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THE CAPITAL FLIGHT "PROBLEM"

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## Abstract

This paper isolates the common themes and policy recommendations found in the capital flight literature, and evaluates their statistical, conceptual, and empirical foundations. We find that there is no basis for presuming a stable link between any measure of capital flight and a nation's growth potential or ability to meet external obligations. Thus, although popular measures of capital flight are occasionally indicative of underlying economic and political problems, "capital flight" is not generally useful as a policy target or reliable as a signal of when to intensify or mitigate efforts for policy reforms. Moreover, policies proposed to reduce capital flight and repatriate flight capital may even stymie investment, slow growth, shrink the tax-base, and the lower the country's debt financing capacity.

## The Capital Flight "Problem"

David B. Gordon and Ross Levine<sup>1</sup>

### I. Introduction

In the 1980s, the developing-country debt crisis and the dramatic decline in capital inflows from industrialized countries have stimulated substantial concern among policymakers and academics about large, private capital outflows from developing countries. To the extent that these flows represent the effects of distortionary policies, political instability, or generally reflect "abnormal" foreign investment by developing-country residents, they bear the title "capital flight." The perceived importance of these capital outflows has produced a burgeoning literature examining the causes, consequences, and policy implications of capital flight. This paper's purpose is to isolate the common themes and policy recommendations found in the capital flight literature, and evaluate their statistical, conceptual, and empirical foundations.

The literature portrays capital flight as an inefficient loss of domestic investment produced by policy distortions and amplified by the dynamic interaction of investment and policy decisions. The perception that capital flight represents a significant diversion of domestic

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1. The authors are staff economists in the International Finance Division. This paper represents the views of the authors and should not be interpreted as reflecting those of the Board of Governors of the Federal Reserve System or other members of its staff. We thank Heidi Lyss for able research assistance, and preparing the data appendix. We also thank, without implicating, Maria Carkovic, Allen Frankel, David Howard, Robert Kahn, Steven Kamin, Larry Promisel, Garry Schinasi, Charles Siegman, Guy Stevens, and participants in the NYU Business Administration Economics Workshop and the FRB International Finance Seminar for insightful comments.

investment from developing countries has inspired many proposals designed to stop and repatriate capital flight. Underlying this view of capital flight and the policy recommendations that follow are the strong empirical and conceptual presumptions that we can: (a) identify the sources of **observed** capital outflows, (b) determine their efficiency effects, and (c) construct appropriate policies based on these observations. Given the rich array of "healthy" sources of capital flows and the tenuous link between resident savings and aggregate domestic capital formation, these are nontrivial presumptions.

Although the term "capital flight" defines a remarkably common set of issues and concerns, studies of capital flight differ in scope, focus, and policy recommendations. In examining the causes of capital flight, some authors emphasize the overall national investment climate [Dornbusch 1985, 1987; Conesa 1987; Cuddington 1986, 1987]; others concentrate on specific distortions [Dooley 1986; Khan and Ul Haque 1985; Rodriquez 1987; Eaton 1987; Ize and Ortiz 1987]; while still others focus on country-specific factors [Dornbusch 1985; Arellano and Ramos 1987; Hommes 1987; Zedillo 1987]. In addition to investigating the causes of capital flight, considerable effort has been devoted to measuring it [Cumby and Levich 1987; Remolona and Gasser 1986; Dooley 1986; Morgan Guaranty 1986; Gulati 1987], and to studying the mechanics of capital flight [Walter 1987].

Recently, two prominent attempts have been made to synthesize and extend the literature's interpretation of capital flight and policy conclusions [Lessard and Williamson 1987; and Deppler and Williamson 1987]. Serious reservations to this interpretation of capital flows,

however, have been voiced in comments by Kuczynski (1987), and Dooley (1987).

The primary motivation advanced in the literature for examining capital flight is that it is a direct loss of domestic capital formation and/or a signal of the effects of policy distortions on total investment. As indicators of future growth, fiscal constraints, and a nation's ability to finance international debt payments, capital flight measures are viewed as important signals of the efficacy of policy action.<sup>2</sup>

This paper critiques the literature with the following question in mind: is there a theoretical or empirical rationale for believing that capital flight measures reliably indicate the level or efficiency of domestic capital formation? More specifically, does this literature provide us with a basis for identifying the incentives behind observed capital flows, determining the implications of these flows, and constructing appropriate policy responses? Statistical and conceptual arguments and empirical evidence force us to conclude that the answer is "no." The rich array of capital flows associated with the diversification of portfolios, financing international activities, and responding to real investment opportunities cannot be reliably disentangled from "abnormal" flows. In addition, there is no basis for presuming a stable link between any measure of "capital flight" and the efficiency or level of aggregate domestic investment.

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2. For example, James A. Baker, III, the United States Treasury Secretary, stated in Seoul, South Korea that "... 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 ..." Baker (1985).

Even in conjunction with a detailed survey of a country's economic and political environment, the policy and efficiency implications of observed capital outflows are (perhaps prohibitively) difficult to determine. Drawing these implications requires (a) disentangling the complex and potentially asymmetric incentives faced by domestic and foreign investors, and (b) identifying the broad set of substitutions between domestic and foreign investors. Moreover, every capital flight data point requires independent analysis, i.e., the apparent comparability of capital flight statistics is illusory.

Although the literature's portrayal of capital outflows as inefficient reductions in domestic investment accurately characterizes the experience of a few countries in the early 1980s, this interpretation does not generalize across countries or time. The indeterminacy implied by economic theory and the instability documented by the empirical evidence clearly suggest the inappropriateness of using capital flight measures as indicators of domestic investment or the efficacy of policy. The same analysis forces us to conclude that policies implemented to stop or reverse conventional notions of capital flight may not promote growth even if they are "successful" in eliminating or repatriating some particular measure of capital outflow by domestic investors. Indeed, policies designed to reduce capital outflows and repatriate flight capital may reduce overall investment, slow growth, shrink the tax-base, and lower the country's debt financing capacity.

The next section synthesizes the literature's analysis of the capital flight phenomenon in developing countries. Section III critiques the statistical, conceptual, and empirical foundations of the received

view of capital flight, and its policy implications. Section IV summarizes our conclusions.

## II. Capital Flight: The Received View

Typical descriptions of capital flight include: "abnormal" capital flows "propelled from a country ... by any one or more of a complex list of fears and suspicions;" capital surreptitiously fleeing "in the presence of conflict between the objectives of asset-holders and governments;" and, capital outflows motivated by concerns of "substantial loss or impairment ... [arising from] ... risks of expropriation, debt repudiation, or exchange rate depreciation."<sup>3</sup> These conventional portrayals of capital flight strive to differentiate "normal" capital outflows engendered by endeavors to finance international trade, exploit real investment opportunities, or diversify portfolios from "abnormal" flows motivated by distortionary economic policies or political instability.

While capital flight traditionally represents "abnormal" capital flows, some investigators use a more expansive definition of capital flight [Morgan Guaranty 1986, Erbe 1986, Dornbusch 1985, and World Bank 1985]. In the presence of pre-existing distortions to investment, marginal declines in aggregate investment are inefficient. This leads them to consider all capital outflows as capital flight, and question the

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3. Kindleberger (1937), Walter (1987), and Deppler and Williamson (1987) respectively.

efficiency of any additional foreign investment by developing-country residents.

A common theme in the capital flight literature is that some or all of observed capital outflows are viewed as direct losses of domestic capital formation and/or signals of the effects of policy distortions on investment. This concern mirrors the interests of developing-country governments, commercial banks, industrialized-country governments, and international organizations. The capital flight literature focuses on investment and hence growth because it enhances resident welfare, enlarges the pool of resources available for satisfying constituent demands, and enables governments to fulfill external debt obligations. This basic motive is expressed clearly in a recent Staff Studies for the World Economic Outlook by Deppler and Williamson:

The fundamental economic concern about capital flight, however, is that it reduces welfare in the sense that it leads to a net loss in the total real resources available to an economy for investment and growth. That is, capital flight is viewed as a diversion of domestic saving away from financing domestic real investment. As a result, the pace of growth and development of the economy is retarded from what it otherwise would have been. (p.52).

In the conclusion to the book Capital Flight and Third World Debt, Donald Lessard and John Williamson argue that capital flight implies at least a one-for-one reduction in domestic investment:

Thus, the best case involves a reduction in the savings to finance domestic investment, of a magnitude essentially equal to the size of the capital flight. Future growth will in consequence be lower. The worst case involves a reduction not just in future growth possibilities but also in the current level of output, by some multiple of the size of capital flight. (p. 224);



This paper adopts this concern, and thus evaluates recent studies with the following question in mind: is any capital flight measure an informative and consistent indicator of efficient domestic capital formation?

In addition to having a common concern, capital flight studies generally view capital flight as a dynamic process in which short-run investment disincentives are magnified. In order to present a simple characterization of this process, it is important to specify the key traits of developing countries implicit in the literature. The remainder of this section knits these common elements into a succinct characterization of the capital flight process. Although unrepresentative of any one study, this "received view" captures the essential ingredients of the capital flight literature.

#### A. The Developing Country Environment

There are three related developing-country traits that in combination form the foundation of the capital flight process:

- (1) capital scarcity,
- (2) fiscal and political constraints, and
- (3) limited access to international financial markets.

Whether rooted in political, legal, or financial distortions, developing countries are capital scarce. As a result, the physical return on capital is expected to be higher in developing countries than in industrialized countries. Absent these distortions, we would expect net capital inflows to developing countries. Net capital flows from

capital-scarce developing countries to industrialized countries are often considered evidence of economic or political distortions.

Developing-country authorities are typically bound by expenditure commitments and constrained by a limited set of revenue-raising opportunities.<sup>4</sup> In order to maintain political power and national cohesion, governments must satisfy a variety of constituent demands. These binding expenditure responsibilities become critical in the face of severe limitations on the government's ability to impose direct taxes. Consequently, developing countries frequently resort to alternative means of public finance such as the inflation tax and direct intrusions into economic activity. Obviously, these political obligations and revenue-raising limitations restrict the degree of flexibility with which policymakers may respond to changing economic conditions.

During the period in which capital flight has generated concern, developing-country authorities have faced particularly restricted access to international financial markets. The accumulation of unresolved debt problems, produced by country risk, limited enforceability of sovereign debt contracts, and the events of the early 1980s, has reduced the availability of foreign credit. The result is that short-run negative shocks cannot be smoothed by foreign borrowing.<sup>5</sup>

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4. For example, devaluing exchange rates has provoked violent riots and the replacement of finance ministers. Although not limited to developing countries, binding fiscal responsibilities are central to many capital flight investigations.

