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ECONOMIQUE ET DE PLANIFICATION
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INDEBTEDNESS AND ECONOMIC GROWTH THE CASE OF SENEGAL

by
EPITACE RURIMWISHIGA

Submitted in partial fulfillment of the requirement
for the degree of Master of Arts in Economic Development
and Planning at the African Institute for Economic
Development and Planning, has been read and approved by

Thesis Committee

Chief Supervisor : Mr P. QUARCOO

Member : Mr Y. DIAKITE

Member : M. K. KANE

Director of Institute: 

Date: 12 FEB 1966



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S U M M A R Y

Indebtedness is a normal and critical phenomenon which has always accompanied the economic development process. It becomes a problem of concern only when the economy cannot generate enough resources to pay back debt service. The main schools of economic thought (classical, marxist, and neo-classical) have studied the debt issue following different directions but it is mainly the neo-classical economists who have investigated seriously the effects of external debt on the debtor's economy with the use of models.

Adopting one of these models as developed by Kessler (1985) we extended it by Papanek's (1973) and Mosley's (1980) contributions, and used it to study the effects of debt on growth in the Senegalese economy. The interactions between savings and growth and the determinants of the savings function for Senegal were also examined.

The results of the analysis indicate that different kinds of external resources (aid, debt, and direct investment) have different effects on the economy indeed. These results, show significant positive relationships between growth, on the one hand, and domestic savings, debt and exports growth rate, on the other. The savings function specification confirms the fundamen-

tal role of the income level as a determinant of saving capacity together with direct investment which shows a positive correlation with domestic savings. On the other hand, debt and taxation show negative relationships with domestic savings.

This analysis leads to policy recommendations favouring an active domestic resource mobilization rather than a development strategy based on external assistance. This resource mobilization policy should consist of increasing government savings either by increasing selected tax revenues or by reducing public expenditures in selected sectors. Private savings on the other hand, could be stimulated mainly by institutional and interest reforms to channel more and more private savings through official financial institutions.

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INTRODUCTIVE CHAPTER

1. Nature of the problem

The majority of African countries have been experiencing sustained high rates of demographic growth. These increasing populations have basic needs: education, health services, housing, industrial infrastructure, among others. Governments have financed these needs with public revenues of which taxes on tradeables, particularly exports, constitute an important share. But export earnings have been subject to declines over time so that public revenues can hardly match public expenditures. To pursue development and growth therefore, African governments have resorted to external borrowing for the financing of their economic and social development plans.

Traditionally, these external inflows were composed of official loans (multilateral and bilateral), private loans (financial markets and suppliers), and grants. Both the terms of lending (concessional, semi-concessional, non-concessional loans (aid)) and grants have declined. For Senegal, the concessional debt share in public outstanding debt has decreased from 73.3 % in 1970 to 45.0 % in 1985. The grant component (all creditors'

debt) has decreased from 44.9 % to 30.5 % during the same period (1) which shows growing hard lending conditions. At the same time, African countries were hit by several external shocks.

The 1973/74 and 1979/80 oil price shocks have sharply increased oil import bills. In the mid-70s a severe drought invaded the Sahelian zone and reduced the volume of crops. In addition the international market for commodity products is dominated by powerful consumers and operates like an oligopoly market. Commodity prices for Senegal's exportables after a temporary boom in 1974/75, have continued to decline. Continuous rises in manufactured goods' prices have added to deterioration of the terms of trade. As a result of all these Sahelian governments in general were compelled to resort to further borrowing to finance imports and development projects. This lending was somewhat facilitated by the availability of large amounts of capital on international financial markets and varieties of loan facilities from the multilateral credit agencies.

In particular, most of the large amounts of capital on international financial markets were mainly from OPEC countries which were placing their petro-dollars on the industrialized

(1) See World Bank: World Debt Tables, 1986/87 Edition, Washington D.C., 1987 p. 159.

(Europe, Japan and USA) financial markets. Western bankers were seeking profitable markets for their funds to "recycle" these huge OPEC surpluses, while suppliers, in their search for export markets, granted more and more medium-term loans. Many people think today that competition among lenders led them to provide loans without due feasibility analysis. But those private loans carried especially hard terms: higher interest rates, shorter grace periods. Additionally, world recession of the 1980s has aggravated the debt problem: commodity prices declined even lower, interest rates kept rising until about 1985/86. The general international environment thus contributed to what is known today as the debt crisis.

After the second oil shock, African oil importing countries, facing decreasing export earnings, got into more and more difficulties to repay their debts. The volume of this debt grew to alarming levels and resulted in large accumulation of arrears. The situation became such that governments were borrowing to pay back older debts. Accumulation of arrears has led to negotiating rounds in order to obtain rescheduling of debt service from the lenders. But these loan reschedulings themselves add to the problem. Creditors accept them only after imposing severe pressures on the debtors' economies: consumption and import squeeze, renouncing of some development projects etc... They are carried out under non-concessional terms in addition to fees which shake confidence in the debtor.

In general, both internal and external factors have contributed to the debt problem and indebtedness has become one of the major concerns of African countries in particular. Under the present situation, there is no hope of reducing significantly resorting to external borrowing in the medium or short term (2). On the contrary, African countries need sustained external inflows to finance development plans. These loans are required on a concessional basis: a higher grant element, longer grace and maturity periods, lower interest rates etc... But African countries are now faced with a kind of paradox. On the one hand the size of the external debt makes lenders more reluctant to extend more loans and they do so only when under pressure. On the other hand, there is a ceiling on available loans for financing economic and social needs while population growth does not show any declining trend. The need for mobilizing domestic resources therefore becomes a very crucial problem on the agenda.

2. Objective and Hypothesis to Examine

Economic theory considers investment as one of the major determinants of growth. For many African countries the largest share of resources for the financing of development and social

(2) See World Bank: Les Besoins de Financement de l'Ajustement dans la Croissance en Afrique Sub-saharienne 1986-1990 (1986), Washington D.C.

plans comes from external borrowing (3). But these external capital resources are not free of charge; besides they are provided under certain constraints the lender imposes on national economic and social targets. In the light of this the role of foreign resources as an engine of growth has to be examined carefully.

The major constraints in the development process of LDCs have been identified earlier in the literature through the two-gap theory which distinguishes between the resource gap and the foreign exchange gap. Many economists have thus recommended foreign capital (aid, loans, direct investment) as the solution to overcome these two gaps. To give few examples, Rostow (1962) in his development theory of LDCs assigned a fundamental role to economic aid as the major factor in the "take-off". In the Harrod-Domar model types, foreign inflows appear as one of the foundations of economic growth.

While this positive role of foreign resources used to be generally accepted, its impact on domestic savings has proved to be depressing and some studies have questioned the significance

(3) This share for Senegal amounts to 75.6 % for 1985/86; 70.5% for 1986/87; 68.7% for 1987/88; 65.8% for 1988/89; and 62.9% for 1989/90. See Perspectives Triennales, Ministère du Plan et de la Coopération, 1986.

of foreign capital in the economic process. Papanek (1973), Mosley (1980), Kessler (1984) among others, have established a negative relationship between domestic savings and foreign capital (foreign aid especially but also loans and direct investment). By accepting "gratis aid", recipient governments are said to relax their effort in domestic resource mobilization and thus domestic savings decreases subsequently. On the other hand, foreign investors usually concentrate on the most profitable sectors crowding out domestic investors whose investment opportunities tend to decrease. As a whole, external inflows are said to act as substitutes to domestic savings. In addition the effects of external inflows on growth have been recently shown to be mixed. Mosley (1980) has shown that:

"in the poorest countries aid is still positively correlated with growth (significantly so, if aid is lagged 5 years); in the middle-income countries, by contrast, it is negatively correlated with growth" (4).

Thus the role of external capital on growth is indeterminate.

The overall objective of this study therefore is to assess the impact of foreign capital (aid and loans especially, also direct investment) on Senegalese economic growth, that is, how

(4) MOSLEY, Paul: "Aid, Savings and Growth Revisited", Oxford Bulletin of Economics and Statistics, Vol. 42 n° 2, Basil Blackwell (ed), 1980, p. 79-95.

foreign capital has played its "over-riding" role on growth. Secondly, the major determinants of domestic savings will be examined to help identify the main sources of domestic resource mobilization which could provide the leverage on external resources.

3. Methodological Approach

Debt accumulation has been a general characteristic of African countries but its abrupt acceleration can be dated approximatively as from the 1970s. International agencies and African governments do not see the fundamental causes of indebtedness the same way. International agencies have put a major stress on mismanagement by African countries as the main reason of poor economic performance thus putting the primary responsibility for debt accumulation on the debtors. But it can be fairly argued that the principal factors are beyond African governments' control. For the Senegalese case this study will attempt:

- 1° to carry out a historical analysis of the economic factors which have contributed the most to the debt problem to see their respective roles in the debt crisis;
- 2° to examine the volume and structure of the Senegalese debt. Using debt burden ratios, it will be possible to show the extent to which Senegalese

debt is a source of concern. A short comparative extension of this ratios to the U.M.O.A. countries (5) will allow examination of the debt problem on a sub-regional scale;

3° to measure the impact of foreign resources both on domestic savings and on economic growth.

The study begins with an introductory chapter. This chapter introduces the study by stating the debt problem and providing a glimpse of the main theoretical problems involved. The substance of the work is divided in two parts: a qualitative part (Part One) and a quantitative part (Part Two), each being composed of two chapters. Chapter I of Part I shows how the Senegalese debt has evolved. It analyses the economic environment, both internal and external, and its effects on Senegalese debt accumulation. Chapter II, Part I, covers debt ratio both for Senegal and the U.M.O.A. countries to provide a comparison. Chapter I, Part II, deals with the economic theory of debt which

(5) U.M.O.A.: "Union Monétaire Ouest Africaine" is the currency printing institution of the West African Economic Community ("C.E.A.O."). The community member states are: Benin, Burkina Faso, Côte d'Ivoire, Niger, Senegal and Togo. Mali which joined the Union in June 1984 is not covered.

includes largely the work of neo-classical economists. Chapter II, Part II, which is in fact the core of the whole work, measures the effects of external resources on Senegalese economic growth. To do so, a model by Kessler (1985) is applied in an extended version using Papanek's (1973) contribution and Mosley's (1980) findings. External resources' effects on domestic savings are also studied by drawing largely from a specification in ECA and ADB (1987). This chapter includes the model specifications, sources of data and regression results. The study ends with an overall evaluation and policy recommendations based on an extensive mobilization of domestic resources.

REPORT OF THE COMMITTEE ON THE INTERNATIONAL ECONOMY

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PART ONE

1.1. EXTERNAL DEBT MANAGEMENT

QUALITATIVE ANALYSIS

... 1973 ... 1974 ... 1975 ... 1976 ... 1977 ... 1978 ... 1979 ... 1980 ... 1981 ... 1982 ... 1983 ... 1984 ... 1985 ... 1986 ... 1987 ... 1988 ... 1989 ... 1990 ... 1991 ... 1992 ... 1993 ... 1994 ... 1995 ... 1996 ... 1997 ... 1998 ... 1999 ... 2000 ... 2001 ... 2002 ... 2003 ... 2004 ... 2005 ... 2006 ... 2007 ... 2008 ... 2009 ... 2010 ... 2011 ... 2012 ... 2013 ... 2014 ... 2015 ... 2016 ... 2017 ... 2018 ... 2019 ... 2020 ... 2021 ... 2022 ... 2023 ... 2024 ... 2025 ... 2026 ... 2027 ... 2028 ... 2029 ... 2030 ...

CHAPTER ONE

EVOLUTION OF THE DEBT BURDEN ON THE SENEGALESE ECONOMY

Senegal's public debt accumulation has been influenced by the country's debt management policy and the internal and external economic environment. In this chapter an attempt is made to analyse these two groups of influences in the first two sections. A third section covers a review of external debt measures as related to the U.M.O.A. countries.

1.1. EXTERNAL DEBT MANAGEMENT

1.1.1. Evolution of Total Outstanding Debt

Senegal's long-term outstanding debt has been increasing from 1972 to 1980, but it abruptly accelerated in the years 1973, 1978, 1980 and 1983. The most outstanding peaks seem to correspond either to years of export earnings decreases (1973, 1978, 1980) which happened unfortunately to coincide with the years of oil shock (1973/74, 1979/80) or to years of droughts (1973, 1978, 1983). Senegal kept paying its debt service (principal plus interest repayments) more or less up to 1980. After 1980, the country experienced declines in new loans and debt servicing was therefore reduced during the same period. The first rescheduling was negotiated and accepted in October 1981, the latest in

October 1987. Outstanding debt and debt service have evolved as follows:

Table 1
Evolution of Disbursed and Outstanding Debt (DOD),
and Debt Service (D.S.) (Millions of U.S. dollars)

<u>Year</u>	<u>DOD</u>	<u>DS</u>
1970	102.7	6.0
1971	126.0	12.2
1972	160.2	13.3
1973	176.1	29.4
1974	263.7	33.5
1975	296.4	39.4
1976	367.7	42.9
1977	423.9	56.4
1978	602.9	99.3
1979	792.2	122.5
1980	960.9	179.0
1981	1018.5	90.1
1982	1250.1	43.1
1983	1507.8	56.9
1984	1540.1	83.8
1985	2001.8	88.6

Source: World Bank: World Debt Tables, Various issues,
Washington D.C.

