wealth which places a limitation on their amount, for the sum of investments in local net assets and net assets held abroad should not exceed total wealth. In addition, it is obvious that just as the demand

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9/James Tobin "Liquidity Preference as Behaviour Toward Risk". Review of Economics and Statistics, 25:65-86, February 1985. Harry Markowitz "Portfolio Selection" Journal of Finance, 7:77-91, March 1952.

for local money depends gross domestic product with a positive sign, for reasons of consistency, the demand for external assets depends on GDP with a negative sign. In the words of Brainard and Tobin:

> "In the model, income Y is entered to represent the standard influence of transactions volume on desired holdings for demand deposits and for currency. By the same token, Y belongs in the other asset demand functions of the public. If an increase in income induces the public to add to their money holdings, it induces them to diminish their holdings of something else. If this something else is not specified, the implicit assumption is that all the movement into cash is at the expense of the residual asset, the one whose equation is not written down." 10/

This is the fundamental reason why the income variable must be included in the demand function for external financial assets. Besides, on an a priori basis, it must have a negative sign, that is, unlike that of the demand for local currency. This, is precisely what happens with the regression equations submitted herein. But the story does end here. According to the cited authors:

> "The influence of Y on asset choice is one causal link from the real economy to financial markets. An additional link is the influence of r, the marginal efficiency of capital, another variable exogenous to the financial sector. An increase in r, for example will raise either the market value of equities, and with it the public wealth, or the market yield of equities, or both. In any event it will lead to a general reshuffling of portfolios, and a new structure of rates. The marginal efficiency of capital itself is linearly related to its average product Y/K; for both Y and K are exogenous to the financial sector. 11/

10/William C. Brainard and James Tobin: "Econometric Models: Their Problems and Usefulness. Pitfalls in Financial Model Building" American Economic Review Proceedings, May 1968, 58, 99-122, p.103.

11/Brainard and Tobin, op. cit., p. 103.

For economists who specialize in economic development there is a third compelling reason for including income as argument for the demand for external assets. It is the well known RMSM (Revised Minimum Standard Model) of the World Bank, which has been widely used there since 1973.12/ Models from the same family, though more esoteric, are used in making macroeconomic projections and debt analysis at the Inter-American Development Bank. 13/ This is not the time to explain the mechanics of these models but it is worth to remember that in the "requirements" version, the economist exogenously fixes the growth rate for the country (as well the growth rate for exports and the elasticity of imports with respect to output, and other parameters) and the model yields, as the main endogenous result, the external capital requirements to attain the target growth rate for GDP. If the required financing proves excessive, the proposed growth rate of output will clearly have to be scaled down. If, on the other hand, the proposed growth rate is very low, a line item in the detailed balance of payments account of the RMSM model yields a short-term capital outflow. In other words, the relationship between the growth rate and capital requirements and/or capital outflows is an elementary ABC for

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12/World Bank, "Guide to Modelling Systems", Country Analysis and Projection Division, Version of February 15, 1984. Mr. Hollis Chenery, former Vice-President for Development Policy at the World Bank, and Mr. Nicholas Carter, who was then the chief of the Country Analysis and Projections Division, deserve much of the credit for having popularized this useful mechanism of analysis as early as 1973.

13/For example, Van Ryckeghem W., Malovany G. and Ruffat A., "Financing Latin American Development in the Second Half of the Eighties", DES, January 21, 1986.

economists at the World Bank and the Inter-American Development Bank. The regression equations we are presenting, with the growth rate of output as an argument to explain capital flight, constitute an independent validation and confirmation of the realism of those models.

Demand for external financial assets

That external debt must pertain to the government in a portfolio model for Latin American countries is demonstrated by experience. Therefore, the total wealth of the private sector is regarded as equal to:

Wealth = Money (M_1) + Net Government Bonds (B) + Real Local Assets (AR) + External Financial Assets (AFE).

It is also assumed that the demand for each one of these assets depends on its expected rate of return and on the returns expected on investments in alternative assets. But money demand also depends on the level of transactions, measured by the GDP as proxy, given the essential role of money as a means of payment in the purchase of goods and cancellation of obligations.

That is, the demand for money 14/ would depend on:

$$D(M_1) = F(Y, P, R, aY/K, R^* .T/T_{-1})$$

on GDP (Y), on the return on money holdings determined by the price index (P), on the interest yield on local financial assets (R), on the marginal productivity of local real assets determined by the share of proprietors and business in GDP divided by the real capital of the country (aY/K), and on interest from net external financial assets (R*. T/T), where devaluations and revaluations of the exchange rate (T/T_{-1}) also take part.

The demand functions of each one of the other assets in the portfolio may be written in the same way. Since the demand for the great alternative asset (M_1) depends on the gross domestic product (Y), so do the others, owing to the equation on private sector wealth. Of particular interest to us is the demand for external financial assets which would be:

$$D(AFE) = F(Y, P, R, a\ Y/K, R^* .T/T_{-1}).$$

Assuming an exponential function for it:

14/This demand function may be compared with that of Milton Friedman. See: "The quantity theory of money: A restatement". The exact function of money demand proposed by Friedman is:

$$\frac{M}{P} = f\left(rb, re, \frac{1}{p} \cdot \frac{dp}{dt}, w, \frac{Y}{p}, u\right)$$

The article is reproduced in "The Optimum Quantity of Money and Other Essays", Aldine Publishing Company, Chicago, 1969, Chapter 2 (p. 58). Friedman's theoretical function of money demand is actually Keynesian and therefore its specification is not controversial. The controversy is in the sign of interest rates rb and re and over whether M_1, M_2, or M_3 should be used.

$$D\ (AFE) = b_o\ .Y^{b1}\ .P^{b2}\ (a/K.Y)^{b3}\ .\ (1+R^*)^{b5}\ .\ (T/T_{-1})^{b6}$$

and using natural logarithms:

$$\ln D(AFE) = \ln b_o + b_1 \ln Y + b_2 \ln P + b_3 \ln(a/K.Y) +$$

$$+ b_4 \ln e^R + b_5 \ln e^{R^*} + b_6 \ln e^{\ (T/T_{-1} - 1)}$$

and differentiating with respect to time, assuming that K is constant 15/ and collecting the terms containing Y:

$$afe = (b_1 + b_3)y + b_2 p + b_4 R + b_5 R^* + b_6 T/T_{-1}$$

$$afe = b_7 y + b_2 p + b_4 R + b_5 R^* + b_6 T/T_{-1}$$

where:

afe = growth rate of external financial assets

y = growth rate of GDP

p = inflation rate

R = local interest rate

R* = international interest rate

T/T_1 = devaluation or revaluation rate + 1 from the beginning up to the end of the period

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15/The assumption that capital is constant is customary in short-term macroeconomic analysis. We have not included the growth rate of real capital not so much for reasons of theory, but because of the difficulties of obtaining reliable time series for this variable. It is noteworthy, however, using real investment as proxy for the growth rate of capital, its sign is negative and significant as well, as the theory suggests.

Although the abovementioned specification is the principal one used in this paper, because this is an empirical study in a still relatively unexplored terrain, it must be tested with other "proxies" or combinations of the abovementioned variables. Particularly important are the variables anticipatory of inflation, which is often associated with disorder in public administration and usually reflected in a large fiscal deficit. It could be that the private sector "smells" the great risk emerging from the government deficit. Adequate and rational management of government reduces the deficit. Similarly, changes in government increase the risk of new economic policy measures and may cause the citizens of the country to temporarily shelter part of their wealth in dollars until the new rules of the game become clear. This may be important because economic policies change much more often in the Latin American countries than in the industrial countries with market economies. The extraordinary number and availability of instruments for intervention, foremost among them the liberality of central banking laws governing lending to governments, and the practice of juggling with money, are prominent features of the latin economies.

The "causes" of capital flight

As noted earlier, we have investigated seven countries. Our efforts have been on Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela because these countries account for about 90% of the GDP and population of the region. For each one of the seven major countries a matrix of 16 (observations) rows and 22 columns (variables) has been constructed. Of the tested variables, six are different versions of the three definitions

of "capital flight" (FC) that is, of the dependent variable in real terms measured in first differences with respect to its own stocks. The other 16 are independent variables, as follows:

Y = Growth rate of gross domestic product (essentially the same results are obtained with first differences of GDP)

P = Inflation rate (essentially the same results are obtained with first differences of the price index)

Z = Acceleration of inflation

i = Nominal interest rate

R = Real interest rate $\frac{(i - P)}{(1 + P)}$

iTB = International interest rate (rate of United States Treasury bills)

UR: Real international interest rate

EX: Real exchange rate of each country (difference between the real exchange rate at present and the equilibrium exchange rate)

T/T_{-1} = nominal exchange rate (annual rate of variation from the beginning up to the end of the year))

RR = central bank reserves in real terms at the beginning of the period ("proxy" for EX)

IDR = increase of the external debt in real terms ("proxy")

INT.D.P.D = return an investor would earn when he uses his dollars to purchase pesos and at the end of the year purchases back dollars with the original capital plus earned local interest (interest dollar - peso - dollar, or uncovered interest parity) $= \frac{1 + i}{1 + \frac{DTC}{TC}} - 1$

T^3 = INT.D.P.D. - iTB

CADEGO = changes in government (as a "dummy" variable)

DF = fiscal deficit

ID = increase in external debt in nominal terms

IIB = investment rate (Gross domestic investment divided by gross domestic product). This variable has been included in order to determine to what extent capital flight damages the investment process and thus, the development of our countries. The investment rate should not be used as an argument to explain the outflow of capital, except may be a proxy for the growth rate of capital.

Given ahead are the regression equations obtained. The charts for Brazil, Chile, Colombia and Peru and their comparison with the first four charts presented shows that the outflow of capital is not a major problem in these countries. As stated earlier, because of the diversification of risks and the near zero correlation that exists between the risk of investment in local assets and in external financial assets, it is to be

expected that a part of the investment portfolio of Latin Americans should be invested abroad. Incentives for capital to go abroad have evidently been less in these latter four countries which reported fairly good rates of growth in their economies and undervalued exchange rates, which means high rates of return on local real assets and high cost of investing abroad.

Nevertheless, it must be emphasized that in the case of Brazil the rate of inflation is significant as an element associated with capital flight. So, too, is the real interest rate, but not in the way expected: the real interest rate increases and capital flows out instead of coming in.

In Chile, the decline of output and the government deficit yield equations that satisfactorily explain short term capital movements.

In Colombia, the variation in the nominal exchange rate, the uncovered interest rate parity and the rate of inflation are significant and are associated with movements of capital. So is the real interest rate, but contrary to expectations, the real interest rate increases and capital flows out.

In Peru, the most important factors of explanation are the fiscal deficit, the growth of external debt, uncovered interest parity and the decline of output.

The cases of Argentina, Mexico and Venezuela -- the three countries with an excessive capital flight allow the plotting of regression equations

of excellent explanatory power (high R^2) and highly significant values of the statistical parameter "t" for some variables in the model that then turn out to be positively or negatively associated very strongly with capital flight. Of course, heuristic explanations of these associations are somewhat subjective and debatable as there are possible different rational interpretations according to the reader's imagination. Given the importance of the phenomenon of capital flight in the latter three countries, we will concentrate our analysis on them.

ARGENTINA

1) $FC = 0.59Y - 0.641TB + 0.82\ T/T_{-1}$

	(4.89)	(-6.62)	(3.65)
	PROB>t	PROB>t	PROB>t
	0.000	0.000	0.003

$\bar{R}^2 = 0.74$, DW = 2.19 , SE = 1.80

2) $FC = 0.31Y - 0.75IDR + 0.66$

	(3.49)	(-7.90)	(1.22)
	PROB>t	PROB>t	PROB>t
	0.004	0.000	0.244

$\bar{R}^2 = 0.88$, DW = 1.86 , SE = 1.22

3) $FC = 0.42Y - 0.74RR$

	(3.32)	(6.90)
	PROB>t	PROB>t
	0.006	0.000

$\bar{R}^2 = 0.69$, DW = 2.11 , SE = 1.95

4) $FC = 0.62Y - 0.401TB - 0.04$ INT.D.P.D.

	(4.26)	(-6.37)	(-2.63)
	PROB>t	PROB>t	PROB>t
	0.001	0.000	0.020

$\bar{R}^2 = 0.65$, DW = 1.73 , SE = 2.08

5) $FC1 = 0.72Y - 0.06R - 3.44$

	(6.85)	(-2.95)	(-5.84)
	PROB>t	PROB>t	PROB>t
	0.000	0.011	0.000

$\bar{R}^2 = 0.79$, DW = 2.24 , SE = 1.50

6) $FC = 0.58Y - 0.06R - 4.14$

	3.31)	(-1.83)	(-4.15)
	PROB>t	PROB>t	PROB>t
	0.005	0.089	0.001

$\bar{R}^2 = 0.44$, DW = 1.52 , SE = 2.61

7) $IIB = 0.30FC + 0.02IDR + 0.96IIB_{-1} + 0.96$

	(0.68)	(0.06)	(5.17)	(0.23)
	PROB>t	PROB>t	PROB>t	PROB>t
	0.509	0.955	0.000	0.824

$\bar{R}^2 = 0.64$, SE = 2.58

8) $CONS = -0.26FC + 0.62CONS_{-1} + 28.15$

	(-1.07)	(2.96)	(1.74)
	PROB>t	PROB>t	PROB>t
	0.303	0.011	0.106

$\bar{R}^2 = 0.37$, SE = 3.26

Data File: ARG.SC

FC	1.000	0.626	0.160	-0.330	-0.687	0.038
Y	0.626	1.000	-0.174	0.036	-0.424	-0.445
P	0.160	-0.174	1.000	-0.584	0.200	0.842
R	-0.330	0.036	-0.584	1.000	0.378	-0.468
iTB	-0.687	-0.424	0.200	0.378	1.000	0.318
T/T-1	0.038	-0.445	0.842	-0.468	0.318	1.000

MEXICO

1) $FC = 0.37Y - 0.571TB + 0.06\ INT.D.P.D$

	(3.81)	(-8.87)	(3.03)
	PROB>t	PROB>t	PROB>t
	0.002	0.000	0.010

$\bar{R}^2 = 0.80$, DW = 1.89 , SE = 1.40

2) $FC = 0.35Y - 0.431TB + 0.17R$

	(3.12)	(-4.41)	(2.67)
	PROB>t	PROB>t	PROB>t
	0.008	0.001	0.021

$\bar{R}^2 = 0.77$, DW = 1.96 , SE = 1.49

3) $FC = 0.66Y - 0.20IDR - 1.18\ RR - 1.42$

	(10.10)	(-4.55)	(-4.1)	(1.75)
	PROB>t	PROB>t	PROB>t	PROB>t
	0.000	0.001	0.000	0.105