5. Dornbusch (1987) explicitly emphasizes binding fiscal obligations and constrained access to international credit as developing-country traits that underlie the capital flight process. These traits imply that external shocks inevitably lead to "money creation to finance the budget (Footnote continues on next page)

In combination, these traits restrict a government's abilities and incentives to respond to shocks via changes in fiscal expenditures and/or borrowing. In addition, they increase the costs of directly raising revenues and the social costs of the associated capital outflows.

#### B. The Spiral

Recent discussions of capital flight focus on the investment behavior of developing-country residents following the debt crisis of the early 1980s. Although existing studies focus on different aspects of the capital flight phenomenon and some emphasize country-specific developments, the phrase "capital flight" denotes a commonly understood set of issues. This subsection presents a stylized depiction of the capital flight scenario with little appeal to country-specific traits.

The standard view of capital flight is that exogenous economic events interact with existing policies and/or provoke new policies which cause perceived private returns on domestic investments to fall. Adverse economic events and the desire to maintain real spending, subsidy, and transfer levels, prompt the public sector to increase claims on the private sector and become more directly involved in economic activity. The resulting distortion of relative returns diverts resident savings abroad, reducing domestic investment, growth, and government revenues. These effects are exacerbated when the government, faced with a dwindling tax base, bound by political and financial commitments, and limited in its access to international credit, enacts more intrusive policies.

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(Footnote continued from previous page)

deficit" (p. 148). This causes anticipated devaluations and capital flight.

Indeed, simply the anticipation by the private sector of increased public sector claims and involvement can initiate this process.

As a mechanism producing fears of "substantial loss or impairment ... [arising from] ... risks of expropriation, debt repudiation, or exchange rate depreciation" [Deppler and Williamson 1987], this policy-flight-policy spiral embodies the traditional characterization of capital flight. While this process does not isolate the specific policies causing capital flight, it has two important roles in the depiction of the capital flight "problem": (a) independent of how broad the notion of capital flight under consideration, this process characterizes the dynamics of capital outflows; and (b) independent of the specific distortions generating capital flows, the spiral represents a mechanism amplifying their importance.<sup>6</sup>

Although arguably oversimplified, this "capital flight spiral" includes the literature's fundamental components, and provides a context for analyzing the role of capital flight in the 1980s debt crisis. Standard characterizations of this period combine adverse wealth shocks with inflexible policies and inappropriate policy responses to explain large transfers of capital from developing to industrialized countries. The two shocks that have drawn the greatest attention are: deleterious

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6. The importance of the spiralling characteristic varies across capital flight episodes. The degree to which authors explicitly discuss the spiral also differs. Lessard and Williamson (1987), Diaz Alejandro (1984), and Dornbusch (1987) are very explicit while all the ingredients of this process are discussed in Deppler and Williamson (1987), and many others.

movements in the terms of trade and soaring world interest rates.<sup>7,8</sup>

Rising world interest rates and adverse terms of trade movements influence resident investment decisions directly by changing relative rates of return and indirectly by altering government policies. These wealth shocks affect expected and realized government behavior by changing the government budget constraint. Public sector foreign liabilities increase directly because world interest rate increases enlarge foreign obligations. In addition, as private sector foreign liabilities rise and the value of national output falls, many firms become insolvent. Mounting concern over pervasive private-sector bankruptcy pressures governments into "socializing" private sector foreign debt.<sup>9</sup> Thus, public-sector liabilities balloon beyond the direct impact of world interest rates.

These events prompt investors to anticipate higher taxes or confiscation, and divert investment abroad. This outflow retards growth

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7. Many debt-ridden countries suffered a sharp deterioration in the terms of trade during 1979-1983. For example, Brazil's terms of trade fell by approximately 40 percent, while Chile's and Colombia's terms of trade dropped by about 25 percent. Following the 1978-1979 oil price hikes, the Venezuela's and Mexico's terms of trade also fell.

8. U.S. real interest rates (anticipated and unanticipated) rose in the early 1980s while the average ex post real domestic interest rate of 66 capital-importing developing countries remained negative. This shift in relative returns was aggravated by a general reduction in industrialized country tax rates on nonresident income. An improvement in international financial market intermediation expedited the exodus of resident savings. [See: the Economic Report of the President 1987, p. 35-9; and Deppler and Williamson 1987, p. 49-51]

9. Diaz-Alejandro (1984) explains that after the debt crisis began, internal and especially external pressures forced developing country governments to assume or subsidize private foreign obligations. Consequently, instead of unprofitable firms undergoing bankruptcy proceedings and their physical assets sold to new entrepreneurs, private debt became a public burden.

and reduces local tax-bases. In order to capture the resources necessary to satisfy burgeoning fiscal responsibilities, governments raise marginal tax rates or enact other intrusive policies.<sup>10</sup>

This scenario characterizes the experience of many heavily-indebted developing countries in the early 1980s. As this process unfolded, public sector debt-to-GDP ratios rose, tax-bases shrank, international reserves fell, and authorities increasingly resorted to inflationary finance of fiscal expenditures.<sup>11</sup> The resulting higher inflation combined with inflexible (repressed) nominal interest rates and exchange rates and produced negative domestic real interest rates and severely overvalued exchange rates.<sup>12</sup> Thus, fiscal, monetary, and exchange rate policies fostered larger expected real interest rate differentials and anticipated real exchange rate devaluations that further induced residents to transfer their savings abroad.<sup>13</sup>

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10. As indicated in the International Financial Statistics Supplement of Government Finance, the central government's share of GDP (as measured by expenditures plus lending minus repayment) rose by 37, 32, 85, and 25 percent for Argentina, Brazil, Mexico, and Venezuela respectively between 1979 and 1983.

11. The public sector deficit as a percentage of GDP more than doubled between 1980 and 1982 for Argentina, Brazil, Mexico, and Venezuela. Total reserves minus gold for these countries between 1979 and 1982 fell by 73, 56, 60, and 10 percent respectively. And, the rate of growth of domestic credit in 1983 was more than 50 percent greater than the rate of growth of domestic credit in 1979 for those countries.

12. As reported in Remolona and Gasser (1986) the black market premium on foreign exchange between 1979 and 1983 rose from 0.1 to 98.0 in Argentina, from 8.2 to 59.1 in Brazil, from 5.1 to 17.7 in Chile, from 0.9 to 20.3 in Mexico (65.8 in 1982), and from 0.2 to 202.3 in Venezuela.

13. Dornbusch (1987) argues that in Latin America "public finance is strained to the point where inflation taxes are an accepted part of tax collection, depreciation is the rule and external credit is overextended to the point of credit rationing. When external shocks happen they turn mediocre performance readily into chaos." (p. 149)

### C. Some Standard "Cures"

Standard "cures" of capital flight may be classified into two categories: those devoted to attracting investment, and those devoted specifically to repatriating flight capital and stemming capital outflows. The former attempt to entice capital back by establishing an attractive investment climate. These "cures" include adoption of "appropriate" macroeconomic policies such as restrained fiscal budgets, moderate money creation, competitive interest rates, realistic exchange rates, and less government intervention.

In contrast to these general growth policies, tax amnesty, tax treaty, and capital controls are designed to restrain capital outflows and force or induce the repatriation or taxation of capital held abroad.

### D. Conclusion

The literature interprets some or all of observed capital outflows from developing countries as representing significant and inefficient losses of aggregate investment, i.e., as capital flight. The perceived source of these flows are distortions, amplified by the interaction between policymakers and investors. Capital outflows in response to the fear of increasingly intrusive government policies force the realization of these policies, and thus additional outflows.

The conclusions reached by recent capital flight investigations are straightforward. Distortion-induced capital outflows by developing-country residents significantly reduce capital formation and/or threaten the ability of countries to service their international debts. Capital flight measures should therefore be used in evaluating and formulating national policies. More specifically, policies should be designed to

repatriate resident savings held abroad when capital flight figures are perceived to be large.

### III. **Some Healthy Scepticism**

#### A. Overview

In the traditional view of capital flight presented above, distortionary policies and/or expected policies divert domestic savings abroad, lower the country's productive capabilities, and increase the likelihood of default on international obligations. Although this scenario seems representative of the causes and implications of observed capital outflows for some heavily indebted countries in the early 1980s, it is unclear whether this process accurately characterizes other periods. More generally, we need to consider (a) the extent to which observed capital outflows are capital flight, i.e., do they reflect policy distortions as opposed to other incentives for capital flows; and (b) the extent to which observed outflows cause or signal inefficient aggregate domestic investment.

Measures of capital flight fall into two categories: motivation-based measures that attempt to distinguish capital flight from "normal" capital outflows, and measures of total resident capital outflows. The severe statistical and conceptual difficulties involved in measuring "abnormal" capital outflows have led some authors to infer distortion-induced flows from total resident capital outflows [see: Morgan Guaranty 1986; Erbe 1985; and World Bank 1985]. Indeed, some view total resident outflows as the appropriate definition of capital flight [see: Lessard



and Williamson 1987; and Rodriguez 1987]. The latter consider all resident capital outflows as direct losses of domestic capital formation, and this is viewed as an efficiency loss because of pre-existing distortions.

In order to interpret observed capital flows as direct losses of efficient aggregate investment, it is necessary to make some strong assumptions. Proponents of motivation-based measures must assume that:

(1) these measures reliably isolate or track distortion-induced capital outflows by developing-country residents;

and

(2) changes in these distortion-based measures cause or signal changes in the efficiency of domestic capital formation.

Users of more general measures must assume either:

(3) changes in these measures reliably track changes in distortion-induced capital outflows, and (2);

or

(4) changes in these measures cause and/or reliably indicate general movements in efficient investment and national welfare.

Beginning with point (1), the capital account data available for constructing capital flight series are extremely poor and unreliable. In addition, "abnormal" capital flows cannot be inferred from more general measures of capital flows. These conceptual and statistical problems

have contributed to the inability of researchers to construct measures of the relevant capital outflows.

Logically, the inability to isolate distortion-provoked capital flows makes point (2) irrelevant. From a conceptual perspective, however, it is worth noting that economic theory provides little support for the notion that distortion-induced resident capital flows should be negatively correlated with the level or efficiency of aggregate domestic capital formation. Asymmetric incentives and complex substitutions between foreign and resident investors, as well as substitutions between domestic consumption and investment, may yield an unstable relationship between aggregate investment and distortion-induced outflows. We argue below that even if we could classify resident investment decisions by intent, we would not possess a reliable indicator of total domestic investment.

More generally, both economic theory and casual empiricism suggest a tenuous and unstable relationship between total resident foreign investment and aggregate domestic capital formation. The evidence is consistent with the received view for at least some countries in the early 1980s. But the same evidence demonstrates that the link between capital flight measures and investment is neither stable for a given country across time, nor for different countries in a single time period.

The ambiguity as to the efficiency of resident capital outflows and the instability of their relationship with aggregate investment leaves the impact and efficiency of "capital flight policies" unclear. Indeed, policies specifically proposed to reverse capital flight can have paradoxical and even detrimental effects.

