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Flight Capital and its Reversal for Development Financing

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and Victor Murinde²

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Abstract

In this paper, we review the theoretical and empirical literature on capital flight. First, we discuss the measurement of capital flight. Next, we provide information on the magnitude as well as the 'burden' of capital flight for a selected set of developing countries in four regions of the world (South Asia, East Asia, Sub-Saharan Africa and Latin America). Moreover, we review the literature on the determinants of capital flight and provide an overview of empirical studies that have analysed the determinants of capital flight. In the light of the discussion of these determinants, we assess the prospects for flight capital reversal. We conclude by proposing some policy measures to stem continued capital flight and induce capital flight reversal.

Keywords: capital flight, flight capital reversal, development finance

JEL classification: F29, F39, O11

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1 Introduction

Capital flight remains one of the enigmatic policy and academic issues of the day. Although from the end of the 1980s and early 1990s the debt crisis appeared to be contained and attention to the capital flight phenomenon waned, capital flight still remains a serious problem in a number of countries. The most pronounced concern among policymakers, researchers and the key stakeholders in economic development is that in most developing countries which are riddled with heavy debt burdens, foreign exchange shortages, transient and chronic poverty, capital flight amounts to a substantial proportion of the very resources which are essential for financing economic growth and reversing the perverse economic trends.¹

Most of the initial empirical studies on capital flight focused on Latin American economies. Capital flight from Latin America during the 1970s and early 1980s appeared to be voluminous in absolute terms. The sheer volume posed a threat to the viability of the domestic banking system, national solvency and economic stability. In addition, the flight of capital occurred at the same time that the countries were in desperate need for foreign exchange to amortize their outstanding debt to commercial banks in industrial countries. Later studies showed that capital flight was also an important issue for countries in other developing regions, however.

During the early 1990s the interest for the capital flight phenomenon waned, since most Latin American countries had reduced their external debt problems and capital started to flow back to many of the emerging economies in this region, as well as to East Asia. Yet, from the mid-1990s the international financial system was confronted with the outbreak of several major financial and economic crises. These crises contributed to large outflows of capital from several developing countries and led to renewed attention to the capital flight phenomenon. First, in 1994-95, Mexico and some Latin American countries experienced the Tequila crisis. Then, in 1997-98, several Asian countries experienced a deep financial and economic crisis, followed by Russia in 1998 and Brazil in 1999. These financial crises added an important dimension to the capital flight problem. For example, the mounting complexity of imbalances in the underlying economic fundamentals in the Asian economies culminated into a scenario of collapsing exchange rates and share prices, initially in Thailand and Indonesia, which provoked domestic and international investors to immediately withdraw their money, and thereby caused panic on the international financial markets. There were even fears of bank runs which, due to bandwagon and contagion effects, threatened the stability of the international banking system. In this context, the Asian financial crisis demonstrated how adverse domestic economic conditions influence the behaviour of domestic and international investors in accelerating capital flight.

This paper aims to examine the key aspects of capital flight and highlight the prospects for reversing the flight of capital from developing countries. Several definitions of the term capital flight are isolated; it is shown that each definition offers an associated approach for measuring the magnitude of capital flight. Moreover, the paper discusses

¹ The media has constantly spotlighted the capital flight phenomenon, remarkably arguing that precious resources from poor countries are being used to finance the egoistic consumerist habits of the world's richest people. For example, a respected *Financial Times* journalist, Martin Wolf, has argued that one of the most likely sources of unrecorded funding for the United States colossal US\$392 billion current account deficit is capital flight from poor countries (see *Financial Times* 2002).

the main determinants of capital flight, including variables that capture bank intermediation behaviour, political risk and policy uncertainty. One of the important conclusions of the paper is that good policies may help reverse capital flight.

The remainder of this paper is structured into four parts. Section 2 provides an overview of the definition of capital flight and the main methods used to measure capital flight. The magnitude of capital flight is discussed in Section 3. Section 4 presents an overview of the theoretical and empirical literature on the determinants of capital flight. Section 5 concludes and proposes policy measures that may help to reverse capital flight.

2 The measurement of capital flight

In the literature there is no consensus about the definition of capital flight. Several studies suggest capital flight should be distinguished from *normal* capital outflows. According to these studies, normal outflows are based on considerations of portfolio diversification of residents—for example, in terms of portfolio or direct investment and trade credit—and/or activities of domestic commercial banks aiming at acquiring or extending foreign deposit holdings. In their view, the phenomenon of capital flight is somehow related to the existence of extremely high uncertainty and risk with respect to returns on domestically held assets. Residents take their money and run in order to avoid extremely high losses on their domestic asset holdings. Authors like Deppler and Williamson (1987) argue that capital flight is motivated by the fear of losing wealth due to, for example, expropriation of wealth by the government, sudden exchange rate depreciation, non-repayment of government debts, (changes in) capital controls and financial market regulations, and (changes in) tax policies. Walter (1987) and Kindleberger (1987) have a similar opinion. These authors suggest that capital flight should be related to the abnormal or illegal nature of certain capital outflows. Yet, in practice it is extremely difficult to empirically distinguish between normal and abnormal or illegal capital outflows (see also Gordon and Levine 1989). Therefore, several authors argue that capital flight should not be distinguished from normal capital outflows (see, for example, Erbe 1985; World Bank 1985; Morgan Guaranty 1986 and 1988). It is argued that for countries struggling with (large) current account deficits and external debt payments—and which are thus in need of foreign capital—any capital outflow increases the problems of financing their net imports and debt payments.

The measurement of capital flight is not straightforward, given that there is no consensus on the definition of capital flight. Indeed, several capital flight measures are available in the literature. Not surprisingly, this leads to differences in capital flight estimates for different countries. In general, the following measures of capital flight can be distinguished in the literature (Claessens and Naudé 1993: 2-9): (i) the residual (or broad) method; (ii) the Dooley method; (iii) the hot money method; (iv) the trade misinvoicing method; and (v) the asset method. Below, we will briefly describe these different methods of measurement.

2.1 The residual method

This method measures capital flight indirectly by comparing the *sources* of capital inflows (i.e., net increases in external debt and the net inflow of foreign investment)

with the *uses* of these inflows (i.e., the current account deficit and additions to foreign reserves). This approach starts from the standard balance of payments framework. In principle, if the balance of payments statistics were to be used (reported by the International Monetary Fund Balance of Payments Statistics), the uses and sources of funds should be equal. However, since these statistics may not accurately measure flows, and in particular private capital flows, World Bank statistics on the change in the external debt are used instead. If the sources, calculated by using World Bank debt data, exceed the uses of capital inflows, the difference is termed as capital flight. The residual method acknowledges the difficulties of separating abnormal from normal capital outflows and, therefore, measures all unrecorded private capital outflows as being capital flight.