$\bar{R}^2 = 0.91$, DW = 2.00 , SE = 0.93

4) $FC = 0.09P + 0.005$

	(6.00)	(0.07)
	PROB>t	PROB>t
	0.000	0.944

$\bar{R}^2 = 0.71$, DW = 1.71 , SE = 1.65

5) $FC = 0.73DF + 0.70$

	(5.29)	(0.86)
	PROB>t	PROB>t
	0.000	0.405

$\bar{R}^2 = 0.66$, DW = 2.10 , SE = 1.81

6) $FC = 0.44Y - 0.401TB - 1.26T/T_{-1}$

	(3.95)	(2.83)	(-1.84)
	PROB>t	PROB>t	PROB>t
	0.002	0.014	0.088

$\bar{R}^2 = 0.71$, DW = 1.79 , SE = 1.66

7) $IIB = 0.49FC + 0.46IDR + 19.97$

	(3.78)	(7.41)	(30.55)
	PROB>t	PROB>t	PROB>t
	0.002	0.000	0.000

$\bar{R}^2 = 0.79$, DW = 2.12 , SE = 1.39

8) $IIB = 0.54FC + 0.38IDR + 0.39\ IIB_{-1} + 11.78$

	(4.77)	(6.05)	(2.52)	(3.16)
	PROB>t	PROB>t	PROB>t	PROB>t
	0.000	0.000	0.270	0.003

$\bar{R}^2 = 0.87$, SE = 1.12

Data File: MEX.SC1

FC	1.000	0.731	-0.857	0.768	-0.703	-0.461
Y	0.731	1.000	-0.769	0.619	-0.573	-0.028
P	-0.857	-0.769	1.000	-0.799	0.801	0.532
R	0.768	0.619	-0.799	1.000	-0.758	-0.209
T/T-1	-0.703	-0.573	0.801	-0.758	1.000	0.285
ITB	-0.461	-0.028	0.532	-0.209	0.285	1.000

VENEZUELA

1) FC = 0.42Y + 0.54R - 0.461TB
(2.66) (3.43) (-5.43)
PROB>t PROB>t PROB>t
0.019 0.004 0.000

$\bar{R}^2$ = 0.62 , DW = 2.56 , SE = 2.81

2) FC = 0.41Y - 0.43P
(2.55) (-5.83)
PROB>t PROB>t
0.023 0.000

$\bar{R}^2$ = 0.57 DW = 1.97 , SE = 2.97

3) FC = 0.64Y + 0.64R - 4.72
(3.93) (4.32) (5.93)
PROB>t PROB>t PROB>t
0.002 0.001 0.000

$\bar{R}^2$ = 0.67 DW = 2.59 , SE = 2.61

4) FC = 0.64Y - 0.58IDR - 2.50
(3.11) (-2.67) (-2.10)
PROB>t PROB>t PROB>t
0.008 0.018 0.054

$\bar{R}^2$ = 0.48 DW = 1.37 , SE = 3.27

5) IIB = 1.29FC + 1.93IDR + 24.90
(4.16) (5.36) (15.53)
PROB>t PROB>t PROB>t
0.001 0.000 0.000

$\bar{R}^2$ = 0.67 DW = 1.13 , SE = 4.82

6) IIB = 1.06FC + 0.92IDR + 0.62IIB_{-1} + 10.08
(4.03) (2.06) (2.97) (1.96)
PROB>t PROB>t PROB>t PROB>t
0.001 0.060 0.011 0.072

$\bar{R}^2$ = 0.80 , SE = 3.90

Data File: VEN.SC

FC	1.000	0.550	-0.742	0.611	-0.110	-0.596
Y	0.550	1.000	-0.371	-0.053	-0.594	-0.640
P	-0.742	-0.371	1.000	-0.864	0.007	0.669
R	0.611	-0.053	-0.864	1.000	0.269	-0.295
T/T-1	-0.110	-0.594	0.007	0.269	1.000	0.157
iTB	-0.596	-0.640	0.669	-0.295	0.157	1.000

CHART 18

ARGENTINA - CAPITAL FLIGHT

EQUATION 1

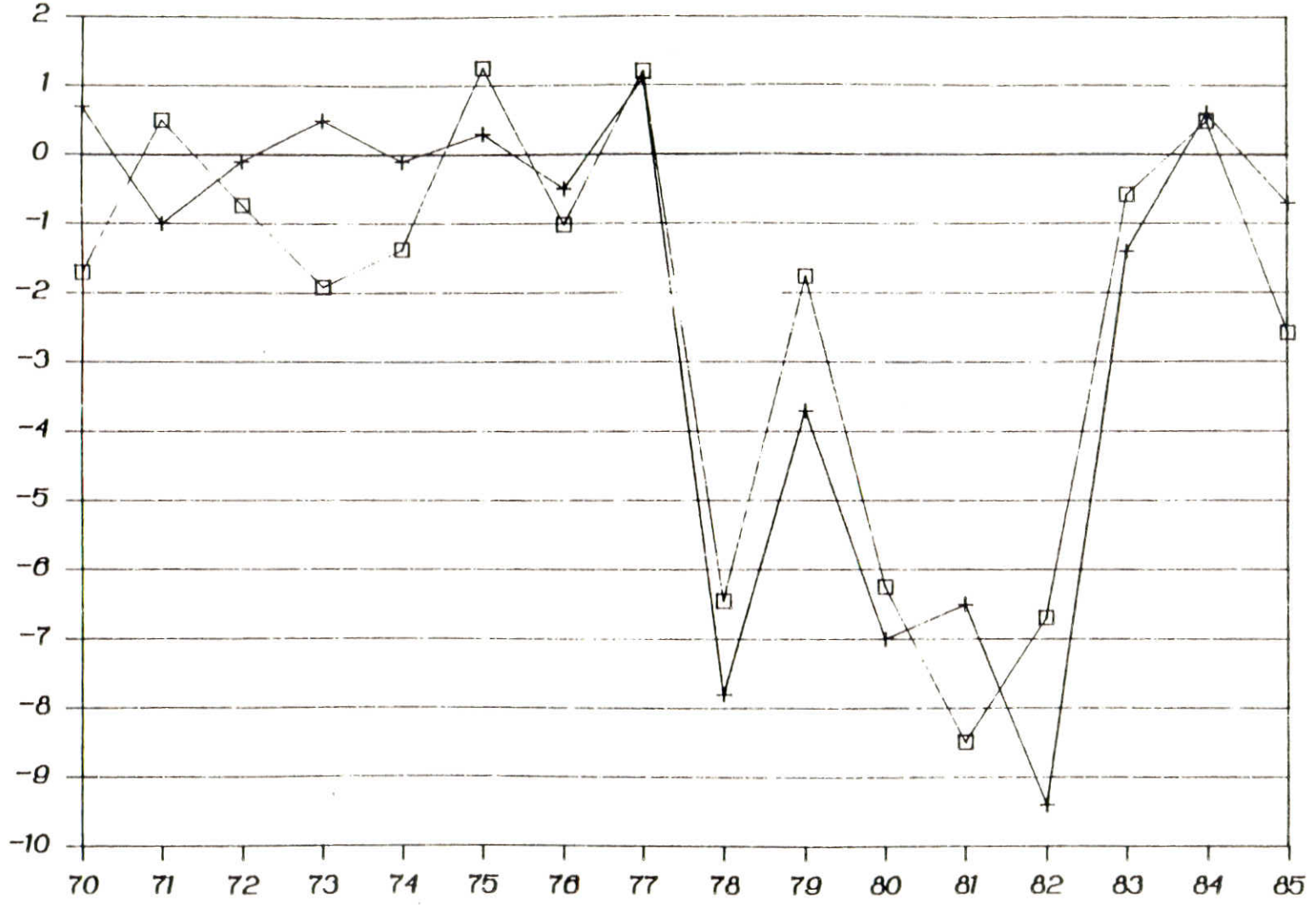


CHART 19

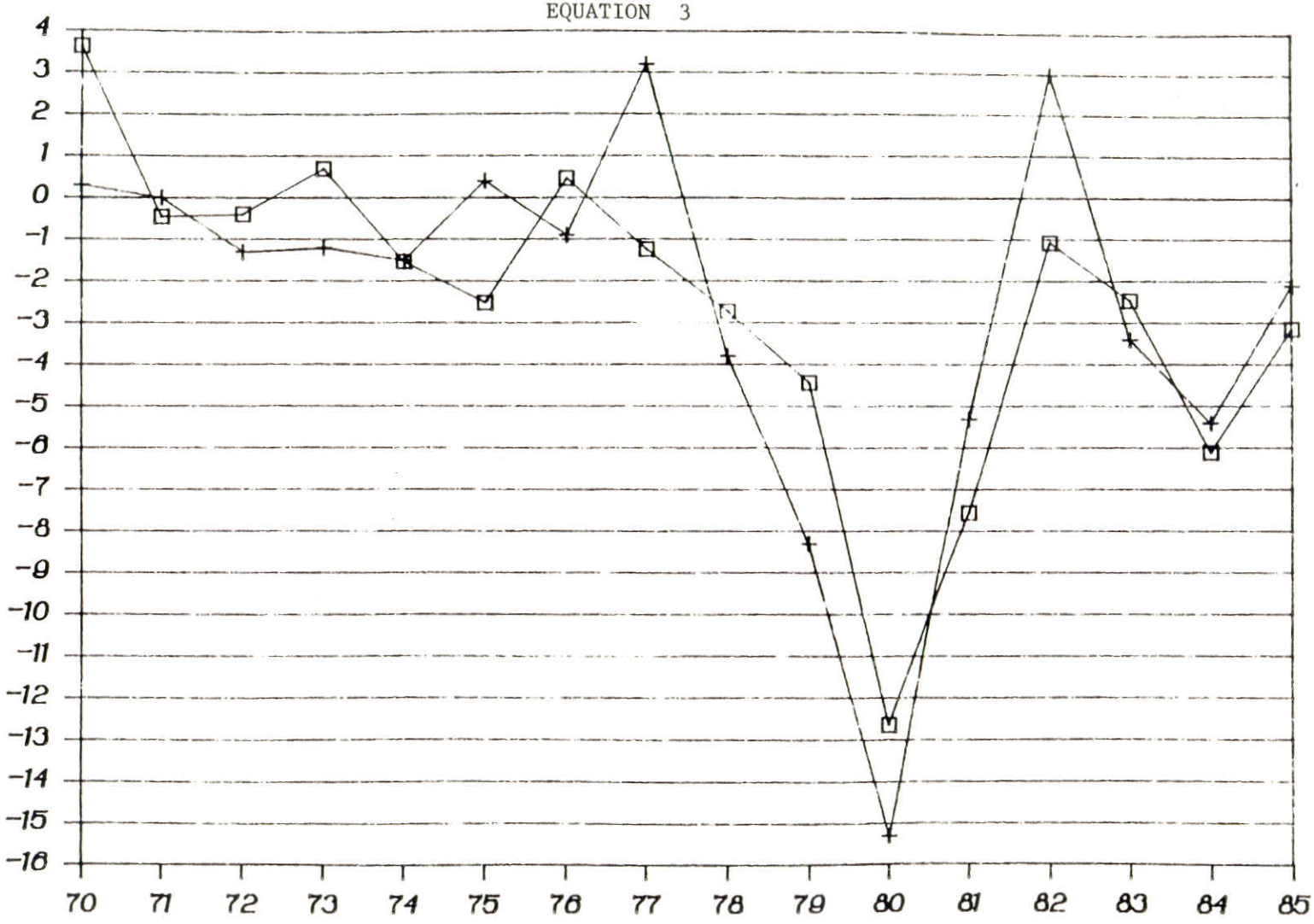
MEXICO CAPITAL FLIGHT

EQUATION 2

CHART 20

VENEZUELA - CAPITAL FLIGHT

EQUATION 3



□ PREDICTED VALUES

\+ OBSERVED VALUES

The foregoing equations suggest six "causes" of the outflow of capital as reflected by the statistical parameters. In order of importance, the "causes" are:

First: Lack of growth of the gross domestic product in latin countries (Y)

Second: Overvalued exchange rate in latin countries connected with excessive external borrowing, and closely related with the level of central bank reserves (RR, IDR, EX, T/T_{-1})

Third: High rate of interest in the United States (iTB)

Fourth: The high local rate of inflation (P)

Fifth: Excessive local fiscal deficit (DF)

Sixth: Real local interest rate, with ambivalent effects (R)

Lack of growth of GDP

In discussing the theoretical specification of the regression model an analysis of why income must be an explanatory invariable has been provided in some detail. Any omission of this important variable would imply errors in the specification that could result in distorted statistical parameters. The regressions confirm the theory: first, in almost all the seven countries, income is closely associated with capital flight. Second, that association is negative. Income falls and capital flows out; income grows and capital comes in. Econometrics confirms the opinion of Brainard and

Tobin quoted earlier: just as the income sign in the demand for money is positive, in the demand for external financial assets it is negative. 16/

It was recalled earlier that there is another quite powerful reason to include the rate of growth of income as an explanatory argument for capital flight: income growth is associated very closely with the rate of return for the economy as a whole. It is evident that the average rate of return on capital for the whole of the economy is given by the capital/output ratio (Y/K). Most important, in addition, is that the marginal productivity of capital in the economy is, if we assume a Cobb Douglas production function is equal to $\frac{aY}{K}$. 17/

Since the capital of the economy, K, is more or less constant in the short run, the most important variable that causes changes in the rate of return for the economy is the income accruing to the proprietary class (aY). What is more, during the recessionary phase of the economic cycle, businesses do not dismiss personnel in the same proportion as sales decline owing to the legal cost of dismissal, and the future cost of retraining new

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16/Recall that negative values have been assigned to capital flight in accordance with balance of payments conventions.

17/ $Y = tK^{a} L^{1-a}$. Therefore, the marginal productivity of capital is:

$$\frac{dY}{dK} = atK^{a-1} \cdot L^{1-a} = at \frac{K^{a}}{K} \cdot L^{1-a} = \frac{aY}{K}$$

personnel when the expansionary wave comes later on. 18/ Consequently, when prosperity arrives, employment grows, but less than sales. Inasmuch as real wages are often kept more or less constant during the cycle due to the power of labor unions, it follows necessarily that business benefits must be very low on average during the depression, but enormously high during the economic expansion. In consequence, it is clear that the growth rate of output as an independent variable, it is not only picking up the explanatory power of income as such, but also--and this is most important--the rate of return on real assets in the economy. Business rates of return fall and capital leaves the country. During an expansion, rates of return rise and capital, ever pursuing more gains, flows in. This also explains why countries that have high rates of return on real assets, that is, high rates of growth in their economies, have not experienced major capital flight. The cases of Brazil and Colombia are the most obvious ones.

