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THE IMPACT OF FOREIGN CAPITAL ON NIGERIA'S ECONOMIC GROWTH 1970 -1992

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A DISSERTATION SUBMITTED TO THE DEPARTMENT OF ECONOMICS, FACULTY OF THE SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF SCIENCE (M.SC) ECONOMICS.

1994

CERTIFICATION

I certify that this work was carried out by OLANIYAN Olanrewaju in the Department of Economics, University of Ibadan under my supervision.

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DEDICATION

To Mummy and Daddy, Chief and Mrs. E.O. Olaniyan.

ABSTRACT

This study focuses on both theoretical and empirical evidences of the impact of foreign capital on the economic growth of Nigeria. A simultaneous equation model consisting of growth rate equation and savings equation was estimated through the econometric method of Indirect Least Square.

The main findings of this study is that non-commercial flows has made a more significant positive contribution to Nigeria's economic growth while commercial flow component of foreign capital have had a depressing effect on the economic growth between 1970 and 1992. The study further reveals that export performance, rather than any component of foreign capital inflows is the largest contributor to the nation's economic growth.

The policy implication arising from this study is that commercial component of the inflows should be well planned and adequately monitored. This study concludes that it is the adequate policy mix rather than any particular components of foreign capital inflows that leads mostly to positive economic growth.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Foreign capital inflows (FCI) have been a subject of controversy well before the onset of the present debt crisis as almost everywhere in the world, there has always been a great need for capital formation. Increased capital formation ability is seen as a major requirement to accelerate economic growth to overcome persistent unemployment, to apply new technology and to launch a less developed economy into a developed one.

Economic literature reveals that the major problem facing most Less Developed Countries (LDC) is that of inadequate internal capital formation, given their enormous capital needs. The ability for an increased capital formation is a function of gross savings rate in the economy which consequently determines the investments ability. It is this investment ability that in turns leads on to generate the needed capital for economic growth.

Judging from the fact that in these developing countries, there exists a shortage of domestic savings in relation to investment need which leads to a "savings gap", it is imperative for such countries

(which include Nigeria) to seek foreign capital to complement internal resources in order to bridge the gap. Foreign capital thus become a vital source of external finance for them to make a fuller use of the domestic resources and accelerate growth.

Foreign capital comes in different forms. It can be in the form of aid, direct investment package (with enterpreneurial and technical components), export credits and syndicated bank loans. (Hughes 1987). Foreign capital inflows can also be classifed into commercial and non-commercial capital inflows: Commercial inflows are disbursements from private creditors and foreign direct investments. Non commercial flows on the other hand include disbursements from multilateral and bilateral official creditors and unrequired private and official transfers (Savvides 1992).

The polemics of foreign capital for less developed countries has not been just in the economic literature but also at the political level. It has figured prominently in the North-South dialogues and within the International Monetary Fund (IMF). In the 1950s and the sixties, the discussion on foreign capital focussed on aid and official flows, and direct investment, but since the middle 1970s,

attention shifted towards private banking loans and export credits. However, inappropriate and inefficient domestic economic policies of the various less developed countries have contributed to their heavy borrowing.

Since borrowing leads to debt as surely as night follows day, the situation eventually ended up in severe economic problems as it led to the debt crisis which many developing countries had to accommodate for a larger part of the 1980s and also carried forward to the nineties. Given the nature of adverse effect of the debt crisis on most developing countries' attention is now been refocussed on direct foreign investment, free trade and well functioning domestic markets.

The Nigerian experience has interestingly followed the pattern above as a different form of foreign capital was emphasised upon at different periods. In 1970 69% of foreign capital comes in the form of official flows while it declined to 15% of the total capital inflows by 1982 (Ajayi 1991).

When the oil market progressively weakened in the eighties which slowed down the country's export earnings, sizeable fiscal and external imbalances emerged. Because of inadequate internal capital to solve the imbalances

problem attention was shifted towards foreign capital in the form of syndicated bank loans, drawing on external reserve and external trade credits. All these combined to launch Nigeria into a debt crisis and its attendant burden by 1984.

With the debt crisis and the country's debt overhang problem, there is a new shift towards foreign direct investment as most of the external debt are been redeemed under the Debt Conversion Programme (DCP).

Furthermore, about Nigeria's economic growth and development, within the period 1970 to 1992 the nation experienced various growth rates and development at different periods. With the oil boom of the 1970s Nigeria experienced a respectable 4% per capita gross domestic product (GDP) growth rate per annum. By 1980 Nigeria's per capita GDP had increased from $250 to $1,100. The oil boom thus altered Nigeria's economic fortune and her position in the committee of nations. She became a medium income country with one of the highest per capita GDP in Africa.

During this period foreign aid as a component of foreign capital inflows reduced considerably. In fact Nigeria even became a modest donor by giving grant and technical assistance to poorer Africa nations.

However, the middle income status of Nigeria was short-lived due to the economic recession of the 1980s and the country which account for one quarter of the sub-Sahara Africa population reverted to a low income nation with her per capita GDP coming to as low as $230 by 1989.

In addition to the low per capita GDP, Nigeria's position in terms of human development is not encouraging. The 1990 United Nations Development Programme (UNDP) Human Development Report ranked Nigeria 106th out of 130 countries in term of human development. Nigeria development index was 0.322 which is low compared with even some other African countries like Libya and Tunisia which had 0.719 and 0.657 respectively.

Finally, the oil paradox, the debt crisis, the dry-up of aid and the growing importance of foreign private investment makes foreign capital not just a controversial issue but also makes it necessary to examine which component of imported capital to emphasise or what the appropriate mix of foreign capital inflows should be for any economy.

1.2 Objectives of the Study

The broad objective of this study is to test for the impact of various foreign capital component on the economic growth of Nigeria.

The specific objectives to be pursued in this study are to:

(i) analyse the structural and growth profiles of Nigeria's foreign capital inflows.

(ii) derive the key elasticities and statistical weight attached to each component of foreign capital inflows

(iii) identify the differences between direct and total effects of each component of foreign capital inflows on economic growth.

(iv) determine the relative contribution of each type of foreign capital inflows.

(v) compare the contributions of foreign capital and export performance on economic growth of Nigeria.

(vi) draw implications from the results of the reserch to develop for optimal policy for managing foreign capital inflows in Nigeria.

1.3 Problem Statement and Justification of the Study

The fundamental question about foreign capital is on how it can lead savings and investment to induce economic

growth. The major point of discord is whether foreign capital simply substitute for domestic savings or if it affects balance of payment adversely by entailing import intensive production. There has been no consensus on this.

Furthermore literature evidence is controversial regarding the relative importance of the various types of foreign capital inflows as contrasted with other factors like degree of export orientations and savings performance to stimulate growth. Also most of the past studies have been based on cross-country data with little or no attention being paid to Nigeria's specific situation.

In view of the inconlusiveness of evidences in the literature concerning the impact of foreign capital on economic growth, this study will enrich the on-going debate by making a detailed country specific (Nigeria) study on the impact of foreign capital inflows on Nigeria economic growth within a time series context using data from 1970 to 1992.

The period 1970-1992 is chosen because the period covers the major historical epochs in the economic history of Nigeria ranging from the oil booms of the 1970 to the austere years of the early eighties and the

Structural Adjustment Programme (SAP) years of 1986 to 1992. This will help to capture a series of changes in the Nigerian economy.

A primary essence of the SAP liberalisation drive in Nigeria is to attract more foreign capital into the country. While a number of studies have in the past been devoted to the study of the volume, source and sectoral distribution of capital inflows, none has yet attempted to give a detailed quantitative analysis of the macroeconomic impact of such capital inflows. It is this gap that this study proposes to bridge.

The establishment of the real impact of foreign capital inflows on economic growth have important implications for development strategies and policies as it would help to decide which component of foreign capital should be encouraged or discouraged. This study will quantitatively show these real impact of foreign capital inflows.

1.4 Methodology

The method of study that is employed is both quantitative and qualitative. A time series analysis based on the econometric method of Indirect Least Square (ILS) or reduced form model is used. This is to make sure

that both the direct and the indirect effects of the exogenous variables on the endogenous variables are determined.

Two equations are specified in the model - a growth equation and a savings equation - which will be solved simultaneously. The Indirect Least Square method is preferred because the model is exactly identified and because of the consistency property of its estimates. The simplicity of the method compared to other methods that yields consistent estimates also makes it more preferable.

To solve the model, a period 1970 to 1992 will be used for the analysis and the data that are used are mainly secondary ones collected from the Central Bank of Nigeria (CBN) publications and the various World Bank publications.

1.5 Plan of the Study

This study is organised around five chapters. Chapter one is introduction and contains the problem statement, objectives and justifications of the study. Closely following this introductory chapter is chapter two where a theoretical discussion of foreign capital

and growth relationship is presented. Also discussed is why the impact of foreign capital on growth may be dependent on the domestic factors of the importing country. The chapter, also deals with the review of empirical literature on the foreign capital issue.

The model of study is specified in chapter three together with the estimation procedure. This chapter also contains the theoretical expectation of the results of the model and the various sources of the data used.

In chapter four, the estimated model is presented and discussed while the last chapter is devoted to the summary of the major findings, some concluding remarks and the policy implications of this study.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL CONSIDERATION

2.1 LITERATURE REVIEW

2.1.1 Foreign Capital and Economic Growth

The recognition of foreign capital as a catalyst for growth and development has been widely acknowledged in the economic literature since the 1940s. The classical school believe that international resource flows would make for a higher rate of world economic growth, would contribute to a more balanced development of the world economy and represent a move towards the optimum, under the global welfare function. Many other economists have argued theoretically that foreign capital has the effect of transfering real resources to the Less Developed Countries (LDCs) and help to bridge a number of gaps which include savings gap, foreign exchange gap and technological gaps. These economists draw largely from the Chenery and Strout's gap model, Myints Vent for surplus model and the Harrod-Domar growth model to support their arguments.