1.1.2. Structure of New Disbursements

In its borrowing policy, Senegal contracted mainly private debts (from financial markets and suppliers sources) up to 1980 of which the biggest amounts came from private banks. As from 1981, however, private lenders have literally retired from financing the country. Their share in new loan disbursements has been reduced from 41.5 % in 1980 to about 5 % in 1984 with a slight increase (21.8 %) in 1985. The share of official credit sources (multilateral and bilateral) has been made up of a moderate component of multilateral loans through the whole period (1970 to 1985) whilst bilateral sources of financing have become dominant from 1981 onwards. The structure and evolution of Senegal's loans are shown in table 2.

The debt management policy of the government can be summarized in relation to the two periods: the 1970/80 period and the period after 1980. In the first period Senegal drew largely from private sources. This can be explained by the large capital availability on international financial markets in the 70s. The second period was dominated by bilateral official development aid (ODA) loans. This was the period when Senegal signed an economic recovery programme with IMF/World Bank and hence multilateral and bilateral loans commitments were secured mainly through consulta-

tive meetings at the Paris Club to support this programme (1). Funding from bilateral sources was also increased through lending from Arab countries (Saudi Arabia, Kuwait, among others).

(1) In fact Senegal began to adopt this programme somewhat timidly in 1979 with the Programme de Redressement Economique et Financier. Nevertheless continued implementation of adjustment programmes has now become a prerequisite for Senegal as well as others to get additional loans from official lenders.

Table 2 : Structure of New Disbursements

: Year :	Total	Official Disbursements			Private Disbursements		
	Disbursements :(Millions US \$):	Mult. %	Bilat. %	Sub-total %	Suppliers %	Fin. mark. %	Sub-total %
: 1970 :	18.6	24.7	18.3	43.0	41.4	15.6	57.0
: 1971 :	23.1	9.1	24.1	33.2	27.2	45.0	67.2
: 1972 :	20.2	25.2	30.2	55.4	8.4	36.1	44.5
: 1973 :	99.8	5.3	25.5	30.8	3.5	65.7	69.2
: 1974 :	80.8	17.0	26.1	43.1	7.0	50.0	57.0
: 1975 :	76.1	30.4	26.1	56.5	9.2	34.2	43.4
: 1976 :	81.4	21.1	14.9	36.0	11.8	53.2	65.0
: 1977 :	99.4	27.1	31.9	58.0	15.4	26.7	42.1
: 1978 :	224.1	23.0	19.1	42.1	14.0	43.8	57.8
: 1979 :	223.5	22.0	30.4	52.4	8.1	39.8	47.7
: 1980 :	319.7	23.2	35.1	58.3	1.4	40.4	41.8
: 1981 :	221.9	41.6	55.7	97.3	0.3	2.4	2.7
: 1982 :	283.8	19.0	72.7	91.7	0.2	8.1	8.3
: 1983 :	320.1	32.0	62.4	94.4	0.1	4.5	4.6
: 1984 :	204.0	27.0	68.0	95.0	0.0	5.0	5.0
: 1985 :	216.1	27.2	51.0	78.2	0.1	21.7	21.8
: :	:	:	:	:	:	:	:

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Source: New Disbursements from World Bank: World Debt Tables, Editions: 1982/83, 1983/84 and 1986/87.
Percentages are of our own computations.

1.2. THE ECONOMIC ENVIRONMENT AND ITS EFFECTS ON DEBT ACCUMULATION IN SENEGAL

African representatives in international fora have always focused on the current international monetary and economic order as the main obstacle to better economic performance. The main problems associated with this situation include:

- commodity prices which do not always really reflect the supply / demand rules but are rather determined by powerful consumers or powerful suppliers (2);
- the U.S. dollar supply fluctuations whose impact is directly felt on foreign exchange markets. Before 1985 the high exchange rate for dollars meant high debts for Senegal's dollar- denominated loans. After 1985 the low exchange has meant some relief but nevertheless low export revenues for the main export crops (groundnuts, phosphates) whose world market prices are denominated in dollars;
- the refusal by industrial countries to allocate 0.7 % of their GNP (an early 70's UNCTAD target) to development assistance of LDCs;
- use of artificial products as substitutes in manufacturing processed agricultural products in industrial countries;

(2) CAEM: External Debt Problems of African Countries in the 1980's, Dakar, 1984.

- protectionist policies which discriminate on LDCs exportables particularly semi-processed and processed primary products e.g. through non-tariff barriers and tariff escalation on these products by industrial countries.

On the other hand, developed countries have generally ignored and rejected these claims and have rather emphasized mismanagement, delays in adjustment policies, ill-conceived projects, among others as the major causes of declining growth. Notwithstanding the impact of internal factors, it may be argued that the role of external factor has mainly been their contribution in worsening the economic prospects of Sub-Saharan African (SSA) countries. In the following these two sets of factors would be reviewed in some detail.

1.2.1. THE SENEGALESE INTERNAL ECONOMIC STRUCTURE AND THE DEVELOPMENTS IN THE DEBT PROBLEM

Similar to other Sub-Saharan African (SSA) countries, Senegal's debt problem became worse from the mid-70s as various economic constraints made it difficult for the country to pay back its debt service regularly which led to large accumulation of arrears. In order to get some relief, the country started to negotiate with its creditors from the early 80s for both debt rescheduling and new loans. But this was subjected to Senegal's commitment to undertake structural economic reforms under the IMF/World Bank conditionalities.

Both endogenous and exogenous factors have contributed to the country's debt problems. The exogenous factors are similar for nearly all the SSA countries; these include drought, commodity price fluctuations, the two oil price shocks, and the US dollar exchange rate fluctuations, among others. This short section will attempt to cover the endogenous factors.

a) SENEGAL'S EXPORT PERFORMANCE

For any given country, the overall GDP growth and economic performance are significantly influenced by the contribution of its export sector. The latter not only exerts its effects on the country's ability to generate foreign exchange and thus to service debt obligations but also contributes to overall economic activity.

When a country relies on a very limited number of exportables, its export revenues are influenced highly by market price developments of these products. This is the case for Senegal whose export sector is concentrated in a few products: groundnut, phosphate, fish and fish products, and oil products (3). The first two products dominate Senegal's export earnings and ground-

(3) It is happy that tourism, which can also be considered as an export sub-sector, has recently begun to contribute significantly to foreign revenue earnings.

nut especially influences substantially the industrial production (4). The prices of these two commodities depend on international market trends (influenced by oligopoly market structure) where prices have been erratic with a downward trend after temporary booms in 1974 and 1975. This is illustrated in a profile of Senegalese export earnings which evolved as shown in the following table.

Year	Value	Value	Value	Value
1970	42.7	20.3	5325.0	27.2
1971	42.7	27.2	5325.0	27.2
1972	49.1	3.1	5450.0	28.7
1973	115.9	18.3	1073.0	31.0
1974	132.9	22.2	12150.0	31.7
1975	101.4	35.7	11400.0	29.1
1976	113.8	32.7	10050.0	28.8
1980	106.7	12.3	20019.7	37.9
1981	135.7	20.9	20030.0	38.5
1982	190.0	27.5	18100.0	37.3
1983	235.3	27.8	31602.0	46.7
1984	277.0	27.0	34700.0	49.1
1985	231.8	29.2

1) Report Revenue (see Annual Financial Statement Yearbook, 1987).

2) Debt Service (see 2016 ... unless noted ... should figure ... obtained by applying the exchange rate to get figures in CFA

(4) See The Quarterly Economic Review of Senegal, Mali, Mauritania, Guinea, N° 3; The Economist Intelligence Unit Ltd, London, 1983.

Table 3
Evolution of Export Revenues, Debt Service and
D.S/X Ratio (5)

: Year :	: Export Revenues:	: Export Rate :	: Debt Service :	: D.S/X :
:	: (Billions CFA):	: Growth (%) :	: (Millions CFA:	: (%):
: 1970 :	42.18 :	:	1666.3 :	3.9 :
: 1971 :	34.7 :	- 17.7 :	3381.0 :	9.7 :
: 1972 :	54.4 :	56.8 :	3358.0 :	6.2 :
: 1973 :	42.3 :	- 20.5 :	6553.0 :	15.2 :
: 1974 :	93.9 :	117.3 :	8063.5 :	8.6 :
: 1975 :	99.1 :	5.4 :	8444.0 :	8.5 :
: 1976 :	115.9 :	16.9 :	10251.0 :	8.8 :
: 1977 :	152.9 :	24.2 :	13851.0 :	9.1 :
: 1978 :	101.4 :	- 33.7 :	22408.0 :	22.1 :
: 1979 :	113.8 :	12.3 :	26058.2 :	22.9 :
: 1980 :	100.7 :	- 11.5 :	37819.1 :	37.6 :
: 1981 :	135.8 :	34.8 :	24483.0 :	18.0 :
: 1982 :	180.0 :	29.6 :	14163.1 :	7.9 :
: 1983 :	235.5 :	30.8 :	21682.3 :	9.2 :
: 1984 :	277.0 :	17.6 :	36172.2 :	13.1 :
: 1985 :	223.8 :	- 19.2 :	... :	... :
:	:	:	:	:

Sources:

- 1) Export Revenues from International Financial Statistics Yearbook, 1987.
- 2) Debt Service from World Debt Tables, various issues (the above figures were obtained by applying the exchange rate to get figures in CFA)

Note: The DS/X ratios are our own computations

(5) $DS/X = \text{Debt Service} / \text{Exports}$

This erratic ability of the Senegalese economy to generate foreign exchange implies a weak ability to finance import bills but also expresses the country's difficulties to service its external debt. The above table shows that export earnings have decreased in 1971, 1973, 1978, 1980 and 1985. On the other hand, debt service obligations kept rising during the whole period from 1970 to 1984 (except in 1972). As a result, the Debt Service/Export ratio kept increasing from 1975 to 1980 when it reached the 37 per cent outstanding level (6). After 1980, the declining trend must be analysed through the country's adjustment programme which has allowed, among other factors, the rescheduling of some amounts of debt obligations.

As a whole, the gap between fluctuating export revenues and increasing debt service requirements has thus contributed to accumulation of arrears and a heavy debt burden in Senegal.

(6) In fact the indicator (DS/X) underestimates the debt problem and is actually misleading: the numerator only includes the amounts which have been actually repayed and not the yearly mature debt service. In addition, this indicator is only concerned with long-term debt thus neglecting the short-term debt obligations.

b) DEBT MANAGEMENT POLICY IN SENEGAL

In the early 70s, private creditors (bankers and suppliers) began to extend their lending to some African countries especially to those with the potential for credit worthiness: Algeria, Cameroon, Côte d'Ivoire, Egypt, Morocco, Nigeria, Tunisia, Zaïre and Zambia (7). These private loans carry especially severe lending terms: higher interest rates, shorter grace and maturity periods, no grant component. Such loans therefore have led to higher debt service. In addition, these private loans do not allow for easy reschedulings arrangements. Unfortunately, Senegal has resorted to such kinds of loans in its debt management policy and this highlights the country's debt problems in the early 80s. Senegal's loan disbursements evolved as follows:

(7) See ADEDEJI, Adebayo: Foreign Debt and the Prospects for Growth in the Developing Countries of Africa in the 1980s; Paper presented to the Conference on Foreign Debt and Nigeria's Economic Development, Lagos, 5 - 6 March 1984.

Table 4 : Structure of New Disbursements (Millions of US dollars)

Year	Total Disbursements (Millions of US \$)	OFFICIAL DISBURSEMENTS (%)			PRIVATE DISBURSEMENTS (%)		
		Multilateral	Bilateral	Sub-total	Suppliers	Financial markets	Sub-total
1970	18.6	24.7	18.3	43.0	41.4	15.6	57.0
1971	23.1	9.1	24.1	33.2	27.2	45.0	67.2
1972	20.2	25.2	30.2	55.4	8.4	36.1	44.5
1973	99.8	5.3	25.5	30.8	3.5	65.7	69.2
1974	80.8	17.0	26.1	43.1	7.0	50.0	57.0
1975	76.1	30.4	26.1	56.5	9.2	34.2	43.4
1976	81.4	21.1	14.9	36.0	11.8	53.2	65.0
1977	99.4	27.1	31.9	58.0	15.4	26.7	42.1
1978	224.1	23.0	19.1	42.1	14.0	43.8	57.8
1979	223.5	22.0	30.4	52.4	8.1	39.8	47.7
1980	319.7	23.2	35.1	58.3	1.4	40.4	41.8
1981	221.9	41.6	55.7	97.3	0.3	2.4	2.7
1982	283.8	19.0	72.7	91.7	0.2	8.1	8.3
1983	320.1	32.0	62.4	94.4	0.1	4.5	4.6
1984	204.0	27.0	68.0	95.0	0.0	5.0	5.0
1985	216.1	27.2	51.0	78.2	0.1	21.7	21.8

Source: Total Disbursements from World Debt Tables, various issues

Note: The above percentages are our own computation from figures in World Debt Tables.