B. Measurement<sup>14</sup>

It is impossible to generate a consensus estimate of capital flight because of severe data problems and because the distinction between capital flight and normal capital outflows is vague. Consequently, many competing and conflicting measures have emerged. Instead of reviewing all empirical capital flight studies, we simply discuss and distinguish the most widely used measures. We conclude that reliable estimates of "abnormal" capital flows are unavailable, and are unlikely to become available. Therefore, the capital flight debate has come to focus on measures which do not attempt to isolate distortion-induced resident capital outflows.

One capital flight measure that strives to delineate "normal" capital flows engendered by portfolio diversification or trade financing motives from "abnormal" flows provoked by distortionary policies is a **narrow measure** [Cuddington 1986]. This measure estimates the "hot money" element of the capital account by including only short-term capital outflows by the nonbank private sector and the errors and omissions of the balance of payments. It is puzzling that errors and omissions are classified as resident capital outflows motivated by distorting domestic policies. Indeed, for many countries, errors and omissions are the only component of the narrow measure of capital flight. Measurement problems

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14. This subsection relies heavily on Cumby and Levich's (1987) survey and analysis of the definitions and estimates of capital flight. They are very careful to document the measurement problems endemic to capital flight estimates and the difficulties in drawing implications from capital flight estimates: "Absent a complete model, it cannot be clear how future policies will affect capital flight or how capital flight affects welfare. And even if capital flight reduces domestic welfare, the optimal amount of capital flight will not be zero as long as there are costs to preventing it." (p.30)

such as over- and under- invoicing of imports and exports are an important vehicle for capital flight and are not reflected in errors and omissions. Furthermore, since short-term and long-term securities are actively traded in world financial markets, there is little liquidity distinction between the two assets. More importantly, purchasing foreign real estate or equities based on fears of domestic expropriation certainly falls under the capital flight rubric, but is not included in the narrow estimate. Thus, the narrow measure may significantly misrepresent distortion-motivated capital outflows.

Another motivation-based capital flight estimate is the derived measure [Dooley 1986]. It estimates the fraction of an economy's stock of foreign assets that does not yield recorded investment income. More specifically, this measure adds identified capital outflows in the balance of payments to errors and omissions and adjusts for unrecorded flows. It makes this adjustment by noting that the annual change in the stock of external debt as reported by the World Bank is typically higher than the flows reported in the balance of payments. This discrepancy is included in the measure of private sector foreign assets. After choosing an interest rate, the derived measure computes the stock of foreign assets that would generate the income recorded in the balance of payments statistics. The difference between this measure and the estimate of total foreign assets is the derived measure of capital flight.

Before discussing the derived measure's statistical problems, it is worth emphasizing the conceptual distinction between the derived measure of capital flight and the "standard" capital flight scenario. The derived measure implicitly equates capital flight to unrecorded

capital outflows by residents. But, this is only one component of capital flight in the "received" view.

If the problem associated with capital flight involves an externality ... in which the social rate of return on capital invested domestically exceeds the private rate of return on such investments or in which there is a shadow value of foreign exchange that exceeds the market price ... [or] if the nature of the distortion is the absence of credibility on the part of the policymaker ... [then] ... whether or not the income from foreign investments is reported seems irrelevant. (Cumby and Levitch, 1987, p. 36-7)

In addition, the derived measure's statistical problems make it an unreliable measure of the unrecorded component of capital flight. The derived measure requires considerable faith in foreign investment income statistics, debt figures, and the choice of an interest rate to capitalize past returns. Incomplete data or small deviations of the actual return on foreign investments from the proxy interest rate may result in large discrepancies between the estimated stock of resident assets held abroad and the actual stock. These data problems are exemplified by the finding that, as measured by the derived measure, the summation of capital flight from Argentina, Brazil, Mexico, and Venezuela is smaller than the corresponding "distortion-induced" capital outflows from either Japan or Germany over the period 1975 through 1985.<sup>15</sup> These limitations highlight the dubious nature of the derived estimate and shed doubt on its usefulness as an economic indicator.

A third estimate that endeavors to delineate normal capital

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15. See "Capital Flight: Concepts, Measurement, and Issues" by the International Monetary Fund's Research Department (1/22/87).

flows from capital flight is the **adjusted measure**.<sup>16</sup> This measure attempts to purge non-flight generated capital outflows from total resident capital outflows. The adjusted measure modifies total outflows by (1) subtracting an estimate of capital outflows prompted by trade financing and portfolio diversification motivations; (2) adding an estimate of unrecorded income on foreign investments; and (3) adding an estimate of capital flight conducted via current account misinvoicing. More specifically, the adjusted measure "corrects" for trade-financing-generated capital outflows by subtracting one-half of the increase in the value of exports from an estimate of total capital outflows. In order to purge total outflows of portfolio diversifying capital outflows, the adjusted measure subtracts one-half of the wealth gains due to export price increases. This wealth term is computed by multiplying the increase in export prices by last year's quantity of exports.<sup>17</sup> The adjusted measure computes unrecorded income earned on foreign assets by accumulating reported capital outflows beginning in 1976 to derive a foreign capital stock variable and using three-fourths of the six-month dollar LIBOR to estimate returns on foreign capital. If this foreign income figure is greater than reported foreign income, the adjusted measure adds the difference to its estimate of capital flight. Finally, estimates of current account misinvoicing due to exchange rate misalignment are generated using a technique designed by Bhagwati et al. (1974). This procedure chooses the smallest import-export ratio in the sample as the "normal" level. In years when the black market premium on

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16. See Remolona and Gasser (1986).

17. These trade financing and portfolio diversifying adjustments are made only if they do not change the sign of resident flows.

foreign exchange is considered "substantial," the "normal" import-export ratio is subtracted from that year's ratio, and a correction is made to total outflows for mis-invoicing. The objective of categorizing capital flows by motivation is laudable. However, for any particular country, it is unclear what the appropriate adjustments are, or whether they are stable over time.

As the above discussion suggests, capital flight estimates attempting to categorize capital flows by intent are subject to pervasive statistical problems. In particular, the narrow, derived, and adjusted measures make heroic assumptions about the accuracy of official statistics, the ability of investigators to assign motivations to various classifications of those statistics, and the plausibility and stability of adjustments to existing statistics intended to isolate distortion-induced capital outflows. Furthermore, researchers' inability to categorize reliably poorly measured capital transactions by intent is unlikely to change. For these reasons, many use a broad measure of resident capital outflows which does not attempt to categorize capital flows by intent.

The **broad measure** of capital flight equals measured acquisitions of foreign assets by nonbank private residents plus errors and omissions in the balance of payments. More specifically, the broad measure equals capital inflows in the form of increases in external debt and net foreign investment minus the current account deficit, and changes in external

assets of the central bank and commercial banks.<sup>18</sup> This residual measure makes little attempt to separate capital flight from total capital outflows because data limitations prohibit a meaningful distinction between the two.

Even this measure is plagued by a number of statistical problems.<sup>19</sup> The broad measure attributes errors and omissions entirely to capital transactions, but errors and omissions do not merely represent capital outflows. In addition, statistical difficulties such as misinvoicing of imports and exports, exchange rate changes which alter the dollar value of external debts, unrepatriated interest income on unrecorded foreign asset holdings, and imprecise estimates of the stock of external debt, lower the confidence one may prudently attach to the broad measure of capital flight.

### C. Some Conceptual Quandaries

The last section demonstrates that investigators are currently unable to isolate distortion-initiated flows, and there seems little reason to believe that additional research will separate capital transactions into motivation-based categories. The inability to categorize capital transactions by intent has prompted many to use the broad measure of capital flight. Neither theory nor empirical evidence, however, provides a rationale for presuming a stable relationship between

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18. The broad measure used in this paper includes reinvestment of earnings on private sector resident's overseas assets to the extent that they are reported as receipts in the official current account statistics.

19. Zedillo (1987) notes that, in Mexico, coverage of debt-reporting was broadened in 1983 so that capital outflow measures are inconsistent intertemporally.



resident capital outflows and distortion-motivated capital flows. On the contrary, an efficient, "healthy" economy implies a rich array of capital flows as residents diversify portfolios, companies finance international operations, and investors exploit real investment opportunities. Thus, there is no reason to believe that "normal" flows are stable enough for changes in the broad measure to mimic consistently distortion-initiated transactions.

Furthermore, there is no reason to believe that either total resident capital outflows or distortion-induced flows consistently signal changes in the level or efficiency of domestic investment. Asymmetric incentives and potential substitutions among domestic and foreign investors leave these relationships ambiguous and potentially unstable.

The received view concludes that (a) the correlation between resident capital outflows and aggregate domestic investment is negative, and (b) these reductions in domestic investment are inefficient. Thus, an observation of large resident capital outflows is presumed to indicate inefficient changes in investment and a need for policy action. Unfortunately, the observation of large capital outflows has no implications for either the level or efficiency of aggregate investment. We provide four suggestive cases that demonstrate that the correlation between resident capital outflows and aggregate domestic investment could be positive or negative. Moreover, even if the correlation structure is known, we cannot classify changes in investment as efficient or inefficient simply by observing total resident capital outflows.

### **Case 1: Growth and Wealth Effects**

Consider a developing country with no policy distortions and a single major export item. This "healthy," growing economy generates net capital inflows even as residents invest abroad to diversify portfolios and firms increase overseas accounts to facilitate expanding foreign operations. Under these circumstances, capital outflows reflect booming investment and economic growth, not distortionary policies. Similarly, if this country were to suffer a recession, the reductions in measured "capital flight" would signify a drop in national wealth, not an elimination of inappropriate macroeconomic policies. These general wealth effects imply a positive correlation between resident capital outflows and domestic investment, and the changes in investment are efficient.

### **Case 2: Technological Effects**

Suppose an inexpensive substitute for the major export good is discovered. A number of domestic investors shift their capital abroad in response to this shock. The broad measure accurately indicates economic troubles for the country, but these capital outflows are not due to distortions. The outflows are an economically efficient response to a technological event that alters the profitability of investing domestically. In this case, capital outflows and investment are negatively correlated, and the change in aggregate investment is efficient.

### **Case 3: The Received View**

Suppose the country is plagued by financial repression, overvalued exchange rates, and high anticipated marginal tax rates that divert national savings abroad. If "normal" capital flows are constant, changes in total resident capital outflows accurately signal the inefficient effects of these policies on aggregate investment. Under these conditions, the correlation between the resident foreign investment and aggregate domestic investment is negative, and the change in investment is inefficient.

### **Case 4: Discriminatory Effects**

Attempting to attract foreign investment, domestic authorities provide competitive subsidies for foreign investors. In order to raise sufficient funds to meet fiscal responsibilities, however, they increase taxes on resident investors. These policies divert resident savings overseas but could increase aggregate domestic investment.<sup>20</sup> In this case, the potential efficiency loss caused by distortionary policies is subtle and related to changes in ownership of domestic capital. The correlation between aggregate investment and capital outflows is positive, but the efficiency effects of these changes are ambiguous.