Higgins (1954), Pearson (1969) and Symonds (1970) all agreed that foreign capital will help the developing countries to transform their economy into one capable

of adequate sustained growth. As a result Mayer (1987) writes that capital flows from countries with a relatively rich capital endowment (essentially the developed countries) to countries with relative capital scarcity (primarily the developing countries) should be a regular feature of a soundly performing world economy. Pearson (1969) even went further that the effect of foreign capital on the development of any economy is best seen if such an economy is divided into sectors and adequately evaluated.

Empirically Papanek (1973) finds a positive signifant relationship between foreign capital inflows and growth using the 1960s data. This was confimed by the results obtained by Gupta (1975) Rahman (1968) and Weiskopff (1972) using data covering various groups of countries and different time periods. Symonds (1970) also noted that between 1950s and 1965 increase in the availability of foreign resource inflows put certain developing countries like Mexico, Israel, Taiwan and Korea to make beneficial structural changes in their economy. The foreign capital proponents suggests that if a country wants to grow faster, it must save more, beg more, borrow more and improve the climate for foreign investors.

Furthermore Iwasaki (1985) showed that in most cases causality (in the Pierce-Haugh-Granger sense) when detected runs from foreign capital to savings and growth rather than the other way round.

The findings of the above scholars were however contradicted by Mosley (Mosley (1990) and Mosley et al (1987) in the analysis of several less developed economies in the 1970s and 1980-83 respectively. Both studies showed that there is a collapse of foreign capital - growth relationship.

These findings were supported by Singer and Ansari (1984) and Griffin and Enos (1970) when they submitted independently that foreign capital is an anti-development agent because it displaces the domestic development resources of the importing country thereby causing dis-equilbrium in the foreign sector as well as debt crises, over-dependency, an undesirable high degree of openness and general entanglement of the less developed economies (Olanrewaju 1993).

Mutahaba (1989) and Ake (1978) also argued that foreign capital might not have contributed optimally to the economic development of the less developed countries especially Africa. The reason for this lies in the

conclusion of Griffin (1972) that foreign capital neither retard nor accelerate growth but its main contribution is to increase consumption frictionally. Mahdavi (1990) added to the knowledge provided by Griffins when he concluded that the impact of foreign capital on growth as least in part depends on the way it affects the major categories of aggregate expenditure. This is because with foreign capital increases total consumption, the increase in aggregate expenditure can lead to increase in growth through the multiplier effect.. It was further revealed that some foreign financed expenditure are classified under consumption or government spending while actually they are investment in human capital and infrastructure which contribute to eventual growth.

Though economic literature suggest that the level of investment and consumption in a country partly depends on whether domestic production is supplemented by resources from abroad or whether some product is transfered to other nations for their use, yet the effect of foreign capital on savings and investment to induce economic growth is still fraught with controversy.

The major point of discord is whether foreign capital simply substitute for domestic savings and investment or if they affect balance of payment adversely by entailing import intensive production. Taylor found out that foreign capital will increase domestic savings which will lead to investment and then eventual growth. of output capacity. All these will lead to LDC economic growth. (World Bank 1990). While Chenery and Strout (1966) submits that foreign capital supplement savings and hence increase growth. Areskong (1973) and Papanek (1973) indicates that foreign capital partially substitute for domestic savings.

Economic literature is less clear-cut about the relative significace of the various components of foreign capital. Mahdavi (1990) had submitted that it is inappropriate to lump every foreign capital inflow together when analysing their impact on the capital importing country. But there exist a major problem as highlighted by the World Bank (1990) that an attempt to distinguish particular flows of foreign capital and the associated income payment is fraught with much uncertainty. This is because the distinction by the

World Bank Atlas, OECD calculations and the various world tables are well pronounced and each of them said that the calculation is based on theoretical consideration although political considerations also comes into the calculations: There is just no simple and universally acceptable rules regarding the optimal mix of foreign capital instrument in a nation that most effectively lead to growth.

Scholars have also contributed in this area Heller (1975) distinguish between particular foreign capital inflows and submits that grants have pro-consumption bias while loans and foreign private investment are more pro-investment. The conclusion of Iqbal (1988) supports this when he concluded that the best way to distinguish is along the lines of commercial and non-commercial inflows. The submission is that commercial inflows are the most significant in determining the investment level of the capital importing country. But Colin Stoneman (1975) found a favourable impact of aid inflows on domestic savings while he found no significant association between net flows of foreign direct investment and growth. The significance even increased by lagging the dependent variable.

The role of foreign capital inflow on a country's economic development given the importance of an initial level of absorptive capability is determined by the nation's policy framework and the capability to administer it. Greater political risks and other risks may mean that the capital flows to countries with relatively poor capital endowment may not come about spontaneously despite the higher real return on investment. Moreover owing to all sort of economic and social "externalities" and the inadequate working of market forces, the micro-economic return on investment may be materially smaller than its macroeconomic and social benefit for the capital importing country.

Stoneman (1975) submits that it would be foolish to accept any final resolution of the matter either theoretically or statistically because foreign capital is neither necessary nor sufficient for economic development and the same can also be said about its absence.

One thing is however clear from the literature that the most successful countries in term of growth appear to be those which are clear about their strategy. Statistical evidences suggest that for majority of the countries with opportunist or weak ruling classes, dependence on

foreign capital can be harmful rather than beneficial.

2.1.2 Foreign Aid and Economic Growth

The palmgrave dictionary of Economics (1988) defines foreign aid as any capital inflow or other assistance given to a country which would not generally be provided by the natural market forces. There are four main types of aid. First, long term loan which have to be repaid in foreign currency but are usually repayable over 10 to 20 years. The advantage is that the annual repayments are far less burdensome than those of short and medium term loasn. Secondly there are soft loans which can be repaid in local currency. These have very low interest rate. Also included here are straight grants. The third type of aid is the sale of surplus production to a country's local currency. This is very valuable to the under-developed countries with very little foreign exchange as it enables them to buy from abroad. The forth type although, not strictly capital flow is technical assistance. Hughes (1979) suggested that technical assistance should not be an aid component when it is looked at from the balance of payment angle, because there is no capital transfer. But those who argues

for technical assistance do so on the basis that it definitely has an opportunity cost.

Despite the elaborate definition given above, the literature is filled with controversy about what an ideal definition of aid should be. According to Lipton (1991) the official definition of aid often include certain flows that are disguised military support ("officially" not supposed to be aid) and some flows to rich countries but conclude many official flows at below market rate that are partly concessionnal.

The inconclusiveness of the definition of aid flows exists because the objectives of both recipients and donors differ. While from the recipients' view, the objective of aid is to augment domestic resources for development purpose, those of the donor always include political, economic and commercial interest. Taken from any angle, the purpose of aid is to effect a real transfer of resources from the developed countries to the developing countries. Aid can be given through any of the four arrangements highlighted earlier. The composition however differs from one donor country to another. According to Mahmood (1977) three main variables influence the term of aid and they are the interest rate, the grace period and the repayment period.

The diversified objectives of aid as well as variables influencing the terms of aid makes the measurement of its effectiveness in promoting growth difficult. It is not clear whether gross, net or grant element of aid should be measured. This, coupled with the fact that GNP growth, poverty and especially aid data are notoriously weak pose a problem from the economic literature. Giving these data problem Lipton (1991) submits that Mosley's (1986) large cross-country sample risks major biases in assessing aid-growth relationship In the same vein Griffin (1986) also risks different biases of selectivity. The act of selecting countries for analysis can never be optimal. Lipton also analyse that the scale of aid depends on the measure - it will be small and falling compared to donor's GNP and recipient income as shown in Griffin (1986) or it may be large and rising compared to investment on import and public expenditure of the recipient nation.

Empirically Mosley (1986) and Griffin (1986) showed independently that aid may adversely affect growth by crowding out investment and savings. Griffin estimated that $1 more aid to a poor country will crowd out 48 cents of domestic savings. Other estimates by Weiskopff (1972)

and Mosley (1986) were lower. Lavy (1985) submitted that it is only consumption specific aid and not investment aid that can add significantly less than its own value to the recipient country's investment.

After an historical review Hughes (1979) concluded that the measurement of aid is not very useful because the actual experience has led to a great deal of questioning of the aid process by both donors and recipients. The economic impact of aid flows have thus been of general concern because they tend to reduce a recipients potentials and arguments have been made extensively in the project aid versus programme aid debates. In most cases aid did not really achieve its aims. However in contrast volunteer aid agencies have proved to be more successful at bringing aid to the poor. Although their aid efforts are less than 10% of total aid flows yet they have greater impact.

This made certain scholars to argue for more loan aspect of aid rather than grant as they believe that it would be better managed since it would be repaid.

There are also situations where aid supply is a little short of scandal like a situation where aid are

given to despots or dictator governments for security purpose. Furthermore, the trend of aid allocation has been lopsided. In 1982 34% of allocable aid went to countries containing 2.7% of the population of the less developed countries, mostly in the middleincome countries. They enjoy 102 US dollars of net aid disbursement per person in that year. The remaining 3.3 billion people of the third world receive a per capita aid of $5.60. This puts a doubt on how the "aid community" (donors and recipients) attain a satisfactory level of aid effectiveness.

