

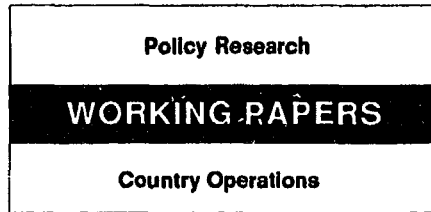
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An Economic Analysis of Capital Flight from Nigeria

S. Ibi Ajayi

Eliminating distortions in Nigeria's economy could minimize externally held foreign claims and capital flight.



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This paper — a product of the Office of the Director, Western Africa Department — is part of a larger effort in the department to examine the issues of debt, macrostability, and resource flows in the region. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ofelia Miranda, room J6-255, extension 34877 (October 1992, 78 pages).

Unlike Latin America, there have been no detailed estimates of capital flight or its determinants in Africa. Ajayi addresses this problem and, using several concepts, provides “bands” or a “range” for capital flight in Nigeria. A significant proportion of capital flight can be estimated from recorded data in the balance of payments and debt statistics — but these estimates are only as good as the data are reliable.

Significant amounts of capital flight, relative to external debt, took place between 1970 and 1989. Trade-faking was an important vehicle: exports were underinvoiced to the tune of about US\$8.1 billion and imports were overinvoiced about US\$6.0 billion.

Econometric analysis shows the culprit to be domestic macroeconomic policy — in the form of inflation, exchange rate misalignment, fiscal deficit, and the lack of opportunities for profitable domestic investments — combined with the relative attractiveness of foreign investments.

Eliminating distortions in the economy could minimize substantially externally held foreign claims and minimize capital flight. Among things that need to be done:

- Ensure that the nation’s currency is not overvalued.
- Establish an integrated, unified tariff structure to reduce the rewards for trade-faking.
- Establish fiscal discipline, to maintain macroeconomic stability and reduce inflation.
- Ensure a positive real rate of interest — high enough to attract funds but not so high as to stifle investment initiatives.
- Adopt a realistic exchange rate determined by market forces.
- Foster attitudinal changes that contribute positively to honest government.

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AN ECONOMIC ANALYSIS OF CAPITAL FLIGHT FROM NIGERIA ^{1/}

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SECTION I

INTRODUCTION

Since 1982, the issue of the external indebtedness of the less developed countries has dominated most debates about global finance. In recent times, attention has shifted to a somewhat different phenomenon with policy implications for debt crisis management. This is the issue of capital flight. Some analysts claim that capital flight issues predate the debt crisis while others argue that the debt crisis was precipitated by capital flight. According to Lawrence Birns, director of the Washington-based council on hemispheric affairs, capital flight had reached a chronic and seemingly irreversible pace in much of Latin America in the period leading to the open eruption of the debt crisis in 1982. For some authors, "the cascade of capital that has flowed from developing countries is a key element in keeping third world debt a lingering crisis" (Glynn and Koenig, 1984, p. 109). Traditionally, capital flows from developing to developed countries apart from those necessitated by normal business transactions are considered perverse and economically unsound.

The resurgence of interest in capital flight in recent times is dictated by the exigencies of the period which is related to the paradoxical situation of high accumulation of external debt by developing countries on the one hand and the acquisition of foreign assets by the citizens of the heavily indebted developing countries on the other. Consequently, interest is shown in capital flight at the policy level. Indeed, the Brady plan in the case of Mexico (which is also relevant to other countries in similar position) places heavy emphasis on economic adjustment that are designed to secure, among other things, a reversal of capital flight as an opportunity not only to improve on the external liability situation of the country but also to promote growth. Indeed

the arguments about the flight of capital has been an important factor in the resultant decline of lending to developing countries. Following the lead of Brady, the IMF made the adoption of policies for capital reversal a condition for its support of debt reduction policies (Pastor, 1989; Truell, 1989). The second interest in capital flight arises from the role that such externally stocked away assets can play in the domestic economy if left at home. This constitutes part of the economic arguments about capital flight. These are discussed later in the study.

It is not the intention of this study at the outset to come to judgements on the abnormality or otherwise of capital flight. Whether capital flight is considered a socially desirable phenomenon depends on the type of economy being considered, the morality of such outflows and whether it is generally considered beneficial or harmful. Judgements are inevitably likely to vary depending on the circumstances. Indeed, it is sometimes argued that capital flight is beneficial to the economy. Capital moves out when it would have been forcibly invested into low return activities and returns to the economy when it is clear that it will be put to good use. Thus, while capital flight can be considered in general to be a response to abnormal circumstances arising from domestic macroeconomic policy errors coupled in some cases with political instability, capital flight *per se* need not be an abnormal activity. Unless we expect some perverse economic behavior in some countries and none in others - a denial of general applicability of economic theory - would it be justifiable not to expect the flight of capital. Indeed as aptly put by Lessard and Williamson (1987, p. 201) capital flight is "the result of individual agents reacting in the way that is posited as rational by economic theory and accepted as normal in industrial countries". Where to draw the line between "what is" and "what is not" capital flight is sometimes unclear. It is clear, however, for example, that overseas investments arising from such activities as drug trafficking, corruption and illicit activities as those arising from the

evasion of taxes and exchange controls are only part of capital flight. From the perspectives of the different angles from which capital flight can be viewed, it is important to study it for any economy.

The economic arguments against capital flight from developing countries are not only convincing but are often too strong to be ignored. First, the outflow of capital can cause a shortage of liquidity in the economy, and thereby create a shortfall in the amount of funds that are needed for the importation of equipment which are needed for development. In addition, the shortage of liquidity in the economy can lead to the exertion of upward pressure on interest rates. The most interesting aspect which is discussed in the literature is that between capital flight and growth. Two of the most recent and relevant arguments are those given by Deppler and Williamson (1987, p.52) and Lessard and Williamson (1987 p.224). According to Deppler and Williamson capital flight leads to a net loss in the total resources which are available to an economy for the purposes of investment and growth. Given the fact that capital flight is a diversion of domestic savings away from domestic real investment, the pace of growth and development in the economy is retarded from what it would have otherwise been. Sometimes, it is actually said that the reduction in terms of domestic output is in multiples of the size of capital flight. Similarly, the shortage of liquidity can cause a depreciation of the domestic currency if the authorities are operating a floating exchange rate system. If attempts are being made to defend a particular exchange rate, a loss of reserves will ensue.

Second, income that is generated abroad and the wealth that are held abroad are outside the purview of domestic authorities and cannot therefore be taxed. Thus, potential government revenue is reduced and hence the debt-servicing capacity of government debt is affected. Capital flight can exacerbate balance of payments crisis if at the time it exists capital flows are also

being experienced. Capital flight can compound the foreign finance problems of heavily indebted countries if creditors are reluctant as a result of capital outflows to give further financial assistance.

Third, income distribution is negatively affected by capital flows. This is due to the fact that the poor in indebted countries are subjected to austerity in order to pay for debt obligations to international banks who in turn pay interests to some with assets abroad from these countries.(Pastor, 1989). All these arguments are valid if capital is irreversible.

The preponderant of the causes of capital flight are often attributed to economic factors. These are often traced to disincentives created mainly by distortions in domestic macroeconomic policy. These distortions manifest themselves in large public sector deficits, exchange rate misalignment, inflation and financial repression. As part of the economic causes also are the incentives provided by foreign banks and governments. These include attractive returns and the maintenance of secrecy on deposits. Part of the explanation for capital flight which is often ignored in most analysis on the topic is the political aspect. This is predicated on corruption (a problem which is hardly limited to LDCs) and access to foreign funds by political leaders. It has been alleged that some political leaders through the perquisites of their offices siphon funds to foreign countries. Thus, access to political offices and the corruptibility of such office holders become important factors. As part of the corruption, it has been alleged that in the years when petrodollar surged into Mexico, Venezuela and Nigeria, the opportunity for graft multiplied in these countries and a lot of money consequently was siphoned abroad. While the amounts of money that are left in the bank deposits in foreign countries is a fair direct pointer to this possibility, it is difficult to be conclusive, however, in attributing all of the deposits to

capital flight or indeed to stolen or bribery money since indeed some of the deposits may have arisen in the course of the performance of normal business transactions.

Nigeria is one of the heavily-indebted countries (indeed one of the Baker 15 countries) where the issue of capital flight has been talked about as being important. Relative to the several studies that have been carried out for Latin American countries, there are limited studies on the magnitude of capital flight in Nigeria. There is no comprehensive study on the causes, measurement, conduits, economic determinants and empirical estimate including econometric investigation and consequences of capital flight. There are "words of mouth" or anecdotal evidences that the different regimes in Nigeria have contributed to capital flight in different ways. Some have asserted, for example, that in the oil boom years a lot of capital did leave Nigeria as the petrodollar (mentioned earlier) increased the degree of corruption and graft. Similarly, the almost five-year reign of the civilian regime between 1979-1984 has often been referred to as a period when a lot of money was siphoned out of the country by some political office holders. These were reportedly done through the retention of some percentages of contract money deposited in a foreign bank account. This amount of money would only show up in the statistics if deposited in a foreign bank that is within the financial reporting system. Any amount of money not so deposited like those left in a Swiss bank secret code account, for example, are very difficult to detect. Similarly, if the money was (is) spent in buying property almost immediately they were (are) deposited, it would also escape being counted. In any case, some of this money in particular those dealing with bribery or percentage of contracts awarded to foreigners never entered the country in the first case. In such situations, it is perhaps difficult and inappropriate to categorize such money as capital flight. What is known, however, is that quite a number of important "political big shots" who were afraid after the military coup of 1984

fled the country. It has been alleged that some fled to take money abroad (See Glynn and Koenig, 1984). It would also be true to say that some probably fled out of the fear of possible political persecution and possible interrogation to which a number of public officers who stayed in the country were subjected. It has been claimed by casual empiricists that given the discipline of the military regime, the period of their rulership should be characterized by less capital flight. The answers to these claims are empirical.

One of the most often mentioned mechanisms for capital flight is trade faking. As of now, there is no known published detailed study on the magnitude of such import and export faking for Nigeria. Although the study by Chang and Cumby (1991) analyzed the extent of trade faking -over-invoicing of imports and exports for a number of African countries including Nigeria, the study fell short of estimating on annual basis the amount of trade faking that actually took place using partner country data. One of the contributions of this study, it is hoped, is to bridge this long-standing gap and other gaps with regards to capital flight estimates in Nigeria. Given the present magnitude of Nigeria's external debt and the possible impact of capital flight on her debt-servicing capacity, a study of capital flight is appropriate at this time. Additionally, an attempt is made in this study to estimate the amount of Nigeria's stock of external claims. This is not known to have been done elsewhere.

The capital flight estimates made in this study are different from all previous estimates that have made specific allusion to Nigeria and as mentioned previously there are not too many of them. The first difference is the period of coverage. This is not only different, but are also broken down into sub-periods in order to discover possible periodic episodes in terms of the rulership or economic fortunes of the country. The second difference is that attempt is made in this study to calculate the extent of external claims in the country. The third difference is that

the extent of trade faking is given prominence in this study and adjustments are subsequently made taking due cognizance of this phenomenon in estimating the total amount of capital flight using different versions. This is a modest response to the challenge of Chang and Cumby (1991, p.170) that "with trade misinvoicing, capital outflows are hidden in current account data, which will show a greater deficit than the true current account, and will not be reflected in any capital account items. Therefore, we need to seek an alternative means of identifying capital flight through the misinvoicing of trade". The fourth difference is the utilization of various alternative methodologies for calculating capital flight. Lastly, an econometric model explaining capital flight is specified and estimated.

