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SENEGAL: CREDITWORTHINESS STUDY

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CPD Discussion Paper No. 1985-3
October 1984

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A B S T R A C T

This paper evaluates Senegal's likely international creditworthiness over the medium and long terms given its present economic situation, and assesses the likely consequences of projected levels of indebtedness on growth in real GDP and per capita consumption. It is organized around the fact that a country's ability to service its debt can be divided conceptually into two components, one relating to the past and the other relating to the future. In the first part of the paper, Senegal's historical accumulation of foreign debt, past patterns of investment and the operation of domestic resource mobilizing procedures are discussed in the setting of the country's planning processes, domestic consumption levels, central government budgetary needs and fluctuations in the value of agricultural output. The second part of the paper examines the likely future availability of foreign financing and the capacity of the economy to produce and mobilize the additional tradeable goods required to service both past and expected future debt. In this part of the paper, projections of the real economy, of public finances and of the balance of payments are used to assess the financial implications of a continuation of recent past trends, and to discuss policy measures that would enhance the country's creditworthiness.

Summary and Conclusions

1. Senegal's foreign liabilities, both debt and other financial instruments, have grown rapidly since the mid-1970s. Combined with severe shortfalls in recent export levels, partially reflecting the effects of drought and partially reflecting the fall in commodity prices associated with the world recession and with the appreciation of the US dollar, rising debt service obligations have led to widening current account and balance of payments deficits. Senegal has been forced to reschedule its external obligations to bilateral official creditors and to private commercial banks. These developments necessitate a major change in Senegal's external borrowing and macroeconomic policies. This study views the historical trends and patterns in Senegal's accumulation of foreign debt, and places it in he context of the international experience of other, similarly situated, developing countries. The focus is on public debt as this is most directly controlled by the authorities and most closely linked to other important policy areas, particularly fiscal policy. The broader development issues of sectoral, commercial and other public management policies are treated in the recent World Bank Report, No. 5243-SE (Senegal: Country Economic Memorandum), which outlines the macroeconomic context within which this study has been conducted.

The Present Debt Servicing Problem

2. By international comparison, Sengal's debt indicators are similar to those of other countries that have recently rescheduled their debts. Rescheduling has reduced immediate debt service ratios. There are, however, several indications that reschedulings have not resolved Senegal's debt problems. This justifies a concern over the ability of the economy to utilize

foreign resources in a beneficial manner and, hence, over donor willingness to commit a volume of funds that would permit the implementation of the sixth development plan. The study, therefore, places major emphasis on overall macroeconomic and balance of payments management in an attempt to identify the debt-carrying capacity of the economy and the link between the availability of new external funds and the need for economic adjustment.

3. The first indicator of future debt problems relates to the growth in outstanding debt. Senegal's experience is unusual in that debt accumulation has continued at a rapid rate despite the rise in world interest rates (which are relevant for the marginal financing sources, such as the compte d'operations). In many other countries, domestic adjustment has slowed the pace of debt accumulation. Second, this rise in external debt stems from continued imbalances in public finances. Exceptional foreign financing from the IMF, Kuwaiti deposit and the compte d'operations has further increased the total foreign liabilities of the government. Also, the growth of public debt has been accentuated by the rescheduling of amortization payments due meaning the country continues to hold old debt liabilities while incurring large new liabilities.

4. Other important changes have also occurred. The growth in public debt has occurred alongside a rapid diminution of the net foreign liabilities of the private banking system. Thus, public borrowing from abroad has facilitated the private banks' reduction of expensive foreign debt. Fifth, much of the growth in debt is attributable to large deficits on the Agricultural Price Stabilization Fund and to transfers to fill the operating deficits of state enterprises. This reflects inopportune pricing policies rather than borrowing for investment. Sixth, high public current expenditures have limited the availability of counterpart funds for investment and have

consequently slowed disbursements of official aid. This has led to a substitution of expensive, commercial rate money (the compte d'operation) for cheaper development assistance in financing the balance of payments.

5. This picture is further complicated by the vulnerability of the Senegalese economy to exogenous shocks. The structural characteristics of the economy--its dependence on primay exports and the concomitant uncertainty in export revenues, the low share of manufacturing in GDP, the low historical growth rates of output and exports--imply that debt carrying capacity is below that for other countries in a similar income class Nevertheless, the economy is likely to be subjected to shocks in the future. Then, the ability to smooth adjustment will be reduced by the lack of creditworthiness. Improved flexibility of demand management will be a critical ingredient of adjustment to future shocks.

6. The pattern of public borrowing suggests that much of the increase in external liabilities has gone to finance consumption rather investment. In the recent past, there is direct evidence from the build-up of nonproject foreign liabilities such as use of IMF resources, of the Kuwaiti deposit, of compte d'operations drawings and of rescheduling debt service obligations. Macroeconomic data suggest that this pattern is also true of a longer historical period stretching over the decade of the 1970s. The share of real investment in real GDP has been consistently below the 1970-72 average since 1973, while the share of real consumption has been higher. This increase in consumption appears to hold for both the public and private sectors. Econometric estimates suggest that about 60 cents of each additional dollar borrowed was spent directly on consumption goods. This may have been justifiable had the prospects for future income growth been high But with

stagnant growth, these high past consumption levels have left a legacy of large debt without concomitant increases in the domestic capital stock.

7. There are several mechanisms by which external borrowing has been directed into consumption. First, it appears that official lending for projects to the public sector has been fungible. The share of domestic resources going to development expenditures has been whittled away to zero. These freed up resources have instead financed a growing recurrent expenditure burden, consisting both of high wage and salary bill outlays and of large transfers to finance state enterprise operating deficits. The inability to impose adequate financial responsibility on the pervasive state and mixed enterprise system is a central reason for the growth of public borrowing. It has also permitted a system of controlled prices to be perpetuated. This has led to a sharp rise in real disposable personal incomes, which have also benefitted from a rise in the share of government spending on items that directly further private consumption. Thus, the private urban sector received much of the benefits of public borrowing. Finally, the private rural sector also indirectly benefitted from external funds because these permitted a relaxation in government fiscal discipline. This has resulted in the significant decline in successful efforts to collect rural loans and also allowed the government to absorb the losses of its rural credit program without enforcing adjustment elsewhere.

8. Those funds that did go into new investments did not provide the kind of resources necessary to meet the future debt service obligations that accompany foreign borrowing. Investments seem to have been inefficient (relfected in a high ICOR) and geared more towards the production of nontradeable rather than tradeable output. Over the decade of the 1980s, an

ever smaller share of GDP could be classified as tradeable. It is these foreign exchange resources, however, that are needed for debt service.

9. Many of these problems reflect the inadequacy of the planning process in which a coherent foreign borrowing strategy could be devised. Authority for signing new loan agreements was broadly dispersed and adequate figures on the stock of debt and debt service obligations are not available. Without restrictions on the degree of public foreign borrowing, responsibility for macroeconomic balance has shifted to the need for fiscal control, a commercial policy of promoting exports and import substitutes and on effective public resource mobilization. Lacking these, the build-up of debt has been excessive. Of particular importance, the given link between public investment, planning and foreign aid commitments has been weakened by the inability of the government to contribute domestic resources to development expenditures. This has weakened the concept of a capital expenditure program partly financed by "budget" resources and reduced the ability of planners to achieve a desired level and sectoral allocation of investment.

10. Given the concerns identified above, it is evident that a more systematic approach to public foreign borrowing is required to integrate donor's willingness to lend with the priority investment needs of the country with an overall program of resource mobilization and with flexible demand management in the face of uncertainty. Senegal has not yet moved aggressively in these directions. Until it does so, its prospects for improving creditworthiness are poor.

Projections for the Future

11. The imbalances caused by present policies and trends have been sustained in the recent past by drawings from exceptional financing sources and from greater donor commitments. Such assisance is, however, unlikely to

continue. There are already signs of a more jaundiced attitude by donors towards Senegal. These attitudes would be reinforced if present trends were to continue. The prospects are for major financial imbalances if the intentions in the Sixth Plan are adhered to. First, the government's needs for exceptional financing, over and above estimated foreign aid disbursements and new domestic credits, would grow at a rapid rate. Second, the current account deficit will continue increasing and will remain larger than projected capital inflows. As a result, the balance on the compte d'operations will reach unsustainable levels. Third, these developments would limit the availability of private credit, resulting in a contraction of output growth and investment.

12. The infeasibility of the scenario based on the Sixth Plan implies that some kind of forced adjustment would occur. One possibility is that payments to domestic and foreign suppliers would become subject to increasingly long delays, import financing would dry up and debt service payments would fall into arrears. Foreign exchange and import controls would then be needed but would probably be accompanied by declines in government maintenance and operation expenditures and in public and private investment. The result would be severely depressed growth and employment. Real per capita consumption would also decline.

13. The danger of an unplanned, ad hoc, forced adjustment reinforces the contention that Senegal is not creditworthy at present. It also points to the pressing need for immediate policy action to implement a comprehensive adjustment program. Some additional coordinated assistance from donors would be valuable in implementing such a program. Precise sectoral policies are treated in the country economic memorandum. The main outlines of successful change is as follows. First, new borrowing should be carefully considered in

terms of its likely contribution to future output relative to the debt service costs. It would appear that the country should refrain from all borrowing on private commercial terms. Measures to reduce planned government expenditure and restore fiscal balance must be implemented. This may involve a cut-back in development expenditures. The negative impact of this may be attenuated, however, by a restructuring of such expenditures towards higher priority projects. This would be helped by a coherent strategy towards investment planning and a closer link to a coordinated aid donor strategy. Private savings must be encouraged by reducing direct and indirect transfers to the private sector from the government. Effective resource mobilization is critical. Finally, a greater awareness of the volatility of the external environment and its impact on the economy must be incorporated in a more flexible approach to demand management.

14. The change in policy involes a far-reaching effort on the part of the Senegalese authorities. Even if these policies are implemented, it is far from clear that creditworthiness will be immediately restored. What is clear, however, is that existing trends present no hope for the future. Policy change, accompanied by additional foreign assistance on concessional terms, is clearly preferred as a way to mitigate the negative impact on consumption and employment which Senegal's loss of creditworthiness will have.

SENEGAL - CREDITWORTHINESS STUDY

I. INTRODUCTION

1. Senegal's external debt has grown rapidly in recent years and in conjunction with other domestic occurrences is now causing serious debt servicing problems. External debt outstanding and disbursed stood at about $1.5 billion at the end of December 1982, equivalent to 61 percent of GNP. This reflects steady growth at annual rates of 25 percent per annum from 1973 to the present. Annual commitments have risen tenfold over the past decade. Despite these substantial capital inflows, GNP per capita has been stagnant, such that debt service has become an ever growing burden on the economy.

2. There is, furthermore, little evidence to suggest that this trend will be broken in the near future. The past three years have been witness to a dramatic rise in non-debt foreign liabilities (use of IMF, Kuwaiti and French treasury resources) to almost $500 million. These are not associated directly with productive investments but have been geared more towards budgetary and balance of payments support. In 1982, the central government financed 38 percent of its current and development expenditures with funds of external origin, relative to just 7 percent in 1971. The government no longer makes any contribution to its development expenditures from internally generated resources. In addition, most public enterprises are increasingly relying on foreign financing, both directly from creditors and indirectly via their drawings on the government budget. The resulting public sector deficit is, in the last analysis, financed by a French Treasury credit to the Central Bank, the "operations account".

3. One consequence of Senegal's heavy recourse to foreign borrowing has been the growing burden of debt service payments on the government budget and balance of payments. By 1980, the local currency equivalent of publicly-owed foreign debt service payments amounted to over c.f.a. 40 billion compared to public current revenues of c.f.a. 126 billion and recurrent expenditures of c.f.a. 152 billion. This same debt service figure constituted 113 percent of foreign capital inflows to the budget of c.f.a. 35 billion in 1980. Obligations due in 1981, 1982 and 1983 would have been still higher. However, since the government was unable to meet these latter payments, the authorities sought a rescheduling of their debts with the Paris Club for each of these three years. In addition, arrangements were made in early 1984 to reschedule commercial bank debt.