According to the residual method, capital flight is calculated as follows:

$$KF_r = \Delta ED + FI - CAD - \Delta FR \quad (1)$$

where KF_r is capital flight according to the residual method, Δ denotes change, ED is stock of gross external debt reported in the World Bank data, FI is the net foreign investment inflows, CAD is the current account deficit and FR is the stock of official foreign reserves.

In the literature, the residual method has been widely used, in some cases with (minor) modifications. The standard approach as described above has been used by, among others, the World Bank (1985) and Erbe (1985). Morgan Guaranty (1986) takes into account an additional item, i.e. the change in the short-term foreign assets of the domestic banking system (ΔB). This modification is introduced to focus on non-bank capital flight. Thus, capital flight according to the Morgan Guaranty variant of the residual method (KF_m) can be calculated as:

$$KF_m = \Delta ED + FI - CAD - \Delta FR - \Delta B \quad (2)$$

Cline (1986; cited in Cumby and Levich 1987) also uses the residual method, but proposes to exclude the following items from the current account balances: travel (credit), reinvested earnings on direct investment abroad, reinvested earnings on direct investment domestically, and other investment income (credit). He argues that income from tourism, border transactions, and reinvested investment income should not be considered capital flight since these earnings are beyond the control of the authorities (Cumby and Levich 1987: 33-4). Claessens and Naudé (1993), in contrast to most others, take into account net acquisitions of corporate equities in their measure of foreign direct investment. Zedillo (1987) argues that the standard residual method should be modified with respect to the measurement of external debt and the current account deficit. First, instead of measuring changes in the stock of external debt, Zedillo proposes to look at flows, since this may more accurately report annual capital flows. Second, he proposes to adjust the current account for interest earned and retained abroad. This is estimated by taking the interest on identified deposits of residents held abroad. Brown (1990) and Vos (1992) propose to take into account the unrecorded remittances of workers abroad. These remittances tend to be understated in the balance of payments statistics of developing countries, leading to an overstatement of the current account deficits. This would then result in lower estimates of capital flight. Remittances of workers abroad are important sources of foreign exchange for several developing countries, including Egypt, Sudan and the Philippines. Finally, Morgan

Guaranty (1988), Pastor (1990), Boyce and Ndikumana (2001) and Ndikumana and Boyce (2002) add interest earnings on the stock of assets held abroad, taking a representative international market interest rate to compute these earnings. This, of course, increases the estimates of capital flight based on the residual method.

2.2 The Dooley method

This method aims at distinguishing normal from abnormal, or illegal capital flows. Dooley (1986) sees capital flight as the total amount of externally held assets of the private sector that do not generate income recorded in the balance of payments statistics of a country. Or, stated otherwise, capital flight is all capital outflows based on the desire to place wealth beyond the control of the domestic authorities. The Dooley method of measuring capital flight starts by computing total capital outflows as reported in the balance of payments statistics, but then makes a number of modifications. First, errors and omissions are taken into account to measure total capital outflows. Second, the Dooley method takes into account the difference between the World Bank data on the change in the stock of external debt and the amount of external borrowing as reported in the balance of payments statistics. If the first is larger than the second, this difference is assumed to be part of capital flight. Third, the stock of external assets is computed that correspond to the reported interest rate earnings in the balance of payments by using a representative market interest rate (i.e. the US deposit rate). The difference between total capital outflows and the change in the stock of external assets corresponding to reported interest income is measured as capital flight.

According to the Dooley method, capital flight is measured as follows. First, the amount of total capital outflows is calculated:

$$TKO = FB + FI - CAD - \Delta FR - EO - \Delta WBIMF \quad (3)$$

where TKO is total capital outflows, FB is foreign borrowing as reported in the balance of payments statistics, EO is net errors and omissions (debit entry), and $WBIMF$ is the difference between the change in the stock of external debt reported by the World Bank and foreign borrowing reported in the balance of payments statistics published by the IMF.

The stock of external assets corresponding to reported interest earnings is:

$$ES = INTEAR / r_{us} \quad (4)$$

where ES is external assets, r_{us} is the US deposit rate (assumed to be a representative international market interest rate), and $INTEAR$ is reported interest earnings. Capital flight according to the Dooley method is then measured as:

$$KF_d = TKO - \Delta ES \quad (5)$$

The Dooley method is conceptually different from the residual method. Yet, Claessens and Naudé (1993: 5-7) show that in practice capital flight measured according to the Dooley method and the residual method are fairly similar, since most of the data used for calculation are the same in both cases.

2.3 The hot money method

According to this method capital flight is measured by adding up net errors and omissions and non-bank private short-term capital outflows. Cuddington (1986 1987), Ketkar and Ketkar (1989) and Gibson and Tsakalotos (1993) are examples of authors who have used this method of measuring capital flight. Like the Dooley method, this method corresponds to the idea that capital flight goes unrecorded, due to the illegal nature of these capital movements. The unrecorded capital movements are believed to appear in net errors and omissions. Moreover, by concentrating on short-term flows, medium and long-term outflows are excluded, which are viewed as being normal in character (Gibson and Tsakalotos 1993: 146). Thus, the hot money method (KF_h) can be calculated as follows:

$$KF_h = SKO + EO \quad (6)$$

where SKO is the total amount of short-term capital outflows.

2.4 The trade misinvoicing method

Some authors use the amount of trade misinvoicing as a measure of capital flight (Claessens and Naudé 1993). Trade misinvoicing is determined by comparing trade data from both the importing and exporting country. Importers are assumed to be involved in capital flight when they report higher values of imported goods as compared to the reported value of the same goods by exporters. In turn, exporters are involved in capital flight when they report lower values of exported goods as compared to the reported value of the same goods by importers. Proponents of this measure stress the fact that abnormal capital outflows of residents may be included in export underinvoicing and/or import overinvoicing, since both these malpractices provide channels to siphon domestically accumulated wealth outside the country. In some cases, those authors using the residual method argue that the measurement of capital flight in this way is inaccurate due to the poor quality of export and import figures resulting from trade misinvoicing. They, therefore, propose to adjust capital flight figures based on the residual method (Gulati 1987; Lessard and Williamson 1987; Vos 1992; Eggerstedt *et al.* 1995; Ajayi 1997; Boyce 1993; Ndikumana and Boyce 2002; and Collier *et al.* 2001).