It is necessary to point out upfront that while the study of capital flight is not only exciting and challenging in itself, it can be likened in a sense to fishing in "muddled water". Perhaps in some cases, it is not only searching for the unknown but finding out what is supposedly "lost" to a country! Searching for capital flight is difficult since indeed the various groups and individuals "are unlikely to make a point of informing the compilers of the balance of payments statistics of their action".(Lessard and Williamson 1987, p.205). It is perhaps for this reason that Boyce (1990, p.43) asserts that "the measurement of capital flight requires statistical detective work". The required statistical detective work is certainly made more difficult where the reliability of statistics is said to be in doubt, and where consistency in data series is not a statistical hallmark!

In the economic study of capital flight, the approach adopted is three-fold. The first is a discussion at the conceptual level, the rationale and the basis for classifying domestic outflows as capital flight instead of normal flows. The second approach involves a discussion and analyses of the conduits and economic determinants of capital flight. The third part of the

approach which is strictly empirical is in two parts. The objective of the first part is to compute and analyze the alternative measures of capital flight. The measurements are in general derived from a common data base for the period from 1972-1989 in order to show the variations in the estimates derived from alternative definitions. The second part of the empirical work deals with econometric estimation.

THE OBJECTIVES OF THE STUDY.

In summary, the study focuses on the following:

- (1) measurement of the total stock of external claims by Nigerians. (2) definition and measurement of the magnitude of capital flight using different approaches.
- (3) determinants of capital flight analyzed within the context of economic, socio-economic and other factors.
- (4) exploration of the mechanisms for and/or conduits of capital flight. Specifically, the study examines the mechanisms of capital flight, that is, the different conduits through which money is shipped abroad and the possible measurable assets in which money is held once it arrives abroad.
- (5) a detailed analyses of trade faking, that is, the under-invoicing/over-invoicing of exports and imports.
- (6) an econometric investigation of the determinants of capital flight.
- (7) detailed analyses of the macroeconomic consequences of capital flight. Finally, policy conclusions are drawn from the findings of the study.

OUTLINE OF THE STUDY.

The outline of the study is as follows.

In section II we grapple with the problems of the various definitions of capital flight. Section III deals with the literature review. The alternative measures of capital flight are discussed and estimated in section IV. In section V we discuss trade faking and estimate the amount of capital flight arising from it. Adjustments are then made to arrive at the appropriate capital flight estimates. The conduits through which capital flight leaves the country is considered in section VI. The causes of capital flight and the empirical analysis are the themes of sections VII and VIII, respectively. The summary of findings and policy conclusions are in section IX.

SECTION II

THE DEFINITION OF CAPITAL FLIGHT

There are various definitions of capital flight. The use of the term "capital flight" arouses strong emotions in some quarters. Some analysts view capital flight as a symptom of a sick society while others view capital flight as the cause of heavily indebted countries' inability to recover from their present debt problems. Capital flight is regarded by others as a "pejorative description of natural, economically rational responses to the portfolio choices that have confronted wealthy residents of some debtor countries in recent years" (Lessard and Williamson, 1987 p.202). The controversy surrounding the term is due partly to the lack of a precise and universally accepted definition for it in economic theory and partly because of the way the term is used between developed and developing countries. It is usual amongst some economists to refer to capital outflows from developed countries as foreign investments while the same activity when undertaken by the residents of developing countries is referred to as capital flight. One of the distinctions that is often made, however, is that exchange rate control regimes exist in many developing countries.

One of the reasons for this dichotomy is the belief that the investors from developed countries are responding to better opportunities abroad. The investors from the developing countries on the other hand are said to be escaping the high risks which they perceive at home. This interpretation makes it very obvious why a lot of economists are "ill-at-ease" with the definition of capital flight. In general, it is believed that the investors from all countries whether developed or developing will base their investments decisions on the relative returns and risks of such investments at home and abroad.

There are possibly a number of valid reasons why capital flows from developing countries should be labelled as "capital flight". The first is the general presumption in economics that capital should flow towards capital-scarce countries. There is scarcity of capital in developing countries. Any flows in the opposite directions, that is, from developing to developed countries as mentioned in the introduction are not only unusual but abnormal. The second reason is related to a policy issue. What is important is the extent to which those assets held abroad could be utilized at home to reduce the level of external indebtedness and relieve the inherent liquidity problems brought about by debt service obligations. (Pastor, 1990). In distinguishing between capital flight and normal capital flows, two broad approaches are taken in the literature. The first is an identification of specific episodes (or countries) that are characterized by abnormally adverse economic conditions for investment and consider all estimates of the acquisition of external claims by the private sector as capital flight. The second approach distinguishes capital flight from other capital movements by considering capital flight to consist of the acquisition of external claims that are not reported to the domestic authorities. (Chang and Cumby, 1987); Dooley (1988). On the other hand, capital flight can be considered as those capital outflows which are in excess of "normal flows". One problem with this definition lies in what constitutes "normal" capital outflows in this context. (Anthony and Hallett, 1990).

These various difficulties essentially lie at the heart of the varying definitions and computation methodologies which have been employed to quantify the capital flight phenomenon. (Anthony and Hallett, 1990). Thus, the possibility of multiple definitional terms is one of the quandaries in this area in a sense and yet perhaps one of the strong points. One cannot but therefore agree with Chang and Cumby (1991) that there exists more than one viable definition of capital flight and the appropriate choice will depend on the policy questions most pertinent

to the country for which capital flight is being estimated and the time period under consideration. A distinction is often made between legal and illegal activities in order to distinguish between capital flight and the so called "normal" capital flows. Since illegal transactions are not reported, it is therefore not only difficult, but almost impossible to measure it as a component of capital flight. "Capital flight is capital that flees"(Ingo Walter, 1987; Kindleberger, 1987). Alternatively, capital flows in response to economic or political crisis are capital flight (Husted and Melvin, 1990). Normal capital flows on the other hand, refer to flows that correspond to ordinary portfolio diversification of domestic residents.

According to Cuddington (1986), capital flight refers to short term private capital outflows. It involves "hot money" that responds to political or financial crises, heavier taxes, a prospective tightening of capital or a major devaluation of the domestic currency arising from a high misalignment of the currency. In the Morgan Guaranty Trust Company (1986 p.13), an expansive definition is adopted. Capital flight is "the reported and unreported acquisition of foreign assets by the non-bank private sector and elements of the public sector."

In order to clarify our thoughts on capital flows presented in table 1 is a taxonomy of factors explaining international capital flows. This table is adapted from Lessard and Williamson (1987). The upper left quadrant of the table identifies various factors based on differences in economic returns across countries. In the upper right quadrant are those additional factors that

Table 1 Taxonomy of Factors Explaining International Capital Flows		
	One-way Flows	Two-way Flows
Economic risk and returns	<ul style="list-style-type: none"> ● Natural resources endowments ● Terms of trade ● Technologies changes ● Demographics shifts ● General economic managements 	<ul style="list-style-type: none"> ● Differences in absolute riskiness of economics ● Low correlation of risky outcome across country ● Differences in investor risk preferences
Financial risks and returns, relative to economic	<ul style="list-style-type: none"> ● Taxes (deviations from world levels) ● Inflation ● Default on government obligations ● Devaluation ● Financial repression ● Taxes on financial intermediation ● Political Instability, potential confiscation 	<ul style="list-style-type: none"> ● Differences in taxes and their incidence between residents and non-residents ● Differences in nature and incidence of country risk ● Asymmetric application of guarantees ● Different interest ceiling for residents and non-residents ● Different access to foreign exchange denomination claims

Source: Lessard and Williamson (1987) p. 216.

deal with the two-way flows-"normal" portfolio diversification. Most of the theoretical and empirical studies of capital flight place emphasis on the lower left and right quadrants. The factors emphasized are those that create a "wedge between economic and financial returns" regardless of "whether they operate across the board or asymmetrically among residents or non-residents". (Lessard and Williamson, 1987 p.217).

From the above table and analysis therein, normal capital outflows are the ones that take place in order to maximize economic returns and opportunities between countries. Normal portfolio diversification takes place on the basis of differentials in economic returns. Capital flight on the other hand as seen from this analysis is that "subset of capital outflows that are propelled by source country policies" (Lessard and Williamson 1987, p. 217.)

SECTION III
A REVIEW OF THE LITERATURE ON THE MEASURES AND
ESTIMATES OF CAPITAL FLIGHT

By its very nature, it is difficult to measure capital flight. The difficulties involved, notwithstanding, a number of capital flight estimates have been made over the last several years. The preponderant of these studies cover a number of countries including mostly Argentina, Brazil, Chile, Korea, Mexico, Peru, the Philippines and Venezuela. A recent study by Rojas-Suarez (1991) covers Argentina, Bolivia, Chile, Columbia, Ecuador, Gabon, Jamaica, Mexico, Nigeria, Peru, the Philippines, Venezuela and Yugoslavia. These various studies differ from one another in terms of the methodological approaches of measurement, country coverage and time span. The most significant of these studies which have made impact on capital flight estimates include the studies by Dooley (1986,1988), Dooley et al. (1986), World Bank (1985), Morgan Guaranty Trust Company (1987), Cline (1986), Cuddington (1986), Cumby and Levich (1987), Gulati (1987), Lessard and Williamson (1987), Khan and Ul Haque (1987), Gajdeczka (1990), Khan (1989), Verna (1989),and Verna-Schneider(1991). The World Bank(1985) study covered Argentina, Brazil, Mexico, Portugal, South Korea, Turkey, Uruguay, and Venezuela.

In the Cuddington (1986) approach, capital flight is defined as short term speculative outflows which according to him is the typical meaning of capital flight. Capital flight is defined as short term-term external assets by the non-bank private sector plus the errors and omissions in the balance of payments. This approach is concentrated on what is popular referred to as "hot money flows" method because of the fact that funds are expected to respond quickly to changes

in expected returns or to changes in risk. Variations in economic conditions are likely to affect the magnitude of such flows. These in essence are funds "on the wings" that are expected to return very quickly to the country of origin when economic conditions are favorable -that is when appropriate macroeconomic policy stance is adopted.

Khan and Ul Haque (1987) calculated capital flight for eight highly-indebted developing countries for the period 1974-1982. Capital flight is defined in two ways. First, it is defined simply as gross private short term capital flows plus net errors and omissions in the country's balance of payments accounts. This is the same as the Cuddington estimate. The second method tries to take account of normal capital flows. Capital flight is defined as that part of the increase in external claims that yields no recorded investment income. This in essence is the Dooley (1986) approach. In the Morgan Guaranty Trust Company study (1986 p.13) capital flight is defined as "the reported and unreported acquisition of foreign assets by the non-bank private sector and some elements of the public sector". Capital flight is estimated "indirectly as the counterpart of net direct investment inflows plus increases in gross external debt less recorded outflows through current account balance deficits and less the building of foreign assets by the banking system and the official monetary authorities" (Morgan Guaranty Trust Company, 1986, p. 13). Cline (1986) critiques the capital flight definition adopted by the Morgan Guaranty Trust Company study. He argues that income from tourism and border transaction should be subtracted since these earnings are beyond the control of the relevant foreign exchange authorities. He also argues that reinvested investment income should not be considered as capital flight since this is also beyond the control of the authorities.