4. Despite these debt servicing problems, the government has assigned a substantial role for foreign borrowing in the revised Sixth Plan. Plan estimates suggest that Senegal expects to finance some two-thirds of its future investments (or around $1.06 billion) with foreign funds. As there is still, however, a large portion of the financing requirements not identified by source in the Plan, it is inevitable that reliance on foreign borrowing will be even greater than these numbers indicate. Indeed, it is quite possible that rescheduling plus these new capital requirements would cause debt to grow even faster than in the past.

5. This program of desired future foreign financing, however, has not been reconciled with the likely availability of funds. Debt servicing problems, manifested in the annual rescheduling exercises of the past three years, lowered creditor perceptions of Senegal's creditworthiness. This changing attitude of donors could portend a slowdown in the magnitude of new commitment offers, unless important changes in domesti. economic policy can

reverse the trend decline in creditworthiness. The central question addressed in this paper is how this existing inconsistency between the demand and supply of foreign funds can be reconciled. Given the high existing stock of external debt, what level of new borrowings can the Senegalese economy hope to support? What would be the domestic measures needed to relieve donor concern over creditworthiness to sustain a matching level of new commitments?

6. Senegal's current precarious situation is primarily the result of two problems in the economy. One is the low yield and inappropriate pattern of existing (and several proposed) investments. The second is the repeated occurrence of large deficits on the government's recurrent and capital accounts. The former problem has contributed to low real growth rates of tradeable GDP while the latter provides potential foreign donors with evidence that even with better growth, the government might be unable to reduce consumption in the economy in order to mobilize sufficient domestic resources to repay foreign obligations and/or finance future investments. In the face of past relatively slow growth, the recent inability to increase domestic resource mobilization has been particularly costly. Recurrent and capital expenditures have both been cut, affecting the efficiency of existing public capital and the prospects for growth from new public investments. Since it is mainly the latter which attracts foreign financing, commitments of new foreign loans could be affected, and disbursements for ongoing projects have been slowed down.

7. This paper evaluates Senegal's likely international creditworthiness over the medium- and long-term given its present, perilous economic situation. It assesses the likely consequences of projected levels of indebtedness on growth in real GDP and per capita consumption. The paper has been prepared as an input to the country economic memorandum, report

No. 524-SE and should be read in conjunction with this document. The focus is uniquely on Senegal even though the country is a member of the West African Monetary Union, a union in which, technically, the deficit of one country can be automatically financed by a surplus in another. Unfortunately, the other member countries in the union, notably Ivory Coast, are also expected to remain in deficit, something which precludes such financing and forces each country to look outside the union for financing to cover its deficits.

8. The paper is organized around the fact that the ability of a country to service its debts may be divided conceptually into two components, one relating to the past and the other relating to the future. The next part of this paper (Section II) recognizes that a country may be able to service its debts if past debt buildups occurred alongside capital formation in the traded goods sector sufficient to generate the resources necessary to service the debt. Such an outcome would depend both on appropriate amounts of efficient investment in tradeables production and on the existence of domestic resource mobilization mechanisms which can appropriate this traded output for servicing debt. The section concentrates on Senegal's historical accumulation of foreign debt, past patterns of investment, and the operation of domestic resource mobilizing procedures. These are discussed in the setting of the country's past planning processes, domestic consumption levels, central government budgetary needs and fluctuations in the value of agricultural output.

9. Section III of the paper recognizes that future creditworthiness also depends on Senegal's likely accumulation of foreign debt in the years ahead and its ability to produce enough tradeable output to cover both past and

future debt servicing obligations. 1/ The section therefore examines the likely availability of future foreign financing and the capacity of the economy to produce and mobilize the additional tradeable goods required to service both past and likely future debt. The section looks ahead, through medium- and long-term projections of the real economy, of public finances and of the balance of payments, to assess the financial implications of projected trends and new policy directives. The analysis is set in the context of the political economy of the international aid community and its likely reactions to various domestic policy initiatives in Senegal.

10. The major conclusion of the second or historical section of the paper is that investment in efficient (mainly agricultural) enterprises for the production of tradeable output was too low to support past amounts of foreign borrowing and domestic consumption. This appears to have been the case for two reasons. First public investments were inefficient and private investments repressed while both were geared more toward non-tradeable production. The result was that rates of growth of GDP in general and traded output in particular were low. The second is that the government increased borrowing from abroad and its own consumption and investment without anticipating the need to establish and administer new mechanisms for mobilizing resources from the private and parapublic sectors to meet the concomitant debt service obligations. As a result, not only was the government unable to dampen private sector demand to make room for its own expenditure requirements but it was also unable to adjust total demand to accommodate internationally induced (e.g., terms of trade) shocks which

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1/ A third point of view, the ability to repay new debt only -- assuming old debt is written off -- is not examined here.

occurred during the period. This lack of adequate adjustment mechanisms can be seen both in the expansion of income transfer mechanisms and consequent lack of suppression of private demand and in the inattention to the possibility of changing output and income patterns via appropriate price and exchange rate incentives. Instead, the government has relied too heavily on excessive money and credit creation which in turn has resulted in the need for extensive drawings on the French treasury. This has led to further external debt servicing needs and has strained the relationship between the central bank (BCEAO) and the commercial banks in Senegal.

11. Section III, which presents projections for the future, indicates that the historical problems identified above are likely to continue in the foreseeable future. If present policies as reflected in the revised Sixth Plan were to continue, there would be a tendency towards growing financial imbalances. Outstanding debt would increase sharply, from 61 percent of GDP in 1983 to 150 percent by 1995. A similar pattern would be observed for the debt/export ratio. The deficit on the operations account would amount to $3,265 million. The public sector would have to rely exclusively on foreign resources for its investment program and would still be forced to accumulate extraordinary resources (from outside the aid community and the central bank) in an amount of about 10 percent of its total expenditures. These resources would have to come from either additional debt service relief, from further aid flows, from the accumulation of domestic arrears or a further consolidation of domestic debt, such as a complete write off of ONCAD payments due in existing arrears.

12. These imbalances are likely to occur even in the relatively favorable world economic environment currently anticipated. Clearly, if the assumptions made here concerning export and import prices prove overly optimistic, trends would be even gloomier. On the other hand, there are certain measures which

could be taken to enhance creditworthiness. These would involve a reduction of government transfers to public enterprises and to the rural sector, a reduction in the scope of investment and the reorientation of resources towards more extensive use of existing capital capacity. Agricultural pricing and commercial policy changes will be critical for improving the efficient use of existing resources. Sharp cutbacks in the rate of expansion of wage and salary outlays and a coherent strategy towards investment planning and debt accumulation are also needed. Furthermore, the government must undertake successful adjustment to any future external shocks and reduce credit creation in the economy. All these measures, if implemented, would end the explosive growth of new debt and ensure that future resources can be allocated to the service of external debt. Borrowing at commercial terms would be highly undesirable for the economy. However, limited amounts of non-concessional official aid, with its longer maturity and lower interest rates, would be useful in supporting such a program. The simulations indicate the order of magnitude of such flows.

II. THE MAKING OF THE PRESENT DEBT SERVICING PROBLEM IN SENEGAL

Comparative Perspective

13. Senegal's debt indicators are not unlike those of other African countries (Zaire, Sudan, and Ivory Coast) which have rescheduled recently due to debt servicing troubles. The debt to GNP ratios tend to be quite high in these countries while debt service ratios have been rescheduled downward in recent years (Table 1). The lower debt service ratios and the extent of concessionality of loans are both quite favorable at present, again because of rescheduling. However, the extent of concessionality, as indicated in columns (5) and (6) of Table 1 relate more to the past than to the future. Recent

Table 1: COMPARATIVE DEBT INDICATORS
for year ending Dec. 31, 1982

	Debt Out-Standing Disbursed/ GNP (1)	Debt a/ Service Ratio (2)	Interest b/ Service Ratio (3)	Roll c/ Over Ratio (4)	% Concess-sional loans (5)	Average Interest Rate (6)	1981 Average Spread over LIBOR (7)
Senegal	55.0	12.9	8.2	5.6	42.7	4.3	2.0
Tanzania	30.4	94.0	31.5	3.6	76.4	2.5	0.0
Zaire	78.3	14.3	7.3	4.4	31.8	2.2	**
Sudan	71.2	21.3	2.9	6.1	46.2	3.6	1.6
Ivory Coast	63.4	44.9	20.3	1.8	8.6	13.5	1.5
Cameroon	28.8	27.2	12.4	1.3	42.6	9.2	0.0
Sub Sahara	24.5	**	**	2.8	39.9	8.5	
All LDC's	23.5	**	**	2.5	26.5	11.0	

a/ Debt service on medium and long term loans (excluding private non-guaranteed debt) divided by exports of goods and services.

b/ Interest payments on medium and long term loans divided by exports of goods and services

c/ Disbursements of medium and long term loans divided by principal repayment on such loans.

Source: World Bank staff estimates.

buildups of short-term foreign liabilities (drawings on IMF, Kuwaiti and French funds) would, if included, make the concessionality of Senegal's borrowings move much closer to those of the Ivory Coast.

14. Growth of public and publicly guaranteed medium- and long-term debt in Senegal during the 70s averaged 21 to 25 percent per annum (Table 2). With the exception of the 1980-82 period, these rates of growth are similar to those of other countries, both in sub-Saharan Africa and throughout the developing world. In 1980-82, however, the growth in developing countries' external indebtedness was sharply reduced, and is expected to remain at a

lower 10-12 percent per year growth through the 1980s. Senegal has been able to postpone the need to adjust to these new lower rates of growth by rescheduling the amortization of debt. Thus during 1980-82, outstanding debt continued to grow at 21 percent. For the future, however, the need to adjust remains pressing.

Table 2: SENEGAL'S GROWTH IN EXTERNAL INDEBTEDNESS a/
COMPARED WITH SELECTED AFRICAN COUNTRIES
(percent per annum)

	1971-80	1971-75	1975-80	1980-82
Senegal	25.0	25.0	25.0	21.0
Tanzania	18.0	27.0	11.0	9.0
Zaire	31.0	47.0	19.5	-1.8
Sudan	28.0	38.0	21.0	28.0
Ivory Coast	32.0	27.0	36.0	3.1
Cameroon	30.0	23.0	37.0	3.7
Sub-Sahara	22.0	22.0	23.0	11.0
All LDCs a/	22.0	22.0	22.0	12.0

a/ Public and publicly guaranteed outstanding debt disbursed only.

b/ Data starts 1973

Source: World Debt Tables: Bank staff estimates.

15. The comparative debt data presented in graphs 1 and 2 (over) generally show Senegal as "high normal" in 1981 when debt service data across a sample of countries are compared. For the developing countries shown, per capita income and debt service per capita rise together (Fig. 1), although with substantial variation. Senegal's debt service to GNP per capita ratio is in the cluster for the sample of developing countries although somewhat above most of the countries in the $400 - $500 per capita income range. A similar picture emerges from the stock ratios (Fig. 2).