The coefficients of equations No. 1 in the case of Argentina and Mexico indicate that, for each one percent drop in the rate of growth (Y), from 300 to 600 million constant dollars of 1985 leave the country. In the case of Venezuela between 600 million and 400 million dollars. The opposite also seems to be true: if economic growth accelerates, capital moves in the right direction to support that growth, entering the country in similar proportions to the earlier ones mentioned as outflows. Further

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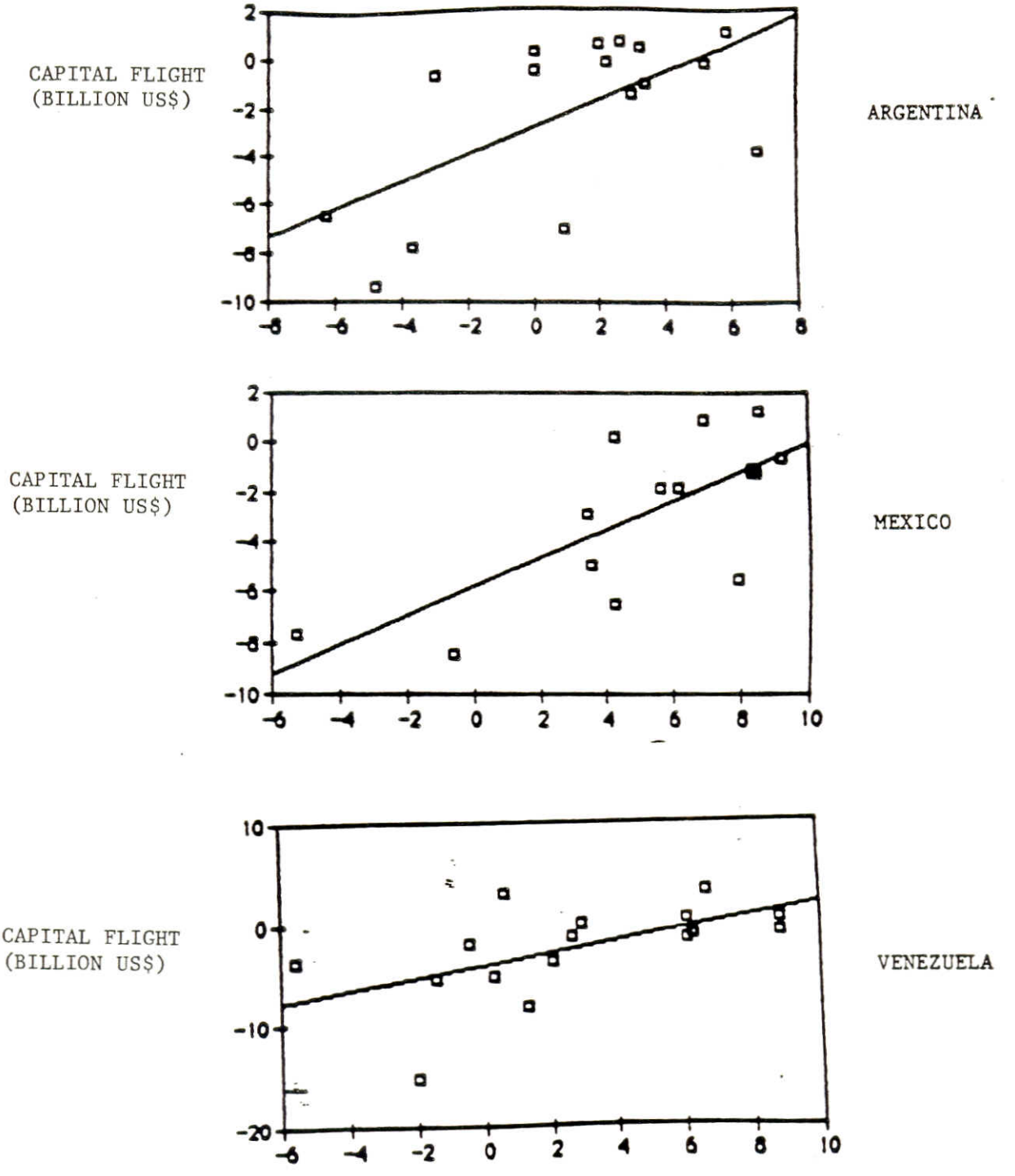
18/This phenomenon has led in the United States to the so-named "Okun's law" according to which unemployement increases and decreases at a rate which is more or less one third that of output. See Arthur M. Okun, "The Political Economy of Prosperity". W.N. Norton, New York 1980, p.135-38.

comments on this point will be given ahead. It is necessary to emphasize that the foregoing figures are based on the "ceteris paribus" condition, that is, provided that there are no movements in the other variables. It is understood that effective calculation of a country's capital requirements needs the specification of a model with many more variables. Regression equations are useful, however, to empirically confirm a powerful association that must be taken into account by those who make economic policy.

CHART 21

DROP IN GDP AND CAPITAL FLIGHT

ARGENTINA, MEXICO AND VENEZUELA



Everything indicates that when countries have a well-designed development program, and a government that is both, capable of implementing it and strongly motivated toward this end, capital flows into that country or at least does not flow out. If a country, on the contrary, lacks a serious development strategy and a rational iron will to promote development as one of its primary aims, capital takes flight.

Overvaluation of the exchange rate, excessive supply of external credit and central bank reserves

In theory, the relevant rate of exchange for use in this analysis should be the difference between the long term equilibrium exchange rate and the real actual exchange rate at given time. However, the equilibrium rates are hard to estimate because they vary according to whether the country has or has not a heavy burden of debt service, according to the price of oil for Mexico and Venezuela, to discovery of new oil deposits, and the like. It is therefore necessary to use "proxies" to represent the relevant exchange rate. In this connection, two have been used: one is the supply of external credit (IDR) which, if it is excessive, tends to overvalue the real rate of exchange; the other consists of the country's monetary reserves (RR), for when monetary reserves are high, governments tend to allow inflation to erode the real exchange rate leading to overvaluation in relation to the long-term equilibrium one. The private sector would be ever alert to this government carelessness and would seize the opportunity offered by the overvaluation to buy dollars.

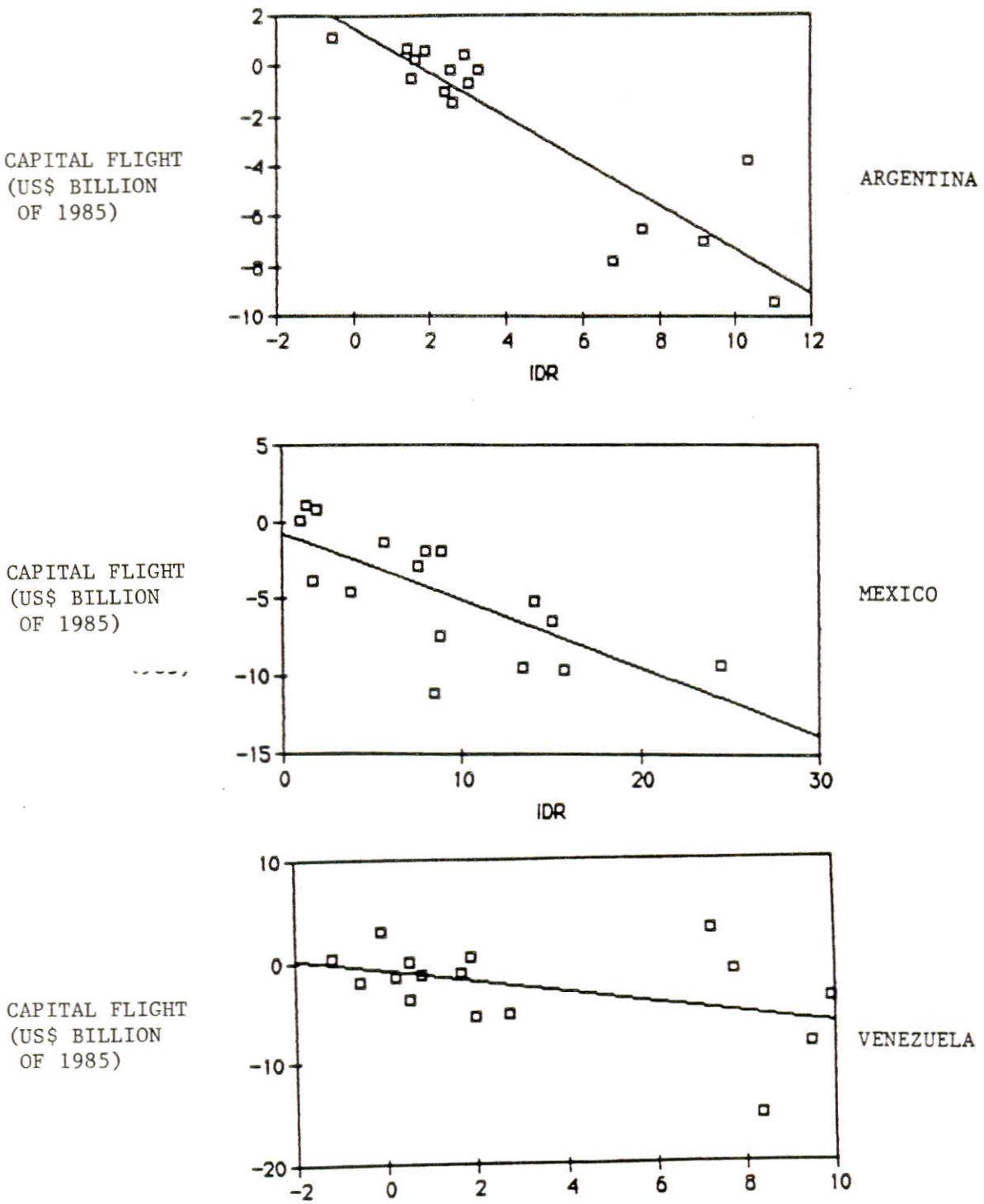
The excessive supply of credit emerges from this analysis as an essential causative element of the capital flight phenomenon. The percentages in table 1 for seven countries could be designated average propensity to flight of external credit. In addition, in the cases of Argentina, Venezuela and Mexico there is also a very marked marginal propensity to flight of external credit. In Argentina, for each additional dollar of external credit, 75 cents 19/leave the country as flight of capital (equation 2) In the case of Mexico, for each dollar of external credit, 20 cents leave the country as flight of capital (equation 3). In the case of Venezuela, the marginal propensity to flight is 58 per cent (equation 4). In other words, one conclusion emerges clearly, namely, that the excessive supply of credit to a country without an adequate and efficiently implemented growth strategy, serves only to overvalue national currency and acts as provider of counterpart funds for local citizens who then deposit their money abroad. Instead of constituting an assistance for development, external credit can be harmful drug.

19/With a high grade of confidence given the values t =7.19 in the case of Argentina, 4.42 in the case of Mexico, and 2.67 in the case of Venezuela.

CHART 22

INCREMENT IN EXTERNAL DEBT AND CAPITAL FLIGHT

ARGENTINA, MEXICO AND VENEZUELA



INCREMENT IN EXTERNAL DEBT IN REAL TERMS
(US$ BILLION OF 1985)

It may be reasonable for local capitalists to reduce risks by investing in their own country behind the mask of external debt. 20/ Local investors often think that some Latin American governments have more respect for foreign property and external debt than for local property and government debt owed to their own citizens. In the light of this fact, such investors have removed their capital, placed it on deposits in foreign banks and repatriated the same money in the guise of external debt. In this case risks are diminished, for if businesses fail, the government almost always assumes the external debt. With this dual strategy, if the economy grows and the country develops, the latin businessman holds on to the alternative of realizing excellent benefits and he bets at both ends. If the country plunges into chaos, his capital is safe outside the country and the government assumes the debt owed to foreign private banks. A recent study by the International Monetary Fund puts it well:

> "One particular hypothesis that has gained some currency is that domestic investors were aware of the differences in risks involved in investing at home and abroad, and that the investment risks were higher, for whatever reason, in the domestic economy. Hence it is conjectured that residents of developing countries chose to invest domestic savings in the international capital markets while using foreign financing for domestic investments. To the extent that the investor believed that foreign debt implicitly carried a government guarantee, he was assured that, it the domestic firm or enterprise went bankrupt or was expropriated, the foreign lender's claim would be assumed by the government. Savings held abroad would obviously not be a risk, so that the investor was protected if he relied as much as possible on foreign borrowing. Given this scenario, the domestic investor was behaving in a completely

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20/See Charles Kindleberger A Financial History of Western Europe George Allen and Unwin, London, 1984. This author reports, for example, that in the 1840 s French investors were buying the stockshares and debentures of the French railway companies, originally issued in the London Exchange and denominated in pounds sterling, p.221.

rational fashion. Indeed, in certain developing countries the foreign debt acquired by private residents was assumed by the state." 21/

The assumption of Khan and Ul Haque seems to be supported by equations 7 and 8 for Mexico and 5 and 6 for Venezuela. Indeed, these show a strongly negative association between the capital flight (remember that by convention we have assigned this variable a negative sign) and gross domestic investment. That is, capital flows out and investment declines. But at the same time both equations show a strong positive association between external borrowing in real terms (IDR) and investment, and there is, therefore, no doubt that the external debt has largely been invested in production goods in both countries. Closing this triangle, the equations mentioned earlier, No. 3 for Mexico and No. 4 for Venezuela, establish a strong association between external credit and the outflow of capital.

In the case of Argentina, however, the regression equations show no association between external borrowing and gross domestic investment. In this case it would seem that external borrowing has been simply an instrument of the flight. 22/

Chart 23 illustrates the relationship between external borrowing and investment in the three countries: Argentina, Mexico and Venezuela.

21/Mohsin S. Khan and Nadeem Ul Haque "Foreign Borrowing and Capital Flight" IMF Staff Papers. Vol. 32 No. 4, Dec. 1985, p. 625.

22/See equation 7 with regard to Argentina wherein the "t" values of the flight of capital and external borrowing (IDR) as independent variable have no statistical significance.

It is appropriate to add that in Argentina there are two compelling institutional reasons that lead citizens to take their capital out of the country in order to repatriate it as debt, namely, the manner in which the income tax is legislated and the so-called tax on net worth. In the first case, the tax-payer is required to report his worth (assets minus liabilities) at the beginning and at the end of the fiscal year and to pay income tax on the difference. Therefore, wealthy taxpayers hasten to send their money abroad so as not to report it; at the same time, they use these funds as security to obtain foreign credits which, as reported liabilities, reduce their net worth even more. Hence they evade the payment of monumental amounts on taxes. A similar procedure is used to avoid payment of the tax on net worth.