A thorough examination of the literature shows that there are a variety of ways of measuring capital flight. The measuring techniques can be classified into six categories. In the

first category is the "narrow" definition and measurement of capital flight. Capital flight is defined as the net short term capital outflows plus errors and omissions in the balance of payments. This is the Cuddington (1986) approach. Under this definition, capital flight is equated to "hot money" flows. The second category is the "derived" measure of capital flight. Capital flight is that part of the increase in external claims that yields no recorded investment income. This is the approach adopted by Dooley (1986, 1988). The third category consists of a broad measure of capital flight. In this approach, capital flight is the measured acquisition of foreign assets by the non-bank private residents plus errors and omissions. Specially, the broad measure equals capital inflows in the form of changes in external debt and net foreign investment minus the current account deficit and changes in the assets of the banking system. This measure of capital flight corresponds to that adopted by various authors including Morgan Guaranty Trust Company (1986), World Bank (1985), Erbe (1985). The fourth measure is the private claims measure which defined capital flight as the acquisition of external claims by the private sector including deposit banks and the non-bank sector plus recorded errors and omissions in the balance of payments. Cornesa (1986) corresponds to this. The fifth measure is loosely referred to as the "mirror stock statistics" method. This method utilizes the statistics that is published by the International Monetary Fund. Capital flight measure under this method is derivable from the "Cross Border Bank deposits of Nonbanks by residence of depositor" published in the International Financial Statistics. This measure has been used in the literature by Khan (1986). The sixth popular method is that adopted by Pastor (1989, 1990). This method is labelled the "sources and uses" approach to capital flight. Capital flight is derived residually from the balance of payments equation. Capital flight is defined as the change in debt plus foreign direct investment minus the sum of current account plus the changes in reserves.

The various approaches listed is as comprehensive as it can be when due cognizance is taken of the different names that are often used for the same thing (for example, implicit capital flows, Dooley et al 1986).

SECTION IV

THE MECHANISMS OF CAPITAL FLIGHT

The conduits for capital flight are not only many but varied. They come in various forms and it is almost impossible to develop an exhaustive inventory of channels. A very apt description of some of the conduits and the various forms they take is described by Glynn and Koenig (1984, p. 109):

"It comes in false-bottomed suitcases or in electronic fund transfers from private banking services that cater to "high-net worth individuals". It may take the form of frugerrands stashed inside hollowed out sculptures or more via false invoices approved by corrupt customs officers. Its destination range from banks in Zurich, Miami or the Cayman islands to co-opt apartments in New York or Condos in San Diego".

The interesting story or a narration of an actual happening in the Philippines some years ago is not only illuminating but gives a proper insight the issue of the various forms/conduits that capital flight can take. The general applicability of this event has very high probability rate for developing countries at least.

"In Manila not too long ago, a police dog sniffing for explosives in the cargo hold of a plane about to leave for Hong Kong grew interested in a crate containing two frozen chickens and a duck. The Philippines customs officer decided that the chickens were above suspicion but noticed a large gash in the duck. Inside the fowl: \$29,000 in very cool U.S. cash" (Glynn and Koenig, 1984 p. 112).

Police dogs have not been known as a popular mechanism for the detection of suspicious materials from the various airports in Nigeria. The probability is high, however, that some

amazing discoveries could be uncovered by these sets of dogs if used for tracing illegal transactions.

There are a number of channels through which capital flight can take place in Nigeria and these are hereby discussed. First, transfers can take place through cash or monetary instruments. These are usually in the form of either foreign or domestic currency, travellers checks or other checks. In the early 1970s, stories abound about Nigerian currency being carried out of the country and being exchanged in big centers like London and New York. These were exchanged legally abroad for other currencies at current market rates. In spite of the present economic predicament, there are still some African countries where the Naira is exchanged for other currencies in the course of trade.

Secondly, capital flight can take place through bank transfers from a local affiliate of a foreign owned bank to a designated recipient abroad. This amount of money can be exchanged at the market rate where no constraints or restrictions are in place. Transfers can still be possible in the face of exchange controls but possibly at a less favorable rate. In the history of banking institutions development in Nigeria local affiliates of foreign banks existed. Given this institutional set-up, transfers of the type mentioned took place and are indeed still taking place even though the exact statistics on the magnitudes are lacking. It is reasonable to assume, however, that such transfers may not be available for incomes that are known to be illegally generated.

Another method of transfer is through precious metals and collectibles including works of art. This is a substitute for currency movement. Local currency is converted into gold, silver or other precious metals, precious stones, jewelry and similar assets that cannot only be moved abroad but that will also be able to retain their value. The sale value of these are usually

high in foreign currency. Usually, governments tend to restrict or prohibit imports and exports of any such items. Such international transfers therefore usually involve smuggling. It is known that there are large risks involved in such activities. Some people who have taken risks in this regard have been successful while some others have been caught in the act.

The fourth mechanism of transfer is through false invoicing of trade transactions. In this case, invoices are issued that are different from agreed prices. Substantial amount of money can arise from the systematic faking of imports and exports. The expectation in the case of capital flight is that exporters will systematically engage in under-invoicing while importers over-invoice and in the process derive foreign exchange gain that is outside the control of the foreign exchange authority. The procedure for doing this is that the foreign supplier issues an invoice that is greater than the agreed price of the product. The importer on receipt of the necessary foreign exchange remits it to the foreign supplier who then keeps the difference in a bank for the use of the importer. On the export side, the invoice issued is for an amount in foreign currency that is less than the agreed price. The foreign buyer places the difference between the invoice price and the agreed price in a foreign bank account of the exporter and remits the invoice amount. It is this amount of money that is surrendered to the Central bank for local currency at the prevailing official exchange rate. If collusion exists between exporters and importers, trade faking is an effective means of acquiring excess foreign exchange. The conditions under which all these occur have been discussed earlier.

Capital flight through false trade invoicing is generally applicable to the local affiliates of multinational companies, and owners of businesses engaged in international trade. It is known in some cases that false invoicing can be multiplied through a practice called "round tripping". The process is one in which foreign currency assets are accumulated abroad at the

official exchange rate via trade misinvoicing (via over or under invoicing). Some of the assets are repatriated in the form of cash or other monetary instruments which are converted to local currency at a premium at the local parallel market for foreign exchange. Whatever gain is made in local currency can then form the basis for further false-invoiced transactions. This in effect is "arbitrating the official and parallel-market exchange rates" (Walter, 1987, p. 113).

A fifth method of transferring money abroad is through the black market itself. This until recently has been a thriving source of transferring funds abroad. The amount of money so transferred is difficult to estimate. A sixth vehicle through which capital can be transferred overseas is through commissions and agents' fees which are paid by foreign contractors into the foreign bank accounts of residents. Commissions and agents' fees are in some cases polite words for the myriads of kickbacks on foreign contracts!

Recent years have witnessed the existence of Bureau du change. This is an important mechanism through which a lot of capital can be transferred abroad. The number of such institutions and the transactions undertaken by them have been rising in recent times.

SECTION V

ALTERNATIVE MEASURES OF CAPITAL FLIGHT

The estimates of capital flight in this section is divided into two parts. The first part replicates for Nigeria the different methodologies for estimating capital flight for Argentina, Brazil, Mexico, Phillipines, and Venezuela adopted by Erbe, World Bank, Morgan Guaranty Trust Company, Cline, and Duwendag. These studies were originally carried out for Argentina, Brazil, Mexico, Philippines, and Venezuela. The period of coverage for Nigeria is 1972-1989. In the second part, we employ various techniques as defined in the text and/or appendix to estimate capital flight.

Using Cumby and Levich (1987), and adopted also by Verna (1989) and Verna-Schneider (1991), we calculate from balance of payments statistics a number of capital flight estimates for Nigeria using the various methods listed in table 2. There is no similar calculation done elsewhere. The result of the calculation is shown in table 3. There are a number of objectives behind the calculation. The primary objective is to calculate in a concise way the "range" or "band" of capital flight implied by these alternative definitions. It is not intended that similar figures to the original study would be generated for Nigeria since the data base is different. It is hoped, however, that some lessons can be drawn from the similarities and differences.

Capital flight using the Morgan trusty approach was about US\$477 million in 1972. This rose to US\$12,974 in 1980. It rose and fell systematically thereafter reaching only US\$2,212 million in 1989. Capital flight was by this method, 13 percent of GNP in 1980, but was about only 8 percent of GNP in 1989.

TABLE 2
NOTATIONS

- A. Current Account Balance
- B. Net Foreign Direct Investment
- C. Private Short Term Capital Outflows
- D. Portfolio Investment
- E. Banking System Foreign Assets
- F. Changes in Reserves
- G. Errors and Omissions
- H. Changes in Debt
- I. IMF Credit
- J. Travel Credit
- K. Reinvested FDI Income
- L. Other Investment Income
- M. Counterpart Items

CAPITAL FLIGHT ESTIMATES

$$\text{World Bank} = (H + B + A + F)$$

$$\text{Erbe} = (H + B + A + F)$$

$$\text{Morgan} = (H + B + A + E + F)$$

$$\text{Cline} = (H + B + A + E) - (J + K + L)$$

$$\text{Duwendag} = (H + B + A + F + G + I + M)$$

Source: Lessard and Williamson (1987), p. 38

TABLE 3
CAPITAL FLIGHT: DIFFERENT ESTIMATION METHODS (1972-1989)
(US\$MILLIONS)

YEAR	ERBE & WORLD BANK	MORGAN TRUSTY	CLINE	DUWENDAG
1972	106.44	477.28	453.37	127.70
1973	636.10	1265.38	1228.03	551.75
1974	325.00	5995.00	5824.27	450.88
1975	119.80	5988.60	5474.48	148.04
1976	124.80	5524.44	5044.21	187.40
1977	2490.00	7021.86	6554.79	2111.95
1978	508.40	2695.20	2309.48	235.23
1979	-86.30	5659.54	5370.07	601.59
1980	2713.30	12974.11	12234.36	2590.79
1981	2132.30	6145.22	5267.31	1345.14
1982	-3805.80	-2230.87	-2569.33	-3812.09
1983	2016.10	3098.82	2893.61	1991.64
1984	-169.80	1594.72	1494.72	182.81
1985	3569.40	5385.40	5272.14	2994.37
1986	5502.90	6841.80	6592.39	5138.37
1987	5874.60	7522.20	7398.83	5462.11
1988	1043.80	2479.12	2385.12	902.80
1989	-299.70	2212.46	2102.46	-369.70
CUMULATIVE				
1972-79	4224.20	34627.30	32258.70	4414.54
1979-83	2969.60	25646.82	23196.02	2717.07
1972-89	22801.30	80650.28	75330.31	20840.99
1983-87	16793.20	24442.94	23651.69	15769.51

- Notes:
1. Some of the items in some cases could not be operationalized fully because some of the statistics do not exist. This is true of IMF Credit and Reinvested FDI income.
 2. The following statistics were taken from the Balance of Payments Statistics Yearbook: Travel, other Investment Income, Counterpart items. These were normally recorded in millions of SDR and were converted to millions of dollars using the conversion rate under U.S. country data of the IMF line Sc.

Source: Calculated using formula in Table 2.

The percentage share of capital flight in GNP using the Cline approach are not too different: 12 percent of GNP in 1980; and 7.6 percent of GNP in 1989. Capital flight as a proportion of external debt was 145 percent in 1980, and 37 percent in 1989 using the Morgan Guaranty Trust Company method. In all cases, these figures are significant and cannot be ignored. It is clear that the different results obtained derive from the different data that go into the calculation of capital flight. It is also clear that the approaches yield significant amount of capital flight over the period covered.

The differences in the magnitudes of the results using various definitions of capital flight are not surprising. It is noteworthy that the similarities and differences can be classified according to different periods. The amplitude of capital flight for the periods 1972-79, and 1979-83 were not too different in the four measures. The period 1972-79, which includes the oil shock years showed more capital flight than the following period. The year 1980 which is the second year of the political regime of the civilian administration is noteworthy for the criticisms it had received for all kinds of allegations including corruption which made possible the transfer of huge amounts of money abroad. In all cases, the amount of capital flight rose dramatically from what it was the previous year. In the following year, however, substantial reduction occurred in the amount of capital flight. This could have arisen from changes in the composition of the various items used in the calculation in table 2.