Figure 1: DEBT SERVICE PER CAPITA - GNP PER CAPITA

1981

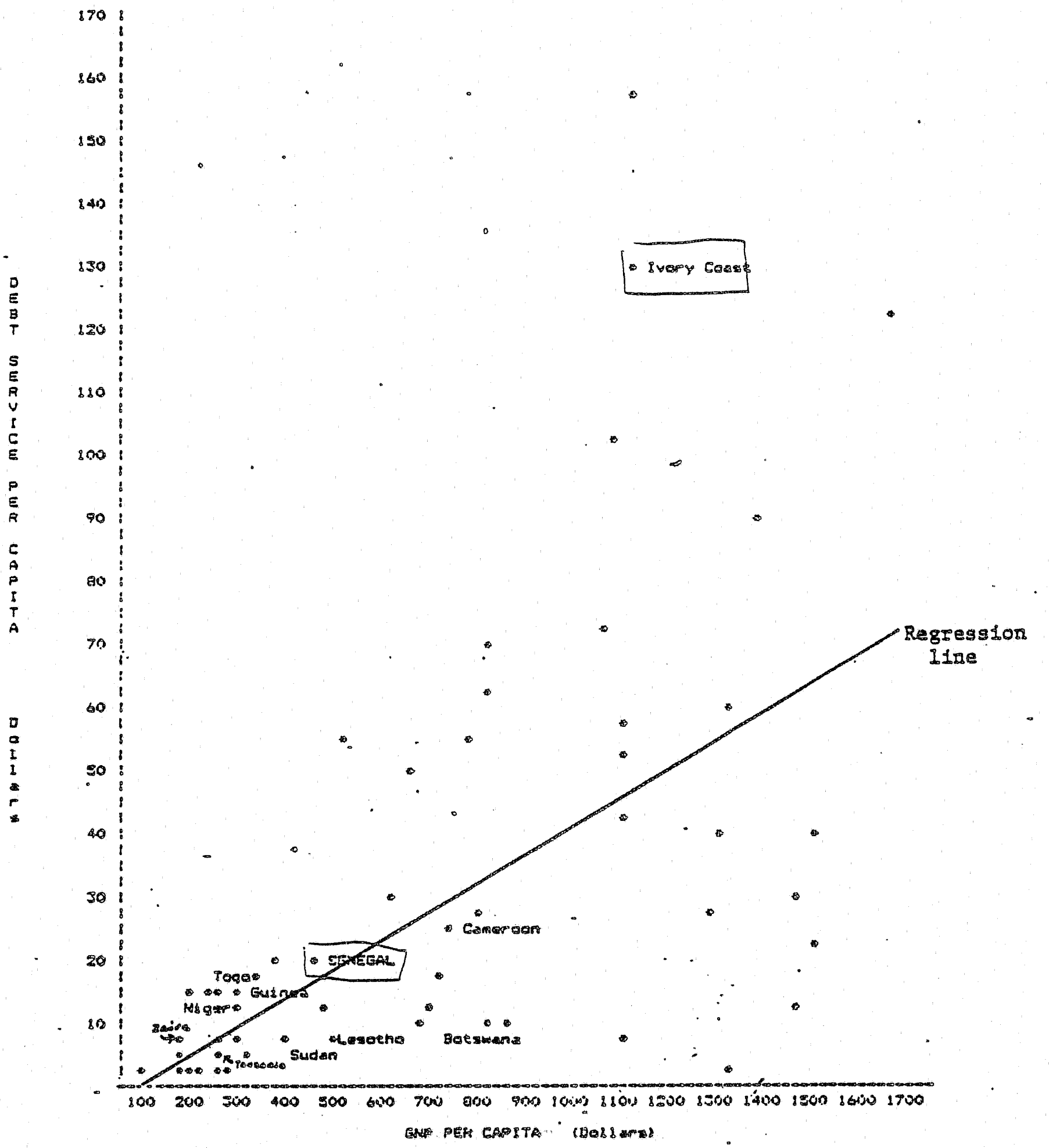
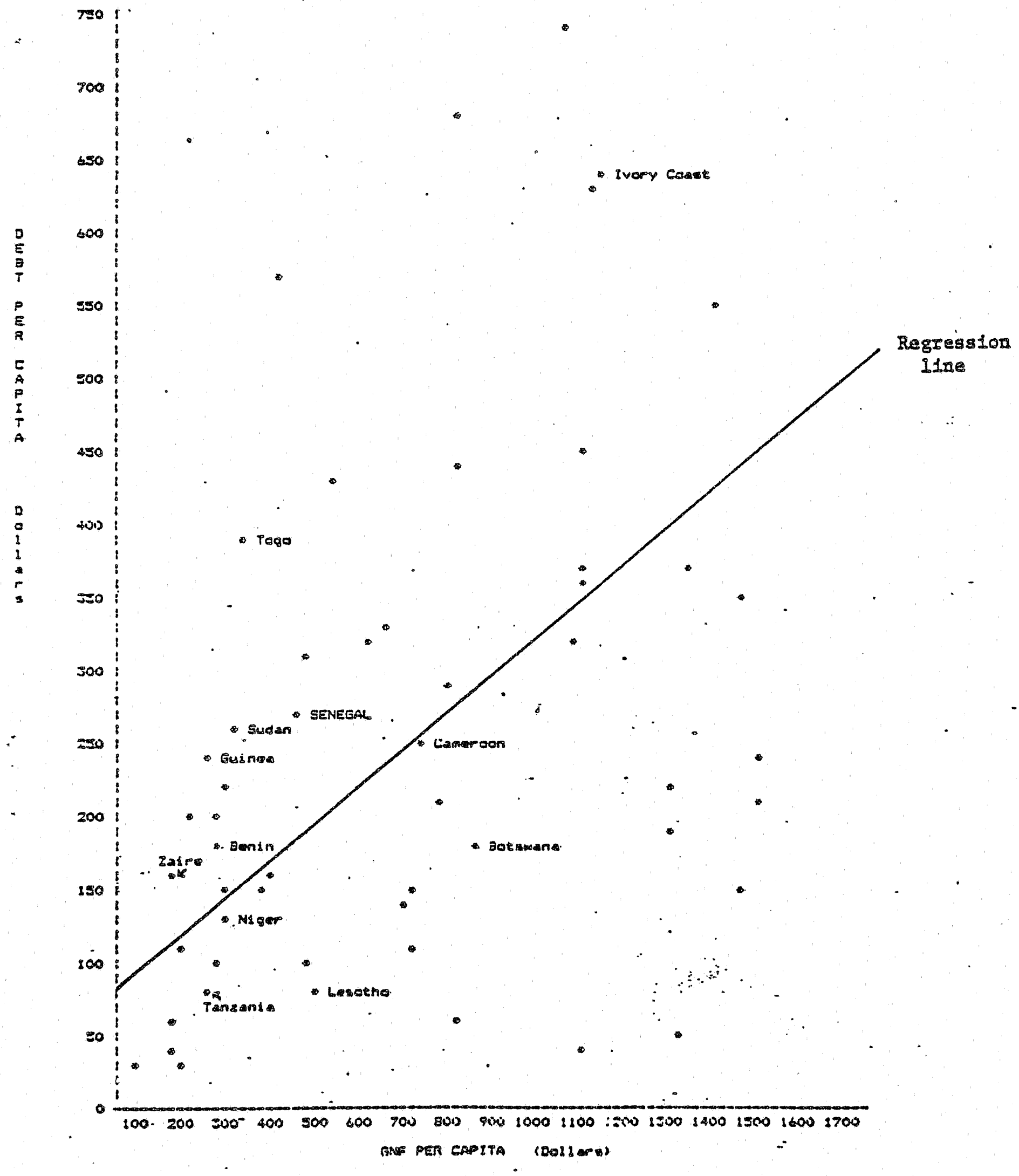


Figure 2: DEBT OUTSTANDING DISBURSED PER CAPITA - GNP PER CAPITA

1981



16. These comparative data suggest that Senegal's indebtedness and debt service indicators were only slightly above "average". This is not, however, grounds for complacency. Structural characteristics of Senegal's economy -- its dependence on primary exports and the concomitant uncertainty in export revenues, its low share of manufacturing in GDP, its historically low growth rates of output and exports -- imply that its debt carrying capacity is substantially lower than the average for its income class. Along with other countries with similar characteristics, this suggests that extensive reschedulings, and significant internal economic adjustments will be required to regain growth momentum and access to the non-concessional, international capital market. Indeed, over the past two years, Senegal's external position has deteriorated significantly compared with other countries.

The Dimensions of Senegal's Debt Service Crisis

17. Until the first rescheduling in 1981, Senegal's debt crisis can be most clearly seen by reference to the size of debt service payments relative to total debt outstanding and disbursed, exports and government revenue. Thereafter, because of the nature of the reschedulings of 1981, 1982 and 1983, it is the rise in the stock of debt relative to GNP, population and exports that suggest the magnitude of the problem. By 1980, debt service payments as a percentage of commodity exports, had risen to 36 percent (Table 3) and were projected to remain at this higher level. Debt service as a share of total debt had risen to 21 percent in 1980 from just 3 percent in 1974, meaning that the country had experienced a marked rise in borrowing costs and a shortening of maturities.

18. Since 1981, Senegal had to reschedule its debt service obligations four times. In 1981 and 1982, 77 and 84 million dollars were rescheduled at the Paris Club. In early 1984, a 92 million dollar commercial bank rescheduling was agreed upon while the Paris Club rescheduled 81 million

dollars. The focus of the reschedulings was short term: on how to reschedule debt service falling due during the following year. The terms on the 1983 Paris Club agreement were almost identical with the two previous accords: 90 percent of principal and interest falling due in the year ending June 30, 1984 are to be consolidated and repaid over 8-1/2 years, including four years of grace (measured from the end of the consolidation period). The remaining 10 percent nonconsolidated portion will be paid during the grace period, with the first payment falling due one month after the end of the consolidation period. Previously rescheduled debt is excluded.

19. The reschedulings have given temporary relief from immediate debt servicing requirements, bringing down the actual debt service to export ratio to 22 percent (8 percent compared to the stock of debt) by 1982. Similar dramatic reductions in government budgetary debt service compared to the stock of debt requirements occurred as such payments as percent of current revenue dropped from 32 percent in 1980 to 20 percent in 1982 (Table 3).

20. While they have brought relief in the cash-flow position the reschedulings caused the stock of debt to rise very rapidly because of the removal of the natural brake on this growth, the regular amortization of principal. As a result, Senegal's debt to GNP ratio and per capita indebtedness figures have risen from 37 percent and c.f.a. 35,000 in 1980 to 88 percent and c.f.a. 75,000 in 1982. During the same time span, debt outstanding and disbursed compared to exports has risen to 2.9. Total debt exceeded the non-service component of GDP by a factor of 1.7. These figures suggest that the reschedulings have brought only temporary relief of debt servicing problems. Such problems will reappear in the future as a result of the increase in the stock in the debt. This finding is borne out by the projection exercise in Section III of this paper which incorporates the impact of the reschedulings on future debt service requirements.

Table 3: SENEGAL: FOREIGN DEBT SERVICE BURDEN

	1971	1974	1980	1982
Debt Service Burden [a] as a percent of				
Total revenue	5.3	8.0	32.0	19.5
Current expenditure	6.4	9.0	26.4	18.0
Government development expenditure	68.8	40.6	105.3	125.5
External financing	75.6	85.0	113.3	83.0
Debt Service Burden [b] as a percent of				
Commodity exports	2.3	1.7	36.0	22.2
Debt Outstanding and disbursed (DOD) [c]	2.1	2.8	20.3	7.6
Memo item: [a]				
DOD/exports	113.2	62.4	183.0	287.4
DOD/GDP	15.9	17.3	37.0	88.4
DOD/Non-service GDP	42.1	39.7	68.3	167.5
DOD/Population	8.7	12.0	34.6	75.2

[a] Denominated in domestic currency (billions of CFAF).

[b] Denominated in US$ millions.

[c] Medium and long term public, publicly guaranteed and private non-guaranteed debt.

The Causes of the Debt Service Crisis

Excessive Buildup of Foreign Debt and Hardening Terms of Repayment

21. Senegal's foreign liabilities at the end of 1982 consisted of about $1.5 billion of "formal" debt outstanding and disbursed (DOD) -- of which $1.3 billion is medium- and long-term publicly owed debt -- plus $500 million of "balancing item" capital inflows called "other foreign liabilities (OFL) -- (Table 4). The latter are short-term liabilities considered to be repaid quickly either by running surpluses on the current account or by refinancing them with formally negotiated longer-term debt. Neither has occurred recently in Senegal, however.