The real exchange rate at any particular time does not alone have great explanatory power over the flight of capital. This is shown readily in chart 24 regarding Argentina: in 1982, the year of greatest exchange undervaluation, the outflow of capital reached its maximum maximorum. In 1978, the second year of major capital outflow, the exchange rate was not yet overvalued. In Mexico, as well, exactly in the year of greatest real exchange undervaluation (1982), the outflow of capital was at the peak (see Charts 11 and 25). It should be mentioned however that, variations that take place in the nominal exchange rate from the beginning towards the end of the year (T/T_{-1}) yield significant t values in both countries, although with opposite signs. The positive sign, in the case of Argentina (Equation 1) suggests that devaluation, by raising the cost of purchasing foreign assets, acts as a brake on the outflow of capital. In the case of Mexico, the negative sign of the nominal exchange rate in equation 6 suggests

either that devaluations occurred later in the year or that when they do occur, they are so widely leaked and predictable that the public takes its money outside the country in advance. In addition, it could well be that the strong correlation that exist between the rate of inflation and the rate of devaluation (=0.801 in the correlation matrix) distort the value and sign of the exchange rate. In sum, these equations confirm somewhat the role that the rate of exchange must have in capital flight.

CHART 23

RELATIONSHIP BETWEEN INCREMENTS IN EXTERNAL DEBT AND GROSS DOMESTIC INVESTMENT
ARGENTINA, MEXICO AND VENEZUELA

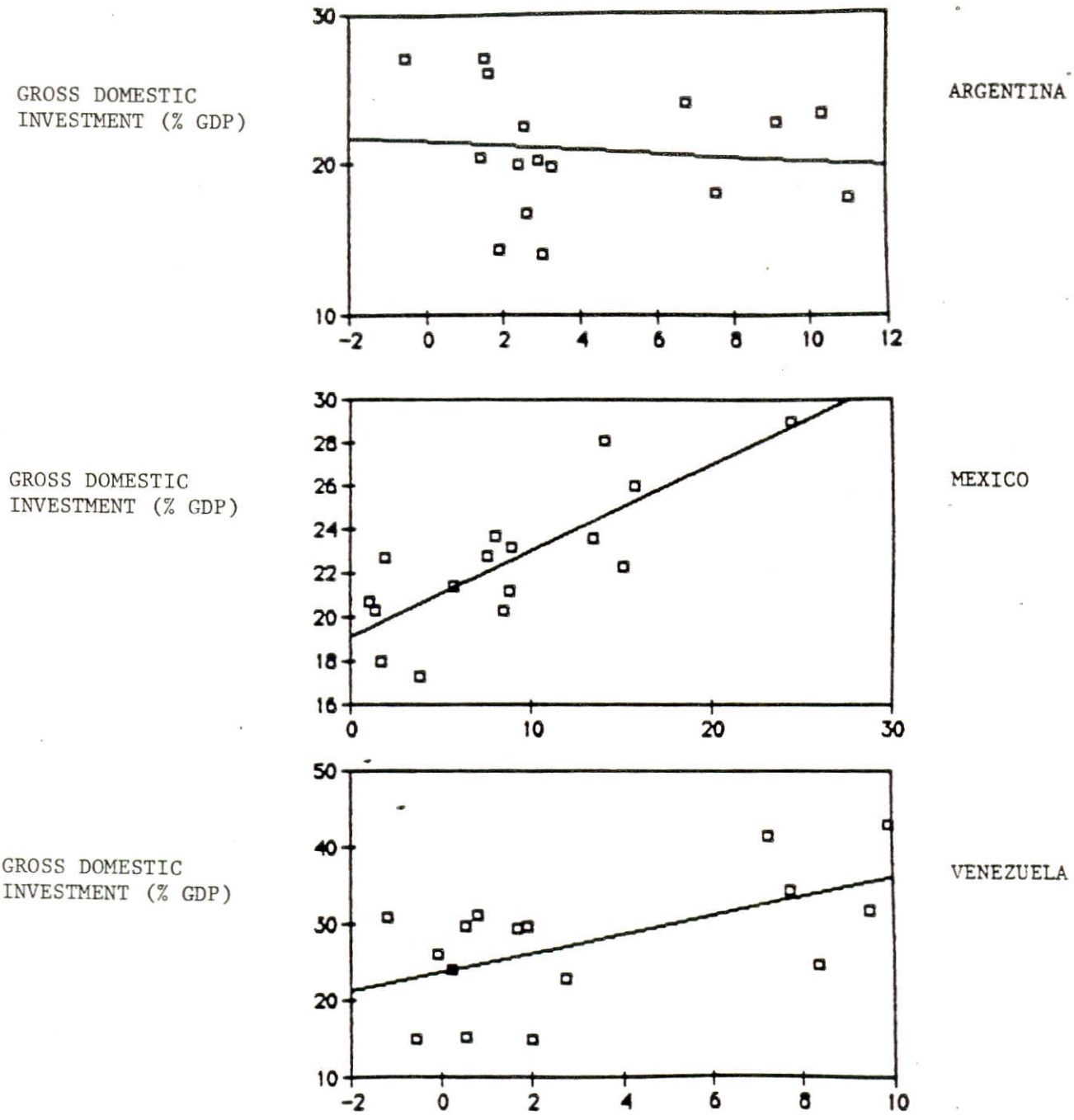
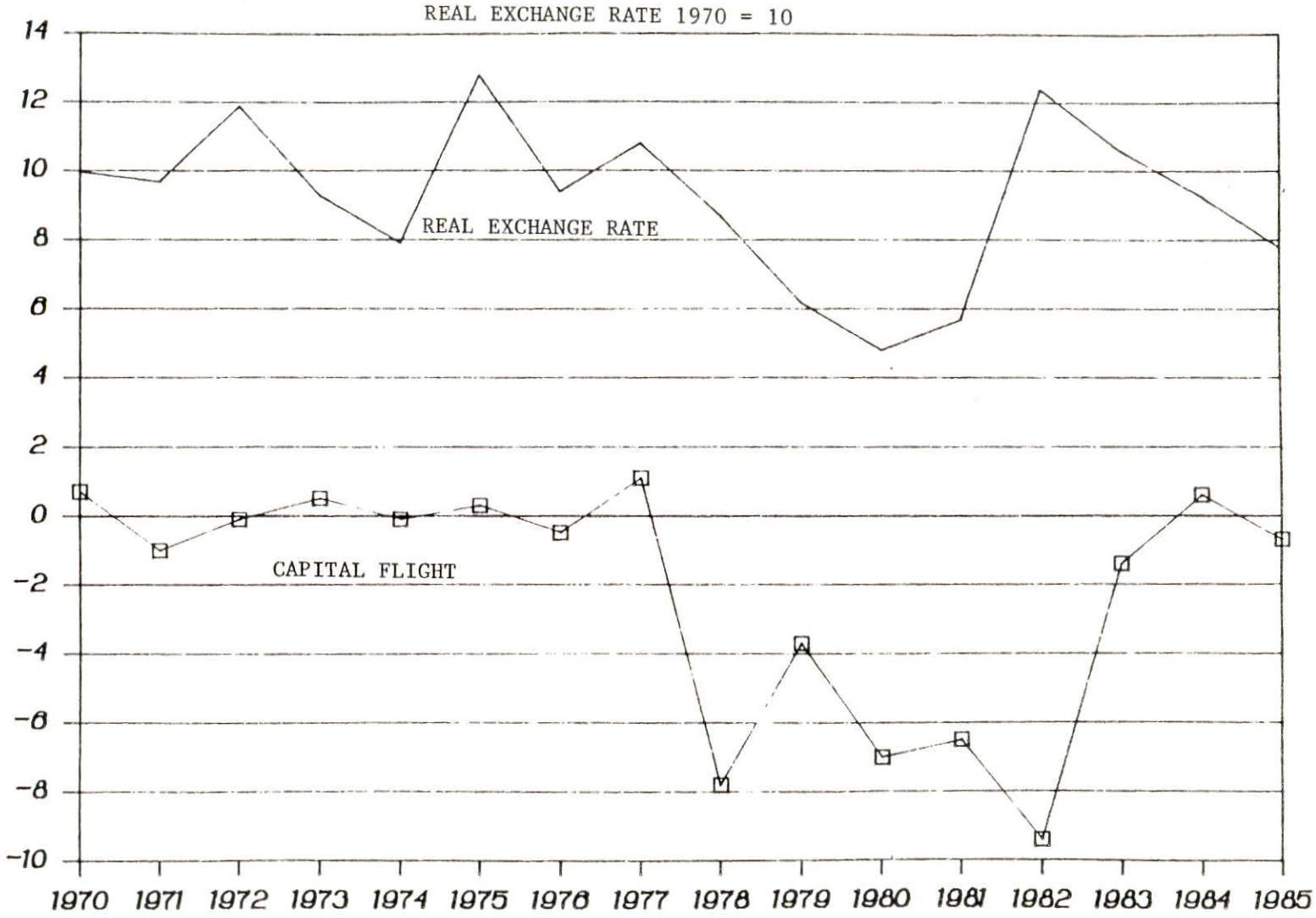


CHART 24

ARGENTINA - CAPITAL FLIGHT AND REAL EXCHANGE RATE 1970-85



There are other reasons that forwards the overvalued exchange rate as a cause which acts subtly behind the scenes of the flight of capital phenomenon. 23/ The exchange rate is perhaps the most important price signal in an economy. If government policy, in addition to upholding an overvalued exchange rate, lowers import duties, as happened in Argentina and other countries, a large part of industry ceases to be "profitable", that is, the internal rate of return on real assets declines. Thousands of industries and workshops close and capital assets are kept safe in dollars, in expectation of new investment opportunities. Inasmuch as the effect of the decline in the rate of return on real assets has already been taken up by the GDP in the regressions, there is very little to add to the real exchange rate to explain the outflow. However, this factor stays there, behind the supply of credit, the profitability of the economy and inflation as an indirect agent of capital flight. There is no doubt that in more comprehensive econometric models of simultaneous equations that

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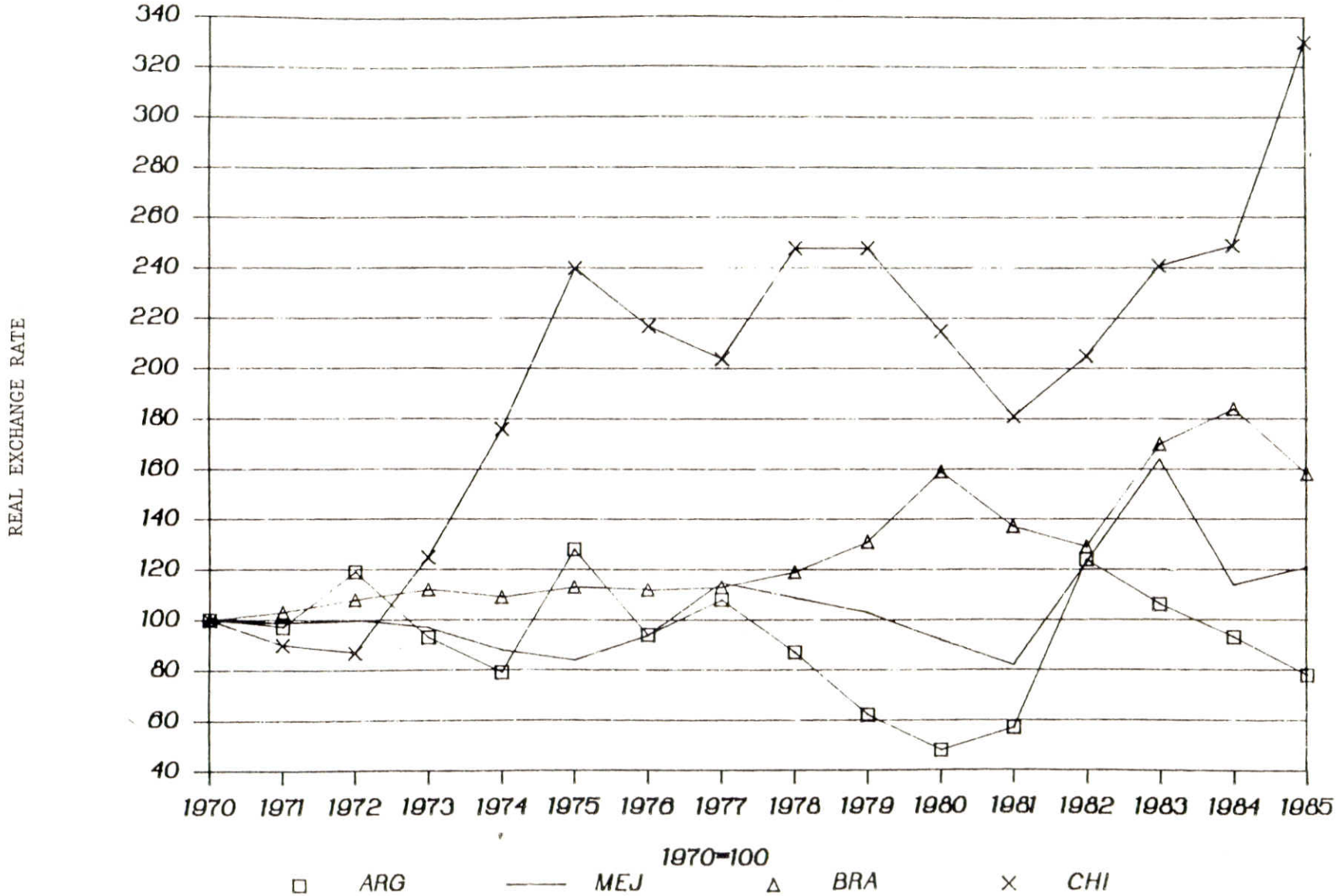
23/John T. Cuddington, op.cit. assigns to the real exchange rate a direct causal role in the flight of capital. The present author considers that that role is indirect instead. The work of Cuddington, dated November 1985, is subject to the following limitations: (a) it uses methodology 1 which contains underestimations of the phenomenon of capital flight in the period 1978-1982. It is worth remembering that this study also contains that defect in the case of Mexico; (b) it uses as a basis for analysis, the period 1974-1982, which provides only 9 observations, not enough to draw robust conclusions; (c) it does not include income as an argument, which creates a problem of specification; and (d) it uses as a exchange rate the difference between the real rate of exchange and a supposed "equilibrium" rate. The basis for selecting this equilibrium rate are weak. In addition, the equilibrium rate varies. Mexico and Venezuela, for example, require a differenct equilibrium rate of exchange according to the year, owing to the price of oil and to discoveries of new deposits, the latter factor (new deposits) being especially applicable in the case of Mexico. The equilibrium rate of exchange also varies with the amount the external debt service, etc. In short, this definition of the exchange rate variable introduces a certain measure of subjectivity in the study.

include the real, financial and external sectors of each one of the countries, the real rate of exchange would have an important and clearly defined place as an explanatory element of the outflow of capital. Construction of those models had never been undertaken up until now at the IDB, the World Bank and/or the IMF; to do so would take much more time than that allocated to the present study and, probably, the refinements of the analysis would not lead to conclusions very much unlike those contained herein.

CHART 25

REAL EXCHANGE RATE 1970-85

FOUR COUNTRIES



Lastly, it is important to point out that the relative decline in capital flight during years 1984 and 1985 in fact is due to a reduction in the supply of foreign credit and to a shortage of monetary reserves, just as the enormous flight of capital in the period 1978-1982 was associated with the excessive supply of credit and the plethora of reserves, without which the flight would have been impossible.