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20. Dooley (1987) notes that "nonresident investors in developing countries have been offered foreign exchange and other government guarantees and in some cases may be in a relatively advantageous position." (p. 81) He argues that this view of capital flight may explain large cross-hauling of capital over very short time periods. He adds, however, this "would come to an end when nonresidents become as fearful as residents that their financial claims would be taxed. In particular, nonresident investors might be a more attractive target for taxation as their investments grow larger," and economic conditions deteriorate. (p. 81)

In this scenario, policy distortions asymmetrically affect residents and foreigners, altering investment patterns. Generally, even if we can attach motives to resident capital outflows, the increase in distortion-generated outflows has ambiguous implications for aggregate domestic investment and national welfare.

These examples represent just a small sample of the spectrum of circumstances which generate substantial capital outflows. Nonetheless, they demonstrate the conceptual problems involved in interpreting the broad measure of capital flight. Namely, we cannot observe changes in the broad measure and draw inferences regarding changes in aggregate domestic capital formation. Moreover, even if we know the correlation between resident capital outflows and investment, we cannot determine whether the change in investment is efficient or inefficient.

In light of these observations, let us reconsider the presumptions underlying the received view. First, as discussed in the last section, investigators cannot identify distortion-motivated resident capital outflows directly. Second, distortion-based flows may not be inferred from broad capital flight estimates because of the potential volatility of "normal," "healthy" capital flows. The ebbs and flows of economic growth and the vagaries of the international economic system weigh against any presumption of stable "normal" flows. Third, even if distortion-induced capital flight could be measured or inferred, this measure may be an unreliable indicator of aggregate investment; policy distortions may asymmetrically affect residents and foreigners. Finally, the received view represents only one of a broad spectrum of

interpretations consistent with any given capital outflow observation. Indeed measured capital flight has no clear implication for aggregate investment or the efficiency of domestic capital formation.

Some may view this conclusion as too strident because capital flight estimates are used in conjunction with a detailed survey of a country. In particular, once a believable measure of total private capital outflows is constructed, the motivation behind total resident capital outflows may be imputed ex post via a comprehensive review of the country's economic and political environment. Thus, only an estimate of total capital outflows is required, and the label "capital flight" may be applied when circumstances suggest that "capital was fleeing." We have considerable sympathy for this argument. But, the required analysis is far from simple. Since (a) "normal" capital flows vary with growth, business cycles, product cycles, and the vagaries of international competition, and (b) investors are confronted with a complex array of incentives, the feasibility of inferring the efficiency of observed capital flows is at best in doubt. Furthermore, every capital flight data point requires independent analysis; that is, the apparent comparability of points in a time series of capital flight statistics is illusory. Finally, given a detailed analysis, the marginal contribution of capital flight measures is questionable.

#### D. Some Casual Empiricism

Even accepting the conceptual ambiguities in interpreting capital flight, it remains to consider whether there is any empirical evidence for the predicted relationship between capital flight measures and aggregate investment: a negative contemporaneous correlation. In

fact, we find a highly unstable relationship between capital flight measures and domestic investment.

Figure 1 presents time series for the broad measure of capital flight and gross domestic capital formation (GDCF) for Argentina, Brazil, Mexico, and Venezuela.<sup>21</sup> The GDCF statistics are poorly measured, and this is one reason why capital flight measures are attractive as indicators. Our analysis, however, only requires that changes in GDCF and actual investment have the same sign. The graphs in figure 1 illustrate the empirical **irregularities** between the broad measure of capital flight and GDCF. There is certainly not a stable negative relationship between changes in the broad measure and changes in GDCF as the received view argues. In fact, Mexico exhibits a generally positive correlation between the broad measure and investment. For Argentina, Brazil, and Venezuela, it is impossible to identify any consistent pattern. The only conclusions one can draw from these graphs is that the relationship between the broad measure of capital flight and GDCF varies over time for individual countries, and across countries in particular time periods.

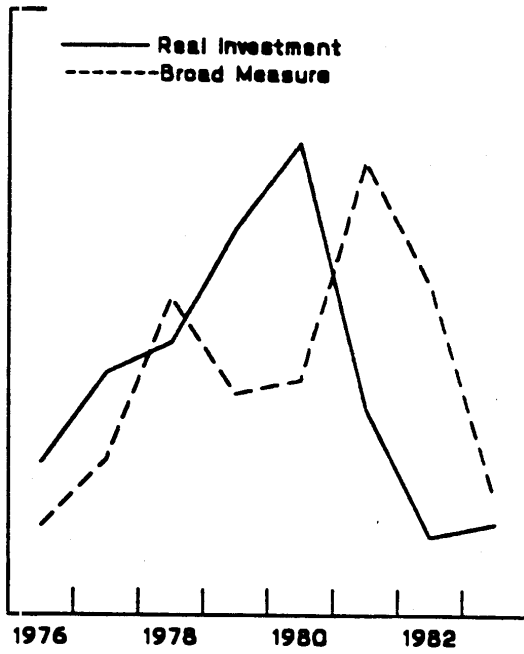
The unstable relationship between GDCF and capital flight is not

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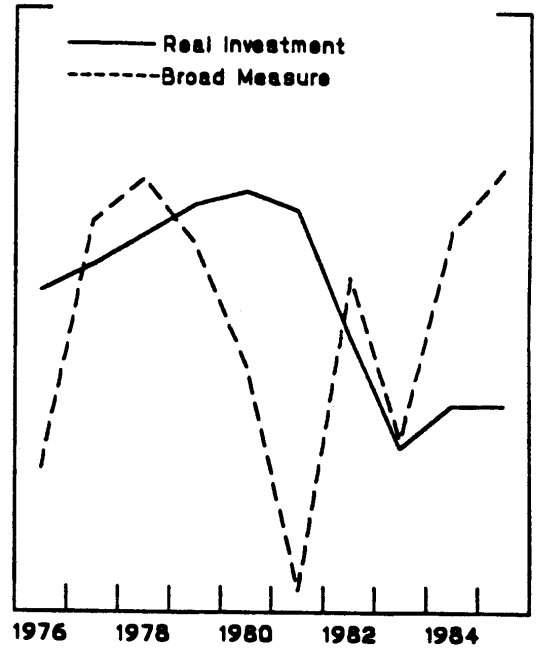
21. These countries have the largest external debt obligations of the 15 heavily indebted developing countries listed by Treasury Secretary James Baker in the so-called "Baker Plan." The graphs are scaled for easy comparison and all the variables are in real terms. The scaling and deflating procedure are described in the Data Appendix.

FIGURE 1\*  
Broad Measure and Investment: Scaled

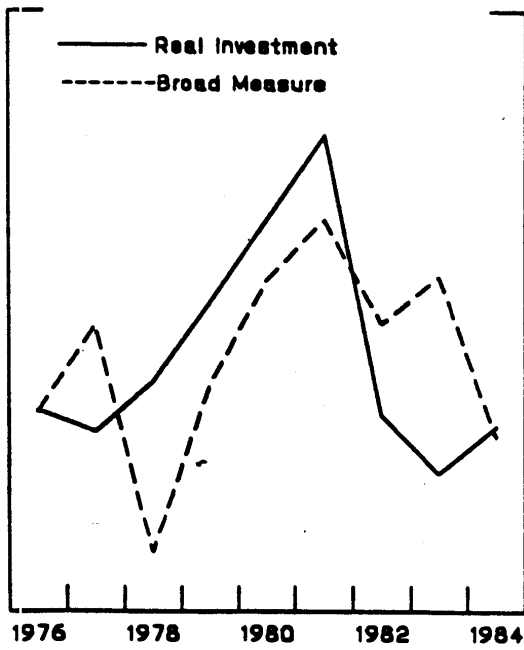
Argentina



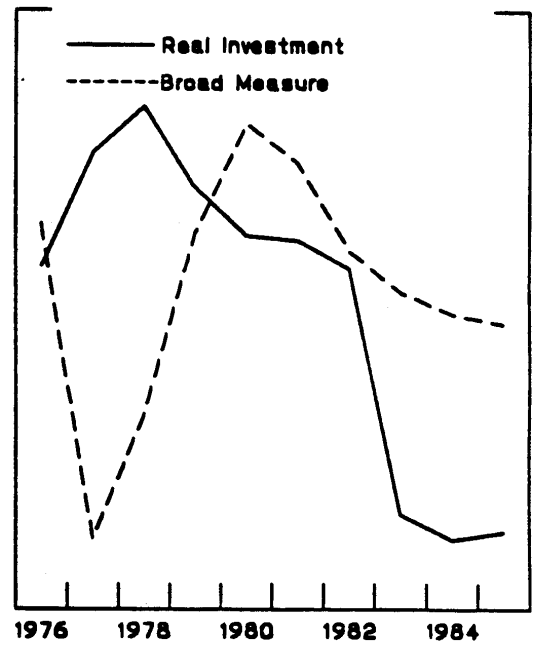
Brazil



Mexico



Venezuela



\*These are "real" values, scaled to facilitate comparison. The variables, deflating procedure, and scaling techniques are defined in the data appendix.

limited to the broad measure. Figures 2 and 3 (see Appendix) provide estimates of the derived and adjusted measures of capital flight with GDCF. These graphs confirm the conclusions drawn from Figure 1: there is not a stable relationship between capital flight and domestic investment.<sup>22</sup> It is worth noting that the other heavily indebted countries also exhibit an unreliable link between capital flight and growth. Figures 5 - 7 (see Appendix) provide time series plots of the broad measure and investment for the remaining "Baker 15," heavily indebted middle-income developing countries.

Clearly, an observer may identify episodes consistent with the received view for some heavily indebted countries in the early 1980s. The evidence is just as clear about the dangers of applying the obvious inductive argument; we cannot extrapolate the interpretation of capital flight in a few countries in the early 1980s to other countries or to other periods.

#### E. The "Cures" Reconsidered

The above discussion demonstrates that capital flight observations have no direct implications for investment or growth. Nonetheless, it is important to evaluate the effects of policies proposed to "cure" capital flight. There are two general approaches. One approach seeks to directly stem and reverse resident capital outflows. The second aims to provide a "healthy" investment climate by implementing

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22. Interestingly, an apparently stable, predictable relationship does exist between GDCF and gross domestic product (GDP). Figure 4 (see Appendix) plots GDCF and GDP over time. This suggests that if investigators seek information about **changes** in domestic investment, GDCF statistics are a reasonable place to start.



long-run growth policies. In practice, the latter approach frequently results in a focus on changing the specific policies associated with the onset of capital flight. Our analysis of these approaches leads to two conclusions: (1) policies designed to directly control capital flows may have severe and adverse consequences; and (2) even if particular policies associated with the onset of capital flight are ameliorated, flight capital may not return.