Table 4: SENEGAL USE OF FOREIGN RESOURCES
in millions of US$ (as of end Dec.)

	1979	1980	1981	1982
Debt Outstanding & Disbursed (DOD)				
public and publicly guaranteed	792.2	863.4	945.4	1328.5
private non-guaranteed	7.3	9.0	8.2	12.4
short-term (maturity one year or less)	134.0	145.0	171.0	132.0
Total debt	933.5	1017.4	1124.6	1472.9
Other Foreign Liabilities (OFL)				
Use of IMF credit	60.7	97.9	147.8	184.0
Kuwait deposit	**	**	**	95.2
French Treasury	84.4	149.3	207.6	156.8
Net liabilities of the private banking system	121.7	96.5	81.4	58.5
Total Others	266.8	343.7	436.8	494.5
GRAND TOTAL	1200.3	1361.1	1561.4	1967.4

Source: DRS, IFS

22. Differentiation between formal debts (DOD) and other foreign liabilities (OFL) is useful primarily because, in the absence of reschedulings, they can indicate Senegal's changing creditworthiness. For DOD, hardening of borrowing terms, by increasing debt servicing requirements suggest reduced creditworthiness. As Senegal gained greater access to commercial creditors, its borrowing terms hardened (Fig. 3), peaking in 1976. Thereafter, borrowing from official sources substituted for private capital and terms eased. However, the net impact was the creation of a sharp bunching of repayment obligations as the grace period on commercial loans expired after 1979.

23. It is likely that the period from 1970 up to the first rescheduling (1981), can be considered a period of normal negotiating interchange between the Senegal government and its creditors. During that period the government needed varying amounts of commitments (and disbursements) which it sought in a credit market characterized by an array of lenders each offering pre-determined amounts of commitments. The lenders varied with respect to their credit terms, with those offering concessional money at one end and those offering short term non-concessional money at the other. Since the lenders apparently tended to establish lending targets independently of the terms Senegal was willing to pay, it can be assumed that Senegal could expand its borrowing, not by expanding the size of loans from a fixed number of suppliers but by increasing the number of lenders from whom it borrowed. In the relatively normal years of the early '70s, the government borrowed "normal" amounts from lenders offering mainly concessional money. Beginning in late 1974, however, the government's credit needs and its receipt of commitments rose rapidly (Fig. 4) to abnormally high levels. This forced the government

Figure 3: SENEGAL: TERMS OF COMMITMENT OF DOD

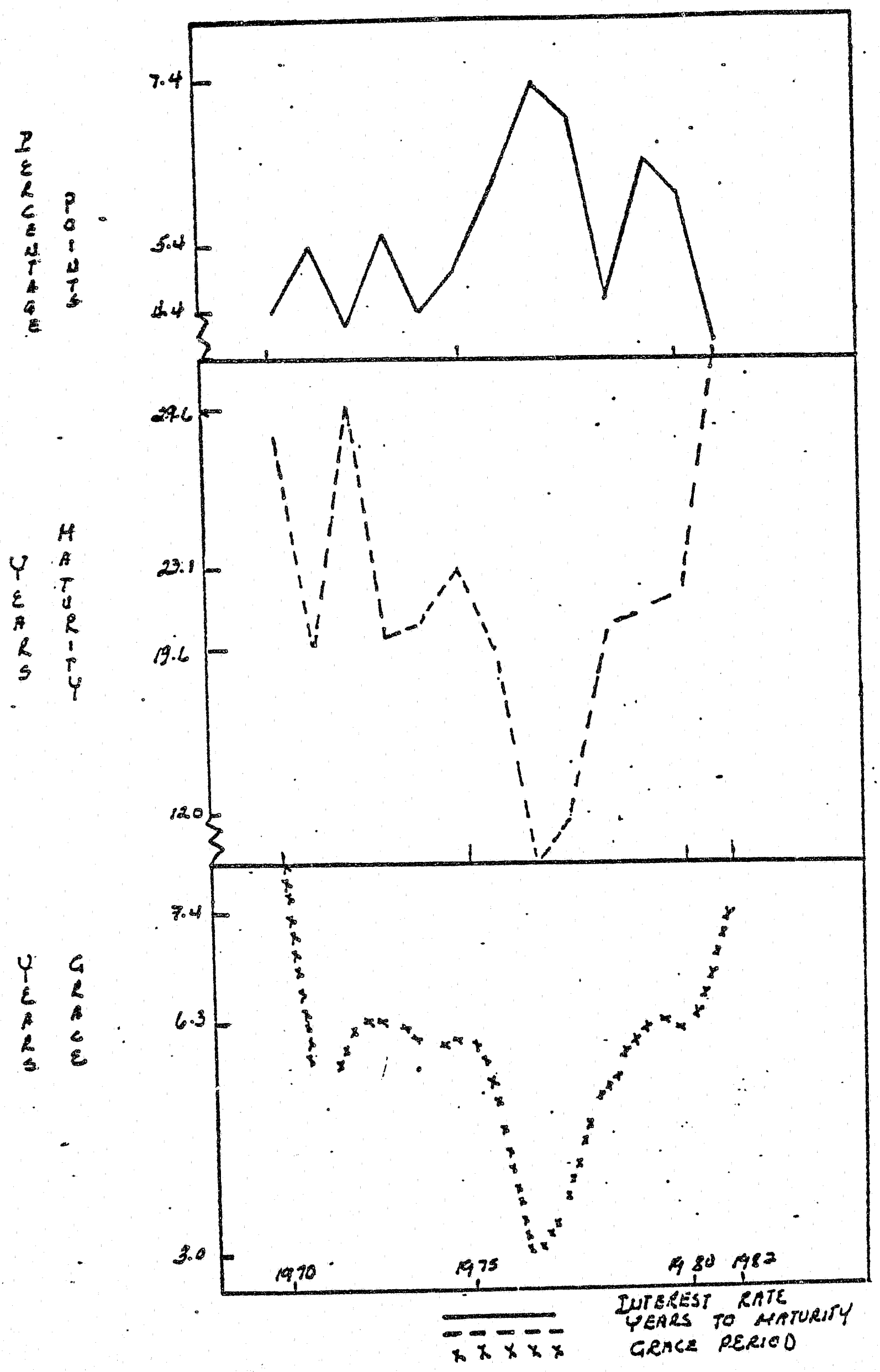
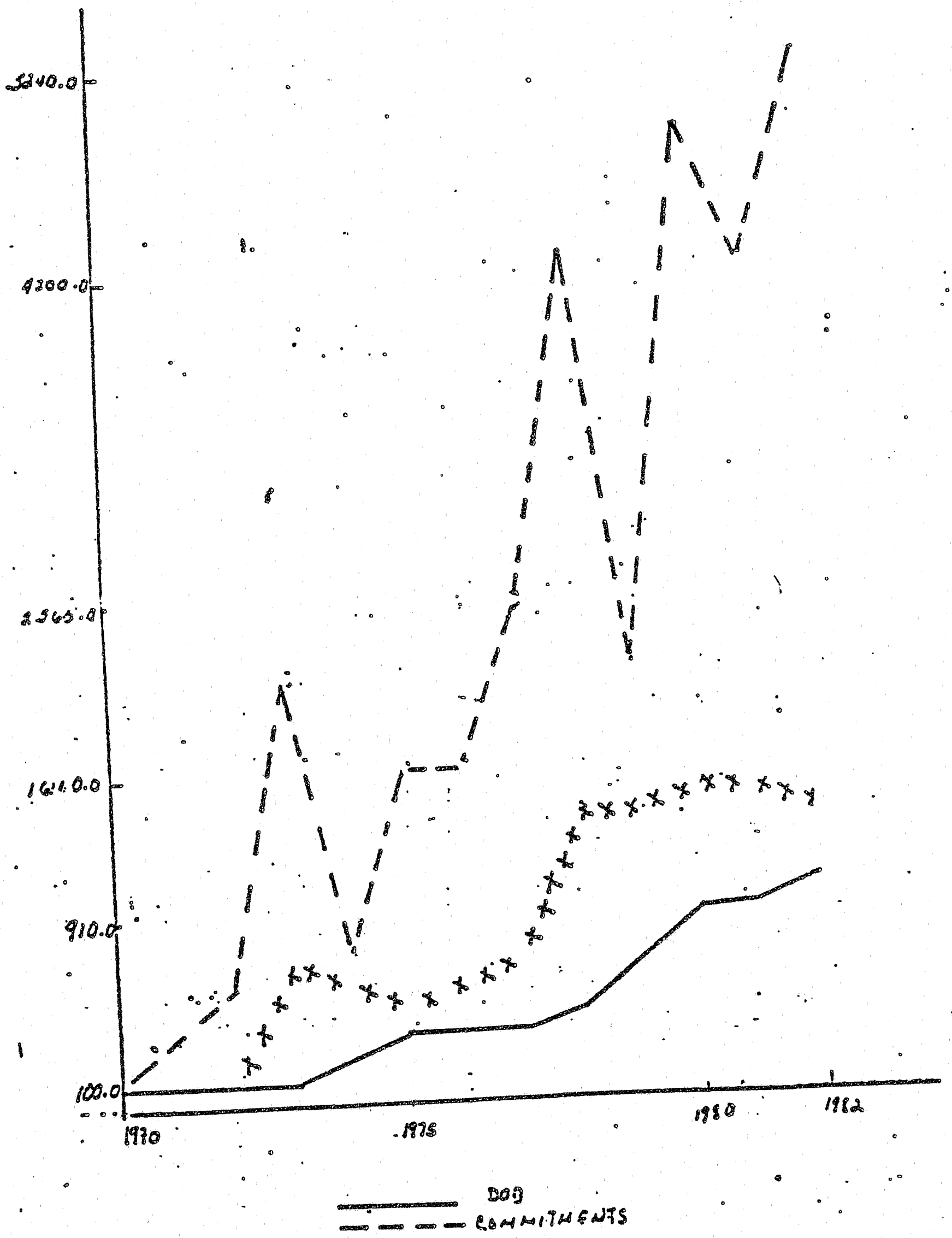


Figure 4: SENEGAL USE OF FOREIGN RESOURCES

in million of US$ (as of end Dec.)



to seek loans from less concessional lenders, given the fact that vendors of concessional credit are unwilling to expand their commitments. The government reversed the trend in 1978 - 79 by cutting back the amounts of newly negotiated loan commitments but terms hardened again in 1980. It was not until the first rescheduling in 1981 that the terms softened substantially.

24. Other debt data substantiate indications in Figures 3 and 4 that the government's borrowing practices changed significantly beginning in 1974. Central government and public corporation borrowing fell from about 96 percent to 92 percent of total DOD between 1971 and 1980. Then it rose to 97 percent of DOD in 1982 when other government agencies and private borrowers ceased to seek external credits guaranteed by the government. Foreign currency borrowing by Senegal also became much more internationally held. In the '60s and early '70s, three quarters of all external borrowing was denominated in French (25 percent) or c.f.a. (50 percent) francs (Table 5). By 1975, U.S. dollar denominated debt constituted 32 percent of total DOD while French and c.f.a. franc obligations fell to 40 percent.

Table 5: SENEGAL: CURRENCY DISTRIBUTION OF DEBT OUTSTANDING DISBURSED [a/]

CURRENCY	1970		1974		1979		1981		1982	
	($ mil)	(%)	($ mil)	(%)	($ mil)	(%)	($ mil)	(%)	($ mil)	(%)
US Dollar	0	0	85.1	32	285.3	31	345.1	32	519.2	39
French Franc	21.4	25	79.1	35	245.4	36	299.4	36	475.1	36
CFAF	43.7	50	12.3	5	41.5	5	30.4	3	24.4	2
Other [b/]	22.4	25	70.0	28	220.0	28	270.4	29	309.8	23
TOTAL	87.5	100	246.5	100	792.2	100	945.4	100	1,328.5	100

a/ Medium and long term public and publicly guaranteed debt.

b/ Includes loans denominated in multiple currencies and all other single currency loans.