The rate of interest in the United States

Throughout this investigation, the rate of interest in the United States consistently shows an enormous impact on latin countries' state of external debt and of capital flight. On this point the regressions confirm the affirmation of William Cline:

> "Borrowers became accustomed to low real interest rates in the 1970s. For 1961-70, LIBOR on US dollar deposits minus the US wholesale price increase produced an average real interest rate of 4.1 percent. But for 1971-80, this average was -0.8 percent: real interest rates were negative on average for the decade. By 1979 and 1980 nominal interest rates were high (LIBOR averaged 13.2 percent) and although (US) inflation was virtually equal to LIBOR, high nominal rates caused a cash-flow squeeze for borrowers as discussed above. By 1981-82 declining inflation without a corresponding decline in interest rates meant high real interest rates (7.5 percent in 1981 and 11.0 percent in 1982), making matters worse." 24/

The worsening of the situation was raised several times to new heights by the impact of high rates of interest on capital flight.

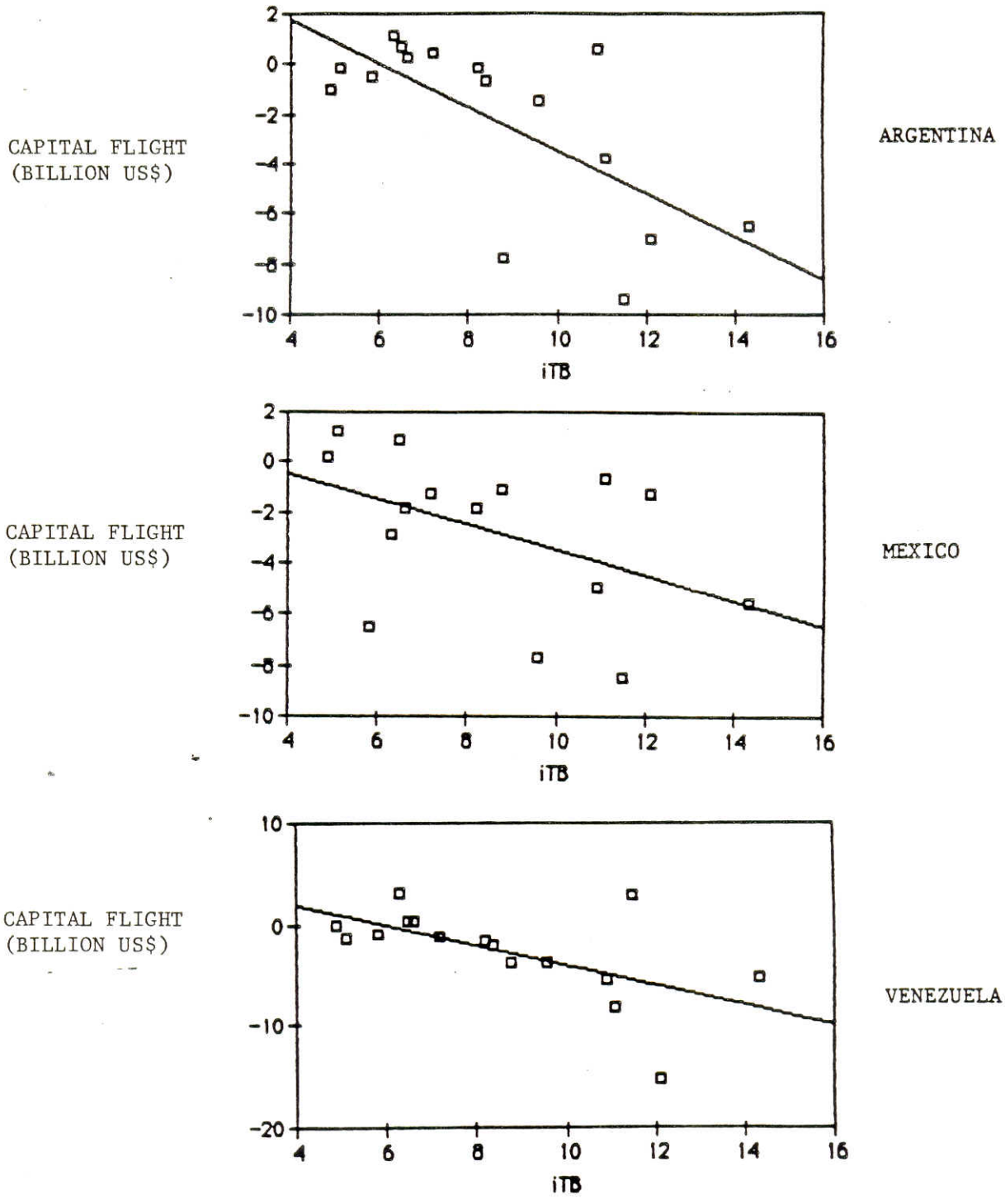
24/William Cline. International Debt Systemic Risk and Policy Response. Institute for International Economics, Washington, D. C. 1984.

Although in nearly all countries the rate of interest on United States Treasury bills is shown as a relevant variable to explain the flight of capital, in the case of the three countries with problems it acquires huge proportions: for each one percent of increase in the rate of interest in the United States, some 600 million dollars flow out of each country. 25/

25/See the coefficient of iTB in equation 1 for Argentina, equations 1 and 2 for Mexico, and equation 4 for Venezuela. The high t value gives substantial statistical degree of confidence to the coefficient of iTB. It should be emphasized, however, that this work does not call into question nor claim any particular measure of precision for the values in the regression coefficients: the purpose is to demonstrate "associations" or connections between the variables, for the purpose is to suggest "causes" and not to predict the futute.

CHART 26

INTEREST RATES IN THE UNITED STATES AND CAPITAL FLIGHT
ARGENTINA, MEXICO AND VENEZUELA



However, after a more careful and detailed examination one finds much more behind one point of change in the rate of the United States Treasury bills. The rise in the United States interest rate has been associated with inflation in that country in the period 1974-1980 and overvaluation of the dollar and the deflation of 1981-1984. The equation attaches such great importance to the rate of interest because neither inflation in the United States nor overvaluation of the dollar are shown therein and, therefore, their effect is picked up by the interest rate.

As Cline says, latin countries' debt was in part induced by the low real interest rate of the 1970s linked to the high rate of inflation in the United States. The public and private sectors of latin countries, courted by international private banking officials, were quick to borrow in response to price signals from New York. The private sectors were also quick to respond when the signals were reversed in 1981 and 1982, sending their money abroad in response to the decline of inflation in the United States, revaluation of the dollar and high interest rates. The public sectors, on the other hand, were slow to respond: instead of heavily devaluating currencies in real terms in 1981, they did not act until 1982-1983, and allowed ample time for the private sector to remove its money from the countries.

Multiple regressions are indeed useful to turn on a red warning light pointing that the problems of the external debt and capital flight have some causes that are outside latin countries and they stem from unsatisfactory performance of the international monetary system, which operates with fluctuating exchange rates and absence of macroeconomic

coordination between industrial countries. The latter, however, began to be corrected in September 1985 with the meeting of Finance Ministers of the Groups of Five in New York at the Plaza Hotel. It is obvious, however, that to figure out the exact mechanics of the process of interaction between international interest rates and rates of exchange of the principal currencies and their effect on the outflow of capital from our countries would require an international macroeconometric model with numerous simultaneous equations, estimated for example, with the two stage least squares method, or with adequate leads and lags structures to prevent simultaneousness from distorting the coefficients and, consequently, the assessment of "causes". These models may be constructed more efficiently in coordination with universities or specialized firms, such as Wharton or DRI, than they can at the headquarters of the IDB, the World Bank or the IMF.

It is likewise possible that the high rate of interest in the period 1981-1984 may have also have picked up the effect of the "safe haven" 26/ policy of President Reagan of the United States, with respect to the security of capital. On the other hand, some latin countries seem to have adopted the opposite policy of "heavy seas".

26/Sephen Marris Deficits and the Dollar: the World Economy at Risk. Institute for International Economics, Washington, D. C. 1985. Page 28.

Excessively large fiscal deficits in latin countries

The regression equations show a positive link between capital flight and the fiscal deficit: the greater the deficit, the greater the flight. Even though this result may be generalized to include Chile and Peru, in no case, however the link is stronger than it is in Mexico, as may be seen in equation 5. According to this, each percentage point of the fiscal deficit in relation to output would generate a capital outflow of 700 million dollars. Fiscal deficits are often the consequence of lack of foresight in government management. However, the citizens of a country are able to perceive the impending risk posed by the deficit in advance and hasten to place their money in a "safe haven" abroad. Fiscal deficits, as it is well known, tend to overstimulate the economy, causing aggregate demand to exceed supply. To bring both into line requires an increase of prices or an increase of imports. The increase of prices and the eventual devaluation almost always alter the relative prices of goods and services, making the conduct of economic affairs riskier. If the risks of local economic activity increase, external assets become more desirable on account of the greater security they afford. Admittedly, the fiscal deficit is not among the arguments for the demand of external assets proposed at first. But neither is there any contradiction with the overall philosophy of this study. For the two reasons mentioned earlier, the fiscal deficit is associated with inflation, future devaluations and greater risks of investing money in the local country.

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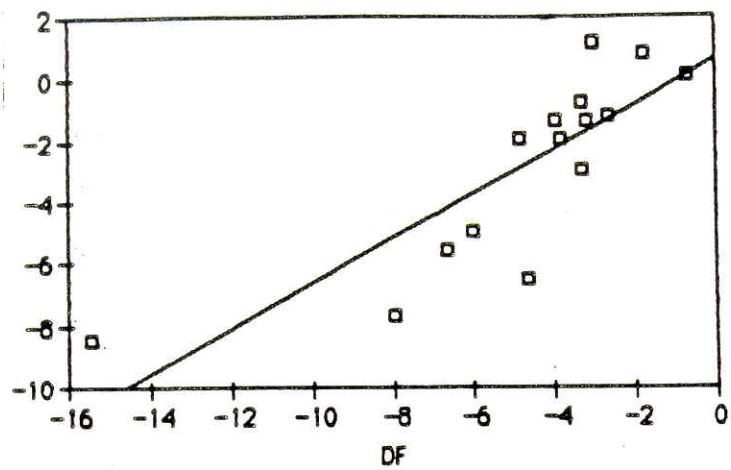
CHART 27

FISCAL DEFICITS AND CAPITAL FLIGHT IN

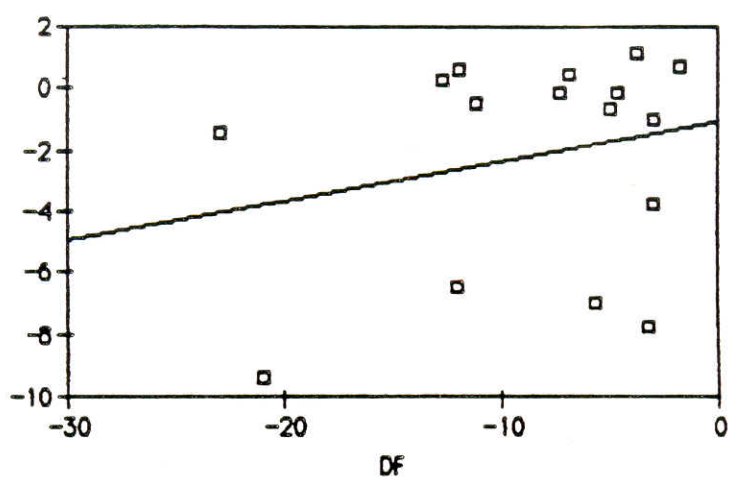
MEXICO AND ARGENTINA

CAPITAL FLIGHT
(BILLION US$)



MEXICO

CAPITAL FLIGHT
(BILLION US$)



ARGENTINA

From the theoretical point of view it is not hard to justify this specification. It might even be in the Polak model 27/and, in general, in the pre-Keynesian macroeconomics of the years 1890 to 1930, characterized by Poincares' stabilization experiment in France of the period 1926-1928 or that of Carlos Pelegrini in the Argentina of 1890. Basically, these old models recommend fiscal soundness and real devaluation as the remedies for macroeconomic ills. We will not enter upon a detailed discussion of these because they are well known and formal descriptions of them are available. 28/ In developing countries without adequate capital markets, the fiscal deficit is financed through the creation of money, which generates inflation, which in turn brings about exchange overvaluation and external disequilibrium. Thus, expectations of devaluation grow in advance and the public seeks refuge in foreign currency. It is noteworthy that the Polak model, often used at the IMF, consists of two simple equations. One of them constitutes the balance sheet of the central bank, wherein assets must equal liabilities, that is, international reserves plus domestic credit (assets) must equal the monetary base (liabilities) (RI + ICR = Mo).

27/J.J. Polak "Monetary Analysis of Income Formation and Payment Problems", IMF staff papers, volume 6, 1957. It is worth noting that the Polak model is inapplicable to the United States and other countries where the government has prohibited borrowing money from the central bank. On that assumption, the fiscal deficit financed by means of bonds placed in the capital market increases the interest rate in the country, attracts international capital and overvalues the currency, as happened in the United States in the period 1981-1984. That is the opposite of what happens in developing countries wherein the government borrows directly from the central bank. In that institutional arrangement, the fiscal deficit is centrifugal and not centripetal with respect to international financial capital.

28/Rudiger Dornbusch "Stabilization Policies in Developing Countries: What we have learned". World Development, Summer 1982.

On this premise, the International Monetary Fund has traditionally recommended the countries that they control domestic credit but not the quantity of money, for it is an endogenous variable in a system of fixed exchange rates. That course of action is consistent with the objectives of that institution which are mainly concerned with external equilibrium and improvement of the balance of payments. This improvement materializes in an increase of international reserve assets, which entails an increase in the monetary base.

If the focus is on controlling the quantity of money, according to the Friedman-style 29/ monetarism in vogue in many of latin countries, in conjunction with fiscal laxness and increase in credit to government, it is obvious that international reserves must decline for reasons of algebraic consistency (IR = Mo - ICR). Local financial capital anticipates assured inflation and external disequilibrium, a by-product of government inconsistency, and seeks refuge abroad. This causes an early drop in central bank reserve assets, making the accounting identity to hold true.

29/In defense of Friedman it should be said that he urges monetary control but in conjunction with free-floating exchange rates. For several reasons this last-named are inconsistent with the development needs of latin countries. Even monetary and exchange policy in the United States, after September 1985, constitutes a recognition of how dangerous this system may be for the developed countries themselves and for the international monetary system. On this point, see Stephen Marris Deficits and the Dollar. The World Economy at Risk op.cit.