From the cumulative totals, several results emerge. For the entire period, 1972-89, the Morgan Guaranty Trust Company methodology gave a total capital flight of about US\$80.7 billion as opposed to Cline's of US\$75.3 billion. In the Erbe and World Bank

methodology, capital flight was US\$22.8 billion while it was US\$20.8 billion using the Duwendag method. Over the period of the civilian regime 1979-83 (with overlaps), the maximum capital flight of US\$25.6 billion was recorded using the Morgan Guaranty Trust Company method and US\$23.2 billion using the Cline method. In the 1983-87 period, the total flight varied between US\$24.4 billion using the Morgan Guaranty Trust Company methodology and about US\$15.8 billion by the Duwendag methodology.

In the next stage, six different approaches are used in calculating capital flight. These are variously labelled as estimated capital flight, the total private capital outflows, the residual method, the hot method (two versions), and the derived method. The "mirror stock statistics" method is presented in the text even though it is not given any prominence.

The starting point is the calculation of the total stock of external claims. From this is derived the "estimated" capital flight. In the process of estimating the stock of total external claims, I have followed a modified version of the Dooley (1986, 1988) approach.² Table 4 gives the total stock of external claims for the period 1972-1989. In 1978 the total stock of Nigeria's external claims was about US\$8.0 billion. This rate steadily rose to US\$17 billion in 1981 -- more than twice the 1978 figure. By 1987, it stood at US\$29.8 billion but dropped slightly to US\$27.3 billion in 1989. From the stock of external claims, two versions of capital flight are calculated. This is reported in Table 5.

The capital flight estimates in columns 1 and 2 of table 5 are calculated as flows from the total stock of external claims after subtracting the capitalized non-direct investment income from the balance of payments statistics using the LIBOR rate and the U.S. treasury bill rate as explained in the footnote to the table. From table 5, it can be seen that regardless of whatever

rate is used to capitalize the non-direct investment income, the resulting capital flight estimates are virtually the same. In 1983-87, for example, the amount of capital flight under the two methods was US\$18.6 billion. For the entire period from 1973-79, the amount of capital flight

TABLE 4
ALTERNATIVE MEASURES OF EXTERNAL CLAIMS 1972-89

US\$ MILLIONS

YEAR	RECORDED CLAIMS ON NONRESIDENT OTHER THAN DIRECT INVESTMENT	ERRORS & OMISSIONS	TOTAL EXTERNAL CLAIMS BOP COL1+2	UNRECORDED STOCK OF EXTERNAL CLAIMS	TOTAL STOCK OF EXTERNAL CLAIMS
	(1)	(2)	(3)	(4)	(5)
1972	126.0	6.5	132.5	972.0	1104.5
1973	-431.8	-48.3	-480.1	1207.4	727.3
1974	-10111.4	72.2	-10039.2	1674.2	-8365.0
1975	-352.5	-41.0	-393.5	1184.0	790.5
1976	838.6	45.3	883.9	1190.6	2074.5
1977	1537.6	-58.3	1479.3	3195.8	4675.1
1978	4587.2	-131.5	4455.7	3510.3	7966.0
1979	-6486.2	731.2	-5755.0	5386.5	-368.5
1980	-8464.3	-687.5	-9151.8	8235.0	-916.8
1981	9776.5	-103.6	9672.9	7887.6	17560.5
1982	3765.2	9.9	3775.1	7459.0	11234.1
1983	473.3	102.6	575.9	13865.7	14441.6
1984	-248.0	256.9	8.9	17766.4	17775.3
1985	-4400.0	-146.2	-4546.2	20256.5	15710.3
1986	-700.5	-218.8	-919.3	25161.6	24242.3
1987	-1995.7	-68.1	-2063.8	31873.9	29810.1
1988	-1407.0	-215.0	1622.0	31383.0	29761.0
1989	678.0	-1252.0	-1930.0	29182.0	27252.0

Source: See Appendix A.

TABLE 5
ESTIMATED CAPITAL FLIGHT 1972 - 1989
(US\$ MILLION)

YEAR	ESTIMATED CAPITAL FLIGHT*(a)	ESTIMATED CAPITAL FLIGHT*(b)
	(1)	(2)
1972		
1973	-377.3	-377.4
1974	-9104.1	-9108.7
1975	9108.0	9092.1
1976	1272.9	1278.2
1977	2616.8	2621.1
1978	3314.8	3317.5
1979	-8323.2	-8318.8
1980	-574.4	-579.5
1981	18483.9	18486.2
1982	-6301.3	-6298.1
1983	3213.6	3216.4
1984	3339.3	3340.1
1985	-2070.5	-2071.2
1986	8530.8	8530.6
1987	5572.2	5572.1
1988	-47.4	-46.7
1989	-2513.5	-2513.9
ACCUMULATED		
1973-80	-2066.5	-2075.6
1979-83	15396.2	15404.6
1983-87	18585.3	18587.9
1973-89	39470.2	39469.0

Notes: *Capital flight is calculated using two steps.

- (1) Estimate the total stock of external claims.
- (2) Subtract from it the capitalized value of non-direct investment income receipts in that year BOPY lines 15, 17, 19. These are capitalized by (a) using U.S. Treasury bill rate IFS line 60c and (b) using the Libor rate on U.S. deposits from the international interest rates section of the IFS. As it turns out both results are about the same.

was estimated at US\$39.5 billion. The variations in the ratio of total stock of external claims to the level of external debt is shown in Appendix F.

The result of the second method of calculating capital flight, that is, the total private outflows method is shown in table 6. Over the period 1983-1987, the cumulated flows were US\$9.8 billion. The values for 1979-1983 and 1980-89 were US\$13.3 and US\$6.3 billion, respectively.

The next measure recognizes that capital flight is "speculative capital". It is "hot money" on the wings. It is one that is expected to respond to various forms of domestic macroeconomic policy distortions discussed earlier. Taking this approach, of course, means that capital flight refers essentially to "capital export by the private nonbank sector, although in some cases banks and official entities may also engage in it" (Cuddington 1986 p. 2). Also since capital flight is essentially concealed, they show up in the "errors and omissions" of the balance of payments entry. Thus, capital flight is the sum of short-term private capital flows plus errors and omissions in the balance of payments entry. Two versions of the "hot money" approach are adopted. The first approach strictly follows the Cuddington approach, the result of which is shown in table 7. There is however no justification for leaving out other parts of capital that can strictly speaking be considered as "speculative" money. These other capital flows are added to the Cuddington measure to generate the second version of our "hot money" method (The hot method version II). The result of the calculations is shown in table 8. In table 9 we present capital flight estimates using the residual methodology as adopted by Boyce (1990).

TABLE 6

ESTIMATED CAPITAL FLIGHT: TOTAL PRIVATE OUTFLOWS 1972-1989*
US\$ MILLIONS

YEAR	AMOUNT
1972	246.15
1973	-371.86
1974	-175.86
1975	-509.78
1976	-724.37
1977	-418.60
1978	3059.40
1979	2140.09
1980	593.42
1981	1693.60
1982	5316.18
1983	3581.21
1984	-2100.61
1985	-3665.01
1986	-1334.40
1987	-5408.89
1988	-4941.00
1989	1381.00

Cumulative amounts:

1972-1989 = 1639.3
1979-1983 = 13,324.5
1983-1987 = -8927.7
1972-1979 = 3245.2

Notes:* Total private outflows is other short-term capital, net errors and omissions, other long term capital long term and short-term capital of resident official sector, other short-term capital of deposit of money banks.

Sources:

1. The sources for short term and long term capital of resident official sector and short-term capital of deposit money banks are relevant lines of the IMF: Balance of Payments Statistics Year Book several years.
2. Other statistics are from IMF: International Financial Statistics Year Book 1990.

TABLE 7

CAPITAL FLIGHT 1970-1988 THE HOT METHOD VERSION I

US\$ MILLION

YEAR	AMOUNT
1970	134.0
1971	205.0
1972	119.0
1973	-177.0
1974	48.0
1975	-42.0
1976	5.0
1977	-231.0
1978	43.0
1979	211.0
1980	-673.0
1981	106.0
1982	149.0
1983	-63.0
1984	-642.0
1985	-2014.0
1986	-249.0
1987	-953.0
1988	-1315.0
1989	-1895.0

Cumulative sum:

1972-1989 = -7573.0
1979-1983 = -270.0
1983-1987 = -3921.0
1972-1979 = -24.0

Note: Data used are short-term capital of other sectors and net Errors and Omissions

Source: 1) IMF IFS Yearbook 1990.

TABLE 8**CAPITAL FLIGHT: THE HOT METHOD VERSION II 1972-1989**
(US\$ MILLIONS)

YEAR	AMOUNT
1972	119.00
1973	-238.52
1974	24.74
1975	-86.50
1976	17.78
1977	-357.38
1978	196.65
1979	220.22
1980	-664.07
1981	146.75
1982	3145.51
1983	1045.90
1984	-535.14
1985	173.91
1986	1195.99
1987	-1788.46
1988	1889.00
1989	1371.00
CUMUL. 72-89	5876.38
CUMUL. 79-83	3894.31
CUMUL. 83-87	-92.20
CUMUL. 72-79	104.01

Notes: *Items included are other short-term capital of other sectors, net errors and omissions, other short-term capital of resident official sector, plus other short-term capital of Deposit Money Banks.

Source: Balance of Payments Statistics Year Book Several years.

TABLE 9**CAPITAL FLIGHT: THE RESIDUAL METHOD 1970-1989**
(US\$ MILLION)

YEAR	TOTAL RESIDUAL METHOD
1972	773.10
1973	652.56
1974	-9609.07
1975	247.81
1976	865.46
1977	4656.87
1978	8241.62
1979	-3872.38
1980	-7839.49
1981	16127.00
1982	10931.89
1983	10908.60
1984	-406.61
1985	-1249.31
1986	4916.41
1987	6400.25
1988	1774.00
1989	14004.00
SUM72-88	5828.35
SUM79-83	26255.61
SUM72-89	57522.70

Notes: *Increase in external debt minus current account, minus net direct investment minus increase in official reserves. (ala Boyce 1990)

Source: 1. World Bank: World Debt Tables 1991-92
2. IMF: IFS Statistics Yearbook 1990

The next approach that is used to calculate capital flight is referred to as the "Source and Uses" approach mentioned earlier. It starts by focusing attention on the balance of payments. The balance of payments (BOP) can be defined as:³

$$\text{BOP} = \text{CA} + \text{KA} = \text{NIOR} \quad (1)$$

$$\text{KA} = \text{NFNR} + \text{NFR} \quad (2)$$

If we substitute (2) into (1) taking cognizance of the fact that net flows from non-residents (NFNR) include changes in external indebtedness (CHDEBT) and foreign direct investment (FDI) flows, capital flight (CF) is negative net flows from residents. Thus,

$$\text{CF} = (\text{CHDEBT} + \text{FDI}) - (\text{CA} + \text{CHRES}) \quad (3)$$

Where the notations are:

BOP = Balance of Payments

CA = Current Account

KA = Capital Account

NIOR = Net Increase in Official Reserves

NFNR = Net flows from Non-Residents

NFR = Net flows from Residents

CF = Capital Flight

CHDEBT = Change in Debt

FDI = Foreign Direct Investment

CHRES = Change in Reserves

The estimates of capital flight using this methodology is shown in table 10.

TABLE 10**CAPITAL FLIGHT: THE DERIVED METHOD* 1971-1989**
(US\$ MILLIONS)

YEAR	AMOUNT
1971	936.2
1972	665.7
1973	1056.0
1974	327.4
1975	453.9
1976	79.6
1977	2868.2
1978	3805.3
1979	3008.0
1980	1181.0
1981	5246.0
1982	6425.3
1983	9842.4
1984	565.6
1985	-585.1
1986	3814.9
1987	9631.1
1988	1669.1
1989	4186.6

Cumulative sum:

1972-1989 = 54,241.0

1979-1983 = 25,702.0

1983-1987 = 23,268.9

1972-1979 = 12,264.1

Notes:* (CHDEBT + FDI) - (CA + CHRES) as in text.