2.5 The asset method

Some authors take the total stock of assets of non-bank residents held at foreign banks as a measure of capital flight. This is the so-called asset method (Hermes and Lensink 1992; Collier *et al.* 2001). The asset method is a short-cut measure of capital flight. This measure may be seen as an indication of the minimum amount of assets held abroad, since residents may hold their assets in other forms next to bank accounts, for example, in foreign equity holdings. The IMF provided data on these bank assets until 1994. For recent years, however, no information is available to apply this measure.

2.6 The methods and their drawbacks

The methods discussed above have important drawbacks. In our view, the Dooley method and hot money method are conceptually wrong. We would argue that the distinction between normal and abnormal or illegal capital outflows is not useful. What really matters is that a country confronted with a lack of financial resources to finance long-term development experiences an adverse impact on its future growth prospects when net capital outflows occur. With respect to the hot money it may be added that it is unclear why capital flight should consist of short-term capital movements only. Assets of residents held outside the home country based on a longer-term perspective should also be part of capital flight. The asset method may suffer from being too narrow a measure of total capital flight and may leave out potentially large parts of capital flight. Moreover, assets held at foreign banks are not always specified by ownership. Taking into account the inaccuracy of trade data due to misinvoicing may help to improve capital flight estimates. Yet, it has been argued that trade misinvoicing may also occur in the presence of trade taxes. Calculated trade misinvoicing may then be unrelated to the phenomenon of capital flight (Gibson and Tsakalotos 1993: 150). Moreover, Chang and Cumby (1991: 167) in a study on the magnitude of capital flight in Sub-Saharan Africa point out that ‘... the systemic underreporting of trade figures in both directions to avoid trade barriers ... seems to overwhelm any discernible capital flight through misinvoicing.’ Since many developing countries make use of some form of trade barriers, we have every reason to assume that this finding will also apply in the case of other developing countries.

Taking into account the above mentioned drawbacks of the different methods of calculating capital flight, we would favour the use of the residual method when measuring capital flight.

3 The magnitude of capital flight

We estimate the magnitude of capital flight for four regions, namely East Asia, South Asia, Sub-Saharan Africa and Latin America, for the period 1983-98. The estimates are based on the residual measure: change in debt + net foreign investment—(current account deficit + change in reserves). Only countries for which data were available for the entire sample period have been included in the estimations (see note to Table 1 for the complete list of countries on which we report capital flight data). We also report data on the ‘burden’ of capital flight, measured by the ratio of capital flight to national income. The data are described and reported in Table 1.

When looking at the figures presented in Table 1, we may conclude the following about the absolute and relative size of capital flight from the countries in our sample:

- For East Asia, capital flight in absolute terms was most intense during the period 1990-93. The region also experienced the highest levels of capital flight as compared to the other developing regions, especially towards the end of the 1990s. The burden of capital flight was most severe in 1998, when total flows of capital flight amounted to 12 per cent of GDP of the countries in the sample.

- For South Asia the Table shows a mixed picture of capital flight as well as its reversal. Generally speaking, for this region capital flight has been rather modest as compared to East Asia, in absolute as well as in relative terms (relative to GDP). The highest flight of capital relative to GDP was experienced in 1993 and 1994, when it amounted to 2 to 4 per cent. Yet, in the year thereafter the reversal of capital flight was over 3 per cent and the reversal continued until 1998 when the Asian financial crisis broke out, leading to a flight of capital that amounted to 1.5 per cent of GDP.
- According to the figures in Table the Sub-Saharan African countries included in our analysis experienced a high burden of capital flight. While in absolute terms capital flight from these countries was low during the entire period as compared to other regions, it was very high relative to GDP, especially during 1985-87 (between 11 and 12 per cent) and 1990 (8 per cent). The Sub-Saharan African countries seem not to have been affected by the Asian crisis in 1997-98: capital flight was low in 1998 and in 1997 the table even reports capital reversal for these countries.
- The Latin American countries in our sample have experienced high levels of capital flight, at least in absolute terms, especially during the period 1990-98. However, the capital flight burden is not as high as in the East Asian or Sub-Saharan African region. Then highest burden is reported for 1984 and 1996, when capital flight amounted to almost 4 and 5 per cent of GDP, respectively, of the countries in the sample.

Table 1
Magnitude and burden of capital flight: flows for 1983-98

	East Asia		South Asia		Sub-Saharan Africa		Latin America	
	CF (US\$ bn)	CF to GDP (%)	CF (US\$ bn)	CF to GDP (%)	CF (US\$ bn)	CF to GDP (%)	CF (US\$ bn)	CF to GDP (%)
1983	5	1.1	5	1.7	-0.9	-2.4	4	0.9
1984	7	1.3	0.2	0.1	0.5	1.3	17	3.9
1985	3	0.5	3	0.8	5	11.4	9	2.0
1986	10	1.9	5	1.6	5	10.8	-8	-1.5
1987	37	6.4	6	1.7	6	12.1	15	2.8
1988	33	4.8	-4	-1.2	-2	-3.1	-3	-0.5
1989	17	2.2	8	2.1	2	4.4	5	0.8
1990	50	5.8	-0.1	-0.03	4	8.1	26	3.5
1991	51	5.4	7	2.0	1	2.3	19	2.5
1992	42	4.1	5	1.3	-0.4	-0.8	40	4.9
1993	46	4.1	10	2.7	-0.1	-0.3	16	1.8
1994	140	10.5	17	4.0	2	5.2	30	2.9
1995	113	6.9	-16	-3.3	4	6.9	28	2.3
1996	102	5.6	-6	-1.2	0.7	1.3	52	3.9
1997	103	5.6	-4	-0.7	-3	-5.6	33	2.3
1998	189	12.2	8	1.5	0.4	0.6	24	1.7

Notes: The table shows data for capital flight based on the residual measure (change in debt + net foreign investment - (current account deficit + change in reserves)). Data are taken from World Bank (2002). Change in reserves refers to: BN.RES.INCL.CD - Changes in net reserves (BoP, current US\$).

Debt refers to: DT.DOD.DECT.CD - External debt, total (DOD, current US\$).

Current account refers to: BN.CAB.XOKA.CD - Current account balance (BoP, current US\$).