The high rate of local inflation

The high rate inflation acts as an engine driving capital flight. That clearly follows from the regression equations 4 for Mexico, 2 for Venezuela, and others, mainly in the case of Brazil. This result is expected inasmuch as the rate of inflation is a traditional argument in the demand function for money. When inflation increases, the demand for money decreases. Therefore, inflation must also be an argument to explain the demand for external assets. This demand must increase when the rate of inflation increases. In our equations this theoretical configuration of signs is empirically validated. 30/

Of course, it has been generally proved that inflation is inexorably tied to major variations in relative prices and therefore all economic activity becomes riskier in the face of inflation. Once consumers and producers owing to inflation, forget the prices of products, markets become blurred and no longer effectively allocate resources according to the rules of competition, the law of one price and Pareto optimality. All these things are obvious and need not be discussed at length because they are fairly uncontroversial truths of economics. Particularly worth noting is that inflation usually tends to overvalue real exchange rates and, therefore, it reduces the profitability of the global economy and through this indirect way capital flight is helped.

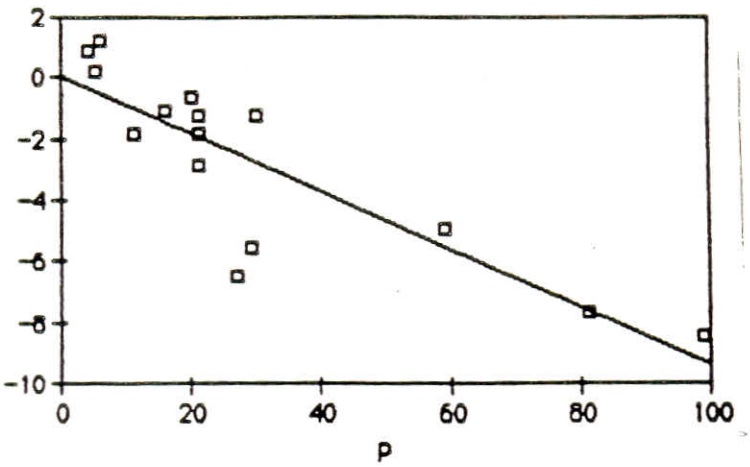
30/Owing to the sign (-) of the outflow of capital, the sign of P must also be (-).

CHART 28

CAPITAL FLIGHT AND INFLATION

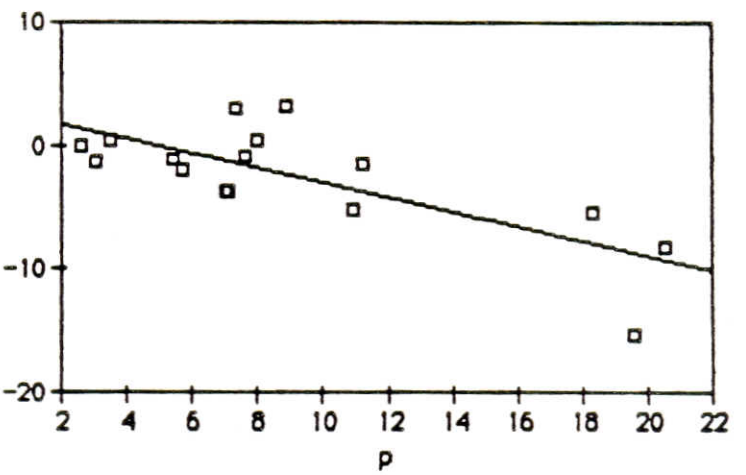
MEXICO AND VENEZUELA

CAPITAL FLIGHT
(BILLION US$)



MEXICO

CAPITAL FLIGHT
(BILLION US$)



VENEZUELA

Inflation in Mexico, in conjunction with the income tax, creates powerful motives for citizens to send their money abroad: since interest payments are deducted as "expenses" for purposes of the income tax, and interest in nominal terms in pesos is high because it includes the expected rate of inflation, the deduction is substantial (in fact in this way payment of principal is deducted twice), and it becomes desirable to borrow even though the money is not needed. Borrowed local money converted into dollars is deposited in foreign banks where it earns interest at a high rate. Using money on deposit as security, additional funds may be borrowed abroad which are registered with the Bank of Mexico in order to obtain subsidized exchange insurance against devaluation. Because of this operating mechanism, it is possible to evade taxation on local income through deduction of interest, and capital is kept safe abroad where it earns a good income and at the same time serves as security for very advantageous foreign borrowings due to the subsidized exchange insurance.

Once again, the examples of Brazil and Chile, which have managed to temper the centrifugal effects of inflation on capital by indexing the exchange rate, are relevant. Moreover, observation of the real rates of exchange in those two countries indicates that they have pursued a careful policy of real devaluation in the period 1970-1985, that is, the rate of exchange has kept ahead of inflation, making capital flight more costly and inconvenient as the profitability of the local economy is increased (see chart 25).

The local real interest rate

Empirical evidence on the effects of high real interest rates, as a means of braking the outflow of capital in countries beset by high inflation, is ambiguous. In Argentina, equations Nos. 5 and 6 point to the negative: the real interest rate sign indicates that if the interest rate rises, capital flows out; if the interest rate falls, capital flows in. Similar findings have been obtained for Brazil with a real interest rate calculated on the basis of the Readjustable National Treasury Bond (ORTN).

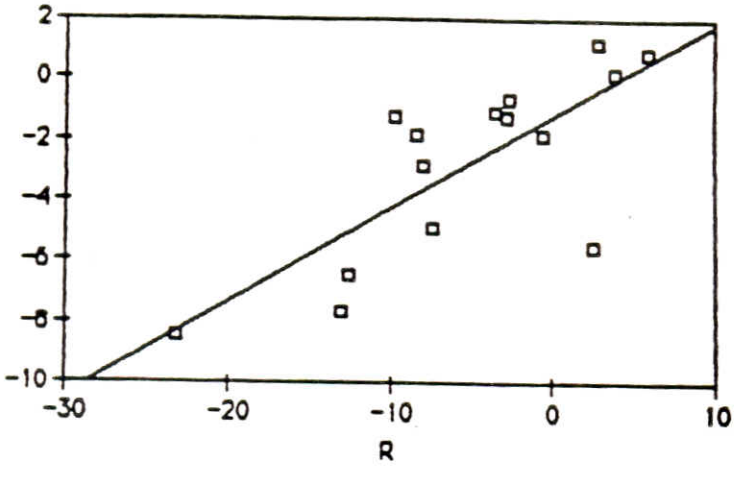
In Mexico and Venezuela, on the other hand, the effect of the real interest rate is the right one. The positive sign of R in equations 1-2 for Mexico and 1-3 for Venezuela, indicates that when the real interest rate rises, capital flows in or remains in the country. With depressed real interest rates, capital seeks better returns abroad. This Mexican and Venezuelan result seems more in keeping with common sense.

CHART 29

CAPITAL FLIGHT AND REAL INTEREST RATES

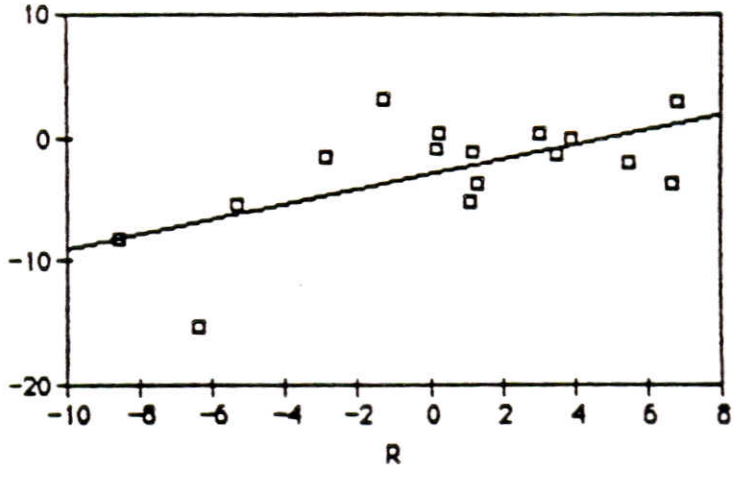
MEXICO AND VENEZUELA

CAPITAL FLIGHT
(BILLION US$)



MEXICO

CAPITAL FLIGHT
(BILLION US$)



VENEZUELA

However, empirical evidence from Argentina and Brazil, requires theoretical support: high rates of interest are often the counterpart of high exchange risks too. This is obvious when one examines the well-known formula of covered interest parity explained in any modern textbook of international economics.

$$\frac{E2}{E1} \quad (1+i^*) = i + i$$

where E_1 is the present rate of exchange, E_2 the expected future rate of exchange, i* is the international interest rate, and i is the local interest rate. It is evident that the more overvalued the rate of exchange E_1, the greater will be the expectation of devaluation towards E_2 and the local rate of interest will have to be higher to offset the risks of that devaluation. Consequently, the equations for Argentina and Brazil are not actually at variance with economic theory nor with common sense. Chart 30 shows the negative association between real interest rates and outflows of capital. Chart 31 shows the clear-cut positive association between the real interest rate and exchange overvaluation in Argentina. It also shows that, paradoxically, the greater the interest earned by speculators who use dollars to purchase pesos and place them at interest in the local market and at the end of the period return to dollars, the greater is the outflow of capital (see in equation 3 for Argentina, the negative sign of INT. D.P.D.)

If we also consider two additional factors, the relevance of our paradoxical econometric results is strengthened: (a) since the demand for

money M1 is negatively linked with the rate of interest 31/, when the rate of interest rises, the demand for money on the part of the public declines and the amount of that decline in cash or checking account balances may be put into local time deposits that yield interest, or alternatively it may seek foreign financial assets to evade the risk of devaluation usually associated with high rates of interest.

In Venezuela, a country of relative monetary stability where petroleum prices for years have yielded abundant foreign exchange, the risk of devaluation was minimal. Hence, the positive association between high rates of interest and the decline in capital flight. In Argentina and Brazil, countries whose development has historically been constrained by the shortage of foreign exchange and chronic inflation, the risk of devaluation induces holders of cash or checking accounts to send their money abroad or to buy dollar currency, 32/ in spite of the rise in the local rate of interest; (b) another economic argument, which lends rationality to the negative sign of the interest rates in Argentina and Brazil, is obvious: high rates of interest depress private investment and

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31/William Baumol, "The Transactions Demand for Cash: An Inventory Theoretic Approach", Q.J.E. November 1952. Stephen M. Golfeld "The Demand for Money revisited". Brookings Paper on Economic Activity, Washington, D. C. - the Brookings Institutions 1973. A contrary proposition to that of these authors and to traditional economic theory is upheld by Ricardo Arriazu in a work entitled "Politica Monetaria y Tasas de Interes en el Contexto de una Economia En Transicion Hacia una Mayor Apertura", included in the book Politica de tasas de interes, inflacion y desarrollo en America Latina. Inter-American Development Bank, 1982. Arriazu's theory was used as a basis for economic policy in the period 1977-1980 and its soundness may be assessed by the results of that policy.

32/C.L. Ramires-Rojas "Currency Substitution in Argentina, Mexico, and Uruguay". IMF Staff Papers, Vol. 32, No. 4, December 1985.

economic activity. They cause recession and reduce the return on real assets accordingly; and therefore they stimulate the flight of capital, as was discussed earlier.

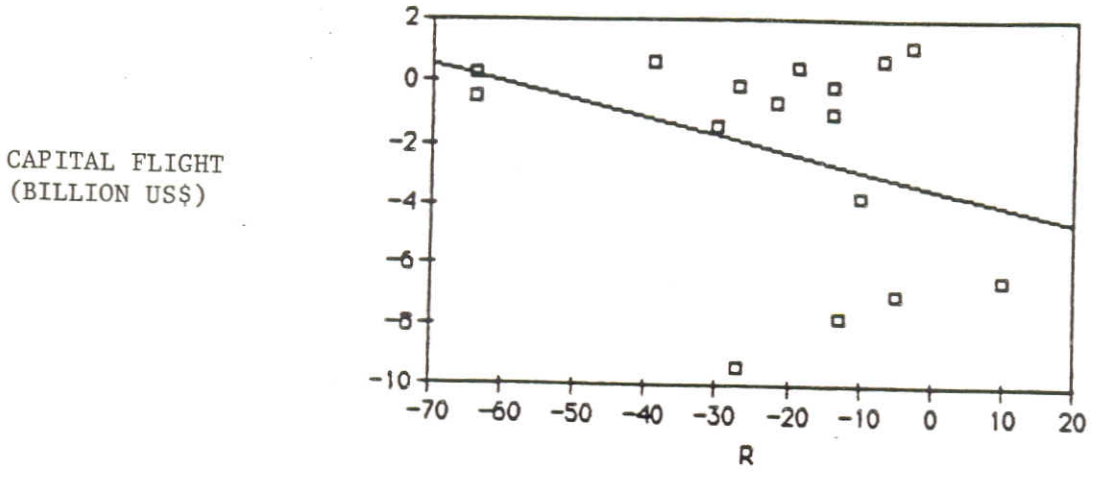
Empirical evidence casts doubts on the advice our countries are given sometimes to apply high real interest rates as a macroeconomic remedy to foster development of the financial sector and end "financial repression", in the belief that high rates of interest stimulate real investment 33/, inflows of capital and economic development. The advice suggested by our regressions is to eliminate inflation and the fiscal deficit, not to overvalue the currency, and above all, to adopt a firm, feasible and consistent strategy for development. This strategy may be based on the exportation of manufactured goods, which requires an undervalued real rate of exchange for local industries to be in a position to compete internationally. Real devaluation is hard to implement in Latin America inasmuch as the abundant supply of exports of traditional raw materials, the worldwide demand for which is inelastic, creates a built-in tendency toward exchange overvaluation 34/ which must be fought with determination; otherwise it will tend to submerge the countries in a rhythmic pattern of stop and go growth.

33/Ronald I. McKinnon Money Capital and Economic Development. The Brookings Institutions, 1973. On page 61 an investment function is posited with a positive partial derivative with respect to the real rate of interest, within a certain range.

34/See Conesa, Eduardo The Argentine Economy. Policy Reform for Development. Manuscript. Center for International Affairs, Harvard University, 1985.