Source: Data used in calculation are from:

1) IMF: IFS statistics Year book.

2) World Bank: World Bank Tables 1990.

The last approach used is what was referred to earlier as the "mirror stock statistics" method. The estimates of capital flight using this method is shown in table 11 below. This method draws on international banking statistics to evaluate the amount of assets held by the residents of developing countries abroad. This method of estimating capital flight has been used by Khan and Ul Haque (1987) and the Bank of England (1987). It is particularly useful as we shall see in determining the minimum level of assets held abroad. For this method, the recorded statistics by the IMF are called the Cross Border Bank Deposits of Non-banks by Residence of Depositors. This amount represents stocks per year. When capital flight is defined as the increase over the previous year, we find that the amount is relatively very small. In all cases, the amount represents the lowest of all the estimates.

There are a number of explanations why the estimates so derived cannot be an adequate measure of capital flight. First, some funds are held in deposits outside the major financial centers. Indeed, the nationality of depositor(s) in some foreign banks are never revealed. The most often cited example is that of the Swiss Bank accounts where secret codes are utilized to hide not only the identity of the depositor(s) but also in most cases the nationality. Second, substantial amounts of money which are not revealed are held in other financial assets: equities, bonds, treasury bills etc. and physical assets. As a result of the above reasons, the figures represent an underestimate of capital flight. In a large sense, however, foreign deposits give some indications of the amount of money which could have been used domestically. Such deposits are better seen within the context of other macroeconomic variables such as external debt and GNP.

The summary of all the estimates of capital flight using different methodologies is presented in table 12.

TABLE 11

CAPITAL FLIGHT: THE MIRROR STATISTIC METHOD 1981-1989
BILLIONS OF U.S.\$

YEAR	CBDNRD	FLOWS OF CBDNRD
1981	0.30	
1982	1.38	1.08
1983	1.38	0.0
1984	1.17	-0.21
1985	1.50	0.33
1986	1.68	0.18
1987	2.30	0.62
1988	1.96	-0.34
1989	2.66	0.07
1990	3.53	0.87

Notes: (1) CBDNRD = Cross Border Bank Deposits of Nonbanks by Residence of Depositor.
(2) Figures are available only from 1981.

Source: IMF: IFS Statistics Year Book, 1990 Washington, D.C.

TABLE 12**NIGERIA: SUMMARY OF CAPITAL FLIGHT MEASURES 1972-1989**
IN US\$ MILLIONS

YEAR	ESTIMATED K. FLIGHT	TOTAL OUTFLOWS	RESIDUAL METHOD	HOT METHOD I	HOT METHOD II	DERIVED METHOD*
	(1)	(2)	(3)	(4)	(5)	(6)
1972		246.15	773.10	119.00	119.00	665.70
1973	-377.30	-371.86	652.56	-177.00	-238.52	1056.00
1974	-9104.10	-175.86	-9609.07	48.00	24.74	327.40
1975	9108.00	-509.78	247.81	-42.00	-86.50	453.90
1976	1272.90	-724.37	865.46	5.00	17.78	79.60
1977	2616.80	-418.60	4656.87	-231.00	-357.37	2868.20
1978	3314.80	3059.40	8241.62	43.00	196.65	3805.30
1979	-8323.20	2140.09	-3872.38	211.00	220.22	3008.00
1980	-574.40	593.42	-7839.49	-673.00	-664.07	1181.00
1981	18483.90	1693.60	16127.00	106.00	146.75	5246.00
1982	-6301.30	5316.18	10931.89	149.00	3154.51	6425.30
1983	3213.60	3581.21	10908.60	-63.00	1045.90	9842.40
1984	3339.30	-2100.61	-406.61	-642.00	-535.14	565.60
1985	-2070.50	-3665.01	-1249.31	-2014.00	173.91	-585.10
1986	8530.80	-1334.40	4916.41	-249.00	1195.99	3814.90
1987	5572.20	-5408.89	6400.25	-953.00	-1788.46	9631.10
1988	-47.40	-4941.00	1774.00	-1315.00	1889.00	1669.10
1989	-2513.50	1381.00	14004.00	-1895.00	524.00	4186.60
CUMULATIVE						
1973-80	-2066.50	3838.59	-5883.52	-697.00	-768.07	1344.10
1979-83	6498.60	13324.50	26255.62	-270.00	3903.31	25702.70
1983-87	18585.40	-8927.70	20569.34	-3921.00	92.20	23268.90
1972-89	26140.60	-1639.33	57522.71	-7573.00	5038.39	54241.00
1980-89	27632.70	-4884.50	55566.74	-7549.00	5142.39	41976.90
1972-79	-1492.10	3245.17	1955.97	-24.00	-104.00	12264.10
1979-84	9837.90	11223.89	25849.01	-912.00	3368.17	26268.30
1985-89	9471.60		25845.35	-6426.00	1994.44	18716.60

Notes: *As shown in text.

Source: As in tables 5-10

SECTION VI

INTERNATIONAL TRADE FAKING AND CAPITAL FLIGHT

In this section, the term "trade faking" is used to describe the over-invoicing/under-invoicing in international trade i.e. of exports and imports. The analyses in this section is in three steps. In the first step an analysis is undertaken of the extent of trade faking in Nigeria's trade using the UN trade Data System. The focus of attention here is Nigeria's trade with Industrial Market Economies. In the second step, we analyze using the SITC classification the extent of trade faking that exists in the fuel section of Nigeria's export trade. Oil is Nigeria's most important export. The last step deals with the industrial countries. It is the result of this calculation that is reported in the main body of this paper. The other results are reported in appendices B-E. The data from industrial countries which is adjudged reliable is subsequently used to arrive at the adjusted capital flight estimates.

Before presenting the results of the calculations, it is necessary not only to discuss the rationale behind trade faking, but also analyze the reasons for the existence of discrepancy in recorded data on exports and imports. Most of the studies on trade faking started in the early 1960s and 1970s. Of note are the studies by Bhagwati (1964, 1967), Bhagwati, Krueger and Wibulswasdi (1974), Simkin (1970), Richter (1970), Yeats (1978) Nayak (1977). Recent studies since the 1980s include that of McDonald (1985), De Wulf (1981), and Yeats (1981, 1990), Boyce (1990), and Gulati (1987).

It is true that the imports of anyone country is the exports of another country. Thus, it is expected that the ratio of the values of imports of a country (say country A) that originate from another country (say country B) over the values of exports from country B to country A which

is called the valuation ratio should be unity. There are a variety of reasons, however, why trade statistics (i.e. exports and imports) may not match. One of the reasons is the under-invoicing or over-invoicing of trade transactions as a means of effecting capital flight.

The differential in the export-import statistics may, however, not be due to illicit or illegal activities connected with under-invoicing or over invoicing of trade statistics. There are a number of other factors that may be responsible for the data discrepancy. These include shipping costs, diversions enroute to final destination, re-export of goods, differential lags in reporting, potential discrepancies arising from the conversion from one currency to another and then to a common currency usually the US dollar and variations in exchange rate (De Wulf, 1981; and Yeats,1990). Perhaps one of the basic causes of trade data discrepancy in Sub-Saharan African countries is due to the routing process for trade transactions. This problem occurs when goods are routed through several countries bordering the exporter and/or importer country before the final destination is reached. Thus, in these cases "the country of origin may inaccurately list a routing country as the importer, or the country of final destination may report the routing country as the exporter. A range of discrepancies may thus appear between the three (or more) parties for the transactions".(Yeats,1990, p. 137).

Countries that maintain overvalued currencies and restrict access to foreign currencies are often the setting for invoice alterations. One of the basic reasons for trade faking in developing countries is the fact that exchange controls are common place. Consequently foreign currencies can be brought or sold at a premium in the black market for foreign exchange. As a result of the premium on foreign exchange, the tendency exists to under-invoice exports and over-invoice imports. That of course is not the only reason. The existence of high import duties can also provide the incentives among importers to under-invoice imports in contrast to the usual case

of over-invoicing of imports when a premium exists on foreign exchange in the black market. If there is a subsidy on imports it will likely cause over-invoicing of imports. A tariff on exports will lead to under-invoicing while over-invoicing of exports exists when a subsidy exists on exports.

Under-invoicing of imports can systematically arise in the following two cases. The first case is one where the imported commodity carries a tariff duty. The second situation is one in which the importation of the commodity is strictly controlled. In the case of the tariff duty, it pays the importer to understate the value of his imports when the amount of savings he will make in tariff duties exceeds the extra price that he must pay to procure foreign exchange in the black market. Thus, the importer benefits by under-invoicing if:

$$T - B_p > 0$$

where T = tariff rate, and B_p is black market foreign exchange rate at premium. (Bhagwati, 1964).

In the case of quantitative import restrictions, under-invoicing is profitable if two conditions are met. The first is that under-invoicing enables a larger quantity to be imported under license and secondly the premium on the imported commodity in the domestic market is greater than the foreign exchange premium.

Over the last several years, there has been a thriving black market in foreign exchange in Nigeria. In addition, the tariff policy has consistently varied allowing at one time the importation of certain commodities at either zero or positive rate to a situation of total ban at another time. Also during the 1979-84 civilian administration, the issuing of import licenses to businessmen was in vogue. The existence of these situations inevitably provided the fertile ground for the over-invoicing and/or over-invoicing of exports and imports.

One of the mechanisms for preventing customs abuse is preshipment inspection(PSI). PSI verifies the quantity, quality, and price of imports before shipment from the exporting country. As a complement to its foreign exchange control, Nigeria implemented a PSI program in January 1979. This was carried out by Societe Generale de Surveillance (SGS). On October 1, 1984, the previous contract with SGS was ended and three other companies were hired. These were Intertek(goods from North and South America; Bureau Veritas (for goods from Continental Europe and Africa; and Cotecna(for goods from the United Kingdom, Asia and South Pacific). Quite a large array of products apart from the imposition of value limitations are, however, exempted from the PSI program. Thus, the program has not been successful in eliminating trade faking as would be shown later.

The usual method for the purpose of investigating the existence as well as estimating the extent of faking of international trade transactions is partner country data comparisons. Using this analysis, the results of the calculations for the period 1970-89 are as reported in tables 13 to 15. The methodologies adopted follow the analysis by Nayak (1977) for under/over-invoicing and Boyce (1990) for estimating discrepancies. The result shown in table 13 shows the extent of trade faking to industrialised countries. For the period 1970-89, there was under-invoicing of exports and over-invoicing of imports. From the calculation in table 14, there was a general under-invoicing of exports to the cumulative total of US\$ 8.2 billion over the period 1970-89. On the other hand, the imports were over-invoiced in general to the tune of about US \$6.0 billion for the entire period. Nigeria's reported cumulative export trade to the industrialised world was US\$83.7 billion in 1970-80 and US\$86.3billion in 1981-90.

Shown in table 15 are the calculations of export and import discrepancy, and misinvoicing adjustment. The misinvoicing adjustment is derived from the export-import discrepancy. The misinvoicing adjustments are then used to arrive at the adjusted capital flight shown in Table 16.

TABLE 13**EXTENT OF TRADE FAKING TO INDUSTRIALIZED COUNTRIES 1972 - 1989**

YEAR	IMPORT FAKING %	EXPORT FAKING %
1970	7.49	8.59
1971	12.06	7.32
1972	7.14	6.30
1973	7.86	10.15
1974	2.38	-4.65
1975	7.79	-6.91
1976	20.02	-6.87
1977	12.41	-9.55
1978	0.00	0.01
1979	13.76	-4.77
1980	0.01	0.00
1981	12.78	-13.96
1982	12.65	-13.39
1983	0.01	0.01
1984	-0.01	0.00
1985	0.01	0.00
1986	-9.09	-13.14
1987	-9.09	0.16
1988	-9.21	0.33
1989	-9.09	-0.37
CUMULATED TOTALS:		
1970-89	79.88	-40.74
1972-89	60.33	-56.65
1979-84	39.20	-32.11
1980-89	-11.03	-40.36

Notes: Plus is over-invoicing; minus is under-invoicing.