Source: DRS Data.

25. The government's movement into the international private capital market occurred just as international interest rates and repayment terms were hardening. Senegal found itself borrowing needed foreign exchange increments from higher cost lenders who were themselves experiencing increasing costs of borrowing. As a result, the interest cost of Senegal's marginal borrowing rose from about 8 percent in the early '70s to 13 - 15 percent in the 1979-81 period.

26. The second reason for the increase in the cost, however, was creditors' increasing concern over Senegal's potential to repay its debt. Thus, the average spread over LIBOR of Senegal's Euro-borrowing rose to 2 percentage points above that of most other developing countries. This reflects a more jaundiced impression by lenders of Senegal's ability to repay debt rather than simply rising international interest rates. In addition, lenders were increasingly unwilling to extend fixed interest rate loans. The shift to variable interest rates (Table 6) increased the vulnerability of the debt position.

Table 6: SENEGAL: DISTRIBUTION OF DEBT OUTSTANDING DISBURSED a/
BY TYPE OF INTEREST RATE
(as of end December)

Type of Interest Rate	1969 ($ mil)	1969 (%)	1974 ($ mil)	1974 (%)	1979 ($ mil)	1979 (%)	1981 ($ mil)	1981 (%)	1982 ($ mil)	1982 (%)
Fixed	87.5	100	177.3	72	631.0	80	833.4	88	1,178.9	89
Variable	0	0	69.3	28	161.2	20	111.9	12	149.6	11
TOTAL	87.5	100	246.6	100	792.2	100	945.4	100	1,328.5	100

a/ Medium and long term public and publicly guaranteed debt.

Source: DRS Data.

101RM-HG/Senegal/7-24-84/mcc/abe/gjd/pp/dlw/8-31-84/pp/9-10-84/pp/9-28-84/dlw

Excessive Consumption

27. A second reason for the debt servicing crises is the country's use of foreign borrowing to support consumption rather than investment in tradeable productive capacity. The general logic of foreign borrowing by developing countries is that it increases the nation's welfare over time by smoothing consumption and fostering growth. The process essentially enables the country to borrow against future (higher) GDP in order to support higher present consumption and/or investment levels 1/. A government's successful use of foreign borrowing entails successfully addressing two issues. The first is that the rate of growth of GDP with foreign borrowing must be sufficient to sustain higher levels of present and future consumption after allowance of for debt service payments. The second is that the government must be able and willing to effectively adjust consumption as needed to accommodate shocks and ensure the repayment of foreign debt. Planners in Senegal were not successful in either of these areas. As a result, foreign borrowing supported higher levels of consumption than was warranted. The cost of this, assuming, as we shall, that debt must be serviced, will be lower future consumption than otherwise would have been possible if the levels of foreign borrowing and domestic spending had been lower in the past.

1/ The detailed rationale for borrowing as well as the description of over borrowing is provided in the forthcoming paper by H. Kharas and H. Shishido entitled, "Optimal borrowing and overborrowing : some simulations".

28. A decomposition of the annual changes in foreign net resource transfers is presented in Table 7. Technical details of the methodology are presented in the Annex. A comparison is made between the net transfers in each year from 1973 to 1981, to the average transfer during the base period 1970/72. Real foreign resource tranfers are defined as the difference between domestic expenditures (consumption plus investment) and GDP multiplied by the real exchange rate, in order to be expressed in constant dollars. Therefore changes in the ratio of real foreign transfers to GDP can be decomposed into its various components which are: changes in the real consumption and Investment shares of GDP (structural change), changes in consumption and Investment goods prices relative to the GDP deflator (price change), changes in real GDP (growth effects) and changes in the real exchange rate (exchange rate effects). Since this exercise consists of simply decomposing an

Table 7: SENEGAL: DECOMPOSITION OF INTERNAL ADJUSTMENT
as a % of Adjusted Constant GDP
(Base Year 1970/72)

		73	74	75	76	77	78	79	80	81	82	83
1.	Change in net Resource Transfer	5.7	1.3	0.8	5.2	1.6	12.6	17.0	20.1	33.4	18.4	22.1
2.	Structural Change	3.3	1.5	-2.2	-3.1	6.9	22.0	20.5	24.7	36.4	18.4	21.3
3.	(Consumption Share)	1.2	-1.9	-1.2	-3.8	7.2	22.0	19.7	30.3	41.2	26.0	27.9
4.	(Investment Share)	2.1	3.4	-1.0	0.7	-0.3	0.0	0.8	-5.6	-4.8	7.6	-6.6
5.	Price Change	2.3	0.4	2.4	7.6	-5.5	-9.1	-4.2	-5.7	-2.4	-0.1	0.2
6.	(Consumption Share)	1.5	-3.8	-0.8	8.1	-7.6	-11.0	-7.6	-8.8	-7.4	-6.2	-7.3
7.	(Investment Share)	0.8	4.2	3.2	-0.5	2.1	1.9	3.4	3.1	5.0	6.1	7.5
8.	Growth Effects	-0.1.	0.2	0.7	1.4	1.8	1.4	2.3	2.4	2.6	4.8	6.2
9.	Exchange Rate Effects	0.2	-0.8	-0.2	-0.7	-1.6	-1.7	-1.6	-1.3	-3.2	-4.7	-5.6

identity, its results cannot be used to imply any causal relationship between the different variables. They do, however, illustrate the mutual interdependence of key variables in a quantitative fashion.

29. Row 1 in Table 7 above presents the difference between real foreign transfers in the current year and that in the base period as a percentage of the current year's GDP. For example, the real resource gap in 1981 was higher than the gap in the base period by 33.4 percent of real 1981 GDP. 1/ Rows 2 to 9 break down this increase into changes in the various components of the resource gap. Note that the sum of rows 2, 5, 8 and 9 is exactly equal to row 1. By moving across the years in row 1, it can be seen that with the exception of 1974, 1975 and 1977, Senegal's borrowing from abroad was very high both with respect to the 1970-72 base year and with respect to GDP. There are no negative numbers in row 1, indicating that real inflows never fell below those in the 1970-72 period, which averaged around 5% of GDP.

30. A breakdown of the structural demand for foreign borrowing strongly suggests that such borrowing supported consumption rather than investment. Row 3 indicates that in every year after 1976, the rise in consumption's share of GDP necessitated additional foreign resource inflows. The opposite is true for investment demand which fell relative to GDP in every year after 1976 except 1979. These results seem to indicate that foreign inflows have been

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1/ Let F_1, F_o and Y, be the resource gap in 1981 and the base period and real GDP in 1981, respectively. This statement means t at $\frac{F_1 - F_o}{Y} = 14.6\%$.

associated with higher rates of consumption rather than higher investment. 1/

31. Further evidence that foreign borrowing in Senegal has been associated with an increase in consumption and a decline in savings can be derived from regression analysis. 2/ Econometric estimates of the consumption function indicate that foreign borrowing was directly associated with an increase in both public and private consumption. Those estimates show that about 60 cents of each additional dollar borrowed were directly spent on consumption goods. A comparison between the magnitude of the effect of borrowing on consumption and its effect on GNP indicates that a one dollar increase in foreign borrowing has roughly lead to a 50 cent decrease in domestic savings. Moreover, an upwards structural shift in the consumption function occurred during the period of "high" borrowing after 1974; when the marginal propensity to consume debt rose by around 0.33.

32. The above analysis shows the strong relationship between the expansion of foreign borrowing and the expansion of real consumption. It does not "prove" that the consumption supported by the foreign borrowing was necessarily excessive. Conceivably "reverse shocks" such as particularly favorable weather for agriculture, rapid improvements in the terms of trade or a sudden, costless jump in the efficiency of capital use could raise the growth in GDP and income sufficiently to justify past consumption. However, improvements of the magnitudes required are highly unlikely suggesting that

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1/ A discussion of the price, growth and exchange rate effects is beyond the scope of this section and is presented in the technical appendix.

2/ See Chhibber and Ghanem (1984). "Impact of Foreign Borrowing On Consumption: An Econometric Analysis of Six Developing Countries."

past consumption was excessive and that the value of future consumption in Senegal will be substantially lower than it otherwise would have been had a more cautious foreign borrowing strategy been followed during the '70s.

The Increase in Transfers to the Private Sector

33. The rise in consumption associated with foreign borrowing occurred in both public and private consumption. Public consumption rose from 15 percent of GDP in 1975 to 21 percent in 1980, while private consumption rose from 72 percent to 77.4 percent. The positive correlation between foreign borrowing and public consumption is not surprising. Public foreign borrowing for investment enabled the government to utilize domestic resources to expand consumption. In later years, public borrowing directly filled the government's financing requirement, caused by continued consumption growth.

34. Since private consumers do not have access to the international capital markets one would not expect foreign borrowing to have a direct effect on their consumption behavior. However, in many LDCs the government has used foreign borrowing as a substitute for domestic resource mobilization efforts. Foreign borrowing in those countries was associated with a decline in tax collection and a rise in the ratio of disposable personal income to GDP which led to a rise in the ratio of private consumption to GDP. It seems that in Senegal foreign borrowing was not associated with a slackening of the fiscal effort, which, at 21 percent of GDP in 1980, remained strong. However, foreign borrowing has led to a sharp rise in disposable personal income via an increase in transfers from the public to the private sector. The main transfers occurred either through the budget or through the banking system. Items of government spending that directly benefit the private sector rose from 11 percent of GDP in 1975 to 18 percent in 1980. That is, while tax

revenues rose at an average annual rate of 15 percent, government transfers were rising at 20.4 percent.

35. The deficit of public enterprises is another channel through which public funds are transferred to the private sector. The rapid increase in this deficit is evidenced by the increase in short term borrowing by public enterprises which reached CFAF 92.8 billion in 1980. This rapid increase naturally led to a rise in private consumption. At the same time, the banking system transferred wealth to the rural areas. Credit to the agricultural sector soared. This usually takes the form of one-year loans where the farmers obtain credit during the planting season and repay their debts after the sale of their crop, so that at the end of any given year the rural sector would have no debt outstanding. The mid and late seventies, however, witnessed a significant decline in the efforts to collect rural loans. The rural sector's debt outstanding rose from zero at the end of 1972 to CFAF 9 billion in 1975 and CFAF 24 billion in 1980. The failure to collect those loans cannot be explained by poor harvests caused by droughts, since the value of uncollected loans rose steadily throughout the period even during years when the harvest was good. The agricultural credit situation is clearly a case where the public sector (the banks) has been transferring wealth to the private sector (rural dwellers).

36. The above analysis indicates that the Senegalese government has used a major portion of its foreign borrowing to subsidize private consumers. This policy led to a rapid rise in private consumption and had a negative impact on the country's ability to service its debt. The burden is still felt by the fiscal obligation to repay debt in arrears of ONCAD.

Inefficient and Poorly Structured Investments

37. Inefficient investment, excessively oriented toward production of non-tradeables is a significant reason why Senegal now faces a debt servicing crisis. An important maxim in pursuing an appropriate foreign borrowing strategy is to ensure that rates of return on investment exceed the cost of borrowing. This should be the case both for average and marginal costs. Unfortunately, shocks and uncertainties make the prediction of likely returns and costs and, therefore, the successful application of this rule, difficult. However, in analyzing Senegal's foreign borrowing in the seventies, it is desirable to try to separate the government's success or otherwise in applying this rule from its success in anticipating and reacting to economic shocks. In Senegal, it appears that even abstaining from the impact of the various shocks, the government applied the general foreign borrowing rule poorly. That is, it seems likely that even had the shocks not occurred, the marginal returns on investments were below the marginal cost of borrowing suggesting that even without the shocks the country would have experienced some debt servicing difficulties.