Senegal's loan disbursements evolved as shown in Table 2. It is evident that the share of private loans has been higher than the official one reflecting a declining trend in the concessional/DOD (8) ratio which evolved from 73.3 % in 1970 to 45.5 % in 1975, 38.4 % in 1980 and 49.0 % in 1984 (9). In borrowing mainly from private sources up to 1980, the country may have been simply influenced by the large availability of capital on the international financial markets without paying careful attention to its repayment prospects. In this, Senegal probably overestimated its reimbursement capacity and the debt servicing difficulties which the country was faced with in the early 80s stem from this borrowing policy which favoured private sources in the 70s. After 1980, the recourse to official lenders reflects the shift to loans with a higher concessional share through the Paris Club consultative meetings and also through Arab bilateral funding.

c) PAST TRENDS OF INVESTMENT AND POLICIES

After independence, Senegal emphasized the building of its infrastructure in order to achieve national targets of economic and social development. The country is not endowed with outstanding natural resources such as oil or precious metals and its private sector was rather weak. Thus, the public sector had to

(8) DOD = Disbursed and outstanding debt

(9) See World Bank, World Debt Tables, various issues.

play an important role through state intervention in economic affairs. This leading role played by public sector stems from the country's philosophical option for African Socialism which led to the creation of many public enterprises in the main sectors of the economy (agriculture, industry, services and the social sectors).

To finance its investment expenditure, Senegal did not commit itself to self-reliance but has rather searched for external financing opportunities which created a growing dependence of its capital expenditures on foreign borrowing. This excessive reliance on external capital to finance capital outlays can be illustrated by the sources of investment financing as indicated in the successive Four-Year Plans of Economic and Social Development.

Table 5 shows that domestic sources hardly reached 40 % of investment requirements. In addition, no significant progress in terms of domestic resource mobilization has been achieved, public financing tended to decrease (from 22 % during the 3rd Plan to 13.8 % in the 7th Plan) whereas private financing nearly stagnated (13 % during the 3rd Plan, 15 % during the 6th Plan, and 14.2 % estimates during the 7th Plan).

It was unfortunate that the sectoral allocation of these external capital did not go to the most directly productive sectors. The successive Four-Year Plans have usually favoured

Table 5
Sources of Investment Financing (%)

Source	3rd Plan: 69/73	4th Plan: 73/77	5th Plan: 77/81	6th Plan: 81/85	7th Plan: 85/89
DOMESTIC					
N.M.B. (2)	22	16.2	17	10	13.8
Private and others	13	34.8	20	15	14.2
Total	35	51 ⁽¹⁾	37	25	28
EXTERNAL (3)	65	49	63	75	72
TOTAL	100	100	100	100	100

Source Ministry of Planning and Cooperation, various Four-Year Plan, planned figures.

- (1) This share include some amounts that the private and public sectors had to borrow from local and external sources. These loans, however, were simply considered as domestic sources by the Fourth Plan.
- (2) N.M.B. = National and Municipal Budgets.
- (3) External sources include grants, concessional and commercial loans.

the social sector (education and health services) so that the agricultural sector was not generally favoured although this sector was, for propaganda purposes, said to be "the priority of priorities). The industry sector, which is also a productive one, did not receive high shares of investment outlays. This sector is largely dominated by public enterprises. In addition, the successive Four-Year plans gave undue emphasis to industrial public enterprises where large-scale projects received a higher priority. Examples include Dakar-Marine (Shipyard), CSS (the sugar processing industry), SOCOCIM (the cement processing industry), and STI (tomato industry). It is believed that these large-scale industrial projects clearly overestimated market penetration in their feasibility studies (10).

(10) In fact the 4th Plan intended to set these large-scale industries in the West African Economic Community (CEAO) framework.

The following table illustrates the sectoral distribution of public investments in Senegal

Table 6
Sectoral Distribution of Public Investment (Real share) (%)

Plans	: Agriculture	: Manufacturing	: Services	: Social	: Total
3rd Plan 69/73	27.9	18.0	19.9	34.0	100
4th Plan 73/77	19.1	16.1	27.7	37.0	100
5th Plan 77/81	22.7	26.5	24.1	26.6	100
6th Plan 81/85	22.7	42.7	14.5	20.0	100
7th Plan 85/89*	32	26	21	22	100

Source: Ministry of Planning and Cooperation, various Plans.

Note: Each plan provides information on achievements of the previous plan. The above table was worked out from these sources.

* Estimates from Projet de 7e Plan de Développement Economique et Social 1985/86 - 1989/90, Tome 1, Orientations et Programmes d'Actions Prioritaires, Ministère du Plan et de la Coopération.

Thus, the sectoral allocation of investment expenditures failed to favour the most directly productive sectors, in general, with agriculture as top priority followed by the industry sector. It was in the Sixth Plan that the industry and the agriculture sectors were given priority. But this was done on the detriment of the agriculture sector which was outstandingly dominated by the industry sector (22.7 % and 42.7 % respectively).

As a whole, the allocation of borrowed resources in non-directly productive projects, their funding through commercial loans, and overestimation of market absorption have led to poor returns on investments and hence to the inability to reimburse the debt service regularly. The 7th Plan emphasizes:

"the external aid to which in fact the investment function was incumbent, has exerted a poor impact on development as it failed to be attached to really productive projects"(11).

The actual core of the Senegalese debt problem seems to lie right here.

(11) See 7th Plan, Ministère du Plan et de la Coopération.

d) THE MANAGEMENT OF PUBLIC FINANCES

The recurrent budget covers such items as central administration expenditures, wages and salaries, debt service and recurrent costs of capital expenditures, among others. The latter includes maintenance and rehabilitation costs of physical assets; such costs have not been given high consideration in the past (12) and this has led to their premature replacement requiring financing by foreign borrowing.

A significant share of the Senegalese recurrent budget has been absorbed by rising expenditures on civil servant wages and salaries which took 50 % of the total public expenditures from 1972 to 1983 (13). Subsidizing imported food items such as rice and wheat has also been included in recurrent expenditures. All these resulted in a 15.2 % yearly increase in public expenditures but also to a permanent public deficit (14) and to the impossibility of releasing higher and higher public

(12) Only the 6th and 7th Plans do mention the priority given to such costs.

(13) See the 7th Plan, op. cit.

(14) The current account deficit evolved from CFA 1.2 billion in 1971, to 7.51 billion in 1973, 15.09 billion in 1977, 22.63 billion in 1981, and 55.47 billion in 1983. See International Financial Statistics Yearbook, 1981 and 1987 Editions

revenues to finance capital expenditures. As a consequence an increasing share of the capital budget has relied on foreign borrowing.

Additionally the inability of numerous public enterprises to generate profit has compelled the government to allocate increasing subsidies for the operation of loss-making state enterprises. In 1980, the government paid CFA 30.2 bn to subsidize some of these public enterprises; in 1982 they received CFA 56.2 bn and they generated only CFA 1.5 bn in form of taxes while receiving CFA 20 bn government subsidies in 1984. In 1985, the public enterprises sustained CFA 35 bn losses and received CFA 48 bn government subsidies (15). Externally-financed state enterprises have thus made it difficult to pay back debt service with their own generated profits. The impact of the Senegalese internal economic structure and policy on debt was compounded by external factors.

1.2.1. THE EXTERNAL FACTORS AND THEIR IMPACT

Drought severely hit many regions in Africa in the mid-70s and in the early 80s. This affected Senegal's main cash crops as well as agricultural production. As shown in table 5,

(15) See also Jeune Afrique Economique, n° 107, April 1988.

total food production decreased in 1973, in 1977 and in 1978 and has never reached the 1976 peak during the rest of the period. Groundnut production (the principal Senegalese cash crop) evolved even more erratically. In 1972, total groundnut production decreased by 42 %, in 1976 by 15 %, in 1977 by 58 % and in 1979 by 37 % after some recovery in 1978.

Table 7

Evolution of Food Production (in millions of CFA) and
Groundnut Production (in tons) from 1971 to 1979

: Year :	Food Production	: Growth	: Groundnut	: Growth	:
:	:	: %	: Production	: %	:
: 1971 :	51.9	: -	: 997	: -	:
: 1972 :	67.4	: 29	: 587	: - 42	:
: 1973 :	62.7	: - 7	: 693	: 18	:
: 1974 :	80.7	: 29	: 1009	: 45	:
: 1975 :	102.8	: 27	: 1444	: 43	:
: 1976 :	128.8	: 25	: 1232	: - 15	:
: 1977 :	123.1	: - 5	: 519	: - 58	:
: 1978 :	102.6	: -17	: 1061	: 104	:
: 1979 :	128.2	: 25	: 676	: - 37	:
: :	:	:	:	:	:

Source: ECA, African Statistical Yearbook 1980, Part II,
Addis-Ababa, 1983.

Senegal has also experienced relatively short commodity price booms followed by prolonged price declines which affected groundnut and phosphate export earnings. Taking the 1970 prices a basis for comparison, groundnut prices rose sharply in 1974 and moderately in 1978 to collapse in 1979/80 and more severely in 1982. Phosphate prices on their side rose outstandingly in 1974 and in 1975 to decrease sharply down to 1978 and in 1982/83. The following table shows these trends.

Table 8
Evolution of Groundnuts and Phosphates Prices
(US dollars/metric ton)

: Year :	Groundnut oil :	Phosphate :
: 1970 :	1194.5 :	34.7 :
: 1971 :	1281.7 :	32.9 :
: 1972 :	1129.7 :	30.5 :
: 1973 :	1213.8 :	30.7 :
: 1974 :	1909.2 :	96.6 :
: 1975 :	1337.0 :	104.5 :
: 1976 :	1134.8 :	55.1 :
: 1977 :	1207.2 :	43.2 :
: 1978 :	1300.2 :	34.9 :
: 1979 :	962.8 :	35.8 :
: 1980 :	858.8 :	46.7 :
: 1981 :	1088.7 :	51.7 :
: 1982 :	621.6 :	45.1 :
: 1983 :	778.6 :	40.4 :
: :	:	:

Source: World Bank, Commodity Trade and Price Trends, The John Hopkins Press, Baltimore and London, 1985.

The combined production and price declines of cash crops thus reduced export revenues significantly. In order to maintain reasonable standards of living for the people, African countries in general were compelled to turn to foreign borrowing. Quantities of foodstuffs, machinery, energy and other manufactured goods had to be imported. The prices of these imported goods have been rising particularly on goods from industrial countries: Europe, USA and Japan mainly. These prices increased by 17.7 % in 1973, 21.6 % in 1974 and a 12.3 % yearly average during 1975 to 1980 (16). Foodstuffs imported by LDCs also recorded high increases: wheat prices rose by 13.8 % on average between 1977 and 1981 against 6.6 % for the period 1973/77, rice by 15.5 % against 6.1 % and sugar by 20.1 % against 3.8 % respectively.

As noted earlier, two oil shocks hit African oil importing countries in 1973/74 and 1979/80 but international finance and trade institutions did not help African countries to get relief. Suppliers and private bankers, in their competition tended to encourage LDCs indebtedness as they continued providing large amounts without careful feasibility

(16) Most of the statistics here are from CAEM: External Debt Problems of African Countries in the 1980s, 1984, Dakar; unless otherwise specified.

studies. The developments in interest rates and the soaring of the US dollar exchange rate led to further burdens on SSA debt between 1980/85. Other external factors which have aggravated the African debt problem adding to the debt crisis are the declines in official development assistance (ODA) from industrial countries, the overpricing of equipment which goes with bilateral project negotiations etc...

In conclusion, the weak export sector performance, the excessive recourse to borrowing from external private sources in the 70s, the weak public savings mobilization, the misallocation of investment expenditures are some of the major internal factors which have compounded the debt problems in Senegal on the one hand. On the other hand, adverse developments in the external environment of Senegal added to the debt problem. These include, among others, a severe drought which impeded agricultural production, prolonged primary commodity prices, and two oil chock prices. From 1979, the Senegalese government undertook tough economic reforms mainly aimed to restructure the domestic economic machinery. But the external adverse factors still continue to penalize these efforts, especially groundnut price on the international market which continues to decline sharply. Keeping this in mind, one may be pessimistic about the positive outcome of adjustment programmes currently undertaken by Senegal under the IMF conditionalities. These conditionalities, besides the very short period usually allowed for adjustments, the limited funds allocated and social

strains from the enforcement of macroeconomic targets, seem to ignore completely the adverse international monetary and economic order faced by LDCs.