Notes to Table 1 (con't)

Net foreign direct investment refers to BN.KLT.DINV.CD - Foreign direct investment, net (BoP, current US\$).

GDP refers to NY.GDP.MKTP.KD - GDP at market prices in US\$.

Only countries for which data were available for the entire sample period are included. The countries included in the sample are the following:

East Asia: China, Fiji, Indonesia, Korea, Papua New Guinea, Philippines, Samoa, Solomon Islands and Thailand.

South Asia: Bangladesh, Bhutan, India, Pakistan and Sri Lanka.

Sub-Saharan Africa: Botswana, Cameroon, Côte d'Ivoire, Ethiopia, Kenya, Mauritania, Mauritius, Mozambique, Swaziland and Uganda.

Latin America: Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Jamaica, Nicaragua, Paraguay and Venezuela.

Data on capital flight of individual countries are available in Appendix Table A-1.

Table 2
Stocks of capital flight, end of 1998

	Capital flight (US\$ bn)	Capital flight to GDP in 1998
Latin America	309	22.0
Sub-Saharan Africa	25	41.3
South Asia	43	7.8
East Asia	947	60.9

Note: Stocks are found by adding up annual flows for 1983-98. See also note to Table 1.

Next to providing data on the flows of capital flight, we also report stocks of capital flight over the 1983-98 period. Table 2 shows that the East Asian countries in our sample have by far the highest stock of capital flight, amounting to 60 per cent of GDP in 1998. An important source of the high level of the stock has been the Asian crisis; as reported in Table 1, during 1998, the total stock of capital flight increased by 20 per cent for this region. Also for the Sub-Saharan African countries we report high stocks (40 per cent of GDP). The stocks are relatively low for the countries in South Asia (almost 8 per cent of GDP).

These figures show that there may be potentially large resources available for development financing if countries are able to conduct policies that contribute to the reversal of capital flight.

4 The determinants of capital flight²

Stated in a formal way, capital flight is directly related to the behaviour of a risk-averse individual who diversifies his wealth in order to maximize asset returns. This emphasizes the decision to hold assets abroad as part of the process of portfolio diversification (Cuddington 1986; Gibson and Tsakalotos 1993; Lensink *et al.* 1998). Differences in rates of return between domestic and foreign asset holdings, the amount of wealth, and risk and uncertainty aspects influence this decision. The following main determinants of capital flight are discussed here: (i) macroeconomic instability; (ii)

² This section draws from Hermes *et al.* (2002).

political instability; (iii) rate of return differentials; (iv) capital inflows; (v) stock of capital flight; and (vi) public policy uncertainty. These determinants have a direct influence on portfolio decisions of individuals. As will be shown, in a number of cases the determinants are closely connected.

4.1 Macroeconomic instability

Macroeconomic instability occurs when aggregate domestic demand exceeds aggregate domestic supply on a structural basis. The causes of this instability may be manifold, for example, political tensions and instability, wrong or lacking incentive structures and institutions to let markets efficiently coordinate demand and supply, and heavy government involvement, which may put markets at the sideline. Whatever the exact reasons, when a country experiences macroeconomic instability this may become manifest in a number of ways: budget deficits will rise, current account deficits increase, exchange rate overvaluation occurs and inflation is growing. Variables describing such factors are often found in studies on the determinants of capital flight.

Exchange rate overvaluation is often found to be an important variable in studies of capital flight and its underlying determinants. An overvalued exchange rate leads to increasing expectations of depreciation in the near future. This in turn will lead to rising prices of foreign goods relative to those of domestic goods and thus to loss of real income. To avoid welfare losses, residents hold at least part of their assets abroad. High inflation directly erodes the real value of domestic assets, stimulating residents to hold assets outside the country. Moreover, inflation rates and the exchange rate are closely connected, since high inflation may lead to increasing expectations of depreciation in the future. High current account deficits may have a similar impact on exchange rate expectations, and may thus be a stimulus for capital flight. Government budget deficit may stimulate capital flight, since it raises expectations of residents with respect to future tax increases or increases in inflation tax, since it is anticipated that the government needs to repay its debt. In both cases, the real value of domestic assets is eroded, leading to capital flight.

In all the cases discussed here, macroeconomic instability leads to (indirectly) increasing taxes and tax-like distortions. This will lower returns and increase risk and uncertainty of domestically held wealth (Collier *et al.* 2001). This will increase incentives for capital flight. The large outflows of capital at the beginning of the debt crisis in the early 1980s and at the outbreak of the Asian crisis in 1997-98 support this view. The macroeconomic situation of these countries was highly unstable during these years.

4.2 Political instability

Whereas macroeconomic instability variables focus on the outcomes of public policies and their impact on capital flight, one may also look at the institutional context in which these policies have been carried out. The institutional context itself may give rise to capital flight. Public sector behaviour may have an impact on the risks and uncertainty regarding the policy environment and its outcomes. More specifically, residents may decide to hold their assets abroad based on lack of confidence in the domestic political situation, perceived high levels of corruption, and the consequences of these factors for

the future value of the assets. In these cases, perceived political instability may generate capital flight. Models that illustrate the impact of political instability on capital flight can be found in Alesina and Tabellini (1989), Tornell and Velasco (1992), and Bhattacharya (1999). It is shown that when different governments with different interest groups supporting them come into office, uncertainty increases with respect to future fiscal policies. Such an unstable political situation may, for example, lead to a political business cycle. Political instability may also turn into political unrest, leading to strikes, riots, assassinations, etc. Finally, different forms of the regime type (democracy, autocracy, etc.) may have a different impact on the degree of uncertainty about future policy and their outcomes.

Political instability may thus have an influence on the possibility that the government may in one way or another erode the future value of asset holdings. The erosion of future wealth is based on the expectation that domestic political instability causes rising macroeconomic instability, leading to rising budget deficits, current account deficits, exchange rate uncertainty and high inflation. Several studies on the determinants of capital flight take into account one or more variables that measure the degree of political uncertainty.

4.3 Rate of return differentials

Of course, capital flight may occur simply because the returns on assets are higher abroad as compared to assets held domestically. Most studies on the determinants of capital flight take this into account by adding a variable that measures the (after tax) real interest rate differential.

4.4 Capital inflows

Several authors specifically emphasize the role played by foreign borrowing as a determinant of capital flight. The explanations for the relationship between foreign borrowing and capital flight are related to the issues discussed earlier with respect to macroeconomic and political instability. In the literature several models deal with the issue of the simultaneous occurrence of capital flight and capital inflows. Moreover, as we will show below, most empirical studies emphasize the role played by capital inflows in explaining capital flight.