Instead of focusing on the political, economic, and legal constraints which produce distortionary policies, or the distortionary policies themselves, tax treaties, tax amnesties, and capital controls are designed to directly stem capital outflows and/or induce repatriation. Thus, these policies appear fundamentally misdirected. The basic rationale advanced for these policies is the belief that capital not invested abroad will induce one-for-one increases in domestic investment.<sup>23</sup> This obviously ignores potential substitutions between savings and consumption, and between foreign and domestic investors. The danger of capital controls increasing consumption and lowering investment is well documented and discussed below. In addition, if foreign direct investment is elastically supplied, repatriation policies have little effect on aggregate domestic investment but merely impose an under-diversified portfolio on residents: repatriated capital "crowds-out" foreign investment. In any case, there is no basis for the claimed significant gain of investment.

A number of tax treaties have been proposed with the aim of putting residents' assets held abroad in the domestic tax base, thus

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23. See Lessard and Williamson (1987), p. 224.

removing any tax incentive for foreign rather than domestic investment. The hope is that this would slacken government budget constraints and facilitate policy reforms necessary for creating a favorable investment climate.

There is considerable doubt, however, whether such tax treaties are effective or attractive. We agree with Ingo Walter who expresses his scepticism at the feasibility of taxing offshore assets in noting that this strategy exhibits "an underlying contempt for human ingenuity ...." (1987, p. 127). Furthermore, symmetric tax treaties potentially reduce the government's claim on the primary tax base: domestic output. The total tax base can, in fact, fall if foreign holdings of domestic assets are removed from the tax base.<sup>24</sup> Finally, the effect on aggregate investment (and thus future tax revenues) is ambiguous. Repatriated capital is a substitute for foreign investment, and direct investment by foreigners may fall due to the application of higher home-country marginal tax rates.<sup>25</sup>

Another policy proposal designed to repatriate flight capital is a tax amnesty program. This program, however, reduces policymaker credibility and encourages tax evasion. As an Argentine businessman recently said "I just throw my tax assessment away every year. I prefer to pay when the government offers a tax amnesty. It's a lot cheaper that way." (Washington Post, 1/26/88, C1). Consequently, tax amnesty programs may reduce normal tax collections and provoke more distortionary means of

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24. Indeed, many developing countries have resisted tax treaties for this reason. See Lessard and Williamson (1987).

25. It is worth noting that competition among tax systems may be efficient in a more general sense.

raising revenue. This would, paradoxically, imply greater capital outflows, and slower growth.

The most extreme repatriation policies are those aimed at directly limiting capital outflows, i.e., capital controls. The long-run ineffectiveness of capital controls is well documented [e.g., Gros 1987; Walter 1987]. Even if successful at stopping capital flight, the alternative to foreign investment may not be domestic investment, but consumption. In addition, the more effective capital controls are in stemming outflows the more under-diversified are resident portfolios.<sup>26</sup> Thus, capital controls may lower domestic savings and distort the composition of portfolios. Moreover, controls **deter** repatriation because (a) once an investor repatriates capital his investment opportunity set shrinks, and (b) the controls are a signal of the likelihood for additional government intrusions. Thus capital controls are not only ineffective, but potentially discourage domestic investment.<sup>27</sup>

Many who view capital flight as a symptom of poor policies sensibly argue that countries should change those policies with the aim of establishing a "hospitable" investment climate for residents **and** foreigners. We do not disagree with this prescription; removing policy

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26. The question of the socially optimal level of diversification is subtle and the analysis of the potential distortions involved is well beyond the scope of this paper. Needless to say, the optimal level of diversification in investment flows is not zero.

27. Another argument against capital controls is that wealthy individuals are better able to circumvent them. Consequently, controls may promote regressive wealth redistribution.

distortions is as laudable as it is politically difficult to implement.<sup>28</sup>

Providing a "hospitable" investment environment does not simply involve altering particular policies associated with the onset of capital flight. The only exception is when these policy changes result in a Pareto improvement given the economic, political, and legal constraints, i.e., the changes represent a technological improvement or elimination of incompetence in policymaking. Distortionary policies themselves are symptoms of more fundamental incentives and constraints. It is political commitments, limited revenue raising technologies, restricted access to international credit, and limited contracting that elicit the ostensible "cause" of capital flight: poor policies. Fundamentally, promoting a stable investment climate and long-term growth involves altering these incentives and constraints. The mere elimination of policies associated with capital flight need not repatriate flight capital or encourage investment. Investors realize that the underlying sources of those policies have not been altered and therefore anticipate the re-emergence of those policies or alternative policies.

Finally, the link between standard long-term growth prescriptions and capital flows is weak. Since capital flows do not reliably reflect the effects of distortionary policies, they are inappropriate signals of when to intensify or mitigate efforts for policy reforms.

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28. As Dornbusch (1987) states: "The simple answer is an undervalued exchange rate, ample reserves and good international credit standing, a budget surplus, a small domestic debt, and a low tax rate. In such an economy there plenty of room to absorb shocks without the need to depreciate massively or to tax asset holders by inflation or levies. But of course that is not Latin America." (p. 148)

#### IV. Conclusion

The debt crisis of the early 1980s has evolved into a structural debt problem for many developing countries. The limitations of standard national accounts data and ongoing negotiations amongst financial institutions, international organizations, and developing country governments have created a high demand for reliable economic indicators. Capital flight estimates have been widely put to this use. The received view presents a coherent interpretation of capital outflows as the product of policy distortions. Given the unique and severe conditions confronting heavily indebted countries in the early 1980s, there were compelling reasons for applying this interpretation to that situation. But, even for heavily indebted countries in the early 1980s, the empirical evidence in support of the received view is weak.

There is no conceptual basis for applying this interpretation more generally. Moreover, empirical evidence weighs against presuming any stable relationship between capital flight measures and investment or welfare. Statistical problems, conceptual quandaries, and empirical evidence force us to conclude that capital flight observations are not subject to a consistent interpretation. Indeed evaluating capital flight measures requires a comprehensive data point by data point analysis; the same observation may require different interpretations in different time periods or in different countries.

More specifically:

- (1) We cannot identify distortion-induced, or "abnormal", resident capital outflows because of statistical problems, and measures of total resident capital outflows should not be relied upon to track distortion-induced flows because "normal" capital outflows are inherently volatile. Moreover, even if we could classify resident capital transactions by intent, the potential for (a) substitutions between domestic consumption and investment and (b) asymmetric incentives facing (and substitutions between) residents and foreigners, preclude drawing inferences about aggregate domestic investment from these measures.
- (2) Broad measures of total resident capital outflows also suffer from severe measurement problems. In addition, traditional capital theory provides us with no presumption as to the nature and stability of the relationship between total resident capital outflows and domestic capital formation. The complex and dynamic process of growth, technological change, and political evolution elicits a rich array of possible relationships among capital flows by residents and foreigners. Indeed existing empirical evidence demonstrates the instability of this relationship. Furthermore, even if we knew the correlation, we could not deduce whether investment changes are efficient or inefficient by observing capital outflows.

The indeterminacy implied by economic theory and the instability documented by the empirical findings clearly suggest the dangers in using observed capital flows as indicators of domestic investment, growth, or the need for policy adjustment. Indeed, the policies proposed to reduce capital outflows and repatriate flight capital may be ineffective and/or counter-productive.

### **Data Appendix**

This data appendix provides data sources and describes scaling techniques used in Figures 1-7.

**Broad Measure:** the sum of the change in gross external debt plus the inflow of net foreign direct investment minus the current account deficit minus the change in external assets of the central bank and commercial banks.

**Source:** Federal Reserve Board staff (FRB) estimates based on data from the Bank for International Settlements (BIS), the World Bank (IBRD), the International Monetary Fund (IMF), International Financial Statistics (IFS) and country sources.

**Derived Measure:** from Cumby and Levich (1987), Statistical Annex B, Tables 3B.1-3B.3 and 3B.5.

**Adjusted Measure:** from Remolona and Gasser (1986) Table 3.

**Investment:** gross fixed capital formation (IFS line 93E) converted into billions of U.S. dollars using the annual average black market exchange rate (1985 World Currency Yearbook).

**U.S. Investment Deflator:** from the Department of Labor. Used to deflate all capital flight and investment data.

**Note:** Nigerian real investment values have been calculated on an annual basis starting with April of each year.

**Real GDP:** Gross Domestic Product in 1980 prices (IFS line 99B.F).

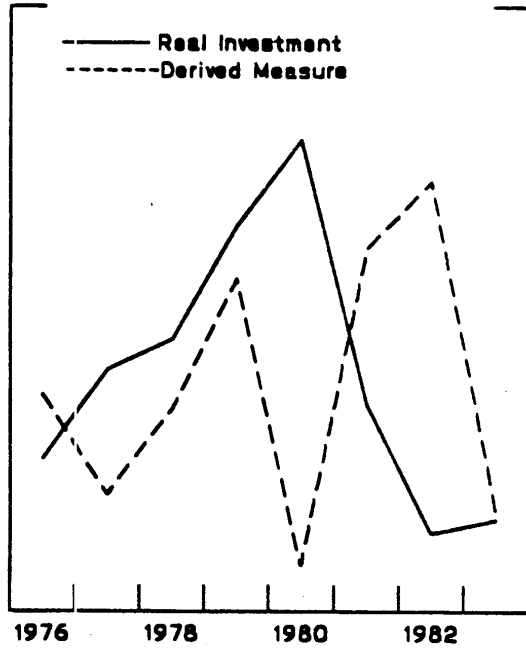
**Scaling:** all graphs contain two y-axis ranges. Each variable has been scaled individually with respect to its range to facilitate comparison between movements in investment and changes in capital flight or GDP.