38. The main problem began in the mid and late '70s. Before that it appears that the government applied the rule effectively. In the earlier years, the incremental capital output ratio (ICOR) was just below 8. The reciprocal of this number or 12.5 percent shows an average gross rate of return on investment. This, although lower than in many other developing countries in the seventies, was still above Senegal's average cost of borrowing during the period of about three percent. Although it is somewhat more difficult to analyze marginal cost and benefits during the early '70s, the relative stability of the investment levels in the early years suggests that marginal returns were close to the averages or, in other words, nearly

equal to 12.5 percent. This is still somewhat above, though much closer to the marginal cost of foreign borrowing, which was 8 percent during the period, or the amount charged on commercial credits during that period.

39. Beginning in the mid-seventies it appears that marginal returns to investment declined dramatically, at the same time that the marginal cost of foreign borrowing was rising rapidly. The rise in the cost in foreign borowing is easy to document since it occurred throughout the world. It is more difficult to ascribe the decline in returns on investment to the investments per se rather than to economic shocks. However, it appears, on the whole, that even without the shocks marginal returns would have fallen below the marginal cost of borrowing. This is suggested by the fact that the level of investment increased rapidly beginning in 1976, apparently beyond the country's absorptive capacity. The average gross returns to investment, as measured by the reciprocal of the ICOR, fell to 6 percent for the late '70s and early '80s. Marginal returns were probably below this. During this same period the marginal cost of borrowing rose to 13 - 15 percent and the average cost, including that on other foreign liabilities (OFLs), moved above seven percent.

40. The above suggests that even in the absence of shocks, the government should have borrowed less than it did from abroad in the late '70s and early '80s. Instead, more investment should have been financed domestically. Whether or not the government would have succeeded in this would have depended upon whether domestic consumption could have been suppressed effectively at domestic interest rates well below those which prevailed internationally. Had this not been possible, the government should have lowered the rate of investment. The negative effect on growth would have been offset by increased yields.

41. It has been argued that the main reason for the decline in the efficiency of domestic investment in Senegal during the 1970s was the rapid expansion in the volume of investment. There was, however, another important occurrence during the period. The composition of investment shifted markedly toward public investment generally and investment by parastatal companies in particular. It appears quite likely that this is a second, important explanation of why the yields on investment drop so markedly.

42. The government's expansion of foreign borrowing should have been accompanied by a shift in the investment pattern to increase the capacity to produce more tradeable goods to finance debt service obligations. Instead, foreign borrowing financed an expansion in the production of non-tradeable output relative to the past. In 1970, 43 percent of GDP could be considered tradeable, while the other 57 percent consisted of services and construction. In 1980 a somewhat smaller 37 percent of GDP could be classified as tradeable while 63 percent was construction and services. Although these measures are aggregate approximations, they indicate that during the time when investment in and production of tradeables should have been rising because of the rapid increase in foreign borrowing, it was actually declining. In view of the concomitant shift in investment toward the public sector, which is less price sensitive, it is likely that these patterns reflect the preferences of planners. However, it is also the case that the foreign borrowing supported demand for non-traded goods. Without this, a greater amount of private sector investment may have been diverted towards tradeable items.

The Inadequacy of the Present Planning [1/] Process

43. The decline in the efficiency of domestic investment reflects the inadequacy of the present planning process which results in a four year planning document. A major problem in this area is that Plan investment is not clearly related to Senegal's public investment in a budgetary sense. The national investment budget appears annually in a document which includes both budgetary allocations for capital expenditure (Budget Nationale d'Equipment BNE) and estimates of the foreign-financed elements of capital investment. These investment levels are generally much lower than the annual tranches of the Plan.

44. Government's capital expenditures are actually financed totally by foreign funds, as are a portion of current expenditures. This makes the concept of a capital expenditure program partly financed by "budget" resources and partly by direct foreign lending somewhat academic. The "budget" share of capital expenditure has been declining in recent years, falling to around 15 percent in 1982. Foreign grants and loans made specifically for investment projects have made up the difference. However, since nonproject foreign aid greatly exceeds the budgetary portion of capital expenditure, it can be concluded that in fact all central government capital spending is financed from abroad, whether on a project or nonproject basis. Therefore, the usefulness of future Plan documents will be greatly enhanced by linking the Plan investment and the choice of projects to be executed during the Plan period to the projected availability of foreign funds and the costs of those funds.

1/ For more details see "Senegal Review of the revised Sixth Plan" or "La Prevision Macioeconomique et Le Besoin d'une Concertation Entre Finance et Plan dans Les negociations internationales."

45. It must also be noted that only small portions of the budgetary investment are in fact spent. For example, the 1982 investment budget indicated a budgetary contribution of CFAF 21.2; but, only CFAF 4.3 billion of budgetary resources were spent. As these resources are required for counterpart funding of projects, among other purposes, the figures underscore the difficulty noted by Senegal's foreign aid partners in obtaining the release of needed domestic project funds on a timely basis. Part of the difficulty in linking the Plan and the budget may stem from the fact that different ministries are responsible. However, it is clearly a shortcoming of the Plan document that it is not translated more clearly into annual budget allocations in support of agreed upon investment projects.

46. The current austere economic environment emphasizes the importance of rehabilitation investment and the completion of projects underway as opposed to the initiation of new projects. Therefore, it would be useful for the plan document to include a special section highlighting projects viewed as having particularly high priority, for which execution is underway with limited resources, and which require additional financing. These projects may often offer a high rate of return and the opportunity to achieve rapid disbursement of funds. Senegal's international donors might react favorably to the chance to achieve rapid results in this fashion.

The Minimal Role Played by the Banking System in Financing Productive Investment

47. Senegal's investment program has been heavily biased towards public investment in the nontradeable sectors. Many of the problems with the public investment program have been due to the inadequacies in the planning process. On the other hand, the inability of private firms to obtain adequate funding for their projects from domestic financial institutions has constrained the rate of growth of private productive investment. Senegal's

financial apparatus has not been used to influence the rate of accumulation of physical capital in the productive sector. In periods of normal economic activity the productive sector has in general made very little use of domestic credit facilities, and did not rely on the financial sector except as a safety valve in times of recession.

48. Senegal's monetary institutions are based upon the 1973 treaty forming the West Africa Monetary Union (UMOA). Hence, monetary aggregates are controlled by the Union's Central Bank (BCEAO) The commercial banking system consists of 10 banking institutions. The state directly or indirectly controls around 50 percent of the stocks of those institutions. In the UMOA system most interest rates are independent of loan maturities. Instead, they are determined according to end use. Under such a system banks maximize profits and minimize risks by obtaining credit on a long-term basis while providing their customers with short-term loans. As a result, in 1980, 83 percent of the credit provided to the productive sectors was on a short-term basis while only 17 percent can be classified as medium- or long- term loans. Most firms undertaking fixed investments were, therefore, unable to match the maturities on their loans with the expected returns on their investments. Instead a large portion of productive private investments had to rely solely on equity finance.

49. It is clear that this bias towards the provision of short-term loans has had a negative impact on the volume of investment in the productive sectors. Senegal's current crisis has made it even more difficult for private firms to obtain domestic credit. Due to the scarcity of funds from other sources, public companies have increased their share of the domestic credit market, and thus tend to crowd out private investment. The share of private

enterprises of the total amount of credit provided to the productive sectors has fallen from 52 percent in 1980 to 45.5 percent in 1982.

Inadequate Perception of and Reaction to Product and Income Shocks

50. The above discussion of efficiency and patterns of investment is couched in terms of departures from desirable levels and patterns of investment in the absence of shocks. It concludes that even in the absence of the droughts and terms of trade shocks which Senegal experienced, investments were too inefficient and too heavily skewed towards the production of non-tradeables. The government should have borrowed less during the decade and reduced domestic expenditures. The extent of the reduction in consumption as opposed to investment expenditures should have been determined by the country's evaluation of present versus future consumption.

51. The implication is that the government made incorrect decisions about desirable amounts of foreign borrowing. Given the level, efficiency and pattern of investment this allowed excessive consumption. In effect, consumption was determined passively, after foreign borrowing and investment decisions were (incorrectly) made. An alternative would have been to actively control the amount of consumption expenditures, through taxes, public expenditure and domestic borrowing policies. This latter or active adjustment of consumption expenditures is required in adjusting to economic shocks. The government did not follow such an active strategy and consequently did not adjust effectively.

52. Due to the heavy dependence on groundnut exports, Senegal's foreign exchange earnings are extremely vulnerable to exogenous random shocks. The degree of uncertainty associated with Senegal's export earnings is higher than the average for other LDCs. In general an increase in uncertainty would lead to a reduction in borrowing. This implies that, in cross country comparisons,

the country facing greater risks should have lower DOD/GNP and TDS/XGS ratios. This has not been the case for Senegal where both those ratios have been above the average for all LDCs and for Sub-Saharan Africa.

53. This look at the evolution of Senegal's debt indicates that the government increased borrowing beyond "normal" amounts by becoming more involved in international credit markets generally and by raising borrowing from non-concessional lenders, predominantly at variable interest rates. Harder borrowing terms, coupled with excessive consumption, rising transfer to the private sector, inefficient investment, inadequate planning and underdeveloped banking ensured the emergence of the debt servicing crisis in the long-run. They also increased Senegal's short-term susceptibility to international economic shocks. In doing so, they created the need for a series of adjustments in the domestic economy accompanying the rise in world interest rates and the fall in groundnut prices in 1981-83. Notable among these was the need to shift investment toward production of more tradeables. Second was to alter spending and domestic resource mobilization practices and procedures so as to improve flexibility of demand management in the economy. Unfortunately, in Senegal, virtually none of these accompanying adjustments took place. Indeed, as the buildup of OFLs suggests, the situation actually got worse. These other foreign liabilities financed gaps or unarranged financing on the balance of payments and, more importantly, on govenment accounts. The government built up OFLs in order to postpone adjustments which should have been occuring as a result of international price shocks (petroleum and groundnut prices) and domestic droughts. These now present a burden on future debt carrying capacity.

III. PROJECTIONS FOR THE FUTURE

54. It is clear from the analysis of Senegal's persistent crisis given in Section II that past trends are unsustainable. The situation inherited from the past is already bad enough: without a clear change in direction it can only be expected to get worse. Adjustments to those realities is therefore not an option, but a necessity.

55. This section begins with a presentation of the future based upon a continuation of recent past trends. Those projections are derived from a macroeconomic model which was constructed using historical data provided by the government's "groupe macroeconomique", the revised Sixth Plan of 1983, earlier official documents, and more recent government estimates. It is concluded that an extrapolation of present trends does not constitute a feasible scenario. If current trends continue, three types of financial imbalances will occur: (i) the government's financial requirements will rise at a very high rate; (ii) the current account deficit will continue increasing and hence the balance of the compte d'operations will reach unsustainable levels; and (iii) the above developments would affect the demand and supply of credit and therefore could have serious implications for the money markets. The projected financial imbalances imply that present plans are not internally consistent, and, if carried out, would worsen Senegal's creditworthiness even further.

56. The infeasibility of the first scenario provides further evidence that adjustment to new economic realities is a necessity. Therefore we present an alternative scenario in which Senegal is forced to adjust to the changing economic circumstances. Under this "forced adjustment" scenario, as the financial situation became more and more difficult, payments to domestic

and foreign suppliers would become subject to increasingly long delays, import financing would become impossible on normal terms, interest payments on external debt would fall into arrears, strict foreign exchange controls and import licensing arrangements would have to be imposed (thus raising costs of imports for local producers and consumers), government revenue for maintenance of essential public services, not to mention investments, would become still more scarce and the ability of public enterprises to raise funds for renewal or expansion of their equipment would be severely curtained.