Especially during the 1970s and early 1980s, developing countries experienced massive capital inflows and outflows at the same time. Eaton (1987) presents a theoretical model in which he explains why the increase of foreign borrowing may stimulate capital flight. According to the model, residents may borrow on international capital markets and then use the loans (plus potential domestically held assets) to buy foreign assets. This is advantageous if they expect their government to nationalize debt repayments at some point in time, which will release them from the obligation to repay, and if domestic taxes are high. These expectations reflect moral hazard behaviour of residents, who expect to be bailed out by their government. In the early 1980s the moral hazard behaviour of domestic borrowers was indeed rewarded when governments of several developing countries actually nationalized foreign debt repayments.

Under the above mentioned assumptions, current foreign borrowing increases future repayment obligations of the government when it actually nationalizes debt repayments. If residents perceive that the government will pass the costs of these repayments on them, for example by using the inflation tax, they may choose to convert their domestic assets into foreign assets. Boyce (1992 and 1993) and Ndikumana and Boyce (2002) refer to this as the 'revolving door syndrome'. Moreover, the occurrence of capital flight itself stimulates others to hold money abroad, since now the future costs of debt repayment by the government have to be shared by a decreasing number of wealth holders. Similar models by Eaton and Gersovitz (1989) and Ize and Ortiz (1987) show that capital flight is stimulated when the public sector itself borrows in the international capital markets to finance its current expenditures. Fry (1993) stresses that growing government guaranteed foreign debt may increase expectations about exchange rate devaluations, which provides a stimulus to hold foreign assets.

Other authors stress the importance of differences in perceived risk of investing in the domestic economy to explain the simultaneous inflow and outflow of capital (Khan and Ul Haque 1985; Dooley 1988; Diwan 1989). Residents face a higher risk of a reduction in the value of their domestically held assets as compared to foreign investors. This may lead to a situation where domestic investors buy foreign assets while foreign investors buy domestic assets at the same time. Unlike domestic investors, foreign investors are not hurt by the inflation tax, since they lend in foreign currency. A similar asymmetry in perceived risks holds with respect to currency depreciation following the accumulation of debt obligations. Domestic investors will experience a reduction of the real value of their assets, whereas foreign investors are not hurt by such exchange rate changes.

It has also been argued that in practice the domestic debt obligations of the government are junior to foreign debt obligations (Ize and Ortiz 1987; Kant 1996), which reduces the willingness of residents to lend to their own government. Foreigners, instead, are not reluctant to lend to the government due to the seniority of their claims.

Razin and Sadka (1991), Dooley and Kletzer (1994) and Bjerksund and Schjelderup (1995) present models that emphasize differences in tax treatments for domestic and foreign investors, leading to simultaneous capital inflows and capital outflows.

Finally, simultaneous capital inflow and outflow may also be due to asymmetric information about expected returns on domestic assets between domestic and foreign investors.

4.5 The stock of capital flight

Another determinant of capital flight is the stock of capital flight itself. The argument to take the stock of capital flight as a determinant of the flows of capital flight stresses the spillover effect of large assets holdings abroad on the expected losses on domestically held assets. When residents hold large amounts of foreign assets, the tax base is reduced considerably. Under these circumstances, the tax burden due to increased public expenditures and foreign borrowing has to be shared by a smaller tax base, increasing the burden per unit of domestically held asset. Consequently, this will further stimulate residents to take their money and run. Thus, the larger the stock of capital flight, the higher the incentives to flee (Collier *et al.* 2001). An entirely different argument to take the capital flight stock as a determinant is given by Vos (1992). He argues that the stock

of capital flight reflects the desire of residents to hold foreign assets to satisfy their foreign consumption needs. In this spirit, flows of capital flight may reflect residents' behaviour in targeting a certain stock of foreign asset holdings.

4.6 Public policy uncertainty

As discussed above, public policy behaviour may be one of the main determinants and is related to both macroeconomic and political instability. If the content and direction of current and future public policies are uncertain and/or unstable, domestic investors will be uncertain about the impact of these policies on the real value of domestically held assets in the future. This uncertainty may stimulate investors to sell their domestic and buy foreign assets. One example of a theoretical analysis of policy uncertainty and its influence on capital flight is found in Sheets (1995). Sheets argues that the shock therapy implemented by some transition economies led to substantial capital flight, since the policy reforms initially generated increased uncertainty about policies and their outcomes.

4.7 Evaluating empirical studies of the determinants of capital flight

A large number of studies is available in which the determinants of capital flight are analysed empirically. Table 3 provides an overview of these studies, specifying the measure of capital flight used, the determinants of capital flight, the countries or regions of which data have been used, the sample period, and the estimation technique. The summary presented below will focus on discussing some of the most interesting features and findings of these studies. Due to limitations of space we cannot discuss the studies in detail. The interested reader is referred to the original articles.

Starting with the measure of capital flight used, the summary in Table 3 makes clear that most studies use a version of the residual method. Some studies empirically investigate the determinants of capital flight using the hot money method. In several cases, estimations are presented using different kinds of measures for capital flight to show the sensitivity of the estimation results to the specific measure used. In general, the table shows that estimation results differ, depending on the measure of capital flight used. This indicates the crucial importance of the issue of measurement of the capital flight phenomenon.

The studies summarized in Table 3 focus on developing countries. The Table shows that most studies focus on capital flight of Latin American countries. Only a few have focused on African countries. The emphasis on Latin America is due to the massive outflows these countries experienced during the 1980s following the debt crisis. As was shown in section 3, in absolute terms capital flight of these countries, at least during the 1980s, was by far the largest. However, the relative burden of capital flight during this decade was higher for countries in Sub-Sahara Africa, emphasizing the need for research with respect to the determinants of capital flight from this continent. In a number of cases estimations have been carried out using individual country data. This particularly holds for early attempts to investigate the capital flight phenomenon. More recently, two studies have investigated the determinants of capital flight using a large sample of developing countries (Lensink *et al.* 2000; Hermes and Lensink 2001).