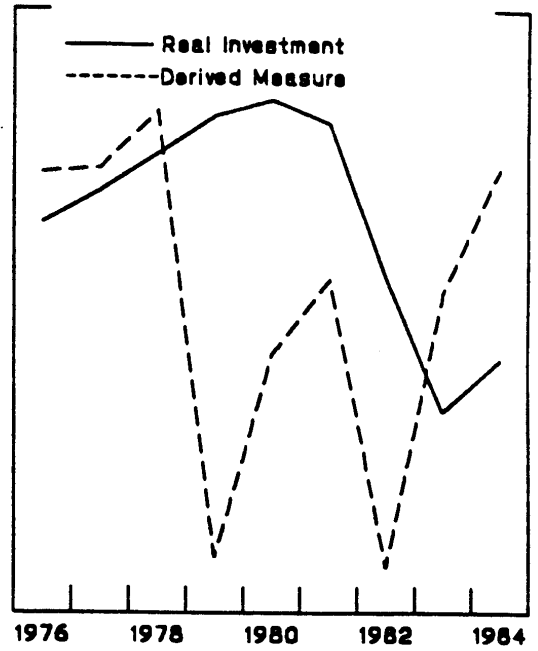
FIGURE 2\*

Derived Measure and Investment: Scaled

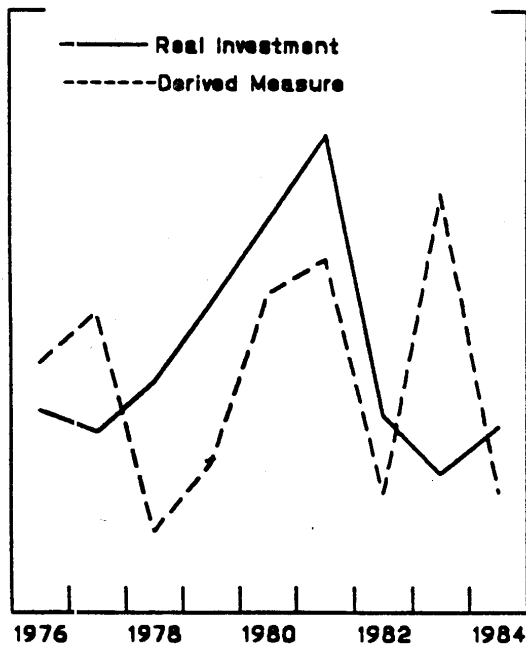
Argentina



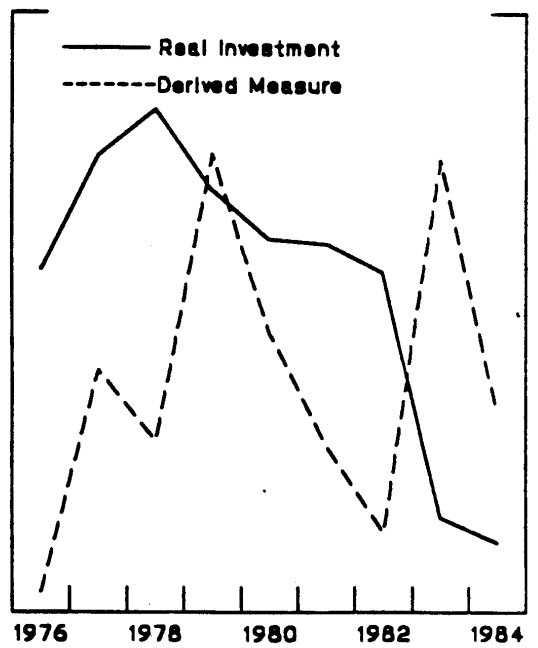
Brazil



Mexico



Venezuela

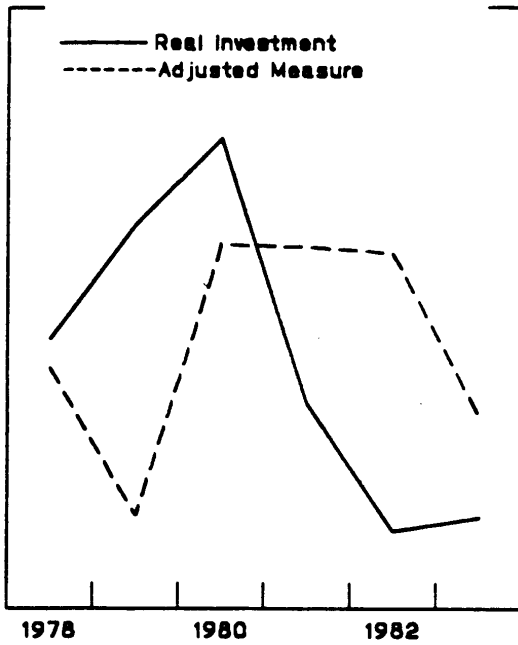


\*These are "real" values, scaled to facilitate comparison. The variables, deflating procedure, and scaling techniques are defined in the data appendix.

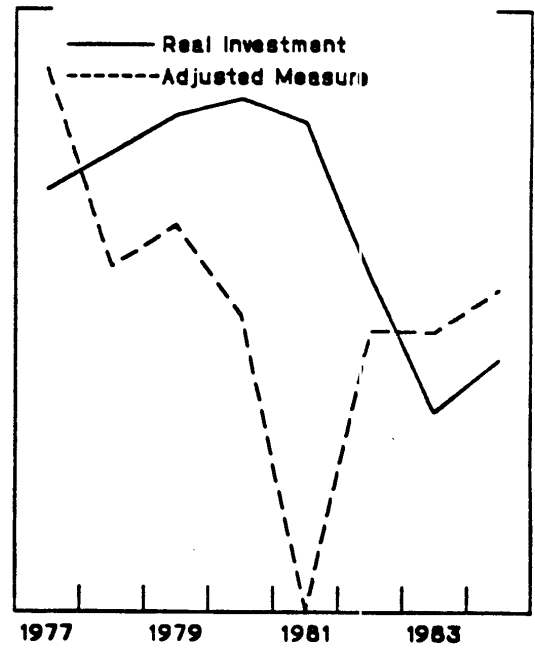
FIGURE 3\*

Adjusted Measure and Investment: Scaled

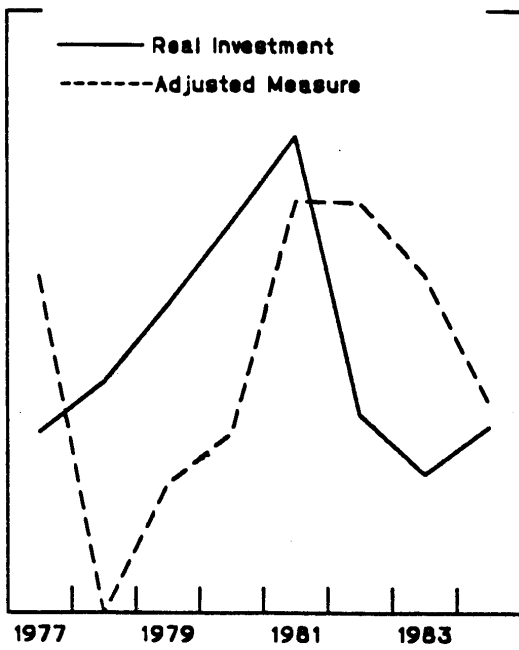
Argentina



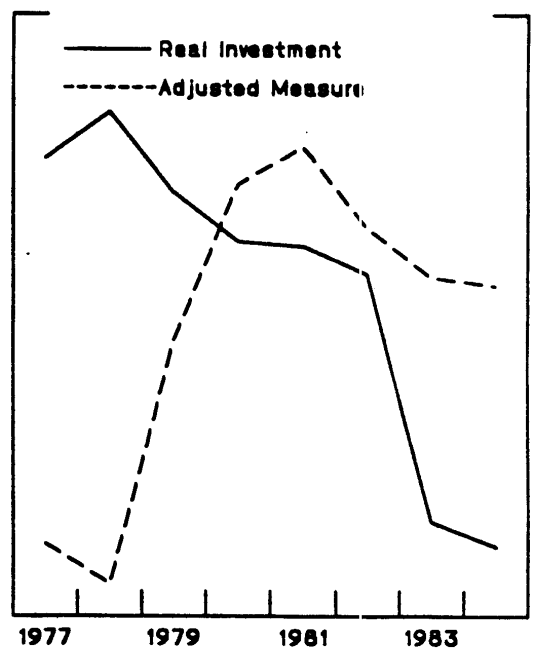
Brazil



Mexico



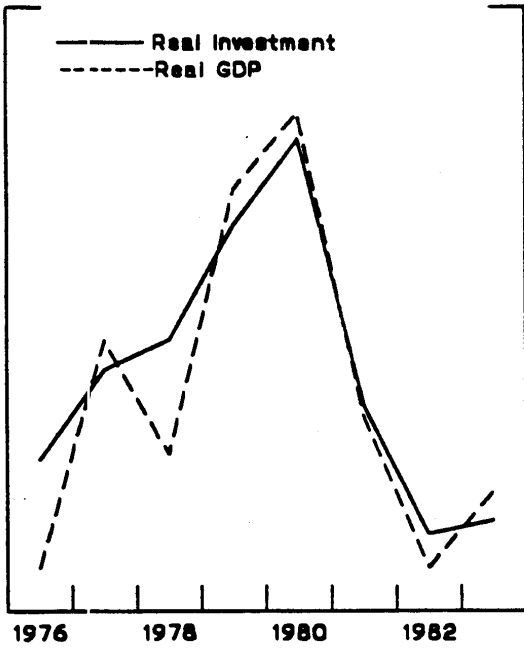
Venezuela



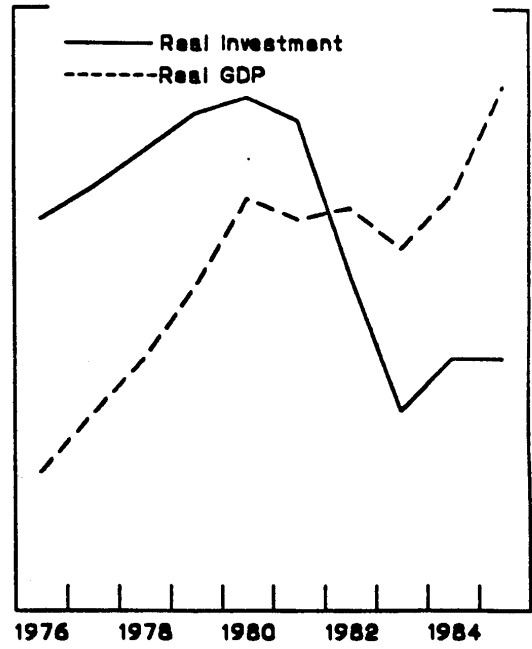
\*These are "real" values, scaled to facilitate comparison. The variables, deflating procedure, and scaling techniques are defined in the data appendix.