57. Some private enterprises could still in theory borrow from abroad to finance expansion, but in practice few would judge it worthwhile. The rate of new foreign direct investment would also decline. Investment would not dry up completely as Senegal would continue to receive a certain level of aid for public sector projects. However, this investment would be insufficient to raise GDP growth to a rate at which even present consumption levels and urban employment could be maintained. Finally, the rural sector would not be spared, since farmers would find it harder and buy to inputs, such as fertilizer, even on cash terms. Irrigation investments would be threatened by power shortages and lack of spare parts for pumping equipment, tractors, etc. Crop marketing would become increasingly disorganized as farmers have to wait longer and longer to receive cash payment for their groundnuts and other produce.

58. In order to avoid the implications of this involuntary adjustment the government should embark on a planned and sustained adjustment program. Such a managed adjustment program would make it easier for Senegal to obtain official credit and would enhance the country's creditworthiness.

The Simulation Exercise Based on a Continuation of Past Trends 1/

59. If recent past trends continue in the future, official committments of foreign loans would remain constant in nominal US dollar terms at their average 1980-83 levels. No new commitments by commecial banks are likely, because of the country's loss of creditworhtiness. It is assumed that these capital inflows would be accompanied by present policies, as these are described by the revised Sixth Plan. Under this scenario total investment expenditures in constant 1979 CFAF's will grow at an average annual rate of 3.1%. Thus, the investment share of constant GDP would rise to around 18.5% in 1985 and remain stable at this level until 1995.

60. This level of investment, compared with detailed projections of certain sectoral outputs imply an aggregate ICOR of about 6, the same level that has prevailed in the 1960-83 period. Real GDP growth would amount to 3 percent annually, or approximately equal to the target aggregate long-term growth rate embodied in the revised Sixth Plan.

Total imports are projectd to grow at 3.2% per annum, implying an overall import elasticity of around 1.1. Exports are projected to grow at an average rate of around 3.3% , assuming the real value of exports of fish products, ferlizers and phosphates grow rapidly, while the real value of other exports remains relatively stable. Those assumptions may prove to be overly optimistic, however.

1/ This and the two following simulation exercises are set in a relatively "shock free" atmosphere. Expectations regarding longer runs Terms of trade and international interest rate development, are included but consideration of the likelihood and impact of external and internal shocks to the economy as well as of the Government's own risks characteristics is omitted. It is intended that these be the subject of a later study.

Table 8: SENEGAL: PROJECTIONS OF SOME SELECTED INDICATORS
(Percentage Constant of GDP)

	1981	1982	1984	1985	1988	1990	1995
Total Exports	28.0	28.5	26.5	27.7	28.1	28.1	28.3
Total Imports	39.4	35.8	33.8	34.8	34.9	35.0	35.3
Private Consumption	79.7	79.3	73.6	70.1	70.0	70.1	69.9
Gov't. Consumption	20.7	18.9	19.7	18.5	18.4	18.4	18.6
Total Investment	15.2	14.2	14.0	18.6	18.5	18.5	18.5

61. Some slected indicators under this scenario are presented in Table 8. This table presents the various macroeconomic variables in real terms as a percentage of GDP. Those figures differ from ratios of the nominal variables due to assumptions concerning movements in Senegal's external and internal terms of trade. For example, in real terms exports are projected to rise slightly from 27.7 percent of GDP in 1985 to 28.0 percent in 1990, whereas in nominal terms they rise from 30.9 to 32.8 percent. This implies that export prices are projected to rise at a higher rate than the GDP deflator. The ratio of imports to GDP remains nearly unchanged in real and nominal terms. That is, import prices are assumed to rise roughly at the same rate as the GDP deflator. This is an indication of the assumption that Senegal's external terms of trade will improve. As for the internal terms of trade, between consumption and investment goods, we note that while in real terms private consumption's share of GDP remains unchange between 1985 and 1990 (70.1) percent, its share in nominal terms declines slightly from 71.6 to 70.1, implying an expectation that consumer prices will rise at a slightly lower rate than the GDP deflator. In other words the our projections assume that

capital goods prices will rise at a faster rate than those of consumer goods. The main feature of this scenario is that real per capita consumption remains constant at about 96.2 thousand CFAF (Using 1979 as a base period).

Implications for Public Finance

62. The nominal public finance projections (Table 9) indicate that the rate of growth of total government revenues will slow to an average of 9.3 percent per annum, while current expenditures including interest service payments, will grow at an average of 11.3 percent per annum. The rate of growth of development expenditures will fall to 7 percent per annum.

Table 9: SENEGAL: SUMMARY OF PUBLIC FINANCE PROJECTIONS
(CFAF Billion)

	1981	1982	1984	1985	1988	1990	1995
Total Revenue	146.5	170.9	210.8	242.2	327.5	389.4	590.9
Current Exp.	174.9	182.8	235.9	262.1	374.3	464.3	762.8
Dev. Exp.	30.4	34.4	43.2	48.2	67.4	81.1	124.8
Elimination of Arrears	5.0	19.6	5.0	5.0	5.0	5.0	5.0

As a result, total government revenue will fall from 19.6 percent of GDP, in 1985 to 17.7 percent in 1995, while expenditures will rise from 25.4 percent of GDP in 1985 to 26.8 percent in 1995. Development expenditure's share of GDP will remain stable at around 3.8 percent.

63. This scenario implies an unacceptable deterioration of the government's financial position. The government's financial requirements rise from 72.2 billion CFAF in 1985 to 301.7 billion CFAF in 1995 (Table 10). Thus, the financial gap will rise from 0.3 percent of GDP in 1985 to 5.2 percent of GDP in 1995. Consequently, interest payments in 1995 will amount to 26.2 percent of current expenditures and 33.8 percent of total revenue.

Table 10: SENEGAL: IMPLICATIONS OF THE CURRENT PLAN ON PUBLIC FINANCE (CFAF billion)

	1981	1982	1984	1985	1988	1990	1995
Gov't. Financial Requirement	63.8	65.9	73.3	72.2	119.1	161.0	301.7
Ext. Finance	50.1	64.9	79.6	62.3	53.1	86.3	120.5
Domestic Borr.	-	58.7	4.0	6.3	6.3	6.2	9.5
Financial Gap	-	-	-10.3	4.2	59.7	68.6	172.2
Interest/Gov't. Revenue	14.3	11.7	27.4	25.0	25.2	26.9	33.8
Gov't. Financial Gap/GDP	-	-	-1.0	0.3	3.4	3.2	5.2

Implications for Creditworthiness

64. Although the above scenario implies no increase in real per capita consumption, Senegal's creditworthiness deteriorates dramatically. As would be expected, the imbalance in the fiscal accounts is associated with an imbalance in the trade accounts. During the period 1985-95, Senegal's

resource balance 1/ is projected to decrease at an average annual rate of 9.3 percent, while the current account deficit including interest charges on the "compte d'operations" is projected to increase at an average of 10.3 percent per annum during the same period. The true gap 2/ is projected to rise from $19.3 million in 1984 to $544.2 million in 1995 (Table 11). As a result, the balance of the compte d'operations will rise from $179.8 million in 1984 to $3,265 million in 1995. As the compte d'operatons is expected to provide short-term balance of payments finaning and not long-term development capital, it is unlikely that the authorities will permit it to grow to these levels. The debt service ratio will also rise from 13.7 in 1981 to 25.2 in 1995. 3/

Table 11: SENEGAL: SELECTED CREDITROWTHINESS INDICATORS
($ million)

	1984	1985	1986	1987	1988	1990	1995
Resource Bal.	-250.9	-285.9	-305.7	-325.2	-352.8	-434.2	-698.0
Current Acct. Balance a/	-375.9	-439.4	-473.5	-508.9	-554.0	-685.3	-1167.9
Debt Service Ratio a/	29.6	25.4	27.1	26.3	26.6	23.9	25.2
True Gap a/	19.3	114.1	146.2	170.1	216.0	242.4	544.2
Balance of Compte d'Operations	179.8	293.8	440.0	610.1	826.1	1302.0.5	3264.9
DOD/GDP b/	76.1	73.0	73.3	73.3	73.2	76.9	90.9

a/ Includes interest charges on the compte d'operations.
b/ Includes the balance of the compte d'operations.

1/ Defined as the value of total exports of goods and non-factor services minus the value of imports of goods and non-factor services.

2/ Defined as the current account deficit (including interest charges on the compte d'operations) minus expected disbursements on existing and new commitments.

3/ This includes the costs of servicing the compte d'operations.

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65. The preceding analysis indicates that under this "continuatin of past trends" scenario, Senegal's capacity to service its debt will continue to deteriorate even further. In the simulation the debt service ratio remained below 30 while the balance of the compte d'operations grew. 1/ The results show that the compte d'operations will grow to unsustainable levels and would have drastic financial consequences by reducing money supply. Alternatively, the size of the compte d'operations could have been kept at a manageable level by allowing for a larger amount of debt repayment at the expense of imports. However, this would have entailed a dramatic increase in debt service costs, and a decrease in per capita consumption to below feasible levels.

Implications for the Monetary Aggregates

66. Projections for the future, based on the current plan, suggest that government domestic credit demands may destabilize local financial markets, thus further compromising creditworthiness. The rapid growth in public borrowing from the banking system will lead to restrictions in bank credit to the private sector. Should public credit demand not be offset, then inflation and/or even larger than projected drawings from the compte d'operations will result. Rising inflation will lead to an appreciation of the real exchange rate which will have a negative impact on the growth of the tradeable goods sectors. However, the UMOA would probably consider an even higher growth of the compte d'operations to be undesirable, and would try to restrict the growth of the money supply. Such a development would complicate the relationship between Senegal and the BCEAO, and could have a devastating impact on the growth of output and employment, especially in an econmy such as Senegal's where commerce plays a major role.

1/ This implies that in effect debt service obligations are being capitalized.

67. The overall conclusion of this first simulation exercise is that a continuation of past trends is infeasible. All the creditworthiness indicators deteriorate drastically. The balance of the Compte d'Operations, in particular, grows far too rapidly to be realistic. To reduce it, but still maintain investment, would require excessive surpression of consumption. Furthermore, even if the foreign financing can be found, the domestic credit markets would be in disarray. The conclusion, therefore, if the Government continues as in the past, is that Senegal be denied further commercial lending and rely instead on grants and concession loans only.

A Forced Adjustment Scenario

68. The above analysis has indicated that a plan for the future based upon a continuation of past trends is infeasible. In the absence of a consistent adjustment program aiming at curing the imbalances in the economy and enhancing the country's creditworthiness, Senegal will be faced with an uncontrolled sharp deflationary adjustment where investment and the rate of growth of GDP will decline. The speed at which this will occur cannot be reliably forecast. It is possible that with good harvests and plentiful fish landings (and no fall in export prices), the status quo could be maintained for a few years.

69. Under the forced adjustment scenario, financial imbalances will lead to lower investment. This will occur both because of a reduction in official commitments, associated with the loss of creditworthiness, and because of the likely restrictions on private credit. The fall in investment would, in turn, bring about a decline in the resource gap. If total investment does not exceed 13% of GDP and the ICOR remains stable at a value of about six, this scenario projects GDP to grow at an average annual rate of less than 2 percent. The uncontrolled recession would have a negative impact on consumption levels. Under this scenario real per capita private consumption

is projected to fall from 79.9 thousand CFAF in 1985 to 75.4 thousand CFAF in 1980 and 70.2 thousand CFAF in 1995. Other indicators (Table 12) under the forced adjustment scenario are equally bleak. This projected decline in per capita consumption and its possible implications for Senegal's social cohesion leads to the conclusion that the Senegalese government has no choice but to embark on a managed adjustment program.