Many surveys have shown that the debt problems with quantitative targets, especially (1970), (1978), (1984), (1988), (1992), (1996), (2000), (2004), (2008), (2012), (2016), (2020), (2024), (2028), (2032), (2036), (2040), (2044), (2048), (2052), (2056), (2060), (2064), (2068), (2072), (2076), (2080), (2084), (2088), (2092), (2096), (2100), have provided a clear picture of the debt crisis in the debtor's economy. It is also clear that these surveys should be repeated at least for two reasons:

1. Each country has its own specific situation and needs to be analyzed in detail.
2. The situation is changing rapidly and it is necessary to keep up to date.

(1) U.S.C.A. (1980) ...
(2) ...
(3) ...

CHAPTER TWO

MEASURES OF DEBT BURDEN AND THEIR EVOLUTION:

EXTENSION TO THE U.M.O.A. COUNTRIES (17)

Many authors have accompanied their studies on the debt problem with quantitative indicators. Avromaneic (1964), Feder, (1978), Krumm (1984), the World Bank (World Debt Tables, various issues), have provided various measures to assess debt burden on the debtor's economy. First of all, it is to be underlined that these measures should be analysed with much caution (18) at least for two reasons:

- 1° Each country has a specific economic structure and using these measures as universal tools is misleading. Political considerations by donor countries can give privilege to officially over-indebted countries while at the same time neglecting applicants who need external capital badly.

- 2° Handling these measures as perfect tools can lead to dangerous classifications of good and bad debtors with subsequent discrimination by creditors.

(17) U.M.O.A. (Union Monétaire Ouest-Africaine) see footnote (5) - Chapter 1.

(18) CAEM (1984), op. cit.

Having said this, quantitative debt measures can reasonably be used to assess debt servicing capacity and problems of debtor countries. Although there are many sets of debt indicators, there is a common agreement that the main variables generally referred to are exports, GNP, imports, and interest repayments. Traditionally, the distinction has been between liquidity and solvency indicators. The former group refers to foreign exchange shortage or surplus in the short term; the latter to growth and development. We will confine ourselves to some of these two kinds of measures.

1.2.1. LIQUIDITY INDICATORS

a) Debt Service over Exports

This measure tells how much of current export earnings are pre-empted by debt service. The ability of an economy to generate foreign exchange is the frequently referred to indicator of an economy's servicing capacity and is the most meaningful one. According to Adelman (1984), countries with this indicator ranging below 20 % should manage their affairs with no constraints on the financing of imports. Thus by comparing the Senegalese and the other U.M.O.A. countries' debt burden on a regional scale (table 9), the debt/exports ratio poses no special

problem for Senegal (19), Benin, Burkina Faso, Niger and Togo. Only Côte d'Ivoire has problems with this ratio which kept increasing from 1980 to 1983.

b) External Reserves Relative to Imports

Foreign exchange reserves are the "first line of defense" against temporary liquidity problems. According to Adelman (1984) a country with no liquidity problems should have reserves corresponding to three or four months' imports. The external reserves/imports ratios show a stubbornly prolonged low level for Senegal (table 10) from 1973 as it covered only about one month imports during the period 1980 to 1983. Côte d'Ivoire enjoyed very good levels during the 70s decade but its situation abruptly worsened from 1980: the ratio passed from 25 months in 1977 and 10 months in 1978 to only one month during the period from 1980 to 1983. Deterioration in this ratio can also be observed for Benin. On their side, Burkina Faso, Niger and Togo are in favourable situations.

(19) This statement has to be taken with much caution with regard to Senegal. In 1980, the ratio exceeded the 20 % level and after 1980, the declining trend must be interpreted in the light of debt service reschedulings that have been accepted by lenders.

Table 9

TOTAL DEBT SERVICE RELATIVE TO EXPORTS (%) *

: Year:	SENEGAL	: COT. IVOI.:	BENIN	: BURKIN. :	NIGER	: TOGO
:1970 :	2.8	: 6.5	: 2.3	: 6.8	: 4.0	: 3.0
:1971 :	2.1	: 7.7	: 4.0	: 15.6	: 3.0	: 3.0
:1972 :	3.8	: 8.3	: 3.3	: 2.8	: 2.5	: 6.5
:1973 :	7.9	: 7.2	: 1.8	: 23.8	: 2.0	: 6.9
:1974 :	5.4	: 7.9	: 4.9	: 3.0	: 2.8	: 3.5
:1975 :	5.7	: 8.8	: 3.6	: 7.9	: 4.7	: 9.7
:1976 :	6.1	: 8.7	: 2.5	: 4.9	: 4.4	: 6.6
:1977 :	4.9	: 10.4	: 2.5	: 8.8	: 4.5	: 11.3
:1978 :	7.8	: 13.0	: 3.0	: 7.6	: 2.9	: 14.5
:1979 :	13.7	: 18.2	: 2.0	: 9.3	: 2.5	: 24.4
:1980 :	20.1	: 24.0	: 3.0	: 7.5	: 6.0	: 17.5
:1981 :	13.2	: 31.5	: 4.3	: 7.0	: 11.6	: 9.4
:1982 :	5.1	: 33.4	: 3.8	: 9.2	: 24.1	: 14.2
:1983 :	7.2	: 31.8	: 9.2	: 8.4	: 18.3	: 21.0
:	:	:	:	:	:	:

* Ratios were calculated from Debt Service and Exports figures from World Bank, World Debt Tables, Editions: 1982/83, 1983/84, and 1986/87

Table 10

EXTERNAL RESERVES RELATIVE TO IMPORTS (In months)

: Year:	SENEGAL	: COT. IVOI.:	BENIN	: BURKIN. :	NIGER	: TOGO
:1970 :	7.6	: 20.3 :	16.1	: 53.7 :	21.2	: 40.1
:1971 :	8.1	: 23.7 :	22.5	: 46.7 :	35.2	: 38.0
:1972 :	9.3	: 10.1 :	20.7	: 40.7 :	32.8	: 29.4
:1973 :	2.2	: 18.3 :	21.4	: 39.4 :	27.0	: 28.5
:1974 :	0.8	: 4.2 :	18.0	: 38.0 :	19.0	: 37.4
:1975 :	3.6	: 9.9 :	5.6	: 27.3 :	20.4	: 14.3
:1976 :	2.8	: 13.9 :	8.4	: 27.2 :	26.3	: 26.7
:1977 :	3.5	: 25.5 :	7.2	: 16.2 :	35.7	: 13.4
:1978 :	2.0	: 10.8 :	4.9	: 9.2 :	26.9	: 12.1
:1979 :	-	: - :	-	: - :	-	: -
:1980 :	1.7	: 1.0 :	2.8	: 12.5 :	10.9	: 11.3
:1981 :	1.6	: 0.9 :	9.6	: 13.6 :	9.7	: 25.9
:1982 :	1.9	: 1.0 :	1.3	: 12.1 :	51.0	: 51.0
:1983 :	1.8	: 1.2 :	2.0	: 18.2 :	83.0	: 83.0
:	:	:	:	:	:	:

Source: World Bank, World Debt Tables, Editions 82/83, 83/84, and 86/87

c) Net Foreign Assets

This is a composite indicator of short term liquidity of a country's banking system. It measures how the total stock of net foreign assets (reserves and other various disbursements in favour of the recipient country such as loans) have accumulated or shrunk. In other words, it measures the accumulation of balance of payments surpluses/deficits over the past. A strong downward trend and high negative values in this measures are usually a sign of approaching external difficulties (Adelman, 1984). This indicator (see table 11) shows increasing deterioration for Senegal from 1973 to 1984. The same can be said about Côte d'Ivoire whose situation has sharply deteriorated from 1979. Benin has experienced low levels, both positive and negative, Burkina Faso has a satisfactory level and Togo has enjoyed very good records.

These three indicators show that even though Senegal has no special strains from the debt/export ratio, its situation is far from comforting with respect to its short-term performance as

indicated by the external reserve ratio and particularly its net foreign assets, the composite indicator of short-term liquidity (20). Côte d'Ivoire has realized the worst records and recently (November 1987) she declared insolvency (21).

1.2.2. SOLVENCY INDICATORS

a) Export Concentration

Lack of export diversification is a common characteristic of SSA countries. When a country depends on one or two exportables, price fluctuations in these commodities are directly reflected in its export earnings. Thus lack of export diversification limits export performance. Senegal relies mainly on groundnuts and phosphates exports. The 1974 and 1975 price peaks (see table 8 above) were reflected in export revenue peaks (see table 10 above). The same can be said about Côte d'Ivoire's coffee (1976-1977) and cocoa (1977), and Niger's uranium (1977 -

(20) These short-term liquidity problems underlie and are reflected in the successive debt rescheduling negotiations as shown in table 12 below.

(21) This happened after prolonged declines in prices of cocoa and coffee (the two major Côte d'Ivoire exportables on international markets) which severely affected export earnings.

Table 11

NET FOREIGN ASSETS (Billions of CFA)

: Year:	SENEGAL	: COT. IVOI.:	BENIN	: BURKIN. :	NIGER :	TOGO
:1970 :	5.21	: 45.2	: 4.01	: 9.63	: 4.47	: 11.01
:1971 :	4.40	: 40.5	: 6.15	: 10.78	: 8.62	: 10.83
:1972 :	5.83	: 20.1	: 6.06	: 11.63	: 10.99	: 9.10
:1973 :	- 3.39	: 17.1	: 4.46	: 15.29	: 11.91	: 7.51
:1974 :	- 5.91	: 29.5	: 7.04	: 17.34	: 10.67	: 22.38
:1975 :	- 10.31	: 2.3	: 5.48	: 15.90	: 11.01	: 5.81
:1976 :	- 10.69	: - 2.6	: 6.33	: 12.64	: 18.69	: 12.70
:1977 :	- 12.93	: 35.8	: 6.29	: 5.86	: 23.44	: 4.37
:1978 :	- 35.83	: 44.8	: 0.87	: - 1.29	: 20.00	: 9.93
:1979 :	- 63.30	: - 37.2	: - 2.14	: 1.51	: 18.69	: 9.49
:1980 :	- 87.17	: - 208.7	: - 2.82	: 3.40	: 8.72	: 4.61
:1981 :	- 133.21	: - 367.0	: 13.49	: 4.82	: 18.64	: 32.10
:1982 :	- 198.76	: - 394.4	: - 4.99	: 1.77	: - 24.00	: 47.31
:1983 :	- 225.30	: - 597.8	: -	: 14.31	: - 18.59	: 51.96
:1984 :	- 258.87	: - 477.3	: -	: 31.68	: - 0.95	: 67.99
:	:	:	:	:	:	:

Source: IMF International Financial Statistic Yearbook, 1987

1978 - 1979). Export concentration can be related to growth of export and consequently to growth of GDP. For many countries, experience shows that low prices of the major exportables have led to steep declines in export revenues, therefore to steep declines in GDP growth. Ghana (cocoa) and Zambia (copper) illustrate this. Sometimes, these low prices of exportables that have led to GDP declines have also led to social and political unrests resulting in Coup d'Etats. Ghana is a case in point when Nkrumah (1966) and Busia (1972) were overthrown after cocoa was subjected to severe price declines.

b/d)

Growth Rate of Exports

The export-led growth economists have established that for many countries, the export sector has been the major leading sector of growth. Countries with sustained high level of growth of exports over long period are the ones with best records of GDP growth. These countries are also considered to have the best debt servicing capacities. Slow export growth or stagnation usually goes with foreign exchange shortages and bottlenecks. Table 12 shows that among the UMOA countries, Niger is the only country to have experienced satisfactory records. Côte d'Ivoire did very well up to 1979 then its situation deteriorated continuously. Senegal's ratio has been erratic during the period 1971 - 1983.

c) The Ratio of Investment Relative to GNP

SSA countries have experienced low and deteriorating real GDP growth rates (22). It may be noted that these poor rates reflect mainly increases in total consumption which does not contribute to capital accumulation, the only outlays that generate additional goods and services. Many people believe that in order to adjust to temporary macroeconomic imbalances, cutting investment expenditures is less painful than cutting consumption (23) but such a policy could lead to insolvency. Thus, greater attention must be focused on growth of the capital formation component in aggregate demand because this potentially ensures high capacity to create incomes from which external debt will be serviced. In other words, countries differences in the investment/GNP ratios really reflects different solvency levels. Table 13 shows

(22) These rates for Africa as a whole averaged 5 % p.a. during the period 1960 - 1975; 3.7 % p.a. during 1975/80 and 1.2 % p.a. during 1980/84. See MONTASSER, Essam: Croissance et Ajustement Structurel en Afrique, Perspective Globale. Conférence sur "Croissance et Ajustement Structurel en Afrique", Dakar, 4 - 5 mai 1987.