FIGURE 4\*  
Real GDP and Investment: Scaled

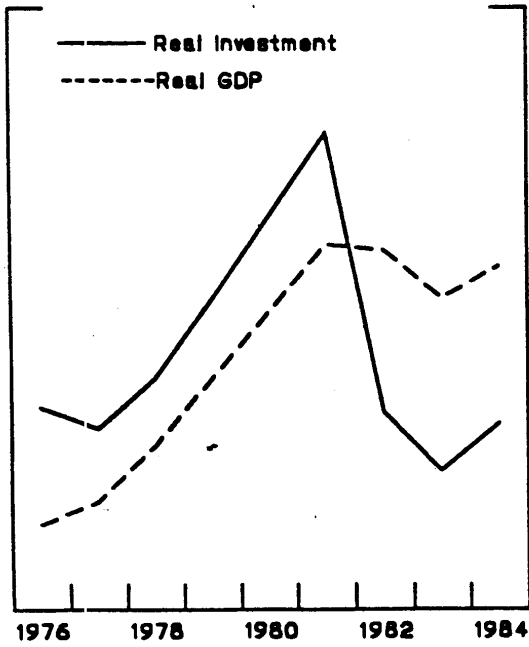
Argentina



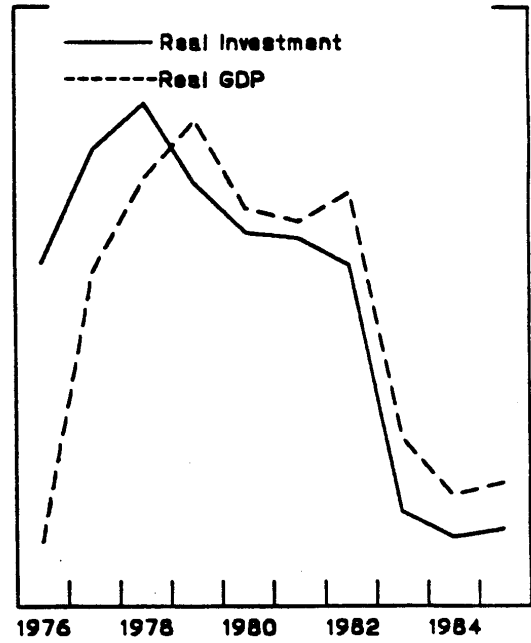
Brazil



Mexico



Venezuela

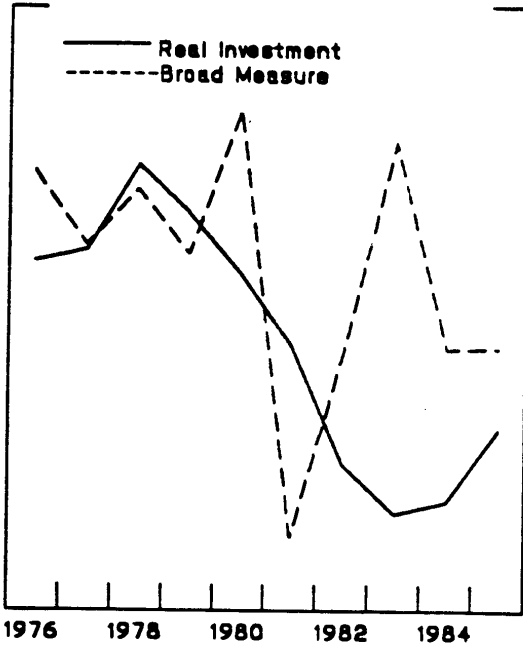


\*These are "real" values, scaled to facilitate comparison.  
The variables, deflating procedure, and scaling techniques are defined  
in the data appendix.

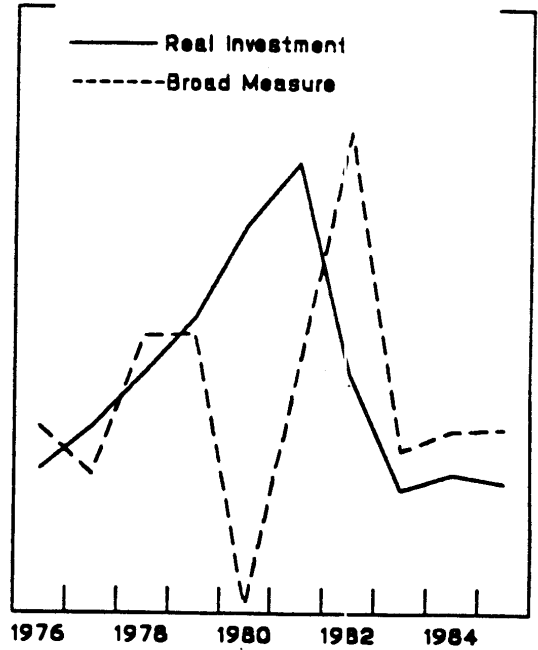
FIGURE 5\*

Broad Measure and Investment: Scaled

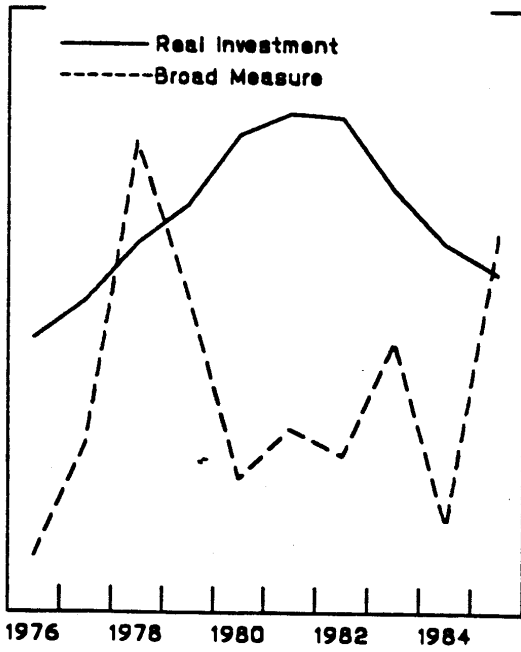
Bolivia



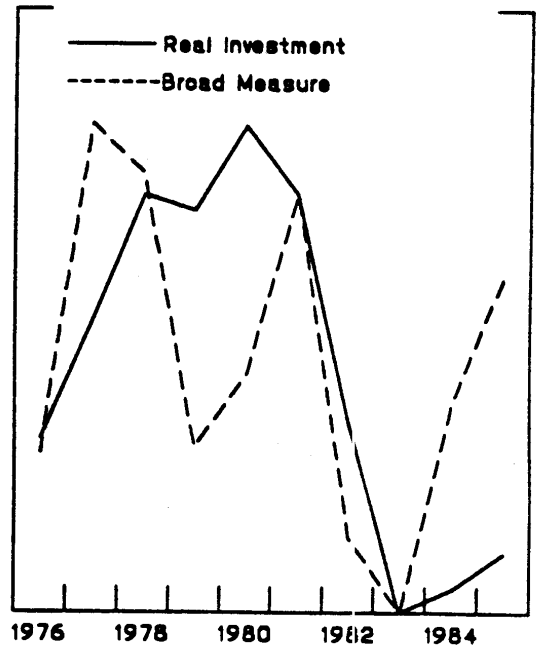
Chile



Colombia



Ecuador

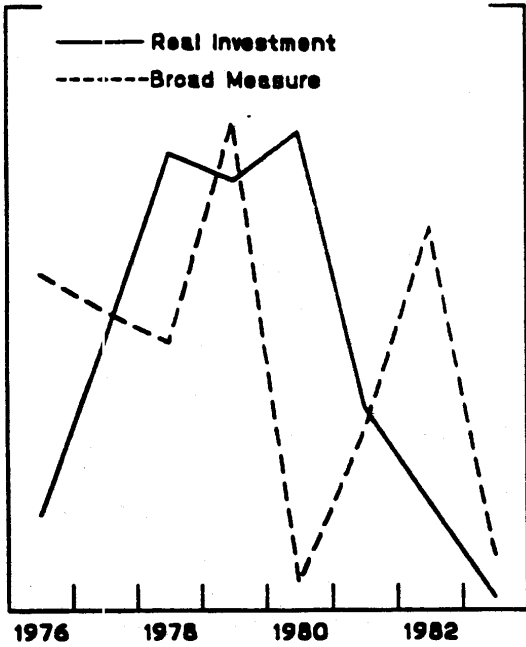


\*These are "real" values, scaled to facilitate comparison. The variables, deflating procedure, and scaling techniques are defined in the data appendix.