In addition most aid flows are directed towards rural development yet much of it continues to assist the already better-off and influential rather than the peasant farmers. Instead of the rural areas, it is the urban areas that benefit most. Jackson (1992) identified two salient reasons why aid might be out of reach of the poor. The reason are the tying of aid to the donor nation's goods and services which may not be appropriate for the poor and the creation of large infrastructural projects which can produce observable and quick results.

The evidences in the literature about aid flows when summarised together reveals that most foreign aid raises economic growth and reduces poverty (in some cases) but a disturbingly large and probably rising proportion does neither increase nor retard growth. This is partly because much aid serves the donors' interest and partly because of inappropriate recipients policies. Because all elements of foreign aid are jointly supplied the boundaries between the elements of aid flows have been increasingly blurred.

The many controversies, conflicts and reverses in the trends that have characterised official flows of capital to LDCs reflect the confusion of aid flows (especially the lending element) and it is one of what eventually led many to turn to concessional market flows.

2.1.3 Foreign Private Investment and Economic Growth

The flow of foreign private investment (FPI) was the earliest form of resource transfer to less developed countries and has been in existence before the post-world war emergence of Official Development Assistance (ODA) flows (Olanrewaju 1993). Foreign private investment usually refers to any investment in another country

which is carried out by private companies or individuals as opposed to government aids. Foreign private investment takes two forms - Portfolio investment and Direct Investment. Portfolio investment is in the form of equity capital (share or bond holding) in enterprises in less developed nations which entitles owners to flows of dividend.

Growth in neo-classical theory is brought about by increases in the quantity of factors of production and efficiency in their allocation. The neo-classicals believe that the presumption for less developed countries is one of abundant labour but scarce capital of which shortage of domestic savings is the constraint. Even when domestic inputs in addition to labour are in ready supply, increased production may be limited by scarcity of imported inputs. FDI then becomes a means by which host nations taps foreign savings and relaxes both constraints. Economic literature calls the constraints savings gap and investment gap.

Since industrialisation has been regarded as an engine of growth, any country in the early stages of this industrialisation process will therefore need

resources from foreigners in the form of foreign private investment to lubricate this engine of growth. This idea was supported by Lewis (1953) when in his report on industrialisation in the Gold Coast wrote that:

> "There is no question that industrialisation is impossible... without bringing in the knowledge of expartriates, the quest is only on what terms they come in and how much of their own capital they invest."

Lewis presumed a world where net capital exports from rich to poor countries were part of the natural order and what only remains is for the government in the less developed countries to obtain a reasonable amount of this 'natural' flow and how to channel it to desired domestic uses.

Greenaway (1992), Julius (1991) and Meier (1974) form part of the many scholars that present an optimistic view of the role of foreign private investment in nations and international economic expansion. Julius (1991) opined that just as trade liberalisation provided impetus to world economic growth in 1950s, liberalisation of capital flows and removal of restrictions on trade

and services will stimulate foreign private investment and FPI-led growth in less developed countries. To her any LDC operating any policy for an export-led growth while excluding FPI is competing in a world marketwith one hand tied behind the back. Philips (1991) had shown that foreign private investment inflow is beneficial to the investing country as it supplements savings and encourage technical transfer while Olanrewaju (1993) demonstrates that foreign investment inflows has a far more reaching effect on the economy of the recipient country than the other forms of capital inflows. This is because foreign investment involves the transfer of the whole productive and organisational complex embracing a bundle of factors of production e.g. capital knowledge, technology, management and marketing skills. These are what Meier (1974) refers to as private technical assistance. In order to enjoy these immense benefits from direct investment host nations always encourage foreign investors by giving incentives like tax holiday and favourable business environment.

Philips (1991) submits that measures and package that may discriminate in favour of FPI are neither effective in promoting more investment nor efficient in attracting

economic growth. John Thoburn et al (1991) however found out that it is the operating climate for investment, ranging from a sound macroeconomic policy to freedom of operation with respect to unemployment policy that is more important than specific incentives or coordination mechanism provided by government in attracting foreign investment.

Despite favourable environment for FPI, Helleiner (1987) highlight that foreign private investment is concentrated in the better-off developing countries. While the low-income oil-importing countries experienced stagnation in their already very low flows of direct investmetn in the 1970s, the middle income countries' receipts of direct private investment continued to grow.

However the effectiveness of FPI in promoting growth has been questioned and criticised extensively (e.g. Peter Ady 1972), Daniel (1990) identify three main criticisms from the literature as follows. Firstly the foreign companies have limited linkage to the rest of the local economy. The propensity to import inputs stiffle local industry and prevented realisation of dynamic efficiency gains from industrialisation and

lastly the potential gains for trade and investment were siphoned away from poor countries by the structural features of the trans-national companies.

Given the above economic short-comings and other political factors direct foreign investment as a component of foreign capital went to the background in the 1970s when there occur a remarkable increase in the rate of bank finance. Though FDI grew in value during the 1970s at rates greater than those of the 1950s and 1960s yet its relative importance declined as new source of commercial finance expanded even faster despite the comparative advantage of direct investment to spread and bear risks instead of the risk of debt.being born by the borrowing country. With the experience of the debt crisis FPI was again positive in many LDC by 1990 which was as a resultof various schemes of swapping debt into direct investment and other equity claims.

Foreign private investment may have its shortcomings, but Helleiner (1987) had submitted that it is likely to continue to play an important role regardless of those shortcomings and the arguments concerning the relative merits of other forms of capital inflows.

Direct foreign investment may not be necessary for export oriented policies but it can matter to future market access and the relative costs of alternative product mixes in export - effort which can eventually lead to economic growth.

2.1.4 External Borrowing and Economic Growth

Capital flows in a North-South direction have been on a very large scale. Some are policy driven and some driven by cost considerations. One form of capital that becomes very mobile while searching for higher rate of return is the loan capital and many less developed countries accepts it as a major source of foreign capital to finance their economic growth.

The present issue in the economic literature is not whether on not borrowing is good or whether it can lead to growth but the issue is about what went wrong to have caused the widespread debt crisis of the eighties. In many cricles, the earlier cry for better developing countries' access to loans has been replaced by astonishment at the size of the less developed countries' debt coupled with its attendant burden (Hughes 1987).

Events of the early seventies (especially the Opec price like) had led to capital surplus coupled with the

liberalisation of the international capital market. This made many private banks to compete among themselves by giving loans to less developed countries without checking the credit worthiness of such nations.

Hussein M. Midghani (1972) so-unded a note of warning that less developed countries should not allow its development to be subordinate to a growing dependence on external loan over the course of several decades in order to minimise the perils of external debt and to encourage self sustained developed.

Unfortunately many developing countries borrowed externally believing this to increase economic growth and by 1982 the debt crisis had crept in. This crisis wasto be the main issue in forriegn capital flows for the entire period of the decade.

The impact of external debt on economic growth has thus become a very serious issue in the economic literature since then. Savvides (1990) showed that foreign debt has a great detrimental impact on domestic capital formation and thus economic growth. The debt situation has a great impact on net capital transfer of the less developed countries especially in the eighties. The extent of the problem was shown by the

World Bank (1990) which submits that by the 1970s, capital importing less developed countries were receiving a net transfer on the order of 30 billion U.S. dollars to 40 billion US dollars a year but by late eighties they have been making an outward transfer of comparable magnitutde. This situation was essentially caused by increase in short-term borrowing and payment to creditors. Nunnenkamp (1991) offers an explanation that the reversal of the international capital flows since 1982 was typically because of drastic reduced inflows of new bank credit rather than debt service obligation.

The outward flows has considerably reduced the amount in the economy to increase savings which should lead to a capital accumulation rate necessary for substantial economic growth Sacchs (1985) then concluded in his study that debt leads to fall in investment because creditors can skim off additional output resulting from capital accummulation and such a debtor nation becomes involved in a debt overhang.

The fact that investment decline is directly related to international credit constraint which is based on balance of payment identity that capital inflows must

equal the difference between domestic investment and domestic savings. The identity implies that if savings is held constant and if capital inflows fall exogenously, then investment must declined. The net outward transfers might justify the overhand hypothesis as a result.

Debt onverhang hypothesis is rich in theoretical literature and it is a situation when a debtor country is unable to meet her external obligations and debt payment thereby become linked to the country's economic performance. Hence the nation benefits only partially from an increase in export or output because a fraction of the increase is used to service debt and accrues to the creditor.

Savvides (1990) showed the detrimental impact of debt overhang by finding out that it has contributed significantly to investment slowdown. This has been supported by various scholars but Warner (1992) in examining an out of sample forecast of investment over the debt crisis period obtained results which shows that debt overhang might not have been the cause of slowdown in economic growth through investment slowdown but the influence of the economic shocks of the eighties like higher interest rates, decreasing export earnings and

decreasing growth in the developed nations. However Boven-Sztein (1990) uses simulation to suggest that a debtor country would benefit from more access to more lending than from only a reduction in existing obligations. The benefits would be in terms of the impact on investment.

The World Bank (1990) joined in the debate and in the world economic survey of1990 it was found that foreign loans especially for the highly indebted nations have not led to appreciable growth because they have been used to sustain consumption rather than promote investment or to finance investment on goods and services that cannot be exported.

Given the problem of the present debt crisis which has considerably reduced growth (in some cases lead to negative growth) there also exist a voluminous empirical literature on the management of debt but they have largely ignored the question of the composition of foreign capital inflows even though it is entirely possible that more practical feasible long term remedies may lie in this direction (Iqbal 1988). Notable exceptions however are the studies of Lessard and Williams (1985) and Lessard (1985) which contain conceptual framework on the analysis of external liability composition.