(23) CAEM: External Problems... op. cit.

Table 12

EXPORTS GROWTH RATE (%)

: Year :	SENEGAL	: COT. IVOI.:	BENIN	: BURKIN. :	NIGER :	TOGO
:1970 :	- 0.6	: 1.8	: 21.4	: 75.3	: 22.9	: 3.6
:1971 :	43.9	: 21.0	: 4.5	: 31.5	: 25.7	: 2.5
:1972 :	6.6	: 42.8	: 34.4	: 32.4	: 38.7	: 192.7
:1973 :	66.8	: 45.3	: 1.6	: 26.6	: - 14.7	: 28.8
:1974 :	12.8	: 3.5	: 30.7	: 25.2	: 56.4	: 13.5
:1975 :	1.1	: 32.2	: - 7.2	: 4.7	: 18.0	: 17.5
:1976 :	23.3	: 39.4	: 23.5	: 60.9	: 2.5	: 30.7
:1977 :	- 16.5	: 10.6	: - 4.4	: - 24.7	: 66.8	: - 5.7
:1978 :	23.4	: 14.9	: 32.7	: 14.8	: 53.9	: 103.8
:1979 :	- 0.04	: 3.9	: 12.7	: 3.8	: 20.5	: - 14.0
:1980 :	- 23.5	: - 19.9	: 46.4	: - 7.1	: 15.3	: - 38.3
:1981 :	24.1	: - 0.7	: - 9.4	: - 12.1	: 15.2	: 23.7
:1982 :	- 6.3	: -13.5	: - 32.5	: 1.5	: - 13.9	: 9.7
:	:	:	:	:	:	:

Source: Exports from World Bank: World Debt Tables, various issues.

These percentages are our own computations.

Table 13

TOTAL DEBT SERVICE RELATIVE TO EXPORTS (%) *

: Year:	SENEGAL	: COT. IVOI.:	BENIN	: BURKIN. :	NIGER	: TOGO
:1970 :	12.8	: 21.6	: 14.5	: 8.3	: 7.4	: 12.5
:1971 :	12.9	: 22.8	: 13.7	: 12.4	: 7.6	: 16.2
:1972 :	14.0	: 21.7	: 18.7	: 13.9	: 8.3	: 18.5
:1973 :	14.6	: 23.7	: 16.3	: 19.3	: 12.5	: 19.0
:1974 :	15.8	: 20.8	: 20.8	: 22.3	: 13.6	: 15.3
:1975 :	14.3	: 22.8	: 19.7	: 22.5	: 10.8	: 22.7
:1976 :	13.5	: 23.0	: 16.0	: 23.4	: 11.7	: 24.7
:1977 :	13.0	: 26.7	: 14.9	: 21.0	: 30.4	: 34.8
:1978 :	14.7	: 31.6	: 13.4	: 20.0	: 31.9	: 45.7
:1979 :	15.3	: 28.2	: 13.4	: 14.4	: 37.4	: 46.9
:1980 :	16.6	: 28.6	: 13.3	: 10.0	: 39.8	: 29.3
:1981 :	16.0	: 27.7	: 16.3	: 11.0	: 30.7	: 19.6
:1982 :	15.5	: 25.9	: 17.7	: 9.7	: 21.6	: 17.9
:1983 :	15.8	: 23.0	: 14.0	: 15.6	: 19.0	: 16.9
: :	:	:	:	:	:	:

- Sources: 1. Investment figures from International Financial Statistics Yearbook, 1986 in CFA.
 2. GNP from World Debt Tables (in US dollars). Percentages were calculated after conversions of CFA into US dollars.

that only Niger and Togo have kept increasing the share of investment expenditures in GNP up to 1980. Senegal, on the whole, kept this ratio at relatively a constant level.

In review, both internal and external factors have led to external debt accumulation in Senegal. High consumption levels have affected domestic resource mobilization, hence improvements should be made to mobilize more domestic savings. Debt indicators seem to suggest that Senegalese debt difficulties can be considered as mainly a liquidity problem. However, restructuring the economy in the long run by export diversification, achieving efficient domestic resource mobilization, improving and expanding the rate of investment and capital accumulation, among others, remain the central concern in rehabilitating the external problem.

Table 14
Reschedulings (1981 - 1986)

: Type of Debt :	: Date of agreement :	: <u>Period of Consolidation</u> :	: Amounts :
:	:	: Beginning : Duration :	: (Millions\$): :
:	:	: (Months) :	:
: C.L.*	: Feb. 1984	: May 1981 : 38	: 76 :
: C.L	: May 1985	: July 1984 : 24	: 20 :
: C.P**	: Oct. 1981	: July 1981 : 12	: 77 :
: C.P.	: Nov. 1982	: July 1982 : 12	: 84 :
: C.P.	: Dec. 1982	: July 1983 : 12	: 64 :
: C.P.	: Jan. 1985	: Jan. 1985 : 18	: 105 :
: C.P.	: Nov. 1986	: July 1986 : 16	: 86 :

* C.L. is London Club

** C.P. is Paris Club

Source: Bulletin de l'Afrique Noire n° 1360 (23 avril 1987)

CHAPTER ONE

THE ECONOMIC THEORY OF THE DEBT ISSUE

Indebtedness is a very old economic phenomenon but it has received little attention in the economic literature and it is only recently that economists have begun to investigate seriously the effects of external debt on the growth of debtor countries. In this respect, classical economists, marxist authors, and neo-classical economists have studied the debt issue in different directions.

Classical economists have shown little interest in internal debt and when they mentioned it, they were generally opposed to public borrowing. Adam Smith (1776) considered internal debt as a loss because, borne by the producer, the borrowed money is taken from productive sectors to be destroyed in consumption by the government which is an unproductive sector, a parasite (1). External debt in the framework of classical economists is inconceivable because their school of thought considers labour and capital as perfectly mobile factors only within the country and not beyond the frontiers of the country.

Studies on external debt have received more attention by marxists who were the first to analyse systematically external

(1) SMITH, Adam: The Wealth of Nations, 1776

indebtedness through the "tendency for the decrease in the rate of profit" framework. They have generally concentrated on direct investment. These "exports of capital" as says Lenin (1914) are attracted by higher profits in LDCs but they tend to exert domination on the economic and political targets of young nations. External aid (concessional loan) on the other hand helps to maintain LDCs in the capitalist zone of influence. It is emphasized:

"Public aid has an essential function to maintain the status quo... The function of external aid to LDCs is not to develop the periphery, but to maintain its underdevelopment, it induces outflows which outstrip it, its role is fundamental for (Western) economic branches and firms which are the true agents to benefit from it" (2)

On the contrary, neo-classical authors have generally seen in external debt a fundamental means to accelerate development in LDCs. Used efficiently, they emphasize, aid contributes to develop capital accumulation and to raise levels of savings. However, some neo-classical economists have recently established this role to be mixed and growth depressing.

(2) AMIN, Samir: L'Accumulation à l'Echelle Mondiale, Union Générale d'Édition, Paris VIe, 1976, p. 201 and 203.

2.1.1. The Neo-Classical Economists

After World War II, most external capital flows from the USA were directed to the rebuilding of Europe deeply damaged by war in what has been characterized as the Marshall Plan. After the European economy was restructured, aid from the developed world was directed to countries which were then newly called under-developed countries and "Third World" as a whole. In the early sixties, the former colonial powers adopted different schemes towards capital for the investment needs in the young nations. The British motive was honestly and clearly specified:

"We have a special interest in encouraging the expansion of international trade; this will be promoted by increasing prosperity which aid can help to further. By helping to raise incomes in the developing countries we can provide expanding markets for exports and safeguard the supply of our imports and the return on our investments" (3).

France, on the other hand pretended to fulfill a humanitarian mission through her aid to development.

(3) ABBOT, George C.: International Indebtedness and The Developing Countries, M.E. Sharp Inc. New York, 1979.

According to Abbot (1979), the real determinants behind this "sudden" discovery of LDCs backwardness and the interest of Western countries and international agencies (IDA- IBRD, EDF...) (4) to assist these newly independent nations lie in the following:

- Europe had recovered and its expanding economy needed continuous and sustained markets for her manufactured goods;
- this aid was in fact allocated to promote market penetration;
- political strategy was a permanent motive in order to counteract the Soviet Union's influence. This last point is very relevant for USA's sudden interest in the situation of LDCs in the mid-50s (5).

Western economists began to insert capital flows to LDCs in their theoretical framework. Their studies were usually accompanied by descriptive analyses of LDCs' economic and social conditions: low per capita real incomes, high illiteracy rates,

(4) EDF: European Development Fund.

(5) For a detailed discussion of this, see ABBOT, op. cit, p. 39 and following.

low saving levels etc... Rostow (1962) in his Stages of Growth provides an early illustration of the supposed role of external assistance to accelerate growth in LDCs in his "take-off" stage. The two-gap theory finds its foundations here, and many models have been inspired by this theory. It shows that the savings gap (the gap between insufficient export revenues and the need to import intermediary goods and equipment) may find their solution through external assistance from industrial countries to developing countries. Aid should act as an increment to domestic savings, releasing in this the saving gap, and as additional external resources, releasing the foreign exchange gap to foster economic growth. These models were further elaborated upon to insert external capital inflows in the development process of LDCs.

3.1.2. Models of Development with External Borrowing

When studying the effects of foreign capital on LDCs' growth, one can distinguish three phases which recount in fact a historical evolution in the assessment of these effects.

1° Phase one comprises authors who consider aid especially (or concessional loan) as an increment to LDCs domestic savings and external capital in general as a supplement to LDCs capital stock. This positive role of external capital can be illustrated through a Harrod-Domar type growth model:

$$g = \left(\frac{s + f}{v} \right) \quad \text{where}$$

g = rate of growth of national income

s = national domestic saving rate

f = rate of foreign capital inflow

and v = the incremental capital output ratio. In this approach, external capital helps to raise the savings ratio and acts as an engine of growth. Rosenstein-Rodan (1961), Chenery and Strout (1966), among others, have carried out empirical studies using cross-country data on Latin American countries in which there appears a positive correlation between foreign aid and domestic savings.

2° In phase two it was emphasized that much of aid ends up in consumption expenditures rather than in productive ones in the recipient countries. Over-satisfied with this external resource, political leaders are said to neglect the achievement of efficient domestic resource mobilization and, as a result, domestic savings decrease.

The two divergent approaches are known respectively as the complementarity and substitutability approaches of external aid towards domestic savings. Empirical support of the substitutability approach has been provided by Rahman (1968), Griffin and Enos (1970), and Weisskopf (1972) in cross-section studies in which there appears a negative correlation between external

capital and domestic savings but a positive correlation between external capital and growth still remains.

3° In the third phase, amalgamation of all external inflows in one figure has been criticized (Papanek (1973), Mosley (1980)...). It is argued that external inflows must be sub-divided into their different components: aid (concessional loans), debt (other financial inflows different from aid), and direct investment. Each type of inflow can exert a different effect on LDCs' domestic savings and growth. As a general pattern the negative relationship between aid and domestic savings remains but Papanek and Mosley have denied any causal relation between them. It is pointed out that both lower savings ratios and high aid levels are explained by an extraneous third factor, i.e. political and economic crises in the recipient country (Mosley (1980)). On the other hand, it is noted, the relationship between debt and growth has proved to be mixed depending on the level of development (measured by per capita GNP) and more significantly on the fundamental characteristics of the recipient country: human and natural resources, climatic conditions, skills in determining and implementing development strategies (6).

(6) O E C D: Development and Co-operation, Paris, 1984.

In addition to the classification above, some specific neo-classical models will be reviewed here. These are: Loser's Model, Ohlin's Model and Kessler's Model.

Loser's Model. This model deals with the relationship between foreign borrowing on domestic rate of growth and the balance of payments. Loser (1977) (7) establishes the foreign borrowing impact as depending on net flows (inflows minus outflows), yield on the additional investment generated by net flows, and the degree of substitution in the economy between loans and domestic savings. But this model assumes full employment and does not show any end to indebtedness with "new loans replacing old ones". Besides, the author seems to say that the borrower can choose between different kinds of loans and their terms. One can also criticize the emphasis placed on maintaining current account equilibrium to the detriment of economic growth which leads Loser to recommend flexible exchange rate policies.

Ohlin's Model. Ohlin (1966) (8) emphasizes the unfavourable terms of borrowing that LDCs are faced by, the very slow

(7) LOSER, Claudio M: External Debt Management and Balance of Payments, IMF Staff Papers, Vol. XXIX N° 1, March 1977, p. 168-192.