Table 3
Overview of empirical studies on the determinants of capital flight

Author(s)	Methodology	Countries	Sample period	Estimation technique	Main determinants tested
Cuddington (1986)	Hot money	Argentina, Brazil, Chile, Korea, Mexico, Peru, Uruguay and Venezuela	1974-82	OLS	<i>REER (+/-), FINC, RINTR, RINTRF, INFL (+)</i>
Cuddington (1987)	Hot money	Argentina, Mexico, Uruguay and Venezuela	1974-84	OLS	<i>REER (+), RINTRF, INFL</i>
Dooley (1988)	Dooley	Argentina, Brazil, Chile, Mexico, Peru, Philippines and Venezuela	1977-84	OLS (pooled) with instruments	<i>INFL (+), FINC (+), PR (-)</i>
Ketkar and Ketkar (1989)	Hot money	Argentina, Brazil and Mexico	1977-86	OLS	<i>RINTR, RINTRF, INFL (+), REER (+), DUMG (+), SPREAD</i>
Pastor (1990)	Residual	Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela	1973-87	OLS (pooled)	<i>INFL, FINC (+), REER (+), BUDEDEF (+), YG (-), TAXGDP</i>
Mikkelsen (1991)	Weighted average of residual and hot money	22 LDCs	1978-85	OLS (pooled)	<i>YG (-), E (FINC) (+), BUDEDEF (+)</i>
	Weighted average of residual and hot money	Mexico	1976-85	OLS	<i>E (FINC) (+), RINTR, DUMG (+)</i>
Hermes and Lensink (1992)	Residual and asset	Côte d'Ivoire, Nigeria, Sudan, Tanzania, Uganda and Zaire	1978-88	OLS (pooled)	<i>DEBTGDP (+), REER (+) FINC, YG, RINTRF, AIDGDP, SHDGDP</i>
Muscattelli and Hallet (1992)	Hybrid	4 Latin American countries + Philippines	1976-88	OLS	<i>INFL (+), YG (-), BUDEDEF (+), RINTR (-), REER (+)</i>
Vos (1992)	Residual	Philippines	1971-88	OLS	<i>DEBTGDP (+), REER (+) CFS (+), SPREAD (+)</i>
Boyce (1992, 1993)	Residual	Philippines	1962-86	OLS	<i>DEBTGDP (+), RINTR (+), BUDEDEF (+), YG</i>
Henry (1996)	Residual	Barbados, Jamaica and Trinidad and Tobago	1971-87	OLS	<i>BUDEDEF, YG, TAXGDP, REER, INFL, DEBTGDP (+), SPREAD</i>
Murinde <i>et al.</i> (1996)	Residual	Côte d'Ivoire, Nigeria, Sudan, Tanzania, Uganda and Zaire	1976-91	SUR	<i>DEBTGDP (+), REER, FINC, INFL, YG, RINTRF, AIDGDP</i>
Lensink <i>et al.</i> (1998)	Residual	9 African countries	1970-91	SUR	<i>DEBTGDP (+), REER, FINC, INFL, YG, RINTRF, AIDGDP</i>

Table 3 continues

Table 3 (con't)
Overview of empirical studies on the determinants of capital flight

Author(s)	Methodology	Countries	Sample period	Estimation technique	Main determinants tested
Hermes <i>et al.</i> (1999)	Residual	Hungary, Poland and Romania	1982-95	OLS	<i>DEBTGDP (+), REER, BUDDEF, FINC, AIDGDP</i>
Lensink <i>et al.</i> (2000)	Residual, hot money and Dooley	84 LDCs	1971-90	EBA and CDF	<i>BANKL (+), AIDGDP (+), FDI, PINSTAB, WAR, CIVLIB (+), PRIGHTS, PARCOM (+)</i>
Ng'eno (2000)	Residual	Kenya	1981-95	OLS	<i>YG, RINTR, REER</i>
Nyoni (2000)	Residual	Tanzania	1973-92	OLS	<i>YG, INFL, FINC, POLRISK</i>
Olopoenia (2000)	Residual	Uganda	1971-94	OLS	<i>YG, INFL, FINC</i>
Collier <i>et al.</i> (2001)	Residual	39 LDCs	1970-90	LAD	<i>DEBTGNP (+), REER (+), CFS (+)</i>
Hermes and Lensink (2001)	Residual	84 LDCs	1971-91	CDF	<i>BANKL (+), AIDGDP (+), PINSTAB (+), CIVLIB (+), EGOVC (+), ETAX (+), EBUD (+), EINFL (+), ERINTR (+)</i>
Ndikumana and Boyce (2002)	Residual	30 Sub-Saharan African countries	1970-96	OLS	<i>KF-1 (+), KF-2 (+), DEBGDP (+), DEBST (+), INFL, BUDDEF (-), FINC, VOICE (-), FREE (-), CORR (+), GOVEFF, CONT</i>

Notes: In all studies listed in the table the dependent variable is capital flight, measured in different ways, however (see Column [2]).

The estimation techniques mentioned in column [5] are: ordinary least squares (OLS), seemingly unrelated regressions (SUR), quantile regressions using least absolute deviation estimation (LAD; see Collier *et al.* 2001), extreme bound analysis (EBA; see Levine and Renelt 1992), and estimation with cumulative distribution functions (CDF; see Sala-i-Martin 1997).

Column [6], indicating the 'main determinants tested', only shows those variables of interest to the study of capital flight and its determinants. In several cases the specification of the equations estimated also may contain control variables. These variables have been left out of the table. A (+) or (-) behind a variable in this column indicates that this variable is significantly positive (or negative) related to capital flight, i.e. t-values for this variable are above 1.7 in the majority of the equations estimated in the studies listed.

For abbreviations of variables used in the table, see Appendix A.

In most cases the empirical studies on the determinants of capital flight implicitly use a portfolio model to decide which variables should be taken into account. Almost all studies estimate a reduced form equation. Consequently, this leads to equations of a rather *ad hoc* nature, which in a way is a shortcoming of the empirical literature on capital flight. Only Lensink *et al.* (1998) aim at estimating a full portfolio model, in which capital flight is taken into account as one of the assets, and which allows for investigating the simultaneity of different effects between different variables. Most studies estimating a reduced form equation apply OLS. In some cases the empirical studies deal with time series, in other cases they use pooled regressions.

As was already mentioned, most cases empirical studies implicitly use a portfolio model to decide which variables should be taken into account. If we take the different categories of determinants of capital flight as discussed in the previous section, the following broad picture emerges.