All the same the solution to debt crisis and the way forward to a desired sustained rate of economic growth may lie in the internal framework of the debtor country coupled with the political options. Internal framework should include the three pillars identified by Ajayi (1991) which are favourable international environment: strong and sustained adjustment efforts by the heavily indebted countries; and adequate flows of external financing.

Panic and Kumar (1987) believes that the greatest contribution which economists can make towards solving the debt problem is to stop pretending that it can be achieved by adopting certain measures irrespective of the institutional framework within which they operate.

2.2 Foreign Capital Inflows into Nigeria 1970-1992

Foreign capital inflow is an important source of fund for the long run development of any underdeveloped economy and they can either be private or public. Private foreign capital takes the form of FPI while public foreign capital includes aid, grants, technical assistance, multilateral and other soft loans.

Historically Nigeria had experienced all forms of foreign capital since independence (1960). Then Nigeria was classified as a low income country which made her enjoy a great number of Official Development Assistance (ODA) facilities. ODA consists of net disbursement of grants and loans on concensssional terms (ie. loan,, with at least 25% grant element) and it is aimed at increasing the GDP growth rate, promoting economic development and the welfare of any recipient country. Nigeria has benefitted from these two forms of ODA and Table 2.1 presents the available data on the aid component of ODA disbursement to Nigeria from 1970 to 1990.

Table 2.1

Trends in the Flows of Aid to Nigeria
1970-1990

in million dollars

Year	Grant	Tech. Assistance	Total
1970	40	36	76
1980	3	47	50
1986	9	48	57
1990	149	49	198

Source: World Debt Tables 1992-1993.

The table reveals that the foreign aid flows to Nigeria reduced from 76 million US dollars in 1970 to 50 million US dollars in 1980 when it started to increase and by 1990 it has increaed to 198 million dollars. One explanation for this trend is that in 1970, Nigeria was being classified as a low income country which made her to be qualified for many aids and grants but with the oil-boom of the seventies and a corresponding increase in her GDP per capita she was reclassified as a middle income country. Nigeria thus enjoyed a lower aid during this period as the impression of the donors is that Nigeria being an oil producing nation is rich. It is the grant element of aid flows that suffered most because it reduced from 40 million dollars in 1970 to 3 million dollars in 1980. However when SP was introduced in 1986 the impression of a rich Nigeria started to face and by 1990 Nigeria started to experience increase in its foreign aid flows.

The trend of aid flows can be seen better in Table 2.2.

The table shows that foreign aid inflow actually reduced between 1970 and 1980 when it started to rise again.

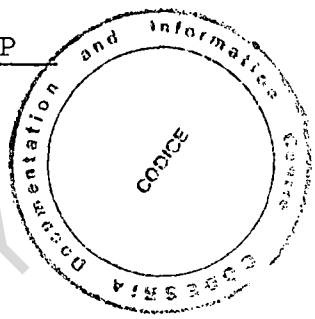
Table 2.2

Trends in Aid as a Percentage of GDP

	Year	Aids as a % of GDP
	1970	0.65
	1980	0.05
	1986	0.13
	1990	0.56
*Sub-Sahara Africa	1988	8.8
*Low Income Country	1988	2.4

Source: World Debt Tables.

* World DEvelopment Reports.



But the ratio of GDP is still lower than what it was in 1970 even by 1990. Also the foreign aid is still very low when compared with the averages for Sub-Saharan Africa nad the average of low inocme countries in general.

The observation shows that the oil booms of the 1970s has a great influence on aid flows whether we look at it absolutely or as a percentage of the nation's GDP. The donor nations were reluctant to give aid during the boom years and it is only recently that they are gradually changing the posture.

Turning to foreign private investment flows one notes that foreign private investment to Nigeria takes different forms such as net investment, unremitted profits, re-invested in the economy, trade and suppliers' credit liabilities to head offices and other foreign liabilities. Table 2.3 above presents the available foreign private investment data for 1970 to 1991.

The table shows that absolutely foreign investment increased through out the period 1970 to 1991 but its value as a percentage of GDP did not show such consistency. FPI which accounted for 1.87% of the Gross Domestic Product in 1970 had reduced to 0.86of GDP by 1980 which was majorly caused by the indigenisation decree of 1974

Table 2.3

Trends in Foreign Private Investment Flows to Nigeria.

1970-1991 (Million Naira)

Year	FPI	FPI as a % of GDP
1970	1003.2	1.87
1980	3620.1	0.86
1986	9313.6	0.63
1991	10436.1	1.32

Source: Central Bank of Nigeria Statistical Yearbook 1992.

% of GDP calculated by the author.

which stated that foreign nationals may not hold more than 40% equity shares of any company in the country. This discouraged FPI. By 1986 FPI further reduced to 0.63% of GDP.

In 1991 however FPI increased to 1.32% of GDP which was as a result of the improved federal government policy towards foreign investment in Nigeria especially the Structural Adjustment Programme. Under the programme a lot of incentives were put in place to stimulate the flow of this form of foreign capital. One notable policy of SAP in this line is the liberalisation of the investment environment.

However it has been noted that much of foreign private investment in Nigeria lies in the oil mining sector while other sectors does not enjoy equal attention. But one may not blame anybody because it is the economy that dictates where foreign investment should flow. The economic performance especially in recent years have been very low with most sectors rather unhealthy. This may be an explanation for the lopsided distribution of foreign investment in the country.

2.3 Theoretical Framework of Foreign Capital and Growth Relationship

Economic theories predict that capital will always flow in search of the highest rate of return and in a situation of open economy and international interdependence international capital has been very mobile. Over the years capital have always flow in the direction of the developing countries and many theoretical issues have been raised for this. Many economist explains the situation with the gap analysis in which either a savings gap, foreign exchange gap or investment gap exists within an economy and foreign capital would be needed to bridge this gap.

This theoretical discussion of foreign capital inflows and economic growth draws largely from the works of White (1974) and Mahdavi (1990). Economic theories of the role of foreign capital in promoting economic growth can be divided into two major groups and the point of each group is best illustrated using a simple version of the Harrod-Dormar growth model in which the rate growth (g) depends only on the domestic savings rate (s) and capital output ratio (k) in the following way

$$g = S/k \qquad \ldots. 2.1$$

Accordingly the rate of growth before the capital importation to the economy will be:

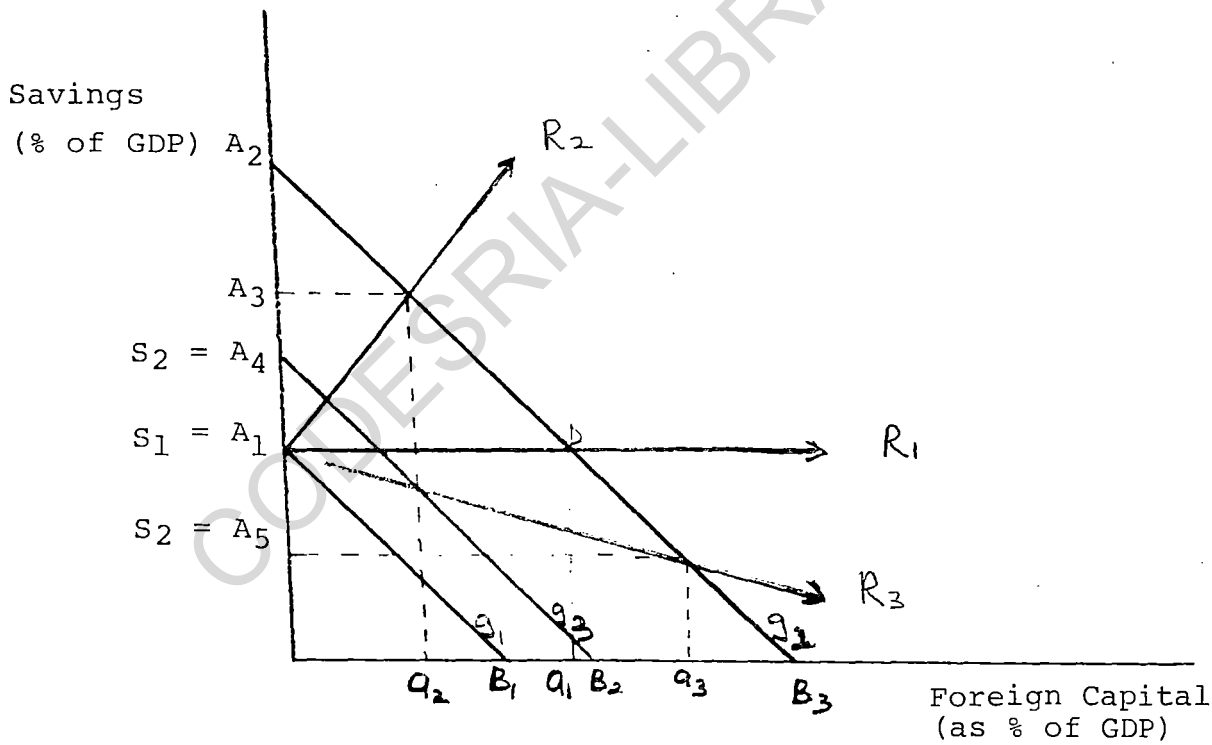
$$g = {}^{S_1}/_{k_1} \quad \text{if}$$

$$S = S_1 \text{ and } k = k_1$$

The situation corresponds to point A_1 in the figure below.