(8) OHLIN, Goran: Aide et Développement, Etude de l'OCDE, Paris, 1966.

growth of aid as well as debt accumulation as the main concern among the creditors rather than LDCs' growth. He concludes by recommending the softening of borrowing terms by creditors and their allocation of larger grants. This model is in the general saving-gap framework and the author attempts to calculate a critical interest rate level which helps to sustain a given economic rate of growth. Our interest in this model is in the fact that it underlines the terms of borrowing as an important constraint to the borrower because it determines the level of interest repayments and the amount of debt service. In addition, Ohlin integrates population as a determining factor in domestic savings. But while the author establishes debt accumulation as a serious problem to the debtor over time, he provides only casual description of the process and the calculation of a critical interest rate has little meaning to the debtor who has no influence on it.

Kessler's Model. This model will take up much of our interest in this study. It will constitute the starting-point of our attempt to analyse the impact of external indebtedness on Senegalese economic growth. Kessler's model (1985) (9) is simi-

(9) KESSLER, Denis: "Foreign Indebtedness, Savings and Growth in Developing Countries", Savings and Development. Proceedings of a Colloquium convened by Caisse des Dépôts et Consignations Centre National des Caisses d'Épargne et de Prévoyance Swedish Savings Banks Association, edited by Denis Kessler and Pierre Antoine Ullmo, Economica, Paris 1985, p.351-362

lar to Harrod-Domar's and our interest in it stems from the fact that it derives a long-term solution to the debt problem in the form of domestic policies to be pursued in LDCs (see section 4.1 below). LDCs are cautioned not to consider external borrowing as a resource without any end. In conclusion it recommends LDCs to increase their internal savings and to search for means of further mobilization of domestic resources if they want to accelerate growth. This model also examines economic growth in a partial analysis by concentrating on the investment components (domestic savings and external capital). One has to recall that many other factors contribute, perhaps to a larger extent, to economic growth and one of them corresponds to export revenues. Because of its drawbacks this model will therefore be extended and the final formulation draws largely upon Papanek's (1973) and Mosley's (1980) contributions.

CHAPTER TWO

IMPACT OF DEBT ON THE SENEGALESE ECONOMY:

THE KESSLER MODEL REVISITED

2.2. METHODOLOGY

As mentioned earlier, external capital impact on growth of the debtor country has proved to be mixed, thus the impact on any given country over a specific period can only be established empirically. The two-gap theory assumes an automatic enhancement of aid on the borrower's economic growth both by increasing domestic savings and stimulating capital accumulation. But as noted in OECD (1984, p. 278) experience shows that not all the high performers in terms of GNP growth in the period 1970-1982 have been major users of external financial and technical assistance, and many low-income countries which have received large amounts of financial and technical assistance have not made very significant economic progress. It should be observed that development is determined by many complex factors in addition to investment; among the other factors are: political stability, skilled manpower, domestic resources mobilization and allocation. However, as many African countries still rely on external resources to finance their development it is very necessary to assess their effects on the user's economy. The Kessler Model is an attempt in this direction.

2.2.1. THE MODEL

Kessler's Model is characterized by the following six equations. All values are in real terms.

$$I \left\{ \begin{array}{l} (1) \quad y = Q \\ (2) \quad \Delta Q = \alpha I \\ (3) \quad I = S + F \\ (4) \quad S = a + b y, \quad 0 < b < 1, \quad a < 0 \\ (5) \quad \Delta \theta = i F \\ (6) \quad F = M - X \end{array} \right.$$

where

y = National income

Q = GNP

θ = Cost of external resources

S = Total domestic savings (private and public)

F = Net inflows of external resources

i = Interest rate on the external debt

M = Imports on current account

X = Exports on current account

α = Marginal efficiency of capital, $\Delta y / \Delta k$ or the inverse of ICOR.

Kessler expresses the change in national income after debt service is paid as follows:

$$\Delta y = \Delta Q - \Delta \theta = \alpha I - i F$$

By substituting and simplifying

$$(7) \quad \Delta y = \alpha S = F (\alpha - i)$$

The basic assumptions underlying Kessler's Model are:

- α , the marginal efficiency of capital is constant;
- i , the cost of external resources, is constant;
- Equation (4) assumes no direct effects of external resources on domestic savings. When such effects are incorporated, the equation is reformulated by Kessler as follows:

$$(8) \quad S = a + b y + c F$$

Kessler assumes $c < 0$, where c captures the negative domestic savers' reaction to inflows of external borrowing. This portion showing negative correlation between external debt and domestic savings supports the substitutability hypothesis.

- Equation (3) implies that all external resources are invested. Assuming that part of it can be consumed in unproductive expenditures, Kessler reformulates this equation also as follows:

$$(9) \quad I = S + \delta F, \quad 0 < \delta < 1$$

Where δ is the share of external resources used in investment expenditures and by implication $(1 - \delta)$ is used in unproductive consumption expenditures.

With these modifications, Kessler's Model may be restated as follows:

$$\text{II } \left\{ \begin{array}{l} (1) \quad \Delta y = \Delta Q - \Delta \theta \\ (2) \quad \Delta Q = \alpha I \\ (3)' \quad I = S + \delta F \\ (4)' \quad S = a + by + cF \\ (5) \quad \Delta \theta = iF \\ (6) \quad F = M - X \end{array} \right.$$

By substituting (4)' into (3)'

$$(10) \quad I = a + by + cF + \delta F$$

and equation (2) becomes

$$(11) \quad \Delta Q = \alpha I = \alpha a + \alpha by + F(\alpha(c + \delta))$$

which transforms equation (7) into

$$(12) \quad \Delta y = \alpha a + \alpha by + F(\alpha(c + \delta) - i)$$

Growth of national income can therefore be expressed as follows:

$$g = \frac{\Delta y}{y} = \frac{\alpha a}{y} + \alpha b + \frac{F}{y} (\alpha(c + \delta) - i)$$

In the long run, which is Kessler's horizon, as national income (y) becomes larger and larger and net flows (F) decrease the F/y ratio becomes negligible and tends to zero. Growth in national income will thus be determined mainly by domestic savings and by the marginal efficiency of capital.

2.2.2. Merits and Demerits of the Model

The main advantage of Kessler's Model is to highlight the fundamental role of domestic savings in the economic process. When external resources decline or become hard to find policies towards mobilization of further domestic resources have to be implemented and strengthened. This implies for instance that means must be found to collect potentially available savings that a number of studies on African countries show exist (10). This can be achieved through institutional reforms that channel domestic savings through official savings institutions. It is this that underlies our investigation into the determinants of domestic savings for Senegal. The Kessler Model also calls attention to efficient use of external capital. Unfortunately no clear indication is made about how to estimate parameter δ which represents the share of external resources used for effective investment. According to Kessler this coefficient δ depend on national strategies for absorbing external resources. Kessler

(10) Some of them are: ECA/ADB: "Domestic Resource Mobilization in Africa", Economic Report on Africa 1987, Addis-Ababa, March 1987, p. 15-52; LELART M: "Informal Savings in Africa", National Financial Policies and Capital Formation in Africa, CAEM, Dakar, 1984, p. 19-60; YAO, François: "Capital Markets and Resource Mobilization in Africa", Financial Journal, Vol. 7 n° 2, CAEM, 1986, among others.

also states that the interest rate constraint is the recurrent cost of external debt and its depressing effect on the economy is taken into account if net flows are positive (i.e. if $F > 0$, see equation (13)). Apart from these, however, the Kessler Model suffers from some drawbacks.

Kessler implies an immediate effect (that is, the same year) of net flows on growth. But it is unlikely that such an effect will take place the same year. In other words, there is a time lag between the moment foreign capital is injected in the economy and growth responsiveness to it. External debt is usually used to acquire equipment and intermediate goods. Productivity of capital which it helps to raise is not directly reflected in total output the same year.

Secondly, Kessler is only interested in net flows. Even though there is a distinction between different kinds of external resources (aid, debt, and direct investment) and their different effects on growth that can be determined, Kessler does not integrate this in his model. He assumes aid (concessional loan) to be negligible, debt and direct investment to have the same return (i). Kessler himself recognizes this assumption to be questionable. Amalgamation of foreign resources in a unique figure "F" is thus misleading (Papanek, 1973).

Thirdly, when such a disaggregation is taken into account, there is a statistical problem. As a matter of fact

"donor countries will tend, once strategic and political considerations are satisfied, to give more aid as a proportion of GNP to those countries which are most in need" (11).

As demonstrated by Mosley (1980) a better approximation between growth and foreign resources is a simultaneous relationship and would read as follows:

$g \leftarrow$ savings, aid, other external capital
 $g \rightarrow$ aid

Thus he affirms, the two-stage least-squares technique is more appropriate in estimating the relationship.

In view of the various limitations identified, it has therefore been found necessary to extend the Kessler Model drawing largely from Papanek's (1973) and Mosley's (1980) contributions to study the impact of debt on Senegalese growth. The savings function implied and adopted in this study is inspired by the ECA/ADB study (12)

(11) MOSLEY, Paul, op. cit. p. 80

(12) ECA/ADB, op. cit. p. 19 - 52

2.3. IMPACT OF EXTERNAL DEBT ON SENEGALESE SAVINGS AND GROWTH

The complementarity hypothesis states that external debt helps to finance the savings gap. It should help to finance investment opportunities that domestic resources cannot achieve. Business activities are thus extended and domestic savers are stimulated to save further in order to derive benefits from this entrepreneurial environment that external capital allows for. In short, external capital has a mobilizing effect on the economy (Rosenstein - Rodan, 1961).

But not all economists do accept this positive effect hypothesis of foreign capital (aid especially) on the recipient country's savers' behaviour. Aid can and is usually used in consumption expenditures, they say. Aid fungibility into consumption leads governments to slacken policies towards mobilization of domestic resources which will end up in a domestic savings reduction. In the light of this, many empirical studies have shown a negative correlation between aid and savings and concluded that there is a depressing effect of external capital on domestic savings. Griffin and Enos (1970), Landau (1971, Weisskopf (1972), ECA/ADB (1987) have established this negative correlation. But this negative relationship may correspond probably to a statistical correlation and not to economic causation. Mosley (1980), and Kessler (1985) have denied any direct or causal relationship between these two variables. In many cases,

they claim, this negative correlation is a result of exogenous factors affecting both aid and savings. These are:

- 1° Political instability: Many studies have included South Korea, Israël, and Taiwan when large amounts of aid in the 50s and the 60s (coming largely from USA) were granted in times of war so that the incidence of these large amounts did correspond with periods of low domestic savings.
- 2° Climate: In countries where GNP is constituted largely of agricultural production, two or three bad crops will affect incomes for a long period, and subsequently savings will also be affected. In such situations experience shows that international aid has been conveyed to countries with falling saving rates.
- 3° Terms of trade: Adverse terms of trade affect directly earnings and finally savings. Terms of trade deterioration can be a reason for aid increasing to the affected countries. The ACP-EEC agreements, for instance stipulate remittance of aid to countries in these situations during four successive bad years (the effectiveness of such agreements is another question). Once again a

temporary rise in capital inflows may correspond to a decrease in domestic savings (13).

In view of these mixed reviews an analysis of domestic savers' behaviour towards external aid in Senegal therefore becomes imperative. In this study the relationship between external resources and domestic savings will be examined empirically and the main determinants of domestic financial resources would be identified.

2.3.1. SPECIFICATION OF THE SAVINGS FUNCTION

The savings equation has its source from Kessler's equation (4) (see section 4.1.1. above). This is extended to take account of studies that identify other determinants of national domestic savings. The savings function in this study can therefore be specified as follows:

$$SAV_t = f(GNP_t , AID_t , DEBT_t , D.I_t , \\ Expt , TAX_t \dots) \text{ which in linear form is shown as:}$$

(13) For a more detailed discussion of this see KESSLER and STRAUSS-KAHN: "Existe-t-il un lien entre l'épargne intérieure et l'afflux de capitaux extérieurs?", Revue Tiers-Monde, Tome XXV n° 98, PUF, avril-juin 1984, p. 269-297

$$\text{SAV}_t = \alpha_0 + \alpha_1 \text{GNPH}_t + \alpha_2 \text{AID}_t + \alpha_3 \text{DEBT}_t + \alpha_4 \text{D.I.}_t + \alpha_5 \text{EXP}_t + \alpha_6 \text{TAX}_t + U_t \text{ where}$$

SAV_t = National (private and public) gross domestic savings in year t . We have derived the savings figures by subtracting total (private and government) consumption from GDP, considering savings as a residual.

GNPH_t = Per capita income (GNP) in year t .

AID_t = Aid or concessional loan in year t .

DEBT_t = Financial resources other than concessional loans and direct investment.

D.I._t = Direct investment in year t .

EXP_t = Change in export earnings

TAX_t = Total tax revenue in year t .

and U_t is an error term.

The relationship between savings and the level of income (GNP) is expected to be positive a priori; α_1 is the marginal propensity to save. Rich people tend to save more out of additional income than poor people but our parameter α_1 describes actually the average saving behaviour of the population. α_2 , α_3 and α_4 express domestic savers' reaction towards various types of external capital. α_5 reflects the responsiveness of savings to growth of exports. Exports produce highly concentrated incomes, especially in the case of primary exports, with a large element on rent. In addition, countries with higher rates of exports tend to face less of a foreign exchange constraint on investment and therefore tend to provide more of an incentive to savings

(Papanek, 1973). In light of this α_5 is expected to be positive reflecting the impact of export earnings to savings, a rise in export revenues should lead to a rise in savings and vice versa. α_6 is expected to have a negative sign expressing the depressing effect of taxes on savings (on the private sector).