Source: Calculated from IMF: Direction of Trade Statistics.

TABLE 14

TRADE FAKING - ANALYSIS OF EXPORTS AND IMPORTS:
(INDUSTRIAL COUNTRIES ANALYSIS)
(US\$ MILLION)

YEAR	EXPORT DISCREPANCY*	IMPORT DISCREPANCY*
1970	-90.45	-61.4
1971	-116.33	-137.3
1972	-125.50	-85.8
1973	-296.00	-116.4
1974	415.50	-54.4
1975	536.30	-377.1
1976	652.40	-1187.7
1977	1040.00	-1042.8
1978	-1.30	0.1
1979	803.00	-1043.6
1980	0.10	-1.1
1981	2405.20	-1947.3
1982	1962.10	-1403.2
1983	-0.60	-0.5
1984	0.30	0.3
1985	0.60	-0.6
1986	1019.30	358.9
1987	-12.30	392.4
1988	-23.60	386.8
1989	37.60	366.1
CUMULATED TOTAL		
1970-89	-8206.32	5954.6

Notes: *See notes under Table 15.

Source: Calculated from IMF: Direction of Trade Statistics.

TABLE 15
TRADE FAKING OR TRADE INVOICING DISCREPANCIES
INDUSTRIAL COUNTRIES ANALYSIS (1970-1989)
(US\$MILLIONS)

YEAR	EXPORT DISCREPANCY	IMPORT DISCREPANCY	MIS-INVOICING ADJUSTMENT
1970	-90.45	-61.40	-29.05
1971	-116.33	-137.30	20.97
1972	-125.50	-85.80	-39.70
1973	-296.00	-116.40	-179.60
1974	415.50	-54.40	469.90
1975	536.30	-377.10	913.40
1976	652.40	-1187.70	1840.10
1977	1040.00	-1042.80	2082.80
1978	-1.30	0.10	-1.40
1979	803.00	-1043.60	1846.60
1980	0.10	-1.10	1.20
1981	2405.20	-1947.30	4352.50
1982	1962.10	-1403.20	3365.30
1983	-0.60	-0.50	-0.10
1984	0.30	0.30	0.00
1985	0.60	-0.06	1.20
1986	1019.30	358.90	660.40
1987	-12.30	392.40	-404.70
1988	-23.60	386.80	-410.40
1989	37.60	366.10	-328.50
TOTAL	-8206.32	5954.60	14160.92

Notes:

1. Export Discrepancy = $Mtp - (XNGA * cif / fob \text{ factor})$
2. Import Discrepancy = $(Xtp * cif / fob \text{ factor}) - MNGA$
3. Misinvoicing Adjustment = Export Discrepancy - import discrepancy.
4. Mtp, Xtp refer to trading partner imports and exports respectively; MNGA and XNGA refer to Nigeria's reported imports and exports respectively.

Source: Calculated from IMF, Direction of Trade Statistics and IMF: IFS Statistics Yearbook 1990.

TABLE 16**NIGERIA: ADJUSTED CAPITAL FLIGHT ESTIMATES 1972-1989***
IN US\$ MILLIONS

YEAR	ESTIMATED K. FLIGHT	TOTAL OUTFLOWS	RESIDUAL METHOD	HOT METHOD I	HOT METHOD II	DERIVED METHOD* SOUR & USE
	(1)	(2)	(3)	(4)	(5)	(6)
1972		206.45	733.40	79.30	79.30	626.00
1973	-556.90	-551.46	472.96	-356.60	-418.12	876.40
1974	-8634.20	294.04	-9139.17	517.90	494.64	797.30
1975	10021.40	403.62	1161.21	871.40	826.90	1367.30
1976	3113.00	1115.73	2705.56	1845.10	1857.88	1919.70
1977	4699.60	1664.20	6739.67	1851.80	1725.43	4951.00
1978	3313.40	3058.00	8240.22	41.60	195.25	3803.90
1979	-6476.60	3986.69	-2025.78	2057.60	2066.82	4854.60
1980	-573.20	594.62	-7838.29	-671.80	-662.87	1182.20
1981	22836.40	6046.10	20479.50	4458.50	4499.25	9598.50
1982	-2936.00	8681.48	14297.19	3514.30	6519.81	9790.60
1983	3213.50	3581.11	10908.50	-63.10	1045.80	9842.30
1984	3339.30	-100.61	-406.61	-642.00	-535.14	565.60
1985	-2069.30	-3663.81	-1248.11	-2012.80	175.11	-583.90
1986	9191.20	-674.00	5567.81	411.40	1856.39	4475.30
1987	5167.50	-5813.59	5995.55	-1357.70	-2193.16	9226.40
1988	-457.80	-5351.40	1363.60	-1725.40	1478.60	1258.70
1989	-2842.00	1052.50	13675.50	-2223.50	195.50	3858.10
CUMULATIVE:						
1973-80	4906.50	10771.89	1049.78	6236.30	6165.23	20378.40
1979-83	16064.10	22890.00	35821.12	9295.50	13468.81	35268.20
1983-87	18842.20	-8670.90	20826.14	-3664.20	349.00	23525.70
1972-89	40349.30	12529.67	71691.71	6596.00	19207.39	68410.00
1980-89	34869.60	2352.40	62803.64	-312.10	12379.29	49213.80
1972-79	5479.79	10177.27	8888.07	6908.10	6828.10	19196.20
1979-84	19403.40	20789.39	35414.51	8653.50	12933.67	35833.80
1985-89	8989.60		25363.35	-6908.08	1512.44	18123.60

Notes: *Adjusted Estimates is Table 12 plus misinvoicing adjustments.

Sources:

- (1) As in Table 12
- (2) IMF Direction of Trade Statistics Yearbook
- (3) IMF: IFS Statistics Yearbook 1990.

SECTION VII

CAUSES OF CAPITAL FLIGHT

The causes of capital flight as discussed in the literature are many. These various causes can be grouped under relative risks, exchange rate misalignment, financial sector constraints and/or repression, fiscal deficits and external incentives (Khan, 1989) and disbursement of new loans to LDCs (Cuddington, 1987). These are no doubt economic causes of capital flight. There are, however, other non-economic causes which though important are often ignored. These include the corruption of political leaders and extraordinary access to government funds. These factors are now discussed.

In decision making process, the wealth holder looks at the various risks confronting him. There are certain inherent characteristics of developing countries which make risks attached to investments larger than those of developed countries. Using the concept of expropriation risk into an intertemporal optimizing model. Khan and Haque (1985) show that any increase in risk in a rational expectations setting would tend to increase the outflow of private capital from the domestic economy into foreign countries where investments are less risky. This expropriation risk could include a variety of distortions such as differences in taxes and political instability resulting in possible reduction in private property. Eaton (1987) builds on the Khan-Haque model by relating the risk of expropriation of capital owned domestically which is defined especially in this case as higher taxation to public and publicly-guaranteed foreign debt. The tax obligation arising from increase in external debt can lead to capital flight. The flight of one investor leads to a rise in the potential tax obligation of the remaining investors in the domestic economy. This also may create the incentive for other investors to move abroad, too.

It is generally agreed that one of the principal determinants of capital flight is exchange rate misalignment. The importance of this variable has amply been demonstrated in several empirical analyses including the studies

by Dornbusch (1985), Cuddington (1986), Lessard and Williamson (1987) and Pastor (1989,1990). The real exchange rate plays a significant role in the direction and magnitude of capital flight from highly-indebted developing countries. Under normal circumstances, if a currency appreciation is expected, domestic wealth owners would shift out of domestic assets into foreign assets. In general, it is difficult to measure precisely exchange rate expectations. It is safe, however, to assume that if a currency is overvalued, economic agents would expect the currency to be devalued in the future. Holding firm to this expectation would cause residents to avoid the potential capital loss by converting into foreign claims.

Financial sector constraints can lead to capital flight. It is well known that narrowness of the capital and money markets is a feature of developing economies. Financial markets in these countries provide only a limited variety of financial instruments in which wealth can be held. There is also in many developing countries the lack of full or credible deposit insurance on assets that are held in the domestic banking sector. This deficiency is, however, being increasingly remedied by many developing countries.

Additionally, there are extensive controls on interest rates and other aspects of financial market behavior in developing countries. Government policies in the financial sector have resulted in normal interest rates that are far below the rates on comparable foreign financial instruments. In most cases, the real rates of return on domestic financial assets are negative. Given the various forms of financial repression it is expected that investors in these countries will seek for alternative countries where their assets that will yield not only positive but higher returns. Holding assets in foreign financial instruments provide the sought-after alternative.

It has been shown by Dornbusch (1985) that capital flight is typically accompanied by fiscal deficits. When a rising fiscal deficit is financed through the printing of money, it leads to inflationary pressures. In order to avoid the erosion of their monetary balances by inflation, moving out of domestic assets is one way by which wealth owners avoid inflation tax. When fiscal deficit is financed through bond sales, domestic residents may expect that at some future date their tax liabilities may increase in order to pay for the national

debt. This would encourage domestic investors to move away their assets to foreign countries in order to avoid potential tax liabilities. Ize and Ortiz (1986) formalized the link between deficit financing and capital flight. In the Ize-Ortiz model, capital flight is related to the overall financial solvency of government. Insolvency and default risk created by fiscal deficit appear explicitly as the determinants of capital flight.

A number of external factors influence the flight of capital. These external influences in general are in the form of opportunities available outside the country. These include the attractiveness of foreign interest rates, the wide array of financial instruments in which wealth can be held, political and economic stability, favorable tax climate etc. These sets of incentives is aptly described by Walter (1987, p. 120). "Flight implies havens, and havens take the form of national status that provide an attractive range of real and financial assets to foreign based investors, political and economic stability, a favorable tax climate for non-residents and various other attributes that generally are the obverse of conditions triggering capital flight in the first place." On some types of deposits, withholding taxes are not taken from non-resident deposits. In certain countries, secret accounts are allowed. While the secrecy of accounts is attractive to some wealth owners for the purpose of maintaining the privacy of their accounts, but it also inadvertently favors illegal transactions and tax evasion, both of which benefit from the secrecy.

As a result of the principle of national sovereignty, it is difficult for a foreign country's government to have inside information on the foreign bank asset holdings of its individual citizens abroad. One safeguard is the domestic bank secrecy law which bars both the national and foreign authorities alike. The other is the blocking statute which effectively prevents the disclosure, copying, inspection or removal of documents located in the host country in compliance with order from or by foreign authorities (see el Hadj, 1979); Newcomb and Kohler, 1983).

Some economists and policy analysts argue that capital inflows in the form of disbursements to developing countries are a major cause of capital flight. In the case of public sector borrowing, the availability of foreign

exchange can increase the potential for graft and corruption. It is, therefore, logical on theoretical grounds to assert that for many developing countries, (Nigeria perhaps inclusive), abuse of official power through the misuse of such funds can lead to capital flight. Highly-placed public officials using the paraphernalia of their office can siphon some of the money under their care to foreign countries solely for the private use of themselves and their immediate family. Whether disbursements and capital flight are however correlated is an empirical question.

While all the facts discussed so far are important in the Nigerian case, it is difficult to rank the various causes of capital flight in any order of importance. It is known, however, that poor macroeconomic policy stance have resulted in all kinds of distortions. The role played by other factors such as access to foreign exchange through various perquisites of offices and possible abuse thereof, though difficult to measure cannot, however, be underestimated. These other factors, too, no doubt have their origin in the economic situation of the country.

SECTION VIII

ECONOMETRIC ANALYSIS

The causes of capital flight have been discussed in an earlier chapter. Several of the models explaining capital flight include Cuddington (1986, 1987) Dooley (1988), Dornbusch (1985), Boyce (1990) Pastor (1989, 1990) and Mikkelson (1991).