CHART 30
REAL RATES OF INTEREST AND CAPITAL FLIGHT

ARGENTINA



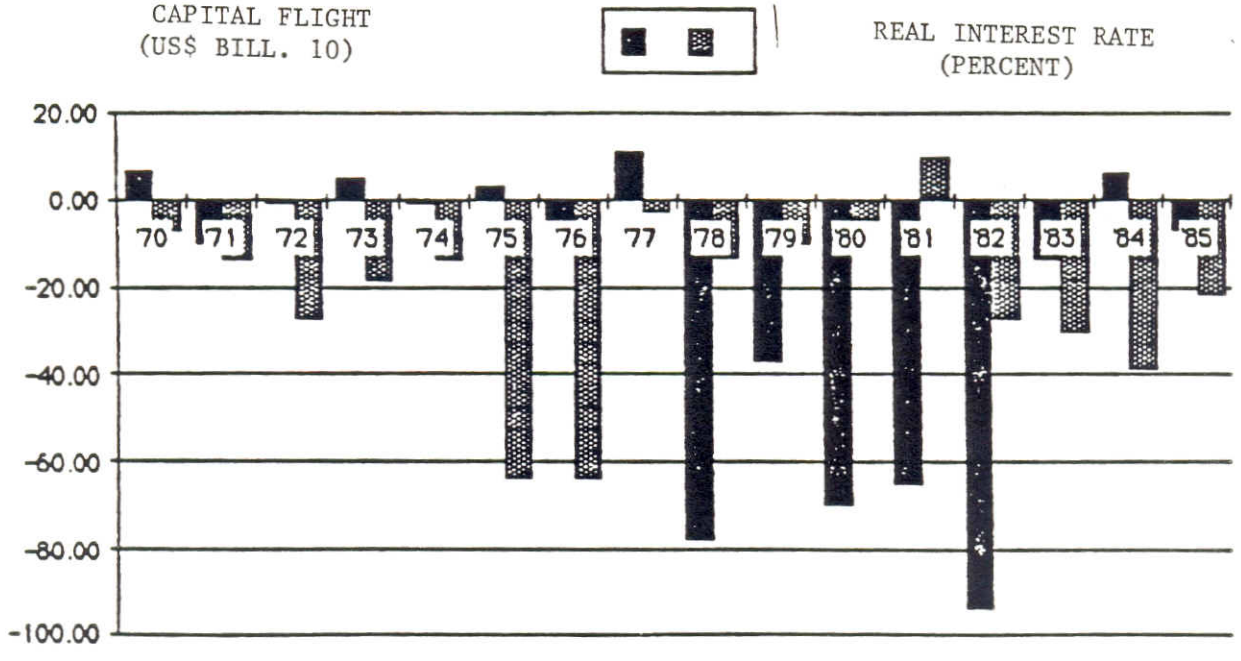
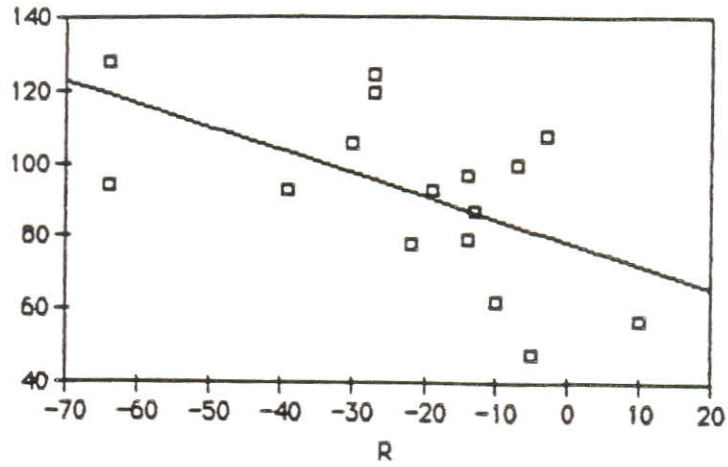
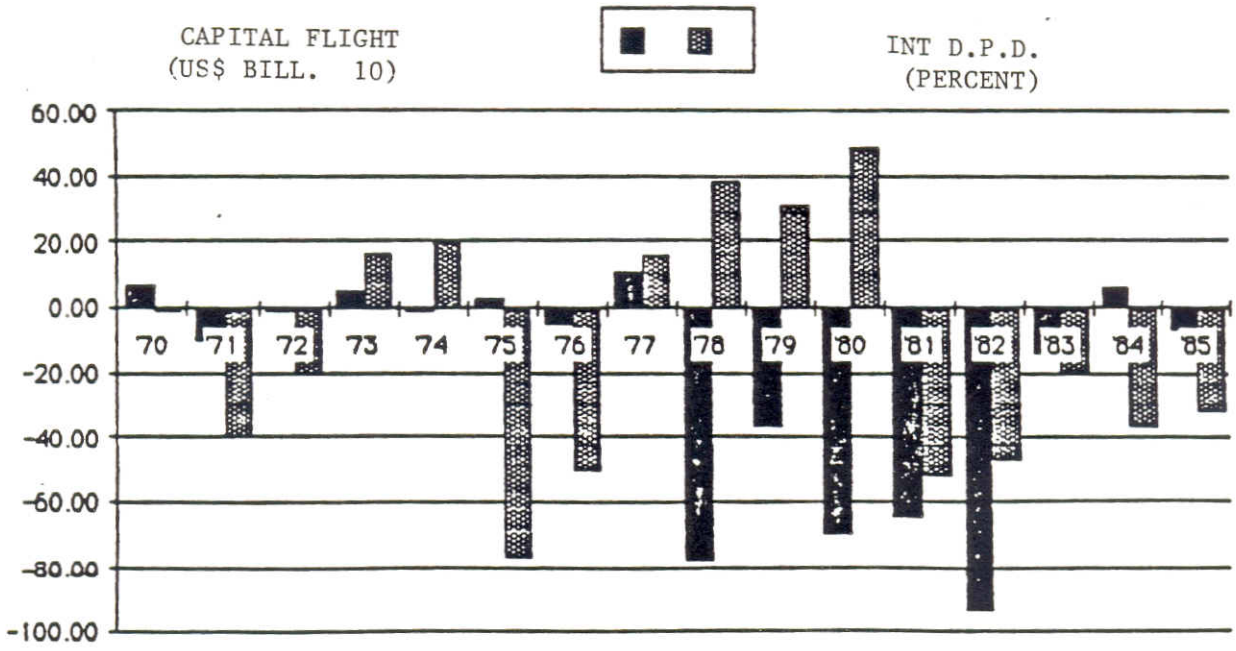


CHART 31
ARGENTINA

REAL INTEREST RATES AND REAL EXCHANGE RATE



INT D.P.D. AND CAPITAL FLIGHT



Does capital ever return ?

Although capital flight may imply rational behavior on the part of local investors individually considered, one must ask to what extent this behavior damages the development process. Equations Nos. 7 and 8 for Mexico and Nos. 5 and 6 for Venezuela confirm a strong negative association between gross domestic investment and capital flight in the current period. Inasmuch as investment is the engine of development, damage is indeed done but with certain limitations. For instance, the flight of capital which returns in the form of external credit for local investment (theory of Khan and Ul Haque) does not seem to be very harmful.

But financial assets that flow out of a country and find haven abroad for a longer period of time, give rise to a different situation: if they had been used immediately to provide for local real investment, it is likely that the rate of return to the country would have been much greater. That capital would have created jobs and generated output that would have rebounded to the benefit of greater consumption and investment and thus to greater growth of the country in the future. Besides, the rate of return to the individual capital investor would probably have been greater as well, unless the risks of expropriation or chaos had materialized. The implicit assumption in these considerations has been that capital has flown in spite of the existence of sound economic policy on the part of governments and the right price signals by the economic system. In those conditions, the flight of capital does indeed damage the development process.

However, if the country fails to grow because of the ineptitude of government policy, mistaken or unreliable price signals emitted by the economic system, a low rate of return on investment and societal tensions generated by stagnation, it is evident that the flight of capital and its implicit negative prognosis for the national future is reasonable in the circumstances, although, it might be a self-fulfilling prophecy. One point is undoubtedly true, however: if property rights are guaranteed and there are clear-cut and constant rules of the game, in conjunction with a consistent and rational development policy on the part of government, it makes no sense for capital investors to leave a large part of their money abroad, yielding low interest, when they might enjoy with near equal peace of mind, a much higher return in Latin America. In the long run, there will be a tendency on the part of capital owners to invest in the local country, if more nearly normal conditions of security and profitability obtain.

To achieve that it is necessary to remove the causes of the flight and thus enable the return. The stock of fugitive capital still belongs to residents of the country who, because they live there, are naturally interested in the development of their local businesses. It should be emphasized, however, that part of what we have called capital flight herein could pertain to multinationals. This capital also seeks benefits and security. Consequently, much of the capital flows out and returns, even through external debt, as mentioned earlier with respect to Mexico and Venezuela.

In the case of Argentina, even under the prevailing conditions of insecurity, capital does return but it is not used for investment but for consumption. Equation No. 8 for Argentina points in that direction. 35/ This equation suggests that 26 percent of departed capital returns in the same period for use in consumption, 16 percent (0.26 x 0.62) in the next period, 10 percent (0.26×0.62^2) in the next subsequent period, 6 percent (0.26×0.62^3) in the next, and so on. It must be recognized, however, that this statistical inference has little reliability. 36/

It is interesting to note that capital displays some tendency to be reinvested or consumed in latin countries in spite of the lack of growth, the presence of inflation, the persistence of government deficits and, in

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35/The Use of capital flight as an independent variable crates problems because of measurement errors implicit threin. According to Peter Kennedy in A Guide to Econometrics op. cit, "In the case of a single explanatory variable, errors in measuring this variable lead to negative correlation between the error term and the incorrectly measured regressor causing BOSL be biased downward. When there is more than one indenpendent variable, the direction of bias is more difficult to determine". For an explanation of the "Koyck lag", used in this regression equation, any textbook on econometrics is useful, for example, Wonnacott and Wonnacott, Econometrics, Wiley, New York, 1969, p. 145.

36/In equation 8 for Argentina, the t value of the independent variable FC, equal to - 1.07, indicates that there is one probability out of six that the ratio we are employing here would have a contrary sign and, nevertheless, we would obtain an equal or grater t value in absolute terms. Admittedly this t value is insufficient, but adoption of the opposite assumption that capital which leaves does not return, it seems a less well grounded alternative.

general, questionable economic policies. 37/ No doubt, in the presence of a well-conceived development strategy such as that of Mexico in the fifties to seventies or that of Argentina in the years from 1890 to 1930, capital would return quickly. All the regression equations point in this direction. For example, equations 2 for Argentina, 3 for Mexico and 4 for Venezuela show that if output increases, capital comes back. Subtracting the effect of excessive external credit and other causes, such as exchange overvaluation, high rates of interest in the United States, inflation, and the fiscal deficit included in the IDR variable and in the constants, at a 6 percent growth rate, Argentina would attract 1.5 million dollars per year. Similar amounts follow from Chart 32 for Mexico and Venezuela. The other regression equations point in the same direction: once the causes of flight are removed, capital comes back. It may be argued that part of the capital that departs a country will always remain abroad for reasons of portfolio diversification. That is true. But we must consider that foreign capital investors will also wish to diversify their portfolios and invest in Latin America, if latin economies become less risk-prone and more profitable. So, the remnant of departed capital flight that does not return for reasons of portfolio diversification would be more than offset.

These results imply that the capital requirement models used at the World Bank and the IDB must be recalculated. Interest on departed capital

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37/Cuddington's, op. cit., uses dummy variables, to demostrate the same conclusion: capital leaves and returns. It would even be more likely to return than to leave.

should be included as a credit on the current account of the balance of payments, and one would have to consider the assumption of a gradual return of actually departed capital. The assumption of "neutrality" used in the IDB's 38/ 1985 Economic and Social Progress Report and in other projections by the World Bank and the IMF, that is, that "flight capital that leaves will never come back", would be invalid. It would seem that in the 1980s the lack of capital does not constitute, as it did earlier, the true constraint on growth. Capital, whether local or foreign, goes where there is a good combination of economic growth and security, simply because it earns a high return there. The true constraints are to be found therefore in the policies of the countries, in the process of selection of leaders (competent leaders generate sound policies), in the educational system, and in the know-how, which also is attracted by adequate policies.

Incidentally, it is appropriate to bear in mind that the three studies cited, done by the IDB, the World Bank and the International Monetary Fund, arrive at the conclusion that with "good" growth policies,

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38/Inter-American Development Bank, IOES 1985. World Bank, Prospects for Resummed Growth in Latin America, 1984. International Monetary Fund, World Economic Outlook, 1985.

Latin America may pay its debt. 39/ The problem then is the design of these "good" policies. These policies should not make income distribution even worse, for otherwise they would be neither good nor feasible. Nor should they overburden capital, reducing its profitability, for then departed capital will not return and capital still in the country will seek to escape.

So, in Latin America, "good" policies are compelled to not make income distribution worse nor to diminish genuine business profits, for these profits are the engines of growth and investment. Therefore, what is needed is to design economic policies to better allocate resources and to drastically lower the "rents" generated by government intervention and the patrimonial state. Essential to that purpose are rationalization of the economic system of some latin countries, reduction of protectionism and acceleration of growth in the industrial countries, in order that latin countries may thus pay their debt out of greater productivity and exports.

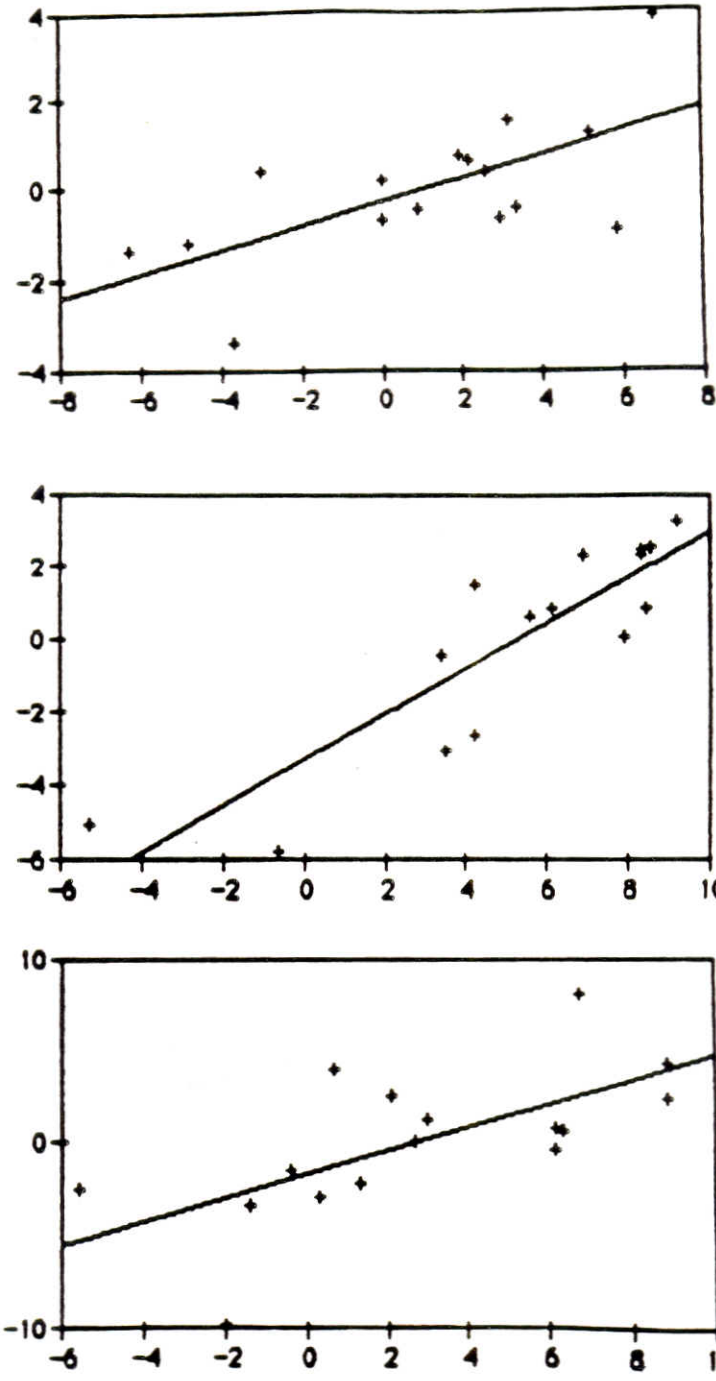
39/It is appropriate to recall also that in 1919, in his famous book The Economic Consequences of the Peace, John Maynard Keynes held that Germany could barely pay service on a war reparations debt greater than 100 million pounds sterling for one year (equal to 500 million dollars at that time and equal to 2,000 million dollars per year at the present time). This figure represented only 20 percent of Germany's exports. John Maynard Keynes, The Economic Consequences of the Peace, 1919, London, MacMillan, 1984 edition, page 126.