2.3.2. RELATIONSHIP BETWEEN EXTERNAL CAPITAL AND GROWTH

The positive effect of external capital on the growth of the recipient country should logically be considered as granted when one considers external capital as an additional resource to domestic savings. This increase in domestic investment should also lead to a rise in total output. However, experience shows a more complex situation.

In a cross-country study covering 34 Latin American countries, Papanek (1973) has shown that only one third of these countries' economic growth is explained by domestic savings and foreign capital (the two components of domestic investment). Other studies have shown that the overall effect of foreign capital not only depends on the kind of flow (aid, loan or direct investment) but also and largely on the level of development, foreign capital being positively correlated with growth in the low-income countries and negatively correlated in the middle-income countries (Mosley, 1980). The evidence therefore shows that such a relationship is mixed. According to Mosley two factors explain this:

1° The composition of external flows. In many cases, aid is given in forms of food, technical assistance, loan forgiveness, balance of payments support which do not comprise any development component at all.

2° The extent to which these resources are projected so that the recipient country can use or not use them in consumption expenditures.

As a whole, middle-income countries seem to have more freedom to spend their aid in the form of consumption because they can resist more the donor's attempt to influence aid allocation.

Incorporation of Papanek's (1973) and Mosley (1980) contributions has led to our modification of Kessler's equation (13) and we can therefore express the general function for growth of national income as follows:

$$g(t) = f(S/GDP_t, A/GNP_{t-1}, D/GNP_{t-1}, D.I./GNP_{t-1}, X_t)$$

which is expressed in linear form as:

$$g(t) = b_0 + b_1 S/GDP_t + b_2 A/GNP_{t-1} + b_3 D/GNP_{t-1} + b_4 D.I./GNP_{t-1} + b_5 X_g + U_t \text{ where}$$

g = growth rate of GDP (or $\Delta Y/Y$) in year t

S/GDP_t = gross domestic savings / GDP ratio or savings as a percentage of GDP in year t.

A/GNP_{t-1} , D/GNP_{t-1} , $D.I./GNP_{t-1}$ are aid, debt and direct investment as percentages of GNP in year t-1

X_g = growth rate of exports or $\Delta X_t / X_t$.

The above function shows that economic growth depends, among other factors, on the different amounts of resources allocated to expand production, that is the different kinds of investment expenditures. The time response of economic growth to external resources is taken into account by allowing a one-year lag between the time external capital is disbursed and its effectiveness on growth of the recipient country. According to Mosley (1980), external capital impact is more significant when lagged relative to growth. The signs of b_1 , b_2 , and b_3 can be negative or positive but one expects b_2 to have a negative sign especially in the light of the "aid fungibility" argument. Export growth rate is incorporated in the specification as one of the other variable influencing growth. The sign of b_5 is expected to be positive reflecting the export-led hypothesis.

2.4. SOURCE OF DATA

Gross Domestic Product (GDP), Direct Investment, Exports and Senegal's Population were obtained from International Financial Statistics Yearbook, IMF, 1987. Tax Revenues were obtained from Government Statistics Yearbook, IMF, 1985. Gross

National Product (GNP), Disbursements, Concessional/Public Disbursement and Outstanding Debt were obtained from World Debt Tables, World Bank, Edition 82/83 for 1973 and 1975 figures; Edition 83/84 for 1974, 1976, 1977, 1978 and 1979 figures; Edition 86/87 for 1979, 1980, 1981, 1982, 1983, 1984, and 1985 figures.

Data Limitations

Many sources of our data give figures in U.S. dollars. For figures in CFA currency, official exchange rates were used to convert into US dollars. For the tax revenue figures, there were blanks for years 1972 and 1974. We therefore calculated arithmetic averages to fill these blanks. We have done the same with the missing concessional aid and the debt share for the year 1971 in table 1 of our Annex.

The regressions cover only 11 observations. This is actually a relatively short sample period for a time-series analysis. However, these series cover a homogeneous period in terms of debt borrowing trends and debt servicing so that some validity of the results may be presumed.

2.5. REGRESSION RESULTS

The savings function and the growth function have been estimated by ordinary least-squares. The following are the re-

sults, with t - statistics indicated in parenthesis under regression coefficients.

$$\begin{aligned} 1. \quad g(t) = & - 12.478 + 1.133 S/GDP_t \\ & (-2.259) \quad (3.347) \\ & + 3.648 D/GNP_t - 1.127 D.I/GNP_t \\ & (3.532) \quad (-0.513) \\ & + 0.150 X_t \\ & (3.420) \\ R^2 = & 0.87 \quad ; \quad DW = 2.315 \end{aligned}$$

$$\begin{aligned} 2. \quad g(t) = & - 7.471 + 0.282 S/GDP_t \\ & (-2.375) \quad (0.501) \\ & + 3.581 D/GNP_{t-1} + 1.660 D.I/GNP_{t-1} \\ & (2.023) \quad (0.451) \\ & + 0.270 X_t \\ & (3.531) \\ R^2 = & 0.71 \quad ; \quad DW = 2.307 \end{aligned}$$

$$\begin{aligned} 3. \quad SAV_t = & - 215.582 + 1.777 GNP_t \\ & (-15.379) \quad (5.924) \\ & - 1.100 AID_t - 0.600 DEBT_t \\ & (-0.455) \quad (-0.414) \\ & + 1.679 D.I_t + 0.065 X_t \\ & (2.588) \quad (1.247) \end{aligned}$$

$$\begin{aligned} & - 0.714 \text{ TAX}_t \\ & \quad (-3.693) \end{aligned}$$

$$R^2 = 0.97 \quad ; \quad DW = 2.068$$

$$4. \quad \text{SAV}_t = - 240.727 \quad + \quad 1.704 \text{ GNPH}_t \\ \quad \quad \quad (-19.169) \quad \quad (7.143)$$

$$\begin{aligned} & - 1.251 \text{ DEBT}_t \quad + \quad 1.622 \text{ D.I}_t \\ & \quad (-5.217) \quad \quad (2.772) \end{aligned}$$

$$\begin{aligned} & + 0.052 \text{ EX}_t \quad - \quad 0.693 \text{ TAX}_t \\ & \quad (1.301) \quad \quad (-3.968) \end{aligned}$$

$$R^2 = 0.97 \quad ; \quad DW = 2.230$$

Equation 1 shows a high goodness of fit statistic between growth and the investment components when no lag is taken into account. The savings/GDP ratio and export growth rate are highly significant at the 99 per cent confidence level. The debt/GNP ratio also plays a highly positive role on growth at the 99 per cent confidence level. On the other hand, the direct investment/GNP ratio is not at all significant. The level of savings over GDP is positively related with growth; export growth rate and the debt/GNP ratio are also positively related with growth whereas the direct investment/GNP ratio has a negative relationship with growth and is insignificant.

When a one-year lag is taken into account as suggested by Mosley (1980), and the export performance on growth is incorpo-

rated as Papanek (1973) did, the savings/GDP significance disappears but the debt/GNP ratio and the export growth rate remain highly significant and the goodness of fit statistic decreases, but the direct investment/GNP ratio remains insignificant. The positive relationships between the savings/GDP level, the debt/GNP ratio and the export growth rate on the one hand, and growth on the other hand remain whereas a positive relationship between the direct investment/GNP ratio and growth appears. This result of the lagged specification questions the validity of the hypothesis of time lag responsiveness of growth to external capital disbursements and Mosleys (1980) developments on time lags for the Senegalese specific case. The R^2 value decreases (from 0.87 in the non-lagged equation to 0.71 in the lagged one) and the very poor savings/GDP t - statistic does not hold with the theory which establishes that savings is one of the major determinants of growth. This leads us to reject this lagged specification.

To avoid collinearity problems between aid (concessional loan) and debt, we have eliminated the aid series in our specification of the growth relationship (14). As a whole our theoretical specification is confirmed: national domestic savings

(14) This collinearity problem can actually be contemplated in so far as aid was calculated as a percentage of disbursed debt.

export revenues and debt have acted as the major growth engines for Senegal, whereas the role of direct investment was almost negligible.

In the analysis of domestic savings determinings (equation 3), the level of per capita income is confirmed as providing a fundamental role in explaining domestic savings with a very high t - statistic at over 95 per cent confidence level. Direct investment tends also to enhance the savings effort at 90 % confidence level. Taxation is also significant at over 95 per cent confidence interval. On the other hand, aid, debt and the change in export revenues are not statistically significant. Per capita income, direct investment, and the change in export earnings play a positive role on domestic savings ; whereas aid, debt and taxation play a depressing role on savings.

When aid is not taken into account (equation 4), the level of per capita income, debt, and taxation confirm their high statistical significance on domestic savings at 99 per cent confidence level together with direct investment at over 95 per cent confidence interval whereas the change in export revenues is not at all significant. Debt seems to play a negative role on domestic savings and, as whole, this specification gives better results.

In short, the savings specification as shown in equation 4 establishes a high goodness of fit ($R^2 = 0.97$) and the role of

income level is consistent with the theory of savings behaviour. Direct investment seems to play a positive role on domestic savings whereas debt and taxation seem to have a depressing effect on domestic savings. The change in export revenues is positively related with domestic savings but does not seem to influence significantly increase in savings. To counteract the depressing effect of taxation on domestic savings a policy of low tax rates may stimulate and increase the saving effort.

OVERALL EVALUATION

Public external debt is... during which period... and higher amounts of... years, the highest... savings... 1970-80 decade... by the International...

GENERAL CONCLUSION

AND

POLICY RECOMMENDATIONS

Over the 60s, external... the debt servicing... and foreign capital... largely retired... of debt... reflects the... to obtain...

1. OVERALL EVALUATION

Public external debt in Senegal kept increasing in the 70s during which period debt servicing continued to attract higher and higher amounts of scarce foreign exchange. During these years, the highest peaks appeared to correspond either to export earnings decreases or to the occurrence of higher droughts. The 1970-80 decade happened to be one of large capital availabilities on the international financial markets such that lenders did not express any difficulties with respect to the borrowers' requests. This may be the reason why Senegal's external debt profile was dominated largely by private sources. Drought and desertification hit the Sahelian zone which Senegal belongs to and this depressed export earnings during the period. Two oil shocks added to the problem and aggravated the need for external borrowing.

Over the 80s, external debt has shown a declining trend and debt servicing has been only partial. The grant element in total foreign capital continued to decline and private lenders literally retired from providing further loans. A sustained decrease in commodity prices shrunk export revenues and the whole process of debt management ended up with a collapse. The debt crisis reflects the impossibility to service external debt and a reduction in obtaining net capital inflows. Rescheduling nego-

tiations have had to be carried out (1) and today an adjustment programme with its constraints on consumption and social development is the only framework through which Senegal is able to receive additional financing.

Factors in both the internal and external environments contributed to the debt problem. High consumption levels, weak domestic resource mobilization policies, maintaining poor-performing public enterprises --- all have acted as negative internal factors. But exogenous factors have compounded these and constituted an additional force working against the Senegalese economy. These include, among others, a prolonged severe drought, the collapse of commodity prices, two oil shocks, the rise in imported foodstuff prices, escalation of manufactured goods prices, and the soaring of the dollar exchange rate.

Our analysis of debt burden by debt indicators generates concern about the Senegalese case even if Côte d'Ivoire's situation is more alarming on a sub-regional scale. This study reveals that in Senegal the problem is mainly of a liquidity concern. Nevertheless these short-term liquidity problems hide the critical long-term problems: lack of export diversification, inefficient domestic resource mobilization as well as misallocation of investment expenditures.

(1) See table 14, chapter II above.

Our overall objective in this study has been to investigate to which extent external resources have contributed to Senegalese economic growth. Secondly, given that savings is a commonly recognised growth determinant, the study also attempted to examine what have been the main determinants of domestic savings. The role of foreign capital inflows in economic growth was studied in the framework of the two-gap theory and the study of the determinants of domestic savings has followed the ECA/ADB specification. The effects of foreign capital on growth were measured within the framework of the Kessler Model as extended with Papanek's disaggregation assumptions and Mosley's time-lags. Our results seem to confirm the traditional theory of foreign capital inflows as an engine of growth. These results from a time-series analysis on an individual country are not totally consistent with other cross-country studies which, by the way, had relatively lower goodness of fit (2). On the other hand, Mosley's time lagging technique does not seem to be applicable on the Senegalese specific case. As a whole, Senegal's growth during the period 1970-1981 has been significantly determined by domestic savings, export revenues and the debt component of foreign capital inflows.