The variables that are expected to affect capital flight are as follows:

(i) The level of the country's foreign exchange reserves:

Higher reserves are perceived as indicator of a lower likelihood for a balance of payments crisis (Boyce, 1990). Higher foreign exchange reserves are expected to lead to less capital flight.

(ii) The degree of appreciation or depreciation of the exchange rate: the higher the degree of appreciation or depreciation of the exchange rate in the domestic economy the higher the extent of capital flight.

(iii) The rate of growth of the economy as measured by the GNP: The higher the level of growth in the economy and hence the opportunities for investment, the less the extent of capital flight.

(iv) Difference between the international and domestic real interest rate: The larger the differential, the more is capital flight induced.

(v) Changes in inflation rate is expected to have a positive effect on capital flight.

(vi) Financial repression: The greater the extent of financial repression in the economy, the greater the resultant capital flight.

(vii) Government Surplus or deficit/GNP : This ratio is a signal of the possibility or likelihood of a fiscal crisis. Following Anthony and Hallett (1990) argument, if fiscal deficit is large, it can be viewed as an indicator

of future financial repression in the financing of the domestic economy. Citizens anticipate it and attempt to avoid it by reducing their domestic asset holdings and build up instead their foreign asset holdings. Even if no repression actually takes place in the form described that is the deficit is not bond or tax financed, a large deficit implies inflation and currency depreciation. Thus in any of these cases, as the ratio becomes negatively larger, capital flight takes place. One would therefore expect a higher surplus (or lower deficit) to result in less capital flight.

(viii) Disbursements from loan: It is generally believed that as more loans are disbursed to some countries the basis for "debt driven" and debt-fuelled" capital flight is created. It is therefore expected that the higher the disbursement, the more the extent of capital flight.

The general model is of the following form (with the expected signs).

$$KFi = (GGNP, RF^*, RRDIF, CINF, MER, FER, DISBU, FG, FIR) \quad (4)$$

where KFi stands for the different versions of capital flight estimates. The definitions of the variables are in appendix H. As shown earlier, we have defined and computed capital flight using different methodologies. Since we do not intend to apply the econometric model to the various estimates of capital flight, it is necessary to show, however, the extent to which the various estimates demonstrate some degree of commonality and are therefore measuring capital flight. The result of the correlation matrix for the different methods is shown in appendix I. We are in general satisfied that most of the estimates for the adjusted capital estimates show not only positive but high correlation. This is particularly true of KFF, KFD; KFB, KFE; KFC, KFF, KFD, KFE where the correlation coefficient is greater than 80 percent.

The results of the estimations of the model are shown in table 17. The estimation technique is the ordinary least square (OLS). The t-values of the coefficients are in parenthesis below the relevant variables. We

have not experimented with lags because of limited observations. All the same, one can say with confidence given the available evidence for other countries in the literature that the equations have performed very well. From the results also, there is in general robustness in the sense that the coefficients of the variables used remain unchanged (no reversal of signs) over different specifications utilized. Some other results are shown in the appendix (Appendix J).

The general results from the equations are that capital flight in Nigeria is sensitive to real interest rate differential, growth of the domestic economy, degree of appreciation or depreciation of the exchange rate, foreign interest rate with the augmentation of the rate of depreciation/appreciation of the exchange rate and the fiscal deficit of government. The degree of significance of these variables do of course differ. There is no evidence to support the hypothesis that disbursement of loans (disbursement of external debt) influences capital flight in any form. Thus, we do not find evidence of the "debt driven" or "debt fuelled" capital flight arising from this variable.

TABLE 17
RESULTS OF REGRESSION ANALYSIS

	KFA	KFA	KFA	KFA	KFA	KFA**	KFA**	KFA**	KFA**	KFA**
CONSTANT	-.120 (-2.13)*	-.042 (-1.33)+	.009 (.37)	.019 (.52)	-.004 (-.12)	-.105 (-1.99)*	-.049 (-1.71)+	-.0004 (-0.02)	.005 (0.16)	-.015 (-0.54)
GGNP	-.003 (-3.61)*	-.002 (-3.24)*	-.002 (-2.67)*	-.003 (-3.00)*	-.003 (-2.96)*	-.003 (-3.55)*	-.002 (-3.65)*	-.002 (-3.14)*	-.003 (-3.22)*	-.003 (-3.11)*
RF*					.002 (1.52)+					.002 (1.39)+
RRDIF	.005 (2.98)*	.005 (2.61)*		.004 (2.32)*	.004 (2.25)*	.005 (2.98)*	.004 (2.81)*		.004 (2.51)*	.004 (2.43)*
CINF			.003 (1.81)+					.003 (2.28)*		
FIR	.064 (2.13)*					.049 (1.74)+				
MER				.002 (1.57)+					.002 (1.53)+	
FSGNP		-.566 (1.95)*	-.614 (1.86)+				-.503 (-1.92)+	-.559 (-1.93)+		
R ²	0.56	0.54	0.45	0.50	0.49	0.56	0.58	0.53	0.55	0.53
Adj.R ²	0.46	0.44	0.32	0.39	0.39	0.47	0.49	0.42	0.45	0.43
D.W.	2.03	2.19	2.27	1.69	1.68	2.23	2.29	2.37	1.92	1.90

Significant at 5% or better

Significant at about or better than 10%

SECTION IX

SUMMARY OF RESULTS AND CONCLUSIONS

We have attempted to address capital flight issues in this paper. Specifically, we have tried to estimate the magnitudes of capital flight using various estimation techniques. We have also discussed the causes, the mechanisms/conduits of capital flight and have undertaken an econometric analysis of the determinants of capital flight. In addition, we have also estimated the total stock of Nigeria's external claims. One of the novelties of this study lies in taking due cognizance of international trade faking in arriving at the adjusted capital flight estimates.

A number of conclusions can be drawn from the present study. The first is that there is no generally accepted definition of capital flight hence the use of several concepts in this paper. What the paper has done in essence is to provide the "bands" or "range" for capital flight in Nigeria. Second, a significant proportion of capital flight can be estimated from recorded data in the balance of payments and debt statistics. The implication of that, however, is that the reliability of the measures is dependent on the accuracy of the items in the balance of payments statistics, and debt data. Significant amounts of capital flight relative to external debt took place over the years covered in this study. Trade faking has been discovered as an important vehicle of effecting capital flight. A significant amount of under-invoicing of exports and over-invoicing of imports took place in the periods under study. In the period 1970-89, exports were under-invoiced to the tune of about US\$8.2 billion while the over-invoicing of imports was about US\$5.96. A detailed analysis of the fuel SITC was also undertaken to discover the amount of trade faking in the oil sector, Nigeria's most important export. There was substantial amount of trade faking in the period covered.

Third, despite the different methodologies that have been used to estimate the adjusted capital flight, some degree of commonality have been established between the various estimates. Thus, the different methodologies used measure capital flight.

Fourth, the ratio of total external claims to the stock of debt which was only 60.4 percent in 1973 rose to a ratio of over 200 percent in 1976. Although it declined thereafter, it stood at over 80 percent in 1989.

The econometric analysis did demonstrate clearly that domestic macroeconomic policy error is the culprit in the capital flight episode. Of significance in the area of policy errors are inflation, exchange rate misalignment (appreciation or depreciation of the exchange rate), fiscal deficit and lack of opportunities for profitable investment within the domestic economy. The attractions offered by the foreign sector cannot be left out of the analysis. The foreign attraction as shown, for example, in the relative rates of return was found to be significant. The elimination of distortions within the economy can minimize substantially externally held foreign claims and minimize capital flight which can serve useful purposes in the domestic economy.

The policy issues that can be drawn from the analyses are very clear: there is need for the maintenance of sound domestic macroeconomic policy. The various aspects are hereby discussed. In order to control capital flight, there is need to ensure that the nation's currency is not overvalued. This can be done by setting it at a realistic level or by allowing the currency to float.

There is a lot to be said for the free flow of capital as this would prevent the need to use trade faking for the illicit acquisition of foreign exchange. In addition an integrated and unified tariff structure would be useful as it will reduce the rewards for trade faking. Thus a viable trade policy is essential for preventing illicit activities.

It is necessary also to ensure that the exchange rate is not appreciated by high domestic inflation. It would therefore be necessary to ensure that there is fiscal discipline so that deficits as a proportion of the gross domestic product is kept in check as this is crucial to the maintenance of macroeconomic stability. Economic growth provides the opportunities for possible profitable investments and will therefore help to reduce if not totally eliminate capital flight. As investment opportunities are enhanced and profitability ensured within the domestic economy, the retention of domestic money would be less difficult.

There is need to ensure a positive real rate of interest. The rate should be high enough to attract funds but not too high to stifle investment initiatives.

The prescription mentioned above are being addressed within the package of the structural adjustment program which the country embarked upon in 1986. The center-piece of that package is the adoption of a realistic exchange rate determined by market forces. If the policy package discussed are pursued rightly and with consistency, it should be possible to minimize if not totally eliminate capital flight.

The issue of the existence of and how to deal with corruption is certainly more difficult to prescribe. It is nevertheless part of the general problem of capital flight. One can only safely say that there is need for attitudinal changes on the part of those who hold public offices and have access to foreign funds directly or through the contracts which they award. This attitudinal changes involve a serious commitment to honest government. The importance of honesty cannot be overemphasized. It is true to assert that "a society that lacks the social cohesion to ensure that its leaders place public duties ahead of personal gain may well be condemned to repeated bouts of capital flight." (Williamson and Lessard, 1987 p.34)

The repatriation of capital to the domestic economy subsequent to the installation or adoption of appropriate macroeconomic stance or the adoption of appropriate macroeconomic policy stance to forestall capital outflow poses more challenges to the economy than is often realised. Part of the challenge arises from the fact that the adoption of appropriate macroeconomic policy stance is not a one-shot affair. Indeed the economy may have to run faster each time in order to (at least) remain standing still! There is need not only for consistency in the pursuit of appropriate policy, but adaptation to suit varying circumstances of the economy.

Appendix A

This appendix explains table 4,

Column 1 Record Claims on Non-Resident Other than Direct Investment

Balance of Payments Statistics Yearbook (BOPY) lines 62-64, 69-71, 77-79, 84, 85, 89, 93, 94, 98-109.

Column 2 Net Errors and Omissions.

BOPY lines 112.

Column 3 Total External Claims Balance of Payments

Sum of columns 1 and 2.

Column 4 Unrecorded Stock of External Claims

Total external Debt recorded in the World Bank Debt Tables minus Debt recorded in the Balance of Payments Statistics. The balance of payments debt statistics are line 53-61, 65-68, 72-76, 80-83, 86-88, 90-92, 95-97, 110, 111.

Column 5 Total Stock of External Claims

Is the sums of columns 3 and 4.

The difference between Dooley (1988) and the approach above is that the estimated value of the non-direct investment income at the end of the first year is not added.

APPENDIX B

EXTENT OF TRADE FAKING IN EXPORTS* **000S US\$**

YEAR	DISCREPANCY	DEGREE OF FAKING %
1970	111213	11
1971	133613	9
1972	128676	7
1973	308795	12
1974	266561	3
1975	-299216	-4
1976	-115450	-1
1977	-599936	-6
1978	-143296	-2
1979	-869747	-6
1980	1565464	7
1981	-1925304	-12
1982	741978	6
1983	-1115895	-11
1984	-381190	-4
1985	-352569	-3
1986	-1719321	-25
CUMULATIVE		
1970-86	-4265626	-18
1970-76	534191	37
1980-86	-3186838	-42
1973-80	113174	3

Notes: *Exports adjusted by the cif/cof factor.

*Analysis from U.N. Trade System Industrial Market Economies.