CHART 32

ECONOMIC GROWTH AND CAPITAL INFLOWS

(OTHER CAUSES OF CAPITAL FLIGHT REMOVED)

ARGENTINA, MEXICO AND VENEZUELA



Increasing the profitability of the economy and reducing risks

The central message of this study consists of increasing the rate of return on local real assets and at the same time reducing the risks of investing in those assets. The key variable for increasing the rate of return on local assets is the growth of gross domestic product. It is important to bear in mind that it will always be possible to artificially increase the rate of return of some industries or specific sectors by granting privileges, exemptions, exchange permits to import cheap inputs, and the like, but that is done only at the cost of reducing profitability in other sectors. Unless there is scientific certainty that the growth of productivity will be greater in the sector benefitted by privileges, this method of promoting development is self-defeating for it will not increase the rate of return of the economy as a whole. It may actually reduce it. What is even more important is that the case-by-case method of granting exemptions and privileges generates uncertainty about who will receive them and who will not. These risks increase when changes of government take place, for officials with different "criteria" may take office.

There should be a better method of increasing the profitability of the economy as a whole. One prescription that is often given to Latin American countries rests on comparative advantage. In sectors which enjoy comparative advantages, the cost of production is low and therefore the rate of return should be high. The problem is that Latin America faces very low worldwide demand elasticities, both in relation to prices as well

as income, for its raw materials exports. 40/ Consequently, if commodity exports grow much in volume, their prices fall. A cost-benefit analysis must be done in those cases using as a basis for computing benefits, not the international price of raw materials, but the marginal revenue of them. Using this method, the social rate of return on these activities is much less than the apparent one. Hollis Chenery says in that connection:

> "When export demand has a low elasticity, marginal revenue should be used in place of average revenue. since it is quite likely that the market evaluation of the atrractiveness of an investment in exports will differ from this social evaluacion, some form of government intervention may be warranted." 41/

Needless is to say, the so-called marginal revenue as a price signal is obtained by subtracting from the international price (= average revenue), optimal export duties equal to the inverse of the price elasticity of international demand for each export commodity. Besides, export duties, on the one hand, generate a high equilibrium rate of exchange, which is needed to export manufacturers and to grow; on the other hand, they help to reduce the government deficit and lower inflation. In other words, for the three reasons, higher growth, lower fiscal deficit and inflation, a contribution would be made to reverse the flight of capital.

40/Institute for Latin American Integration (INTAL). Inter-American Development Bank. Terms of trade and Optimum Tariff in Latin America. Edited by Eduardo Conesa and Jose Nunez del Arco. Washington, D.C., 1984.

41/Hollis Chenery "Comparative Advantage and Development Policy". Reproduced in Structural Change and Development Policy. A World Bank Research Publication, Washington, D.C. Oxford University Press, 1979, p. 279.

So, profitability of the economy should increase by setting the rate of exchange at a suitable level for the exportation of manufacturers and by applying "optimal" export duties on raw materials of inelastic world demand. This is the most relevant and consistent kind of government intervention for the region. Many others that are presently being used in Latin America are counterproductive for, as we said earlier, they generate inefficiency and uncertainty, which are associated with capital flight.

Another method of increasing the profitability of the economy would be to increase protection for industry. To avoid the case-by-case method which tends to create uncertainty and risk, as mentioned earlier, and also to prevent poor allocation of resources stemming from price distortions generated by unequal and arbitrary customs tariff protection of some industrial goods to the detriment of others, one might consider a uniform import tariff equal for all goods. This approach, although technically more appropriate than the present-day methods of protection, has the drawback that it overvalues the currency because it artificially reduces the demand for imports. Therefore, exports are discouraged and industry is hindered in the attaining economies of scale; therefore, productivity growth in the long run decline, costs increase and profitability falls. This is why the best method of increasing the profitability of the economy is that suggested at the beginning: a heavily devalued real rate of exchange for exporting manufactures along with export duties on commodities with inelastic international demand, and maintenance of this type of real exchange at all costs so as to reduce business risks. Brazil and Chile are proceeding more or less along these lines (see chart 25 for the cases of Brazil and Chile).

Generated by the method, demand for nontraditional exports sparks the engine of development of the economy. In order to avoid overheating that engine, the cold water tap provided by the supply of imports must be opened, import tariff protection must be reduced and standardized, exemptions and discretionary powers of officials removed, for they generate uncertainty and risk and blur the price system's ability to properly allocate resources. With an undervalued real rate of exchange, the need for exchange controls disappears. The benefit for that disappearance is greater if we consider that the aim is to induce the coming back of capital. Any measure that creates risks or fear of becoming trapped in a country is at variance with the purpose in mind. Moreover, exchange controls are often a form of implementing exchange overvaluation, a policy which this study suggests should be avoided.

It is appropriate to emphasize that when this study suggests increasing the profitability of the economy, it does not propose to increase benefits for business at the cost of labor income but at the cost of the enormous rents generated by import and exchange permits, industrial promotion decrees, high and unequal customs tariffs, central bank guarantees and insurance and other "selective"policies which now overburden many Latin American economies. Of course, someone will counter that the high-performance countries like Japan, Korea and Taiwan also have an interventionist state. That is true. But these countries, during the 1960s and 1970s and up until 1985 have had a most undervalued exchange rate and, in addition, have an unusually "meritocratic" and predictable system for entering and promotion in public service. Intervention by competent and permanent officials is one thing. Government intervention by

ever-changing officials who are selected by pressure groups or simple political patronage is something else. Our countries must break this vicious circle: excessive intervention by an incompetent state yields enormous rents to some individuals or favorite groups. Later on, the belief that ownership is tantamount to theft tends to be confirmed and a feeling of injustice is created among ordinary citizens who are pushed toward extreme solutions which, of course, are not conducive to development. Our countries are thus converted into battlefields of the major powers and still more flights of capital take place.

An economic system that affords equality of opportunity, eliminates undeserved earnings, sanctifies property rights acquired by work and intelligence and operates under simple, clear-cut, uniform, transparent and stable egalitarian rules, would stimulate the return of capital and economic development and would even make the earlier vicious circle into a virtuous one.

The fiscal deficit, according to the regressions, stands charged as one of the culprits in the flight of capital on account of direct lending by the central bank to the government and Polak's equation mentioned earlier. The importance of public perception is worth noting, more than the fiscal deficit itself. If the public associates the fiscal deficit with risk, it is necessary to avoid the fiscal deficit. To persuade the public to invest in really productive activities requires that the investor be assured that there will be no fiscal deficits in the future. This might be achieved if new central banking laws were enacted to strictly prohibit the government from borrowing money from the organization which governs

money. A long time ago, at the beginning of the century when the state had no money, it simply could not pay the salaries of its employees nor its suppliers. This made the authorities so unpopular that they took great pains to secure government revenue, collect taxes on time, and have efficient fiscal administrations. Emphasis must be placed on the need for credibility of policies. One form of achieving that would be for latin countries' governments to close out their accounts with the central banks and having the organic acts of these institutions set forth a prohibition on government borrowing from them, with severe penalties for noncompliance. In order to further enhance credibility, the economic private sector, that is, companies and labor organizations should elect the officials of the central bank independently of the government. Thus, the new policies would enjoy credibility, generate trust and put an end to the risk, whether real or imaginary, that inspires some policies in force in Latin America in the minds of the private investor.

In conjunction with the foregoing measures, another form of diminishing the risk of local investment is by reducing inflation. Inflation in most of latin countries began with fiscal deficits financed with money issued by the central banks. The excess of aggregate demand thus generated is supplied in part out of the increase in the supply of imports, but a crisis in the balance of payments immediately follows. Another part of the excess demand is checked by higher prices. Hence the need to devalue currency; devaluation in a setting of high protection for industry refuels the inflation already in progress because businesses accede to the higher salary and wage demands required to offset the growing rise in prices which was caused by the fiscal deficit. Businesses do not

resist salary and wage demands because they can transfer the higher cost to prices, given the infinite protection offered by extremely high customs tariffs and exchange controls.

Forty or more years of structural inflation in Latin America can be explained in this way. Central banks sometimes acted passively, increasing the money supply so as to maintain economic activity with a growing level of prices, reconfirming the so-called structural inflation after the fact. This analysis thus confirms the conclusions set forth in the foregoing paragraph: one way to break with the mechanisms that create uncertainty and flight of capital would come into being if the main legal function of the monetary authorities were to purchase and sell foreign exchange for the purpose of maintaining the initial devaluation, and if lending to governments were forbidden to them.

Summary and conclusions

The central message of this study consists of increasing the rate of return on local real assets while reducing the risks of investing in those assets. To increase the rate of return on local assets, the key variable is the growth of gross domestic product. It is important to bear in mind that it will always be possible to artificially increase the rate of return for some industries or specific sectors by granting privileges, exemptions, exchange permits to import cheap inputs and the like, but that is done at the cost of reducing the profitability of other sectors. Unless there is the scientific certainty that productivity growth will be greater in the privileged sector, this method of promoting development is

self-defeating for it will not increase the rate of return of the economy as a whole. It may even reduce it. But what is most important is that the case-by-case method of granting exemptions and privileges create doubts about who will be benefitted and who will be harmed. Thus the economic system is disrupted. These risks increase when changes in government take place, for officials with different "criteria" may be appointed.

For Brazil, Chile, Colombia and Peru, the flight of capital in the period 1970-1985 was not important or non existent. In Argentina, Mexico and Venezuela, on the other hand, the flight of capital has assumed considerable proportions. Even the problem of the external debt that burdens these three countries is not well stated. It is not external debt, it is a problem of capital flight fed by a lack of trust in the economic system on the part of the citizens of the respective countries. In effect, the net external debt of these three countries is, as shown in table 3, only 24, 54 and 2 billions dollars respectively.

TABLE 3

1985 NET EXTERNAL DEBT
(billions of dollars)

	External debt	Capital flight (-)	Net external debt
Argentina	51	27	24
Mexico	99	45	54
Venezuela	34	32	2

Besides, Venezuela is just barely a net debtor country. Much of the outflow of capital from Venezuela may be justified, in strict terms of economic rationality, by the lack of absorptive capacity of the economy. However, a substantial part of the outflow could have been avoided through a perfectly feasible rate of the economic growth at 5 to 6% per annum, instead of the relative stagnation registered.

The "causes" that emerge as factors determining capital flight are: first of all, lack of economic growth; second, exchange overvaluation along with an excessive supply of external credit; third, high rates of interest in the United States; fourth, inflation in our countries; fifth, the fiscal deficit; and sixth, local interest-rate policies although this latter factor is debatable.

The "neutrality" hypothesis in respect of the return of capital, that is, that once capital has fled, it never returns, is unfounded. It would make more sense to hypothesize that capital that has fled comes back gradually. In addition, the interest in dollars generated by capital that has fled, should be credited to the current account of the balance of payments.

In the case of these three countries, econometrics points clearly to a 75 percent "marginal propensity to flight" for external credit in Argentina, 20% in Mexico and 58% in Venezuela. For now, the real constraint to development in those three countries is in "policies", not in the lack of external capital.

The return of capital that has flown poses a serious problem for monetary and exchange policy. If the countries attempt to pursue monetary targets in the style of Friedman, the inflow and monetization of capital that has fled, would create an inconsistency impossible to resolve, for it would provoke overvaluation of the exchange rate, stagnation of production and additional forces for flight. The only way to implement the return of capital would be to make the creation of money endogenous, setting the real exchange rate well devalued at levels consistent with exports of manufactured goods, and to counter any inflationary pressure by means of zero-deficit fiscal policy tied to a reduction of custom tariffs and the elimination of exchange controls. Past international experience with stabilization plans of this kind indicates that in these cases, the public's demand for local money increases so much as to make the return of capital possible without inflation.

All of this suggests that international lending organizations have an excellent opportunity to concentrate their efforts on technical assistance to help in redesigning the economic system of those three countries.

In addition, this study poses questions about "policy lending", that is, loans contingent upon a change in macroeconomic policies. In effect, if policy lending is carried out before the countries implement a firm development strategy, before they bring the rate of exchange to an adequate level for exportation of manufactured goods, before they rationalize the incentives system, before they reduce the fiscal deficit and inflation, such policy lending may only serve to further the flight of capital especially if the economic program is recessionary. If such lending is

done on a pari passu basis or after reforms have been implemented, the loan proceeds will be redundant for capital would itself move to countries with good policies without the need for such policy lending. Recessive macroeconomic adjustment programs accompanied by abundant external credit would be particularly troublesome, for the drop in income and the availability of such credit are "causes" of capital flight that is, of "deterioration" in the capital account of the balance of payment that may offset improvements in the current account. The design of economic adjustment programs with development thus turns into a need to overcome the inconsistency of recessive programs. On this point the Baker plan and Latin American interest concur.

On the other hand, the validity of the project lending system stands in contrast as it makes the flight of capital harder, even without reforms in macroeconomic policies. Caution with this conclusion is necessary however, given the fact that money is essentially fungible.

The flight of capital from Latin America also poses problems associated with the wrong signals that the international monetary and financial system emit, as follows from the highly significant statistics for rate of interest on United States Treasury bills in the regression equations presented herein. If the international monetary and financial system were operating adequately, it should not be suctioning resources out of the developing countries. These countries should be receiving resources, not exporting them. That would moderate latin countries' need for major real devaluation of their currencies in order to grow, and at the same time would avoid the necessary counterpart of a real exchange

overvaluation in the creditor countries, helping them to maintain a reasonable measure of a essential economic openness and a good volume of capital goods exports to developing countries. In this last-named sense, the IDB and the World Bank are rendering a benefit to the creditor countries, not so much to the developing countries.