With respect to *macroeconomic instability*, one or more variables such as exchange rate overvaluation, government deficits, the inflation rate, and current account deficits appear in almost all studies. In particular, measures of the degree of exchange rate overvaluation are prominently present in these studies. The results of the empirical investigations indicate that macroeconomic instability causes capital flight. In most specifications variables measuring the extent of macroeconomic instability are statistically significant and positively related to capital flight.

Few studies focus on measures of *political instability* as determinants of capital flight. Several kinds of measures have been used. In some cases, the empirical investigations focus on the regime type as measure of political instability, using different dummy variables that proxy for the degree of democracy of a country. Other studies use dummy variables to measure issues related to the policy regime, such as indexes of civil rights and liberties. Still other studies use more direct measures for political instability, such as the number of assassinations and revolts, dummies for the fact that a country has been involved in a war situation. In general, the results of the empirical investigations support the view that political instability, measured in various ways, and capital flight are positively related.

Proxies of the *interest rate differential* are used in some studies to measure the relative attractiveness of domestic as compared to foreign assets. In most cases, researchers have calculated some kind of exchange rate differential between the domestic interest rate on deposits and a foreign deposit rate, normally the US deposit rate. Another measure proxying for the attractiveness of different assets used is the growth rate of GDP or GNP. Measures of the interest rate differential do not always have a statistically significant relation to capital flight. This may indicate that other determinants, such as macroeconomic and political instability, are more important to explain capital flight.

In many studies, *capital inflow* variables are taken into account. In several cases these capital flows have been split into one or more forms of inflows. In particular, research has focused on investigating the impact of long-term versus short-term foreign debt. A few studies have also investigated the role played by aid flows. Among others, Bauer (1981) argues that development aid would be used to finance capital flight. The table shows that especially long-term debt inflows have a statistically significant influence on capital flight. The hypothesis put forward by Bauer on the relationship between aid and capital flight is supported in some of the studies surveyed.

To our knowledge only a few studies focus on *the stock of capital flight* as a determinant of capital flight (Collier *et al.* 2001). This study finds evidence for the positive relationship between capital flight and the stock of capital flight. Vos (1992) also finds a positive relationship, which he takes as evidence for his hypothesized stock-adjustment behaviour based on satisfying foreign consumption needs of residents.

Finally, one recent study has analysed the relationship between *public policy uncertainty* and capital flight by directly focussing on uncertainty with respect to government consumption expenditures, taxes, budget deficits, inflation and real interest rates (Hermes and Lensink 2001). The evidence from this study shows that public policy uncertainty indeed plays an important role in explaining capital flight.

In conclusion, it appears that foreign debt variables, exchange rate overvaluation and political risk variables do have a statistically significant impact on capital flight in all empirical studies summarized in Table 3. It should be added, however, that the studies also show quite diverse outcomes with respect to the determinants of capital flight at the individual country level. In several cases, other macroeconomic instability variables do have an impact on capital flight. The table only shows general results found.

5 Conclusions: policies for reversal of capital flight

This paper has examined the key issues in the literature on capital flight, including the main measurement methods, magnitude and a discussion of its determinants. Our paper first of all clearly shows that capital flight is still a serious issue. Many developing countries have suffered from large capital flight during the 1980s and 1990s. The potential for capital reversals seem to be quite substantial. In 1998, stocks of capital flight held abroad amounted to over 40 per cent of GDP on average for the Sub-Saharan African countries in our sample. For the East Asian countries such stocks were even 60 per cent of GDP. Even for the Latin American countries in our sample, capital flight was still over 20 per cent of GDP in 1998. These figures show that there may be potentially large resources available for development financing if countries are able to conduct policies that contribute to the reversal of capital flight.

The review of the theoretical and empirical literature on the determinants of capital flight provided insights into the factors that may possibly contribute to the return of capital flight. Based upon the insights from the review, we come to the following main conclusions about policies that may help to reverse capital flight in the near future.

5.1 Macroeconomic stability

Policymakers have to recognize the need for macroeconomic stability in order to stem continued capital flight and induce capital flight reversal. As discussed, the causes of this instability may be manifold, for example political tensions and instability, wrong or lacking incentive structures and institutions to let markets efficiently coordinate demand and supply, and heavy government involvement, which may put markets at the sideline. Whatever the exact reasons, when a country experiences macroeconomic instability this may become manifest in a number of ways: budget deficits will rise, current account deficits increase, exchange rate overvaluation occurs and inflation is growing.

In all these cases, macroeconomic instability leads to (indirectly) increasing taxes and tax-like distortions. This lowers returns and increases risk and uncertainty of domestically held wealth and increases incentives for capital flight. The large outflows of capital at the beginning of the debt crisis in the early 1980s and at the outbreak of the Asian crisis in 1997-98, when the macroeconomic fundamental in these countries were highly unstable, support this view.

In this context, it is necessary to adopt an appropriate exchange rate and positive real interest rates, as well as pay attention to budget deficits in order to increase the prospects for the reversal of capital flight. Reducing macroeconomic instability and carrying out sound macroeconomic policies will also reduce the uncertainty with respect to government policies.

5.2 Political stability

Policymakers also have to look at the institutional context in which good macroeconomic policies have been carried out. As we have seen, the institutional context itself may give rise to capital flight. Public sector behaviour may have an impact on the risks and uncertainty regarding the policy environment and its outcomes. More specifically, residents may decide to hold their assets abroad based on a lack of confidence in the domestic political situation and its consequences for the future value of their assets. Hence, political stability is important in order to stem continued capital flight and induce capital flight reversal.

5.3 Rate of return differentials

Consistent with economic theory and the empirical studies, capital flight may occur simply because the returns on assets are higher abroad as compared to assets held domestically. Indeed, most studies on the determinants of capital flight take this into account by adding a variable that measures the (after tax) real interest rate differential. In order to stem continued capital flight and induce capital flight reversal, policymakers have to pay attention not only to maintaining positive real interest rates but to ensure a competitive interest rate and to capture the covered and uncovered parity conditions. Yet, our review of the empirical evidence also showed that, in general, interest rate differentials were a less important determinant of capital flight. Therefore, maintaining a positive interest rate differential may be a necessary but not sufficient condition to secure capital reversals. For reversals to occur, macroeconomic and political stability seem to be more important.