Figure 2.1

An Illustration of a Supplemental and Displacement Theorists of Foreign Capital



Source: Adapted from J. White (1974) p. 12.

In the figure 2.1 above, the line A_1B_1 represent a given growth rate (g_1) which can be achieved with various combinations of savings (S) and foreign capital inflows (as a percentage of the importing country's GDP) or

(a) for a constant value of capital output ratio (k).

One should note however that Griffin and Enos (1970) had pointed out that the consumption of constant (k) after the infussion of foreign capital may be objectionable. They argue that foriegn capital inflows raises the intensity of capital in production process and increase the value of capital-output ratio.

However if (s) remains at its pre-foreign capital level, OA_1, a higher growth rate g_2 may result from an infusion of foreign capital equals to Oa_1. We can then have the equation below

$$g_2 = \frac{S_1 + a_1}{k_1} \qquad \ldots. \quad (2.2)$$

The eqation shows that foreign capital has augumented (S) as initially intended (i.e. point D). Generally with no change in savings rate (S) successive higher growth rates may be achieved along the growth path R_1 only when more foreign capital is injected into the economy.

However if as supplemental theorists (e.g. Chenery and Strout, 1966) argue, domestic resource mobilisation efforts are intensified following the importation of foreign capital, then the achievement of a higher rate of growth requires less reliance on capital inflows (or alternatively, a higher rate of growth will be achieved with the same amount of foreign resource inflows) as the growth path R_2 indicates. For example, to sustain g_2 only $0a_2$ of foreign capital is needed, if S is raised from $S = OA_1$ to $S_2 = OA_4$. Correspondingly the growth equation becomes

$$g_2 = \frac{S_2 + a_2}{k_1} \quad \ldots\ (2.3)$$

On the other hand, the displacement theorists believe that foreign capital import can lead to re-allocation of domestic savings effort (especially in the form of a reduction in "budgetary savings" resulting from politically popular tax cuts and concenssions) and encourage conspicuous consumption both in private and public sectors. These theorists maintain that foreign capital especially aid' substitute for domestic resources. Consequently a country's dependence on foreign capital for achieving a

given rate of growth increases as the economy moves along the growth path R_3. (i.e. point E in the above figure) where $0a_3$ of foreign capital inflow is needed if (S) is to be raised from $S_1 = OA_1$ to $S_2 = OA_2$). This is shown by algebra.

$$g_2 = \frac{S_2 + a_2}{k_1} = \qquad (2.4$$

The effect of foreign capital on the rate of growth not only depend on how it changes the domestic savings rate (s) after the capital inflow but also on the proportion of foreign capital which is channelled to consumption (i.e α). If, unlike what has been assumed so far a portion of foreign capital is used on domestic consumption (i.e. $\alpha > 0$) then the rate of growth in all the three cases discussed above will be smaller. For example, if (S) remains at its pre-foreign capital inflow level and only $(1-\alpha)$ percent of a_1 units of foreign capital is used to supplementt it the rate of growth will drop from g_2 to g_3 where g_3 will be given as:

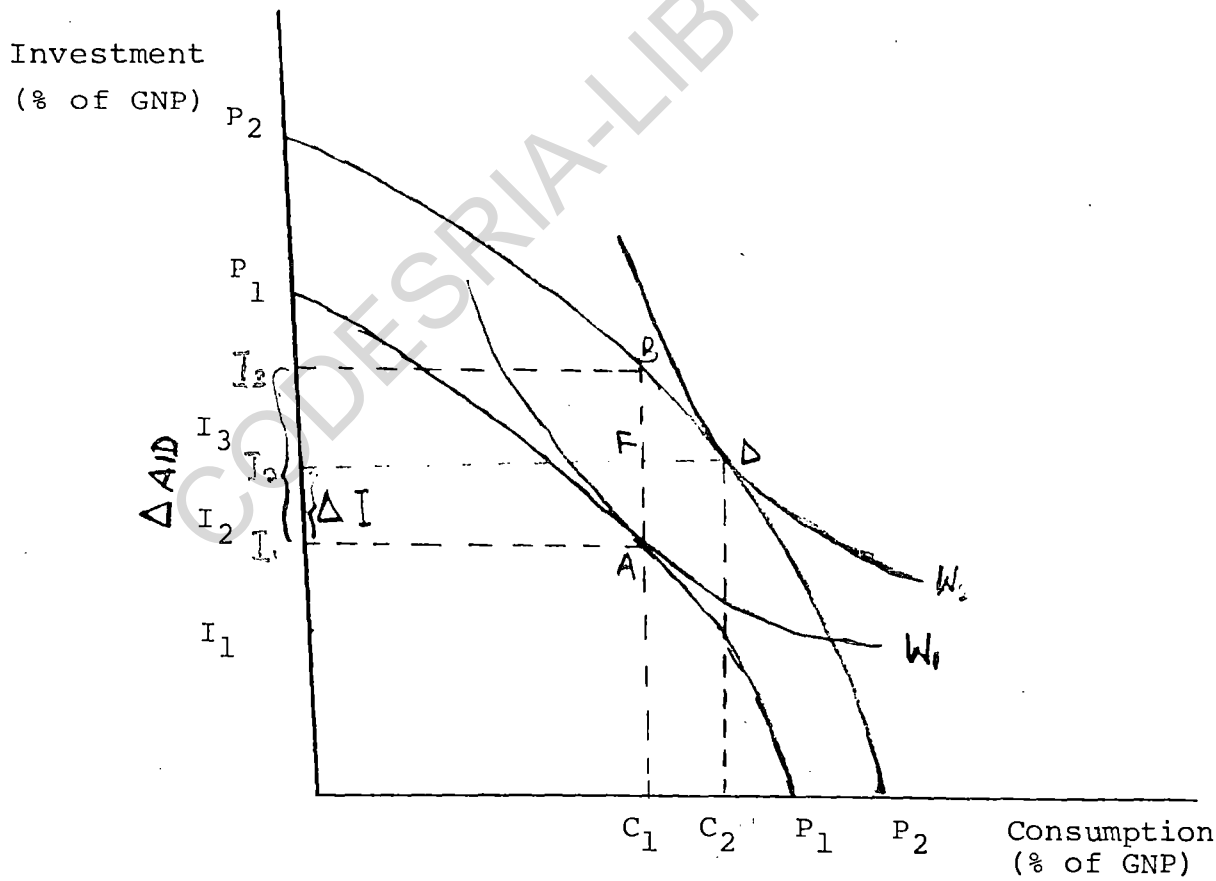
$$g_3 = \frac{S_1 + (1-\alpha)\ a_1}{k_1} \qquad .. \qquad (2.5)$$

Equation 5 corresponds to point C in the above figure. obviously if $\alpha = 1$ then $g_2 = g_1$ as nothing is spent on investment.

As the preceding analysis illustrates, the impact of foreign capital on economic growth depends in part on the value of the parameter α. Figure 2 below corresponds to a situation where the value of α is between zero and one.

Figure 2.2

The Division of Foreign Capital between Investment and Consumption



The figure above depicts the division between two major competing uses (investment and consumption) of foreign capital in a manner consistant with the welfare behaviour of the importing country.

Assume that the country of initially maximizes welfare by choosing point A where the community indifference curve W_1 is targential to the production possibility curve (PPC) P_1P_1. The point corresponds to OC_1 units of consumption and OI_1 of investment. Now AB units of foreign capital is imported into the economy with the intention of raising investment to OI_3. This will shift the PPC from P_1P_1 to P_2P_2. If the importing country allocates the foreign capital inflows as she wishes, then its welfare is maximised at point D. At this point only I_1I_2 = F units of foreign capital is actually allocated to investment. The rest i.e. $I_2I_3 = C_1C_3$ units have been diverted to consumption. This means more resources are used for consumption than investment which may not lead to the obtainable level of economic growth given the level of foreign capital inflows. Any point to the right of point B means that foreign capital are diverted to consumption while points to the left of point B means higher allocation to investment.

The location of point D in Figure 2.2 not only depends on the technical options (represented by the slopw of PP) and community tastes, but also to the extent to which the various forms of foreign capital are diverted away from investment to consumption.

CHAPTER THREE

METHODOLOGY

3.1 Model Specification

Gupta (1975) had pointed out that a classical single equation cannot show the total impact of foreign capital and that a simultaneous equation model is required to take care of both the direct and indirect effects of foreign capital inflows.

Thus, in this study, a simultaneous equation model is used to analyse the real total impact of foreign capital inflows on the economic growth of Nigeria.

The model has two structural equations adapted from the Rana and Dowling Jnr (1988) study. The equations are:

(i) Growth rate equation

(ii) Gross Domestic Savings rate equation

The model has been specified as follows:

$$GR = a_o + a_1AID + a_2FPI + a_3S + a_4CX + a_5CLF + U_1 \quad \ldots (3.1)$$

$$S = b_o + b_1AID + b_2FPI + b_3CX + b_4GDPN + b_5GR + U_2 \quad \ldots (3.2$$

where

GR = Growth rate of the gross domestic product (GDP)

AID = Foreign aid as a percentage of GDP

FPI = Foreign Private Investment (including long-term borrowing) as a percentage of GDP

S = Gross domestic savings as a percentage of GDP

CX = Change in export as a percentage of GDP

CLF = Change in labour force.

GDPN = per capita GDP.

U_1 and U_2 = stochastic error terms.

$a_o - a_s$ and $b_o - b_5$ = structural equation coefficients.