Table 12: A FORCED ADJUSTMENT SCENARIO, SELECTED INDICATORS

	1985	1990	1995
GDP (1979) CFAF Billion	697.5	770.2	844.8
	Percentage of curent GDP		
Total Exports	31.7	34.4	38.1
Total Imports	39.6	39.9	41.1
Total Investments	12.9	12.9	13.0
Government Consumption	17.6	16.8	16.3
Private Consumption	77.3	75.8	74.5
Resource Gap	7.9	5.5	3.8

Policies to Enhance Creditworthiness

70. As mentioned previously, the efficient use of foreign borrowing entails ensuring that the expected marginal cost of borrowing is less than the expected return on investment. Senegal's past use of foreign borrowing to support excessive consumption was one of the factors that led to the present crisis. This should, therefore, be avoided in the future. In the medium term, Senegal should not use any commercial borrowing to finance consumption. In a year where national income falls due to a transitory external shock, Senegal should maintain acceptable levels of consumption

either by resorting to more concessional borrowing or, if that is not possible, by cutting development expenditures. Commercial borrowing for such purposes should not be undertaken.

71. The conclusion that, in the medium term, additional commercial borrowing should be avoided, implies that Senegal will have to depend entirely upon grants and official concessionary aid. This aid would be useful to the economy since its longer-term maturity would correspond with the completion of investment projects, and its lower rates of interest may be less than the return on Senegal's investments.

72. The first policy measure to enhance Senegal's creditworthiness is to refrain from further commercial borrowing. An accompanying policy package should include: 1/

(a) Measures to reduce planned government expenditure over the near and medium terms. This will most likely be brought about by cutbacks in the rate of expansion of the public wage and salary bill and lowering the rate of expansion of the development expenditures. The reduction in the rate of expansion of wage and salary outlays should be achieved by limiting the growth of employment in the public service. Therefore, the government should plan to strictly enforce existing hiring procedures by not filling vacancies in the civil service and limiting entries into the public service training schools. The reduction in the scope of the investment program may imply a further decrease in the GDP growth rates. However, the impact of this policy on growth could be ameliorated by a reorientation of resources towards a more extensive use of existing capital capacity, and by channeling the limited resources into the most efficient, productive sectors.

1/ More detail on each of these policy recommendations is included in the relevant sections of the forthcoming Country Economic Memorandum (Report No. 5243-SE).

(b) A coherent strategy towards investment planning is clearly needed. Previously it was argued that inefficient investments, excessively oriented towards the nontradeable sectors are significant reasons why Senegal is now facing a debt service crisis. Therefore, it is imperative that the financial and economic viability of new investments be studied carefully. A policy based on sound investment planning and stressing the importance of making a more extensive use of the existing capital stock could result in a decrease of the aggregate ICOR to below the figures used in the projections. Such a decrease would imply that the targeted GDP growth rates could be achieved with a lower level of development expenditures, and a lower level of new borrowing.

(c) Even if new investments are efficient, past experience indicates the government's inability to capture a significant portion of the benefits accruing from the increase in the capital stock. Therefore, policy measures and institutional changes that would enhance the government's revenue collecting ability are clearly needed. Careful budgeting of new recurrent expenditures is also needed if the government is to be able to capture part of the benefits from new investments to meet debt service requirements.

(d) The high level of borrowing in the past financed excessive consumption and had a negative impact on domestic savings. In the future, it would be necessary to finance a larger portion of the investment program from doemstic resources. Thus, the need for foreign borrowing would diminish. Therefore, efforts that would increase private savings and enhance the government's ability to mobilize domestic resources should be a vital part of any adjustment program.

(e) The above simulation exercises assumed a favorable external environment. If our projections for the increase in the price of groundnuts and for the growth rates in the OECD countries do not materialize, Senegal's

debt situation will be even worse than that which is envisioned here. Therefore, in formulating its investment and borrowing strategies the government should be aware of the risks associated with the international economic environment. An awareness of those risks should lead to a more cautious foreign borrowing strategy.

Annex

A Decomposition of Net Resource Transfers from Abroad

The change over time in a country's use of net resources from abroad is reflected internally in changes in macroeconomic aggregate variables. The objective of the exercise outlined below is to identify the very domestic variables that have been associated with the change in net external resource inflows. The approach is to decompose the basic accounting identity of the balance of payments into constituent elements whose magnitudes are readily available from the national income accounts. By working with an identity, there is no assumption of causality in this framework. Rather, we wish to identify what variable shifts have been associated with changes in resource inflows, in order to focus the normative discussion of whether such inflows should be considered as transitory or permanent phenomena, and whether they form part of a stable long-run adjustment to external shocks or, by accommodating the financial impact of these shocks, merely conceal and perpetrate fundamental imbalances in the economy.

The real external resource inflow is defined as the difference between expenditure on consumption and investsment and gross domestic product.

$$F = (P^C c + P^I I - 1) YR \qquad (1)$$

where F = Net resource inflows in constant U.S. dollars

P^C = the ratio of the Consumption price index to the GDP deflator

P^I = the ratio of the investment price index to the GDP deflator

c = real consumption's share of real GDP

I = real investment's share of real GDP

y = real GDP

R = the real exchange defined as $P^y/_{P^w E}$, where P^y, P^w and E are the GDP deflator, an international price index and the nominal exchange rate (CFAF/$), respectively.

Equation (1) is a basic accounting identity defining real foreign resource flows as a function of four important components: the price of the expenditure elements relative to the GDP deflator; the ratios of real consumption and investment to real domestic product; a scale factor given by the size of real GDP; and an exchange-rate to convert a CFAF deficit into an equivalent US dollar amount.

For the purpose of the decomposition, we choose a base period, the average of the years 1970 to 1972, against which all future years from 1973 to 1981 are compared. We then identify the change in net resource inflows with the change in each of the four components, by differencing equation (1) and then dividing both sides by the current period's real GDP to get:

$$\frac{\Delta F}{Y_t} = (P^C C + P^I I - 1)\, R \frac{\Delta Y}{Y_t} + (P^C C + P^I I - 1)\, \Delta R \qquad (2)$$
$$+ (c\, \Delta P^C + I\, \Delta P^I)\, R + (P^C\, \Delta c + P^I\, \Delta I)\, R$$

where we have defined:

1) The Change in net resource transfer = $\frac{\Delta F}{Y_t}$

2) Structural change = $(P^C\, \Delta c + P^I\, \Delta I)\, R$

   where $RP^C\, \Delta c$ is consumption share and $RP^I\, \Delta I$ is investment share.

3) Price change = $(c\, \Delta P^C + I\, \Delta P^I)\, R$ where $RC\, \Delta P^C$ is consumption share and $RI\, \Delta P^I$ is investment share.

4) Growth effects = $(P^C C + P^I I - 1)\, R \frac{\Delta Y}{Y}$

5) Exchange rate effects = $(P^C C + P^I I - 1) \Delta R$

The results of this exercise were presented in table 7 of the text which is reproduced below to assist in interpretation. Thus, for 1980 for example, $\frac{\Delta F}{Y}$ was 20.1 percent. Because we are dealing with an identity, this increase is precisely equal to the impact on net resource use, relative to supply, given the right hand side terms; 20.1 = 24.7 - 5.7 + 2.4 - 1.3.

Table 7: SENEGAL: DECOMPOSITION OF INTERNAL ADJUSTMENT
as a % of Adjusted Constant GDP
(Base Year 1970/72)

	73	74	75	76	77	78	79	80	81	82	83
1. Change in net Resource Transfer	5.7	1.3	0.8	5.2	1.6	12.6	17.0	20.1	33.4	18.4	22.1
2. Structural Change	3.3	1.5	-2.2	-3.1	6.9	22.0	20.5	24.7	36.4	18.4	21.3
3. (Consumption Share)	1.2	-1.9	-1.2	-3.8	7.2	22.0	19.7	30.3	41.2	26.0	27.9
4. (Investment Share)	2.1	3.4	-1.0	0.7	-0.3	0.0	0.8	-5.6	-4.8	7.6	-6.6
5. Price Change	2.3	0.4	2.4	7.6	-5.5	-9.1	-4.2	-5.7	-2.4	-0.1	0.2
6. (Consumption Share)	1.5	-3.8	-0.8	8.1	-7.6	-11.0	-7.6	-8.8	-7.4	-6.2	-7.3
7. (Investment Share)	0.8	4.2	3.2	-0.5	2.1	1.9	3.4	3.1	5.0	6.1	7.5
8. Growth Effects	-0.1.	0.2	0.7	1.4	1.8	1.4	2.3	2.4	2.6	4.8	6.2
9. Exchange Rate Effects	0.2	-0.8	-0.2	-0.7	-1.6	-1.7	-1.6	-1.3	-3.2	-4.7	-5.6

The decomposition highlights key aspects of the foreign resource requirements. There are two positive terms, which tend to increase demand for foreign resource inflows. The first of these, labelled "structural change", shows the magnitude of extra resources needed by raising real expenditure relative to real GDP. In terms of equation (1), the two elements of

structural change show the resource requirements of increasig shares of investment and consumption of GDP in 1980 relative to the base period. Measured in constant prices, real consumption rates rose, while real investment rates fell. The absolute value of the former effect was greater than the latter. Thus, in 1980, there was an expansion in the volume of consumption activity. The second positive term is the "growth effect." This term simply notes that, for a given ratio of foreign resource requirements to GDP, as the denominator expands, the numerator will grow as well. That is, the growth effect is a scale variable.

The effect which is hardest to interpret, is labelled "price effects," and incorporates the movement between the prices of consumption (investment) relative to the GDP deflator. This effect incorporates both external terms of trade movements and internal relative price changes stemming from exchange-rate movements. In addition, while the expenditure price indices reflect changes in final commodity prices, the "price" of GDP is a statistical abstract, without immediate observability. Nevertheless, these price movements do reflect real economic developments. For example, imagine a fall in the price of an export crop which is not a major component of domestic consumption (such as groundnuts). The price of GDP will fall to reflect this, while the prices of consumption and investment will remain unchanged. The "price effect" will then be positive (the ratios of the consumption and investment price indexes to the GDP deflator will rise), showing the extra foreign resource requirements necessary to offset the decline in the export crop price. Alternatively, imagine a rise in the price of crude petroleum. This will enter more heavily into consumption and investment than into the "price" of GDP because Senegal is an importer of crude petroleum. Therefore, the price effect will again be positive. It can be shown algebraically that

when an external terms of trade movement is the only price change, then when an external terms of trade movement is the only price change, then this measure of the "price effects" used in Table 7 is identical to the conventional measure of the terms of trade loss.

One advantage of the "price effects" measure over the conventional terms of trade approach is that it takes into account the ability of the domestic economy to react to the new price. Say, for example, there is a rise in the price of imports. Then, consumers will be tempted to switch away from consumption of imports towards non-traded goods. In order to generate a greater supply of non-traded goods, the exchange-rate will have to appreciate. The greater the extent of this substitutability, the lower is the welfare loss caused by the rising import prices. The conventional calculation of the terms of trade ignores the economy's capacity to adjust. The movements of the "price effects" term mirrors these two aspects: external terms of trade and real exchange rate movements. The negative numbers in row 5 demonstrate a an component in the external terms of trade, while the positive numbers imply a deterioration.

An important feature of the "price effects" component is the distinction between effects due to consumption price changes and those due to investment price changes. These have had opposite signs, indicating that the burden of external terms of trade movements is being passed through into higher investment prices to a greater extent than the pass-through into consumption prices. In 1979, for example, the rise in consumption prices implied an added resource need of 3.4 percent of GDP, while investment price increases had fallen below the GDP deflator, implying a savings of 7.6 percent to maintain real consumption shares unchanged.

The exchange-rate effect, shows the impact on foreign resource requirements of changes in the real value of the CFAF relative to the US dollar. Its negative sign implies a depreciation in the real exchange-rate. ("Real," in this case, is defined by reference to nominal exchange-rates adjusted by the World Bank's dollar International Price Index and the domestic GDP deflator.) This implies that to fill a given resource gap in CFAF less US dollars are required. By 1979, this depreciation would have reduced the foreign borrowing requirement by 1.6 percent of GDP.