5.4 Capital inflows

As was discussed in section 4.4, capital flows may be an important determinant of capital flight, mainly because high inflows may signal future payment problems for the government. If residents perceive that the government will pass the costs of these repayments to them, for example by using the inflation tax, they may choose to convert their domestic assets into foreign assets. Moreover, the occurrence of capital flight itself stimulates agents to hold money abroad, since the future costs of debt repayment by the government have to be shared by a decreasing number of wealth holders. In this context, policymakers need to pay attention to external debt management. The empirical

evidence is clear about the importance of the adverse incentives of large external debts on investment decisions of domestic wealth holders. For this matter, the international financial community may be advised to consider providing debt relief in a number of individual country cases. In the case of several Sub-Saharan African countries, for example, debt relief can have a strong positive effect on increasing resources available for policy reform: it reduces debt payment obligations, while at the same time it stimulates capital flight reversals.

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Appendix Table A-1
Individual country data on capital flight, averages 1983-98

Country	Period	CF (US\$ mn)	CF/GDP (%)	Country	Period	CF (US\$ mn)	CF/GDP (%)
East Asia				Latin America			
China	1983-89	4,827	1.9	Argentina	1983-89	952	1.3
	1990-98	64,493	10.2		1990-98	7,056	3.3
Fiji	1983-89	33	3.0	Barbados	1983-89	70	5.6
	1990-98	-33	-1.9		1990-98	70	4.0
Indonesia	1983-89	2,864	3.4	Bolivia	1983-89	-151	-0.8
	1990-98	9,389	6.7		1990-98	241	2.8
Korea	1983-89	5,989	4.0	Brazil	1983-89	3,719	1.4
	1990-98	11,323	3.2		1990-98	12,667	2.5
Papua New Guinea	1983-89	-5	0.2	Chile	1983-89	-323	-1.7
	1990-98	402	8.9		1990-98	3,081	6.1
Philippines	1983-89	115	0.6	Colombia	1983-89	665	1.6
	1990-98	1,978	3.3		1990-98	1,412	2.5
Samoa	1983-89	16	15.4	Costa Rica	1983-89	78	2.3
	1990-98	8	3.1		1990-98	-32	-1.0
Solomon Islands	1983-89	-2	-0.01	El Salvador	1983-89	146	3.9
	1990-98	14	4.7		1990-98	329	2.9
Thailand	1983-89	2,061	3.5	Jamaica	1983-89	122	4.8
	1990-98	5,335	4.6		1990-98	15	0.3
				Nicaragua	1983-89	369	18.9
					1990-98	-847	-41.5
				Paraguay	1983-89	44	1.1
					1990-98	-65	-1.2
				Venezuela	1983-89	40	-0.7
					1990-98	5,068	7.9
South Asia				Sub-Saharan Africa			
Bangladesh	1983-89	164	0.9	Botswana	1983-89	635	32.0
	1990-98	-160	-0.2		1990-98	651	15.4
Bhutan	1983-89	-74	-33.8	Cameroon	1983-89	480	4.6
	1990-98	-13	-4.5		1990-98	460	4.9
India	1983-89	2,694	1.1	Côte d'Ivoire	1983-89	296	3.0
	1990-98	2,555	0.9		1990-98	-346	-3.9
Pakistan	1983-89	2,761	0.9	Ethiopia	1983-89	268	4.0
	1990-98	-282	-0.2		1990-98	-13	-0.1
Sri Lanka	1983-89	46	0.7	Kenya	1983-89	153	2.5
	1990-98	286	2.8		1990-98	32	1.3
				Mauritania	1983-89	-16	-1.7
					1990-98	61	5.6
				Mauritius	1983-89	134	7.3
					1990-98	193	5.4
				Mozambique	1983-89	242	4.9
					1990-98	15	1.3
				Swaziland	1983-89	50	7.5
					1990-98	43	4.2
				Uganda	1983-89	57	1.4
					1990-98	-139	-3.3

Note: CF is capital flight; CF/GDP is the average level of CF/GDP over the entire period.

Appendix A: list of abbreviations and variables used in modelling the determinants of capital flight

<i>Δ</i>	change in a variable
<i>AIDGDP</i>	development aid as a percentage of GDP
<i>BANKL</i>	bank and trade related lending as a percentage of GDP
<i>BUDDEF</i>	overall budget deficits, including grants as a percentage of GDP
<i>CFS</i>	stock of capital flight
<i>CIVLIB</i>	index measuring civil liberties
<i>CONT</i>	measure of risk of contract repudiation
<i>CORR</i>	index measuring the extent of corruption
<i>CREDITPR</i>	credit to the private sector as a percentage of GDP
<i>DEBTGDP</i>	the external debt to GDP ratio
<i>DEBTS</i>	total external debt service as a percentage of GDP
<i>DEBST</i>	total stock of external debt service as a percentage of GDP
<i>DUMG</i>	dummy variable for regime change
<i>E(.)</i>	expected value of a variable
<i>EBUD</i>	uncertainty with respect to government budget deficit
<i>EGOVC</i>	uncertainty with respect to government consumption expenditures
<i>EINFL</i>	uncertainty with respect to inflation
<i>ERINTR</i>	uncertainty with respect to real interest rate
<i>ETAX</i>	uncertainty with respect to taxes
<i>FDI</i>	foreign direct investment as a percentage of GDP
<i>FINC</i>	difference between domestic and foreign interest rate corrected for changes in the exchange rate
<i>FREE</i>	measure of political freedom
<i>GOVEFF</i>	measure of government effectiveness
<i>INFL</i>	annual domestic inflation rate
<i>KF-1</i>	capital flight one period lagged
<i>KF-2</i>	capital flight two periods lagged
<i>LDCs</i>	developing countries
<i>PARCOM</i>	extent to which non-elites are able to access institutional structures for political expression
<i>PINSTAB</i>	measure of political instability, calculated as 0.5 times the number of assassinations per million population per year plus 0.5 times the number of revolutions per year
<i>POLRISK</i>	measure of political risk

<i>PR</i>	political risk variable (specified in Dooley 1986)
<i>PRIGHTS</i>	index of political rights
<i>REER</i>	real (effective) exchange rate
<i>RINTR</i>	real interest rate (%)
<i>RINTRF</i>	foreign real interest rate (%)
<i>SHDGDP</i>	short term debt to GDP ratio
<i>SPREAD</i>	interest rate spread (i.e. foreign minus domestic real interest rate)
<i>TAXGDP</i>	total taxes as a percentage of GDP
<i>VOICE</i>	measure of voice and accountability
<i>WAR</i>	dummy variable (1 = country participated in at least one external war during 1960-1985; 0 = no participation in external wars)
<i>YG</i>	rate of domestic economic growth