There is already a significant amount of evidence, both theoretical and empirical that savings and growth rate are embedded in a simultaneous equation. As opposed to the model by Gupta (1975) FPI and AID were not made endogenous because Rana and Dowling Jnr (1988) had demonstrated that if it happens there would be a specification bias. Hence there are just two endogenous variables (S and GR) and 5 exogenous variables (AID, FPI, CX, CLF and GDPN). The model is mathematically complete because it contains 2 equations in two endogenous variables.

Following past studies, AID, FPI, S CX and CLF are used as explanatory variables in growth equation. The specification of the savings equation was based on past studies by Mikessel is the exclusion of dependency ratio which was found out to be highly correlated with GDPN.

The structural equation coefficients are expected to give the direct impact of the explanatory variables on the endogenous ones. In order to get the total effect

of the exogenous variables, a reduced form model from the above structural model is denied and specified as follows:

$$GR = \pi_{10} + \pi_{11}AID + \pi_{12}FPI + \pi_{13}CX + \pi_{14}CLF + \pi_{15}GDPN + V_1 \quad - 3.3$$

$$S = \pi_{20} + \pi_{21}AID + \pi_{22}FPI + \pi_{23}CX + \pi_{24}CLF + \pi_{25}GDPN + V_2 \quad - 3.4$$

where $\pi_{10} - \pi_{15}$ and $\pi_{20} - \pi_{25}$ are reduced from coefficients.

The reduced form coefficients show the direct and indirect effects (impact multipliers) upon the endogenous variables. Thus we will be able to known the real impact of foreign capital inflows on economic growth and savings.

3.2 Theoretical Expectations

The theoretical expectations about the coefficient of structured equations (1) and (2) are as follows:

$$a_1 \gtrless 0;\ a_2 \gtrless 0;\ a_3 > 0;\ a_4 > 0;\ a_5 > 0$$

$$b_1 \gtrless 0;\ b_2 \gtrless 0;\ b_3 > 0;\ b_4 > 0;\ b_5 > 0$$

Controversies in the literature suggest that the values of the coefficients of AID and FPI (a_1, a_2, b_1 and b_2) can either be positive or negative. Also a_3 which is

the marginal propensity to save should be positive but less than unity (i.e. $0<a_3<1$). All other coefficients (a_4, a_5, b_3, b_4, b_5) are expected to take positive values.

On the relative contribution of foreign capital components FPI is expected to be the highest contributor, judging from the various cross-country studies.

3.3 Estimation Procedure

Since the application of ordinary least square (OLS) method yields biased and inconsistent estimates for a simultaneous equation system, the model will be estimated using the indirect least square methods. This method is used because the model is exactly identified.

The indirect least square is preffered because it yields unbiased and consistent estimates of the reduced form parameters (π). The method also yields consistent estimates of the structural parameters.

The procedure for estimating the model using indirect least square is outlined as follows:

Firstly the reduced form of the structural model (e.g.2.2.1&2.2) are obtained in such a way that the endogenous variables are expressed as a function of predetermined

variables are expressed as a function of predetermined variables only.

After this assumptions are made about the random error term of the model. The random variable of the reduced form equation which is a combination of the random variables of the structural model must have six properties of randomness, zero mean, homoscedacity, autocorrelation, and normal distribution of the error term. The sixth property is that the error must be independent of the exogenous variables of the model.

These assumptions which must be satisfied are tested for to make sure that some errors are not transmitted to the estimates.

If these assumptions are satisfied we apply (OLS) to the reduced form equations (i.e. equations 2.3 & 2.4) and obtain estimates of the reduced form coefficient. There exist a relationship between the reduced form coefficients and structural parameters which forms a system of coefficient relationship where the reduced-form coefficients are expressed as functions of the structural parameters. The system of coefficient relationship for the model of study is shown in appendix I.

The last step in this ILS method is to use the estimates of the reduced form coefficients earlier obtained to solve for the system of parameter relationship for the structural parameters.

Furthermore on estimation from the reduced form model, we have to compare the relative effects of each component of foreign capital inflows. Since this cannot be done directly because the estimates of reduced form coefficient depend on the unit of measurement, elasticity multipliers (introduced by Gregory et al) are estimated to take care of the problem. Each value of the reduced form coefficient will be rationalised as follows:

$$\pi_{11} \quad \frac{\delta(GR)}{(AID)} \times \frac{AID}{GR} \quad - \quad (v)$$

$$\pi_{12} \quad \frac{\delta(GR)}{FPI} \times \frac{FPI}{GR} \quad - \quad (vi)$$

$$\pi_{13} \quad \frac{\delta(GR)}{FPI} \times \frac{CX}{GR} \quad - \quad (vii)$$

$$\pi_{14} \quad \frac{\delta(GR)}{(CLF)} \times \frac{CLF}{GR} \quad - \quad (viii)$$

$$\pi_{21} \quad \frac{\delta S}{(AIDS)} \quad \frac{AID}{S} \quad - \quad (ix)$$

$$\pi_{22} \quad \frac{\delta S}{\delta (FPI)} \times \frac{FPI}{S} \quad - \quad (x)$$

$$\pi_{23} \quad \frac{\delta S}{(CX)} \times \frac{CX}{S} \quad - \quad (xi)$$

$$\pi_{24} \quad \frac{\delta S}{\delta (GDPN)} \times \frac{GDPN}{S} \quad - \quad (xii)$$

where the partial derivatives are the values of the estimated reduced form coefficients and other variables have their mean values used.

These calculated values of elasticity multipliers are then compared to determine the relative significance of each component of foreign capital on growth and domestic savings rate.

3.4 Sources of Data

The data employed in this study are basically secondary. These secondary data are gathered from the following sources:

I. Federal Office of Statistics (FOS) publications such as:

(a) Annual Abstract of Statistics (Various issues)

II. Office of Planning and Budgetary Publications such as

(a) Annual National Accounts (various years)

(b) National Development Plans (First to Fifth)

III. Central Bank of Nigeria Publications:

(a) CBN Statistical Yearbooks (1990-1992 issues)

(b) CBN Annual Reports.

(c) Nigeria: Major Economics and Financial Indicators

IV. World Bank Publications (various issues) such as

(a) International Financial Statistics (IFS) Yearbooks

(b) World Debt Tables (various issues)

(c) World Tables (various years)

V. Organisation for European Cooperation and Development (OECD) publications such as

(a) Development and Cooperation (various issues).

VI. Relevant available journals and seminar papers.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter investigates the quantitative evidence of the impact of foreign capital inflows and export performance on Nigeria's economic growth. The chapter is divided into four sections according to the objectives of this study earlier stated. In the first part we presented and analyse the growth equation estimated through the indirect least square method while in the second part we analyse the estimated savings equation.

A comparison of the direct and total effects of foreign capital inflows and export performance on the domestic savings rate and growth rate is made in section 4.3 and section 4.4 deals with the relative contribution of each component of foreign capital inflows and other variables to changes in the savings rate and economic growth.

Though the whole result of the model is presented in Table 4.1 yet attempt is made to write each equation in behavioural form before analysis of the result. In evaluating the estimates we shall make use of the standard evaluation method of econometric analysis i.e. a priori economic criteria, statistic (first order) criteria and econometric (second order) criteria.

4.1 Economic Growth and Foreign Capital Inflows

Isolating the equation from the reduced form model (see equation 3.3) the estimated regression result is given below:

$$GR = \underset{}{11.4833} + \underset{(3.007)}{6.40115AID} - \underset{(.807)}{0.6654FPI} + \underset{(-1.265)}{0.1591CX} - \underset{(1.036)}{0.0019CLF} - \underset{(-2.031)}{0.0094GDPN} \quad \ldots\ldots \quad 4.1$$

$R^2 = 0.6220$

d stat = 2.15

The values in parenthesis are the asymptotic t value. The components of foreign capital inflows are densted by AID and FPI which represent non-commercial and commercial capital inflows respectively CX on its own stands for exports performance of the economy. One striking fact from the finding is the difference between the effects of commercial and non-commercial capital flows. Foreign aid exerts a positive influence on economic growth. An increase of aid flows by 1 percent point increases growth rate by as much as 6.4 percent point. This aid flow is also significant at 10 percent level with the t value of 3.007.

Incidentally it is found out that FPI has a negative impact on the growth rate. A rise in FPI by 1 percent

Table 4.1

Reduced Form Estimates of the two Equation Model
Using the Indirect Least Square Method

Dependent	Independent Variables						Statistics			
Variable	Constant	AID	FPI	CX	CLF	GDPN	$\bar{R}$	$\bar{R}^2$	F stat	d stat
	****	**	*	*	**	***			****	
GR	11.4833	6.40115	-0.6654	0.1591	-0.0019	-0.0094	0.6220	0.5039	5.2667	2.15
	(3.007)	(1.807)	(-1.036)	(1.036)	(-2.031)	(-2.537)				
	****	*		****		*			***	
S	15.9879	-5.9182	0.4812	0.6374	0.0005	0.0043	0.5227	0.3733	3.5016	0.79
	(3.778)	(-1.507)	(0.825)	(3.745)	(0.441)	(1.049)				

Notes:

Assymptotic t statistics are shown in parenthesis
R^2 is the coefficient of determination
$\bar{R}^2$ is the coefficient of determination adjusted for the degrees of freedom
d stat is the Durbin-Watson statistics.