(2) Papanek's R^2 is 0.33, while Mosley's is 0.29 for less-developed countries, 0.26 for middle-income countries and 0.43 when he replaced savings/GNP by taxes/GNP. Papanek's savings specification shows a higher R^2 (0.72) when the population size is taken into account. Our own results yielded $R^2 = 0.97$

The role of domestic savings in economic growth was confirmed. Debt (financial inflows other than concessional loans) act positively on economic growth and this kind of external capital may be considered to have been project-tied. The export sector also evidences a positive relationship relative to growth and hence supports the export-growth led theory. The role of the level of income in saving behaviour is consistent with theory and establishes the fundamental role of the income level in the savings behaviour. Direct investment also seems to enhance domestic savings while debt seems to affect negatively domestic savings. Export earnings are positively related with savings. On the contrary taxation seems to penalize private savings effort. In the following, policy recommendations towards domestic resource mobilization are presented.

2. POLICY RECOMMENDATIONS

Results of our regressions have shown that domestic savings, among other factors, constitute one of the major factors determining the rate of growth in Senegal. They have also shown that the level of income is fundamental in the saving behaviour. Our policy recommendations will therefore emphasize an active mobilization of domestic savings through increasing incomes and institutional reforms. Other solutions of the debt problem such as debt rescheduling, extended concessional foreign lending, debt cancellation etc... are certainly important but we consider such solutions as palliatives and short-term oriented. We will thus

be concerned mainly with long-term policies based on extensive mobilization of domestic resources rather than on an externally-financed growth strategy.

2.1. SAVINGS MOBILIZATION

For domestic resource mobilization purposes, complementary efforts must be made by the public sector and the private sector. Government can increase its savings either by increasing tax revenues or by reducing its expenditures. On the other hand, private savings may be stimulated mainly by institutional and interest rate reforms which allow those assets to be channelled more and more through official financial institutions.

I - Government Savings

(A) Tax Revenue Increase

- It has been observed that the cost of living is rather high in Senegal and Dakar particularly (3). Thus, for increasing government revenues, increases in taxes are not

(3) Dakar has been periodically classified as one of the "most expensive town" in the world. According to Jeune Afrique (March 1988), Dakar was the 9th most expensive city in 1987.

regarded favourably. However, a selective tax increase seems to be feasible in the area of compulsory savings (social security and other insurance contributions by employers and employees). It should also be possible to extend the tax base via consumption taxes. In this respect, Senegalese consumption taxes have been mainly collected on alcohol, tobacco, energy products and luxury items. Reforms in this field can be focused on collecting additional imports, sales, and excise taxes.

- More efficient tax collection is a potential source of increasing government revenues. Not all taxes do end up in government receipts, because certain tax-payers always try to escape from tax payment. Thus, measures have to be implemented and strengthened to discourage tax evasion. Government can, for instance, grant incentives to administrative agents who have distinguished themselves in identifying tax evaders.

- Under the present Investment Code, foreign investors have been enjoying favourable operational conditions: income tax holidays, import duty exonerations, free repatriation of profits, cheap supply of utilities etc... Some of these incentives such as tax and tariff exemptions lead to substantial losses to government revenues and they should

- 4 -

therefore be eliminated. A favourable macro economic environment is all that is essential as the main incentive for industrial development.

(B) Government Expenditure decrease

- An indirect way of improving public savings is reduction in government recurrent expenditures. Reductions in social subsidies such as food subsidies, rent subsidies, transport subsidies end up in human capital deterioration and mass poverty, not to mention social unrest. Therefore, cutting these government expenditures or squeezing wages and salaries should not be pursued any further. However, efforts in raising the efficiency of state enterprises should be pursued to maximize their output and reduce the drain on public sector subsidies that keep most of them operating. Efforts should also be strengthened in the field of reducing the number of embassies, military and national security expenditures.

- Measures can also be taken to reduce and eliminate some of the fat in the government capital budget. Public expenditure programming should identify priority projects and attention should be given to recurrent expenditures on ongoing projects before allocating funds for financing new projects after this, the government should also pay higher attention to maintenance of the existing infrastructure

(transportation, communication, basic utilities and services). In this way only residual amounts should be allocated to finance new projects. Efforts must also be furthered to maximize labour and capital output within the existing production capacity as well as maintaining and increasing the rate of utilization of the existing capacity (4).

II - Private Savings

(A) Taxation and Export Promotion

- It can be easily shown that agricultural export taxes have been penalizing agricultural incomes very heavily (5). Such high taxes can destroy incentives and efforts in the agricultural sector. Measures should therefore be further employed to lower such taxes towards an optimum tax which

(4) See MAH'MOUD, M.I.: "Possible National Strategies to the Balance of Payments in African Countries", Financial Journal, Vol. 6 N°. 2, ACMS, Dakar, 1985.

(5) Producer price over border price ratios indicate to which extent agricultural incomes are penalized or stimulated. This indicator was 0.59 and 0.35 for Senegalese groundnuts and cotton respectively in 1979/80. See ECA/ADB, Economic Report on Africa 1987, op. cit. p. 32.

will preserve both incentives and government receipts. Once private incomes increase, they will constitute a stronger base for higher saving capacity.

- Our qualitative analysis has underscored the fact that Senegalese exportables are concentrated in a few products. Exports diversification has thus to be intensified and strengthened. Simultaneously, a selective export promotion needs prior market research on international market trends in order to identify the most favourable foreign-exchange generating products.

(B) Institutional Reforms (6)

- It would be necessary to incorporate tontines in the official financial system. Informal savings clubs have gained their efficiency mainly because of their flexibility in collecting small amounts of savings and providing credit to members. Official financial institutions generally refuse to lend to small borrowers (peasants, farmers, craftsmen, rural or suburban businessmen...).

(6) These institutional reforms have been extensively studied by QUARCOO Philip in "Credit Allocation in Segmented Capital Markets of Underdeveloped Economies", Savings and Development, Vol. III N° 3, 1979 and the above discussion draws largely from this source.

Many observers think that these official institutions tend to overestimate risks of default by small borrowers (7). Reforms should therefore be made to bring together those informal savings clubs and centralize their needs as there is no special need to destroy such informal financial markets. These small savers and borrowers should be grouped into large cooperatives within which leaders should be elected to assume loan distribution and collection of payments responsibilities. Group sanctions (or social sanctions) can eliminate risks of default and delinquency quite substantially (8).

- Another clue to effective savings mobilization lies in geographic coverage of financial institutions. The majority of commercial banks, development banks, post office savings banks... are concentrated in Dakar the capital. This indicate that such institutions show little interest in rural households and businessmen. This attitude can be interpreted as a principle of waiting for customers instead of going to them. Nearness of financial institutions to rural dwellers can achieve the objective of col-

(7) Some of them are QUARCOO, ECA/ADB among others.

(8) QUARCOO, P., op. cit.

lecting more rural savings as well as also provide the means for allocating credit to rural borrowers. Financial institutions, if implanted in rural areas, should also provide non-monetary services to rural customers such as project analysis help, financial management counselling... All other development institutions (building societies, insurance companies, provident and pension funds societies...) should also extend their networks to rural areas. Implanting these development institutions in rural areas can take time. Therefore, in the short-term, reforms can be directed to inaugurate rural mobile banks. Periodically (at village market days for instance), these rural mobile banks can pay visits to rural dwellers to collect their savings and provide loans.

- Formation of cooperatives is also highly recommended. Many small and medium-size cooperatives do exist in Senegal and are locally known as "Groupements de Producteurs". In these organizations made up usually of farmers and women particularly, members bind together to take charge of day-to-day operations. They usually perform all these operations using their own manpower and raise their capital in forms of contributions and land. First of all, efforts should be made by the government to integrate these organizations into large groups on a nationwide scale. The cooperatives if unified, can apply for credit from financial institutions and, in their turn,

they can provide more credit to members wishing to undertake agricultural or small-scale industry projects.

- Perhaps the single most powerful reform to recommend is the simplifying of procedures. Financial and development institutions, especially those implanted in rural areas, should pay a high attention to simplifying all their procedures. In this respect, fundamental institutional reforms need to be inaugurated to meet the needs and preferences of small savers and borrowers: minimum paperwork, facility of withdrawal, providing of borrowed funds on time etc...

(C) Interest Reforms

One major policy objective to be pursued is a positive real interest rate strategy. It is commonly observed that African countries have been implementing policies of low nominal interest rates (9). The objective has been to stimulate investment and minimize interest cost to the public and private sectors. These low nominal interest

(9) See YAO, François: "Capital Markets and Resource Mobilization in Africa", Financial Journal, Vol. 7 N° 2, ACMS, 1986.

rates can be understandable if the government is to use borrowed funds to build schools, hospitals and other infrastructure. However, such low interest rates can also allow the government to use low-cost resource in unproductive outlays and allow private investors to finance low-return generating projects. In addition such low nominal interest rates also explain the frequent resort of households to keep their savings in forms of physical assets (gold, land, other precious metals...) to avoid monetary erosion by inflation, or the common practise of capital flight in search of higher yield on deposits abroad. Therefore reforms should be implemented to apply higher real interest rates reflecting real capital costs. Subsidized interest rates must also be eliminated to avert fungibility of money into consumption or inefficient uses.

As a final note, it may be underlined that, once again, a favourable environment (political and macroeconomic) remain the prerequisites for any development strategy to succeed. Therefore, confidence in the national monetary and fiscal agencies and institutions as well as an effective savings mobilization strategy continue to be the key elements for development in Senegal.

ANNEX, Table 1: GROWTH DETERMINANTS

(GDP in billion of CFA, other data as % of GNP)

: Year :	g :	S/GDP :	A/GNP :	D/GNP :	D.I/GNP :	GDP :	X _t :
: 1970 :	2.96 :	11.28 :	0.64 :	1.56 :	0.45 :	240.1 :	- 0.6 :
: 1971 :	10.68 :	9.22 :	1.35 :	0.88 :	0.88 :	247.2 :	43.9 :
: 1972 :	1.72 :	12.68 :	0.95 :	0.95 :	1.15 :	273.6 :	6.6 :
: 1973 :	21.74 :	8.73 :	3.66 :	4.52 :	0.37 :	278.3 :	66.8 :
: 1974 :	19.96 :	15.74 :	2.83 :	3.14 :	0.38 :	338.8 :	12.8 :
: 1975 :	13.02 :	12.32 :	1.81 :	2.32 :	1.55 :	406.4 :	1.1 :
: 1976 :	5.29 :	8.49 :	2.03 :	2.40 :	1.89 :	459.3 :	23.3 :
: 1977 :	2.29 :	8.70 :	2.26 :	2.93 :	1.18 :	483.6 :	- 16.5 :
: 1978 :	17.46 :	3.73 :	4.33 :	6.24 :	- 0.21 :	494.7 :	23.4 :
: 1979 :	8.00 :	1.72 :	3.37 :	5.10 :	0.19 :	581.9 :	- 0.04 :
: 1980 :	6.72 :	- 2.66 :	4.31 :	6.83 :	0.54 :	627.6 :	- 23.5 :
: 1981 :	26.02 :	- 5.88 :	4.48 :	4.90 :	...	669.8 :	24.1 :
: 1982 :	15.82 :	4.7 :	:	:	:	:	- 6.3 :

Equations 1 and 2 were computed from this table,

Export growth rate: see table 12, Chapter 2.

ANNEX, Table 2: DETERMINANTS OF SAVINGS

(Millions of US dollars)

: Year	: SAVINGS:	GNPH	: AID	: DEBT	: DIR. INV:	EXP	: TAX REV:
: 1970	: 97.58	: 234.1	: 5.4	: 13.2	: 4.7	: 3.02	: 130.0
: 1971	: 82.27	: 233.4	: 14.0	: 9.10	: 9.4	: 93.75	: 141.4
: 1972	: 137.58	: 259.6	: 10.1	: 10.1	: 12.8	: 23.43	: 166.1
: 1973	: 109.15	: 281.2	: 44.6	: 55.2	: 5.0	: 245.42	: 200.0
: 1974	: 223.28	: 369.7	: 38.5	: 42.8	: 7.0	: 89.65	: 229.5
: 1975	: 233.76	: 370.5	: 33.4	: 42.7	: 29.4	: 7.51	: 307.5
: 1976	: 163.19	: 364.4	: 38.6	: 45.5	: 36.2	: 153.88	: 367.0
: 1977	: 171.36	: 392.2	: 43.3	: 56.1	: 25.1	-187.24	: 339.5
: 1978	: 81.98	: 475.5	: 91.8	: 133.2	: - 5.5	: 279.22	: 512.4
: 1979	: 47.00	: 503.6	: 89.0	: 134.5	: 5.5	-384.79	: 628.5
: 1980	: -79.03	: 402.6	: 123.7	: 196.0	: 12.9	: -52.12	: 475.1
: 1981	-144.99	:	:	:	:	:	:

Equations 3 and 4 were computed from this table.

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