Source: Calculated from the UN Data System.

APPENDIX C

EXTENT OF TRADE FAKING IN IMPORTS* 000's US\$

YEAR	DISCREPANCY	DEGREE OF FAKING %
1970	75589	9
1971	149524	13
1972	94019	8
1973	131092	9
1974	82077	4
1975	337650	7
1976	1211023	20
1977	1069783	12
1978	1633878	17
1979	1078847	14
1980	-2936088	-22
1981	1968822	13
1982	-1618646	-15
1983	414071	6
1984	-187707	-4
1985	-270531	-5
1986	-913723	-22
CUMULATIVE		
1970-86	2319681	64
1970-76	2080974	69
1980-86	-3543800	-48
1973-80	2608262	61

Notes: *Analysis from U.N. Trade System Industrial Market Economies.

Source: As in Appendix B.

APPENDIX D

EXTENT OF TRADE FAKING IN EXPORTS FUEL SITC 1970-1986
000's US\$

YEAR	NIGERIA'S REPORTED EXPORTS	IMPORTS OF INDUSTRY COUNTRIES	ADJUSTED IMPORTS INDUSTRY COUNTRIES	DISCREPANCY	DEGREE OF FAKING %
	(1)	(2)	(3)	(4)	(5)
1970	630087	654338	594853	35234	6
1971	1215870	1232905	1120823	95047	8
1972	1646603	1708679	1553345	93258	6
1973	2460018	2371901	215674	303744	14
1974	7745884	8235317	7486652	259232	3
1975	6190128	7199685	6545168	-355040	-5
1976	7707877	8666249	7878408	-170531	-2
1977	8184198	9758153	8871048	-686850	-8
1978	7755509	8839819	8036199	-280690	-3
1979	13491554	15796866	14360787	-869233	-6
1980	22467453	23014454	20922231	1545222	-7
1981	13138458	16612081	15101892	-1963434	-13
1982	13686168	14250077	12954615	731553	6
1983	8889376	11049305	10044823	-1155447	-12
1984	9707467	11180629	10164208	-456741	-4
1985	10638854	12108858	11008053	-369199	-3
1986	4903536	733383	6667125	-1763589	-26
CUMULATIVE					
1970-86				-5007464	-33
1970-76				260945	30
1980-86				-3431635	-6
1973-80				-254146	0

Source: U.N. Data System.

APPENDIX E

EXTENT OF TRADE FAKING IN IMPORTS : FUEL SITC 1970-86.

000's US\$

YEAR	NIGERIA'S REPORTED IMPORTS FROM MKT. ECONO.	EXPORT OF MARKET ECONOMIES TO NGA	ADJUSTED EXPORT OF MARKET ECONOMIES TO NGA	DISCREPANCY	DEGREE OF FAKING %
	(1)	(2)	(3)	(4)	(5)
1970	21972	11642	12806	9166	7
1971	8685	11217	12339	-3654	-3
1972	10107	8730	9603	504	5
1973	13167	11251	12376	791	6
1974	45665	30040	33044	12621	3R
1975	100246	77347	85082	15164	1
1976	204631	140454	154499	50132	3
1977	125162	162711	178982	-52820	-3
1978	211663	287236	315960	-104297	-33
1979	193188	711687	782856	-589668	-75
1980	574962	825787	908366	-333404	-37
1981	223601	252556	277812	-54211	-20
1982	258632	295591	325150	-66518	-20
1983	72146	268358	295194	-223048	-76
1984	65624	64700	71170	-5546	-8
1985	51345	35357	38893	12452	32
1986	20784	120268	132295	-111511	-84
CUMULATIVE					
1970-86				-1443845	-208
1970-76				84724	142
1980-86				-781785	-212
1973-80				-1001480	-80

Source: As in Appendix B.

APPENDIX F

EXTERNAL DEBT AND STOCK OF EXTERNAL CLAIMS

YEAR	STOEXTCL	EXTDEBT	REXTCDEB
1972	1104.5	732.0	150.9
1973	727.3	1205.0	60.4
1974	8365.0	1274.0	-656.6
1975	790.5	1143.0	69.2
1976	2074.5	906.0	229.0
1977	4675.1	3146.0	148.6
1978	7966.0	5091.0	156.5
1979	-368.5	6235.0	-5.9
1980	-916.8	8934.0	-10.3
1981	17560.5	12018.0	146.1
1982	11234.1	12954.0	86.7
1983	14441.6	18539.0	77.9
1984	17775.3	18537.0	95.9
1985	15710.3	19551.0	80.4
1986	24242.3	24043.0	100.8
1987	29810.1	31193.0	95.6
1988	29761.0	31947.0	93.1
1989	27252.0	32832.0	83.0

- Notes: (1) STOEXTCL = Total stock of external claims
(2) EXTDEBT = External Debt
(3) REXTCDEB = Ratio of total stock of external claims to level of external claims to level of external debt in percentages.

- Sources: 1. Total stock of external claims from calculations (See Appendix A)
2. External Debt from World Bank World Debt Tables several years.

APPENDIX G

ADJUSTED CAPITAL FLIGHT ESTIMATES AS PERCENTAGE OF EXTERNAL DEBT*

YEAR	ESTIMATED K. FLIGHT	TOTAL OUTFLOWS	RESIDUAL METHOD	HOT METHOD I	HOT METHOD II	DERIVED METHOD
	A1	A2	A3	A4	A5	A6
1972		28.2	100.1	10.8	10.8	85.5
1973	-46.2	-45.8	39.2	-29.6	-34.7	72.7
1974	-677.7	22.8	-717.4	40.7	38.8	62.6
1975	876.8	35.3	101.6	76.2	72.3	119.6
1976	343.6	123.1	298.6	203.7	205.1	211.9
1977	149.4	52.9	214.2	58.9	54.8	157.9
1978	65.1	60.1	161.9	0.8	3.8	74.7
1979	-103.9	63.9	-32.5	33.0	33.1	77.9
1980	-6.4	6.7	-87.7	-7.5	-7.4	13.2
1981	190.0	50.3	170.4	37.1	37.4	79.9
1982	-22.7	67.0	110.4	27.1	50.3	75.6
1983	17.3	19.3	58.8	-0.3	5.6	53.1
1984	18.0	-11.3	-2.2	-3.5	-2.9	3.1
1985	-10.6	-18.7	-6.4	-10.3	0.9	-3.0
1986	38.1	-2.8	23.2	1.7	7.7-	18.6
1987	16.6	-18.6	19.2	-4.4	7.0	29.6
1988	-1.4	-16.8	4.3	-5.4	4.6	3.9
1989	8.7	3.2	41.7	-6.8	0.6	11.8

Notes: *All figures rounded to one decimal place.

Source: Calculated from table 16. Data for External Debt is from World Bank: World Debt Tables.

APPENDIX H

LIST AND DEFINITION OF VARIABLES

Each of the KFis used is deflated by the U.S. consumer price index.

KFA = Adjusted estimated capital flight adjusted for Trade Faking (Column 1, table 16)

KFA =** Unadjusted Estimated Capital Flight. (column 1, table 12)

KFD = Adjusted Estimated Capital Flight adjusted for trade misinvoicing "Hot Mehtod" (column 4, table 16).

KFD =** Unadjusted Estimated Capital Flight "Hot Method" (column 4, table 12)

CINF = Change in inflation defined as the difference between the log of this year's inflation rate and the log of last year's inflation rate.

GGNP = Percentage growth rate in the GNP.

RF* = Foreign interest rate augmented by the rate of appreciation (devaluation) of the domestic currency. This is defined as $r \text{ Lib} + e$. $r \text{ Lib}$ = the Libor rate on US deposits and e is the actual rate of appreciation (depreciation) of the domestic currency.

MER = Is the degree of appreciation or depreciation of the exchange rate measured by the percentage change in the market rate index.(Line Ahx of IFS).

FIR = Financial repression.Following Dooley's (1988) approach, this is defined as:

$$[(1 + r \text{ Libor})/(1 + r)]/[1 + \ln C - \ln (C-1)]$$

where $r \text{ Libor}$ is the libor rate on US dollar deposit

r is the domestic rate of interest on deposit,

c is the domestic currency per dollar.

RRDIF = real interest rate differential defined as:

$$(r \text{ Libor} - \pi_i) - (r \text{ dep} - N\pi)$$

where $r \text{ Libor}$ is the Libor rate on U.S. dollar deposit, $r \text{ dep}$ is the domestic rate on deposits, and π_i , $N\pi$ represent inflation rates in industrial countries and Nigeria respectively.

FG OR FSGNP = Is the ratio of Fiscal Surplus/deficit as percentage of GNP.

APPENDIX I

CORRELATION MATRIX

VARIABLES	CORRELATION
KFA, KFA	1.0
KFA, KFB	0.1
KFA, KFC	0.6
KFA, KFD	0.4
KFA, KFE	0.2
KFA, KFF	0.4
KFB, KFB	1.0
KFB, KFC	0.5
KFB, KFD	0.8
KFB, KFE	0.8
KFB, KFE	0.5
KFC, KFC	1.0
KFC, KFD	0.4
KFC, KFE	0.5
KFC, KFF	0.8
KFD, KFD	1.0
KFD, KFE	0.8
KFD, KFF	0.5
KFE, KFE	1.0
KFE, KFF	0.5
KFF, KFF	1.0

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APPENDIX J FURTHER REGRESSION RESULTS

<p>KFD** = -.0160 -0.0001GGNP (-4.67*) (-1.65*)</p>	<p>+ .007FIR (3.41*)</p>	<p>+ .00010CINF (1.55*)</p>
<p>R² = 0.51 Adj R² = 0.40 D.W. = 1.90</p>		
<p>KFD** = -.0170 -0.0001GGNP (3.88*) (1.70*)</p>	<p>+ .007FIR (3.36*)</p>	<p>+ .00009CINF (.84)</p>
<p>.00009 RRDIF (.54)</p>	<p>R² = 0.52 Adj R² = 0.37 D.W. = 2.01</p>	
<p>KFD** = -.0160 -0.0001GGNP (4.73*) (1.65*)</p>	<p>+ .006FIR (3.04*)</p>	<p>+ .00010CINF (1.67*)</p>
<p>-.023 FSGNP (-1.097')</p>	<p>R² = 0.56 Adj R² = 0.41 D.W. = 2.29</p>	
<p>KFD** = -.0130 -0.0001GGNP (-2.75*) (-1.88')</p>	<p>+ .006FIR (2.65*)</p>	<p>+ .00010CINF (1.57*)</p>
<p>+ .0001 MER (0.93)</p>	<p>R² = 0.55 Adj R² = 0.40 D.W. = 2.03</p>	
<p>KFD = -.0302 -0.0003GGNP (2.05*) (-1.40')</p>	<p>+ .022FIR (2.75*)</p>	<p>+ .00040RRDIF (.87)</p>
<p>R² = 0.37 Adj R² = 0.24 D.W. = 2.03</p>		
<p>KFD = -.0230 -0.0002GGNP (-1.87*) (1.17*)</p>	<p>+ .019FIR (2.33*)</p>	<p>-.04600FSGNP (-.58)</p>
<p>R² = 0.35 Adj R² = 0.21 D.W. = 2.09</p>		
<p>KFD = -.0230 -0.0002GGNP (-1.91*) (1.22')</p>	<p>+ .020FIR (2.64*)</p>	
<p>R² = 0.33 Adj R² = 0.25 D.W. = 1.87</p>		

* significant at 5% or better

* significant at about 10%

ENDNOTES

1. Some of the studies that include some data on Nigeria include Chang and Cumby (1991), Morgan Trusty (1986, 1988), Anthony and Hallett (1990).
2. The differences between my methodology and Dooley are explained in the table and the appendix.
3. The analysis follow Pastor (1990, 1991). The Symbols are different from Pastor's.

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