**** significant at 1 percent level
*** significant at 5 percent level
** significant at 10 percent level
* Marginally significant (estimated coefficient is greater than the standard error).

reduces growth rate by 0.6654 percent point. This implies a crowding out on the order of 67 kobo per every naira of FPI. This result agrees with our theoretical expectation but the estimate is only marginally significant (an expression used by Rana and Dowling Jnr 1988 when estimated coefficient has a value greater than the standard error). This finding contradict Julius (1991) that FPI has positive effect on growth but in the same vein supports Shin's (1985) conclusion for Korea.

Furthermore an increase in the export performance of the economy by one percent point raise the growth rate by 0.1591 percent point mark. The change in export has the apriori expected sign though the coefficient estimate is only marginally significant.

The last two explanatory variables - change in labour force (CLF) and GDP per capita (GNPN) - has strong relationships with the growth rate but the two produce wrong signs. The wrong sign of the change in labour force may be as a result of a rising unemployment in the economy which raised the dependency ratio that crowds out growth. Also the per capita GDP's wrong sign may be due to a specification error in the model

which arises as a result of the omission of dependency ratio because it has a high multicollinearity with the GDPN.

Together all the explanatory variables explain about 62 percent of the growth equation (determined by the value of R^2 - coefficient of determination) and the overall performance of the estimated equation (measured by the F statistics) is also statistically significant at 1 percent level. The Durbin-Watson Statistics for the equation 2.15 and it falls within the inconclusive region for negative autocorrelation hence we cannot reject or accept the fact that autocorrelation exist therein. Also multicollinearity may not be a serious problem from the equation because of the low values of correlation between the explanatory variables (see appendix II).

To sum up for the growth equation we can conclude that it is the non-commercial capital inflow (aid) that exhibit a more positive effect on Nigeria's economic growth followed by the export performance while FPI tends to depress economic growth.

4.2 Savings and Foreign Capital Inflows

The result of the savings equation estimated through indirect least square method is given below:

$$S = 15.9879 - 5.9182AID + 0.4812FPI + 0.6374CX + 0.0005CLF +$$
$$\quad (3.778) \quad (-1.507) \quad (0.825) \quad (3.745) \quad (0.441)$$

$$0.0043GDPN \quad ..... \quad 4.2 \qquad R^2 = 0.5225$$

$$d \text{ stat} = 0.79$$

The values in parenthesis are the t values. The coefficient of all the variables are theoretically plausible as the size and signs of the estimates agree with the economic a priori expectations. However, it is only the export performance coefficient that is statistically different from zero at one percent level. The coefficient of AID and GDPN are marginally significant while those of FPI and CLF are not statistically different from zero

One striking finding from this equation is that non-commercial inflows which exerts a positive influence on growth rate exhibit a negative impact on the savings functions. The results show that a one percent increase in aid will displace the domestic savings rate up to 5.9183 percent point. This means that aid inflows have beem substituting savings in the economy. While this result contradicts the conclusion of Papanek (1972) it however supports the view of the displacement theorists of capital inflows (see Mahdavi 1990) that aid might have

led to a relaxation of domestic savings effort especially in the form of reduction in budgetary savings resulting from tax cuts, concenssions and public sector extravagance.

The commercial capital inflows represented by FPI exhibits a positive correlation with savings rate but has a major default in that the estimate is not statistically different from zero. This may however support another conclusion of Shin (1985) that FPI have no significant impact on the domestic savings of an economy.

Furthermore, the export performance coefficient is expected, given the degree of dependence of the Nigerian economy on export earnings. The coefficient is positively correlated with the domestic savings rate and of all the variables it is the only variable that is significant at one percent level. It is also worth noting that per capital GDP has a positive influence on savings and is marginally significant. The estimate of the CLF coefficient is however not significant and this might be explained from the fact that the variable does not enter into the structural relationship with the savings rate but only exert an indirect effect due to the simultaneous nature of the model.

Moreover the five explanatory variables explain about 52 percent of the savings function. But we cannot reject the existence of positive autocorrelation in the euqation given the value of Durbin-Watson statistics which stands at 0.79.

In sum, the value of change in export has a major positive influence of the gross domestic savings rate of the country while the effect of per capita GDP may not be ruled out. However aid flow grossly reduce the savings effort of the economy.

4.3 Comparison of Direct and Total Effects of Foreign Capital Inflows and Change in Export on Growth and Savings Rate.

The reduced form values as shown in the estimated equations 4.1 and 4.2 reported in table 4.1 reflect the combination of direct and indirect (hence total) effects of foreign capital and export performance on growth and savings respectively. The direct effects are the values of the structural equations coefficient derived. through the system of coefficient relationship in appendix I. The direct effects of each component of foreign capital inflows and change in export together with their total effects are reported in table 4.2 of comparison purpose.

Table 4.2

Direct and Total Effects of Foreign Capital and Export on Growth Rate and Savings Rate *

	*Direct Effects			Total (direct & Indirect) Effects		
	AID	FPI	CX	AID	FPI	CX
GR	6.51886	0.38503	1.55061	6.40115	-0.66543	0.15912
S	-4.3774	0.32101	0.67567	-5.91817	0.48118	0.63739

* Direct effects are the estiamtes of structural equation parameters derived through the system of parameter relations in appendix I.

The above table reveals that in most cases total effects of foreign capital flows which comprises direct and indirect effects are quite different from the direct effects alone. This is because by considering the indirect effect, the total real impact of foreign capital inflow is determined.

A comparison of the direct and total effects of AID, FPI and CX shows striking difference and this implies that results of some earlier studies which used ordinary least square method (that shows direct effects only) might have been misleading (e.g. Akinkugbe 1983, Papanek 1972). This finding however confirms the

submission of Gupta (1975) Mosley et al (1987)and Rana and Dowling Jnr (1988) study of total effects of foreign capital on growth.

One major contribution ofthis direct and total effects of foreign capital inflows and change in export is that direct effects tend to exagerate the influence of foreign capital (i.e. when the effect is positive it is overestimated and vice versa). The result of this finding however contradict Rana and Dowling Jnr. (1988) by revealing that direct effect over-estimate the overall effect of change in export.

The table 4.2 also reveals that aid has the highest contribution to economic growth while change in export is more positively related to the savings rate.

4.4 Relative Contribution of the Explanatory Variables (Multiplier Analysis)

This section examines the relative contributions of foreign capital inflows contrasted with a broader set of other factors like export performance, domestic product. An adequate comparison of the values of the various coefficient cannot be made directly because their magnitude depends upon the units of measurement employed. Hence we employ a methodology developed by

Gregory et al (1972) to rationalise the reduced form and structural estimates at the mean values of the variables to give elasticity and impact multipliers respectively. These multipliers are presented in table 4.3 and table 4.4 below.

Table 4.3

Impact Multipliers*

Equation	AID	FPI	CX	CLF	GDPN	GR	S
GR	0.4700	0.2119	0.8925	-0.3060	-	-	-11.3646
S	0.0606	0.0339	0.0747	-	-0.0635	0.0462	-

*Multipliers are based on structural equations estimates.

Table 4.4

Elasticity Multipliers*

Equation	AID	FPI	CX	CLF	GDPN
GR	0.4616	-0.3663	0.0916	-0.6384	-1.5291
S	-0.0705	0.0509	0.0705	0.02997	0.1345

* Based on the reduced form estimates.

The impact multipliers table reports the analysis of the structural equations. Here we start from the growth equation and rank the values of the contribution

of each item in descending order. Change in export contributes mostly followed by foreign aid flows,. foreign private investment chante in labour force and savings. In that order, for the savings equation CX also contribute the most, followed by GDPN, AID, GR and FPI in that order.

Furthermore, ranking of thevarious contribution from the reduced form estimates, the growth equation of the elasticity multiplier (Table 4.4) reveals that aid has contributed mostly to economic growth and followed by export performance, per capita GDP, FPI and change in labour force. The savings equation on the other hand reveals that it is the per capita income that has the highest contribution to doemestic saving rate followed by export performance. The other factors in descending order are FPI, CLF and aid contributing lowest to savings rate. In fact foreign aid depresses savings rate.

In sum, this multiplier analysis further strengthen the earlier submission that it is aid and change in export that has contributed mostly to Nigeria's economic growth and savings performance while the elasticity multipliers suggest that FPI, CLF and GDPN all adversely affected the country's economic growth.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Study

The major objective of this study has been to examine the impact of foreign capital on the economic growth of Nigeria. The study has been motivated by the recent empirical evidence that foreign resource inflows may not have been effective in raising the rate of growth of the less developed countries as a group and given the trend of discussion that has been centered on what the composition of foreign capital inflows should be for LDCs with the debt crisis gradually subsiding. An empirical study of the present Nigerian situation given the particular flows of these foreign capital components broken into two - commercial inflows and non commercial inflows - is then sought to be an important ingredient in the formation of a policy for optimal foreign capital mix.

Instead of the usual single equation analysis, a simple simultaneous equation system was developed integrating growth rate equation and savings rate equation in a single model. This is because according to past studies a simultaneous equation model yields

results that are richer than those reported for single equation models. The regression model results obtained from the study are used as the effect of each variable.

The investigation period covered the time span 1970 to 1992 where yearly data were used. In order to be able to capture the real effect, it is the percentage change in values annually that was used. The usual regression evaluation criteria of R^2, $\bar{R}^2$, student 't' test and 'F' statistics that were used to evaluate the regression results.

In order to test for the econometric assumption results of the model, the Durbin-Watson statistics and the correlation matrix for the explanatory variables were employed to evaluate the existence of autocorrelation and multicollinerarity of the explanatory variables respectively.