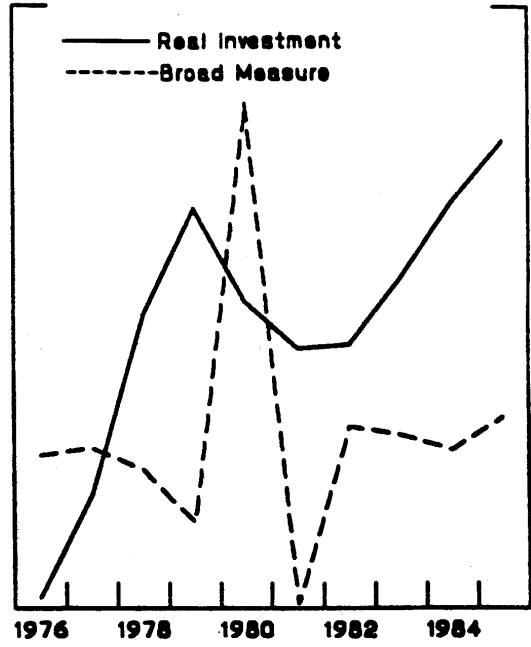
FIGURE 6\*

Broad Measure and Investment: Scaled

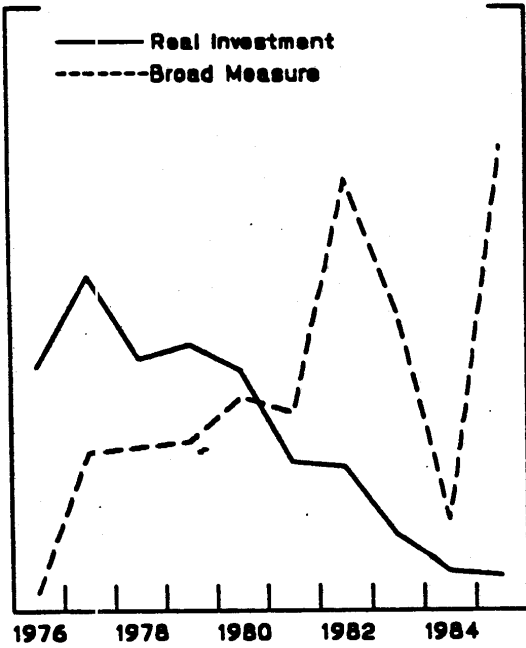
Ivory Coast



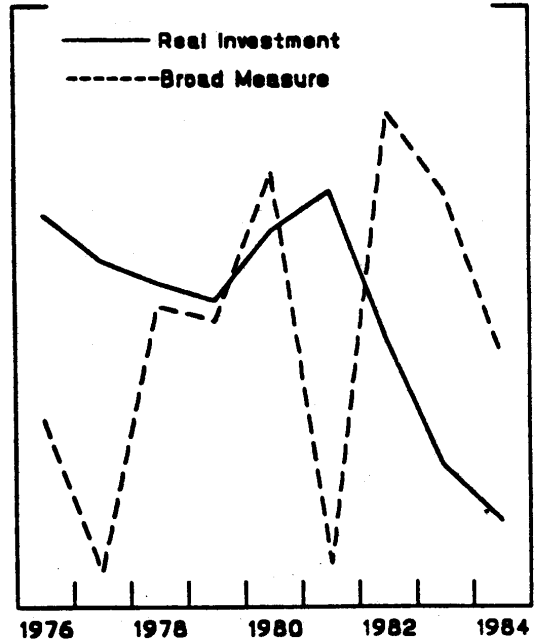
South Korea



Morocco

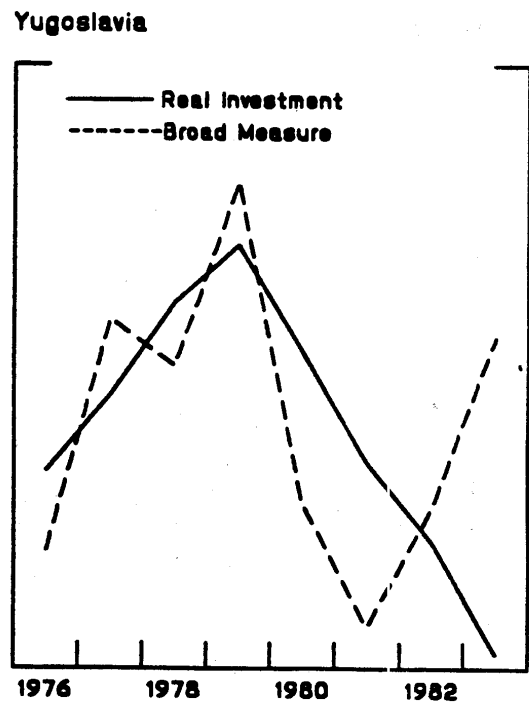
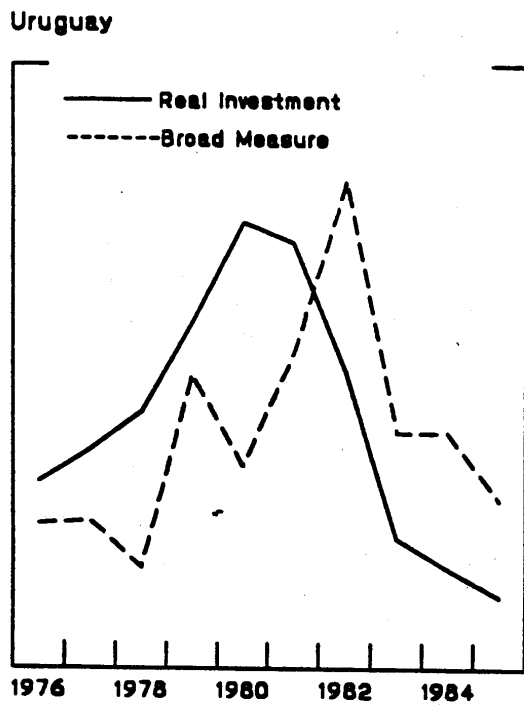
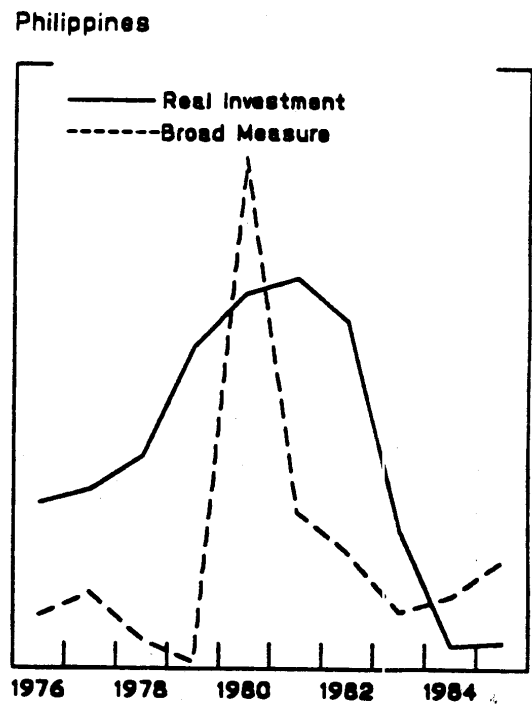
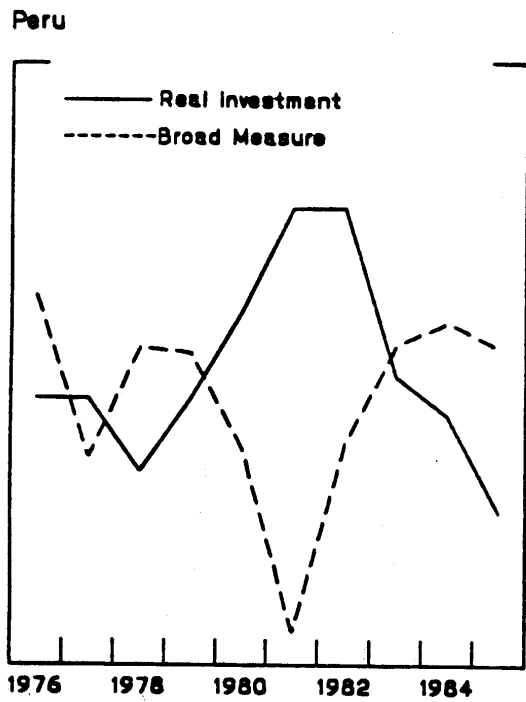


Nigeria



\*These are "real" values, scaled to facilitate comparison. The variables, deflating procedure, and scaling techniques are defined in the data appendix.

FIGURE 7\*  
Broad Measure and Investment: Scaled



\*These are "real" values, scaled to facilitate comparison.  
The variables, deflating procedure, and scaling techniques are defined  
in the data appendix.

## References

- Alesina, Alberto, and Guido Tabellini, 1988, "External Debt, Capital Flight and Political Risk," mimeo.
- Arellano, Jose Pablo, and Joseph Ramos, 1987, "Case Studies: Chile." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.
- Baker, James, A. III, 1985, "Statement before the Joint Annual Meeting of the International Monetary Fund and the World Bank," Treasury News, The Department of Treasury, October 8 1985.
- Bhagwati, Jagdish N., Anne Krueger, and C. Wibulswasdi, 1974, "Capital Flight from LDC's: A Statistical Analysis," in Illegal Transactions in International Trade, ed. J.N. Bhagwati, North-Holland, Amsterdam.
- Conesa, Eduardo R., 1987, The Causes of Capital Flight from Latin America, Washington: Inter-American Development Bank.
- Council of Economic Advisers, 1987, Economic Report of the President.
- Cuddington, John T., 1987, "Macroeconomic Determinants of Capital Flight: An Econometric Investigation." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.
- Cuddington, John T., 1986, "Capital Flight: Estimates, Issues, and Explanations." Studies in International Finance, no. 58. Princeton, NJ, Department of Economics, Princeton University.
- Cumby, Robert and Richard Levich, 1987, "On the Definition and Magnitude of Recent Capital Flight." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.
- Deppler, Michael and Martin Williamson, 1987, "Capital Flight: Concepts, Measurement, and Issues." IMF Staff Studies for the World Economic Outlook, August, pp. 39-58.
- Diaz Alejandro, Carlos, 1984, "Latin American Debt: I Don't Think We Are in Kansas Anymore." Brookings Papers on Economic Activity, 2, The Brookings Institution, Washington, pp. 335-403.
- Dooley, Michael, 1987, comment on Robert Cumby and Richard Levich. Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.
- Dooley, Michael P., 1986, "Country-Specific Risk Premiums, Capital Flight, and Net Investment Income Payments in Selected Developing Countries." International Monetary Fund Departmental Memorandum 86/17, Washington.

- Dooley, Michael P., William Helkie, Ralph Tryon, and John Underwood, 1983, "An Analysis of External Debt Positions of Eight Developing Countries through 1990." Journal of Development Economics, May.
- Dornbusch, Rudiger, 1987, comment on Miguel A. Rodriguez F. Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.
- Dornbusch, Rudiger, 1985, "External Debt, Budget Deficits and Disequilibrium Exchange Rates." International Debt and the Developing Countries, ed. by Gordon W. Smith and John T. Cuddington, World Bank, Washington, pp. 213-35.
- Eaton, Jonathan, 1987, "Public Debt Guarantees and Private Capital Flight." The World Bank Economic Review, May, pp. 377-95.
- Eaton, Jonathan, Mark Gersovitz, and Joseph E. Stiglitz, 1986, "The Pure Theory of Country Risk." European Economic Review, 30, pp. 481-513.
- Erbe, Susanne, 1985, "The Flight of Capital from Developing Countries." Intereconomics, November/December, pp. 268-75.
- Gros, Daniel, 1987, "The Effectiveness of Capital Controls: Implications for Monetary Autonomy in the Presence of Incomplete Market Separation." IMF Staff Papers, 34, pp. 621-642.
- Gulati, Sunil K., 1987, "A Note on Trade Misinvoicing." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.
- Harberger, Arnold C., 1985, "Lessons for Debtor-Country Managers and Policymakers." International Debt and the Developing Countries, ed. by Gordon W. Smith and John T. Cuddington, World Bank, Washington, pp. 236-57.
- Hommel, Rudolf, 1987, "Case Studies: Columbia" Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.
- International Monetary Fund Research Department, 1987, "Capital Flight: Concepts, Measurement, and Issues."
- Ize, Alain, and Guillermo Ortiz, 1987, "Fiscal Rigidities, Public Debt and Capital Flight." IMF Staff Papers, Washington, Vol. 34, June, pp. 311-32.
- Khan, Mohsin S., and Nadeem Ul Haque, 1987, "Capital Flight from Developing Countries." Finance and Development, March.
- Khan, Mohsin S., and Nadeem Ul Haque, 1985, "Foreign Borrowing and Capital Flight: A Formal Analysis." IMF Staff Papers, Washington, Vol. 32, December, pp. 606-28



Kindleberger, Charles P., 1987, "Capital Flight-A Historical Perspective." Capital Flight: The Problem and Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.

Kindleberger, Charles P., 1937, International Short-Term Capital Movements, New York, NY: Augustus Kelley.

Kuczynski, Pedro-Pablo, 1987, "Panel on Policy Issues." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.

Lessard, Donald R. and John Williamson, 1987, "The Problem and Policy Responses." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.

Morgan Guaranty Trust Company, 1986, "LDC Capital Flight." World Financial Markets, March.

Morgan Guaranty Trust Company, 1987, "LDC Debt Realities," World Financial Markets, June-July.

Remolona, Eli M. and William J. Gasser, 1986, "Capital Flight from Twelve Major Debtor LDCs." New York Federal Reserve Bank, manuscript.

Rodriguez, M.A., 1987, "Consequences of Capital Flight for Latin American Debtor Countries." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.

Urrutia, Miguel, 1987, "Panel on Policy Issues." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.

Walter, Ingo, 1987, "The Mechanisms of Capital Flight." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.

World Bank, 1985, World Development Report, Washington.

Zedillo, Ernesto, 1987, "Case Studies: Mexico." Capital Flight: The Problem and Policy Responses, ed. by Donald R. Lessard and John Williamson, Institute for International Economics, June.

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