The major findings of the empirical analysis could be summarised as follows:

1. From the result of the regression, it was found out that non-commercial inflows in the form of foreign aid inflows have made a positive contribution significantly to the economic growth of Nigeria, while commercial inflows (FPI) might have had a depressing

effect on the economic growth of the country. However we cannot determine from the content of our model whether it is the government indigenisation policy of the mid and late seventies or the debt problems of the eighties that have been responsible for the negative impact of FPI on growth.

2. The empirical study reveals that it is the nation's export performance rather than any components of foreign capital inflows that has contirbuted more positively and significantly to the savings rate in the economy. The various components of foreign capital have had little or no effects on Nigeria's domestic savings rate. This is given by the level of significance of their coefficients which are not statistically different from zero. Export performance has also been found out to have a major positive impact on economic growth.

3. It could be inferred from the empirical analysis that the direct effects of foreign capital inflows are significantly different from their total effects, either on the growth rate or on the savings rate. In fact it was found out that the indirect effect

can even lead to a change of sign of the coefficient when the total effects are considered. For example, change in labour force and per capita GDP coefficients in the analysis.

4. Another major finding from the result is that when the contributions of all the explanatory variables are considered relative to one another, it is the export performance that is clearly thehighest contributor relatively to the economic growth of Nigerian between 1970 and 1992 given the impact multipliers of the structural estimates. This supports the findings from earlier studies on indicators of Nigeria's economic growth of Odusola (1990) and Fashanu (1992).

5. The empirical study also makes a striking revelation that change in labour force and per capita GDP are negatively correlated to the nations economic growth when their total effects are considered. This may be as a result of several structural rigidities in the economy e.g. high unemployment.

5.2 Conclusion and Recommendations

Recent theoretical issues have shown that foreign capital inflows is a double-edged sword. Seen from

the body of this study, it can lead to increase or decrease in a nation's economic growth rate-depending on whether the direct or total effect is being considered or on what composition of foreign capital is used. This study has specifically analysed some of the major issues on the foreign resource inflows with reference to Nigeria.

The findings from this empirical study have several policy implications in the planning of external finance package for the country.

Firstly, the country should be careful on deciding on which foreign capital inflow should be emphasised or de-emphasised. An implication from the analysis of this study is that Nigeria should seek more foreign aid in the form of grants and technical assistance while loan and debt financing should be discouraged. This is because of the relative risk involved in the aid and borrowing compoenent of the foreign capital. In fact all grants assistance may be sought because commercial inflow of the foriegn capital inflow have been found out to be negatively correlated to growth in the long run. However grants that are accepted should be channelled to areas where domestic resources do not provide adequate substitute.

On the issue of foreign private investment, the country should be cautious in the present use of direct foreign investment to off-set external debt stock. Though it is seen as a way of diversifying risk cum reducing the volume of external debt, yet the factors that can lead to its persistent detrimental impact on economic growth should be avoided. Unless good policies are put into operation net private capital flows may turn out to be negative, depressing not just savings rate but also economic growth. Hence a strict supervision of the foreign investors' activities is required in order to discourage the crook ones among them.

There is little doubt that lack of coordination, over-optimism, serious misjudgement and high level corruption have all contributed to the growth problems of this country. This is revealed by the findings about change in labour force and per capita GDP. It is hereby recommended that good domestic policies directed towards improving employment, productivity and export performance should be rigorously and consistently pursued. These factors are realised to be more positively correlated with economic growth better than any component of any capital inflow.

These policies must be reasonably stable and religiously carried out as the extent to which any country saves, invests and attracts foreign capital depends on its basic domestic policy framework. It is the interdependence of Nigeria's monetary, fiscal, exchange rate, trade and even political policies that determine the level and composition of capital inflows and consequently their impact on the nation's economic growth.

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Appendix I

System of Coefficient Relationship

Structural Equations

$$GR = a_o + a_1 AID + a_2 FPI + a_3 S + a_4 CX + a_5 CLF + U_1 \quad (1)$$

$$S = b_o + b_1 AID + b_2 FPI + b_3 CX + b_4 GDPN + b_5 GR + U_1 \quad (2)$$

After continuous substitution we obtain as follows

REduced Form Equations

$$GR = \frac{a_o + a_3 b_o}{1 - a_3 b_5} + \frac{a_1 + a_3 b_1}{1 - a_3 b_5} AID + \frac{a_2 + a_3 b_2}{1 - a_3 b_5} FPI +$$

$$\frac{a_4 + a_3 b_3}{1 - a_3 b_5} CX + \frac{a_5}{1 - a_3 b_5} CLF + \frac{a_3 b_4}{1 - a_3 b_5} GDPN +$$

$$\frac{U_1 + a_3 U_2}{1 - a_3 b_5} \quad . \; . \; . \quad (3)$$

which can be written using the conventional notation for reduced form coefficients i.e.

$$GR = \pi_{10} + \pi_{11} AID + \pi_{12} FPI + \pi_{13} CX + \pi_{14} CLF + \pi_{15} GDPN + V_1 \quad (4)$$

$$S = \frac{b_o + b_5 a_o}{1 - a_3 b_5} + \frac{b_1 + b_5 a_1}{1 - a_3 b_5} AID + \frac{b_2 + a_2 b_5}{1 - a_3 b_5} FPI + \frac{b_3 + a_3 b_5}{1 - a_3 b_5} CX$$

$$\frac{b_5 a_5}{1 - a_3 b_5} CLF + \frac{b_4}{1 - a_3 b_5} GDPN + \frac{U_2 + b_5 U_1}{1 - a_3 b_5} \quad (5)$$

which can also be written as

$$S = \pi_{20} + \pi_{21}AID + \pi_{22}FPI + \pi_{23}CX + \pi_{24}CLF + \pi_{25}GDPN + V_2 \quad (6)$$

From the above we can see that

$$\pi_{10} = \left[\frac{a_o + a_3b_o}{1 - a_3b_5}\right] \qquad \pi_{13} = \left[\frac{a_4 + a_3b_3}{1 - a_3b_5}\right]$$

$$\pi_{11} = \left[\frac{a_1 + a_3b_1}{1 - a_3b_5}\right] \qquad \pi_{14} = \left[\frac{a_5}{1 - a_3b_5}\right]$$

$$\pi_{12} = \left[\frac{a_2 + a_3b_2}{1 - a_3b_5}\right] \qquad \pi_{15} = \left[\frac{a_3b_4}{1 - a_3b_5}\right]$$

$$V_1 = \left[\frac{U_3 + a\,U_2}{1 - a_3b_5}\right] \qquad V_2 = \left[\frac{U_2 + b_5U_2}{1 - a_3b_5}\right]$$

$$\pi_{20} = \left[\frac{b_o + b_5a_o}{1 - a_3b_5}\right] \qquad \pi_{23} = \left[\frac{b_3 + a_3b_5}{1 - a_3b_5}\right]$$

$$\pi_{21} = \left[\frac{b_1 + b_5a_1}{1 - a_3b_5}\right] \qquad \pi_{24} = \left[\frac{b_5a_5}{1 - a_3b_5}\right]$$

$$\pi_{22} = \frac{b_2 + b_5 a_2}{1 - a_3 b_5} \qquad \pi_{25} = \frac{b_4}{1 - a_3 b_5}$$

Note that π_s represent the reduced from coefficient while V_1 and V_2 are the random error components.

The system of parameter (coefficient) relationship thus become

$$b_o = \pi_{10}\left[\frac{\pi_{20}}{\pi_{10}} - \frac{\pi_{24}}{\pi_{14}}\right] \qquad a_o = \pi_{20}\left[\frac{\pi_{10}}{\pi_{20}} - \frac{\pi_{15}}{\pi_{25}}\right]$$

$$b_1 = \pi_{11}\left[\frac{\pi_{21}}{\pi_{11}} - \frac{\pi_{24}}{\pi_{14}}\right] \qquad a_1 = \pi_{21}\left[\frac{\pi_{11}}{\pi_{21}} - \frac{\pi_{15}}{\pi_{25}}\right]$$

$$b_2 = \pi_{12}\left[\frac{\pi_{22}}{\pi_{12}} \quad \frac{\pi_{24}}{\pi_{14}}\right] \qquad a_2 = \pi_{22}\left[\frac{\pi_{12}}{\pi_{22}} - \frac{\pi_{15}}{\pi_{25}}\right]$$

$$b_3 = \pi_{13}\left[\frac{\pi_{23}}{\pi_{13}} - \frac{\pi_{24}}{\pi_{14}}\right] \qquad a_3 = \frac{\pi_{15}}{\pi_{25}}$$

$$b_4 = \pi_{15}\left[\frac{\pi_{25}}{\pi_{15}} - \frac{\pi_{24}}{\pi_{14}}\right] \qquad a_4 = \pi_{23}\left[\frac{\pi_{13}}{\pi_{23}} - \frac{\pi_{15}}{\pi_{25}}\right]$$

$$b_5 = \frac{\pi_{24}}{\pi_{14}} \qquad a_5 = \pi_{24}\left[\frac{\pi_{14}}{\pi_{24}} - \frac{\pi_{15}}{\pi_{25}}\right]$$

Appendix II

Correlation Matrix for the Explanatory Variables used in the Estimation

Variable	GR	AID	FPI	CX	CLF	GDPN	S
GR	1.000						
AID	0.371	1.000					
FPI	-0.185	-0.0000	1.000				
CX	0.547	0.109	-0.272	1.000			
CLF	0.371	0.109	-0.072	-0.333	1.000		
GDPN	0.549	-0.225	-0.130	-0.335	-0.021	1.000	
S	-	-0.220	-0.093	0.628	0.218	-0.021	1.000